



Local Meteorology of Yucca Mountain, Nevada, 1994-2006

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ACRONYMS

AGL	above ground level
DTN	data tracking number
EPA	U.S. Environmental Protection Agency
JFD	joint frequency distribution
M&TE	measuring and test equipment
MSL	mean sea level
NRC	U.S. Nuclear Regulatory Commission
NTS	Nevada Test Site
PST	Pacific Standard Time
SAMSON	Solar & Meteorological Surface Observational Network
TDMS	Technical Data Management System
YMP	Yucca Mountain Project

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1. PURPOSE

The purpose of this report is to describe the Yucca Mountain Project (YMP) meteorological monitoring program and provide summaries of temperature, precipitation, and wind features (e.g., direction, speed, and gusts) that characterize the Yucca Mountain area. This report summarizes data collected from 1994 through 2006 and is intended for use as a source of local meteorological information. Source references are provided for data that can be obtained from the Technical Data Management System (TDMS) for specific analyses.

The report contains a description of the meteorological monitoring program in Section 2. The program description includes discussion of the regulatory guidance and consensus standards used in developing and implementing the monitoring program. Section 2 also contains a discussion of monitoring site location and selection; instrument sensors and exposure; data recording, acquisition, and reduction; and instrument surveillance. The primary guidance is U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide 1.23, Revision 1 [DIRS 181945], *Meteorological Monitoring Programs for Nuclear Power Plants*.

Section 3 of this report identifies data inputs. Section 4 describes the methods used to summarize the meteorological data. Section 5 is a discussion of the summary results that are presented in meteorological summary tables and the tables and figures presenting the joint frequency distributions of wind and atmospheric stability. Because of the large amount of data, many of the data summaries are presented as tables and figures in the Appendices. This report was prepared in accordance with PA-PRO-0313, *Technical Reports*.

2. DESCRIPTION OF THE METEOROLOGICAL MONITORING PROGRAM

The purpose of the meteorological monitoring program is to provide local meteorological information that can be used to:

- Characterize local atmospheric dispersion for preclosure radiological safety calculations
- Provide input to engineering design of facilities
- Provide data for studies of postclosure safety
- Characterize local meteorological conditions for geohydrology and environmental studies and permits
- Provide near real-time data for health and safety aspects of site work operations.

2.1 MONITORING PROGRAM REQUIREMENTS AND GUIDANCE

The YMP meteorological monitoring program was designed and operated to comply with NRC monitoring guidance as described in *Regulatory Guidance Agreement, Agreement for Regulatory Guide 1.23, Revision 1, Meteorological Monitoring Programs for Nuclear Power Plants* (BSC 2007a [DIRS 181944]). Through 2006, primary monitoring guidance was from the original

Atomic Energy Commission Safety Guide 23, also known as Regulatory Guide 1.23 [DIRS 103640], *Onsite Meteorological Programs*, Section C. Draft revisions were proposed as Revision 1, but were not finalized until March 2007. In the interim, voluntary consensus standards ANSI/ANS 3.11-2000 [DIRS 151842], *American National Standard for Determining Meteorological Information at Nuclear Facilities*, and ANSI/ANS-3.11-2005 [DIRS 177557], *American National Standard for Determining Meteorological Information at Nuclear Facilities*, were used for guidance on modern equipment not contained in Regulatory Guide 1.23 [DIRS 103640], Section C. The new guidance provided in Regulatory Guide 1.23, Revision 1 [DIRS 181945], *Meteorological Monitoring Programs for Nuclear Power Plants*, did not significantly change measurement requirements, but data recording methods were modernized. Revision 1 includes more information on monitoring in complex terrain and for instrument exposures.

In summary, the YMP meteorological monitoring program has been performed in accordance with the following regulatory guidance documents:

- Regulatory Guide 1.23 [DIRS 103640], *Onsite Meteorological Programs*, Section C
- Regulatory Guide 1.23, Revision 1 [DIRS 181945], *Meteorological Monitoring Programs for Nuclear Power Plants*, Section C
- EPA-454/R-99-005, *Meteorological Monitoring Guidance for Regulatory Modeling Applications* (EPA 2000 [DIRS 161842], Section 2-8).

In addition, the program has been performed in accordance with voluntary consensus standards from:

- ASTM D 5741-96 [DIRS 107655], *Standard Practice for Characterizing Surface Wind Using a Wind Vane and Rotating Anemometer*
- ANSI/ANS-3.11-2000 [DIRS 151842], *American National Standard for Determining Meteorological Information at Nuclear Facilities*
- ANSI/ANS-3.11-2005 [DIRS 177557], *American National Standard for Determining Meteorological Information at Nuclear Facilities*.

In addition to the external regulatory guidance and consensus standards, the monitoring program has also been performed in accordance with a hierarchy of quality assurance documents and project procedures. Specifically, the program is subject to the requirements of the two quality documents, as follows; primary field and data processing procedures are also listed:

- *Quality Management Directive* (BSC 2007b [DIRS 180474])
- *Quality Assurance Requirements and Description* (DOE 2007 [DIRS 182051])
- EV-PRO-5001, *Tests and Checks of Meteorological Measuring and Test Equipment*
- EV-PRO-5002, *Tests, Checks, and Performance Audits of Meteorological Equipment*
- EV-PRO-5003, *Routine Operations and Maintenance of Meteorological Equipment*
- EV-PRO-5004, *Meteorological Data Processing*.

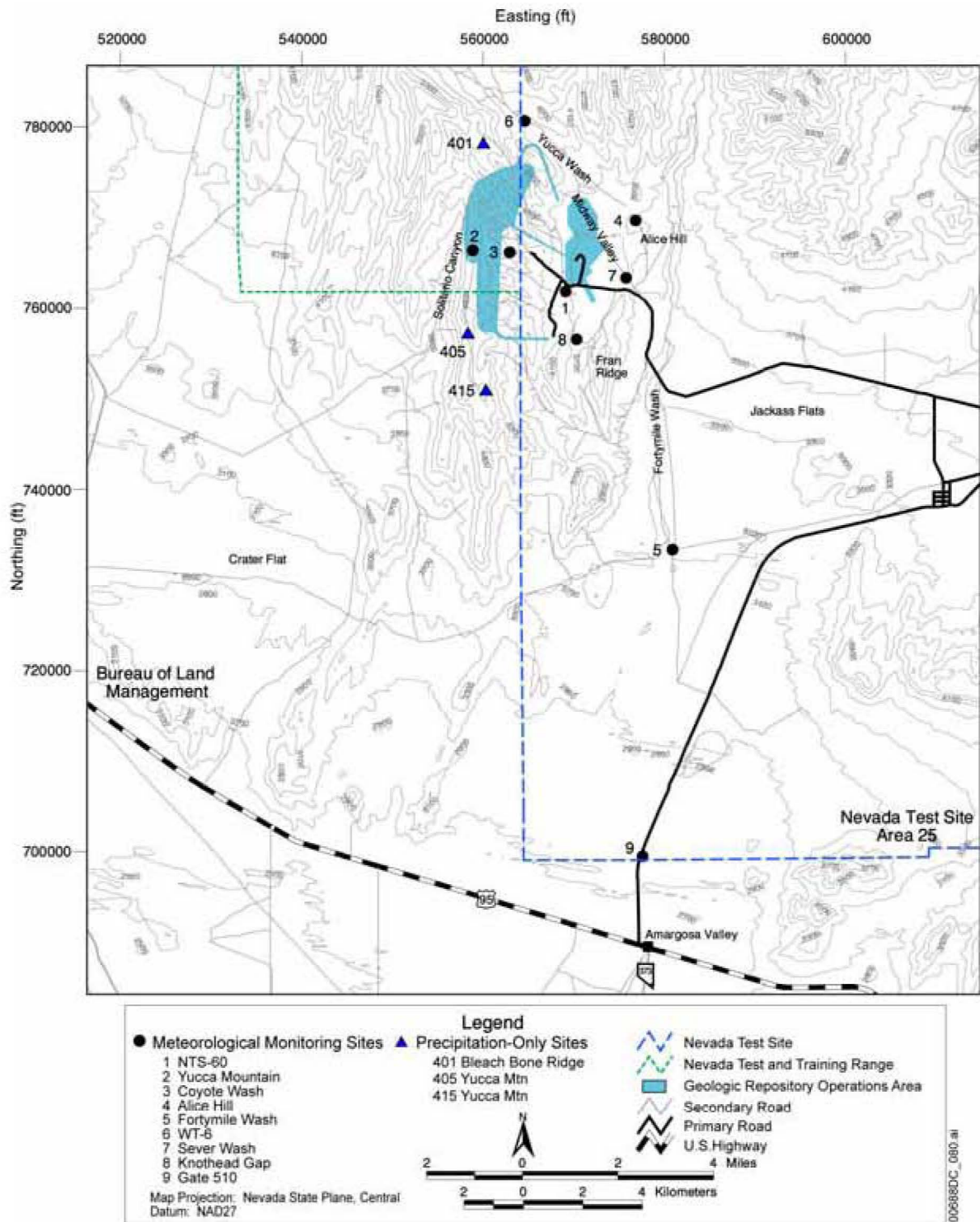
2.2 GENERAL SITE EXPOSURE AND MONITORING STATIONS

The primary surface facility area for the Geologic Repository Operations Area is the west side of Midway Valley, just east of the Yucca Mountain ridge. The area is comprised of complex terrain (Figure 2-1). Midway Valley slopes generally toward the east; the hydrologic drainage is between Alice Hill on the northeast side of the valley and Fran Ridge on the east side. The elevation of the ridgeline crest is more than 330 m higher than the west side of Midway Valley. This area is south of higher elevation mesas of the Nevada Test Site (NTS). The larger broad valley of Jackass Flats, east of Midway Valley, includes Fortymile Wash. The terrain of Jackass Flats slopes toward the south and opens into the Town of Amargosa Valley along U.S. Highway 95. The elevation in this area is approximately 300 m below that of the surface Geologic Repository Operations Area; the distance is approximately 18 km.

The typically clear skies and arid conditions of the Yucca Mountain area promote a wide range of surface temperatures between day and night periods. This temperature cycle, in turn, produces upslope and downslope airflow, respectively, on a range of spatial scales. Terrain features also tend to steer airflow along the axis of valleys, particularly during nighttime hours when the air is thermally stable and is less likely to flow over obstacles. Local airflow is a complex product of terrain-generated airflow mechanisms interacting with regional-scale weather system forces (Blumen 1990 [DIRS 108936], Chapter 2). The general exposures of the monitoring sites were chosen to characterize the influence of terrain on local airflow and atmospheric dispersion as discussed in Regulatory Guide 1.23 [DIRS 103640], Section C; and in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.7.

Meteorological monitoring Sites 1 through 5 (Figure 2-1 and Table 2-1) were established in 1985 for environmental monitoring as described in *Technical Work Plan for: Meteorological Monitoring and Data Analysis* (BSC 2006 [DIRS 176722], Figure A-1 and Table A-1). During the planning of site characterization activities, these five sites were determined to be adequate to support site characterization, as described in *Study Plan for Meteorological Data Collection at the Yucca Mountain Site, Revision 2* (CRWMS M&O 1996 [DIRS 178472]). To better understand airflow and local meteorological conditions, four additional stations were added to the meteorological monitoring network in 1992 (Sites 6, 7, 8, and 9) (Figure 2-1 and Table 2-1).

The instrument configuration of the sites was changed in 1993. Therefore, the data summarized in this report begins with 1994 to provide a consistent data set for analysis. The wind, solar radiation, and barometric pressure measurements were discontinued at Sites 3, 6, 7, and 8, during 1999. These measurements, except for barometric pressure, were discontinued at Site 5 at the same time. Therefore, these data are summarized through 1998 in this report. Sites 401, 405, and 415 have had precipitation storage gauges since 1999. Further information on site configuration is provided in *Technical Work Plan for: Meteorological Monitoring and Data Analysis* (BSC 2006 [DIRS 176722], Section 2 and Appendix A).



Source: BSC 2004 [DIRS 169734].

Figure 2-1. Yucca Mountain Modern Meteorological Stations

Table 2-1. Geographic Coordinates of the Meteorological Monitoring Sites

Site	UTM Coordinates Zone 11N (m)	State Plane Nevada Central (ft)	Latitude–Longitude (deg° min' sec")	Elevation (MSL)
Site 1 (NTS-60)	550,784E 4,077,374N	569,127E 761,796N	36° 50' 34"N 116° 25' 50"W	3,752 ft 1,144 m
Site 2 (Yucca Mountain)	547,646E 4,078,753N	558,844E 766,356N	36° 51' 19"N 116° 27' 56"W	4,850 ft 1,478 m
Site 3 (Coyote Wash)	548,875E 4,078,708N	562,876E 766,195N	36° 51' 17"N 116° 27' 06"W	4,194 ft 1,278 m
Site 4 (Alice Hill)	553,117E 4,079,779N	576,811E 769,661N	36° 51' 51"N 116° 24' 15"W	4,049 ft 1,234 m
Site 5 (Fortymile Wash)	554,397E 4,068,682N	580,883E 733,230N	36° 45' 51"N 116° 23' 26"W	3,125 ft 952 m
Site 6 (WT-6)	549,390E 4,083,084N	564,618E 780,550N	36° 53' 40"N 116° 26' 45"W	4,313 ft 1,315 m
Site 7 (Sever Wash)	552,800E 4,077,847N	575,747E 763,325N	36° 50' 49"N 116° 24' 28"W	3,546 ft 1,081 m
Site 8 (Knothead Gap)	551,161E 4,075,773N	570,344E 756,537N	36° 49' 42"N 116° 25' 35"W	3,684 ft 1,123 m
Site 9 (G-510) prior to 5/2/06	553,418E 4,058,398N	577,554E 699,491N	36° 40' 17"N 116° 24' 08"W	2750 ft 838 m
Site 9 (G-510) as of 5/2/06	553,486E 4,058,477N	577,778E 699,750N	36° 40' 20"N 116° 24' 05"W	2,754 ft 839 m
Site 401 (Bleach Bone Ridge)	547,967E 4,082,373N	559,940E 778,231N	36° 53' 17"N 116° 27' 42"W	5,129 ft 1,563 m
Site 405 (Yucca Mtn–WX4b)	547,482E 4,075,997N	558,274E 757,315N	36° 49' 50"N 116° 28' 03"W	4,884 ft 1,489 m
Site 415 (Yucca Mtn SE)	548,094E 4,074,073N	560,261E 750,992N	36° 48' 47"N 116° 27' 39"W	4,730 ft 1,442 m

Sources: SIT.20070820.0028 [DIRS 182686] except Site 9 prior to 5/2/06: BSC 2006 [DIRS 176722].

NOTE: All coordinates are based on NAD27 (North American Datum of 1927) horizontal, NGVD29 vertical.

Meteorological monitoring site locations and instruments were chosen to characterize airflow and atmospheric dispersion near potential future radiological and air pollution emission sources from the repository facilities in Midway Valley along the east side of Yucca Mountain, and along potential airflow pathways toward the populated area of Amargosa Valley south of Yucca Mountain. Monitoring sites were located in a variety of topographic positions such as hill slopes, ridge tops, and valleys over a wide area because of topographic influences on local airflow and related atmospheric dispersion characteristics. The variation in topography and elevation among the sites also provided useful meteorological conditions for geohydrological studies.

The following paragraphs contain descriptions of the general exposure characteristics of the sites in the monitoring network. The quantity and size of nearby vegetation can influence meteorological conditions near the monitoring sites. Vegetation at the lower-elevation sites (e.g., Sites 5 and 9) is typical of the Mojave Desert. Vegetation at the crest of Yucca Mountain and upper-slopes is transitional to Great Basin Desert flora. Vegetation near the monitoring stations is sparse (generally less than 20% ground cover) and average shrub height ranges from

about 0.3 to 0.5 m. The short and sparse vegetation near the meteorological monitoring sites do not interfere with the meteorological measurements.

General descriptions of the measurements made at each site are included to show how the data contribute to characterizing the airflow and meteorological conditions of the area. The full description of the measurements is contained in Section 2.3.

Site 1 (NTS-60)

Site 1 is located in western Midway Valley at an elevation of 1,144 m (3,752 ft) above mean sea level (MSL) (Figure 2-1 and Table 2-1). The site exposure is an open area in the west-central portion of the valley floor containing the main repository operations area, approximately 1 km (0.6 miles) south of the proposed surface facilities, and 3.3 km (2 miles) east of the crest of Yucca Mountain. Site 1 is the network station most representative of ambient weather conditions of the North Portal and associated future surface facilities. The site has a 60 m tall multilevel meteorological tower instrumented at the 2, 10, and 60 m levels with wind, temperature, and humidity measurement instrumentation. Precipitation and barometric pressure instruments are mounted near ground level, and the solar pyranometer is at 2 m above ground.

Site 2 (Yucca Mountain)

Site 2 is located on the Yucca Mountain ridge crest at an elevation of 1,478 m (4,850 ft) MSL, approximately 3.3 km (2 miles) west-northwest of Site 1 (Figure 2-1 and Table 2-1). This site was selected to provide meteorological conditions on the ridge crest and information on airflow above Midway Valley. Site 2 has a 10 m tower with the same measurement instrumentation as Site 1, except for the measurements at the 60 m level.

Site 3 (Coyote Wash)

Site 3 is located in a narrow east/west oriented wash along the east side of Yucca Mountain at an elevation of 1,278 m (4,194 ft) MSL, approximately 2.3 km (1.4 miles) west-northwest of Site 1 (Figure 2-1 and Table 2-1). This site is representative of the many canyon and wash drainages that dominate the eastern slope of Yucca Mountain. Site 3 represents a mid-elevation location between Sites 1 and 2. From 1985 through mid-1999, Site 3 was instrumented the same as Site 2. The wind, solar radiation, and barometric pressure measurements were discontinued in July 1999.

Site 4 (Alice Hill)

Site 4 is located on Alice Hill at an elevation of 1,234 m (4,049 ft) MSL, approximately 3.4 km (2.1 miles) northeast of Site 1 (Figure 2-1 and Table 2-1). Alice Hill is located near the junction of Yucca Wash and Fortymile Wash. Site 4 was selected to provide meteorological conditions on an exposed hilltop location that could be compared with Sites 1 and 7 in the valley floor in order to evaluate the vertical structure of the airflow in this region. Site 4 was fully instrumented the same as Site 2 during the full period of this report.

Site 5 (Fortymile Wash)

Site 5 is in the broad valley of lower Jackass Flats and overlooks the east edge of Fortymile Wash (Figure 2-1 and Table 2-1). This site is 9.4 km (5.8 miles) southeast of Site 1 at an elevation of 952 m (3,125 ft) MSL. This site was selected to help study airflow between Midway Valley and Amargosa Valley. The measurement periods and instrumentation at Site 5 were the same as Site 3, except that barometric pressure was continued at Site 5.

Site 6 (WT-6)

Site 6 is the northern-most monitoring site, located at well pad WT-6 adjacent to Yucca Wash near the NTS boundary with Nellis Test and Training Range (Figure 2-1 and Table 2-1). Site 6 is at an elevation of 1,315 m (4,313 ft) MSL, approximately 6.1 km (3.8 miles) north-northwest of Site 1. This site was located to monitor the southerly daytime airflow exiting the northern end of Midway Valley, and the nocturnal airflow into Midway Valley from the northwest. The measurement period and instrumentation at Site 6 were the same as Site 3.

Site 7 (Sever Wash)

Site 7 is located on the east side of Midway Valley near the gap between Fran Ridge and Alice Hill near the hydrologic outflow from Midway Valley. Site 7 is at an elevation of 1,081 m (3,546 ft) MSL, approximately 2.1 km (1.3 miles) east-northeast of Site 1 (Figure 2-1 and Table 2-1). This site is near the lowest elevation in Midway Valley about 60 m below the elevation of Site 1, and is southeast of the location of the repository surface facilities. Site 7 is on the surface pathway for nocturnal airflow that exits Midway Valley through the topographic gap between Fran Ridge and Alice Hill. The measurement period and instrumentation at Site 7 were the same as Site 3.

Site 8 (Knothead Gap)

Site 8 is in the southern portion of Midway Valley in the saddle between Yucca Mountain and Fran Ridge. Site 8 is at an elevation of 1,123 m (3,684 ft) MSL, approximately 1.7 km (1.1 miles) south of Site 1 (Figure 2-1 and Table 2-1). This site is east of the South Portal of the Exploratory Studies Facility. Site 8 was chosen to study airflow in this region of Midway Valley, partly because of the proximity to the south portal of the Exploratory Shaft Facility main tunnel. The measurement period and instrumentation at Site 8 were the same as Site 3.

Site 9 (Gate 510)

Site 9 is located along the southwest border of the NTS at an elevation of 839 m (2,754 ft) MSL, approximately 19.2 km (11.9 miles) south of Site 1 (Figure 2-1 and Table 2-1). The site was moved about 130 m to the north on May 2, 2006, to accommodate local construction work; the previous elevation was 838 m (2,750 ft) MSL. This site is located between Jackass Flats and Amargosa Valley along the Lathrop Wells road and was selected to provide information on near-surface airflow between Yucca Mountain and the community of Amargosa Valley; the nearest populated area to the repository location. Site 9 was fully instrumented, the same as Site 2, during the full period of this report.

Site 401 (Bleach Bone Ridge)

Site 401 is on the northern end of the ridge on top of Yucca Mountain at an elevation of 1,563 m (5,129 ft) MSL. It is about 5.7 km northwest of Site 1, overlooking upper Yucca Wash (Figure 2-1 and Table 2-1). This is the highest elevation site in the network. The only measurement at Site 401 discussed in this report is the storage gauge measurement of precipitation.

Site 405 (Yucca Mtn–WX4b)

Site 405 is about the center of the ridge on top of Yucca Mountain at an elevation of 1,489 m (4,884 ft) MSL. It is about 2.2 km west-southwest of Site 1 (Figure 2-1 and Table 2-1). The only measurement at Site 405 is precipitation; only the storage-gauge data are discussed.

Site 415 (Yucca Mtn SE)

Site 415 is further south than Site 405 along the ridge top of Yucca Mountain, east of a small saddle separating the ridge top from the hill overlooking Abandoned Wash. It is at an elevation of 1,442 m (4,730 ft) MSL and is about 2.7 km southwest of Site 1 (Figure 2-1 and Table 2-1). The only measurement at Site 415 is precipitation; only the storage-gauge data are discussed.

2.3 LOCAL INSTRUMENT EXPOSURE

Early Atomic Energy Commission guidance provided in Regulatory Guide 1.23 [DIRS 103640], Section C.2-3, did not address local instrument exposure beyond the basic instrument height of 10 m AGL, with a second suitable level. Subsequent draft revisions and the final version of Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.2-3, described three exposure factors for wind instruments: (1) the measurement heights should be 10 and 60 m AGL, (2) the instruments should be mounted a distance from the side of a tower at least two times the longest horizontal dimension of the tower, and (3) the tower should be a distance of at least ten times the height of an obstruction if the obstruction height exceeds one-half the height of the wind measurement.

Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.2-3, for air temperature measurements include use of fan-aspirated radiation shields mounted with the inlet at least 1.5 times the horizontal width from the nearest point on the tower, at a height of 10 m AGL. For many years, the U.S. Environmental Protection Agency (EPA) meteorological monitoring guidance (EPA 2000 [DIRS 161842], Section 3.2.2) stated that air temperature is to be measured between about 1.25 and 2 m AGL. Since one meteorological monitoring program goal is to characterize the local climate, the primary temperature measurement height has been 2 m AGL since mid-1993. Using the 2 m AGL data, rather than data from 10 m AGL, is the single exception taken to the NRC monitoring guidance documents (BSC 2007a [DIRS 181944]).

Temperature data from the 10 and 60 m AGL heights at Site 1 were used to calculate vertical temperature difference as the indicator of atmospheric stability; see Section 4.2.1. The temperature data from the 10 m level at the remaining sites were taken for potential application in EPA modeling (EPA 2000 [DIRS 161842], Section 3.2.2) as indicators of atmospheric stability.

U.S. Nuclear Regulatory Commission guidance on atmospheric moisture measurements in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.2-3, relates to the height of sources of water vapor release (e.g. cooling towers). Without anticipated sources of water vapor releases, the height for the dew-point temperature and relative humidity measurements was 2 m AGL to follow EPA monitoring guidance for climatic comparison purposes (EPA 2000 [DIRS 161842], Section 3.2.2).

60 m tower (Site 1)

The 60 m tower at Site 1 is a Rohn 55G guyed triangular-lattice tower, 0.46 m (18 in.) on each side. There are instrument carriages at the 10 and 60 m levels for wind and temperature sensors. The carriages are connected to an electric winch to readily bring the sensors to near ground level for servicing. The wind crossarms on the carriages are 1.88 m from the west side of the tower, which is approximately four times the side dimension. Prevailing winds at the 10 m level are from the south during the day and the northwest at night. Thus, the wind sensors are seldom influenced by the tower lattice structure. The mechanically aspirated temperature sensor shield inlets are 1.32 m from the tower, which is over three times the side dimension. The 2 m temperature and humidity sensors are in a mechanically aspirated temperature sensor shield mounted on an extension arm with the shield inlet 1.32 m from the side of the tower. All shields have horizontal inlets that face north to minimize direct solar influence on the sensors. Thus, the wind, temperature, and atmospheric moisture measurements meet the NRC local exposure criteria as provided in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.2-3.

A recording tipping-bucket gauge and a manually measured storage gauge are mounted with the gauge inlets about 1 m AGL. At Site 1, the gauges are about 55 m southwest of the tower. The tipping-bucket gauge has an Alter wind shield. The solar radiation sensor is 3.4 m further west of the precipitation gauges.

The signal conditioners and dataloggers are housed in an environmentally-controlled shelter that is 20 m southwest of the tower. The shelter is approximately 3.0 by 4.9 m on a side, and 3.0 m tall. The barometric pressure sensor inlet is outside this shelter, near the surface. For much of the period, all instruments and data loggers have operated on a 12-volt direct current battery system on continuous recharge by commercial power. This power source minimizes data losses during commercial power interruptions. Two other shelters are located at this site; both are west of the tower. One is a concrete building located 12.8 m from the tower, measuring 3.4 by 4.3 m on a side, and 3.0 m tall. The other is a metal trailer, measuring 3.7 by 18.3 m on a side, and 3.7 m tall. This trailer is about 3 m further from the tower beyond the concrete building, about 20 m from the tower. These heights are less than one-half the 10 m height of the wind measurement, thereby meeting the obstruction criteria for wind sensors.

10 m towers (Sites 2, 4, and 9—1994 to 2006; Sites 3, 5, 6, 7, and 8—1994 to 1998)

The 10 m towers are free-standing aluminum triangular-lattice towers that are 0.46 m (18 in.) on each side at the base. These towers are hinged at the base plate, and are lowered for servicing the wind and temperature sensors at the top. The wind crossarm is mounted on a central shaft extending from the top tower section, with the sensors 10 m AGL. With few exceptions, there are no obstructions near these towers. At Site 3, the canyon walls extend well above the top of

the tower within about 30 m north and south of the tower. This site was purposely located in this setting to characterize the airflow in the terrain typical of the east side of Yucca Mountain. Typical airflow is along the axis of the narrow wash. At Site 9, a small guard shack about 1.8 by 3.0 m on a side, and about 2.4 m tall, was located about 30 m west of the tower much of the time that this site was in operation. This direction is not in either prevailing wind direction for that site, and the height is within the obstruction criteria in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.2-3. Wind measurements were discontinued in 1999 at Sites 3, 5, 6, 7, and 8 (Table 2-2).

At all sites, the upper mechanically aspirated temperature shield is mounted immediately below the cross arm on the central shaft. The lower mechanically-aspirated temperature and humidity shield is mounted at the 2 m AGL height on the side of the tower. The shield inlet is 1.14 m from the side of the tower, which is 2.5 tower-widths from the side. Both shields have horizontal inlets that face north. In late 2006, the horizontally-mounted temperature shields were replaced by mechanically-aspirated, circular, layered-plate shields with very similar temperature and humidity sensors at Sites 3, 5, 6, 7, and 8.

Thus, the wind, temperature, and atmospheric moisture measurements meet the NRC criteria for local exposures in accordance with Regulatory Guide 1.23, Revision 1 [DIR 181945], Section C.2-3.

At all sites, the data recording equipment is housed in a protected enclosure about 1.2 m above the ground, within about 1.5 m of the tower base. This enclosure includes the barometric pressure sensor. The enclosure is ventilated with an opening to allow the sensor to measure ambient conditions. The solar radiation sensor is about 2.1 m above the ground either mounted on the enclosure structure or the tower, depending on the site; it is located above all enclosure and solar panel components.

At Sites 2 through 9, a recording tipping-bucket gauge and a manually-measured storage gauge are mounted with the gauge inlets about 1 m AGL within about 9.1 m from the tower and enclosure. The tipping-bucket gauges at Sites 2 and 6 have Alter wind shields.

Precipitation Sites

In addition to the precipitation measurements at Sites 1 through 9, three precipitation measurement sites (Sites 401, 405, and 415) with storage gauges along the crest of Yucca Mountain were added in 1999 (Figure 2-1 and Table 2-1). These storage gauges are also mounted the same way as at Sites 1-9.

Table 2-2. Parameters Measured at Each Meteorological Monitoring Station^a (1994 to 2006)

Parameter	Height (m)	Site								
		1 (NTS-60)	2 (Yucca Crest)	3 ^b (Coyote Wash)	4 (Alice Hill)	5 ^b (Fortymile Wash)	6 ^b (WT-6)	7 ^b (Sever Wash)	8 ^b (Knothead Gap)	9 (Gate 510)
Wind speed	10	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-1998	1994-1998	1994-2006
	60	1994-2006	—	—	—	—	—	—	—	—
Wind direction	10	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-1998	1994-1998	1994-2006
	60	1994-2006	—	—	—	—	—	—	—	—
Vertical wind speed	10	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-1998	1994-1998	1994-2006
	60	—	—	—	—	—	—	—	—	—
Temperature	2	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006
	10	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-1998	1994-1998	1994-2006
	60	1994-2006	—	—	—	—	—	—	—	—
Vertical temperature difference	2 to 10	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-1998	1994-1998	1994-2006
	10 to 60	1994-2006	—	—	—	—	—	—	—	—
Precipitation (tipping bucket)	2	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006
	0	1996-2006	1996-2006	1996-2006	1996-2006	1996-2006	1996-2006	1996-2006	1996-2006	1996-2006
Relative humidity	2	1999-2006 ^d	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006	1994-2006
	2	1994-1998 ^d	—	—	—	—	—	—	—	—
Barometric pressure	2	1994-2006	1994-2006	1994-1998	1994-2006	1994-2006	1994-1998	1994-1998	1994-1998	1994-2006
	2	—	—	—	—	—	—	—	—	—
Solar radiation	2	1994-2006	1994-2006	1994-1998	1994-2006	1994-1998	1994-2006	1994-1998	1994-1998	1994-2006
	2	—	—	—	—	—	—	—	—	—

^a Blank cells indicate that the parameter was never measured at that site.

^b At Sites 3, 5, 6, 7, and 8, wind speed and direction, vertical wind speed, vertical temperature difference, barometric pressure, and solar radiation were recorded from 1994 to 1998, and discontinued in 1999, except barometric pressure continued to be recorded at Site 5.

^c Storage gauge precipitation measurements were started in October 1995.

^d Dew-point temperature was recorded from 1994 to 1998, and relative humidity was recorded from 1999 to 2006 at Site 1.

2.4 METEOROLOGICAL SENSORS

The meteorological sensors are standard types from companies that supply equipment to nuclear facilities. The instruments are reliable and result in high data recovery. The equipment was selected based on Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section C.4, and other performance guidance in EPA-454/R-99-005 (EPA 2000 [DIRS 161842], Section 3.2.2). Procurement of equipment and any equipment services (e.g., calibration or equipment repair) are made through vendors meeting quality assurance requirements in accordance with *Quality Assurance Requirements and Description* (DOE 2007 [DIRS 182051], Section 7). Trained quality assurance auditors conducted periodic supplier audits of the vendors.

Table 2-3 lists the sensors used, the measurement method, and system criteria in Regulatory Guide 1.23, Revision 1 [DIRS 181945]. Table 2-4 also lists the NRC accuracy limits and other performance requirements in accordance with Regulatory Guide 1.23, Revision 1 [DIRS 181945] with the required accuracy and performance limits for operational checks and calibrations included in project operational procedures EV-PRO-5001 and EV-PRO-5002. Table 2-4 shows that the project criteria meet the NRC criteria per Regulatory Guide 1.23, Revision 1 [DIRS 181945]. The objective evidence that the equipment performance met the regulatory criteria is the validated data cited in Table 3-1. The data referenced in the TDMS include links to records of calibration and check results that demonstrate compliance with the instrument accuracy requirements. The sections that follow describe individual sensors with rationale for their suitability for the monitoring program.

Wind speed sensors are three cup anemometers equipped with light-emitting diodes and a slotted disc attached to the cup shaft. Climatronics 100075 sensors have been used at Sites 2 through 9, and the Met One 1564B sensors have been used at Site 1. Electronics within the sensors produce a frequency-dependent voltage signal that is directly proportional to the wind speed. With lightweight cups and very low friction drag on the cup shafts, the starting threshold speeds meet regulatory guidance requirements. The sensitive response characteristics can accurately measure airflow in a wide range of conditions, including in low wind speeds typically associated with poor atmospheric dispersion conditions. The sensors are durable enough to withstand maximum expected wind speeds. The horizontal wind speed sensors were mounted at 10 m AGL and at 60 m AGL at Site 1.

Wind direction sensors are vanes equipped with either a potentiometer (Climatronics 100076 at Sites 2 through 9) or an electronic resolver (Met One 1565C at Site 1). The sensors provide an analog voltage output signal proportional to the wind direction. With a lightweight vane and low friction drag on the vane shafts, the starting threshold speeds meet regulatory guidance requirements. The sensors are oriented to true north; the measurement unit is degrees from the direction where the wind is blowing. North is 0°, east is 90°, and so forth. The output is scaled from zero to 540 degrees (1.5 circles) to facilitate using analog strip chart recorders for diagnostic purposes. The direction sensors are sensitive to low wind speed airflow conditions. They are also durable enough to withstand maximum expected wind speeds.

Table 2-3. Sensor Descriptions and Requirements

Measurements	Sensors	Methods	System Requirements
Wind speed (horizontal)	Climatronics 100075	Three-cup anemometer with photochopper	Accuracy: greater of ± 0.2 m/sec or 5% of observed speed Starting speed: < 0.45 m/sec (1 mph)
	Met One 1564B	Three-cup anemometer with photochopper	Accuracy: greater of ± 0.2 m/sec or 5% of observed speed Starting speed: < 0.45 m/sec (1 mph)
Wind direction	Climatronics 100076	Vane with potentiometer	Accuracy: ± 5 degrees Starting speed: < 0.45 m/sec (1 mph)
	Met One 1565C	Vane with resolver	Accuracy: ± 5 degrees Starting speed: < 0.45 m/sec (1 mph)
Temperature and vertical difference	Climatronics 100093	Three-bead thermistor	$\pm 0.5^\circ\text{C}$ (absolute, for temperature), also $\pm 0.1^\circ\text{C}$ (relative, for vertical difference)
	Met One T-200	Platinum wire	$\pm 0.5^\circ\text{C}$ (absolute, for temperature), also $\pm 0.1^\circ\text{C}$ (relative, for vertical difference)
Relative humidity	Climatronics 101812-G0	Capacitance film	$\pm 4\%$ (for $\leq 40\%$ RH), else: $\pm 1.5^\circ\text{C}$ dew point ^a
Dew point	General Eastern 700	Chilled mirror	$\pm 1.5^\circ\text{C}$ dew point
Precipitation	Climatronics 100097 and 100097-2	Tipping bucket, 203.2 mm (8 in.) orifice, 0.254 mm (0.01 in.) resolution	$\pm 10\%$ volume
	Qualimetrics 6011A	Same tipping bucket	$\pm 10\%$ volume
	Belfort 302 and Weather Measure P511E	Same tipping bucket	
	Nova Lynx 260-2510 Storage gauge	Manual, 203.2 mm (8 in.) orifice, 0.254 mm (0.01 in.) resolution	$\pm 10\%$ volume
Barometric pressure	Climatronics 101448	Aneroid wafer	(± 3 mb)
Solar radiation	Climatronics 100848	Pyranometer, 0.3 to 3 μ	($\pm 5\%$, zero $< \pm 10$ W/m ²)
Vertical wind speed	Climatronics 101284	Propeller anemometer with generator	Accuracy: greater of ± 0.2 m/sec or 5% of observed speed
	Climatronics 102236	Propeller anemometer with optical chopper	Accuracy: greater of ± 0.2 m/sec or 5% of observed speed

Table 2-4. System Accuracy Requirements

Measurement	Calibration Tolerance	Performance Check and Performance Audit Tolerance	Instrument Accuracy Requirement from NRC ^a	System Accuracy Requirement from NRC ^b
Wind Direction Starting threshold	± 3 degrees < 0.447 m/sec (0.5 mph) at 10 degrees	± 5 degrees Torque limits (gm-cm): Climatronics 100076: 6.0 Met One 1564B: 2.5	± 5 degrees	± 5 degrees < 0.45 m/sec (1 mph)
Wind Speed (horizontal and vertical) Starting threshold	≤ 5 m/s: ± 0.25 m/sec > 5 m/s: ± 5% of observed < 0.447 m/sec (0.5 mph)	Same accuracy as calibration; Torque limits (gm-cm): Climatronics 100075: 0.3 Met One 1565C: 0.25 Climatronics 102236: 0.75	± 0.5 mph < 1 mph	± 0.2 m/sec (± 0.45 mph) or 5% of observed wind speed < 0.45 m/sec (1 mph)
Temperature	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C (± 0.9°F)
Vertical temperature difference	± 0.1°C (relative)	± 0.1°C (relative)	± 0.1°C	± 0.1°C (± 0.18°F)
Precipitation Recording gauge Manual storage gauge	Orifice: 8 ± 0.75 in. diameter Volume: ± 10%, Count: exact	Recording: same as calibration Manual: NA	None specified	± 10% for a volume equivalent to 2.54 mm (0.1 in.) of precipitation at a rate < 50 mm/h (< 2 in./hr)
Barometric pressure	± 3 millibars	± 3 millibars	None specified	None specified
Relative humidity	< ± 1.5°C dew point	RH ≤ 40%: ± 4% RH > 40%: see calibration	None specified	± 4%
Solar radiation Zero check Measurement	± 10 W/m ² ± 5%	Zero check; same as calibration	None specified	None specified

^a Regulatory Guide 1.23 [DIRS 103640]

^b Regulatory Guide 1.23 [DIRS 181945], Revision 1

NA = not applicable; RH = relative humidity.

Vertical wind speed sensors are vertically mounted propeller anemometers. On the Climatronics 101284, used early in the program, the propeller shaft was connected to a small electric generator for which the output voltage was proportional to the shaft rotation rate and the direction of rotation to distinguish updraft from downdraft winds. After November 1998, the new Climatronics 102236 sensors with identical propellers utilized the optical chopper technology similar to that used in the horizontal wind speed three-cup anemometers. The vertical wind speed sensors were mounted at 10 m AGL. The sensors are also sensitive to low wind speeds, yet durable enough to withstand maximum expected wind speeds.

Air temperature sensors used for the temperature and vertical temperature difference measurements were thermistors (Climatronics 100093), except for the platinum wire sensors (Met One T-200) used at Site 1 until November 1998. The sensors were mounted in mechanically aspirated shields to reduce influences of solar radiation and precipitation. The sensors are part of an electrical circuit; the output voltage is a function of sensor temperature.

The dew-point temperature sensor at Site 1 was a chilled mirror system (General Eastern 700). This system cools a mirror to the dew point, which is sensed optically by the condensation on the mirror. This sensor was mounted in a shield at the 2 m level. In 1999, a relative humidity sensor replaced the dew point sensor at Site 1.

Relative humidity sensors are capacitive element solid-state devices that provide an analog output voltage signal proportional to relative humidity (Climatronics 101812-G0). These sensors were mounted in aspirated shields similar to the temperature sensors.

Barometric pressure sensors are aneroid cells with mechanical or electronic detectors that sense the cell position (Climatronics 101448). The analog output voltage signal is proportional to barometric pressure. Barometric pressure was measured near the level of the equipment shelters, less than 2 m AGL.

Precipitation gauges are either recording gauges with tipping-bucket mechanisms (Climatronics 100097 and 100097-2, Qualimetrics 6011A, Weather Measure P511E, and the Belfort 302) or manual storage gauges (NovaLynx 260-2510). The nominal funnel diameter of both gauges is 203.2 mm (8 in.). The tipping-bucket mechanisms tip with a volume of water equivalent to 0.254 mm (0.01 in.) of rainfall, sending a short switch-closure signal to the onsite datalogger. The only gauge heated during frozen precipitation is located at Site 1, because snow is so infrequent. Gauges exposed to strong winds during precipitation are equipped with hanging-slat Alter wind shields. The standardized storage gauges were used to measure total precipitation.

Solar radiation sensors are black and white pyranometers (Climatronics 100848, the Eppley 8 48). The pyranometer is sensitive to total incoming solar radiation in the three-tenths to three micrometer wavelength range. The sensors were mounted horizontally and measure direct and diffused sunlight. Solar radiation was measured at the 2 m level.

2.5 ONSITE DATA RECORDING

The sensors described in Section 2.4 were connected to onsite electronic data processing and recording systems (dataloggers). The Campbell Scientific, Inc. model CR10 datalogger was used at Sites 2 through 9 throughout the period. The Odessa Engineering model DSM-3260 was

used at Site 1 during 1994 and 1995. A Campbell Scientific, Inc. model CR21X datalogger was used during 1996 and 1997, whereas a Campbell Scientific, Inc. model CR23X datalogger was used for the remainder of the period. Campbell Scientific dataloggers are used throughout the meteorological monitoring community and in industrial applications, including work in nuclear facilities. All the dataloggers were equipped with visual displays that can be read during site visits. Some sites have radio communication capability so that current conditions and recently recorded data can be polled between site visits to ensure continued correct operation.

Analog strip charts were utilized at some sites as a source of diagnostic information during site checks and data validation. The chart data were not used for backup data.

The onsite data recording process included three steps: (1) sensor output signals were input to the datalogger and values were calculated in engineering units, (2) intermediate calculations were performed on the input for extreme values, summary statistics, and additional variables, and (3) output data arrays were stored. The actions performed by the dataloggers were controlled and documented by the procedures (Section 2.1) governing operation of the field equipment.

Datalogger inputs were electronic output from the sensors, such as analog direct current voltages and pulse counting. The input signal sampling rate was once every second. The engineering units of the measurements were metric, except for the tipping-bucket precipitation gauge that recorded in inches. Following a conversion of the precipitation data, the metric units were maintained throughout the data processing steps.

The primary data output variables were based on NRC reporting requirements in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Section 6. Some additional output variables were based on the ASTM D 5741-96 [DIRS 107655], Section 4.3, which is a consensus standard for characterizing surface wind. Other information on battery status, datalogger condition, and self-check results identifying outlier values were also stored in output arrays. This information was used during data validation and was stored in the full database files, but was generally not included in the final meteorological database files.

During most of the monitoring period reported here, output data arrays were created for ten-minute, hourly, and daily time periods. The primary data output was the hourly arrays. The daily arrays contained select data summaries. The data recorded onsite in solid-state storage modules were collected monthly and transferred to the project computer network for further storage and data validation (Section 2.7). Appendix A contains a complete listing of the validated output data variable names for Site 1, which are similar to the ones used at the remaining sites. This information is included in the metadata with the source data in the TDMS. The following paragraphs describe internal datalogger calculations of various statistics and additional calculated variables.

Horizontal wind speed measurements were processed and recorded as scalar values in meters per second. The primary output was ten-minute and hourly averages, both with corresponding directions. The maximum three-second gust and maximum one-minute average speed, with associated average direction, were recorded for engineering design applications. In addition, the standard deviation of the horizontal wind speed was calculated and recorded as an indication of atmospheric turbulence for dispersion or other applications.

Vertical wind speed measurements were processed and recorded as scalar values in meters per second. Positive values indicate updrafts and negative values indicate downdrafts. The primary output was the ten-minute average. Also, the standard deviation of vertical wind speed was calculated and recorded as another indication of atmospheric turbulence for dispersion or other applications.

Wind direction measurements were processed and recorded as scalar values in degrees with zero and 360 degrees as wind from true north, 90 degrees as wind from the east, and so forth. The scalar value of direction was calculated by the unit vector method, such as that provided by using the Campbell P69 command of software code PC208W (PC208W Version 3.2, STN: 10739-3.2-00 [DIRS 182487]), to allow for the circular distribution of wind data. The primary output was ten-minute and hourly averages, with corresponding speeds. The one-minute average direction, associated with the maximum one-minute average speed values, was recorded for engineering design applications. In addition, the standard deviation of the wind direction was calculated and recorded as an indication of atmospheric turbulence for dispersion or other applications. Following regulatory guidance (EPA 2000 [DIRS 161842], Section 6.2), the hourly standard deviation values are the root-mean-square of standard deviation values computed for 15-minute periods.

Air temperature measurements were recorded in degrees Celsius. The primary output is ten-minute and hourly averages. Maximum and minimum one-minute average air temperatures were recorded daily. This averaging time was chosen for comparability with data from climatic stations using glass thermometer or slow response electric sensors.

Vertical temperature difference between the 2, 10, and 60 m heights were calculated by the onsite dataloggers as the upper level temperature minus the lower level temperature. The sensors were matched for nearly identical linearity characteristics to meet the tight accuracy limits shown in Tables 2-3 and 2-4. The vertical temperature difference data can be used as an indicator of atmospheric stability.

Relative humidity, dew point, barometric pressure, and solar radiation data output were average values reported for the 10-minute and hourly periods.

Precipitation was measured by two methods. The recording gauges have tipping-bucket mechanisms that register increments of 0.254 mm (0.01 in.). Hourly totals of the measurements were recorded for all years. Ten-minute and daily period data were recorded beginning in mid-1995, except for Site 1, which began in 1996. The storage gauges required manual measurements of precipitation depth, which were recorded on the site checklist forms in accordance with EV-PRO-5003. The readings were entered into an Excel database, generally for annual periods. Storage gauge data are considered the most reliable and accurate for precipitation totals because they lack the equipment failure modes and potential uncertainties inherent with the tipping-bucket mechanism. The tipping-bucket data are an acceptable source of total precipitation data, but the primary use is for precipitation rate information.

2.6 INSTRUMENT SURVEILLANCE

The frequency of site visits and tests were established to ensure an annual data recovery rate of at least 90%. Actual data recovery rates typically exceeded 98%, with missing periods when the instruments were off line for testing and routine maintenance. The fully instrumented sites were inspected at least weekly; other sites were inspected at least twice monthly. The visits enabled the site technician to visually confirm the physical integrity of the external sensors, and check that the results being recorded were reasonable given the present and recent conditions. The routine site inspections included periodic quality control tests of the tipping-bucket precipitation gauges to ensure that tips of the bucket mechanism were correctly counted by the datalogger. The results of the visits were documented on the site checklist forms in accordance with EV-PRO-5003.

The operating sensors were calibrated at least annually using measuring and test equipment (M&TE) standards traceable to nationally-recognized standard bodies, such as the National Institute of Standards and Technology. The project procedures controlling measuring and test equipment (e.g., CO-PRO-1001, *Control of Measuring and Test Equipment*) have requirements that are implemented by the field procedures cited in the previously discussed technical work plan (BSC 2006 [DIRS 176722], Section 4). The wind sensors were sent to the manufacturers for testing in a wind tunnel of the starting threshold speed and the accuracy of the sensor measurement output. The M&TE used as working standards were sent to qualified suppliers to perform the traceable calibrations after one year of operation or sooner.

Checks of the full measurement system, from sensors to dataloggers, amounting to limited field calibrations were performed by YMP staff using M&TE standards. The wind sensor outputs were checked by placing the vanes in known directions, checking crossarm and sensor orientation, and by rotating the anemometer shaft at known rates. The starting speed thresholds were checked by rotating the wind sensor shafts with torque watches. The temperature, humidity, pressure, solar radiation sensors and the recording precipitation gauges were calibrated and checked by comparison with either known input conditions, such as a set volume of water in the precipitation gauges, or the output of a collocated measurement from an M&TE standard.

Periodic field checks were performed by technicians independent of the YMP staff using independent M&TE standards. These independent checks satisfied EPA requirements for “performance audits” (EPA 2000 [DIRS 161842], Section 8.4). The original frequency of the periodic checks and performance audits was each calendar quarter. Based on instrument performance, the frequency of both tests was reduced in 1997 to twice yearly, in alternating calendar quarters.

Preventive and corrective maintenance tasks were also controlled by YMP procedures. The wind sensors were given routine preventive maintenance by the manufacturers when sent for periodic wind tunnel calibration tests. The preventive maintenance activities and frequencies were based on operating experience to balance interference with the equipment and measurements with the need to minimize down times due to equipment failure.

Equipment failures, operator errors and periods of suspect data were tracked through the YMP corrective action program.

2.7 DATA ACQUISITION AND REDUCTION

As noted, the output data were stored onsite in solid-state storage modules. At least monthly, data were copied from the site storage modules to transfer storage modules, and the site checklists and diagnostic strip charts were collected. Data from the transfer storage modules were copied to computer files using the Campbell Scientific software PC208W (PC208W Version 3.2, STN: 10739-3.2-00 [DIRS 182487]). These raw data text files are comma-delimited strings, with data stored in the engineering units that were displayed in the dataloggers.

The raw data text files were then imported to Microsoft Access database files using the quality-affecting software program EFPData (EFPData Version 4.2.1, STN: 10420-4.2.1-00 [DIRS 182486]). Precipitation data from the recording tipping-bucket gauges were recorded in inches in increments of 0.01 in.; the imported data were converted to millimeters by multiplying the data in inches by 25.4. The importing program recognized the output array identifiers that distinguish the monitoring site and time period of the records, and sorted the data into appropriate database tables. Limited screening checks for missing time periods, ranges and rates of change were performed on the imported data. Periods that exceeded range or rate of change criteria were noted in a separate listing of edits. No data were changed without examination by data validation staff. Periods that did not meet acceptable data recovery criteria were invalidated, with notation made in the edits file. The criterion was originally at least 75% recovery; it was later changed to 50%, following regulatory guidance changes (EPA 2000 [DIRS 161842], Section 6.1).

The imported data were reviewed and edited in accordance with EV-PRO-5004. Edits were documented in the edit lists that are included in the database files in the Records Processing Center. The data processing and validation included examining results of import screening, listings of the “outlier” results recorded during site checks, the site checklists, and graphical data summaries. Ultimately, the staff meteorologists used professional judgment to determine data validity. Edits were made to the data to account for equipment testing, periods when sensors were adversely affected by ice, or other adverse influences.

Validated data from each calendar year were technically reviewed. After review comments were resolved, the data were submitted to the project’s TDMS for archival and access by users. Each data set was assigned a unique data tracking number (DTN). The data sets in the TDMS are the controlled meteorological data for the project. Metadata files were included with the controlled data in TDMS. The metadata provides an explanation of the column headings for measured or calculated meteorological parameters. An example of metadata is included in Appendix A of this report.

Quality assurance audits, surveillances, and assessments were performed on the different aspects of the meteorological monitoring program. Meteorology staff members performed self-assessments of different aspects of the program each year. Program areas typically reviewed included meteorological site operations; data evaluation and review; measuring and test equipment; and records, training and document control. The Management and Operating Contractor quality assurance organization routinely performed surveillance and audits on the meteorology program as either part of larger QA audits or surveillances of specific aspects of the program. On a less frequent basis, the Office of Civilian Radioactive Waste Management quality

assurance organization included aspects (e.g., M&TE) of the meteorology program in oversight quality assurance audits. Findings from all audits, surveillances, and assessments were entered into the corrective action program system and tracked to resolution.

3. INPUTS AND ASSUMPTIONS

3.1 DATA INPUTS

The meteorological monitoring data sets with associated DTNs used in this summary report are listed in Table 3-1. The meteorological databases contain data for each site summarized by ten-minute, hourly, and daily time intervals. The measurement changes in 1993 at the monitoring sites were sufficient to warrant beginning the period for analysis in this report with 1994.

Table 3-1. Meteorological Data Sources from the Technical Data Management System

Data Tracking Number	Year	Data Set Title
MO0312SEPQ1994.001 [DIRS 176093]	1994	Meteorological Monitoring Data for 1994
MO0312SEPQ1995.001 [DIRS 176094]	1995	Meteorological Monitoring Data for 1995
MO0312SEPQ1996.001 [DIRS 176095]	1996	Meteorological Monitoring Data for 1996
MO0312SEPQ1997.001 [DIRS 167116]	1997	Meteorological Monitoring Data for 1997
MO0206SEPQ1998.001 [DIRS 166731]	1998	Meteorological Monitoring Data for 1998
MO0302METMON99.001 [DIRS 166165]	1999	Meteorological Monitoring Data for 1999, Sites 1-9, Hourly And Ten Minute
MO0209SEPQ2000.001 [DIRS 166730]	2000	Meteorological Monitoring Data for 2000
MO0305SEP01MET.002 [DIRS 166164]	2001	Meteorological Monitoring Data for 2001
MO0305SEP02MET.002 [DIRS 166163]	2002	Meteorological Monitoring Data for 2002
MO0503SEPMMD03.001 [DIRS 176097]	2003	Meteorological Monitoring Data for 2003
MO0607SEPMMD04.001 [DIRS 178311]	2004	Meteorological Monitoring Data for 2004
MO0610METMND05.000 [DIRS 178328]	2005	Meteorological Monitoring Data for 2005
MO0708METMND05.001 [DIRS 182647] ^a	2005 ^a	Meteorological Monitoring Data for 2005 ^a
MO0706METMND06.000 [DIRS 181887]	2006	Meteorological Monitoring Data for 2006
MO0303SGPM9502.000 [DIRS 162490]	1995-2002	Storage Gauge Precipitation Measurements, Yucca Mountain 1995-2002
MO0412SEPSGP03.000 [DIRS 178864]	2003	Storage Gauge Precipitation 2003
MO0607SEPSGP04.001 [DIRS 178865]	2004	Storage Gauge Precipitation 2004
MO0605SEPSGP05.000 [DIRS 178663]	2005	Storage Gauge Precipitation 2005
MO0704SGPD2006.000 [DIRS 180426]	2006	Storage Gauge Precipitation 2006
MO9904SUNRSSET.000 [DIRS 182412]	1985-2004	Sunrise/Sunset Data for Las Vegas, Nevada (36 Degrees 10 Minutes North, 115 Degrees 10 Minutes West) for 1985 to 2004
MO0708MD9406JF.000 [DIRS 182587]	1994-2006	Wind JFD Input

^a Superseding data for 2005 only used for change in Site 8 precipitation data for Day 153.

The 13-year time period from 1994 to 2006 represents the most complete data set available. The hours shown in the data files are the time at the end of the period. Thus, the 24 hourly periods are labeled from 0100 through 2400 Pacific Standard Time (PST). The continuously recorded data summarized in this report are from hourly and daily data tables. Appendix A contains tables that describe the data from each of the output time periods for Site 1 as stored in TDMS. Similar information on the remaining sites is included with the database files in TDMS.

In 1994, precipitation was measured using recording gauges with tipping-bucket mechanisms. In 1995, manual storage gauges were added to the monitoring network for total precipitation. Data from the storage gauges were recorded separately from the electronically recorded data and therefore have separate DTNs (Table 3-1).

Additional data inputs were developed to produce the joint frequency distribution (JFD) tables and figures (wind roses) and were stored in a separate DTN. This method is described in Section 4.2.

The uncertainty of the acquired data listed in Table 3-1 is addressed by the system accuracy statements given in Table 2-4. No caveats, limitations, or restrictions are given with the data in the TDMS. This report does not contain any data or technical inputs from other project organizations.

3.2 ASSUMPTIONS

There are no assumptions made in this report.

4. DATA SUMMARY METHODS

4.1 DEVELOPMENT OF THE CLIMATIC SUMMARY TABLES

Summary tables were based on typical climatic data summaries, such as those prepared by the National Climatic Data Center (e.g., DTN: MO0304CLIMSPWA.000 [DIRS 162943], Climate Data Summary: Spokane, Washington: Normals, Means, and Extremes). Some modifications were made for the purposes of this report. No weighting of data by time period or extrapolation to fill missing data were done to account for missing data.

Microsoft Office Professional (STN: 610236-2000-00) and Visual Studio Professional (STN: 611284-6.0-00) were used to extract and summarize the data. Access databases contained in the meteorological data sources (DTNs listed in Table 3-1) were the primary input to the process. Hourly and daily data for Sites 1 through 9 for each year (1994 to 2006) were extracted, summarized, and stored in Excel workbooks and formatted Word tables. Storage gauge precipitation data from 1996 through 2006 for Sites 1 through 9 from Excel files (DTNs listed in Table 3-1) were the only other direct input of meteorological data. Some DTN already had monthly totals included, while the monthly totals from the early years were calculated in an Excel file. The monthly data were extracted by the summary process and stored with the other summary data in the Total Precipitation rows of the output Word tables and Excel files.

The summary output included a Word document for each year of data containing a table of monthly and annual data for each site. The output also included an Excel workbook for each site with a spreadsheet for each year of data, and a summary sheet and summary Word document with data covering the period 1994 to 2006.

Access queries developed in Visual Basic were used to summarize the hourly or daily input data by month, calculating an average, total, maximum, or minimum, depending on the parameter. Since the source data were stored by Julian day a conversion to month was necessary.

After the queries were executed to generate a monthly summary for each parameter, the annual values were calculated from the query results. For the maximum one-minute wind speed parameter, the corresponding direction was identified in the same query. Headers, parameter identifiers, and the parameter and annual values were saved in Word documents. The storage gauge data were directly extracted from specific cells in the storage gauge Excel file and saved in the Word documents.

Once all parameters were written to a Word document for a specific site during a specific year, the data were formatted into a Word table and copied to the appropriate Excel workbook file by site, with separate years on individual worksheets. The process of querying, summarizing, calculating annual values, and storing the results was repeated for each site and each year.

At this point, there were nine Excel workbooks (one for each site), each containing 13 annual worksheets (one for each year, 1994 to 2006), and a blank summary worksheet for data covering the entire period. The yearly Word documents with a table for each of the 9 sites were complete. Within each Excel site workbook, for each parameter value in the annual worksheets, the monthly values over the entire period were calculated and the results stored in the summary worksheet. Lastly, the “annual” parameter values covering the time period of 1994 to 2006 were calculated from the monthly summarized values and then stored in summary worksheets and copied to the summary Word table.

The individual calculations by parameter are discussed in the following sections using the terms in the climatic data tables. The tables for each year in Appendices H through Q contain monthly data calculated from hourly or daily data as discussed below. Monthly and annual summaries of the period from 1994 through 2006 are in Tables 5-1 through 5-9.

4.1.1 Temperature

The temperature data were summarized from measurements made at 2 m AGL. The daily extreme temperatures were not available at Site 1 until 1996.

- Extreme maximum (°C): monthly extreme maxima are the highest of the daily maximum one-minute average temperatures; the annual value is the maximum of the monthly extremes.
- Mean maximum (°C): monthly average of the daily maximum one-minute average temperatures; the annual value is the average of the monthly mean maxima.

- Mean (°C): monthly means are the averages of the one-hour averages; the annual mean is the average of the monthly means.
- Mean minimum (°C): monthly average of the daily minimum one-minute average temperatures; the annual value is the average of the monthly mean minima.
- Extreme minimum (°C): monthly extreme minima are the lowest of the daily minimum one-minute average temperatures; the annual value is the least of the monthly extremes.
- 32°C (90°F) and above: the monthly number of days that the daily maximum one-minute average temperature was greater than or equal to 32.2°C; the annual value is the sum of the monthly numbers of days.
- 0°C (32°F) and below: the number of days in each month that the daily minimum one-minute average temperature was less than or equal to 0°C; the annual value is the sum of the monthly numbers of days.

4.1.2 Barometric Pressure

The monthly mean barometric pressure (millibars) is an average of the one-hour averages. The annual means are averages of the monthly means. Barometric pressure was measured for the full period only at Sites 1, 2, 4, 5, and 9, and from 1994 through July 1999 at the remaining sites.

4.1.3 Relative Humidity

Relative humidity data (percent, %) are presented for four times of the day: 0400, 1000, 1600, and 2200 hours PST. These hours were chosen to provide the approximate extreme values (0400 and 1600, corresponding to temperature extremes) and intermediate periods evenly spaced through the day. The monthly relative humidity at each time of day is an average of the one-hour averages. The annual means are averages of the monthly means for each time of day.

4.1.4 Precipitation

Precipitation rates (millimeters per hour or day) and the number of days with measurable precipitation were calculated from the daily tipping-bucket gauge data, when available. Daily total precipitation from tipping-bucket gauge data were available beginning in July 1995 at Sites 2 through 9, and beginning in 1996 at Site 1. The original 2005 data file had an error in the precipitation data from Site 8, on Day 153; the precipitation for the day should have been zero. This error was corrected (Table 3-1) in superseding DTN: MO0708METMND05.001 [DIRS 182647]. Tables 5-8 and S-8 were adjusted accordingly. Precipitation data in the DTNs include:

- Maximum one-hour total (mm/hr): monthly highest of the one-hour precipitation; the annual value is the maximum of the monthly maxima.
- Maximum daily total (mm/day): monthly highest of the daily precipitation totals during the years shown above; the annual value is the maximum of the monthly maxima.

- Total (mm): monthly sum of the one-hour totals from tipping-bucket gauge data for the period from 1994 through September 1995, and from manual storage gauges observations for the period from October 1995 through 2006. The annual values are the sums of the monthly totals. The monthly totals in the overall summary tables are the averages of the totals reported for the respective months.
- Precipitation 0.01 inch (0.254 mm) or more: monthly number of days that the daily precipitation was greater than zero (during the years shown above); annual value is the sum of the monthly numbers of days. The monthly values in the overall summary tables are the averages of the number of days reported for the respective months.

Starting with the 2003 data, the storage gauge measurements were recorded in the database on a day in the month that the precipitation occurred based on the tipping-bucket gauge data, rather than on the actual observation day. This step put the measurement in the correct calendar month that the precipitation occurred, which brought monthly summaries of the storage gauge and tipping-bucket data in better agreement with each other.

Some monthly total amounts were a few millimeters less than the maximum 1 hr and daily amounts. This can result from the acceptable uncertainties in the different gauge measurements and occasionally from evaporation of water from the storage gauges prior to measurement.

4.1.5 Wind Speed

Wind speed was characterized by three parameters, the mean wind speed, the fastest one-minute wind speed (with corresponding one-minute average direction), and the peak 3 sec wind gust.

- Mean speed (m/sec): monthly average of the one-hour average wind speeds.
- Fastest one-minute speed (m/sec): monthly highest of the daily maximum one-minute wind speed in each month.
- Direction, with fastest one-minute speed (degrees): one-minute average direction during the time period corresponding to the fastest one-minute average speed.
- Peak 3 sec gust (m/sec): monthly highest of the daily peak 3 sec gust wind speed.

4.1.6 Solar Radiation

The mean maximum solar radiation (calorie/cm²/min) is the monthly average of the daily highest one-hour values. The annual values in the yearly tables, and the monthly values in the overall summary tables, are averages of the monthly mean maxima. The solar radiation units were changed from the initially recorded and archived watts per square meter to calories per square centimeter per minute, which is the unit included in Regulatory Guide 1.23, Revision 1 [DIRS 181945]. For each day of a month, the maximum hourly average incoming solar radiation was selected from the hourly database. The maximum values from each day of the month were then averaged to give a monthly average maximum value. These values were then averaged across years (1994 to 2006) to provide a monthly estimate. The annual estimate was an average across months.

4.2 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

The JFD of wind speed and direction is used to describe wind characteristics and to evaluate the potential for atmospheric dispersion. The JFD is typically expressed as a table of decimal fractions that represents a proportion of time that the wind is blowing from a specific direction and at a specific speed. Wind speed was divided into ten speed categories plus calms, based on Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 3.

Wind direction uses sixteen categories from the same reference source, evenly spaced at 22.5 degree arc intervals centered on standard compass points: N, NNE, NE, and so forth. Wind roses are graphical representations of JFDs and show the percent of time that the wind is blowing from a particular direction and the percent time for each wind speed category. The wind rose figures are circular histograms, with segmented legs pointing from a central hub on the direction from which the wind blew. The leg segment lengths are proportional to the occurrences of winds within given speed categories from that direction. The speed category segments are color-coded according to the legend on the figures to facilitate visualizing occurrences of the various speeds in each direction category.

Joint frequency distributions and wind roses were developed for all hours, daylight and night hours, and atmospheric stability categories for each monitoring site. The all-hours analysis characterized the overall airflow patterns for each monitoring station. The daylight-hours and night-hours analysis examined the influence of diurnal cycles (heating and cooling) and local topography on wind flow patterns in the Yucca Mountain area. Evaluation of JFDs for different atmospheric stability categories characterized wind flows under varying atmospheric conditions that can influence atmospheric dispersion. The atmospheric stability factor used seven Pasquill categories based on vertical temperature differences (Table 4-1) as defined in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 1.

Table 4-1. Pasquill Stability Categories Based on Vertical Temperature Differences

Stability Category	Pasquill Stability Category	Ambient Temperature Change With Height (°C/50 m)
Extremely unstable	A	$\Delta T \leq -0.95$
Moderately unstable	B	$-0.95 < \Delta T \leq -0.85$
Slightly unstable	C	$-0.85 < \Delta T \leq -0.75$
Neutral	D	$-0.75 < \Delta T \leq -0.25$
Slightly stable	E	$-0.25 < \Delta T \leq 0.75$
Moderately stable	F	$0.75 < \Delta T \leq 2.0$
Extremely stable	G	$\Delta T > 2.0$

Source: Based on Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 1.

Data were selected from seven monitoring sites to characterize JFDs of wind direction and speed. Sites 1, 2, 4, and 9 were fully instrumented for wind data for 1994 to 2006. Site 1 best represents wind flows in Midway Valley where the majority of repository surface facilities are located. Site 2 characterizes wind flow on the crest of Yucca Mountain and above Midway Valley. Site 4 is located on an exposed hilltop east-northeast of the repository surface facilities and provides information on the vertical structure of airflow above Midway Valley. Site 9 is

located in flat terrain southeast of Midway Valley and characterizes airflow near the community of Amargosa Valley.

Three additional sites (Sites 3, 5, and 7) were instrumented for wind data from 1994 to 1998. Site 3 characterizes the wind flow in the valleys and ravines on the east side of Yucca Mountain. Site 5 is located along Fortymile Wash and characterizes winds along the pathway to Amargosa Valley (i.e., between Sites 7 and 9). Site 7 is located in the southeast corner of Midway Valley (south-southeast of the repository surface facilities) in the hydrologic outflow area from Midway Valley, and characterizes airflow into and out of this area toward Fortymile Wash.

Joint frequency distributions and wind roses were developed using the commercial-off-the-shelf software program WRPlot View (WRPlot View, STN: 611652-5.3.0-00). The user defines and selects the wind categories, the number of wind direction sectors, and the wind speed units (knots or meters per second). No formulas or macros are available for use in the software program. WRPlot View reads input files from DTN: MO0708MD9406JF.000 [DIRS 182587], consisting of date, hour of the day, wind direction, and wind speed and displays JFDs by frequency counts (number of observations) and decimal fraction, wind roses, and a histogram showing the percent distribution of observations among wind categories.

4.2.1 Extraction and Formatting of Data from Source Files

The JFD of wind direction and wind speed uses hourly data. For each monitoring site and year of data (1994 to 2006 for Sites 1, 2, 4, and 9; 1994 to 1998 for Sites 3, 5, and 7), the Microsoft Access databases with hourly data were queried to extract the following data fields: Site, Year, Julian Day, Time of day, Wind Direction at 10 m, Wind Speed at 10 m, Wind Direction at 60 m (Site 1 only), Wind Speed at 60 m (Site 1 only), Temperature difference between 10 and 60 m (Site 1 only), and Total hourly precipitation. The query results for each year were copied and pasted into worksheets in an Excel file. Data from each monitoring site were stored in a separate Excel file. The file name contains the phrase “JFD”, along with the monitoring site number for identification and the years of the data range (e.g., 1994 to 2006). The worksheets within the file were used to format the data for developing import files for the WRPlot View software used for preparing wind roses and JFDs. The import files were submitted to TDMS in DTN: MO0708MD9406JF.000 [DIRS 182587].

The worksheet tabs were named by the year of the data (e.g., 1994). The data formatting process in Excel was the same for each worksheet. The entire worksheet was sorted by Julian day and time of day to ensure that data were in chronological order. The worksheet was checked to ensure that there were 8,760 rows of data (24 hours multiplied by 365 days) for each year except for leap years (1996, 2000, and 2004), which have 8,784 rows of data. The Excel auto filter utility was then used in the wind direction and wind speed columns to ensure that missing data were identified by “9999”, and not any other indicators (e.g., blanks, “999”). The WRPlot View software requires year, month, and day in separate fields. Therefore the Julian day was converted to month and day in separate columns of the worksheet. Two columns were inserted after the Julian day column. The first was labeled “Month” and the second “Day”.

In the Month column, the Excel formula

$$=MONTH(TEXT((DATE(B2,1,C2)), "mm/dd/yy"))$$

was entered and copied for all rows of data. The DATE function reads the year in Column B, the Julian day in Column C, and converts the Julian day and Year to a calendar date. The MONTH and TEXT functions extract the month from the calendar date and places the value in the Month column. In the Day column, the Excel formula

$$=DAY(TEXT((DATE(B2,1,C2)), "mm/dd/yy"))$$

was entered and copied for all rows of data. The DATE function reads the year in Column B, the Julian day in Column C, and converts the Julian day and Year to a calendar date. The DAY and TEXT functions extract the day of the month from the calendar date and places the value in the Day column. The Time column was converted from military time to 1 to 24, where 1 refers to observations between midnight and 1 A.M. A new column was inserted after the Time column and labeled "Hour". The Excel formula, " $=ROUND(G2/100,0)$ " was entered in the "Hour" column and copied to all rows of data. For example, this converts a time of 100 for 1 A.M. to 1.

The WRPlot View software requires that wind direction values be rounded to the nearest whole degree and wind speed values rounded to the nearest tenth-of-a-meter per second, which is consistent with the measurement resolution in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Appendix A. A new block of columns (one for each column) was inserted after the Wind Direction and Wind Speed columns and appropriately named. In the new Wind Direction column, the Excel formula, " $=ROUND(x2, 0)$ " was entered where "x" refers to the column of wind direction data being rounded. This function returns a new wind direction value rounded to the nearest whole degree. A similar formula, " $=ROUND(x2, 1)$ " was entered in the new Wind Speed column, which returns a wind speed value rounded to the nearest tenth-of-a-meter per second. For Site 1, four new columns were added because wind direction and speed were measured at both 10 and 60 m AGL.

For data from Site 1, a new column for the Pasquill stability category was added and labeled after the last data column. The Pasquill categories are discussed in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 1. Because the Pasquill stability categories are based on the temperature difference over a 100 m vertical distance and our temperature differences were measured over a 50 m vertical distance, the temperature ranges defining the stability categories were divided by two (Table 4-1).

The Excel auto filter tool was used to assign stability categories in the new column based on the value in the temperature difference column. After observations were selected using the auto filter tool based on the criteria in Table 4-1, the letter (any one of A through G), corresponding to the appropriate stability category, was entered into the atmospheric stability column. The stability category column was not part of the data input for developing JFDs but was used as a data sorting or selection column when developing input files for JFDs by stability categories.

The entire worksheet was then copied to a new adjacent worksheet titled "yyyy_Input" where "yyyy" is the year of the data (e.g., 1994). In the new worksheet, all columns with formulas were converted to values using the "COPY" and "PASTE SPECIAL" commands prior to

deleting any columns. The Julian day, time, and the wind direction and speed columns with non-rounded data values were then deleted. These worksheets were used to build larger input files for different stability categories (Site 1 only), all hours (all Sites), and daylight and night time periods (all Sites) across the years indicated on the worksheet.

4.2.2 Developing Joint Frequency Distribution Import Files

Input files for WRPlot View were developed in two steps. First, an Excel import file was created with the Year, Month, Day, Hour, Wind Direction, Wind Speed, and Precipitation fields, in order from left to right. These files were named with the monitoring site number as part of the file name because the Site column is deleted from the data file. The Excel file was then imported into WRPlot View where an input file was generated using the SAMSON (Solar & Meteorological Surface Observational Network) format.

Import Files by Stability Category—Joint frequency distributions and wind roses were developed by Pasquill stability categories as defined in Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 3. This analysis was limited to Site 1 because it was the only monitoring site with temperature measurements at both 10 and 60 m. In the Site 1 Excel file, the data for each stability category was extracted for each year from the worksheets named “yyyy_Input” using the Excel auto filter utility. The extracted data from each year and stability category were copied into a new Excel file. When all the years of data for a stability category were appended into the file, any data columns not needed were deleted such as site, wind direction and speed for the height not being analyzed, temperature difference, and the stability category. Each file was given a name that included the site number, the stability category, the years of the data range (e.g., 1994 to 2006), and height of the wind measurements being analyzed (i.e., 10 or 60 m) and saved. This process was repeated for each stability category and wind measurement height until the 14 (seven stability categories with separate files for each of the two wind measurement heights) Excel import files were created.

Import Files for All Hours—Joint frequency distributions and wind roses were developed for all hours across years (1994 to 2006 or 1994 to 1998) to provide descriptions of wind patterns near Yucca Mountain. This analysis included monitoring station Sites 1, 2, 4, and 9 for 1994 through 2006 and monitoring stations 3, 5, and 7, for 1994 to 1998. In each site’s Excel file, all data from each year were copied from the worksheets named “yyyy_Input” and appended into one worksheet in a new Excel file. For Sites 1, 2, 4, and 9, two separate import files were created, one for years 1994 to 2000 and one for years 2001 to 2006, because an Excel file is limited to 65,536 data lines and the “All Hours” data set for these four sites across 13 years contain 113,961 data lines.

Any data columns copied, but not needed, were deleted, such as: site, wind direction and speed for the height not being analyzed (Site 1), temperature difference, and the stability category. Each file was given a name that includes the site number, the phrase “All Hours”, the years of the data range (e.g., 1994 to 2000), and height of the wind measurements being analyzed (i.e., 10 or 60 m) if applicable and saved. This process was repeated for each site. Thirteen import files (three for Sites 3, 5, and 7; ten for Sites 1, 2, 4, and 9) were created.

Import Files for Diurnal vs. Nocturnal Hours—Because of local topographic influences on daily wind patterns, JFDs and wind roses were developed for daylight and night hours across years. Day and night hours were based on an approximate mid-point value for monthly sunrise and sunset times (Table 4-2) as noted in DTN: MO9904SUNRSSET.000 [DIRS 182412]. The year-to-year variation in these times is too small to be relevant to how this information was used. This analysis included Sites 1, 2, 3, 4, 5, 7, and 9. Because the data were summarized on hourly values, the start and end times for day and night periods based on sunrise and sunset times were rounded to hourly values.

Table 4-2. Monthly Sunrise and Sunset Times and Defined Start and End Times for Daylight and Night Hours

Month	Average Sunrise Time	Average Sunset Time	Start of Diurnal Period	End of Diurnal Period	Hour Designator in Data Files ^a	Start of Nocturnal Period	End of Nocturnal Period	Hour Designator in Data Files ^a
January	6:49 AM	4:50 PM	7:00 AM	5:00 PM	8-17	5:00 PM	7:00 AM	18-7
February	6:28 AM	5:21 PM	7:00 AM	6:00 PM	8-18	6:00 PM	7:00 AM	19-7
March	5:50 AM	5:48 PM	6:00 AM	6:00 PM	7-18	6:00 PM	6:00 AM	19-6
April	5:07 AM	6:14 PM	5:00 AM	6:00 PM	6-18	6:00 PM	5:00 AM	19-5
May	4:34 AM	6:40 PM	5:00 AM	7:00 PM	6-19	7:00 PM	5:00 AM	20-5
June	4:23 AM	6:58 PM	5:00 AM	7:00 PM	6-19	7:00 PM	5:00 AM	20-5
July	4:36 AM	6:56 PM	5:00 AM	7:00 PM	6-19	7:00 PM	5:00 AM	20-5
August	4:59 AM	6:29 PM	5:00 AM	7:00 PM	6-19	7:00 PM	5:00 AM	20-5
September	5:23 AM	5:47 PM	6:00 AM	6:00 PM	7-18	6:00 PM	6:00 AM	19-6
October	5:48 AM	5:04 PM	6:00 AM	5:00 PM	7-17	5:00 PM	6:00 AM	18-6
November	6:17 AM	4:33 PM	7:00 AM	5:00 PM	8-17	5:00 PM	7:00 AM	18-7
December	6:44 AM	4:28 PM	7:00 AM	5:00 PM	8-17	5:00 PM	7:00 AM	18-7

Source DTN: MO9904SUNRSSET.000 [DIRS 182412].

^a The hour designator indicates the previous 60 minutes. For example, 8 refers to 7 AM to 8 AM and 17 refers to 4 PM to 5 PM.

The data for the diurnal or nocturnal time periods were extracted using the Excel auto filter utility in the Excel import files created for the “All Hours” analysis. The extracted data for each month and either day or nighttime period were copied and appended into a new Excel file. Each file was given a name that included the site number, either “diurnal” or “nocturnal” as appropriate, the years of the data range (e.g., 1994 to 2006), and height of the wind measurements being analyzed (i.e., 10 or 60 m) and saved. This process was repeated for each site and for the two wind-measurement heights at Site 1. Sixteen Excel import files were created, six for Sites 2, 3, 4, 5, 7, and 9 (six sites at two time periods) and four for Site 1 (one site at two measurement heights at two time periods).

4.2.3 Importing Files into WRPlot View and Creating Input Files

The Excel files were submitted to the TDMS as DTN: MO0708MD9406JF.000 [DIRS 182857]. The data in Excel format were imported into WRPlot View and converted to SAMSON format (i.e., with a .SAM file extension). SAMSON format is one of the data formats that WRPlot View accepts. For Sites 1, 2, 4, and 9 where two separate import files were created for the “All Hours”

analysis because of file size limitations in Excel, each file was imported and converted to SAMSON format separately. The two SAMSON files were then appended together using a text editor (Notepad) to create one input file for each site. Information on the monitoring station (e.g., site number, geographic coordinates, and name) was entered as part of the importing process and stored for future use. The input file created in SAMSON format was named using the same naming convention as the imported Excel file.

4.2.4 Developing Joint Frequency Distributions and Wind Roses with WRPlot View

Wind categories used in the JFDs, and wind roses were defined and stored within WRPlot View. Ten wind categories plus calms (i.e., winds are less than 0.5 m/sec) were defined (Table 4-3) based on Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 3.

Table 4-3. Wind Categories Used for the Joint Frequency Distribution of Wind Speed and Direction and Graphical Display of Wind Roses

	Wind Categories (m/sec)			
	Joint Frequency Distribution ^a		Wind Roses	
	Lower Limit (>=)	Upper Limit (<)	Lower Limit (>=)	Upper Limit (<)
Calms	—	0.5	—	0.5
1	0.5	1.1	0.5	1.6
2	1.1	1.6	1.6	3.1
3	1.6	2.1	3.1	5.1
4	2.1	3.1	5.1	8.1
5	3.1	4.1	8.1	10.0
6	4.1	5.1	10.0	—
7	5.1	6.1	—	—
8	6.1	8.1	—	—
9	8.1	10.0	—	—
10	10.0	—	—	—

^a Based on Regulatory Guide 1.23, Revision 1 [DIRS 181945], Table 3.

Because WRPlot View only allows nine wind categories plus calms, two wind category profiles were defined and used. One profile combined the upper two wind categories and separated the lower wind speeds. The second wind category profile combined the two lower wind categories and separated the two fastest wind categories. The frequency tables (count and decimal fraction) created by WRPlot for each of the wind category profiles were saved as text files and then imported into Excel to create one table with ten wind categories for each of the frequency counts and decimal fractions (i.e., the JFD). For graphical representation of the JFD (wind rose), wind speed was categorized into six wind categories for better visual representation (Table 4-3).

5. RESULTS

Summaries of the meteorological data collected during 1994 through 2006 are presented in this section. The two primary summaries are the climatic data tables and the JFDs of wind speed, wind direction, and atmospheric stability data.

5.1 CLIMATIC DATA TABLES

Tables 5-1 through 5-9 contain data summaries for 1994 to 2006 for Sites 1 through 9. The full set of summary tables for each annual period is provided in Appendices H through T.

The listing of available data by time period and site is shown in Table 2-2. This information is relevant to understanding relationships between results from various sites, as some periods of record are not the same among sites. In the following sections, the results from Site 1 are frequently used as discussion material because Site 1 is the most representative site of the conditions in the immediate vicinity of the proposed surface facilities. Other sites are included as appropriate in some parameter discussions to identify patterns or extremes.

5.1.1 Precipitation

Four precipitation variables are presented in the climatic data tables for the monthly and annual periods by site: total precipitation, maximum one-hour and daily precipitation rates, and the number of days with measurable precipitation (daily total greater than or equal to 0.254 mm).

Total precipitation—The average monthly and annual total precipitation data (mm) are included in Tables 5-1 through 5-9. These tables show that February had the highest average monthly total precipitation at all sites. For Site 1 (Table 5-1), the February average precipitation total was 50.7 mm, which was more than twice the average monthly total during any other month and about one-fourth of the average annual total. The next two wettest months at all sites were January and March; the average totals for the three-month period (January through March) were about one-half the annual average totals. Except for Sites 6 and 9, the monthly average total showed a secondary maximum seasonal period in July, which typically coincides the southwestern monsoon period.

The average annual total precipitation for all sites are summarized in Table 5-10. The range of average annual totals differed by nearly a factor of two across the sites with 116.0 mm at Site 9 and 225.3 mm at Site 6. The average annual totals at Sites 1, 2, 4, 7, 8, and 401 were within a few millimeters of 200 mm. The summary tables for individual years in Appendices H through U show the average annual total precipitation varied considerably from year to year. For example, the Site 1 annual totals for the period from 1994 through 2006 are shown in Table 5-11. The annual totals ranged from 39.6 mm in 2002 to 366.5 mm in 1998, a factor of more than nine.

Table 5-1. Site 1 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	24.0	23.8	29.7	32.1	40.0	42.1	43.3	42.1	37.7	34.7	26.8	21.9	43.3
Mean Maximum	12.8	13.3	18.0	21.2	28.3	33.3	37.0	35.8	31.0	23.9	16.5	12.2	23.6
Mean Temperature	6.8	7.7	11.2	14.1	20.4	25.5	29.2	28.1	23.6	16.9	10.1	6.2	16.6
Mean Minimum	1.1	1.8	4.1	6.6	12.1	16.5	20.5	19.6	15.6	9.7	3.9	0.4	9.3
Extreme Minimum	-10.2	-10.1	-7.2	-3.9	2.4	6.3	13.6	12.8	6.6	-0.3	-8.4	-10.9	-10.9
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	6	3	4	2	1	3	2	2	3	3	3	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	20	29	29	13	1	0	0	99
0°C (32°F) and below	11	8	4	2	0	0	0	0	0	0	4	14	44
Barometric Pressure (mb)													
Mean Barometric Pressure	888.9	886.9	885.6	884.4	884.1	884.1	886.4	886.6	885.9	886.5	888.3	889.3	886.4
Mean Relative Humidity (%)													
Hour 0400 PST	52.3	55.2	47.7	46.5	32.9	25.3	31.2	33.2	30.9	37.6	44.9	48.8	40.5
Hour 1000 PST	38.8	42.1	32.0	28.7	19.2	14.6	18.5	19.9	18.7	25.2	30.3	35.9	27.0
Hour 1600 PST	32.9	35.0	24.5	21.3	13.1	9.5	13.4	13.4	12.9	20.3	25.8	31.6	21.1
Hour 2200 PST	48.0	51.0	40.2	37.7	24.1	17.4	23.5	24.5	24.0	33.1	39.8	45.0	34.0
Precipitation (mm)													
Maximum one-hour total	4.57	8.64	6.10	5.84	13.97	6.60	19.30	21.34	10.67	6.35	10.16	5.84	21.34
Maximum daily total	26.16	54.10	29.97	28.70	16.76	17.02	36.58	25.40	28.96	26.16	22.61	24.64	54.10
Average Total	24.40	50.70	21.70	12.40	8.50	6.80	16.50	9.20	11.20	10.60	13.70	15.10	200.80
Wind													
Mean Speed (m/sec)	3.0	3.3	3.8	4.2	3.9	4.0	3.6	3.5	3.5	3.3	3.1	3.1	3.5
<i>Fastest one-minute</i>													
Speed (m/sec)	17.5	20.8	17.4	21.0	21.7	20.5	17.3	20.2	19.3	23.3	17.5	21.6	23.3
Direction (degree)	183.3	330.5	341.3	167.1	169.2	337.8	157.3	338.1	012.8	338.1	175.3	343.1	338.1
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	21.9	24.8	21.9	27.1	27.6	24.6	22.7	24.1	24.6	27.1	22.2	27.6	27.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.71	0.85	1.11	1.28	1.38	1.43	1.40	1.35	1.21	1.01	0.79	0.68	1.10

Source: DTNs listed in Table 3-1.

Table 5-2. Site 2 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	21.2	21.7	27.7	30.0	38.2	39.9	41.4	42.7	36.1	33.5	25.0	19.5	42.7
Mean Maximum	10.0	11.0	15.7	18.9	25.9	31.4	35.3	34.1	29.0	21.6	14.0	9.7	21.4
Mean Temperature	6.3	6.6	10.2	12.7	19.2	24.5	28.3	27.3	22.8	16.4	9.6	5.9	15.8
Mean Minimum	3.2	3.2	5.8	7.5	13.5	18.5	22.5	21.8	17.9	12.3	6.2	2.7	11.3
Extreme Minimum	-10.4	-6.8	-4.6	-3.2	0.8	3.4	13.6	13.0	5.9	-0.4	-7.3	-9.7	-10.4
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	6	3	3	2	2	2	2	2	2	2	3	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	16	27	25	7	0	0	0	78
0°C (32°F) and below	7	7	3	2	0	0	0	0	0	0	4	8	31
Barometric Pressure (mb)													
Mean Barometric Pressure	851.8	850.1	849.3	848.5	849.3	850.2	853.2	853.2	851.7	851.4	852.0	852.3	851.1
Mean Relative Humidity (%)													
Hour 0400 PST	47.9	49.5	41.1	40.3	31.5	23.8	24.7	26.2	28.3	31.3	38.6	41.9	35.4
Hour 1000 PST	44.6	46.7	36.5	31.4	23.5	17.8	18.9	20.0	22.5	26.4	34.0	38.0	30.0
Hour 1600 PST	39.5	37.7	26.8	21.9	15.4	10.9	12.3	12.8	15.1	20.5	28.8	33.7	23.0
Hour 2200 PST	45.7	46.3	35.3	32.8	24.2	17.1	19.4	20.1	22.9	28.2	35.6	39.4	30.6
Precipitation (mm)													
Maximum one-hour total	7.87	10.16	8.89	6.35	20.07	9.14	30.23	13.97	10.41	5.33	6.60	5.84	30.23
Maximum daily total	30.99	50.04	24.13	20.07	20.07	21.34	49.02	17.78	29.21	29.97	22.86	23.88	50.04
Average Total	25.20	48.30	22.30	12.70	6.50	7.10	14.80	9.70	11.80	13.20	12.50	14.40	198.50
Wind													
Mean Speed (m/sec)	3.9	4.4	4.8	5.4	4.8	4.7	4.3	4.3	4.3	4.1	3.9	3.9	4.4
<i>Fastest one-minute</i>													
Speed (m/sec)	29.1	33.1	28.7	28.9	26.4	30.0	26.4	27.8	32.0	29.4	26.9	31.4	33.1
Direction (degree)	300.0	309.7	309.7	309.7	229.4	229.4	283.9	314.1	262.0	262.0	302.0	300.7	309.7
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	33.8	37.6	34.8	38.2	29.7	33.4	28.8	33.7	38.7	33.3	31.9	36.8	38.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.70	0.85	1.11	1.29	1.38	1.43	1.40	1.34	1.22	1.00	0.79	0.67	1.10

Source: DTNs listed in Table 3-1.

Table 5-3. Site 3 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	22.5	22.6	28.6	30.9	38.1	40.9	42.2	40.7	36.6	33.5	25.6	20.3	42.2
Mean Maximum	11.2	12.2	16.5	19.6	26.3	31.8	35.6	34.4	29.6	22.5	15.1	10.8	22.1
Mean Temperature	6.7	7.5	11.0	13.7	20.0	25.2	28.9	27.8	23.3	16.8	10.1	6.2	16.4
Mean Minimum	2.5	2.9	5.4	7.4	12.9	17.6	21.5	20.8	17.0	11.4	5.3	2.1	10.6
Extreme Minimum	-10.1	-7.6	-4.3	-2.5	2.0	4.6	12.7	13.3	6.2	0.3	-6.6	-8.6	-10.1
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	6	3	3	2	2	3	3	2	2	2	3	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	5	17	27	25	8	0	0	0	81
0°C (32°F) and below	7	6	3	1	0	0	0	0	0	0	4	9	30
Barometric Pressure (mb)													
Mean Barometric Pressure	872.3	871.3	870.1	869.5	868.9	869.6	872.2	872.6	871.3	871.6	872.3	873.1	871.2
Mean Relative Humidity (%)													
Hour 0400 PST	51.5	52.1	44.4	42.2	34.2	26.1	27.3	29.0	31.2	34.0	43.0	46.0	38.4
Hour 1000 PST	41.6	42.7	32.9	28.3	21.3	16.3	17.3	18.1	20.6	24.1	31.7	36.3	27.6
Hour 1600 PST	37.8	35.0	25.0	20.5	14.4	10.3	11.6	12.1	14.4	19.7	28.6	33.7	21.9
Hour 2200 PST	48.2	48.2	37.1	33.7	24.7	17.6	19.5	20.9	24.2	30.0	38.7	42.5	32.1
Precipitation (mm)													
Maximum one-hour total	6.86	11.43	7.37	5.84	18.80	5.59	22.35	16.51	10.41	5.33	14.48	8.89	22.35
Maximum daily total	30.73	54.36	29.46	28.19	19.56	19.30	47.50	18.80	28.96	28.45	25.91	27.43	54.36
Average Total	29.10	55.80	25.50	13.50	9.10	6.90	16.10	9.70	13.50	10.20	18.00	16.40	223.80
Wind													
Mean Speed (m/sec)	2.4	2.7	2.9	3.1	2.9	2.9	2.7	2.6	2.6	2.7	2.4	2.5	2.7
<i>Fastest one-minute</i>													
Speed (m/sec)	16.3	16.9	16.0	17.0	13.7	20.1	18.6	18.5	13.9	18.0	15.6	14.9	20.1
Direction (degree)	^a	308.2	309.2	309.2	309.2	302.3	302.3	297.7	297.7	307.4	303.2	303.8	302.3
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	23.3	23.2	25.2	24.5	19.6	27.3	21.0	26.4	19.5	26.2	21.5	22.0	27.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.87	1.11	1.28	1.36	1.43	1.40	1.38	1.23	1.04	0.79	0.67	1.10

Source: DTNs listed in Table 3-1.

^a Direction associated with the fastest one-minute speed was not recorded until 1996, fastest one-minute speed occurred in 1994.

Table 5-4. Site 4 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	23.5	23.7	29.9	32.3	40.1	42.3	43.8	42.0	38.0	34.8	26.5	21.1	43.8
Mean Maximum	12.0	13.0	17.5	20.9	27.8	33.2	37.0	35.9	30.9	23.6	15.9	11.5	23.3
Mean Temperature	7.1	7.8	11.4	14.1	20.6	25.8	29.6	28.6	23.9	17.2	10.4	6.7	16.9
Mean Minimum	2.5	2.9	5.5	7.6	13.3	18.1	22.1	21.4	17.1	11.0	5.3	2.1	10.7
Extreme Minimum	-8.5	-7.9	-4.1	-2.0	2.0	4.1	14.5	14.1	8.3	0.0	-6.0	-9.5	-9.5
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	6	3	3	1	2	2	2	2	2	2	3	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	7	20	29	29	13	1	0	0	98
0°C (32°F) and below	7	6	3	1	0	0	0	0	0	0	3	9	29
Barometric Pressure (mb)													
Mean Barometric Pressure	878.2	876.5	875.2	874.0	873.9	874.3	876.8	877.0	876.0	876.4	877.9	878.7	876.2
Mean Relative Humidity (%)													
Hour 0400 PST	50.5	51.8	43.1	41.3	32.7	23.9	25.5	26.3	29.6	33.1	41.2	44.3	36.9
Hour 1000 PST	44.0	44.5	33.6	28.4	20.9	15.9	17.2	18.1	20.5	24.4	32.5	37.6	28.1
Hour 1600 PST	36.5	35.1	25.1	20.1	13.6	9.5	11.2	11.5	13.7	18.7	26.8	31.3	21.1
Hour 2200 PST	46.8	47.4	36.5	33.4	24.2	17.0	19.2	19.7	22.9	28.6	36.8	41.0	31.1
Precipitation (mm)													
Maximum one-hour total	7.37	9.40	5.84	4.32	23.88	9.91	30.99	14.99	16.26	7.37	10.67	6.86	30.99
Maximum daily total	25.40	59.44	30.99	24.64	26.67	16.26	56.90	27.18	28.96	35.81	27.43	31.50	59.44
Average Total	26.40	47.70	21.00	11.50	7.50	6.40	18.20	9.30	10.70	12.90	12.30	15.10	199.00
Wind													
Mean Speed (m/sec)	4.1	4.6	5.2	5.7	5.1	4.9	4.4	4.2	4.5	4.5	4.2	4.2	4.6
<i>Fastest one-minute</i>													
Speed (m/sec)	27.5	32.0	27.8	29.2	29.4	30.4	25.1	32.9	27.3	33.2	26.0	35.8	35.8
Direction (degree)	333.9	315.2	315.2	315.2	011.1	343.0	343.0	340.1	026.3	026.3	339.6	353.2	353.2
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	31.7	36.2	31.4	33.3	34.3	35.1	28.3	37.9	32.3	37.2	31.4	39.9	39.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.73	0.89	1.17	1.35	1.46	1.51	1.48	1.42	1.29	1.06	0.83	0.71	1.16

Source: DTNs listed in Table 3-1.

Table 5-5. Site 5 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	25.8	26.0	31.9	34.6	42.2	43.7	45.2	43.6	39.9	36.9	31.9	23.2	45.2
Mean Maximum	14.2	15.4	20.0	23.2	30.0	35.5	39.2	38.1	33.2	25.9	18.2	13.7	25.5
Mean Temperature	7.5	8.8	12.4	15.4	21.7	26.8	30.6	29.5	24.8	17.9	10.9	6.9	17.8
Mean Minimum	1.1	2.2	4.7	7.2	12.2	16.6	20.9	20.4	16.3	10.4	4.0	0.3	9.7
Extreme Minimum	-9.1	-8.5	-6.7	-4.4	1.4	0.2	12.2	13.1	0.0	-0.2	-8.7	-11.4	-11.4
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	5	2	3	2	1	2	2	2	3	2	2	30
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	12	24	31	30	20	3	0	0	120
0°C (32°F) and below	12	7	4	1	0	0	0	0	0	0	5	14	43
Barometric Pressure (mb)													
Mean Barometric Pressure	908.5	906.8	905.1	903.8	903.2	903.1	905.3	905.6	904.9	905.9	908.0	909.1	905.8
Mean Relative Humidity (%)													
Hour 0400 PST	55.0	55.3	46.9	43.8	35.4	26.1	27.0	27.7	31.0	34.3	45.3	48.9	39.7
Hour 1000 PST	40.8	40.9	30.3	25.5	19.2	14.4	15.6	16.4	19.0	22.4	30.4	35.2	25.8
Hour 1600 PST	32.7	31.4	21.4	17.1	12.2	7.9	9.4	10.0	12.0	16.6	23.8	28.1	18.6
Hour 2200 PST	51.5	51.5	40.4	35.8	25.7	17.9	19.7	21.0	24.7	30.6	41.6	45.7	33.8
Precipitation (mm)													
Maximum one-hour total	4.83	7.37	4.83	4.32	10.67	4.06	29.21	11.43	12.70	6.35	6.10	5.84	29.21
Maximum daily total	15.49	50.04	22.86	22.61	18.80	9.65	43.94	18.03	26.67	21.08	24.13	25.65	50.04
Average Total	19.30	38.50	14.90	8.90	7.10	3.10	9.40	4.60	11.70	9.10	9.20	11.90	147.70
Wind													
Mean Speed (m/sec)	4.0	4.4	4.7	4.9	4.6	4.7	4.5	4.7	4.5	4.6	4.1	4.2	4.5
<i>Fastest one-minute</i>													
Speed (m/sec)	18.9	20.1	19.7	21.6	20.3	21.2	18.4	21.5	17.1	25.3	18.2	18.4	25.3
Direction (degree)	179.4	159.7	349.1	349.1	349.1	340.8	081.8	322.9	160.2	336.9	336.9	336.9	336.9
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	23.7	24.9	24.9	26.4	24.8	28.3	26.5	26.6	20.6	30.4	21.9	22.1	30.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.70	0.89	1.15	1.32	1.41	1.45	1.43	1.37	1.23	1.03	0.80	0.69	1.12

Source: DTNs listed in Table 3-1.

Table 5-6. Site 6 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	22.6	23.1	28.4	30.4	38.2	40.3	41.8	41.9	36.3	33.7	25.8	20.5	41.9
Mean Maximum	11.2	12.1	16.3	19.3	26.0	31.5	35.3	34.2	29.5	22.5	15.1	10.9	22.0
Mean Temperature	5.5	6.3	9.8	12.5	18.8	23.9	27.6	26.4	22.0	15.5	8.8	5.0	15.2
Mean Minimum	0.4	0.9	3.2	5.3	10.5	14.8	18.7	17.8	14.3	9.0	2.9	-0.2	8.1
Extreme Minimum	-11.1	-10.4	-6.9	-4.7	-0.3	2.3	11.3	10.7	4.2	-1.0	-9.3	-11.2	-11.2
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	6	3	3	2	2	3	2	2	3	3	2	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	16	26	25	8	0	0	0	78
0°C (32°F) and below	14	12	7	3	0	0	0	0	0	0	6	16	57
Barometric Pressure (mb)													
Mean Barometric Pressure	868.2	867.0	865.8	865.0	864.8	865.8	868.7	869.0	867.3	867.2	867.8	868.6	867.1
Mean Relative Humidity (%)													
Hour 0400 PST	57.0	57.4	50.3	47.9	39.8	29.8	31.5	33.5	35.6	37.9	47.9	50.9	43.3
Hour 1000 PST	42.1	43.6	34.0	29.6	22.1	16.7	17.8	18.6	21.0	24.7	31.8	36.3	28.2
Hour 1600 PST	38.2	36.1	25.9	21.4	15.2	10.6	12.0	12.4	14.6	19.8	28.6	33.8	22.4
Hour 2200 PST	53.8	54.3	43.0	39.3	29.2	20.6	22.4	23.7	27.6	33.5	43.6	47.4	36.5
<i>Precipitation (mm)</i>													
Max 1-hour total	11.18	12.95	8.89	6.10	15.24	8.64	16.51	16.51	13.97	5.08	6.35	8.89	16.51
Max daily total	31.24	44.70	31.50	29.72	15.75	21.34	20.32	28.19	28.45	35.05	30.23	30.99	44.70
Average Total	30.40	56.10	27.10	15.60	9.10	7.20	11.00	10.80	13.50	12.30	15.60	16.60	225.30
Wind													
Mean Speed (m/sec)	3.6	4.0	4.3	4.6	4.2	4.2	4.1	4.0	3.9	4.1	3.7	3.9	4.0
<i>Fastest one-minute</i>													
Speed (m/sec)	20.1	18.5	20.7	21.4	19.7	22.6	17.5	21.9	19.1	19.8	19.9	20.8	22.6
Direction (degree)	358.4	346.0	326.6	326.6	326.6	326.6	326.6	340.3	340.3	345.1	345.1	345.1	326.6
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	26.1	27.7	26.5	28.7	28.1	29.9	23.6	27.3	24.0	27.0	26.7	24.9	29.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.69	0.87	1.13	1.31	1.39	1.45	1.42	1.38	1.22	1.03	0.79	0.68	1.11

Source: DTNs listed in Table 3-1.

Table 5-7. Site 7 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	24.9	25.3	30.9	33.3	40.7	42.9	44.1	43.0	39.3	36.1	27.8	22.6	44.1
Mean Maximum	13.3	14.5	19.0	22.2	29.0	34.4	38.3	37.1	32.2	24.9	17.3	12.9	24.6
Mean Temperature	5.7	7.1	10.8	13.8	20.1	25.1	28.8	27.5	22.8	15.9	8.9	5.0	16.0
Mean Minimum	-1.8	-0.5	1.8	4.2	9.1	13.1	17.1	16.3	12.4	6.2	0.4	-2.8	6.3
Extreme Minimum	-11.9	-11.0	-9.1	-6.9	-0.8	0.2	9.3	9.0	2.6	-5.0	-12.5	-16.4	-16.4
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	6	3	3	1	2	2	2	2	3	3	3	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	9	22	30	30	17	2	0	0	110
0°C (32°F) and below	22	15	10	4	0	0	0	0	0	1	12	24	88
Barometric Pressure (mb)													
Mean Barometric Pressure	893.4	892.4	891.0	890.2	889.6	890.1	892.7	892.9	891.7	892.2	893.3	894.4	892.0
Mean Relative Humidity (%)													
Hour 0400 PST	63.1	62.1	54.9	51.6	42.6	32.7	34.7	35.7	39.1	42.0	53.9	57.4	47.5
Hour 1000 PST	42.7	42.0	31.8	26.8	20.3	15.3	16.4	17.4	19.7	23.2	31.0	36.7	26.9
Hour 1600 PST	35.0	33.1	23.7	19.4	13.7	9.4	11.0	11.5	13.5	18.2	25.8	30.3	20.4
Hour 2200 PST	57.1	56.3	45.6	40.3	29.5	21.2	23.8	24.9	28.8	34.4	47.1	52.0	38.4
Precipitation (mm)													
Maximum one-hour total	10.41	8.38	6.10	4.83	16.76	9.91	31.50	25.65	9.14	7.37	10.16	7.11	31.50
Maximum daily total	23.88	60.20	29.46	24.38	19.30	18.80	64.77	40.89	29.72	30.99	27.18	28.96	64.77
Average Total	26.70	48.80	20.90	11.50	7.50	5.80	18.30	11.20	10.20	10.50	13.90	16.30	201.60
Wind													
Mean Speed (m/sec)	2.6	3.1	3.4	3.9	3.6	3.6	3.4	3.3	3.2	3.1	2.7	2.8	3.2
<i>Fastest one-minute</i>													
Speed (m/sec)	17.4	18.4	18.1	21.3	18.9	20.9	15.6	21.8	16.9	23.2	18.0	17.1	23.2
Direction (degree)	000.8	163.7	328.5	328.5	328.5	331.5	164.8	326.1	217.8	331.3	331.3	161.9	331.3
<i>Peak 3 sec Gust</i>													
Speed Gust (m/sec)	20.7	22.6	22.3	25.5	23.0	26.3	27.2	24.8	26.9	27.7	21.9	21.2	27.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.70	0.90	1.14	1.33	1.42	1.46	1.43	1.37	1.23	1.03	0.81	0.71	1.13

Source: DTNs listed in Table 3-1.

Table 5-8. Site 8 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	24.1	24.7	29.8	32.8	40.2	42.0	43.7	42.2	38.2	35.6	27.2	22.2	43.7
Mean Maximum	12.7	13.8	18.3	21.4	28.3	33.7	37.5	36.4	31.4	24.2	16.7	12.4	23.9
Mean Temperature	6.0	7.1	10.8	13.8	20.1	25.3	29.0	27.7	23.0	16.1	9.3	5.4	16.1
Mean Minimum	-0.5	0.5	2.7	5.2	10.2	14.6	18.7	17.9	13.7	7.7	1.9	-1.2	7.6
Extreme Minimum	-10.1	-9.6	-8.2	-4.7	0.0	0.2	11.2	11.4	5.3	-3.1	-9.4	-13.1	-13.1
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	6	3	4	2	1	3	2	2	2	3	3	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	7	21	30	29	14	1	0	0	102
0°C (32°F) and below	17	12	7	3	0	0	0	0	0	0	8	20	67
Barometric Pressure (mb)													
Mean Barometric Pressure	888.4	887.3	885.8	885.0	884.2	884.6	887.2	887.4	886.3	887.0	888.0	889.1	886.7
Mean Relative Humidity (%)													
Hour 0400 PST	60.1	60.1	52.4	48.6	40.0	29.9	31.6	32.9	36.4	39.8	51.1	54.2	44.8
Hour 1000 PST	42.2	42.5	31.7	26.7	20.0	14.9	16.1	17.3	19.5	23.0	31.1	36.3	26.8
Hour 1600 PST	35.1	33.5	23.5	18.9	13.2	8.9	10.6	11.2	13.0	18.1	26.1	30.9	20.2
Hour 2200 PST	54.7	54.6	43.2	38.1	28.1	19.6	21.7	23.3	27.1	33.3	44.9	49.0	36.5
Precipitation (mm)													
Maximum 1-hour total	10.92	8.38	6.86	5.84	9.40	6.86	25.15	27.18	9.14	6.86	10.16	6.60	27.18
Maximum daily total	22.86	54.36	28.96	26.16	17.78	14.73	42.67	30.48	29.46	26.42	25.91	23.11	54.36
Average Total	26.00	50.90	21.40	11.30	8.20	5.30	15.50	10.60	9.80	10.80	14.00	14.30	198.10
Wind													
Mean Speed (m/sec)	2.6	3.0	3.4	3.8	3.5	3.6	3.3	3.2	3.0	2.9	2.5	2.8	3.1
<i>Fastest one-minute</i>													
Speed (m/sec)	16.6	18.9	17.7	19.9	17.2	20.8	15.4	20.8	16.7	21.3	16.4	17.1	21.3
Direction (degree)	327.9	327.9	327.9	327.9	327.9	342.8	342.8	333.2	167.4	332.3	004.1	200.7	332.3
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	20.5	23.0	25.0	27.6	21.5	27.4	21.5	25.0	21.4	27.3	21.9	20.8	27.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.70	0.90	1.15	1.32	1.41	1.46	1.44	1.38	1.23	1.03	0.81	0.71	1.13

Source: DTNs listed in Table 3-1.

Table 5-9. Site 9 Climatic Summary for 1994 to 2006

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1994-2006
Temperature (°C)													
Extreme Maximum	26.3	26.6	32.6	35.5	42.7	45.1	45.7	44.3	40.7	37.8	28.5	24.0	45.7
Mean Maximum	14.8	16.1	20.8	24.0	30.8	36.2	39.9	38.9	33.9	26.5	18.7	14.2	26.2
Mean Temperature	7.7	9.2	12.9	16.1	22.4	27.6	31.4	30.3	25.3	18.1	11.1	7.0	18.3
Mean Minimum	1.2	2.5	4.9	7.4	12.7	17.1	21.5	20.8	16.4	10.1	4.0	0.3	9.9
Extreme Minimum	-10.7	-7.4	-6.0	-3.5	1.2	2.5	12.2	12.8	5.8	0.6	-6.8	-10.8	-10.8
Average Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	6	2	3	1	1	2	1	2	2	2	2	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	13	25	31	31	21	4	0	0	127
0°C (32°F) and below	11	7	3	1	0	0	0	0	0	0	5	15	42
Barometric Pressure (mb)													
Mean Barometric Pressure	920.6	918.8	917.0	915.5	914.4	914.0	916.0	916.3	915.9	917.3	919.7	921.3	917.2
Mean Relative Humidity (%)													
Hour 0400 PST	56.2	55.9	48.5	43.7	35.4	26.0	26.6	27.1	31.6	35.3	46.4	50.3	40.3
Hour 1000 PST	40.8	40.5	30.0	24.4	19.0	14.0	15.0	15.8	18.6	22.0	30.0	35.1	25.4
Hour 1600 PST	31.5	29.9	20.6	16.4	11.8	7.6	8.9	9.6	11.6	15.9	22.6	27.1	17.8
Hour 2200 PST	50.5	49.7	39.4	33.5	24.1	16.6	18.0	19.3	23.5	29.4	40.0	44.8	32.4
Precipitation (mm)													
Maximum one-hour total	3.30	7.87	5.84	8.38	4.57	4.83	13.72	6.60	6.10	2.54	5.08	5.33	13.72
Maximum daily total	14.22	45.47	18.54	22.35	5.33	11.68	20.07	10.41	28.19	14.48	15.49	19.56	45.47
Average Total	15.00	31.20	13.40	8.00	5.00	3.50	3.20	2.50	10.50	5.70	8.10	9.90	116.00
Wind													
Mean Speed (m/sec)	4.0	4.2	4.6	4.9	4.6	4.7	4.5	4.5	4.4	4.2	4.0	4.0	4.4
<i>Fastest one-minute</i>													
Speed (m/sec)	18.3	20.8	19.1	23.0	23.1	19.6	27.5	21.0	18.4	19.1	20.5	21.6	27.5
Direction (degree)	347.8	331.2	331.2	154.1	172.0	154.4	070.1	333.4	242.2	242.2	345.7	336.5	70.1
<i>Peak 3 sec Gust</i>													
Speed (m/sec)	22.5	26.9	22.7	27.3	28.4	26.7	33.1	26.2	27.0	23.1	24.3	25.8	33.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.77	0.93	1.20	1.40	1.49	1.53	1.51	1.44	1.31	1.07	0.86	0.73	1.19

Source: DTNs listed in Table 3-1.

Total precipitation and site location—Table 5-12 shows annual average total precipitation data in increasing order for all 12 sites for the period from 1999 through 2006. The site elevations are included. This period was selected for this analysis because it included data from all 12 sites to investigate the geographic distribution of average annual total precipitation using data from common years. The average annual totals in Table 5-12 ranged from 113.4 mm at Site 9 to 223.2 mm at Site 3, which are very close to the 1994 to 2006 averages in Table 5-10. The 1999 through 2006 annual precipitation totals shown in the tables in Appendices H through U include both wet and dry years relative to the averages from 1994 through 2006 shown in Tables 5-10 and 5-12.

Table 5-10. Average Annual Total Precipitation

Average Annual Total Precipitation ^a (mm)												
Site	1	2	3	4	5	6	7	8	9	401	405	415
Average	200.9	198.5	223.8	199.0	147.7	225.3	201.6	198.1	116.0	200.9	177.8	181.1

^a The average annual totals are based on 1994 through 2006 for Sites 1 through 9, and 1999 through 2006 for Sites 401, 405 and 415. The data are from Tables 5-1 through 5-9 and Table U-1.

Table 5-11. Annual Total Precipitation at Site 1

Annual Total Precipitation ^a (mm)													
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	94.7	232.9	148.6	141.2	366.5	183.4	246.1	179.6	39.6	247.4	285.5	287.5	157.2

^a Annual total precipitation for Site 1 from 1994 through 2006. The data are from Appendices H through T.

Table 5-12. Annual Average Total Precipitation Ranked by Total Amount for 1999 to 2006

Annual Average Total Precipitation (mm) ^a	Site	Elevation (m MSL)
113.4	9 ^b	838
140.4	5	952
177.8	405	1,489
181.1	415	1,442
197.7	8	1,123
198.6	4	1,234
200.9	401	1,563
201.0	7	1,081
201.2	2	1,478
203.3	1	1,144
212.2	6	1,315
223.2	3	1,278

NOTE: Total precipitation data are from Table U-2 and elevations from Table 2-1.

^a Annual average total precipitation from 1999 through 2006 is presented in increasing order.

^b Elevation of the original location of Site 9 during most of the measurement period (1993 through May 2, 2006).

Table 5-12 shows that Sites 3 and 6 had the two greatest average annual precipitation totals. The four sites on the crest of Yucca Mountain (Sites 2, 401, 405, and 415) have higher elevations than Sites 3 and 6, but lesser average annual precipitation totals. Average annual totals of the sites in Midway Valley (Figure 2-1), (Sites 1, 4, 7, and 8) were very near 200 mm. Finally, the two lowest elevation sites (Sites 9 and 5) had the least amount of precipitation. Thus, higher site elevation corresponded to higher total precipitation to some extent, but other factors seem to also influence the average annual total precipitation.

Another factor apparently related to average annual total precipitation is the north and south positions of the sites relative to the Yucca Mountain ridgeline. Site 6 is the furthest north, and it had a high average annual total precipitation, of 212.2 mm (Table 5-12). Sites 2 and 401 are the furthest north on the crest; they have virtually identical average totals about 201 mm. The further south locations on the crest (Sites 405 and 415) also had identical average totals about 180 mm, indicating a decreasing pattern from north to south. This pattern of decreasing average annual total precipitation for sites further south is also evident when comparing the annual averages for the sites in Midway Valley (Sites 1, 4, 7, and 8) to sites further south in Jackass Flats (Sites 5 and 9).

Precipitation rate is important in facility designing as it affects precipitation runoff and possibly infiltration to the soil. The climatic data tables include maximum one-hour and daily precipitation rates, and the number of days with measurable precipitation occurrences. Table 5-13 is a summary of the precipitation rate and occurrences for Sites 1 through 9 for the period 1994 through 2006 that are listed in Tables 5-1 through 5-9. The calendar months during which the maximum values occurred are included.

Table 5-13. Precipitation Rate and Frequency Results

Site	Average Annual Number of Days ^a	Maximum 1 hr (mm/hr) and Month of Occurrence ^b	Maximum Daily (mm/day) and Month of Occurrence ^c
1	34	21.34 / Aug	54.10 / Feb
2	33	30.23 / Jul	50.04 / Feb
3	34	22.35 / Jul	54.36 / Feb
4	31	30.99 / Jul	59.44 / Feb
5	30	29.21 / Jul	50.04 / Feb
6	33	16.51 / Aug	44.70 / Feb
7	33	31.50 / Jul	64.77 / Jul
8	34	27.18 / Aug	54.36 / Feb
9	26	13.72 / Jul	45.47 / Feb

NOTE: Data are from Tables 5-1 through 5-9, covering 1994 through 2006.

^a Average annual number of days with measurable precipitation (total is greater than or equal to 0.01 in.)

^b Highest of the maximum 1 hr precipitation rates, with the corresponding month of occurrence

^c Highest of the maximum daily precipitation rates, with the corresponding month of occurrence

The two sites in Jackass Flats (Sites 5 and 9) had the fewest days with measurable precipitation with averages of 30 and 26, respectively. The highest average number of days with measurable precipitation was 34, which occurred at both Sites 1 and 3.

The maximum 1 hr precipitation rate ranged from 13.72 mm per hour at Site 9 to 31.50 mm per hour at Site 7; both occurred during the month of July (Table 5-13). The maximum 1 hr rates occurred during July or August, when convective storms may cause isolated but heavy rainfall events. The maximum daily precipitation rates ranged from 44.70 mm per day at Site 6 to 64.77 mm per day at Site 7. With one exception, the highest daily values occurred in February, the month with the highest total precipitation. Site 7 had the highest daily rainfall event occur during July.

5.1.2 Wind Speed

Monthly and annual mean and maximum wind speeds are included in the tables in Appendices H through T and the summary of the 1994 through 2006 period by site in Tables 5-1 through 5-9. Maximum wind speeds are described as the “fastest” when applied to one-minute average speed, and the “peak gust” when applied to the maximum three-second average speed. Table 5-14 is a summary of the annual mean and extreme speeds that appear in Tables 5-1 through 5-9. The available wind data periods are 1994 through 2006 for Sites 1, 2, 4, and 9, and 1994 through 1998 for the remaining five sites. The discussion is focused on Sites 1, 2, 4 and 9 because they cover the longer period with wind data.

Table 5-14. Summary of Mean and Maximum Wind Speeds

Site	Average Annual Mean (m/sec)	Peak 3 Sec Gust (m/sec) and Month of Occurrence	Fastest 1 Min Average Speed (m/sec) & Direction (degree) and Month of Occurrence
1	3.5	27.6 / Dec	23.3 / 338.1° / Oct
2	4.4	38.7 / Sep	33.1 / 309.7° / Feb
3	2.7	27.3 / Jun	20.1 / 302.3° / Jun
4	4.6	39.9 / Dec	35.8 / 353.2° / Dec
5	4.5	30.4 / Oct	25.3 / 336.9° / Oct
6	4.0	29.9 / Jun	22.6 / 326.6° / Jun
7	3.2	27.7 / Oct	23.2 / 331.3° / Oct
8	3.1	27.6 / Apr	21.3 / 332.3° / Oct
9	4.4	33.1 / Jul	27.5 / 070.1° / Jul

NOTE: Data are from Tables 5-1 through 5-9, covering 1994 through 2006 for Sites 1, 2, 4 and 9, and 1994 through 1998 for the remaining sites.

The mean monthly speeds at the 10 m level at Site 1 ranged from 3.0 m/sec in January to 4.2 m/sec in April, and the annual average was 3.5 m/sec (Table 5-1). On the ridge top location of Site 2, the mean monthly speeds ranged from 3.9 m/sec in the winter months to 5.4 m/sec in April, and the annual average was 4.4 m/sec (Table 5-2). The consistent occurrence of drainage winds at night at Site 9 kept the mean speed higher than it might otherwise experience. The mean monthly speeds at Site 9 ranged from 4.0 m/sec in the winter months to 4.9 m/sec in April, and the annual average was 4.4 m/sec (Table 5-9).

The peak three-second gust was 27.6 m/sec, and the fastest one-minute average speed was 23.3 m/sec at Site 1 (Table 5-14). The data from Sites 2 and 4 show the influence of terrain on maximum wind speeds. The peak three-second gust was 38.7 m/sec and the fastest one-minute

average speed was 33.1 m/sec on the ridge top location of Site 2. The hilltop location of Site 4 on Alice Hill in the northeast portion of Midway Valley experienced yet higher speeds. The peak three-second gust at Site 4 was 39.9 m/sec, and the fastest one-minute average speed was 35.8 m/sec. The valley floor location of Site 9 experienced unusually high maximum speeds during July with the peak three second gust of 33.1 m/sec and the fastest one-minute average speed of 27.5 m/sec.

The annual highest peak gusts and fastest one-minute average speeds occurred throughout the year, with some tendency toward the fall and winter months (Table 5-14). The directions of the fastest one-minute wind speeds were from northwesterly directions, except for the east-northeast direction at Site 9 (Table 5-14).

5.1.3 Temperature

The monthly and annual temperature data summaries across the years are show in Tables 5-1 to 5-9; the individual annual summaries for each site are in Appendices H through T. The one-minute average extreme temperature data were not available from Site 1 for 1994 and 1995 because the datalogger in use at that time did not record these values. Thus the summaries of extreme temperatures at Site 1 are based on 11 years of data. The extremes, means of extremes, overall means, and the number of days per month and year when the maximum temperature reached at least 32.2°C and the minimum temperature dipped to 0°C or less are provided in the summary tables by monthly and annual periods.

At Site 1, the annual mean maximum and extreme maximum temperatures were 23.6°C and 43.3°C, respectively (Table 5-1). The annual cycle of monthly mean maximum temperatures varied seasonally from 12.2°C to 37.0°C. The annual mean minimum and extreme minimum temperatures were 9.3°C and -10.9°C, respectively. The annual cycle of monthly mean minimum values seasonally ranged from +0.4°C to 20.5°C. These mean maximum and minimum monthly averages showed a large diurnal change, ranging from about 12°C in winter to nearly 17°C in summer. The overall annual mean temperature at Site 1 was 16.6°C. On average at Site 1, there were 99 days each year with maximum temperatures reaching 32.2°C or higher; virtually all of July and August met this criterion. Also at Site 1, there was an average of 44 days each year when the minimum temperature dropped to 0°C or less.

In contrast to the valley location of Site 1, the ridge-top location of Site 2 had a lower annual mean temperature of 15.8°C (Table 5-2). The annual mean maximum and extreme maximum temperatures were 21.4°C and 42.7°C, respectively. The annual cycle of monthly mean maximum values ranged seasonally from 9.7°C to 35.3°C. The annual mean minimum and extreme minimum values were 11.3°C and -10.4°C, respectively. Thus the average diurnal range in temperature was 7°C in winter and 13°C in summer. The daily temperature range at Site 2 was less than at Site 1, due to the differences in terrain exposures at the sites. Site 2 averaged 78 days each year when maximum temperatures reached 32.2°C or higher, and 31 days when the minimum temperature dropped to 0°C or less.

For further comparisons on the influence of elevation and terrain exposure, Site 9 is located in the large, open valley area of Jackass Flats near Gate 510 and the Town of Amargosa Valley.

This location is the lowest elevation in the network. The annual mean was 18.3°C, the highest in the network (Tables 5-1 through 5-9). The annual mean maximum and extreme maximum temperatures were also the highest in the network (Tables 5-1 through 5-9) at 26.2°C and 45.7°C, respectively. The annual cycle of monthly mean maximum values ranged seasonally from 14.2°C to 39.9°C. The annual mean minimum and extreme minimum temperatures were 9.9°C and -10.8°C, respectively. Thus the average diurnal change in temperature ranges from about 7°C in winter to over 18°C in summer at Site 9. Site 9 averaged 127 days each year when maximum temperatures reached 32.2°C or higher, and 42 days when the minimum temperature dropped to 0°C or less (Table 5-9).

Site 7 is located in the hydrologic outflow area for much of Midway Valley. Thus drainage winds typically occurred during the nocturnal period at this site, and the lowest temperatures in the network often occurred at this site. The annual mean minimum and extreme minimum values were 6.3°C and -16.4°C, respectively (Table 5-7). This extreme was the lowest value recorded throughout the network. Site 7 had an average of 88 days when the minimum temperature dropped to 0°C or less, and an average of 110 days per year when the maximum temperature was 32.2°C or higher.

5.1.4 Atmospheric Humidity

Monthly and annual average relative humidity data are summarized in Appendices H through T and Tables 5-1 through 5-9 for the hours 0400, 1000, 1600, and 2200 PST. Daily relative humidity extremes tend to occur near 0400 and 1600 because these times are near the minimum and maximum air temperature occurrences. The mean monthly and annual relative humidity show the overall dry conditions that occur in this arid region. At Site 1, the annual average relative humidity ranged from 21.1% at 1600 PST to 40.5% at 0400 PST; the average afternoon (1600 PST) value during June was 9.5% (Table 5-1).

5.1.5 Solar Radiation

Summaries of solar radiation data were made as monthly averages of the daily maximum 1 hour values, and are shown in Tables 5-1 through 5-9. Site 9, located in the open-exposed Jackass Flats area, had the highest maximum monthly values ranging from about 0.75 calorie/cm²/minute in winter to just over 1.5 calorie/cm²/minute in summer. The other eight sites had similar, but slightly lower, solar radiation results ranging from about 0.7 calorie/cm²/minute in winter to between 1.4 and 1.5 calorie/cm²/minute in summer.

5.1.6 Barometric Pressure

Monthly and annual average barometric pressure data are summarized in Tables 5-1 through 5-9. The monthly averages showed a small tendency for an annual cycle, with lower values occurring in April through June. The average annual barometric pressure ranged from 851.1 mb on the ridge crest (at Site 2, Table 5-2) to 917.2 mb at the low elevation of the site near the Town of Amargosa Valley (Site 9, Table 5-9). At Site 1, the annual average was 886.4 mb (Table 5-1).

5.2 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND WIND DIRECTION

The wind speed and direction JFD is useful for summarizing atmospheric dispersion characteristics. JFD summaries were created for all hours, for the daytime and nighttime hours, and for Pasquill stability categories. The tabular listings of the summaries are provided in Appendices B through D, and graphical wind rose presentations are provided in Appendices E through G.

5.2.1 Atmospheric Stability

In the context of characterizing the local meteorology for Yucca Mountain, atmospheric stability is an indication of the dispersion potential of the atmosphere (Regulatory Guide 1.111, Revision 1 [DIRS 103765], *Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors*, p. 1.111-13). NRC dispersion models utilize the vertical temperature difference as an index of atmospheric stability. For many potential sources of airborne radiological or other air pollutant releases at Yucca Mountain, the temperature difference between 10 and 60 m is the relevant measure of atmospheric stability. This temperature difference was measured at Site 1, and was used to assign Pasquill stability categories (Section 4.2.1). The categories are: extremely unstable (A), moderately unstable (B), slightly unstable (C), neutral (D), slightly stable (E), moderately stable (F), and extremely stable (G). The stability data were summarized by hour of the day (1 to 24) and for all hours (Table 5-15).

Table 5-15 shows the unstable categories (A through C) occurred during 28.5% of the total hours, mostly during daytime hours. The stable categories occurred during 56.7% of the total hours, mostly during nighttime hours and some transition periods. The neutral category (D) occurred during 14.9% of the total hours, mostly during the day portion of the transition between daytime and nighttime.

5.2.2 JOINT FREQUENCY DISTRIBUTIONS

As an example of the JFD presentations, the summary table and wind rose for the 10 m level at Site 1 for all hours are shown in Figure 5-1 and Table 5-16.

The wind roses from the unstable and neutral categories (A through D) (Figures G-1 through G-8) appear similar to the day wind roses (included in Appendix F). Wind roses from the stable categories (E through G) (Figures G-9 through G-14) are similar to the night wind roses (included in Appendix F). The similarities are directly related to the close association of time-of-day and stability categories (Table 5-15).

The most unstable categories (A and B) and most stable categories (F and G) wind roses (Appendix G) have a higher frequency of lower speed winds compared to the wind roses from the moderately stable or unstable and neutral (C, D, and E) categories (Appendix G).

Most of the diurnal hours had winds from the southerly directions, with some differences associated with local terrain features that apparently channel the winds along the axis of main hill and valley features of Midway Valley and Jackass Flats (see Figure 2-1). At the 10 m level

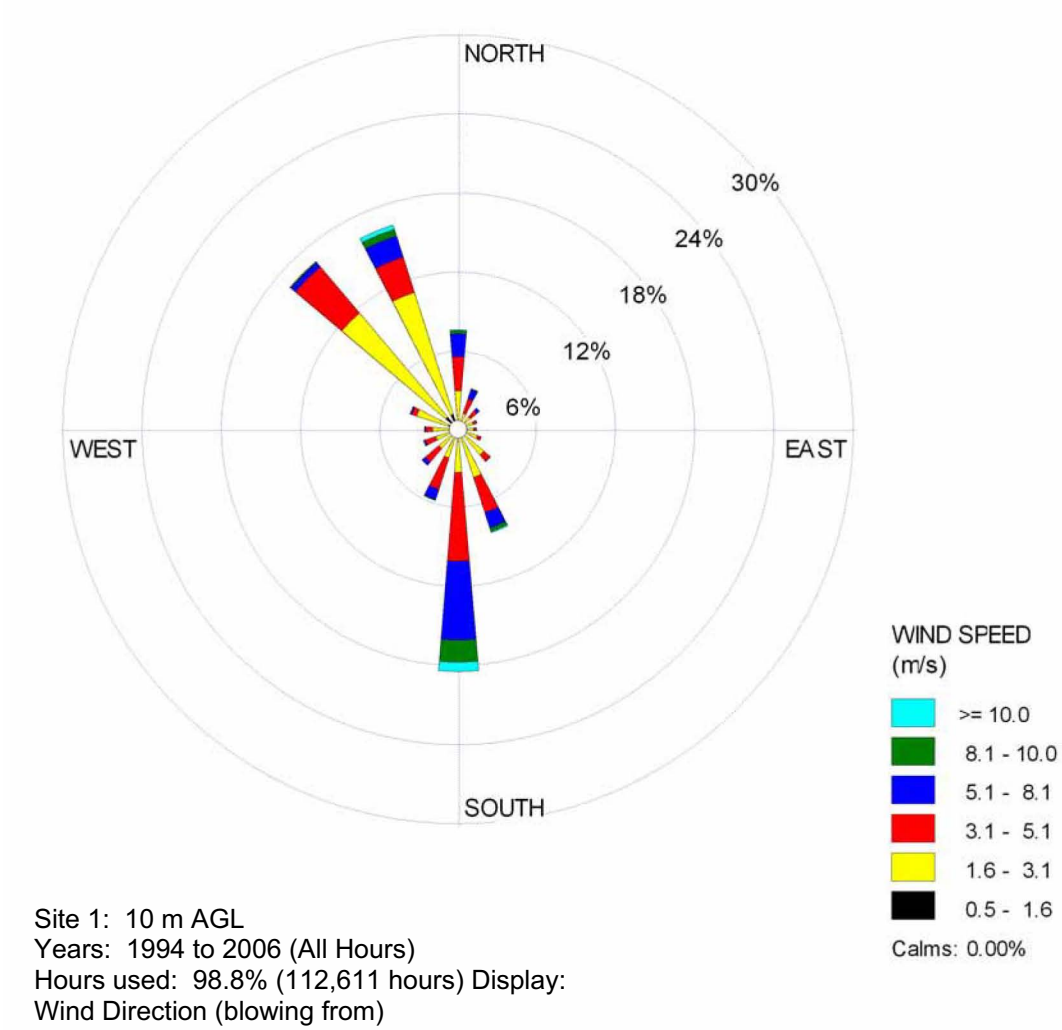
at Site 1, nearly 37% of the daytime winds were from the south or south-southeast with speeds between 2.1 and 8.1 m/sec; about 40% of the daytime hours had speeds at least 4.1 m/sec (Table C-1 and Figure F-1). Winds at the 60 m level at Site 1 were similar, with a tendency toward higher speeds (Table C-3 and Figure F-3). The open exposure of Site 2 on top of Yucca Mountain (Figure E-3) showed a wider distribution of directions than were seen at the remaining sites at the lower elevations that showed higher occurrences of wind directions along the corresponding valley axis directions. Nearly 50% of the diurnal hours had speeds at least 4.1 m/sec at Site 2 (Table C-5 and Figure F-5).

Table 5-15. Summary of Pasquill Stability Category Occurrences

Hour	A	B	C	D	E	F	G
1	0.02	0.00	0.07	3.71	27.66	36.10	32.43
2	0.00	0.00	0.04	3.84	26.65	34.95	34.51
3	0.00	0.00	0.11	3.67	26.34	34.67	35.22
4	0.04	0.00	0.04	3.36	25.31	35.99	35.26
5	0.02	0.02	0.02	3.54	23.93	37.15	35.32
6	0.02	0.02	0.02	5.00	26.89	37.39	30.65
7	0.46	0.95	2.46	20.08	31.94	25.48	18.64
8	8.22	8.26	10.85	30.47	20.19	15.39	6.62
9	29.54	12.22	11.13	29.28	12.84	4.78	0.22
10	46.92	11.72	11.55	27.11	2.55	0.07	0.09
11	53.34	14.72	12.70	18.57	0.58	0.00	0.09
12	63.45	11.49	10.39	14.29	0.29	0.00	0.09
13	64.94	11.98	9.65	13.05	0.36	0.00	0.02
14	62.93	11.28	10.27	14.90	0.54	0.04	0.04
15	54.86	13.51	11.00	19.78	0.80	0.04	0.00
16	39.76	9.73	10.68	37.39	2.34	0.09	0.00
17	22.08	9.14	9.65	32.12	23.51	3.47	0.04
18	1.01	5.60	7.92	34.55	35.65	14.36	0.90
19	0.04	0.04	0.00	17.23	55.16	23.69	3.84
20	0.04	0.04	0.02	6.55	49.86	35.37	8.11
21	0.04	0.04	0.02	5.05	40.46	41.16	13.21
22	0.04	0.00	0.04	4.81	36.07	40.81	18.22
23	0.04	0.00	0.04	4.53	30.99	39.78	24.61
24	0.02	0.04	0.07	4.20	28.15	37.59	29.92
Total	18.54	5.01	4.93	14.87	22.12	20.83	13.71
Summary	A to C: 28.48			D: 14.87	E to G: 56.66		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTES: Occurrences are the percent of time for each hour that stability was in the seven Pasquill categories shown, from A (extremely unstable) through G (extremely stable).



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure 5-1. Wind Rose for Site 1 at 10 m above ground level for All Hours (1994 to 2006)

Table 5-16. Joint Frequency Distribution of Wind Speed and Direction for All Hours (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Direction	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0012	0.0058	0.0094	0.0137	0.0141	0.0118	0.0084	0.0086	0.0024	0.0008	0.0761					
11.25 - 33.75	North-Northeast	0.0012	0.0033	0.0035	0.0054	0.0062	0.0058	0.0039	0.0032	0.0007	0.0002	0.0333					
33.75 - 56.25	Northeast	0.0016	0.0048	0.0030	0.0038	0.0034	0.0028	0.0017	0.0009	0.0001	0.0000	0.0221					
56.25 - 78.75	East-Northeast	0.0021	0.0047	0.0029	0.0033	0.0017	0.0008	0.0004	0.0002	0.0000	0.0000	0.0160					
78.75 - 101.25	East	0.0019	0.0037	0.0039	0.0030	0.0013	0.0006	0.0002	0.0002	0.0000	0.0000	0.0149					
101.25 - 123.75	East-Southeast	0.0015	0.0043	0.0053	0.0050	0.0020	0.0008	0.0003	0.0002	0.0000	0.0000	0.0194					
123.75 - 146.25	Southeast	0.0014	0.0048	0.0087	0.0115	0.0049	0.0014	0.0004	0.0001	0.0000	0.0000	0.0333					
146.25 - 168.75	South-Southeast	0.0013	0.0037	0.0099	0.0242	0.0185	0.0094	0.0057	0.0064	0.0029	0.0011	0.0829					
168.75 - 191.25	South	0.0008	0.0028	0.0074	0.0224	0.0335	0.0337	0.0270	0.0327	0.0169	0.0071	0.1842					
191.25 - 213.75	South-Southwest	0.0008	0.0027	0.0056	0.0147	0.0148	0.0102	0.0052	0.0027	0.0007	0.0001	0.0574					
213.75 - 236.25	Southwest	0.0008	0.0029	0.0056	0.0105	0.0081	0.0055	0.0020	0.0010	0.0001	0.0000	0.0366					
236.25 - 258.75	West-Southwest	0.0009	0.0036	0.0055	0.0085	0.0058	0.0028	0.0008	0.0005	0.0000	0.0000	0.0284					
258.75 - 281.25	West	0.0010	0.0049	0.0070	0.0073	0.0037	0.0015	0.0005	0.0002	0.0001	0.0000	0.0261					
281.25 - 303.75	West-Northwest	0.0012	0.0074	0.0127	0.0123	0.0027	0.0013	0.0007	0.0005	0.0001	0.0000	0.0389					
303.75 - 326.25	Northwest	0.0015	0.0114	0.0338	0.0691	0.0393	0.0066	0.0022	0.0021	0.0008	0.0002	0.1671					
326.25 - 348.75	North-Northwest	0.0014	0.0113	0.0358	0.0610	0.0206	0.0075	0.0067	0.0099	0.0055	0.0033	0.1631					
	Total:	0.0205	0.0822	0.1600	0.2757	0.1804	0.1025	0.0659	0.0692	0.0304	0.0129	0.9882					
Calms:												0.000035					
Missing/Incomplete												0.011768					
Frequency of Calm Winds												0.00%					
Average Wind Speed												3.54 m/sec					

Source DTN: M0078MID9406JF.000 [DIRS 182587].

NOTES: Wind speed categories are equal to the lower limit and are less than the upper limit.

Table shows portion of time (as decimal fractions) that wind was from the directions shown in the left columns with speeds in the categories in the top row.

Example: wind was from south at speeds between 3.1 and 4.1 m/sec for .0335 (3.35%) of the hours. See Section 4.2 for development methods.

On the other hand, winds during the nocturnal hours were from northerly directions, with greater indications of direction channeling by terrain than was evident in the diurnal periods. These patterns are typical of “drainage” winds that occur in valleys with clear sky conditions at night. Winds at the 10 m level at Site 1 were from the W-N quadrant during 74% of the nocturnal hours; most of these winds were from the NW-NNW directions from 1.6 to 4.1 m/sec (Table C-2 and Figure F-2). Virtually all of the winds at Site 1 at the 10 m level during the most stable periods (categories F and G) were from the NW and NNW directions with speeds between 1.6 and 3.1 m/sec (Tables D-11 and D-13; Figures G-11 and G-13). This direction is aligned with the Drill Hole Wash feature on the east side of Yucca Mountain.

In a similar pattern but more exaggerated way, the nocturnal winds were from the W-NW directions for 73% of the time at Site 3 in Coyote Wash on the east side of Yucca Mountain; 47% of the time nocturnal winds were from the WNW, and the majority of those winds were in the 1.6 to 3.1 m/sec speed categories (Table C-8 and Figure F-8).

Nocturnal drainage winds occurred at Site 7, which is near the Sever Wash hydrologic outflow feature of Midway Valley. Winds were from the W-NNW drainage direction at speeds below 3.1 m/sec during 64% of the hours. A related grouping of stronger winds with a more northerly component was seen with 13% of the nocturnal hours having speeds above 3.1 m/sec from the NNW-N directions (Table C-14 and Figure F-14).

Beyond Midway Valley, winds in the Jackass Flats area showed larger-scale down valley airflow characteristics. Winds at Site 5, which is along Fortymile Wash, were from the N-NNE with speeds 2.1 to 8.1 m/sec during 64% of the nocturnal hours (Figure F-12 and Table C-12). Finally, the winds at Site 9 on the southern boundary of the NTS near the Town of Amargosa Valley, were from the N-NNE during 63% of the nocturnal hours with speeds below 6.1 m/sec (Figure F-12 and Table C-16).

While similar to previous distributions discussed, nocturnal data from the ridge and hill tops (Sites 2 and 4) and the 60 m level at Site 1 showed another significant feature of dispersion conditions in the vicinity of Yucca Mountain. The stable atmospheric structure that occurs at night allows for winds at the 10 m level to be quite different from winds at higher levels. Winds at the Site 1 60 m level were from the NW-NE quadrant during 60% of the time, generally with speeds less than 3.1 m/sec, though the N directions showed relatively frequent occurrences of winds up to 8.1 m/sec (Figure F-4 and Table C-4). These directions are related to the overall features of Midway Valley, rather than the specific terrain feature, Drill Hole Wash, that appears to influence winds at the 10 m level at Site 1 (Figure F-2). The winds at the 60 m level with category G stability were mostly from the NNW-N directions, with speeds less than 3.1 m/sec (Figure G-14 and Table D-14). The winds during category F stability were shifted to include the NNW-NNE directions, with some speeds from 3.1 to 8.1 m/sec (Figure G-12 and Table D-12).

In a similar way to the Site 1 winds at the 60 m level, winds at Site 4 on Alice Hill were from the NNW-NE directions during 70% of the nocturnal hours (Figure F-10 and Table C-10). As evidence of terrain features affecting the nocturnal winds in a different way, winds at Site 2 were from the NE-SSE directions for over 60% of the nocturnal hours (Figure F-6 and Table C-6). These directions tend to show large-scale airflow from the higher terrain well northeast of Yucca

Mountain, as well as periods with southerly winds that are not affected by the local terrain influences at times.

Southerly winds occurred during a small portion of the nocturnal hours, apparently associated with larger-scale wind systems overwhelming the locally generated winds. For example, only about 12% of the nocturnal hours at the 10 m level at Site 1 were from the SSE-SSW (Table C-2). Also, the higher-speed winds from the northwesterly and northerly directions that occurred at most of the sites were associated with larger-scale wind systems rather than the drainage-type winds.

5.3 SUMMARY

The thirteen years of data collected from the meteorological network operating in the vicinity of Yucca Mountain show the local climate is typical of the southwestern United States high desert region, with some local variations due to complex terrain in the area.

- The area is arid to semi-arid, that is, precipitation is adequate only to support sparse desert vegetation. Annual total precipitation varied significantly from year to year, and to a lesser extent according to the elevation and location relative to terrain features. The annual average at Site 1 was 200.8 mm (Table 5-1). Precipitation was infrequent, so short-term large amounts influenced the long-term totals.
- Wind speed varied by diurnal and seasonal cycles. Daytime speeds were generally higher than nighttime, though the persistent nocturnal down-slope winds at the valley floor sites kept the nighttime averages higher than would occur otherwise. The highest monthly average speeds occurred in April. The extreme three-second gust speed at Site 1 was 27.6 m/sec (about 62 mph), while the hilltop location of Site 4 on Alice Hill experienced a gust of 39.9 m/sec (almost 90 mph). With one exception, the maximum one-minute average wind speeds occurred from a northwesterly direction.
- Daytime air temperature generally varied by elevation with higher temperatures at lower elevations, but nighttime temperatures varied considerably by terrain exposure. The cold air drainage dropped minimum temperatures more, and more often, at valley floor sites than on the higher slopes and on the hilltop locations. The temperature data also showed seasonal cycles. The monthly mean maximum and minimum temperatures varied by over 20°C degrees between summer and winter at Site 1.
- Relative humidity reflected the arid climate with overall low values, and a diurnal cycle matching the diurnal temperature cycle.
- High mean maximum solar radiation values were due to the clear-sky conditions typical of the southwestern desert region.
- Barometric pressure showed seasonal variations of the mean monthly averages of four to seven millibars, with lower values occurring during the period from April through June. This cycle was associated with seasonal cycles in synoptic weather patterns.

- Atmospheric stability, one factor in determining the dispersion potential of the atmosphere, typically underwent a diurnal cycle with stable (low dispersion) conditions occurring during the nighttime hours, and neutral (moderate dispersion) to unstable (high dispersion) conditions in the daytime hours.
- Joint frequency distributions of wind speed and wind direction by time of day and stability categories showed a regular cycles influenced by local terrain. Unless large-scale weather systems overrode the local-scale wind dynamics related to terrain, daytime unstable conditions occurred with winds from southerly directions. Terrain features tended to channel airflow in directions along the axis of valleys during the daytime periods. Surface cooling in the clear-sky environment led to stable periods with cold air flowing down local slopes and large valley areas at night, particularly in the valley floor locations. The down slope directions were generally from the west to north on the east side of Yucca Mountain and in Jackass Flats.

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APPENDIX A
PARAMETERS RECORDED AND STORED IN THE DATA OUTPUT FILES

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Table A-1. Parameters Recorded and Stored in the Site 1 Ten-Minute Data Output File

Parameter	Height	Variables	Description of Variable (units)
Day of Year	—	J_DAY	Julian day of the year (1 to 365)
Site	—	SITE	Site number (1 to 9)
Time of Day	—	TIME	Time at the end of period that measurements were taken. For ten-minute averages the times range from 0010 to 2400.
Year	—	YEAR	Year measurements recorded
Precipitation			
Tipping bucket	2	PCP_TB	Total precipitation recorded in ten-minute interval (inches)
Barometric Pressure	2	BP	Ten-minute average barometric pressure (millibars)
Relative Humidity	2	RH	Ten-minute average relative humidity (percentage)
Dew-point Temperature	2	DEW-PT	—
Solar Radiation	2	SOLAR_M	Ten-minute average incoming solar radiations (watts per square meter)
Temperature	2	TEMP_2M	Ten-minute average ambient air temperature (degrees Celsius)
Vertical Temperature Difference			
2 to 10 m	10	DT_2_10M	Difference in the ten-minute average air temperature between 10 and 2 m (degrees Celsius)
10 to 60 m	60	DT_10_60M	Difference in the ten-minute average air temperature between 60 and 10 m (degrees Celsius)
Wind Direction			
Wind Direction	10	WD_10	Ten-minute average horizontal wind direction at 10 m (degrees from north)
Std Dev of wind direction	10	SIG T 10	Standard deviation of ten-minute average wind direction (degrees)
Direction of maximum one-minute average wind speed	10	WDMX_1M_10	Direction associated with the maximum one-minute average wind speed at 10 m (degrees from north)
Wind Direction	60	WD_60	Ten-minute average horizontal wind direction at 60 m (degrees from north)
Std Dev of wind direction	60	SIG T 60	Standard deviation of ten-minute average wind direction (degrees)
Direction of maximum one-minute average wind speed	60	WDMX_1M_60	Direction associated with the maximum one-minute average wind speed at 60 m (degrees from north)
Wind Speed			
Wind Speed	10	WS_10	Ten-minute average horizontal wind speed, 10 m above ground (meters per second)
Std Dev of wind speed	10	SIG_U_10M	Standard deviation of horizontal wind speed, 10 m above ground (meters per second)
Ten-minute maximum three-second running average wind speed	10	WSMX_3S_10	Ten-minute maximum three-second running average wind speed, 10 m above ground (meters per second)
Ten minute maximum one-minute average wind speed	10	WSMX_1M_10	Ten-minute maximum one-minute average wind speed, 10 m above ground (meters per second)
Vertical wind speed	10	VWS	Ten-minute average vertical wind speed, 10 m above ground (meters per second)
Std Dev of vertical wind speed	10	SIG_W	Standard deviation of vertical wind speed, 10 m above ground (meters per second)
Wind Speed	60	WS_60	Ten-minute average horizontal wind speed, 60 m above ground (meters per second)
Std Dev of wind speed	60	SIG_U_60M	Standard deviation of horizontal wind speed, 60 m above ground (meters per second)
Ten-minute maximum three-second running average wind speed	60	WSMX_3S_60	Ten-minute maximum three-second running average wind speed, 60 m above ground (meters per second)
Ten-minute maximum one-minute average wind speed	60	WSMX_1M_60	Ten-minute maximum one-minute average wind speed, 60 m above ground (meters per second)

Dev = deviation; Std = standard.

Table A-2. Parameters Recorded and Stored in the Site 1 Hourly Data Output File

Parameter	Height	Variables	Description of Variable (units)
Day of Year	—	J_DAY	Julian day of the year (1 to 365)
Site	—	SITE	Site number (1 to 9)
Time of Day	—	TIME	Time at the end of period that measurements were taken. For hourly averages the times range from 0100 to 2400.
Year	—	YEAR	Year measurements recorded
Precipitation			
Tipping bucket	2	PCP_TB	Total precipitation recorded in hourly interval (inches)
Barometric Pressure	2	BP	Hourly average barometric pressure (millibars)
Relative Humidity	2	RH	Hourly average relative humidity (percentage)
Dew-point Temperature	2	DEW-PT	
Solar Radiation	2	SOLAR_M	Hourly average incoming solar radiations (watts per square meter)
Temperature	2	TEMP_2M	Hourly average ambient air temperature (degrees Celsius)
Vertical Temperature Difference			
2 to 10 m	10	DT_2_10M	Difference in the hourly average air temperature between 10 and 2 m (degrees Celsius)
10 to 60 m	60	DT_10_60M	Difference in the hourly average air temperature between 60 and 10 m (degrees Celsius)
Wind Direction			
Wind Direction	10	WD_10	Hourly average horizontal wind direction at 10 m (degrees from north)
Std Dev of wind direction	10	SIG_T_10	Standard deviation of hourly average wind direction (degrees)
Wind Direction	60	WD_60	Hourly average horizontal wind direction at 60 m (degrees from north)
Std Dev of wind direction	60	SIG_T_60	Standard deviation of hourly average wind direction (degrees)
Wind Speed			
Wind Speed	10	WS_10	Hourly average horizontal wind speed, 10 m above ground (meters per second)
Hourly maximum one-second average wind speed	10	WSMX_1S_10	Hourly maximum one-second average wind speed, 10 m above ground (meters per second)
Hourly maximum three-second running average wind speed	10	WSMX_3S_10	Hourly maximum three-second running average wind speed, 10 m above ground (meters per second)
Std Dev of vertical wind speed	10	SIG_W	Standard deviation of vertical wind speed, 10 m above ground (meters per second)
Wind Speed	60	WS_60	Hourly average horizontal wind speed, 60 m above ground (meters per second)
Hourly maximum one-second average wind speed	60	WSMX_1S_60	Hourly maximum one-second average wind speed, 60 m above ground (meters per second)
Hourly maximum three-second average wind speed	60	WSMX_3S_60	Hourly maximum three-second running average wind speed, 60 m above ground (meters per second)

Table A-3. Parameters Recorded and Stored in the Daily Data Output File

Parameter	Height	Variables	Description of Variable (units)
Day of Year	—	J_DAY	Julian day of the year (1 to 365)
Site	—	SITE	Site number (1 to 9)
Time of Day	—	TIME	Time at the end of period that measurements were taken. Daily is computed at 2400 hours.
Year	—	YEAR	Year measurements recorded
Precipitation			
Tipping bucket	2	PCP_TB	Total daily precipitation (mm)
Temperature			
Daily maximum one-minute average temp	2	TMP_MAX_1M	Daily maximum one-minute average temperature, 2 m above ground (degrees Celsius)
Daily minimum one-minute average temp	2	TMP_MIN_1M	Daily minimum one-minute average temperature, 2 m above ground (degrees Celsius)
Wind Direction			
Direction maximum one-minute average Wind speed at 10 m	10	WDMX_1M_10	Direction associated with the maximum one-minute average wind speed, 10 m above ground (degrees from North)
Direction maximum one-minute average Wind speed at 60 m	60	WDMX_1M_60	Direction associated with the maximum one-minute average wind speed, 60 m above ground (degrees from North)
Wind Speed			
Daily maximum one-minute average wind speed	10	WSMX_1M_10	Daily maximum one-minute average wind speed, 10 m above ground (meters per second)
Daily maximum three-second running average wind speed	10	WSMX_3S_10	Daily maximum three-second running average wind speed, 10 m above ground (meters per second)
Daily maximum one-second vertical wind speed	10	VWS_MAX	Daily maximum one-second vertical wind speed, 10 m above ground (meters per second)
Time of daily maximum one-second vertical wind speed	10	VWS_MAX_TIME	Time of daily maximum one-second vertical wind speed, 10 m above ground (meters per second)
Daily minimum one-second vertical wind speed	10	VWS_MIN	Daily minimum one-second vertical wind speed, 10 m above ground (meters per second)
Time of daily minimum one-second vertical wind speed	10	VWS_MIN_TIME	Time of daily minimum one-second vertical wind speed, 10 m above ground (meters per second)
Daily maximum three-second running average wind speed	60	WSMX_3S_60	Daily maximum three-second running average wind speed, 60 m above ground (meters per second)
Daily maximum one-minute average wind speed	60	WSMX_1M_60	Daily maximum one-minute average wind speed, 60 m above ground (meters per second)

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APPENDIX B
JOINT FREQUENCY DISTRIBUTIONS FOR ALL HOURS
AT SITES 1, 2, 4, AND 9 (1994 to 2006) AND AT SITES 3, 5, AND 7 (1994 to 1998)

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Table B-1. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0012	0.0058	0.0094	0.0137	0.0141	0.0118	0.0084	0.0086	0.0024	0.0008	0.0761					
11.25 - 33.75	North-Northeast	0.0012	0.0033	0.0035	0.0054	0.0062	0.0058	0.0039	0.0032	0.0007	0.0002	0.0333					
33.75 - 56.25	Northeast	0.0016	0.0048	0.0030	0.0038	0.0034	0.0028	0.0017	0.0009	0.0001	0.0000	0.0221					
56.25 - 78.75	East-Northeast	0.0021	0.0047	0.0029	0.0033	0.0017	0.0008	0.0004	0.0002	0.0000	0.0000	0.0160					
78.75 - 101.25	East	0.0019	0.0037	0.0039	0.0030	0.0013	0.0006	0.0002	0.0002	0.0000	0.0000	0.0149					
101.25 - 123.75	East-Southeast	0.0015	0.0043	0.0053	0.0050	0.0020	0.0008	0.0003	0.0002	0.0000	0.0000	0.0194					
123.75 - 146.25	Southeast	0.0014	0.0048	0.0087	0.0115	0.0049	0.0014	0.0004	0.0001	0.0000	0.0000	0.0333					
146.25 - 168.75	South-Southeast	0.0013	0.0037	0.0099	0.0242	0.0185	0.0094	0.0057	0.0064	0.0029	0.0011	0.0829					
168.75 - 191.25	South	0.0008	0.0028	0.0074	0.0224	0.0335	0.0337	0.0270	0.0327	0.0169	0.0071	0.1842					
191.25 - 213.75	South-Southwest	0.0008	0.0027	0.0056	0.0147	0.0148	0.0102	0.0052	0.0027	0.0007	0.0001	0.0574					
213.75 - 236.25	Southwest	0.0008	0.0029	0.0056	0.0105	0.0081	0.0055	0.0020	0.0010	0.0001	0.0000	0.0366					
236.25 - 258.75	West-Southwest	0.0009	0.0036	0.0055	0.0085	0.0058	0.0028	0.0008	0.0005	0.0000	0.0000	0.0284					
258.75 - 281.25	West	0.0010	0.0049	0.0070	0.0073	0.0037	0.0015	0.0005	0.0002	0.0001	0.0000	0.0261					
281.25 - 303.75	West-Northwest	0.0012	0.0074	0.0127	0.0123	0.0027	0.0013	0.0007	0.0005	0.0001	0.0000	0.0389					
303.75 - 326.25	Northwest	0.0015	0.0114	0.0338	0.0691	0.0393	0.0066	0.0022	0.0021	0.0008	0.0002	0.1671					
326.25 - 348.75	North-Northwest	0.0014	0.0113	0.0358	0.0610	0.0206	0.0075	0.0067	0.0099	0.0055	0.0033	0.1631					
—	Total:	0.0205	0.0822	0.1600	0.2757	0.1804	0.1025	0.0659	0.0692	0.0304	0.0129	0.9882					
												Calms:	0.000035				
												Missing/Incomplete	0.011768				
												Frequency of Calm Winds	0.00%	0.00%			
												Average Wind Speed	3.54	m/sec			

Source DTN: M00708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-2. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0126	0.0357	0.0245	0.0165	0.0124	0.0127	0.0112	0.0146	0.0076	0.0047	0.1526					
11.25 - 33.75	North-Northeast	0.0065	0.0158	0.0160	0.0135	0.0076	0.0082	0.0068	0.0085	0.0033	0.0017	0.0878					
33.75 - 56.25	Northeast	0.0039	0.0073	0.0062	0.0053	0.0035	0.0030	0.0025	0.0022	0.0006	0.0002	0.0347					
56.25 - 78.75	East-Northeast	0.0027	0.0048	0.0037	0.0032	0.0018	0.0010	0.0005	0.0004	0.0001	0.0000	0.0183					
78.75 - 101.25	East	0.0023	0.0043	0.0038	0.0031	0.0014	0.0007	0.0004	0.0003	0.0001	0.0001	0.0165					
101.25 - 123.75	East-Southeast	0.0020	0.0045	0.0055	0.0045	0.0024	0.0013	0.0005	0.0003	0.0000	0.0000	0.0211					
123.75 - 146.25	Southeast	0.0020	0.0054	0.0082	0.0118	0.0059	0.0023	0.0009	0.0004	0.0000	0.0000	0.0369					
146.25 - 168.75	South-Southeast	0.0022	0.0056	0.0111	0.0232	0.0180	0.0111	0.0065	0.0073	0.0049	0.0035	0.0934					
168.75 - 191.25	South	0.0022	0.0056	0.0100	0.0222	0.0278	0.0309	0.0270	0.0421	0.0241	0.0241	0.2160					
191.25 - 213.75	South-Southwest	0.0025	0.0052	0.0062	0.0109	0.0100	0.0105	0.0073	0.0059	0.0018	0.0009	0.0613					
213.75 - 236.25	Southwest	0.0032	0.0048	0.0043	0.0067	0.0067	0.0069	0.0042	0.0024	0.0004	0.0002	0.0399					
236.25 - 258.75	West-Southwest	0.0031	0.0041	0.0031	0.0037	0.0040	0.0041	0.0023	0.0013	0.0002	0.0000	0.0259					
258.75 - 281.25	West	0.0046	0.0048	0.0025	0.0023	0.0021	0.0020	0.0010	0.0006	0.0001	0.0001	0.0203					
281.25 - 303.75	West-Northwest	0.0057	0.0066	0.0029	0.0021	0.0012	0.0015	0.0009	0.0008	0.0003	0.0001	0.0220					
303.75 - 326.25	Northwest	0.0082	0.0134	0.0065	0.0030	0.0016	0.0016	0.0021	0.0027	0.0014	0.0011	0.0415					
326.25 - 348.75	North-Northwest	0.0105	0.0302	0.0220	0.0088	0.0037	0.0041	0.0044	0.0089	0.0079	0.0110	0.1115					
—	Total:	0.0744	0.1580	0.1366	0.1410	0.1100	0.1018	0.0785	0.0988	0.0530	0.0477	0.9792					
												Calms:	0.00028				
												Missing/Incomplete	0.02049				
												Frequency of Calm Winds	0.03%				
												Average Wind Speed	3.94 m/sec				

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-3. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 1998) at Site 2 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0003	0.0009	0.0014	0.0027	0.0032	0.0042	0.0043	0.0059	0.0031	0.0014	0.0275		
11.25 - 33.75	North-Northeast	0.0004	0.0010	0.0018	0.0042	0.0051	0.0054	0.0051	0.0060	0.0022	0.0012	0.0323		
33.75 - 56.25	Northeast	0.0005	0.0016	0.0028	0.0065	0.0104	0.0111	0.0072	0.0075	0.0020	0.0007	0.0505		
56.25 - 78.75	East-Northeast	0.0005	0.0032	0.0068	0.0182	0.0172	0.0082	0.0035	0.0032	0.0009	0.0004	0.0622		
78.75 - 101.25	East	0.0009	0.0048	0.0132	0.0366	0.0333	0.0119	0.0036	0.0018	0.0006	0.0003	0.1071		
101.25 - 123.75	East-Southeast	0.0009	0.0044	0.0117	0.0321	0.0291	0.0154	0.0065	0.0023	0.0003	0.0001	0.1029		
123.75 - 146.25	Southeast	0.0009	0.0044	0.0103	0.0248	0.0258	0.0182	0.0104	0.0080	0.0015	0.0002	0.1044		
146.25 - 168.75	South-Southeast	0.0008	0.0039	0.0074	0.0159	0.0186	0.0195	0.0166	0.0215	0.0085	0.0020	0.1146		
168.75 - 191.25	South	0.0010	0.0038	0.0066	0.0114	0.0115	0.0134	0.0115	0.0102	0.0023	0.0005	0.0722		
191.25 - 213.75	South-Southwest	0.0012	0.0039	0.0066	0.0104	0.0088	0.0097	0.0069	0.0050	0.0013	0.0008	0.0546		
213.75 - 236.25	Southwest	0.0017	0.0056	0.0081	0.0113	0.0130	0.0139	0.0102	0.0069	0.0019	0.0012	0.0738		
236.25 - 258.75	West-Southwest	0.0017	0.0053	0.0069	0.0095	0.0077	0.0078	0.0075	0.0107	0.0037	0.0019	0.0626		
258.75 - 281.25	West	0.0016	0.0043	0.0054	0.0076	0.0048	0.0036	0.0033	0.0045	0.0023	0.0011	0.0385		
281.25 - 303.75	West-Northwest	0.0008	0.0022	0.0029	0.0036	0.0023	0.0020	0.0023	0.0032	0.0023	0.0029	0.0247		
303.75 - 326.25	Northwest	0.0006	0.0013	0.0018	0.0026	0.0025	0.0025	0.0031	0.0064	0.0057	0.0146	0.0413		
326.25 - 348.75	North-Northwest	0.0004	0.0009	0.0012	0.0022	0.0025	0.0032	0.0033	0.0057	0.0048	0.0065	0.0307		
—	Total:	0.0144	0.0515	0.0950	0.1994	0.1959	0.1501	0.1056	0.1089	0.0433	0.0358	0.9972		
											Calms:	0.00003		
											Missing/Incomplete	0.00276		
											Frequency of Calm Winds	0.00%		
											Average Wind Speed	4.39 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-4. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 1998) at Site 3 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0010	0.0009	0.0005	0.0008	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0033		
11.25 - 33.75	North-Northeast	0.0009	0.0006	0.0002	0.0005	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0024		
33.75 - 56.25	Northeast	0.0010	0.0008	0.0005	0.0006	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0033		
56.25 - 78.75	East-Northeast	0.0014	0.0015	0.0012	0.0016	0.0006	0.0001	0.0000	0.0000	0.0000	0.0000	0.0064		
78.75 - 101.25	East	0.0029	0.0052	0.0063	0.0114	0.0058	0.0020	0.0007	0.0002	0.0001	0.0000	0.0346		
101.25 - 123.75	East-Southeast	0.0047	0.0115	0.0274	0.0409	0.0129	0.0027	0.0005	0.0004	0.0000	0.0000	0.1010		
123.75 - 146.25	Southeast	0.0036	0.0093	0.0183	0.0313	0.0142	0.0032	0.0004	0.0001	0.0000	0.0000	0.0805		
146.25 - 168.75	South-Southeast	0.0021	0.0073	0.0137	0.0401	0.0471	0.0309	0.0174	0.0084	0.0015	0.0000	0.1686		
168.75 - 191.25	South	0.0026	0.0074	0.0105	0.0133	0.0050	0.0010	0.0003	0.0001	0.0000	0.0000	0.0403		
191.25 - 213.75	South-Southwest	0.0021	0.0067	0.0061	0.0076	0.0013	0.0002	0.0000	0.0000	0.0000	0.0000	0.0241		
213.75 - 236.25	Southwest	0.0032	0.0092	0.0062	0.0097	0.0017	0.0002	0.0001	0.0000	0.0000	0.0000	0.0303		
236.25 - 258.75	West-Southwest	0.0028	0.0139	0.0110	0.0097	0.0018	0.0003	0.0000	0.0000	0.0000	0.0000	0.0395		
258.75 - 281.25	West	0.0043	0.0203	0.0278	0.0148	0.0046	0.0009	0.0002	0.0000	0.0000	0.0000	0.0728		
281.25 - 303.75	West-Northwest	0.0048	0.0272	0.0749	0.1312	0.0201	0.0111	0.0066	0.0069	0.0029	0.0024	0.2880		
303.75 - 326.25	Northwest	0.0038	0.0135	0.0230	0.0205	0.0128	0.0094	0.0058	0.0055	0.0018	0.0010	0.0971		
326.25 - 348.75	North-Northwest	0.0016	0.0031	0.0010	0.0011	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0075		
—	Total:	0.0429	0.1384	0.2286	0.3351	0.1288	0.0624	0.0321	0.0218	0.0064	0.0033	0.9944		
											Calms:	0.00021		
											Missing/Incomplete	0.00536		
											Frequency of Calm Winds	0.02%		
											Average Wind Speed	2.68 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-5. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 2006) at Site 4 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0005	0.0066	0.0255	0.0309	0.0070	0.0049	0.0048	0.0095	0.0077	0.0122	0.1095		
11.25 - 33.75	North-Northeast	0.0006	0.0077	0.0319	0.0454	0.0123	0.0098	0.0107	0.0207	0.0184	0.0253	0.1828		
33.75 - 56.25	Northeast	0.0006	0.0060	0.0165	0.0442	0.0201	0.0118	0.0082	0.0073	0.0026	0.0013	0.1185		
56.25 - 78.75	East-Northeast	0.0005	0.0037	0.0074	0.0115	0.0039	0.0015	0.0007	0.0008	0.0003	0.0004	0.0308		
78.75 - 101.25	East	0.0004	0.0031	0.0050	0.0039	0.0016	0.0010	0.0007	0.0009	0.0004	0.0002	0.0172		
101.25 - 123.75	East-Southeast	0.0003	0.0024	0.0051	0.0049	0.0019	0.0015	0.0008	0.0006	0.0001	0.0001	0.0178		
123.75 - 146.25	Southeast	0.0002	0.0019	0.0061	0.0096	0.0049	0.0025	0.0010	0.0005	0.0001	0.0001	0.0267		
146.25 - 168.75	South-Southeast	0.0003	0.0020	0.0070	0.0208	0.0192	0.0107	0.0050	0.0042	0.0023	0.0017	0.0732		
168.75 - 191.25	South	0.0003	0.0020	0.0082	0.0285	0.0325	0.0309	0.0242	0.0362	0.0223	0.0255	0.2106		
191.25 - 213.75	South-Southwest	0.0004	0.0022	0.0055	0.0115	0.0107	0.0111	0.0076	0.0068	0.0023	0.0017	0.0598		
213.75 - 236.25	Southwest	0.0003	0.0021	0.0037	0.0061	0.0047	0.0046	0.0042	0.0036	0.0009	0.0004	0.0306		
236.25 - 258.75	West-Southwest	0.0002	0.0018	0.0030	0.0035	0.0022	0.0023	0.0022	0.0020	0.0006	0.0003	0.0181		
258.75 - 281.25	West	0.0003	0.0018	0.0026	0.0027	0.0012	0.0008	0.0009	0.0010	0.0002	0.0001	0.0116		
281.25 - 303.75	West-Northwest	0.0004	0.0018	0.0033	0.0024	0.0010	0.0008	0.0006	0.0009	0.0004	0.0003	0.0120		
303.75 - 326.25	Northwest	0.0004	0.0026	0.0049	0.0051	0.0018	0.0013	0.0013	0.0027	0.0020	0.0018	0.0238		
326.25 - 348.75	North-Northwest	0.0005	0.0038	0.0091	0.0175	0.0060	0.0027	0.0023	0.0037	0.0037	0.0076	0.0568		
—	Total:	0.0061	0.0514	0.1448	0.2484	0.1311	0.0982	0.0752	0.1015	0.0642	0.0790	0.9970		
											Calms:	0.00009		
											Missing/Incomplete	0.00294		
											Frequency of Calm Winds	0.01%		
											Average Wind Speed	4.62 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-6. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 1998) at Site 5 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0002	0.0025	0.0075	0.0271	0.0512	0.0786	0.0657	0.0400	0.0056	0.0019	0.2802					
11.25 - 33.75	North-Northeast	0.0002	0.0019	0.0063	0.0187	0.0390	0.0512	0.0166	0.0029	0.0006	0.0001	0.1373					
33.75 - 56.25	Northeast	0.0002	0.0014	0.0042	0.0105	0.0147	0.0115	0.0024	0.0016	0.0006	0.0002	0.0475					
56.25 - 78.75	East-Northeast	0.0001	0.0012	0.0026	0.0049	0.0047	0.0034	0.0030	0.0031	0.0007	0.0005	0.0241					
78.75 - 101.25	East	0.0002	0.0012	0.0020	0.0033	0.0027	0.0021	0.0013	0.0008	0.0003	0.0000	0.0140					
101.25 - 123.75	East-Southeast	0.0001	0.0012	0.0020	0.0033	0.0022	0.0007	0.0002	0.0001	0.0000	0.0000	0.0098					
123.75 - 146.25	Southeast	0.0001	0.0010	0.0026	0.0045	0.0021	0.0010	0.0005	0.0005	0.0001	0.0000	0.0126					
146.25 - 168.75	South-Southeast	0.0004	0.0020	0.0037	0.0079	0.0077	0.0058	0.0059	0.0099	0.0065	0.0038	0.0535					
168.75 - 191.25	South	0.0002	0.0022	0.0086	0.0195	0.0228	0.0201	0.0193	0.0301	0.0167	0.0133	0.1528					
191.25 - 213.75	South-Southwest	0.0005	0.0032	0.0118	0.0300	0.0225	0.0136	0.0064	0.0050	0.0020	0.0011	0.0961					
213.75 - 236.25	Southwest	0.0006	0.0033	0.0079	0.0136	0.0102	0.0059	0.0025	0.0011	0.0004	0.0002	0.0455					
236.25 - 258.75	West-Southwest	0.0006	0.0032	0.0043	0.0060	0.0044	0.0034	0.0019	0.0013	0.0003	0.0001	0.0253					
258.75 - 281.25	West	0.0005	0.0029	0.0035	0.0036	0.0022	0.0020	0.0011	0.0008	0.0001	0.0000	0.0167					
281.25 - 303.75	West-Northwest	0.0005	0.0026	0.0024	0.0022	0.0011	0.0010	0.0008	0.0009	0.0002	0.0000	0.0117					
303.75 - 326.25	Northwest	0.0003	0.0024	0.0038	0.0039	0.0013	0.0014	0.0017	0.0022	0.0013	0.0007	0.0190					
326.25 - 348.75	North-Northwest	0.0004	0.0025	0.0067	0.0110	0.0068	0.0052	0.0048	0.0071	0.0048	0.0046	0.0539					
—	Total:	0.0052	0.0345	0.0798	0.1699	0.1954	0.2068	0.1342	0.1074	0.0403	0.0265	0.9930					
												Calms:	0				
												Missing/Incomplete	0.00701				
												Frequency of Calm Winds	0.00%				
												Average Wind Speed	4.48 m/sec				

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-7. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 1998) at Site 7 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0014	0.0043	0.0087	0.0153	0.0158	0.0156	0.0126	0.0142	0.0042	0.0013	0.0935		
11.25 - 33.75	North-Northeast	0.0006	0.0020	0.0037	0.0085	0.0105	0.0119	0.0075	0.0046	0.0011	0.0001	0.0504		
33.75 - 56.25	Northeast	0.0006	0.0013	0.0029	0.0059	0.0035	0.0018	0.0007	0.0001	0.0000	0.0000	0.0169		
56.25 - 78.75	East-Northeast	0.0005	0.0013	0.0027	0.0025	0.0010	0.0003	0.0002	0.0001	0.0000	0.0000	0.0086		
78.75 - 101.25	East	0.0005	0.0015	0.0025	0.0021	0.0010	0.0005	0.0002	0.0001	0.0000	0.0000	0.0084		
101.25 - 123.75	East-Southeast	0.0008	0.0025	0.0032	0.0039	0.0024	0.0011	0.0006	0.0004	0.0001	0.0000	0.0150		
123.75 - 146.25	Southeast	0.0007	0.0035	0.0088	0.0123	0.0056	0.0017	0.0004	0.0002	0.0001	0.0000	0.0332		
146.25 - 168.75	South-Southeast	0.0008	0.0047	0.0125	0.0322	0.0276	0.0155	0.0098	0.0121	0.0070	0.0029	0.1250		
168.75 - 191.25	South	0.0009	0.0032	0.0087	0.0206	0.0250	0.0234	0.0183	0.0203	0.0087	0.0030	0.1320		
191.25 - 213.75	South-Southwest	0.0010	0.0028	0.0043	0.0098	0.0110	0.0067	0.0026	0.0015	0.0004	0.0001	0.0402		
213.75 - 236.25	Southwest	0.0015	0.0029	0.0034	0.0048	0.0050	0.0036	0.0011	0.0006	0.0001	0.0001	0.0232		
236.25 - 258.75	West-Southwest	0.0032	0.0068	0.0027	0.0031	0.0031	0.0017	0.0006	0.0003	0.0000	0.0000	0.0213		
258.75 - 281.25	West	0.0066	0.0238	0.0068	0.0019	0.0013	0.0012	0.0004	0.0001	0.0000	0.0000	0.0421		
281.25 - 303.75	West-Northwest	0.0072	0.0482	0.0386	0.0070	0.0013	0.0009	0.0007	0.0003	0.0001	0.0000	0.1042		
303.75 - 326.25	Northwest	0.0063	0.0383	0.0685	0.0477	0.0059	0.0025	0.0023	0.0032	0.0009	0.0005	0.1763		
326.25 - 348.75	North-Northwest	0.0022	0.0135	0.0279	0.0284	0.0120	0.0061	0.0052	0.0068	0.0046	0.0028	0.1096		
—	Total:	0.0346	0.1606	0.2057	0.2059	0.1321	0.0946	0.0632	0.0650	0.0274	0.0108	0.9977		
												Calms:	0.00023	
												Missing/Incomplete	0.00210	
												Frequency of Calm Winds	0.02%	
												Average Wind Speed	3.24 m/sec	

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table B-8. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for All Hours (1994 to 2006) at Site 9 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0002	0.0017	0.0037	0.0113	0.0152	0.0133	0.0072	0.0057	0.0024	0.0008	0.0613		
11.25 - 33.75	North-Northeast	0.0003	0.0016	0.0052	0.0247	0.0734	0.0972	0.0318	0.0062	0.0012	0.0003	0.2418		
33.75 - 56.25	Northeast	0.0003	0.0018	0.0060	0.0209	0.0283	0.0264	0.0131	0.0051	0.0015	0.0004	0.1038		
56.25 - 78.75	East-Northeast	0.0003	0.0016	0.0047	0.0103	0.0067	0.0042	0.0025	0.0017	0.0004	0.0002	0.0325		
78.75 - 101.25	East	0.0003	0.0017	0.0042	0.0078	0.0034	0.0019	0.0012	0.0006	0.0002	0.0001	0.0215		
101.25 - 123.75	East-Southeast	0.0002	0.0017	0.0041	0.0078	0.0044	0.0011	0.0004	0.0003	0.0001	0.0000	0.0201		
123.75 - 146.25	Southeast	0.0004	0.0021	0.0049	0.0106	0.0092	0.0055	0.0029	0.0029	0.0009	0.0003	0.0397		
146.25 - 168.75	South-Southeast	0.0003	0.0022	0.0064	0.0169	0.0257	0.0227	0.0204	0.0299	0.0181	0.0115	0.1540		
168.75 - 191.25	South	0.0004	0.0029	0.0097	0.0270	0.0236	0.0183	0.0143	0.0195	0.0121	0.0090	0.1368		
191.25 - 213.75	South-Southwest	0.0004	0.0031	0.0085	0.0154	0.0105	0.0046	0.0022	0.0026	0.0013	0.0008	0.0493		
213.75 - 236.25	Southwest	0.0004	0.0022	0.0064	0.0098	0.0056	0.0018	0.0007	0.0006	0.0002	0.0001	0.0278		
236.25 - 258.75	West-Southwest	0.0003	0.0018	0.0041	0.0066	0.0039	0.0016	0.0005	0.0003	0.0001	0.0000	0.0192		
258.75 - 281.25	West	0.0003	0.0015	0.0031	0.0050	0.0031	0.0015	0.0006	0.0004	0.0001	0.0000	0.0156		
281.25 - 303.75	West-Northwest	0.0002	0.0011	0.0024	0.0041	0.0027	0.0018	0.0011	0.0007	0.0001	0.0001	0.0142		
303.75 - 326.25	Northwest	0.0002	0.0010	0.0022	0.0046	0.0040	0.0038	0.0032	0.0045	0.0022	0.0007	0.0262		
326.25 - 348.75	North-Northwest	0.0002	0.0012	0.0023	0.0061	0.0068	0.0047	0.0038	0.0054	0.0034	0.0022	0.0361		
—	Total:	0.0046	0.0290	0.0779	0.1889	0.2263	0.2104	0.1060	0.0863	0.0441	0.0264	0.9857		
											Calms:	0.00002		
											Missing/Incomplete	0.01425		
											Frequency of Calm Winds	0.00%		
											Average Wind Speed	4.38 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

APPENDIX C
JOINT FREQUENCY DISTRIBUTIONS FOR DAYLIGHT AND NIGHT HOURS
AT SITES 1, 2, 4, AND 9 (1994 to 2006) AND AT SITES 3, 5, AND 7 (1994 to 1998)

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Table C-1. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)														
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0015	0.0053	0.0059	0.0056	0.0061	0.0066	0.0059	0.0070	0.0021	0.0007	0.0467				
11.25 - 33.75	North-Northeast	0.0020	0.0047	0.0035	0.0052	0.0072	0.0072	0.0049	0.0044	0.0009	0.0002	0.0402				
33.75 - 56.25	Northeast	0.0030	0.0087	0.0044	0.0059	0.0059	0.0052	0.0031	0.0014	0.0002	0.0000	0.0378				
56.25 - 78.75	East-Northeast	0.0039	0.0087	0.0051	0.0059	0.0030	0.0014	0.0006	0.0004	0.0000	0.0000	0.0291				
78.75 - 101.25	East	0.0036	0.0070	0.0073	0.0053	0.0022	0.0010	0.0003	0.0004	0.0000	0.0000	0.0272				
101.25 - 123.75	East-Southeast	0.0028	0.0079	0.0097	0.0091	0.0036	0.0014	0.0006	0.0002	0.0000	0.0000	0.0354				
123.75 - 146.25	Southeast	0.0026	0.0089	0.0162	0.0217	0.0091	0.0026	0.0007	0.0001	0.0001	0.0000	0.0620				
146.25 - 168.75	South-Southeast	0.0021	0.0061	0.0178	0.0453	0.0345	0.0173	0.0102	0.0116	0.0054	0.0021	0.1524				
168.75 - 191.25	South	0.0013	0.0038	0.0107	0.0369	0.0576	0.0570	0.0453	0.0537	0.0270	0.0121	0.3054				
191.25 - 213.75	South-Southwest	0.0010	0.0024	0.0055	0.0159	0.0184	0.0154	0.0079	0.0039	0.0012	0.0002	0.0717				
213.75 - 236.25	Southwest	0.0009	0.0017	0.0037	0.0105	0.0126	0.0101	0.0038	0.0018	0.0003	0.0001	0.0453				
236.25 - 258.75	West-Southwest	0.0008	0.0019	0.0026	0.0060	0.0065	0.0043	0.0012	0.0008	0.0000	0.0000	0.0241				
258.75 - 281.25	West	0.0008	0.0018	0.0022	0.0036	0.0032	0.0021	0.0007	0.0003	0.0001	0.0001	0.0149				
281.25 - 303.75	West-Northwest	0.0007	0.0029	0.0026	0.0028	0.0022	0.0020	0.0011	0.0005	0.0002	0.0000	0.0150				
303.75 - 326.25	Northwest	0.0010	0.0041	0.0058	0.0066	0.0036	0.0032	0.0027	0.0029	0.0012	0.0002	0.0312				
326.25 - 348.75	North-Northwest	0.0015	0.0055	0.0096	0.0083	0.0050	0.0062	0.0075	0.0102	0.0053	0.0027	0.0616				
—	Total:	0.0294	0.0813	0.1126	0.1945	0.1805	0.1430	0.0967	0.0998	0.0438	0.0183	0.9843				
												Calms:	0.00004			
												Missing/Incomplete	0.01563			
												Frequency of Calm Winds	0.00%			
												Average Wind Speed	4.01	m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-2. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0009	0.0063	0.0129	0.0219	0.0222	0.0170	0.0109	0.0101	0.0027	0.0008	0.1057		
11.25 - 33.75	North-Northeast	0.0003	0.0019	0.0035	0.0056	0.0052	0.0044	0.0028	0.0019	0.0006	0.0001	0.0263		
33.75 - 56.25	Northeast	0.0002	0.0010	0.0016	0.0017	0.0009	0.0003	0.0003	0.0003	0.0000	0.0000	0.0064		
56.25 - 78.75	East-Northeast	0.0002	0.0005	0.0007	0.0006	0.0004	0.0001	0.0001	0.0001	0.0000	0.0000	0.0027		
78.75 - 101.25	East	0.0002	0.0004	0.0006	0.0008	0.0003	0.0002	0.0001	0.0001	0.0000	0.0000	0.0026		
101.25 - 123.75	East-Southeast	0.0002	0.0007	0.0008	0.0008	0.0004	0.0003	0.0000	0.0001	0.0000	0.0000	0.0033		
123.75 - 146.25	Southeast	0.0003	0.0006	0.0012	0.0013	0.0007	0.0002	0.0001	0.0000	0.0000	0.0000	0.0043		
146.25 - 168.75	South-Southeast	0.0004	0.0014	0.0018	0.0030	0.0023	0.0014	0.0012	0.0011	0.0003	0.0000	0.0130		
168.75 - 191.25	South	0.0004	0.0018	0.0040	0.0079	0.0091	0.0102	0.0085	0.0116	0.0067	0.0021	0.0622		
191.25 - 213.75	South-Southwest	0.0005	0.0030	0.0057	0.0134	0.0111	0.0050	0.0025	0.0014	0.0002	0.0001	0.0430		
213.75 - 236.25	Southwest	0.0007	0.0042	0.0076	0.0105	0.0036	0.0009	0.0002	0.0002	0.0000	0.0000	0.0279		
236.25 - 258.75	West-Southwest	0.0010	0.0054	0.0084	0.0111	0.0050	0.0013	0.0003	0.0002	0.0000	0.0000	0.0327		
258.75 - 281.25	West	0.0013	0.0079	0.0118	0.0110	0.0041	0.0009	0.0003	0.0001	0.0000	0.0000	0.0375		
281.25 - 303.75	West-Northwest	0.0016	0.0120	0.0229	0.0219	0.0033	0.0006	0.0003	0.0004	0.0001	0.0000	0.0630		
303.75 - 326.25	Northwest	0.0019	0.0188	0.0621	0.1321	0.0752	0.0101	0.0017	0.0013	0.0005	0.0003	0.3040		
326.25 - 348.75	North-Northwest	0.0013	0.0172	0.0622	0.1141	0.0364	0.0089	0.0059	0.0097	0.0057	0.0039	0.2653		
—	Total:	0.0116	0.0831	0.2078	0.3575	0.1804	0.0618	0.0350	0.0385	0.0169	0.0075	0.9921		
Calms:												0.00004		
Missing/Incomplete												0.00785		
Frequency of Calm Winds												0.00%		
Average Wind Speed												3.07 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-3. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)														
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0052	0.0078	0.0045	0.0046	0.0046	0.0049	0.0053	0.0084	0.0045	0.0033	0.0531				
11.25 - 33.75	North-Northeast	0.0042	0.0078	0.0062	0.0067	0.0056	0.0069	0.0065	0.0080	0.0032	0.0014	0.0564				
33.75 - 56.25	Northeast	0.0040	0.0059	0.0052	0.0059	0.0048	0.0047	0.0040	0.0035	0.0008	0.0003	0.0391				
56.25 - 78.75	East-Northeast	0.0027	0.0056	0.0047	0.0050	0.0030	0.0017	0.0008	0.0006	0.0002	0.0000	0.0242				
78.75 - 101.25	East	0.0026	0.0052	0.0055	0.0046	0.0021	0.0012	0.0007	0.0006	0.0002	0.0001	0.0228				
101.25 - 123.75	East-Southeast	0.0025	0.0061	0.0086	0.0074	0.0038	0.0021	0.0007	0.0005	0.0000	0.0000	0.0316				
123.75 - 146.25	Southeast	0.0022	0.0068	0.0132	0.0201	0.0101	0.0039	0.0014	0.0007	0.0001	0.0001	0.0586				
146.25 - 168.75	South-Southeast	0.0019	0.0061	0.0164	0.0402	0.0319	0.0194	0.0108	0.0120	0.0085	0.0062	0.1534				
168.75 - 191.25	South	0.0016	0.0046	0.0110	0.0306	0.0435	0.0496	0.0418	0.0635	0.0356	0.0366	0.3184				
191.25 - 213.75	South-Southwest	0.0017	0.0032	0.0048	0.0106	0.0125	0.0165	0.0111	0.0086	0.0025	0.0013	0.0729				
213.75 - 236.25	Southwest	0.0016	0.0021	0.0026	0.0061	0.0092	0.0119	0.0072	0.0044	0.0007	0.0003	0.0461				
236.25 - 258.75	West-Southwest	0.0014	0.0013	0.0018	0.0032	0.0045	0.0047	0.0032	0.0020	0.0003	0.0001	0.0224				
258.75 - 281.25	West	0.0019	0.0014	0.0009	0.0017	0.0023	0.0027	0.0015	0.0008	0.0001	0.0001	0.0135				
281.25 - 303.75	West-Northwest	0.0014	0.0015	0.0008	0.0013	0.0013	0.0020	0.0014	0.0012	0.0003	0.0001	0.0114				
303.75 - 326.25	Northwest	0.0025	0.0027	0.0015	0.0014	0.0015	0.0019	0.0030	0.0038	0.0019	0.0012	0.0214				
326.25 - 348.75	North-Northwest	0.0037	0.0059	0.0040	0.0021	0.0025	0.0039	0.0047	0.0111	0.0082	0.0085	0.0547				
—	Total:	0.0412	0.0739	0.0917	0.1515	0.1433	0.1379	0.1042	0.1295	0.0669	0.0597	0.9741				
												Calms:	0.00016			
												Missing/Incomplete	0.02575			
												Frequency of Calm Winds	0.02%			
												Average Wind Speed	4.66	m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-4. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0201	0.0638	0.0446	0.0285	0.0203	0.0206	0.0170	0.0207	0.0107	0.0061	0.2525		
11.25 - 33.75	North-Northeast	0.0089	0.0238	0.0259	0.0204	0.0095	0.0095	0.0071	0.0090	0.0033	0.0019	0.1193		
33.75 - 56.25	Northeast	0.0039	0.0086	0.0071	0.0046	0.0022	0.0013	0.0010	0.0009	0.0004	0.0001	0.0302		
56.25 - 78.75	East-Northeast	0.0027	0.0040	0.0028	0.0014	0.0006	0.0004	0.0002	0.0002	0.0001	0.0000	0.0123		
78.75 - 101.25	East	0.0020	0.0033	0.0021	0.0015	0.0006	0.0003	0.0001	0.0001	0.0001	0.0001	0.0103		
101.25 - 123.75	East-Southeast	0.0016	0.0029	0.0024	0.0017	0.0009	0.0005	0.0002	0.0001	0.0001	0.0000	0.0105		
123.75 - 146.25	Southeast	0.0018	0.0040	0.0031	0.0034	0.0017	0.0008	0.0003	0.0001	0.0000	0.0000	0.0152		
146.25 - 168.75	South-Southeast	0.0025	0.0051	0.0058	0.0062	0.0041	0.0027	0.0022	0.0026	0.0013	0.0008	0.0332		
168.75 - 191.25	South	0.0027	0.0065	0.0090	0.0138	0.0120	0.0122	0.0122	0.0206	0.0126	0.0116	0.1132		
191.25 - 213.75	South-Southwest	0.0033	0.0073	0.0076	0.0112	0.0074	0.0045	0.0035	0.0033	0.0012	0.0004	0.0497		
213.75 - 236.25	Southwest	0.0048	0.0075	0.0061	0.0074	0.0041	0.0019	0.0011	0.0005	0.0001	0.0001	0.0336		
236.25 - 258.75	West-Southwest	0.0048	0.0069	0.0044	0.0042	0.0036	0.0034	0.0014	0.0006	0.0001	0.0000	0.0295		
258.75 - 281.25	West	0.0073	0.0083	0.0041	0.0030	0.0019	0.0013	0.0006	0.0004	0.0001	0.0000	0.0271		
281.25 - 303.75	West-Northwest	0.0099	0.0118	0.0050	0.0029	0.0011	0.0009	0.0003	0.0004	0.0003	0.0001	0.0327		
303.75 - 326.25	Northwest	0.0140	0.0241	0.0115	0.0047	0.0017	0.0012	0.0013	0.0017	0.0008	0.0009	0.0618		
326.25 - 348.75	North-Northwest	0.0173	0.0545	0.0401	0.0155	0.0048	0.0042	0.0040	0.0068	0.0077	0.0135	0.1685		
—	Total:	0.1077	0.2423	0.1817	0.1304	0.0766	0.0656	0.0526	0.0680	0.0390	0.0356	0.9844		
											Calms:	0.00041		
											Missing/Incomplete	0.01516		
											Frequency of Calm Winds	0.04%		
											Average Wind Speed	3.20 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-5. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 2006) at Site 2 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)														
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0001	0.0004	0.0006	0.0017	0.0026	0.0030	0.0026	0.0031	0.0015	0.0005	0.0160				
11.25 - 33.75	North-Northeast	0.0000	0.0004	0.0007	0.0027	0.0028	0.0027	0.0022	0.0024	0.0007	0.0006	0.0152				
33.75 - 56.25	Northeast	0.0001	0.0006	0.0015	0.0037	0.0059	0.0052	0.0037	0.0040	0.0009	0.0003	0.0260				
56.25 - 78.75	East-Northeast	0.0002	0.0011	0.0032	0.0097	0.0096	0.0060	0.0034	0.0027	0.0008	0.0003	0.0371				
78.75 - 101.25	East	0.0004	0.0023	0.0086	0.0254	0.0224	0.0085	0.0033	0.0022	0.0008	0.0005	0.0742				
101.25 - 123.75	East-Southeast	0.0004	0.0028	0.0104	0.0342	0.0297	0.0149	0.0060	0.0028	0.0004	0.0002	0.1016				
123.75 - 146.25	Southeast	0.0005	0.0031	0.0108	0.0280	0.0278	0.0185	0.0100	0.0066	0.0012	0.0002	0.1068				
146.25 - 168.75	South-Southeast	0.0003	0.0031	0.0086	0.0193	0.0240	0.0242	0.0194	0.0245	0.0077	0.0021	0.1333				
168.75 - 191.25	South	0.0004	0.0031	0.0081	0.0146	0.0162	0.0204	0.0154	0.0111	0.0026	0.0005	0.0924				
191.25 - 213.75	South-Southwest	0.0005	0.0029	0.0076	0.0142	0.0140	0.0174	0.0122	0.0078	0.0019	0.0013	0.0798				
213.75 - 236.25	Southwest	0.0010	0.0038	0.0074	0.0153	0.0224	0.0261	0.0194	0.0128	0.0034	0.0021	0.1136				
236.25 - 258.75	West-Southwest	0.0009	0.0028	0.0041	0.0084	0.0099	0.0123	0.0132	0.0195	0.0068	0.0032	0.0810				
258.75 - 281.25	West	0.0009	0.0016	0.0016	0.0039	0.0043	0.0049	0.0053	0.0076	0.0039	0.0017	0.0356				
281.25 - 303.75	West-Northwest	0.0002	0.0007	0.0008	0.0017	0.0018	0.0019	0.0025	0.0043	0.0033	0.0035	0.0207				
303.75 - 326.25	Northwest	0.0002	0.0004	0.0007	0.0013	0.0019	0.0027	0.0044	0.0092	0.0074	0.0140	0.0423				
326.25 - 348.75	North-Northwest	0.0001	0.0003	0.0002	0.0012	0.0022	0.0035	0.0041	0.0058	0.0037	0.0031	0.0242				
—	Total:	0.0063	0.0294	0.0750	0.1855	0.1974	0.1722	0.1270	0.1264	0.0468	0.0341	0.9960				
												Calms:	0			
												Missing/Incomplete	0.00399			
												Frequency of Calm Winds	0.00%			
												Average Wind Speed	4.63	m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-6. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 2006) at Site 2 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0006	0.0014	0.0022	0.0036	0.0037	0.0054	0.0061	0.0088	0.0047	0.0024	0.0390		
11.25 - 33.75	North-Northeast	0.0008	0.0016	0.0029	0.0057	0.0074	0.0081	0.0081	0.0095	0.0037	0.0018	0.0497		
33.75 - 56.25	Northeast	0.0009	0.0027	0.0042	0.0093	0.0149	0.0171	0.0109	0.0111	0.0031	0.0011	0.0753		
56.25 - 78.75	East-Northeast	0.0009	0.0053	0.0104	0.0268	0.0249	0.0104	0.0036	0.0037	0.0010	0.0004	0.0876		
78.75 - 101.25	East	0.0015	0.0074	0.0180	0.0479	0.0444	0.0154	0.0039	0.0013	0.0005	0.0002	0.1404		
101.25 - 123.75	East-Southeast	0.0015	0.0061	0.0130	0.0299	0.0285	0.0160	0.0070	0.0019	0.0002	0.0001	0.1042		
123.75 - 146.25	Southeast	0.0013	0.0057	0.0097	0.0215	0.0238	0.0178	0.0109	0.0094	0.0018	0.0001	0.1020		
146.25 - 168.75	South-Southeast	0.0014	0.0046	0.0062	0.0123	0.0131	0.0146	0.0138	0.0186	0.0092	0.0019	0.0957		
168.75 - 191.25	South	0.0016	0.0045	0.0051	0.0082	0.0068	0.0063	0.0075	0.0094	0.0019	0.0004	0.0517		
191.25 - 213.75	South-Southwest	0.0018	0.0049	0.0056	0.0065	0.0036	0.0019	0.0015	0.0021	0.0008	0.0004	0.0291		
213.75 - 236.25	Southwest	0.0024	0.0074	0.0088	0.0072	0.0036	0.0016	0.0010	0.0009	0.0003	0.0003	0.0336		
236.25 - 258.75	West-Southwest	0.0024	0.0078	0.0097	0.0106	0.0054	0.0033	0.0018	0.0018	0.0006	0.0005	0.0440		
258.75 - 281.25	West	0.0024	0.0070	0.0093	0.0113	0.0053	0.0024	0.0013	0.0015	0.0007	0.0004	0.0415		
281.25 - 303.75	West-Northwest	0.0014	0.0038	0.0050	0.0055	0.0029	0.0021	0.0022	0.0021	0.0014	0.0023	0.0287		
303.75 - 326.25	Northwest	0.0011	0.0023	0.0029	0.0040	0.0032	0.0023	0.0019	0.0036	0.0039	0.0152	0.0402		
326.25 - 348.75	North-Northwest	0.0007	0.0014	0.0022	0.0032	0.0029	0.0029	0.0025	0.0057	0.0059	0.0100	0.0373		
—	Total:	0.0226	0.0739	0.1153	0.2136	0.1944	0.1278	0.0840	0.0913	0.0397	0.0375	0.9984		
												Calms:	0.00005	
												Missing/Incomplete	0.00150	
												Frequency of Calm Winds	0.01%	
												Average Wind Speed	4.14 m/sec	

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-7. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 1998) at Site 3 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)														
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0009	0.0008	0.0004	0.0011	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0033				
11.25 - 33.75	North-Northeast	0.0012	0.0003	0.0000	0.0006	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025				
33.75 - 56.25	Northeast	0.0012	0.0010	0.0002	0.0009	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0040				
56.25 - 78.75	East-Northeast	0.0022	0.0018	0.0012	0.0023	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000	0.0083				
78.75 - 101.25	East	0.0047	0.0090	0.0105	0.0202	0.0100	0.0033	0.0012	0.0001	0.0001	0.0000	0.0592				
101.25 - 123.75	East-Southeast	0.0075	0.0192	0.0507	0.0768	0.0233	0.0047	0.0009	0.0007	0.0000	0.0000	0.1839				
123.75 - 146.25	Southeast	0.0058	0.0156	0.0315	0.0578	0.0272	0.0063	0.0007	0.0003	0.0000	0.0000	0.1452				
146.25 - 168.75	South-Southeast	0.0024	0.0085	0.0163	0.0557	0.0715	0.0482	0.0269	0.0119	0.0023	0.0000	0.2437				
168.75 - 191.25	South	0.0026	0.0052	0.0087	0.0182	0.0082	0.0016	0.0005	0.0003	0.0000	0.0000	0.0453				
191.25 - 213.75	South-Southwest	0.0018	0.0039	0.0081	0.0138	0.0022	0.0004	0.0001	0.0000	0.0000	0.0000	0.0303				
213.75 - 236.25	Southwest	0.0026	0.0042	0.0081	0.0167	0.0029	0.0004	0.0002	0.0000	0.0000	0.0000	0.0351				
236.25 - 258.75	West-Southwest	0.0015	0.0055	0.0112	0.0160	0.0029	0.0005	0.0000	0.0000	0.0000	0.0000	0.0376				
258.75 - 281.25	West	0.0034	0.0079	0.0096	0.0157	0.0057	0.0010	0.0002	0.0000	0.0000	0.0000	0.0435				
281.25 - 303.75	West-Northwest	0.0043	0.0120	0.0142	0.0201	0.0230	0.0140	0.0080	0.0077	0.0025	0.0013	0.1071				
303.75 - 326.25	Northwest	0.0040	0.0060	0.0042	0.0064	0.0076	0.0068	0.0044	0.0045	0.0011	0.0004	0.0455				
326.25 - 348.75	North-Northwest	0.0017	0.0016	0.0003	0.0010	0.0005	0.0004	0.0000	0.0000	0.0000	0.0000	0.0055				
—	Total:	0.0478	0.1024	0.1754	0.3233	0.1867	0.0878	0.0433	0.0256	0.0061	0.0016	0.9925				
											Calms:	0.00014				
											Missing/Incomplete	0.00738				
											Frequency of Calm Winds	0.01%				
											Average Wind Speed	2.91				
												m/sec				

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-8. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 1998) at Site 3 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0010	0.0011	0.0007	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0033		
11.25 - 33.75	North-Northeast	0.0006	0.0010	0.0003	0.0004	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0024		
33.75 - 56.25	Northeast	0.0009	0.0006	0.0008	0.0003	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0027		
56.25 - 78.75	East-Northeast	0.0006	0.0012	0.0012	0.0009	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0046		
78.75 - 101.25	East	0.0011	0.0013	0.0021	0.0026	0.0015	0.0007	0.0002	0.0002	0.0000	0.0000	0.0098		
101.25 - 123.75	East-Southeast	0.0020	0.0037	0.0039	0.0046	0.0024	0.0006	0.0001	0.0000	0.0000	0.0000	0.0173		
123.75 - 146.25	Southeast	0.0014	0.0030	0.0050	0.0045	0.0011	0.0002	0.0000	0.0000	0.0000	0.0000	0.0151		
146.25 - 168.75	South-Southeast	0.0018	0.0060	0.0110	0.0244	0.0225	0.0135	0.0078	0.0049	0.0007	0.0000	0.0926		
168.75 - 191.25	South	0.0026	0.0097	0.0123	0.0084	0.0017	0.0003	0.0001	0.0000	0.0000	0.0000	0.0352		
191.25 - 213.75	South-Southwest	0.0024	0.0096	0.0041	0.0013	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0179		
213.75 - 236.25	Southwest	0.0038	0.0143	0.0042	0.0026	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0254		
236.25 - 258.75	West-Southwest	0.0042	0.0223	0.0107	0.0033	0.0006	0.0002	0.0000	0.0000	0.0000	0.0000	0.0414		
258.75 - 281.25	West	0.0053	0.0328	0.0461	0.0138	0.0034	0.0008	0.0001	0.0001	0.0000	0.0000	0.1025		
281.25 - 303.75	West-Northwest	0.0053	0.0426	0.1362	0.2436	0.0171	0.0081	0.0051	0.0061	0.0034	0.0035	0.4710		
303.75 - 326.25	Northwest	0.0036	0.0211	0.0420	0.0348	0.0179	0.0119	0.0072	0.0066	0.0025	0.0016	0.1492		
326.25 - 348.75	North-Northwest	0.0015	0.0046	0.0017	0.0011	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0095		
—	Total:	0.0380	0.1748	0.2824	0.3470	0.0704	0.0367	0.0208	0.0180	0.0066	0.0050	0.9964		
											Calms:	0.00028		
											Missing/Incomplete	0.00331		
											Frequency of Calm Winds	0.03%		
											Average Wind Speed	2.45 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-9. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 2006) at Site 4 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)													Total	
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0003	0.0021	0.0037	0.0040	0.0023	0.0027	0.0031	0.0064	0.0056	0.0072	0.0374				
11.25 - 33.75	North-Northeast	0.0004	0.0030	0.0078	0.0077	0.0047	0.0056	0.0077	0.0157	0.0132	0.0134	0.0790				
33.75 - 56.25	Northeast	0.0003	0.0035	0.0096	0.0257	0.0178	0.0134	0.0095	0.0087	0.0030	0.0017	0.0932				
56.25 - 78.75	East-Northeast	0.0003	0.0027	0.0082	0.0189	0.0066	0.0023	0.0011	0.0013	0.0004	0.0004	0.0424				
78.75 - 101.25	East	0.0004	0.0025	0.0048	0.0056	0.0024	0.0014	0.0010	0.0011	0.0005	0.0002	0.0200				
101.25 - 123.75	East-Southeast	0.0003	0.0018	0.0041	0.0052	0.0025	0.0020	0.0012	0.0010	0.0002	0.0001	0.0183				
123.75 - 146.25	Southeast	0.0002	0.0018	0.0057	0.0091	0.0050	0.0031	0.0013	0.0008	0.0001	0.0001	0.0273				
146.25 - 168.75	South-Southeast	0.0002	0.0020	0.0088	0.0298	0.0284	0.0156	0.0072	0.0059	0.0033	0.0029	0.1042				
168.75 - 191.25	South	0.0002	0.0023	0.0116	0.0467	0.0526	0.0501	0.0399	0.0614	0.0381	0.0434	0.3464				
191.25 - 213.75	South-Southwest	0.0004	0.0027	0.0073	0.0161	0.0166	0.0198	0.0139	0.0124	0.0038	0.0029	0.0959				
213.75 - 236.25	Southwest	0.0003	0.0021	0.0038	0.0062	0.0069	0.0086	0.0080	0.0067	0.0017	0.0008	0.0451				
236.25 - 258.75	West-Southwest	0.0002	0.0013	0.0019	0.0029	0.0025	0.0037	0.0041	0.0037	0.0011	0.0004	0.0219				
258.75 - 281.25	West	0.0003	0.0013	0.0011	0.0015	0.0010	0.0010	0.0012	0.0016	0.0003	0.0001	0.0094				
281.25 - 303.75	West-Northwest	0.0003	0.0009	0.0013	0.0011	0.0008	0.0012	0.0009	0.0016	0.0007	0.0004	0.0093				
303.75 - 326.25	Northwest	0.0002	0.0014	0.0012	0.0015	0.0010	0.0016	0.0019	0.0041	0.0034	0.0027	0.0190				
326.25 - 348.75	North-Northwest	0.0003	0.0016	0.0018	0.0020	0.0013	0.0016	0.0024	0.0047	0.0055	0.0098	0.0312				
—	Total:	0.0046	0.0330	0.0828	0.1840	0.1526	0.1338	0.1046	0.1370	0.0810	0.0866	0.9960				
													Calms:	0.00005		
													Missing/Incomplete	0.00390		
													Frequency of Calm Winds	0.01%		
													Average Wind Speed	5.20 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset

Table C-10. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 2006) at Site 4 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)														
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total				
348.75 - 11.25	North	0.0008	0.0112	0.0476	0.0580	0.0117	0.0070	0.0065	0.0126	0.0097	0.0173	0.1825				
11.25 - 33.75	North-Northeast	0.0009	0.0124	0.0564	0.0836	0.0200	0.0141	0.0138	0.0258	0.0237	0.0374	0.2880				
33.75 - 56.25	Northeast	0.0008	0.0085	0.0235	0.0629	0.0224	0.0102	0.0070	0.0059	0.0021	0.0009	0.1441				
56.25 - 78.75	East-Northeast	0.0006	0.0047	0.0066	0.0040	0.0012	0.0007	0.0003	0.0003	0.0002	0.0003	0.0189				
78.75 - 101.25	East	0.0005	0.0037	0.0053	0.0020	0.0007	0.0007	0.0004	0.0007	0.0003	0.0002	0.0144				
101.25 - 123.75	East-Southeast	0.0003	0.0030	0.0062	0.0046	0.0014	0.0009	0.0004	0.0003	0.0001	0.0000	0.0172				
123.75 - 146.25	Southeast	0.0002	0.0020	0.0064	0.0100	0.0048	0.0018	0.0006	0.0002	0.0001	0.0000	0.0262				
146.25 - 168.75	South-Southeast	0.0003	0.0020	0.0052	0.0116	0.0100	0.0058	0.0027	0.0025	0.0012	0.0005	0.0419				
168.75 - 191.25	South	0.0004	0.0016	0.0048	0.0100	0.0122	0.0116	0.0082	0.0107	0.0063	0.0073	0.0731				
191.25 - 213.75	South-Southwest	0.0004	0.0017	0.0036	0.0069	0.0048	0.0022	0.0012	0.0012	0.0007	0.0005	0.0233				
213.75 - 236.25	Southwest	0.0003	0.0020	0.0036	0.0060	0.0024	0.0006	0.0004	0.0005	0.0001	0.0001	0.0160				
236.25 - 258.75	West-Southwest	0.0002	0.0022	0.0041	0.0040	0.0018	0.0010	0.0003	0.0003	0.0001	0.0001	0.0142				
258.75 - 281.25	West	0.0003	0.0023	0.0041	0.0040	0.0014	0.0006	0.0005	0.0003	0.0001	0.0001	0.0138				
281.25 - 303.75	West-Northwest	0.0004	0.0028	0.0053	0.0038	0.0012	0.0004	0.0003	0.0002	0.0001	0.0002	0.0147				
303.75 - 326.25	Northwest	0.0005	0.0039	0.0085	0.0089	0.0027	0.0009	0.0008	0.0013	0.0005	0.0008	0.0287				
326.25 - 348.75	North-Northwest	0.0006	0.0060	0.0164	0.0332	0.0108	0.0038	0.0021	0.0028	0.0019	0.0053	0.0828				
—	Total:	0.0077	0.0701	0.2077	0.3137	0.1092	0.0621	0.0453	0.0655	0.0472	0.0713	0.9979				
												Calms:		0.00012		
												Missing/Incomplete		0.00195		
												Frequency of Calm Winds		0.01%		
												Average Wind Speed		4.03 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-11. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 1998) at Site 5 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0002	0.0023	0.0069	0.0195	0.0232	0.0266	0.0198	0.0176	0.0045	0.0016	0.1212					
11.25 - 33.75	North-Northeast	0.0003	0.0019	0.0050	0.0111	0.0131	0.0077	0.0040	0.0027	0.0008	0.0001	0.0468					
33.75 - 56.25	Northeast	0.0003	0.0017	0.0045	0.0074	0.0057	0.0031	0.0016	0.0024	0.0011	0.0003	0.0279					
56.25 - 78.75	East-Northeast	0.0002	0.0018	0.0033	0.0053	0.0051	0.0043	0.0045	0.0055	0.0012	0.0006	0.0319					
78.75 - 101.25	East	0.0002	0.0014	0.0024	0.0048	0.0040	0.0036	0.0024	0.0012	0.0005	0.0000	0.0204					
101.25 - 123.75	East-Southeast	0.0001	0.0018	0.0027	0.0047	0.0032	0.0009	0.0003	0.0001	0.0000	0.0000	0.0138					
123.75 - 146.25	Southeast	0.0002	0.0015	0.0037	0.0063	0.0027	0.0010	0.0007	0.0005	0.0003	0.0000	0.0168					
146.25 - 168.75	South-Southeast	0.0006	0.0032	0.0060	0.0126	0.0105	0.0060	0.0064	0.0109	0.0079	0.0053	0.0694					
168.75 - 191.25	South	0.0003	0.0034	0.0147	0.0336	0.0386	0.0333	0.0322	0.0489	0.0271	0.0202	0.2523					
191.25 - 213.75	South-Southwest	0.0007	0.0051	0.0209	0.0547	0.0423	0.0254	0.0117	0.0091	0.0037	0.0021	0.1758					
213.75 - 236.25	Southwest	0.0009	0.0043	0.0115	0.0230	0.0191	0.0113	0.0048	0.0019	0.0007	0.0003	0.0777					
236.25 - 258.75	West-Southwest	0.0009	0.0034	0.0053	0.0082	0.0077	0.0062	0.0037	0.0024	0.0005	0.0002	0.0385					
258.75 - 281.25	West	0.0005	0.0023	0.0042	0.0048	0.0026	0.0031	0.0019	0.0013	0.0002	0.0000	0.0208					
281.25 - 303.75	West-Northwest	0.0004	0.0019	0.0022	0.0027	0.0013	0.0015	0.0014	0.0016	0.0004	0.0000	0.0134					
303.75 - 326.25	Northwest	0.0004	0.0023	0.0034	0.0038	0.0015	0.0023	0.0028	0.0036	0.0022	0.0011	0.0234					
326.25 - 348.75	North-Northwest	0.0004	0.0024	0.0056	0.0089	0.0062	0.0045	0.0043	0.0082	0.0052	0.0042	0.0498					
—	Total:	0.0066	0.0407	0.1025	0.2112	0.1866	0.1409	0.1015	0.1178	0.0563	0.0360	0.9911					
												Calms:	0				
												Missing/Incomplete	0.00888				
												Frequency of Calm Winds	0.00%				
												Average Wind Speed	4.45	m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-12. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 1998) at Site 5 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0002	0.0027	0.0081	0.0348	0.0794	0.1312	0.1130	0.0626	0.0067	0.0022	0.4410		
11.25 - 33.75	North-Northeast	0.0001	0.0018	0.0076	0.0263	0.0651	0.0951	0.0293	0.0030	0.0005	0.0000	0.2289		
33.75 - 56.25	Northeast	0.0002	0.0011	0.0038	0.0138	0.0238	0.0201	0.0033	0.0009	0.0002	0.0001	0.0672		
56.25 - 78.75	East-Northeast	0.0000	0.0006	0.0018	0.0045	0.0043	0.0024	0.0014	0.0006	0.0001	0.0003	0.0161		
78.75 - 101.25	East	0.0002	0.0010	0.0017	0.0018	0.0015	0.0006	0.0002	0.0004	0.0000	0.0001	0.0075		
101.25 - 123.75	East-Southeast	0.0001	0.0006	0.0012	0.0019	0.0013	0.0004	0.0001	0.0000	0.0000	0.0000	0.0057		
123.75 - 146.25	Southeast	0.0001	0.0005	0.0014	0.0026	0.0016	0.0011	0.0004	0.0006	0.0000	0.0000	0.0083		
146.25 - 168.75	South-Southeast	0.0001	0.0008	0.0013	0.0032	0.0049	0.0055	0.0054	0.0089	0.0050	0.0023	0.0375		
168.75 - 191.25	South	0.0001	0.0010	0.0024	0.0052	0.0067	0.0068	0.0064	0.0111	0.0062	0.0063	0.0522		
191.25 - 213.75	South-Southwest	0.0002	0.0013	0.0026	0.0050	0.0024	0.0017	0.0010	0.0009	0.0003	0.0001	0.0155		
213.75 - 236.25	Southwest	0.0002	0.0022	0.0043	0.0041	0.0012	0.0004	0.0001	0.0003	0.0001	0.0000	0.0129		
236.25 - 258.75	West-Southwest	0.0002	0.0030	0.0032	0.0037	0.0010	0.0006	0.0001	0.0001	0.0001	0.0000	0.0121		
258.75 - 281.25	West	0.0006	0.0035	0.0029	0.0025	0.0018	0.0008	0.0002	0.0002	0.0000	0.0000	0.0127		
281.25 - 303.75	West-Northwest	0.0007	0.0032	0.0026	0.0016	0.0009	0.0005	0.0001	0.0002	0.0000	0.0000	0.0098		
303.75 - 326.25	Northwest	0.0003	0.0024	0.0042	0.0039	0.0012	0.0004	0.0007	0.0008	0.0004	0.0003	0.0146		
326.25 - 348.75	North-Northwest	0.0005	0.0026	0.0078	0.0131	0.0073	0.0060	0.0054	0.0061	0.0043	0.0050	0.0581		
—	Total:	0.0037	0.0283	0.0569	0.1281	0.2044	0.2735	0.1673	0.0968	0.0241	0.0168	0.9949		
											Calms:	0		
											Missing/Incomplete	0.00510		
											Frequency of Calm Winds	0.00%		
											Average Wind Speed	4.52 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-13. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 1998) at Site 7 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0010	0.0023	0.0044	0.0100	0.0099	0.0104	0.0098	0.0096	0.0029	0.0010	0.0612					
11.25 - 33.75	North-Northeast	0.0005	0.0018	0.0042	0.0121	0.0146	0.0158	0.0094	0.0050	0.0010	0.0000	0.0644					
33.75 - 56.25	Northeast	0.0006	0.0012	0.0041	0.0102	0.0054	0.0029	0.0009	0.0002	0.0001	0.0000	0.0256					
56.25 - 78.75	East-Northeast	0.0004	0.0014	0.0037	0.0045	0.0019	0.0006	0.0002	0.0002	0.0000	0.0000	0.0129					
78.75 - 101.25	East	0.0004	0.0015	0.0034	0.0032	0.0017	0.0007	0.0004	0.0002	0.0000	0.0000	0.0116					
101.25 - 123.75	East-Southeast	0.0008	0.0032	0.0041	0.0057	0.0040	0.0019	0.0011	0.0007	0.0002	0.0000	0.0216					
123.75 - 146.25	Southeast	0.0008	0.0048	0.0140	0.0221	0.0099	0.0028	0.0006	0.0005	0.0001	0.0000	0.0555					
146.25 - 168.75	South-Southeast	0.0008	0.0063	0.0210	0.0581	0.0513	0.0282	0.0175	0.0228	0.0129	0.0055	0.2244					
168.75 - 191.25	South	0.0010	0.0047	0.0141	0.0335	0.0420	0.0377	0.0303	0.0339	0.0142	0.0056	0.2170					
191.25 - 213.75	South-Southwest	0.0011	0.0042	0.0071	0.0163	0.0199	0.0126	0.0049	0.0027	0.0008	0.0002	0.0698					
213.75 - 236.25	Southwest	0.0019	0.0040	0.0055	0.0084	0.0096	0.0070	0.0023	0.0011	0.0003	0.0001	0.0402					
236.25 - 258.75	West-Southwest	0.0042	0.0069	0.0035	0.0051	0.0058	0.0032	0.0010	0.0005	0.0000	0.0000	0.0302					
258.75 - 281.25	West	0.0057	0.0146	0.0045	0.0029	0.0024	0.0019	0.0007	0.0001	0.0000	0.0000	0.0328					
281.25 - 303.75	West-Northwest	0.0055	0.0148	0.0085	0.0031	0.0021	0.0016	0.0012	0.0006	0.0001	0.0000	0.0377					
303.75 - 326.25	Northwest	0.0041	0.0100	0.0097	0.0057	0.0023	0.0040	0.0037	0.0049	0.0012	0.0007	0.0462					
326.25 - 348.75	North-Northwest	0.0013	0.0048	0.0050	0.0070	0.0044	0.0044	0.0047	0.0084	0.0053	0.0034	0.0487					
—	Total:	0.0303	0.0863	0.1168	0.2077	0.1872	0.1357	0.0888	0.0914	0.0391	0.0165	0.9959					
												Calms:		0.00023			
												Missing/Incomplete		0.00390			
												Frequency of Calm Winds		0.02%			
												Average Wind Speed		3.88	m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-14. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 1998) at Site 7 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)												
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total		
348.75 - 11.25	North	0.0018	0.0063	0.0132	0.0206	0.0219	0.0208	0.0155	0.0189	0.0056	0.0017	0.1262		
11.25 - 33.75	North-Northeast	0.0007	0.0022	0.0031	0.0049	0.0064	0.0080	0.0055	0.0040	0.0012	0.0001	0.0362		
33.75 - 56.25	Northeast	0.0006	0.0014	0.0017	0.0016	0.0017	0.0007	0.0005	0.0001	0.0000	0.0000	0.0082		
56.25 - 78.75	East-Northeast	0.0006	0.0013	0.0017	0.0005	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0043		
78.75 - 101.25	East	0.0006	0.0015	0.0017	0.0009	0.0002	0.0003	0.0000	0.0000	0.0000	0.0000	0.0052		
101.25 - 123.75	East-Southeast	0.0007	0.0018	0.0022	0.0020	0.0009	0.0002	0.0001	0.0002	0.0000	0.0000	0.0082		
123.75 - 146.25	Southeast	0.0006	0.0022	0.0035	0.0025	0.0012	0.0006	0.0001	0.0000	0.0000	0.0000	0.0107		
146.25 - 168.75	South-Southeast	0.0007	0.0031	0.0040	0.0060	0.0037	0.0026	0.0020	0.0012	0.0009	0.0003	0.0244		
168.75 - 191.25	South	0.0007	0.0017	0.0031	0.0075	0.0078	0.0089	0.0062	0.0065	0.0031	0.0003	0.0460		
191.25 - 213.75	South-Southwest	0.0008	0.0013	0.0014	0.0032	0.0020	0.0007	0.0004	0.0003	0.0000	0.0000	0.0102		
213.75 - 236.25	Southwest	0.0011	0.0017	0.0013	0.0012	0.0003	0.0002	0.0000	0.0001	0.0000	0.0000	0.0060		
236.25 - 258.75	West-Southwest	0.0021	0.0067	0.0017	0.0010	0.0003	0.0001	0.0001	0.0001	0.0000	0.0000	0.0123		
258.75 - 281.25	West	0.0075	0.0332	0.0091	0.0009	0.0002	0.0005	0.0000	0.0000	0.0000	0.0000	0.0515		
281.25 - 303.75	West-Northwest	0.0089	0.0820	0.0690	0.0109	0.0004	0.0002	0.0001	0.0000	0.0000	0.0000	0.1715		
303.75 - 326.25	Northwest	0.0086	0.0670	0.1280	0.0902	0.0096	0.0011	0.0009	0.0014	0.0006	0.0003	0.3078		
326.25 - 348.75	North-Northwest	0.0031	0.0223	0.0511	0.0501	0.0196	0.0079	0.0057	0.0051	0.0040	0.0023	0.1711		
—	Total:	0.0390	0.2357	0.2956	0.2041	0.0763	0.0530	0.0373	0.0382	0.0156	0.0051	0.9995		
												Calms:	0.00023	
												Missing/Incomplete	0.00028	
												Frequency of Calm Winds	0.02%	
												Average Wind Speed	2.60 m/sec	

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table C-15. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Daytime Hours^a (1994 to 2006) at Site 9 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0002	0.0022	0.0035	0.0074	0.0066	0.0052	0.0045	0.0057	0.0026	0.0010	0.0390					
11.25 - 33.75	North-Northeast	0.0003	0.0019	0.0050	0.0174	0.0229	0.0142	0.0052	0.0039	0.0010	0.0002	0.0720					
33.75 - 56.25	Northeast	0.0002	0.0019	0.0061	0.0175	0.0198	0.0144	0.0067	0.0060	0.0021	0.0005	0.0752					
56.25 - 78.75	East-Northeast	0.0003	0.0019	0.0049	0.0096	0.0057	0.0042	0.0026	0.0020	0.0005	0.0002	0.0320					
78.75 - 101.25	East	0.0002	0.0019	0.0046	0.0075	0.0039	0.0030	0.0019	0.0009	0.0003	0.0000	0.0243					
101.25 - 123.75	East-Southeast	0.0003	0.0021	0.0047	0.0079	0.0030	0.0011	0.0005	0.0003	0.0001	0.0000	0.0200					
123.75 - 146.25	Southeast	0.0005	0.0029	0.0058	0.0106	0.0055	0.0026	0.0013	0.0018	0.0008	0.0003	0.0322					
146.25 - 168.75	South-Southeast	0.0003	0.0034	0.0099	0.0229	0.0242	0.0201	0.0204	0.0331	0.0234	0.0165	0.1743					
168.75 - 191.25	South	0.0005	0.0047	0.0170	0.0483	0.0423	0.0329	0.0259	0.0357	0.0215	0.0152	0.2440					
191.25 - 213.75	South-Southwest	0.0006	0.0052	0.0153	0.0286	0.0199	0.0086	0.0040	0.0047	0.0023	0.0015	0.0906					
213.75 - 236.25	Southwest	0.0006	0.0038	0.0113	0.0178	0.0106	0.0034	0.0014	0.0010	0.0004	0.0001	0.0504					
236.25 - 258.75	West-Southwest	0.0004	0.0031	0.0070	0.0115	0.0072	0.0030	0.0010	0.0005	0.0002	0.0001	0.0339					
258.75 - 281.25	West	0.0003	0.0021	0.0051	0.0081	0.0054	0.0027	0.0011	0.0006	0.0001	0.0000	0.0257					
281.25 - 303.75	West-Northwest	0.0002	0.0015	0.0034	0.0056	0.0036	0.0028	0.0017	0.0011	0.0002	0.0001	0.0202					
303.75 - 326.25	Northwest	0.0002	0.0013	0.0027	0.0049	0.0039	0.0040	0.0043	0.0062	0.0035	0.0010	0.0320					
326.25 - 348.75	North-Northwest	0.0003	0.0014	0.0023	0.0053	0.0042	0.0028	0.0034	0.0068	0.0045	0.0032	0.0342					
—	Total:	0.0055	0.0414	0.1085	0.2311	0.1887	0.1250	0.0860	0.1103	0.0635	0.0400	0.9834					
												Calms:	0.00002				
												Missing/Incomplete	0.01659				
												Frequency of Calm Winds	0.00%				
												Average Wind Speed	4.42	m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

^a Daytime hours are from sunrise to sunset.

Table C-16. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Night Hours (1994 to 2006) at Site 9 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0003	0.0012	0.0038	0.0151	0.0238	0.0215	0.0099	0.0057	0.0021	0.0005	0.0840					
11.25 - 33.75	North-Northeast	0.0002	0.0013	0.0054	0.0321	0.1244	0.1811	0.0588	0.0086	0.0013	0.0003	0.4134					
33.75 - 56.25	Northeast	0.0003	0.0018	0.0058	0.0243	0.0369	0.0386	0.0195	0.0042	0.0010	0.0003	0.1327					
56.25 - 78.75	East-Northeast	0.0003	0.0013	0.0044	0.0109	0.0077	0.0042	0.0024	0.0014	0.0002	0.0002	0.0331					
78.75 - 101.25	East	0.0004	0.0014	0.0039	0.0081	0.0029	0.0008	0.0005	0.0003	0.0001	0.0002	0.0186					
101.25 - 123.75	East-Southeast	0.0001	0.0013	0.0036	0.0076	0.0058	0.0011	0.0003	0.0003	0.0001	0.0000	0.0203					
123.75 - 146.25	Southeast	0.0002	0.0014	0.0040	0.0106	0.0128	0.0085	0.0044	0.0040	0.0010	0.0003	0.0474					
146.25 - 168.75	South-Southeast	0.0003	0.0009	0.0028	0.0108	0.0271	0.0254	0.0203	0.0267	0.0127	0.0065	0.1336					
168.75 - 191.25	South	0.0002	0.0010	0.0025	0.0055	0.0049	0.0034	0.0026	0.0031	0.0026	0.0027	0.0285					
191.25 - 213.75	South-Southwest	0.0002	0.0009	0.0016	0.0020	0.0010	0.0005	0.0005	0.0006	0.0002	0.0001	0.0076					
213.75 - 236.25	Southwest	0.0002	0.0007	0.0015	0.0016	0.0005	0.0001	0.0001	0.0001	0.0000	0.0000	0.0049					
236.25 - 258.75	West-Southwest	0.0002	0.0006	0.0011	0.0017	0.0005	0.0001	0.0000	0.0001	0.0000	0.0000	0.0043					
258.75 - 281.25	West	0.0003	0.0008	0.0011	0.0018	0.0008	0.0003	0.0001	0.0001	0.0000	0.0000	0.0053					
281.25 - 303.75	West-Northwest	0.0002	0.0006	0.0014	0.0026	0.0018	0.0008	0.0004	0.0002	0.0001	0.0000	0.0082					
303.75 - 326.25	Northwest	0.0001	0.0006	0.0017	0.0043	0.0040	0.0036	0.0021	0.0027	0.0008	0.0004	0.0203					
326.25 - 348.75	North-Northwest	0.0002	0.0009	0.0023	0.0069	0.0094	0.0067	0.0042	0.0039	0.0023	0.0012	0.0380					
—	Total:	0.0038	0.0165	0.0469	0.1462	0.2644	0.2968	0.1262	0.0621	0.0246	0.0126	0.9881					
												Calms:			0.00002		
												Missing/Incomplete			0.01188		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			4.35 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

APPENDIX D
JOINT FREQUENCY DISTRIBUTIONS FOR ATMOSPHERIC STABILITY
CATEGORIES AT SITE 1 AT THE 10 AND 60 m ABOVE GROUND LEVELS
(1994 to 2006)

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Table D-1. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category A (Extremely Unstable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 – 1.1	1.1 – 1.6	1.6 – 2.1	2.1 – 3.1	3.1 – 4.1	4.1 – 5.1	5.1 – 6.1	6.1 – 8.1	8.1 – 0.0	>= 10.0	Total					
348.75 - 11.25	North	0.0000	0.0001	0.0001	0.0012	0.0034	0.0047	0.0061	0.0088	0.0025	0.0009	0.0275					
11.25 - 33.75	North-Northeast	0.0000	0.0000	0.0001	0.0017	0.0050	0.0070	0.0062	0.0065	0.0010	0.0004	0.0277					
33.75 - 56.25	Northeast	0.0000	0.0000	0.0003	0.0031	0.0056	0.0068	0.0051	0.0023	0.0004	0.0001	0.0234					
56.25 - 78.75	East-Northeast	0.0000	0.0002	0.0006	0.0039	0.0030	0.0021	0.0011	0.0006	0.0001	0.0000	0.0114					
78.75 - 101.25	East	0.0000	0.0001	0.0011	0.0035	0.0029	0.0011	0.0004	0.0005	0.0001	0.0000	0.0096					
101.25 - 123.75	East-Southeast	0.0000	0.0003	0.0017	0.0067	0.0048	0.0022	0.0007	0.0001	0.0000	0.0000	0.0164					
123.75 - 146.25	Southeast	0.0001	0.0000	0.0027	0.0164	0.0114	0.0041	0.0009	0.0001	0.0001	0.0000	0.0356					
146.25 - 168.75	South-Southeast	0.0000	0.0001	0.0026	0.0344	0.0529	0.0334	0.0191	0.0211	0.0113	0.0043	0.1790					
168.75 - 191.25	South	0.0000	0.0002	0.0012	0.0219	0.0809	0.1003	0.0834	0.0961	0.0449	0.0185	0.4472					
191.25 - 213.75	South-Southwest	0.0000	0.0001	0.0007	0.0063	0.0206	0.0288	0.0156	0.0065	0.0014	0.0003	0.0800					
213.75 - 236.25	Southwest	0.0000	0.0000	0.0002	0.0040	0.0128	0.0155	0.0068	0.0027	0.0004	0.0001	0.0422					
236.25 - 258.75	West-Southwest	0.0000	0.0001	0.0002	0.0022	0.0059	0.0063	0.0018	0.0010	0.0000	0.0000	0.0173					
258.75 - 281.25	West	0.0000	0.0000	0.0002	0.0010	0.0036	0.0040	0.0012	0.0003	0.0001	0.0001	0.0103					
281.25 - 303.75	West-Northwest	0.0000	0.0001	0.0001	0.0009	0.0027	0.0032	0.0020	0.0007	0.0002	0.0001	0.0099					
303.75 - 326.25	Northwest	0.0001	0.0001	0.0002	0.0009	0.0025	0.0034	0.0041	0.0042	0.0017	0.0002	0.0172					
326.25 - 348.75	North-Northwest	0.0001	0.0001	0.0001	0.0007	0.0024	0.0068	0.0094	0.0152	0.0083	0.0028	0.0456					
—	Total:	0.0002	0.0011	0.0118	0.1084	0.2200	0.2295	0.1635	0.1661	0.0721	0.0276	0.9961					
												Calms:			0		
												Missing/Incomplete			0.00389		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			5.22 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-2. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category A (Extremely Unstable) from (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0000	0.0001	0.0000	0.0008	0.0021	0.0030	0.0039	0.0090	0.0047	0.0034	0.0269					
11.25 - 33.75	North-Northeast	0.0000	0.0000	0.0002	0.0013	0.0029	0.0050	0.0056	0.0089	0.0041	0.0018	0.0299					
33.75 - 56.25	Northeast	0.0000	0.0000	0.0001	0.0024	0.0037	0.0052	0.0054	0.0054	0.0011	0.0004	0.0236					
56.25 - 78.75	East-Northeast	0.0000	0.0001	0.0006	0.0026	0.0027	0.0019	0.0011	0.0010	0.0000	0.0001	0.0100					
78.75 - 101.25	East	0.0000	0.0001	0.0008	0.0029	0.0022	0.0017	0.0004	0.0007	0.0000	0.0001	0.0089					
101.25 - 123.75	East-Southeast	0.0000	0.0003	0.0014	0.0054	0.0050	0.0025	0.0010	0.0004	0.0000	0.0000	0.0160					
123.75 - 146.25	Southeast	0.0000	0.0002	0.0022	0.0111	0.0107	0.0055	0.0017	0.0008	0.0000	0.0001	0.0323					
146.25 - 168.75	South-Southeast	0.0000	0.0002	0.0015	0.0231	0.0421	0.0330	0.0191	0.0206	0.0142	0.0121	0.1658					
168.75 - 191.25	South	0.0000	0.0000	0.0011	0.0143	0.0509	0.0865	0.0785	0.1127	0.0591	0.0537	0.4569					
191.25 - 213.75	South-Southwest	0.0000	0.0002	0.0005	0.0034	0.0102	0.0248	0.0206	0.0158	0.0037	0.0013	0.0805					
213.75 - 236.25	Southwest	0.0001	0.0001	0.0002	0.0024	0.0070	0.0149	0.0105	0.0076	0.0010	0.0003	0.0439					
236.25 - 258.75	West-Southwest	0.0000	0.0000	0.0002	0.0017	0.0039	0.0056	0.0042	0.0026	0.0002	0.0001	0.0185					
258.75 - 281.25	West	0.0000	0.0000	0.0001	0.0007	0.0023	0.0038	0.0026	0.0009	0.0001	0.0001	0.0105					
281.25 - 303.75	West-Northwest	0.0000	0.0000	0.0002	0.0006	0.0011	0.0033	0.0023	0.0021	0.0003	0.0001	0.0099					
303.75 - 326.25	Northwest	0.0001	0.0000	0.0001	0.0009	0.0015	0.0023	0.0038	0.0052	0.0025	0.0016	0.0179					
326.25 - 348.75	North-Northwest	0.0001	0.0001	0.0000	0.0005	0.0017	0.0037	0.0057	0.0152	0.0111	0.0104	0.0484					
—	Total:	0.0002	0.0011	0.0091	0.0742	0.1500	0.2027	0.1665	0.2088	0.1020	0.0854	0.9824					
												Calms:			0		
												Missing/Incomplete			0.01763		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			6.03 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-3. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category B (Moderately Unstable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0002	0.0004	0.0011	0.0033	0.0054	0.0089	0.0057	0.0074	0.0013	0.0009	0.0345					
11.25 - 33.75	North-Northeast	0.0002	0.0000	0.0009	0.0065	0.0081	0.0100	0.0072	0.0046	0.0007	0.0002	0.0384					
33.75 - 56.25	Northeast	0.0000	0.0000	0.0018	0.0076	0.0122	0.0081	0.0044	0.0022	0.0002	0.0000	0.0366					
56.25 - 78.75	East-Northeast	0.0000	0.0002	0.0028	0.0124	0.0066	0.0024	0.0006	0.0000	0.0000	0.0000	0.0249					
78.75 - 101.25	East	0.0000	0.0018	0.0074	0.0079	0.0033	0.0015	0.0002	0.0002	0.0000	0.0000	0.0223					
101.25 - 123.75	East-Southeast	0.0002	0.0026	0.0137	0.0179	0.0041	0.0018	0.0013	0.0004	0.0000	0.0000	0.0419					
123.75 - 146.25	Southeast	0.0004	0.0022	0.0218	0.0414	0.0164	0.0052	0.0011	0.0000	0.0000	0.0000	0.0884					
146.25 - 168.75	South-Southeast	0.0000	0.0007	0.0150	0.0973	0.0637	0.0185	0.0074	0.0105	0.0039	0.0009	0.2178					
168.75 - 191.25	South	0.0000	0.0007	0.0070	0.0611	0.0871	0.0460	0.0297	0.0297	0.0186	0.0085	0.2885					
191.25 - 213.75	South-Southwest	0.0000	0.0000	0.0030	0.0181	0.0196	0.0142	0.0055	0.0028	0.0007	0.0002	0.0641					
213.75 - 236.25	Southwest	0.0000	0.0002	0.0022	0.0102	0.0148	0.0118	0.0035	0.0009	0.0002	0.0000	0.0438					
236.25 - 258.75	West-Southwest	0.0000	0.0000	0.0015	0.0065	0.0074	0.0046	0.0009	0.0004	0.0000	0.0000	0.0212					
258.75 - 281.25	West	0.0000	0.0000	0.0011	0.0057	0.0037	0.0011	0.0007	0.0004	0.0000	0.0000	0.0127					
281.25 - 303.75	West-Northwest	0.0000	0.0000	0.0002	0.0011	0.0024	0.0015	0.0007	0.0002	0.0002	0.0000	0.0063					
303.75 - 326.25	Northwest	0.0000	0.0000	0.0004	0.0015	0.0035	0.0039	0.0022	0.0041	0.0006	0.0002	0.0162					
326.25 - 348.75	North-Northwest	0.0000	0.0000	0.0007	0.0017	0.0044	0.0066	0.0083	0.0126	0.0046	0.0033	0.0423					
—	Total:	0.0009	0.0089	0.0805	0.3000	0.2627	0.1460	0.0796	0.0762	0.0310	0.0142	0.9983					
												Calms:			0		
												Missing/Incomplete			0.00166		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			4.00 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-4. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category B (Moderately Unstable) (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0000	0.0002	0.0006	0.0024	0.0035	0.0047	0.0062	0.0060	0.0045	0.0026	0.0306					
11.25 - 33.75	North-Northeast	0.0000	0.0004	0.0013	0.0039	0.0065	0.0091	0.0097	0.0099	0.0026	0.0013	0.0448					
33.75 - 56.25	Northeast	0.0000	0.0004	0.0009	0.0058	0.0095	0.0086	0.0065	0.0030	0.0011	0.0004	0.0362					
56.25 - 78.75	East-Northeast	0.0000	0.0006	0.0034	0.0082	0.0058	0.0034	0.0006	0.0004	0.0000	0.0000	0.0222					
78.75 - 101.25	East	0.0000	0.0017	0.0080	0.0076	0.0032	0.0009	0.0013	0.0000	0.0000	0.0000	0.0228					
101.25 - 123.75	East-Southeast	0.0004	0.0034	0.0106	0.0134	0.0037	0.0015	0.0013	0.0006	0.0000	0.0000	0.0349					
123.75 - 146.25	Southeast	0.0000	0.0021	0.0138	0.0375	0.0213	0.0050	0.0019	0.0013	0.0000	0.0000	0.0828					
146.25 - 168.75	South-Southeast	0.0000	0.0007	0.0119	0.0806	0.0664	0.0299	0.106	0.0084	0.0069	0.0050	0.2205					
168.75 - 191.25	South	0.0002	0.0007	0.0062	0.0506	0.0735	0.0530	0.0285	0.0368	0.0201	0.0256	0.2951					
191.25 - 213.75	South-Southwest	0.0000	0.0002	0.0021	0.0123	0.0157	0.0162	0.0091	0.0060	0.0021	0.0004	0.0640					
213.75 - 236.25	Southwest	0.0000	0.0002	0.0009	0.0063	0.0114	0.0131	0.0076	0.0032	0.0006	0.0004	0.0437					
236.25 - 258.75	West-Southwest	0.0000	0.0000	0.0009	0.0049	0.0050	0.0041	0.0035	0.0013	0.0000	0.0000	0.0198					
258.75 - 281.25	West	0.0000	0.0002	0.0009	0.0054	0.0032	0.0034	0.0011	0.0004	0.0002	0.0000	0.0147					
281.25 - 303.75	West-Northwest	0.0000	0.0000	0.0002	0.0011	0.0019	0.0021	0.0007	0.0007	0.0004	0.0002	0.0073					
303.75 - 326.25	Northwest	0.0000	0.0000	0.0002	0.0009	0.0021	0.0030	0.0026	0.0032	0.0032	0.0006	0.0157					
326.25 - 348.75	North-Northwest	0.0000	0.0002	0.0009	0.0015	0.0015	0.0050	0.0058	0.0116	0.0101	0.0084	0.0450					
—	Total:	0.0006	0.0108	0.0629	0.2425	0.2341	0.1629	0.0972	0.0925	0.0517	0.0448	0.9878					
												Calms:			0		
												Missing/Incomplete			0.01216		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			4.57 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-5. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category C (Slightly Unstable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0002	0.0006	0.0015	0.0047	0.0056	0.0049	0.0054	0.0066	0.0011	0.0006	0.0312					
11.25 - 33.75	North-Northeast	0.0002	0.0002	0.0021	0.0064	0.0077	0.0092	0.0058	0.0036	0.0009	0.0000	0.0361					
33.75 - 56.25	Northeast	0.0004	0.0028	0.0047	0.0096	0.0100	0.0045	0.0028	0.0008	0.0000	0.0000	0.0355					
56.25 - 78.75	East-Northeast	0.0000	0.0036	0.0109	0.0135	0.0038	0.0009	0.0004	0.0006	0.0000	0.0000	0.0336					
78.75 - 101.25	East	0.0000	0.0062	0.0147	0.0133	0.0024	0.0002	0.0008	0.0002	0.0000	0.0000	0.0378					
101.25 - 123.75	East-Southeast	0.0002	0.0085	0.0225	0.0201	0.0047	0.0015	0.0006	0.0004	0.0000	0.0000	0.0584					
123.75 - 146.25	Southeast	0.0000	0.0075	0.0351	0.0500	0.0105	0.0013	0.0009	0.0000	0.0000	0.0000	0.1054					
146.25 - 168.75	South-Southeast	0.0000	0.0024	0.0412	0.1069	0.0370	0.0083	0.0066	0.0086	0.0019	0.0008	0.2136					
168.75 - 191.25	South	0.0000	0.0019	0.0154	0.0690	0.0618	0.0346	0.0254	0.0316	0.0152	0.0068	0.2616					
191.25 - 213.75	South-Southwest	0.0000	0.0002	0.0071	0.0218	0.0210	0.0085	0.0043	0.0026	0.0009	0.0000	0.0665					
213.75 - 236.25	Southwest	0.0000	0.0002	0.0023	0.0120	0.0152	0.0086	0.0030	0.0011	0.0000	0.0000	0.0425					
236.25 - 258.75	West-Southwest	0.0000	0.0000	0.0019	0.0060	0.0083	0.0026	0.0004	0.0006	0.0000	0.0000	0.0197					
258.75 - 281.25	West	0.0000	0.0000	0.0013	0.0043	0.0023	0.0011	0.0002	0.0004	0.0000	0.0002	0.0098					
281.25 - 303.75	West-Northwest	0.0004	0.0000	0.0013	0.0011	0.0015	0.0013	0.0002	0.0004	0.0002	0.0000	0.0064					
303.75 - 326.25	Northwest	0.0002	0.0000	0.0011	0.0024	0.0019	0.0023	0.0023	0.0011	0.0013	0.0000	0.0126					
326.25 - 348.75	North-Northwest	0.0002	0.0002	0.0006	0.0024	0.0032	0.0051	0.0062	0.0056	0.0036	0.0023	0.0293					
—	Total:	0.0017	0.0342	0.1637	0.3437	0.1969	0.0949	0.0652	0.0641	0.0252	0.0105	0.9972					
												Calms:					
												Missing/Incomplete					
												Frequency of Calm Winds					
												Average Wind Speed					
												0					
												0.00281					
												0.00%					
												3.55 m/sec					

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-6. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category C (Slightly Unstable) (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0000	0.0002	0.0009	0.0027	0.0049	0.0049	0.0032	0.0076	0.0044	0.0013	0.0302					
11.25 - 33.75	North-Northeast	0.0002	0.0013	0.0019	0.0057	0.0051	0.0066	0.0076	0.0068	0.0028	0.0013	0.0395					
33.75 - 56.25	Northeast	0.0008	0.0015	0.0044	0.0074	0.0082	0.0068	0.0038	0.0025	0.0006	0.0000	0.0359					
56.25 - 78.75	East-Northeast	0.0004	0.0044	0.0093	0.0129	0.0053	0.0013	0.0004	0.0002	0.0004	0.0000	0.0345					
78.75 - 101.25	East	0.0004	0.0057	0.0125	0.0095	0.0030	0.0002	0.0006	0.0009	0.0002	0.0000	0.0330					
101.25 - 123.75	East-Southeast	0.0002	0.0085	0.0180	0.0156	0.0047	0.0025	0.0008	0.0006	0.0000	0.0000	0.0509					
123.75 - 146.25	Southeast	0.0006	0.0068	0.0268	0.0488	0.0139	0.0030	0.0008	0.0006	0.0000	0.0000	0.1012					
146.25 - 168.75	South-Southeast	0.0000	0.0034	0.0355	0.1042	0.0418	0.0142	0.0063	0.0089	0.0065	0.0023	0.2230					
168.75 - 191.25	South	0.0000	0.0008	0.0171	0.0533	0.0577	0.0359	0.0207	0.0338	0.0199	0.0224	0.2615					
191.25 - 213.75	South-Southwest	0.0000	0.0002	0.0051	0.0140	0.0158	0.0139	0.0076	0.0049	0.0017	0.0013	0.0645					
213.75 - 236.25	Southwest	0.0004	0.0004	0.0030	0.0089	0.0121	0.0120	0.0059	0.0032	0.0006	0.0000	0.0465					
236.25 - 258.75	West-Southwest	0.0000	0.0000	0.0021	0.0040	0.0059	0.0046	0.0017	0.0009	0.0000	0.0000	0.0192					
258.75 - 281.25	West	0.0000	0.0000	0.0023	0.0027	0.0030	0.0019	0.0008	0.0006	0.0002	0.0002	0.0116					
281.25 - 303.75	West-Northwest	0.0000	0.0002	0.0006	0.0021	0.0015	0.0009	0.0013	0.0000	0.0002	0.0002	0.0070					
303.75 - 326.25	Northwest	0.0004	0.0004	0.0002	0.0015	0.0013	0.0006	0.0019	0.0032	0.0004	0.0013	0.0112					
326.25 - 348.75	North-Northwest	0.0000	0.0002	0.0004	0.0013	0.0017	0.0036	0.0040	0.0084	0.0047	0.0061	0.0304					
—	Total:	0.0032	0.0340	0.1401	0.2946	0.1860	0.1129	0.0672	0.0831	0.0425	0.0364	0.9873					
												Calms:			0		
												Missing/Incomplete			0.01274		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			4.05 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-7. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category D (Neutral) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0013	0.0039	0.0025	0.0053	0.0057	0.0096	0.0082	0.0121	0.0038	0.0021	0.0544					
11.25 - 33.75	North-Northeast	0.0015	0.0044	0.0047	0.0067	0.0087	0.0071	0.0039	0.0039	0.0012	0.0001	0.0423					
33.75 - 56.25	Northeast	0.0020	0.0107	0.0067	0.0076	0.0044	0.0035	0.0018	0.0010	0.0000	0.0000	0.0378					
56.25 - 78.75	East-Northeast	0.0031	0.0156	0.0095	0.0053	0.0022	0.0010	0.0003	0.0004	0.0001	0.0000	0.0374					
78.75 - 101.25	East	0.0034	0.0147	0.0141	0.0057	0.0019	0.0013	0.0004	0.0008	0.0002	0.0001	0.0424					
101.25 - 123.75	East-Southeast	0.0028	0.0178	0.0179	0.0097	0.0037	0.0016	0.0004	0.0007	0.0001	0.0000	0.0547					
123.75 - 146.25	Southeast	0.0034	0.0214	0.0314	0.0222	0.0072	0.0021	0.0006	0.0003	0.0001	0.0000	0.0885					
146.25 - 168.75	South-Southeast	0.0024	0.0151	0.0369	0.0412	0.0177	0.0093	0.0071	0.0084	0.0028	0.0006	0.1416					
168.75 - 191.25	South	0.0013	0.0090	0.0249	0.0506	0.0379	0.0326	0.0301	0.0444	0.0326	0.0137	0.2770					
191.25 - 213.75	South-Southwest	0.0013	0.0052	0.0099	0.0191	0.0144	0.0072	0.0035	0.0031	0.0016	0.0003	0.0656					
213.75 - 236.25	Southwest	0.0011	0.0027	0.0042	0.0096	0.0110	0.0061	0.0019	0.0019	0.0003	0.0001	0.0389					
236.25 - 258.75	West-Southwest	0.0012	0.0021	0.0026	0.0047	0.0050	0.0032	0.0012	0.0012	0.0000	0.0000	0.0212					
258.75 - 281.25	West	0.0012	0.0015	0.0015	0.0024	0.0021	0.0016	0.0005	0.0004	0.0003	0.0000	0.0114					
281.25 - 303.75	West-Northwest	0.0006	0.0016	0.0008	0.0013	0.0015	0.0013	0.0005	0.0010	0.0001	0.0000	0.0086					
303.75 - 326.25	Northwest	0.0008	0.0022	0.0019	0.0021	0.0024	0.0035	0.0029	0.0029	0.0017	0.0009	0.0214					
326.25 - 348.75	North-Northwest	0.0019	0.0026	0.0031	0.0029	0.0049	0.0068	0.0076	0.0110	0.0074	0.0086	0.0567					
—	Total:	0.0291	0.1307	0.1727	0.1965	0.1308	0.0977	0.0710	0.0934	0.0519	0.0264	0.9941					
												Calms:			0		
												Missing/Incomplete			0.00590		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			3.77 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-8. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category D (Neutral) (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0021	0.0028	0.0023	0.0038	0.0029	0.0039	0.0057	0.0114	0.0088	0.0080	0.0518					
11.25 - 33.75	North-Northeast	0.0016	0.0044	0.0043	0.0057	0.0067	0.0065	0.0060	0.0083	0.0035	0.0020	0.0490					
33.75 - 56.25	Northeast	0.0039	0.0082	0.0078	0.0073	0.0043	0.0030	0.0028	0.0024	0.0008	0.0003	0.0408					
56.25 - 78.75	East-Northeast	0.0042	0.0126	0.0085	0.0048	0.0025	0.0012	0.0005	0.0005	0.0003	0.0000	0.0351					
78.75 - 101.25	East	0.0052	0.0115	0.0094	0.0050	0.0019	0.0012	0.0008	0.0008	0.0008	0.0003	0.0369					
101.25 - 123.75	East-Southeast	0.0044	0.0131	0.0161	0.0080	0.0041	0.0025	0.0009	0.0008	0.0002	0.0001	0.0501					
123.75 - 146.25	Southeast	0.0041	0.0171	0.0265	0.0243	0.0080	0.0035	0.0018	0.0009	0.0002	0.0001	0.0864					
146.25 - 168.75	South-Southeast	0.0028	0.0149	0.0361	0.0444	0.0185	0.0094	0.0075	0.0099	0.0084	0.0053	0.1572					
168.75 - 191.25	South	0.0016	0.0086	0.0222	0.0430	0.0323	0.0243	0.0220	0.0431	0.0340	0.0509	0.2820					
191.25 - 213.75	South-Southwest	0.0013	0.0041	0.0073	0.0133	0.0120	0.0090	0.0053	0.0043	0.0023	0.0021	0.0612					
213.75 - 236.25	Southwest	0.0012	0.0018	0.0033	0.0065	0.0079	0.0086	0.0052	0.0026	0.0009	0.0005	0.0384					
236.25 - 258.75	West-Southwest	0.0009	0.0009	0.0023	0.0023	0.0038	0.0034	0.0031	0.0019	0.0008	0.0001	0.0195					
258.75 - 281.25	West	0.0009	0.0008	0.0008	0.0013	0.0016	0.0016	0.0009	0.0011	0.0002	0.0003	0.0095					
281.25 - 303.75	West-Northwest	0.0008	0.0009	0.0006	0.0013	0.0010	0.0009	0.0010	0.0005	0.0006	0.0000	0.0077					
303.75 - 326.25	Northwest	0.0009	0.0011	0.0012	0.0011	0.0013	0.0018	0.0028	0.0042	0.0020	0.0023	0.0188					
326.25 - 348.75	North-Northwest	0.0008	0.0018	0.0014	0.0020	0.0033	0.0036	0.0043	0.0104	0.0099	0.0178	0.0553					
—	Total:	0.0368	0.1048	0.1503	0.1741	0.1121	0.0841	0.0708	0.1031	0.0735	0.0903	0.9888					
												Calms:		0.00012			
												Missing/Incomplete		0.01112			
												Frequency of Calm Winds		0.01%			
												Average Wind Speed		4.58	m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-9. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category E (Slightly Stable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0018	0.0080	0.0157	0.0287	0.0354	0.0326	0.0224	0.0195	0.0053	0.0010	0.1703					
11.25 - 33.75	North-Northeast	0.0018	0.0061	0.0072	0.0106	0.0109	0.0090	0.0061	0.0042	0.0011	0.0003	0.0573					
33.75 - 56.25	Northeast	0.0029	0.0080	0.0054	0.0041	0.0022	0.0013	0.0006	0.0006	0.0000	0.0000	0.0252					
56.25 - 78.75	East-Northeast	0.0039	0.0075	0.0027	0.0016	0.0011	0.0003	0.0003	0.0001	0.0000	0.0000	0.0176					
78.75 - 101.25	East	0.0040	0.0040	0.0021	0.0016	0.0006	0.0005	0.0001	0.0001	0.0000	0.0000	0.0130					
101.25 - 123.75	East-Southeast	0.0028	0.0039	0.0019	0.0019	0.0007	0.0002	0.0000	0.0000	0.0000	0.0000	0.0114					
123.75 - 146.25	Southeast	0.0026	0.0040	0.0036	0.0031	0.0013	0.0001	0.0001	0.0000	0.0000	0.0000	0.0148					
146.25 - 168.75	South-Southeast	0.0022	0.0046	0.0049	0.0070	0.0048	0.0022	0.0021	0.0014	0.0002	0.0000	0.0295					
168.75 - 191.25	South	0.0018	0.0047	0.0095	0.0197	0.0243	0.0289	0.0188	0.0210	0.0077	0.0023	0.1387					
191.25 - 213.75	South-Southwest	0.0015	0.0065	0.0123	0.0315	0.0260	0.0109	0.0056	0.0032	0.0004	0.0000	0.0978					
213.75 - 236.25	Southwest	0.0012	0.0074	0.0135	0.0223	0.0102	0.0026	0.0005	0.0004	0.0001	0.0000	0.0583					
236.25 - 258.75	West-Southwest	0.0021	0.0082	0.0108	0.0151	0.0114	0.0032	0.0009	0.0004	0.0001	0.0000	0.0521					
258.75 - 281.25	West	0.0023	0.0110	0.0106	0.0072	0.0044	0.0016	0.0004	0.0003	0.0000	0.0000	0.0379					
281.25 - 303.75	West-Northwest	0.0022	0.0122	0.0153	0.0088	0.0024	0.0008	0.0006	0.0005	0.0002	0.0000	0.0430					
303.75 - 326.25	Northwest	0.0025	0.0150	0.0288	0.0247	0.0061	0.0037	0.0022	0.0024	0.0006	0.0003	0.0864					
326.25 - 348.75	North-Northwest	0.0021	0.0133	0.0235	0.0262	0.0173	0.0137	0.0133	0.0205	0.0107	0.0058	0.1465					
—	Total:	0.0376	0.1243	0.1676	0.2144	0.1593	0.1116	0.0740	0.0746	0.0267	0.0098	0.9924					
												Calms:	0.00017				
												Missing/Incomplete	0.00747				
												Frequency of Calm Winds	0.02%				
												Average Wind Speed	3.44	m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-10. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category E (Slightly Stable) (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0067	0.0101	0.0079	0.0132	0.0176	0.0244	0.0266	0.0411	0.0215	0.0113	0.1804					
11.25 - 33.75	North-Northeast	0.0080	0.0135	0.0106	0.0133	0.0109	0.0134	0.0111	0.0161	0.0066	0.0038	0.1073					
33.75 - 56.25	Northeast	0.0070	0.0111	0.0087	0.0058	0.0036	0.0027	0.0017	0.0016	0.0008	0.0003	0.0432					
56.25 - 78.75	East-Northeast	0.0048	0.0056	0.0039	0.0026	0.0013	0.0008	0.0006	0.0004	0.0002	0.0000	0.0202					
78.75 - 101.25	East	0.0043	0.0055	0.0032	0.0030	0.0012	0.0008	0.0005	0.0003	0.0000	0.0000	0.0186					
101.25 - 123.75	East-Southeast	0.0035	0.0053	0.0036	0.0034	0.0018	0.0011	0.0002	0.0001	0.0000	0.0000	0.0191					
123.75 - 146.25	Southeast	0.0037	0.0065	0.0057	0.0074	0.0038	0.0016	0.0005	0.0002	0.0000	0.0000	0.0293					
146.25 - 168.75	South-Southeast	0.0040	0.0085	0.0099	0.0120	0.0086	0.0060	0.0042	0.0055	0.0024	0.0006	0.0618					
168.75 - 191.25	South	0.0033	0.0095	0.0141	0.0250	0.0248	0.0284	0.0276	0.0488	0.0246	0.0156	0.2216					
191.25 - 213.75	South-Southwest	0.0038	0.0079	0.0084	0.0142	0.0134	0.0102	0.0066	0.0069	0.0028	0.0006	0.0749					
213.75 - 236.25	Southwest	0.0038	0.0049	0.0041	0.0084	0.0094	0.0063	0.0031	0.0014	0.0003	0.0002	0.0420					
236.25 - 258.75	West-Southwest	0.0025	0.0034	0.0025	0.0034	0.0058	0.0073	0.0034	0.0018	0.0002	0.0001	0.0303					
258.75 - 281.25	West	0.0039	0.0033	0.0015	0.0017	0.0019	0.0022	0.0010	0.0006	0.0002	0.0000	0.0161					
281.25 - 303.75	West-Northwest	0.0036	0.0028	0.0018	0.0017	0.0014	0.0013	0.0008	0.0007	0.0003	0.0002	0.0147					
303.75 - 326.25	Northwest	0.0037	0.0036	0.0020	0.0025	0.0024	0.0019	0.0025	0.0030	0.0017	0.0014	0.0247					
326.25 - 348.75	North-Northwest	0.0048	0.0050	0.0040	0.0046	0.0050	0.0072	0.0081	0.0151	0.0165	0.0253	0.0957					
—	Total:	0.0714	0.1062	0.0918	0.1222	0.1128	0.1156	0.0986	0.1434	0.0781	0.0596	0.9876					
												Calms:		0.00021			
												Missing/Incomplete		0.01215			
												Frequency of Calm Winds		0.02%			
												Average Wind Speed		4.60 m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-11. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category F (Moderately Stable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0017	0.0084	0.0159	0.0241	0.0183	0.0079	0.0021	0.0005	0.0000	0.0000	0.0790					
11.25 - 33.75	North-Northeast	0.0019	0.0043	0.0037	0.0046	0.0032	0.0015	0.0006	0.0001	0.0001	0.0000	0.0200					
33.75 - 56.25	Northeast	0.0023	0.0044	0.0013	0.0012	0.0005	0.0002	0.0002	0.0000	0.0000	0.0000	0.0101					
56.25 - 78.75	East-Northeast	0.0029	0.0017	0.0004	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0057					
78.75 - 101.25	East	0.0022	0.0009	0.0004	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037					
101.25 - 123.75	East-Southeast	0.0017	0.0009	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0028					
123.75 - 146.25	Southeast	0.0012	0.0011	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0029					
146.25 - 168.75	South-Southeast	0.0014	0.0012	0.0006	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037					
168.75 - 191.25	South	0.0008	0.0012	0.0016	0.0012	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0053					
191.25 - 213.75	South-Southwest	0.0008	0.0016	0.0036	0.0081	0.0050	0.0007	0.0001	0.0000	0.0000	0.0000	0.0199					
213.75 - 236.25	Southwest	0.0011	0.0036	0.0076	0.0107	0.0016	0.0001	0.0000	0.0000	0.0000	0.0000	0.0246					
236.25 - 258.75	West-Southwest	0.0007	0.0060	0.0112	0.0150	0.0027	0.0003	0.0000	0.0001	0.0000	0.0000	0.0360					
258.75 - 281.25	West	0.0009	0.0082	0.0167	0.0177	0.0052	0.0004	0.0000	0.0000	0.0000	0.0000	0.0492					
281.25 - 303.75	West-Northwest	0.0016	0.0142	0.0353	0.0382	0.0039	0.0005	0.0002	0.0001	0.0000	0.0000	0.0941					
303.75 - 326.25	Northwest	0.0023	0.0212	0.0794	0.1910	0.0897	0.0077	0.0004	0.0002	0.0000	0.0000	0.3919					
326.25 - 348.75	North-Northwest	0.0020	0.0186	0.0658	0.1213	0.0364	0.0058	0.0009	0.0001	0.0000	0.0000	0.2510					
—	Total:	0.0255	0.0975	0.2440	0.4342	0.1674	0.0251	0.0046	0.0013	0.0003	0.0000	0.9965					
												Calms:		0			
												Missing/Incomplete		0.00355			
												Frequency of Calm Winds		0.00%			
												Average Wind Speed		2.48 m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-12. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category F (Moderately Stable) (1994 to 2006) at Site 1 at 60 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0324	0.0732	0.0466	0.0372	0.0280	0.0245	0.0150	0.0068	0.0004	0.0001	0.2643					
11.25 - 33.75	North-Northeast	0.0160	0.0426	0.0430	0.0275	0.0131	0.0107	0.0063	0.0054	0.0008	0.0001	0.1655					
33.75 - 56.25	Northeast	0.0070	0.0152	0.0117	0.0066	0.0022	0.0008	0.0010	0.0011	0.0001	0.0000	0.0456					
56.25 - 78.75	East-Northeast	0.0044	0.0064	0.0036	0.0014	0.0004	0.0003	0.0001	0.0000	0.0000	0.0000	0.0166					
78.75 - 101.25	East	0.0026	0.0043	0.0025	0.0010	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0107					
101.25 - 123.75	East-Southeast	0.0022	0.0037	0.0026	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0094					
123.75 - 146.25	Southeast	0.0026	0.0042	0.0028	0.0015	0.0003	0.0001	0.0000	0.0000	0.0000	0.0000	0.0116					
146.25 - 168.75	South-Southeast	0.0038	0.0060	0.0044	0.0032	0.0012	0.0004	0.0002	0.0001	0.0000	0.0000	0.0194					
168.75 - 191.25	South	0.0051	0.0095	0.0102	0.0128	0.0077	0.0040	0.0035	0.0019	0.0001	0.0000	0.0547					
191.25 - 213.75	South-Southwest	0.0060	0.0112	0.0114	0.0161	0.0080	0.0030	0.0018	0.0008	0.0001	0.0000	0.0584					
213.75 - 236.25	Southwest	0.0084	0.0134	0.0097	0.0096	0.0038	0.0008	0.0001	0.0001	0.0000	0.0000	0.0458					
236.25 - 258.75	West-Southwest	0.0087	0.0119	0.0074	0.0054	0.0031	0.0015	0.0003	0.0000	0.0001	0.0000	0.0384					
258.75 - 281.25	West	0.0122	0.0129	0.0065	0.0039	0.0022	0.0012	0.0005	0.0002	0.0000	0.0000	0.0398					
281.25 - 303.75	West-Northwest	0.0128	0.0164	0.0073	0.0042	0.0013	0.0007	0.0000	0.0004	0.0001	0.0000	0.0432					
303.75 - 326.25	Northwest	0.0194	0.0232	0.0106	0.0053	0.0017	0.0008	0.0007	0.0003	0.0000	0.0001	0.0621					
326.25 - 348.75	North-Northwest	0.0269	0.0440	0.0192	0.0101	0.0050	0.0040	0.0020	0.0019	0.0002	0.0001	0.1135					
—	Total:	0.1706	0.2982	0.1996	0.1464	0.0782	0.0527	0.0316	0.0191	0.0021	0.0006	0.9884					
												Calms:	0.00084				
												Missing/Incomplete	0.01077				
												Frequency of Calm Winds	0.09%				
												Average Wind Speed	2.13	m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-13. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category G (Extremely Stable) (1994 to 2006) at Site 1 at 10 m AGL

Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0016	0.0122	0.0151	0.0059	0.0014	0.0003	0.0001	0.0000	0.0001	0.0000	0.0366					
11.25 - 33.75	North-Northeast	0.0011	0.0030	0.0022	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0069					
33.75 - 56.25	Northeast	0.0011	0.0026	0.0007	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0046					
56.25 - 78.75	East-Northeast	0.0012	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0019					
78.75 - 101.25	East	0.0005	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0009					
101.25 - 123.75	East-Southeast	0.0007	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0009					
123.75 - 146.25	Southeast	0.0007	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008					
146.25 - 168.75	South-Southeast	0.0008	0.0003	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0011					
168.75 - 191.25	South	0.0005	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010					
191.25 - 213.75	South-Southwest	0.0007	0.0009	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0024					
213.75 - 236.25	Southwest	0.0014	0.0013	0.0013	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0042					
236.25 - 258.75	West-Southwest	0.0008	0.0020	0.0020	0.0018	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0068					
258.75 - 281.25	West	0.0013	0.0040	0.0056	0.0069	0.0023	0.0001	0.0000	0.0000	0.0000	0.0000	0.0202					
281.25 - 303.75	West-Northwest	0.0016	0.0105	0.0130	0.0155	0.0034	0.0003	0.0001	0.0001	0.0001	0.0000	0.0445					
303.75 - 326.25	Northwest	0.0023	0.0248	0.0783	0.1721	0.1353	0.0203	0.0014	0.0001	0.0000	0.0000	0.4347					
326.25 - 348.75	North-Northwest	0.0019	0.0296	0.1230	0.2165	0.0568	0.0041	0.0002	0.0001	0.0000	0.0000	0.4323					
—	Total:	0.0184	0.0925	0.2423	0.4199	0.1994	0.0253	0.0018	0.0003	0.0001	0.0000	0.9965					
												Calms:			0		
												Missing/Incomplete			0.00350		
												Frequency of Calm Winds			0.00%		
												Average Wind Speed			2.53 m/sec		

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

Table D-14. Joint Frequency Distribution of Wind Speed and Direction (Decimal Fractions) for Stability Category G (Extremely Stable) (1994 to 2006) at Site 1 at 60 m AGL

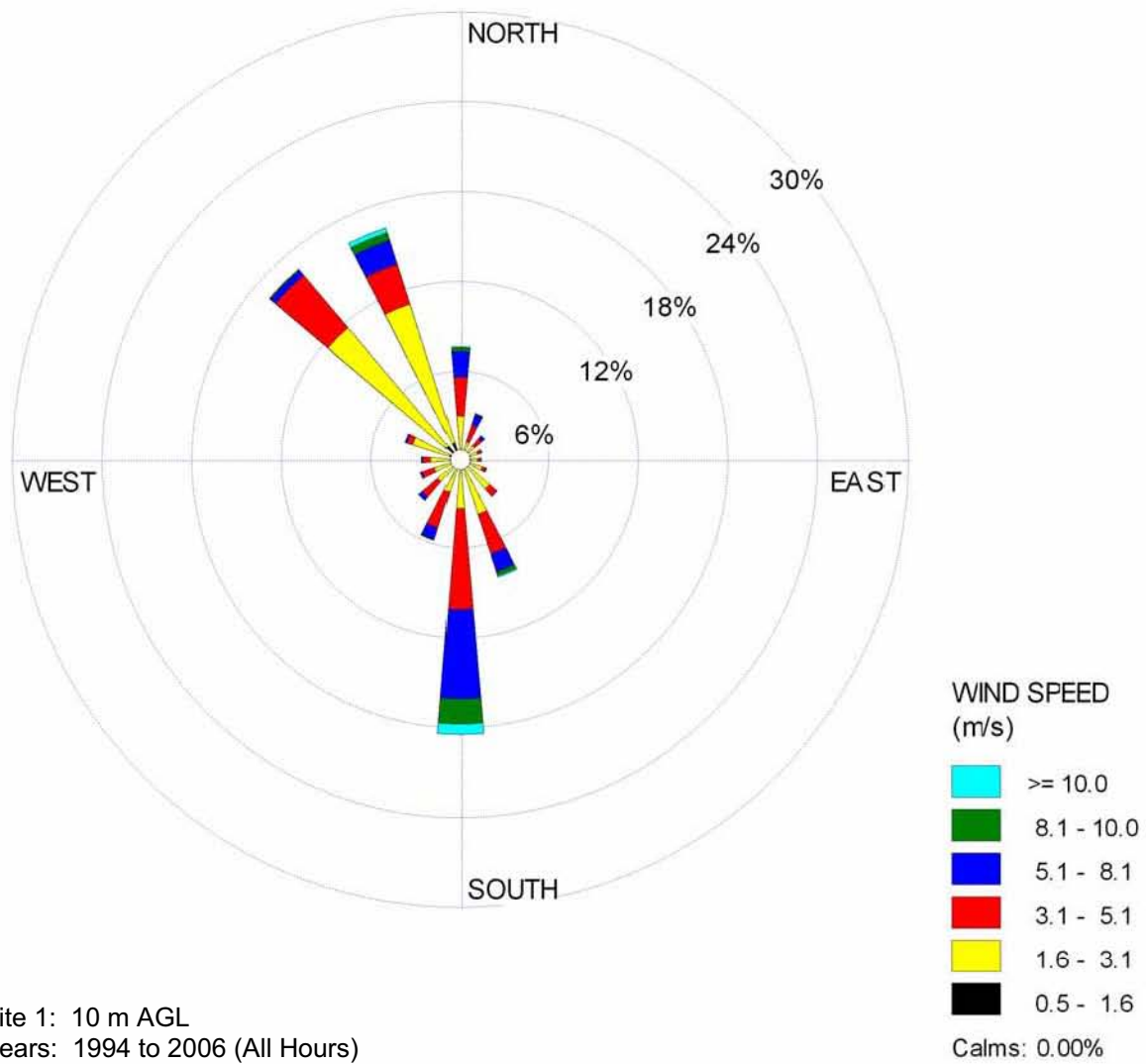
Wind Direction		Wind Speed Category (meters per second)															
Degrees Azimuth	Name	0.5 - 1.1	1.1 - 1.6	1.6 - 2.1	2.1 - 3.1	3.1 - 4.1	4.1 - 5.1	5.1 - 6.1	6.1 - 8.1	8.1 - 10.0	>= 10.0	Total					
348.75 - 11.25	North	0.0302	0.1331	0.0935	0.0352	0.0091	0.0044	0.0008	0.0001	0.0001	0.0000	0.3066					
11.25 - 33.75	North-Northeast	0.0087	0.0237	0.0273	0.0233	0.0026	0.0018	0.0005	0.0003	0.0001	0.0001	0.0884					
33.75 - 56.25	Northeast	0.0019	0.0026	0.0031	0.0020	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0098					
56.25 - 78.75	East-Northeast	0.0005	0.0006	0.0004	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018					
78.75 - 101.25	East	0.0005	0.0001	0.0003	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012					
101.25 - 123.75	East-Southeast	0.0006	0.0003	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012					
123.75 - 146.25	Southeast	0.0003	0.0005	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010					
146.25 - 168.75	South-Southeast	0.0009	0.0007	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0023					
168.75 - 191.25	South	0.0010	0.0013	0.0011	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0041					
191.25 - 213.75	South-Southwest	0.0019	0.0038	0.0037	0.0039	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000	0.0138					
213.75 - 236.25	Southwest	0.0033	0.0044	0.0050	0.0057	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0192					
236.25 - 258.75	West-Southwest	0.0050	0.0055	0.0038	0.0047	0.0013	0.0007	0.0001	0.0000	0.0000	0.0000	0.0210					
258.75 - 281.25	West	0.0083	0.0096	0.0042	0.0031	0.0015	0.0005	0.0002	0.0000	0.0000	0.0000	0.0273					
281.25 - 303.75	West-Northwest	0.0158	0.0189	0.0057	0.0026	0.0005	0.0004	0.0000	0.0001	0.0000	0.0001	0.0442					
303.75 - 326.25	Northwest	0.0244	0.0564	0.0275	0.0066	0.0008	0.0001	0.0001	0.0001	0.0000	0.0000	0.1161					
326.25 - 348.75	North-Northwest	0.0285	0.1459	0.1254	0.0379	0.0035	0.0004	0.0003	0.0000	0.0001	0.0000	0.3419					
—	Total:	0.1319	0.4072	0.3019	0.1263	0.0207	0.0086	0.0021	0.0006	0.0002	0.0001	0.9868					
												Calms:		0.00027			
												Missing/Incomplete		0.01293			
												Frequency of Calm Winds		0.03%			
												Average Wind Speed		1.64 m/sec			

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

NOTE: Wind speeds are equal to the lower limit and are less than the upper limit.

APPENDIX E
WIND ROSES FOR ALL HOURS AT SITES 1, 2, 4, AND 9 (1994 to 2006) AND AT
SITES 3, 5, AND 7 (1994 to 1998)

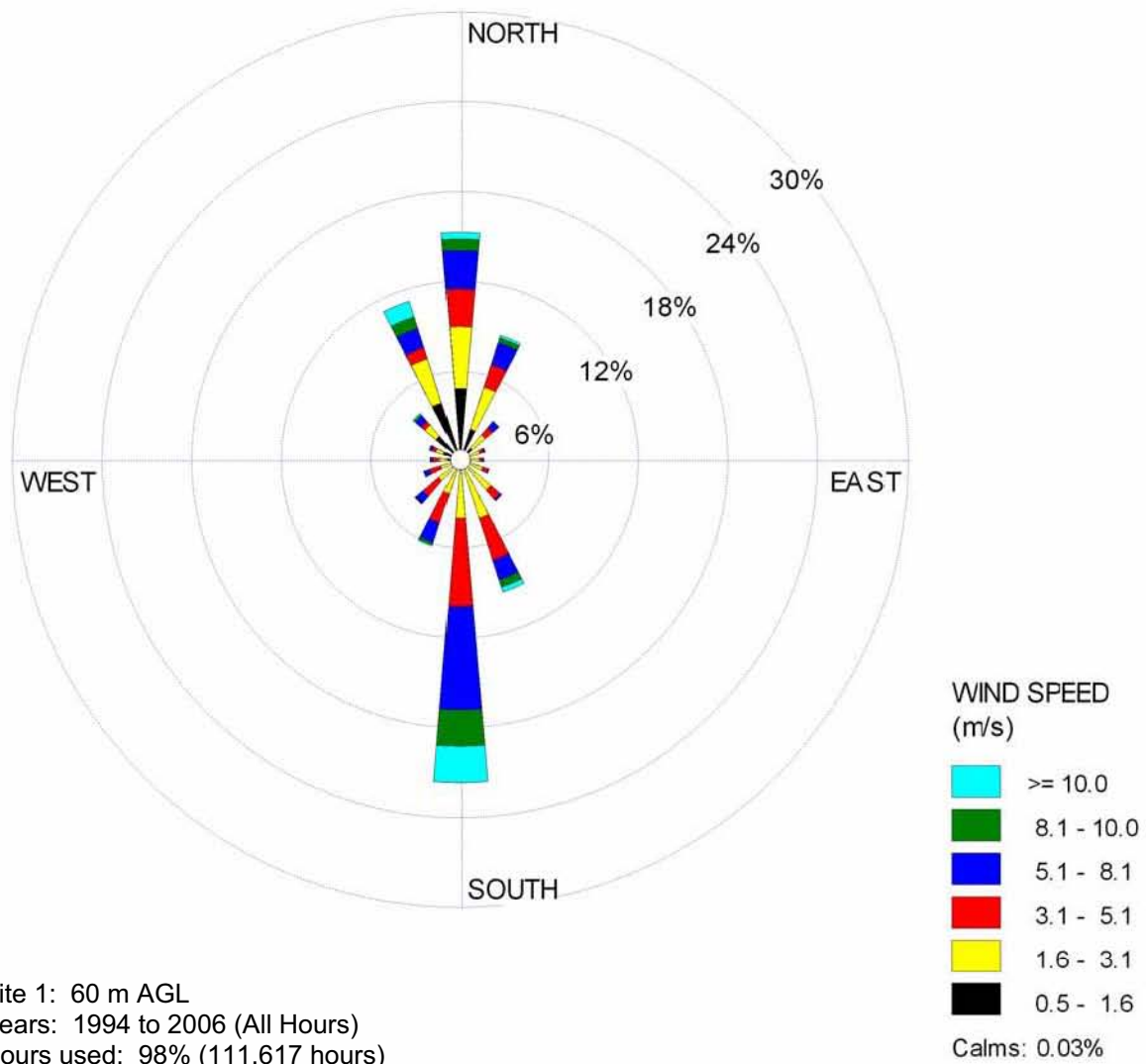
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Site 1: 10 m AGL
 Years: 1994 to 2006 (All Hours)
 Hours used: 98.8% (112,611 hours) Display:
 Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

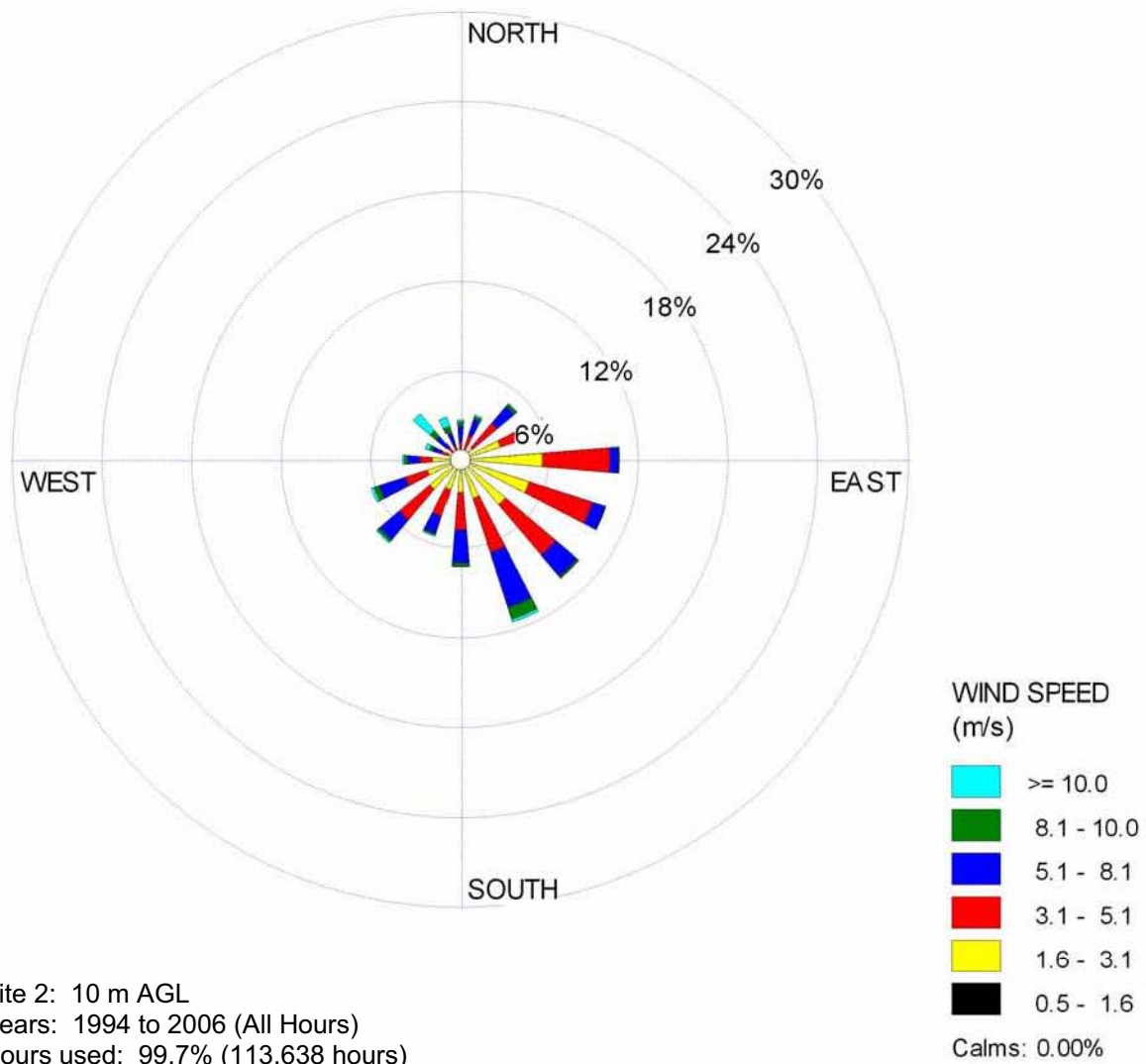
Figure E-1. Wind Rose for Site 1 at 10 m AGL for All Hours (1994 to 2006)



Site 1: 60 m AGL
 Years: 1994 to 2006 (All Hours)
 Hours used: 98% (111,617 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

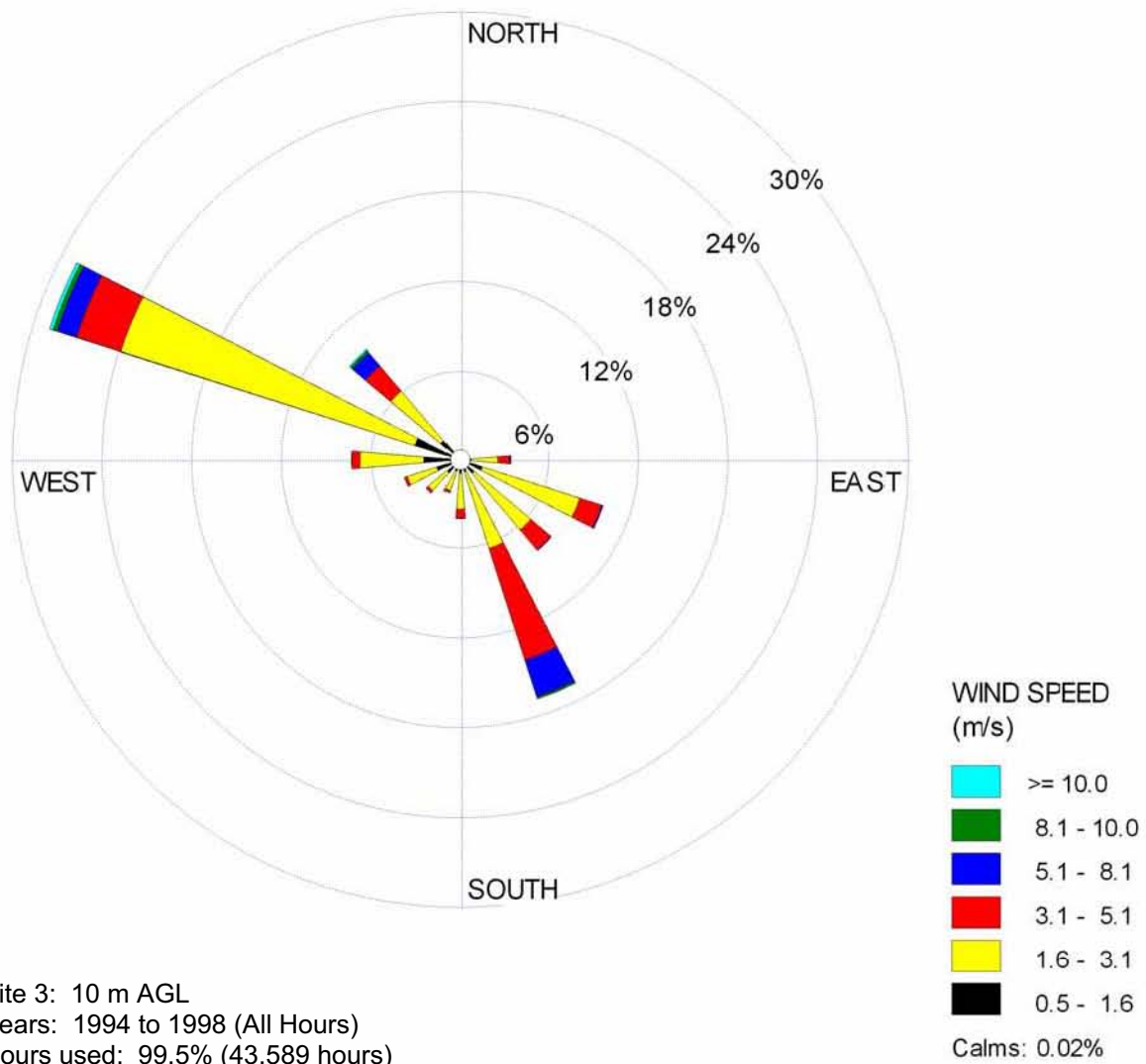
Figure E-2. Wind Rose for Site 1 at 60 m AGL for All Hours (1994 to 2006)



Site 2: 10 m AGL
 Years: 1994 to 2006 (All Hours)
 Hours used: 99.7% (113,638 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

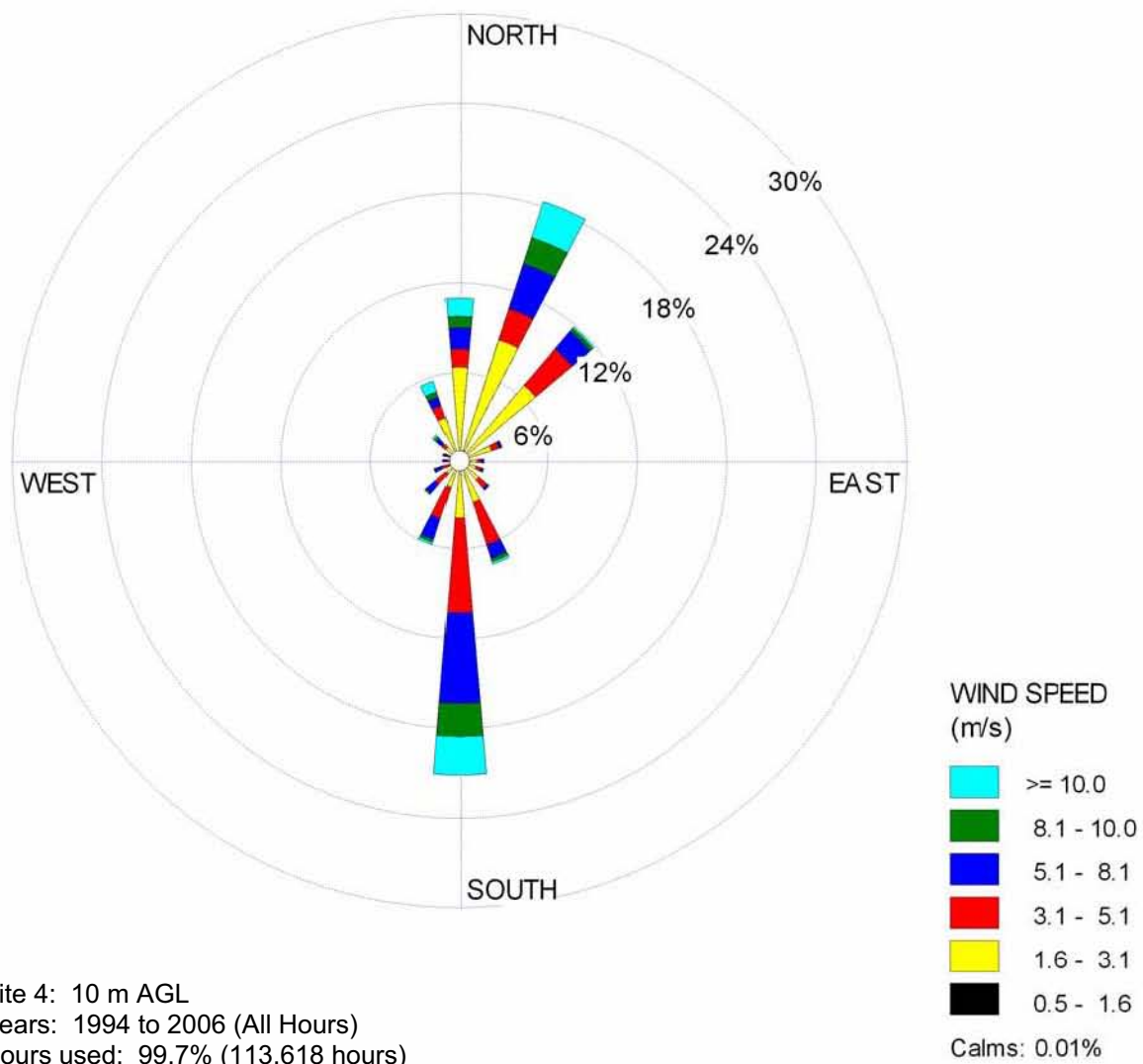
Figure E-3. Wind Rose for Site 2 at 10 m AGL for All Hours (1994 to 2006)



Site 3: 10 m AGL
 Years: 1994 to 1998 (All Hours)
 Hours used: 99.5% (43,589 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

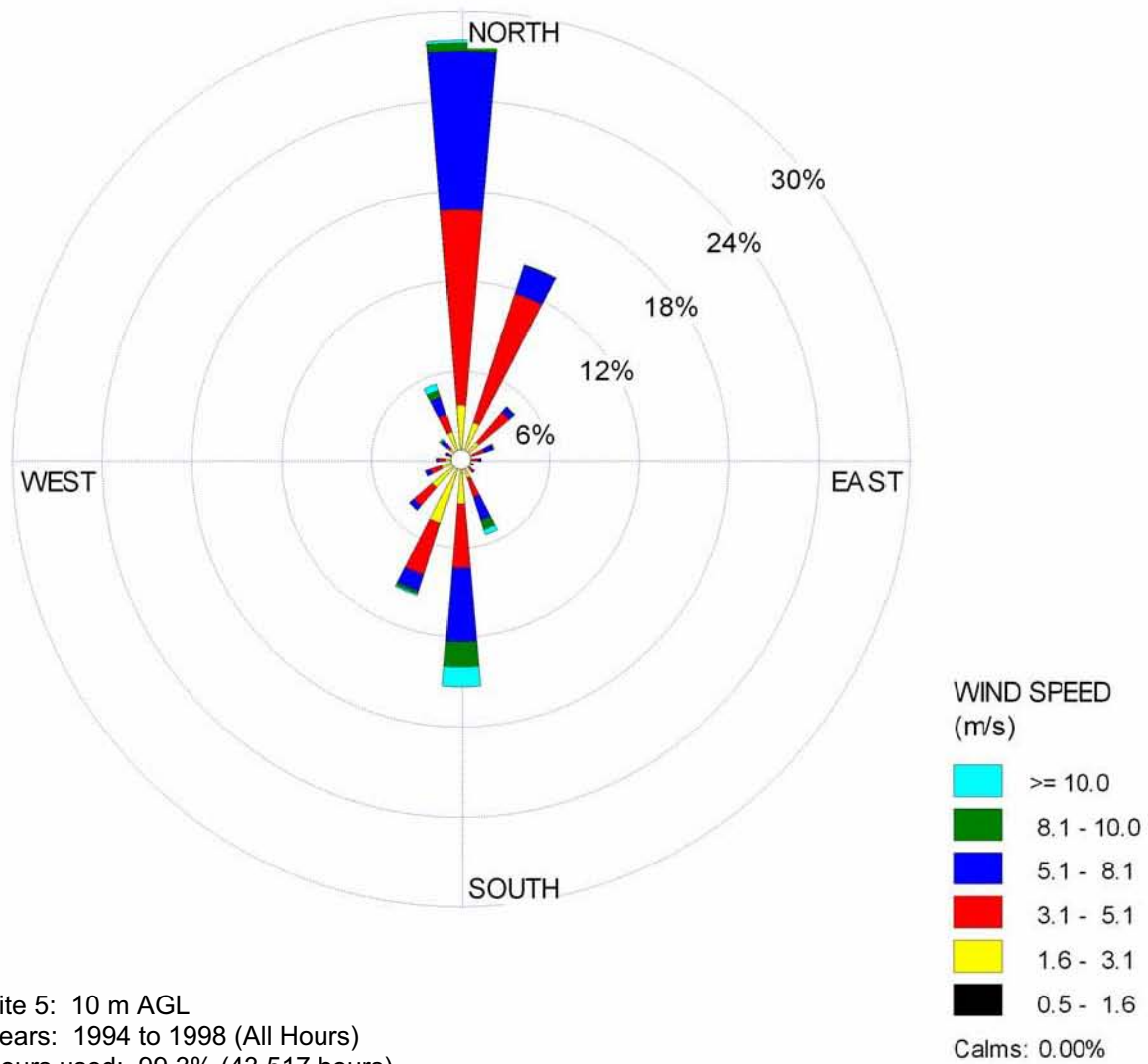
Figure E-4. Wind Rose for Site 3 at 10 m AGL for All Hours (1994 to 1998)



Site 4: 10 m AGL
 Years: 1994 to 2006 (All Hours)
 Hours used: 99.7% (113,618 hours)
 Display: Wind Direction (blowing from)

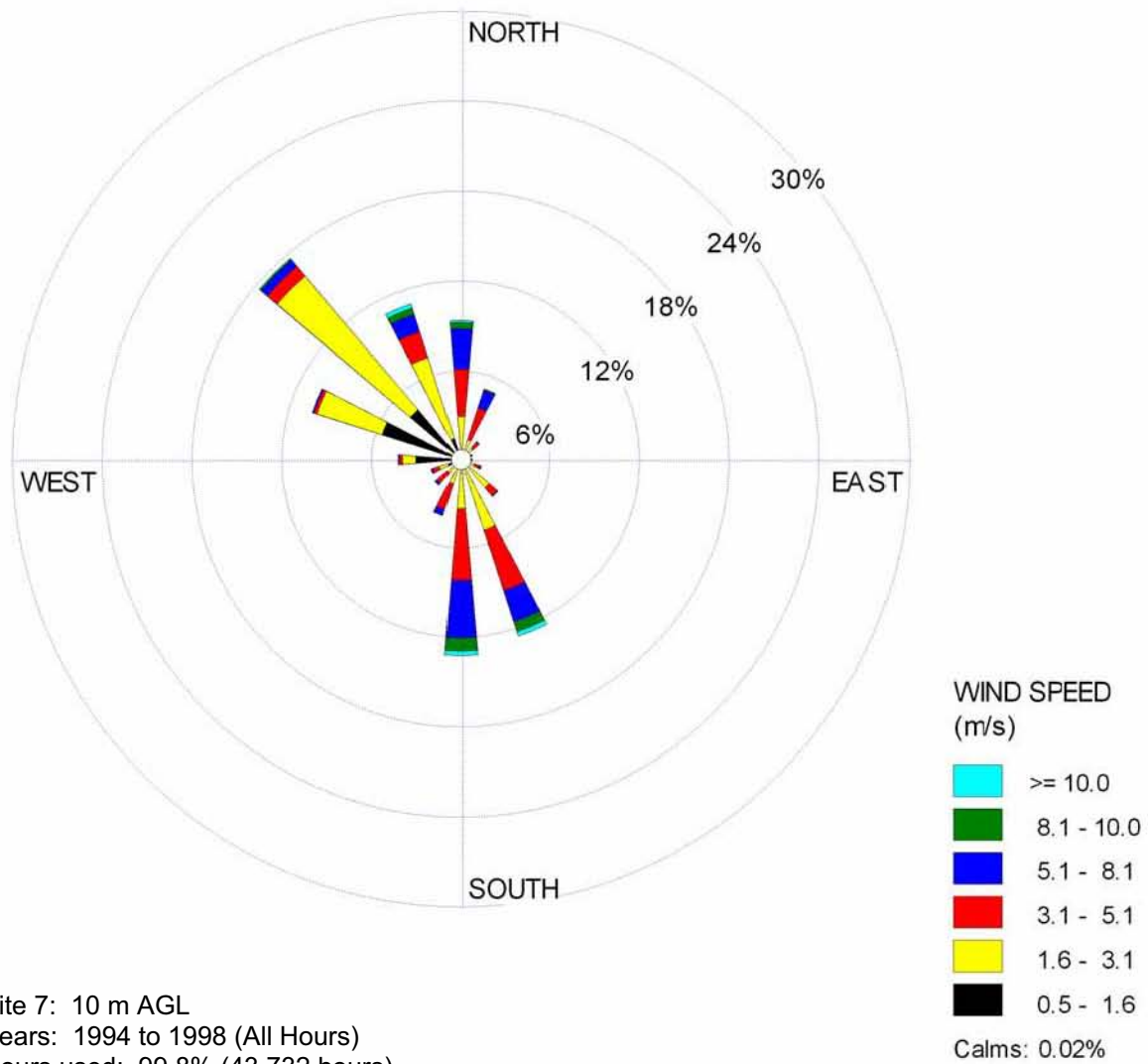
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure E-5. Wind Rose for Site 4 at 10 m AGL for All Hours (1994 to 2006)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

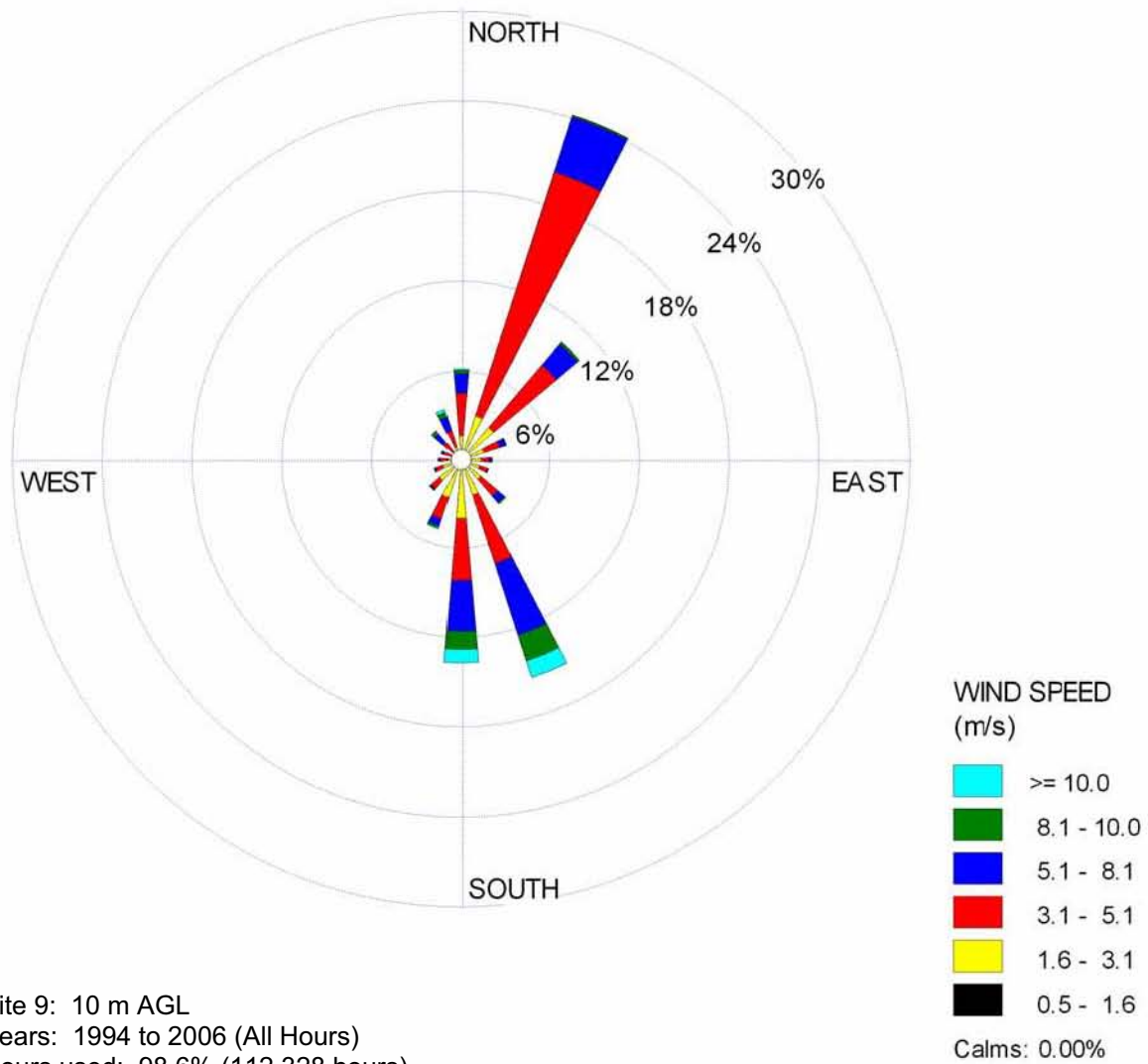
Figure E-6. Wind Rose for Site 5 at 10 m AGL for All Hours (1994 to 1998)



Site 7: 10 m AGL
 Years: 1994 to 1998 (All Hours)
 Hours used: 99.8% (43,732 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure E-7. Wind Rose for Site 7 at 10 m AGL for All Hours (1994 to 1998)

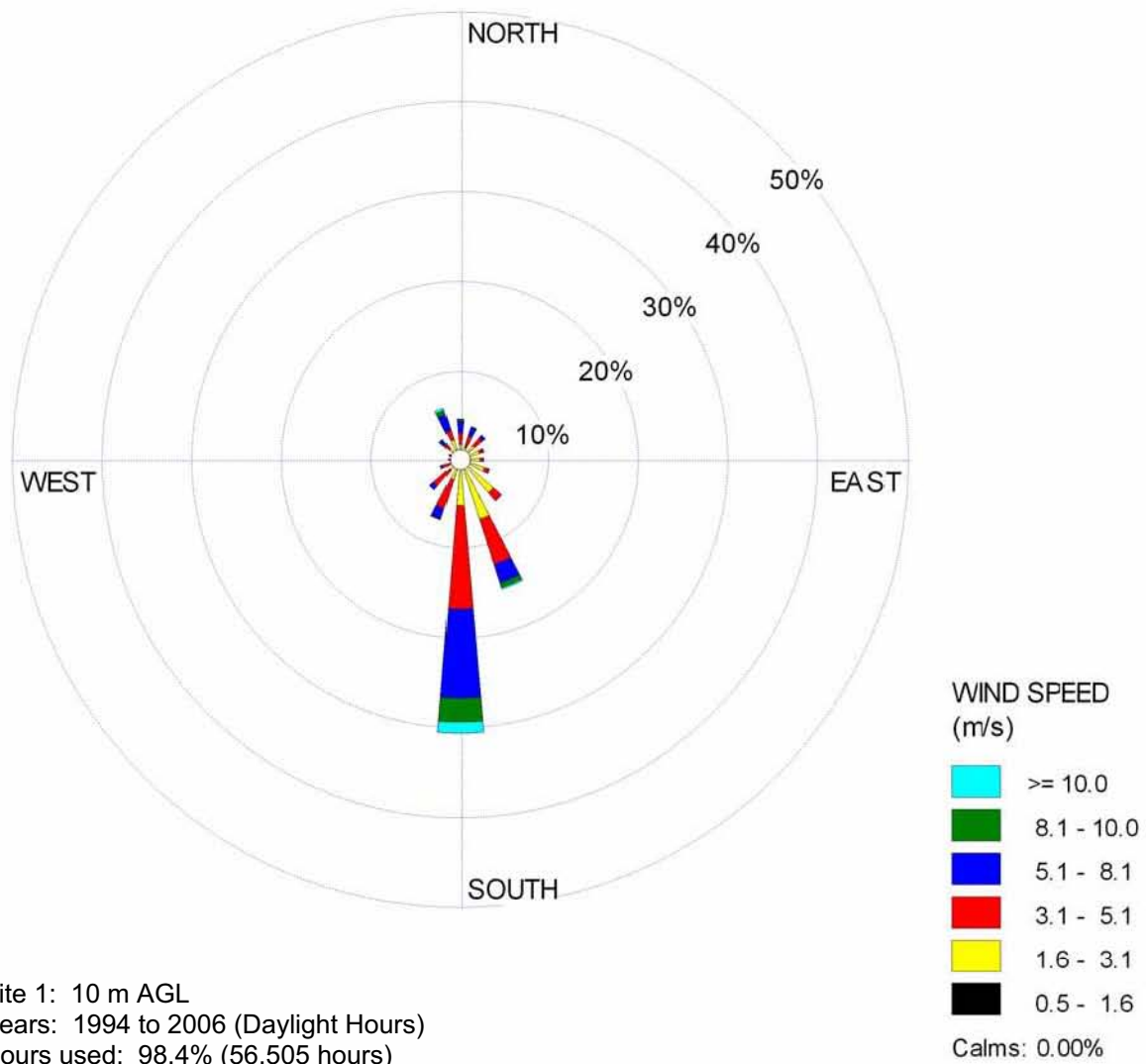


Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure E-8. Wind Rose for Site 9 at 10 m AGL for All Hours (1994 to 2006)

APPENDIX F
WIND ROSES FOR DAYLIGHT AND NIGHT HOURS
AT SITES 1, 2, 4, AND 9 (1994 to 2006) AND AT SITES 3, 5, AND 7 (1994 to 1998)

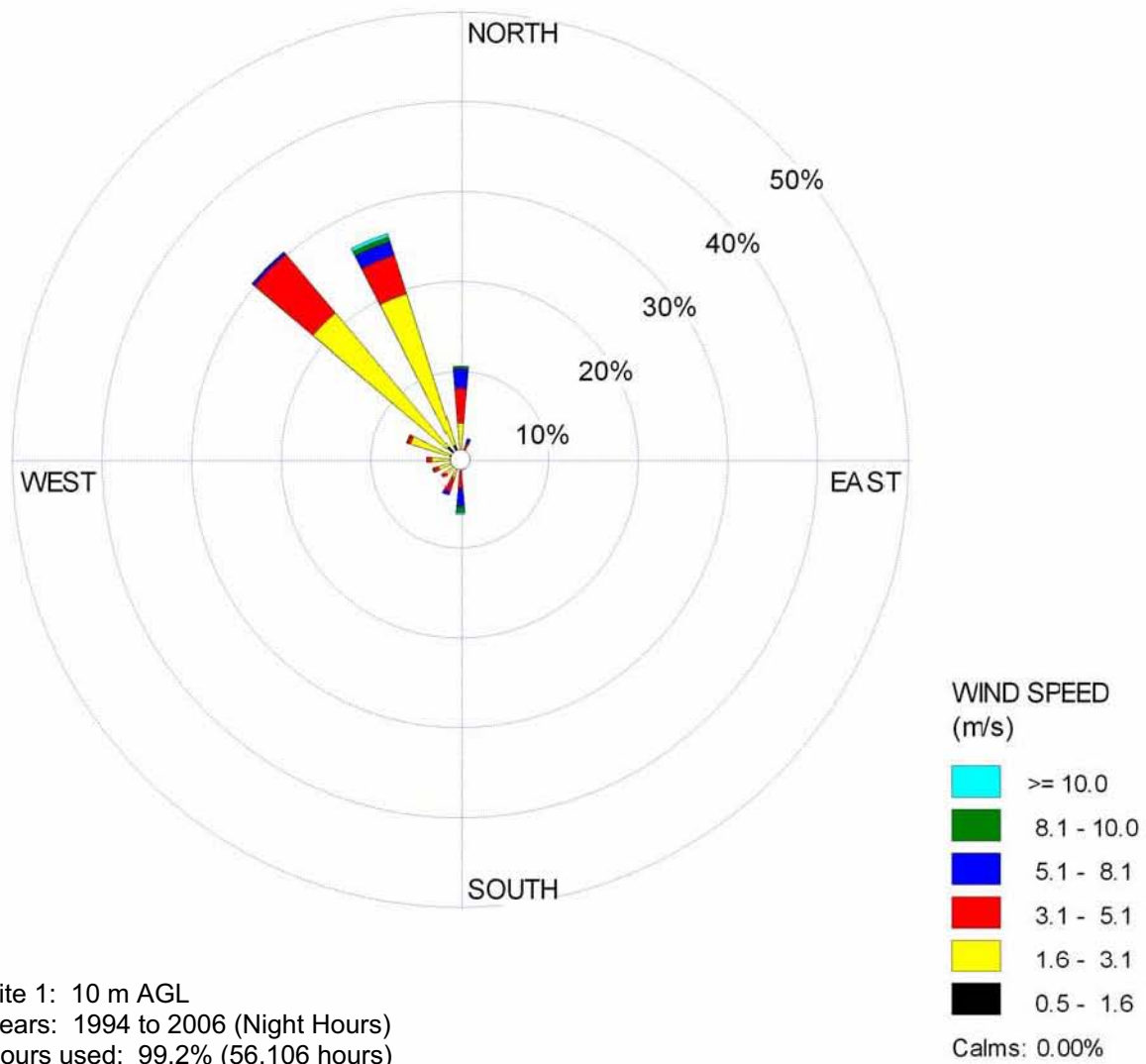
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Site 1: 10 m AGL
 Years: 1994 to 2006 (Daylight Hours)
 Hours used: 98.4% (56,505 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

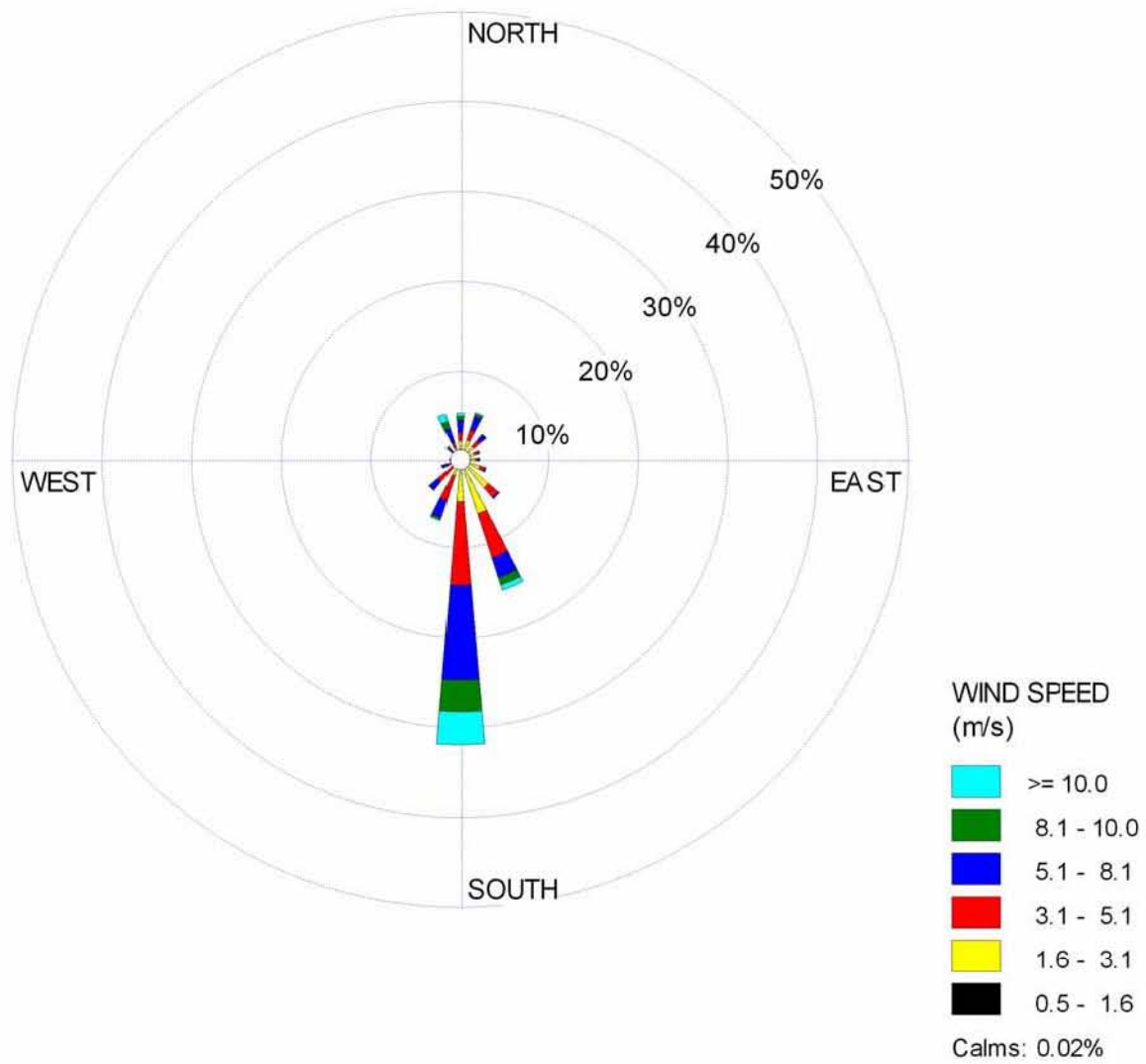
Figure F-1. Wind Rose for Site 1 at 10 m AGL for Daylight Hours (1994 to 2006)



Site 1: 10 m AGL
 Years: 1994 to 2006 (Night Hours)
 Hours used: 99.2% (56,106 hours)
 Display: Wind Direction (blowing from)

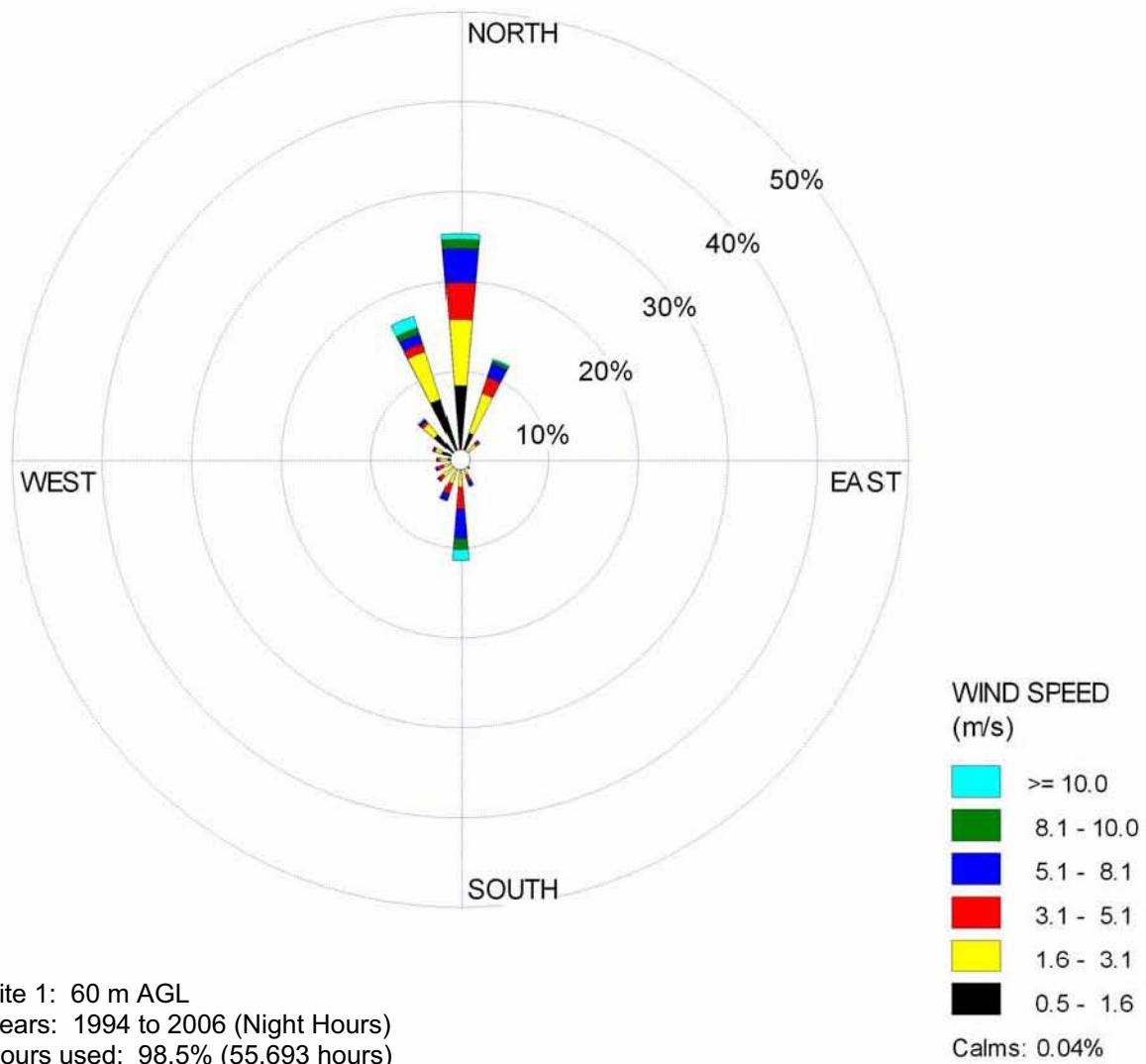
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-2. Wind Rose for Site 1 at 10 m AGL for Night Hours (1994 to 2006)



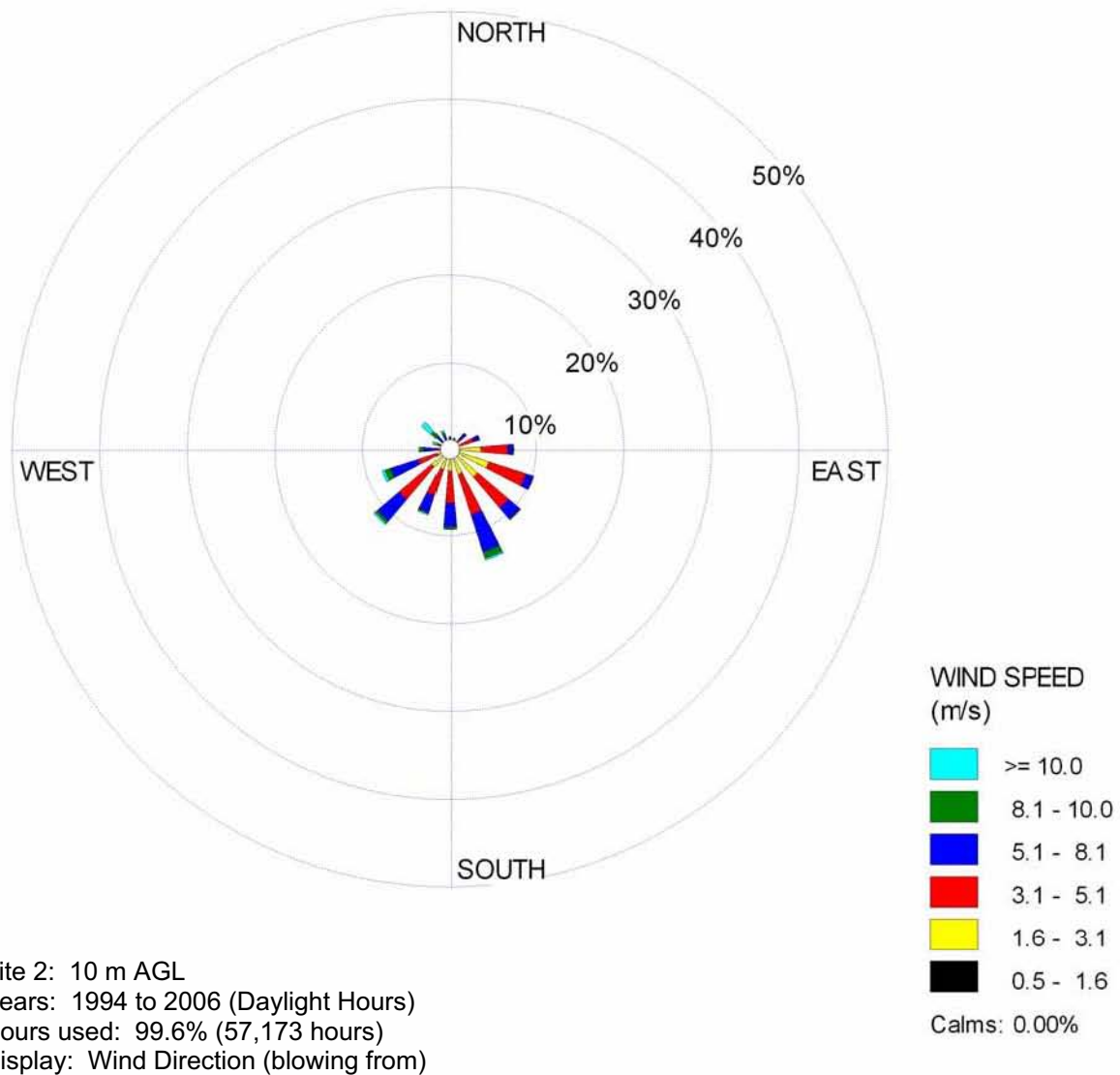
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-3. Wind Rose for Site 1 at 60 m AGL for Daylight Hours (1994 to 2006)



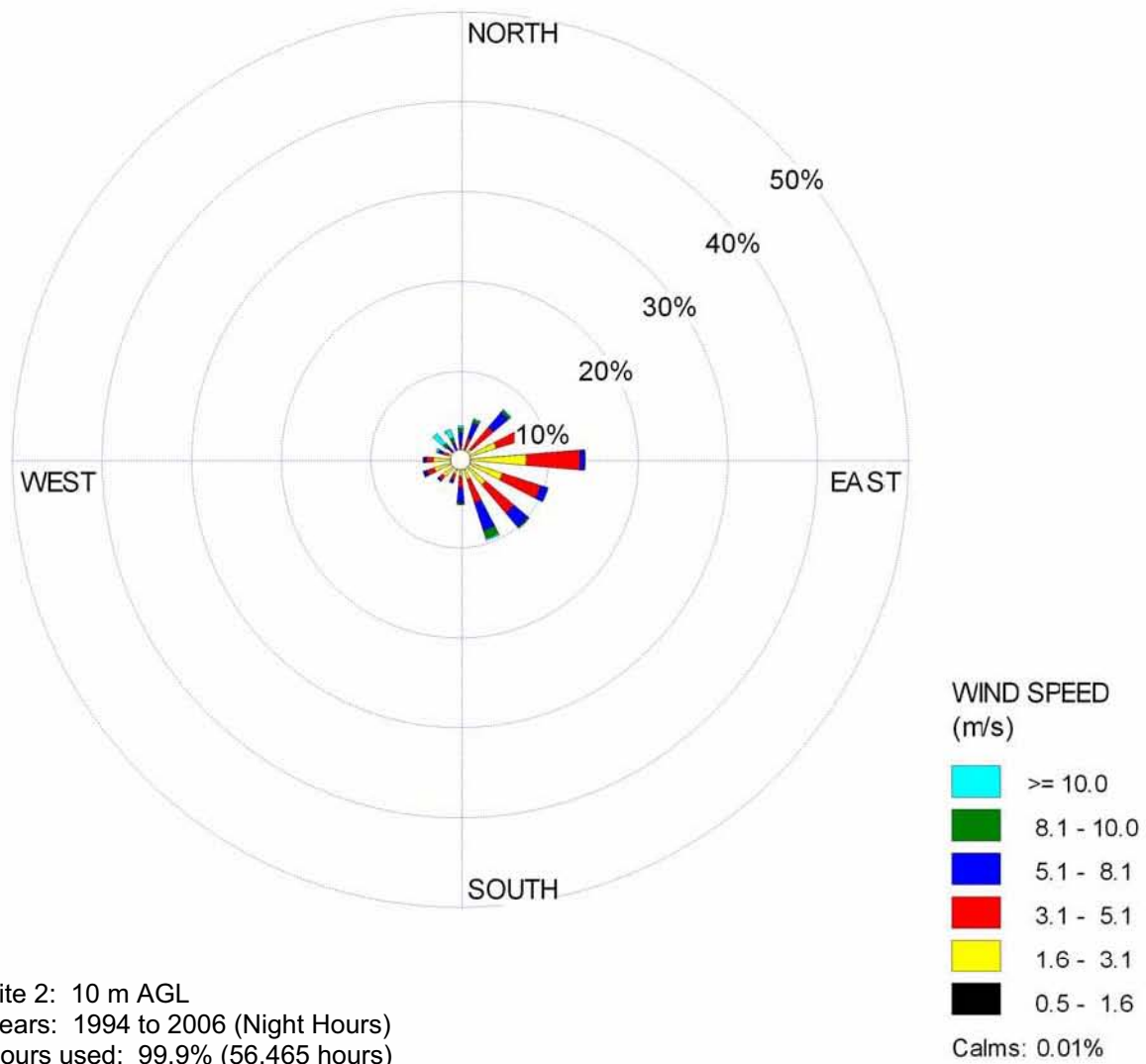
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-4. Wind Rose for Site 1 at 60 m AGL for Night Hours (1994 to 2006)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

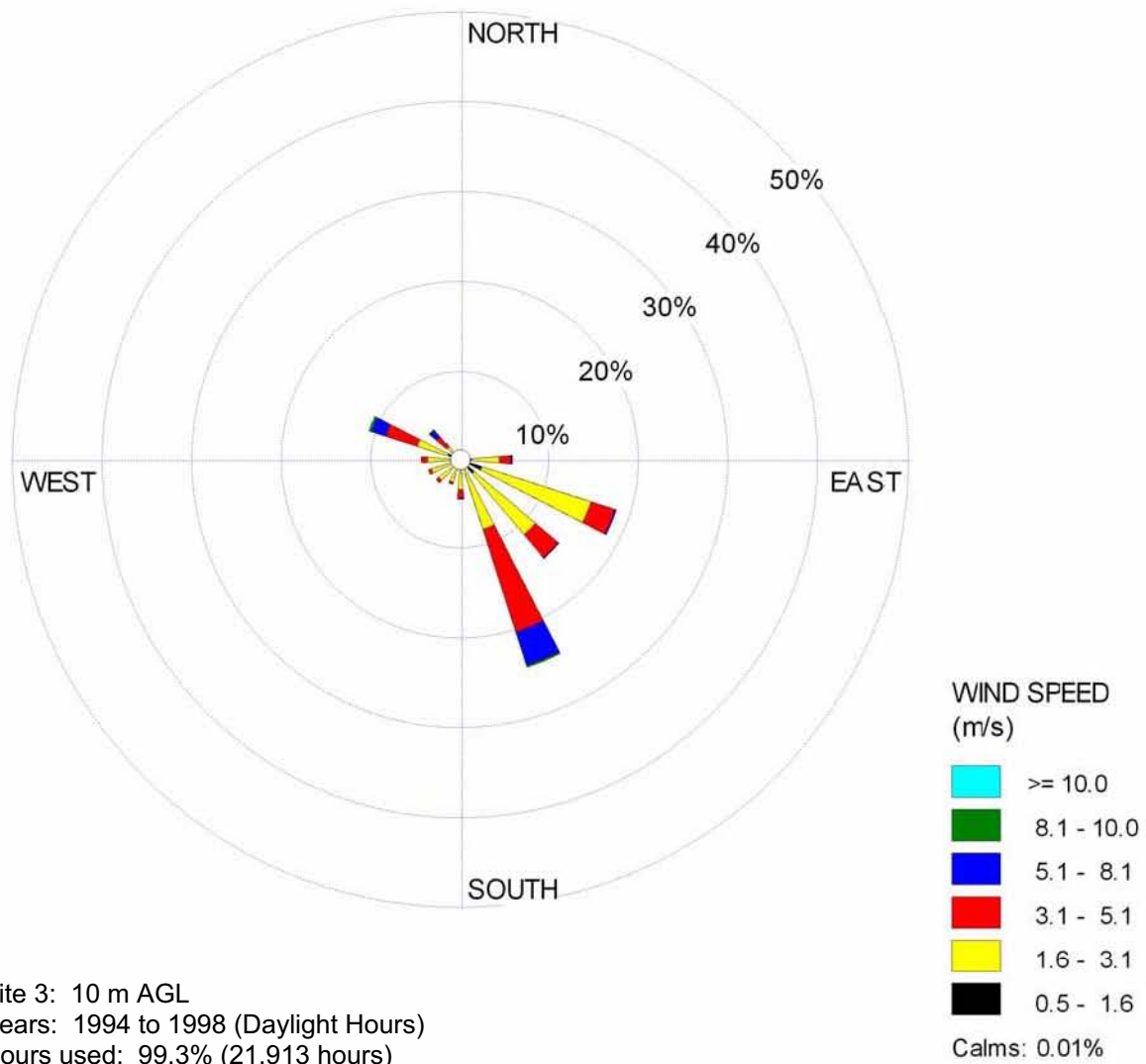
Figure F-5. Wind Rose for Site 2 at 10 m AGL for Daylight Hours (1994 to 2006)



Site 2: 10 m AGL
 Years: 1994 to 2006 (Night Hours)
 Hours used: 99.9% (56,465 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

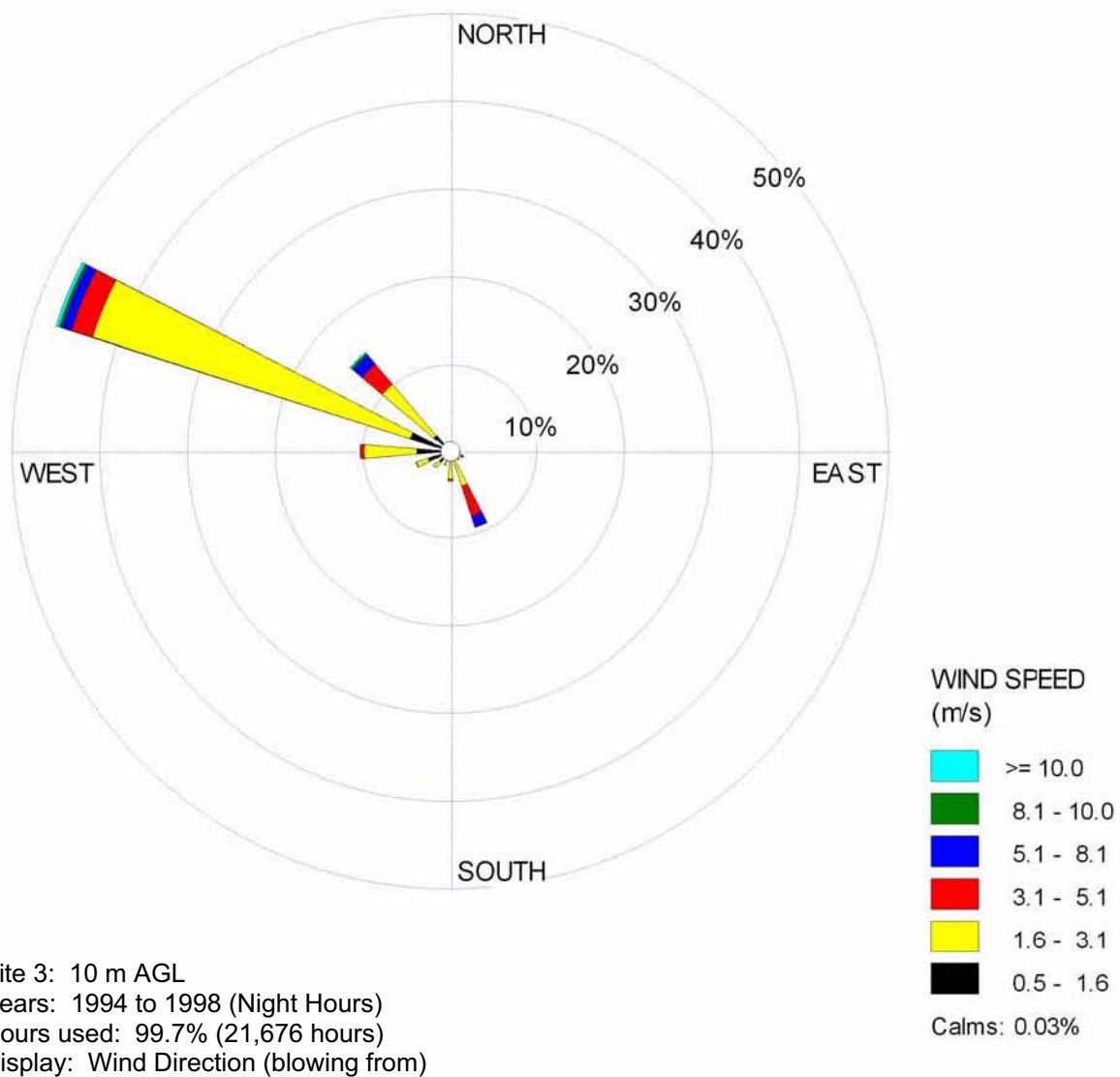
Figure F-6. Wind Rose for Site 2 at 10 m AGL for Night Hours (1994 to 2006)



Site 3: 10 m AGL
 Years: 1994 to 1998 (Daylight Hours)
 Hours used: 99.3% (21,913 hours)
 Display: Wind Direction (blowing from)

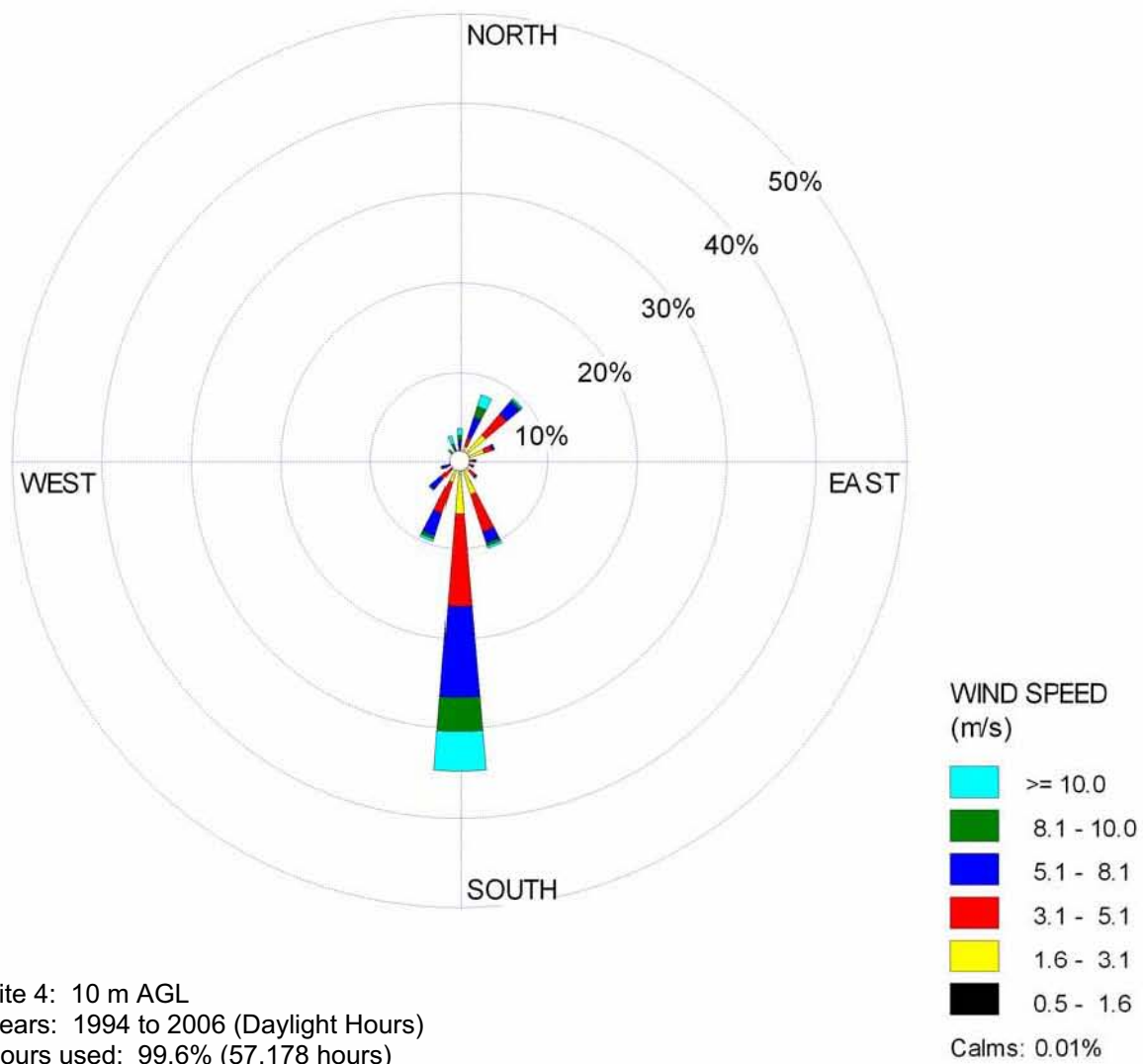
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-7. Wind Rose for Site 3 at 10 m AGL for Daylight Hours (1994 to 1998)



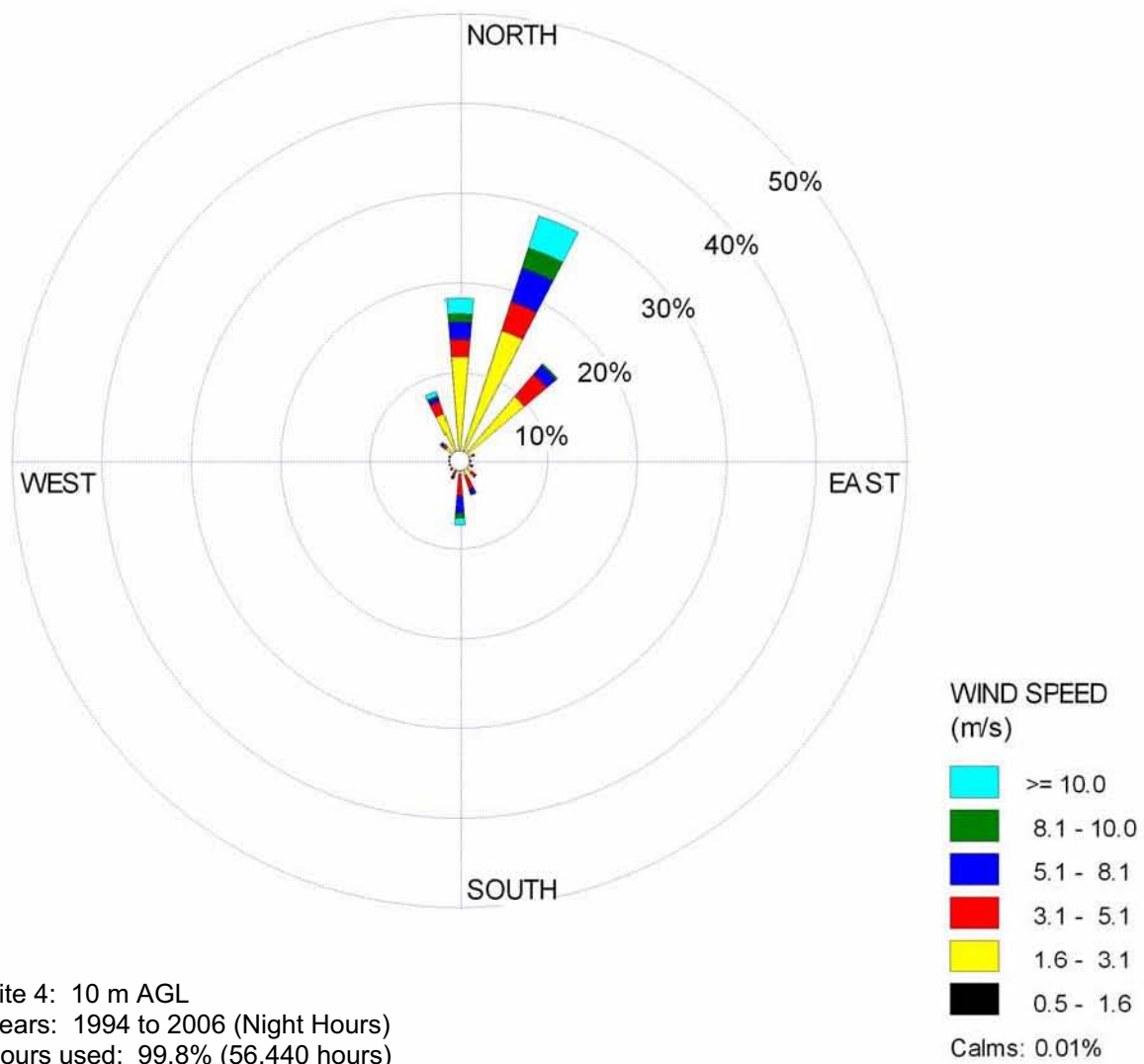
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-8. Wind Rose for Site 3 at 10 m AGL for Night Hours (1994 to 1998)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

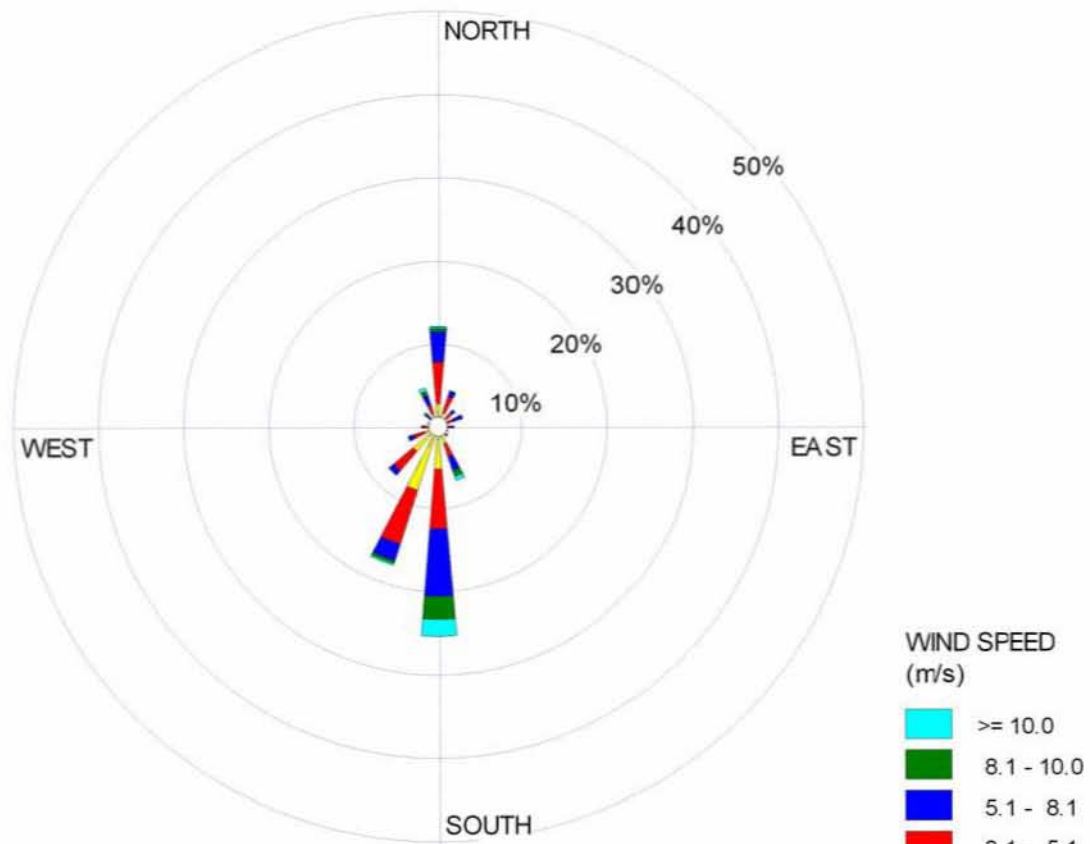
Figure F-9. Wind Rose for Site 4 at 10 m AGL for Daylight Hours (1994 to 2006)



Site 4: 10 m AGL
 Years: 1994 to 2006 (Night Hours)
 Hours used: 99.8% (56,440 hours)
 Display: Wind Direction (blowing from)

Source DTN: MO0708MD9406JF.000 [DIRS 182587].

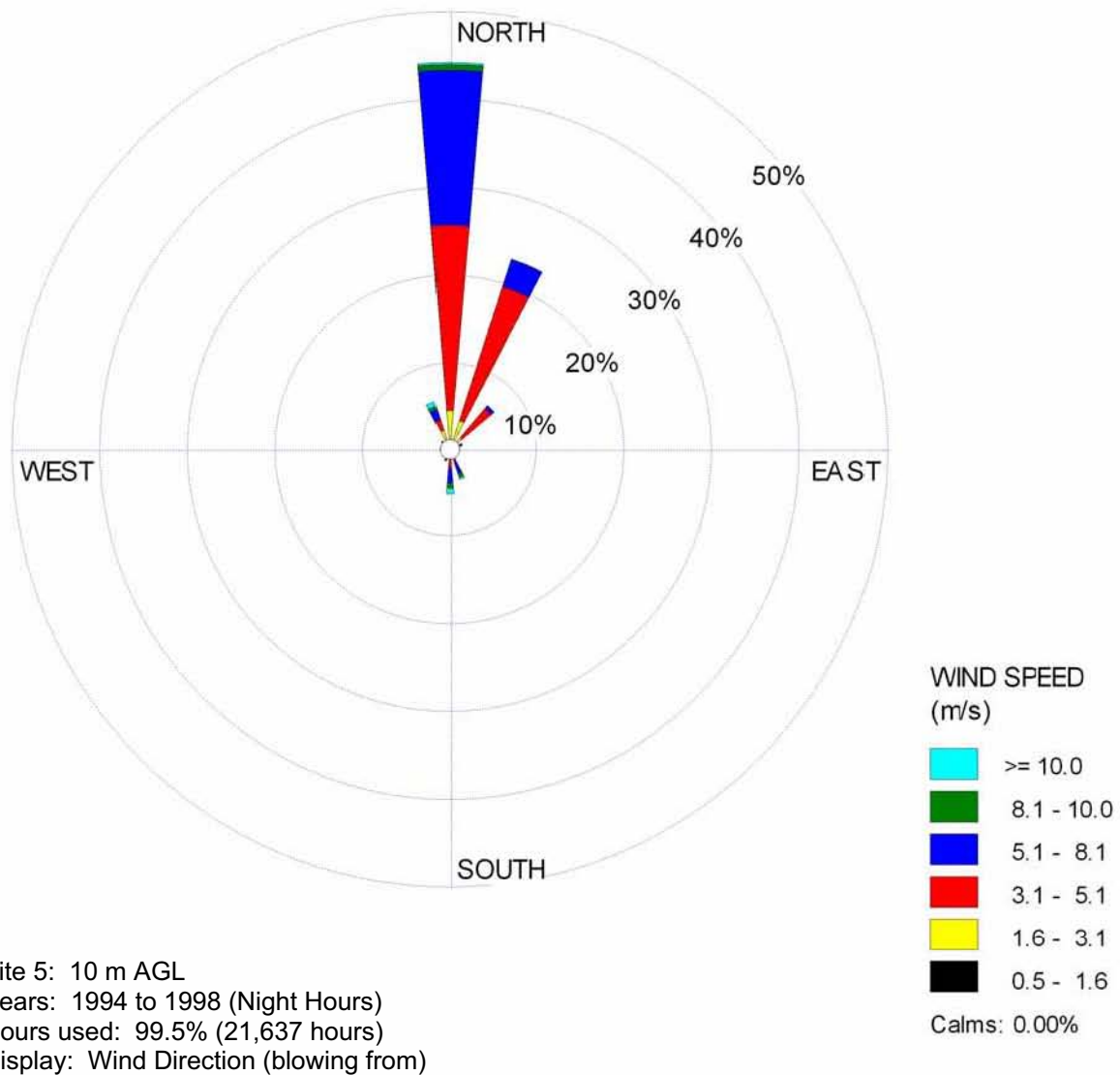
Figure F-10. Wind Rose for Site 4 at 10 m AGL for Night Hours (1994 to 2006)



Site 5: 10 m AGL
 Years: 1994 to 1998 (Daylight Hours)
 Hours used: 99.1% (21,880 hours)
 Display: Wind Direction (blowing from)

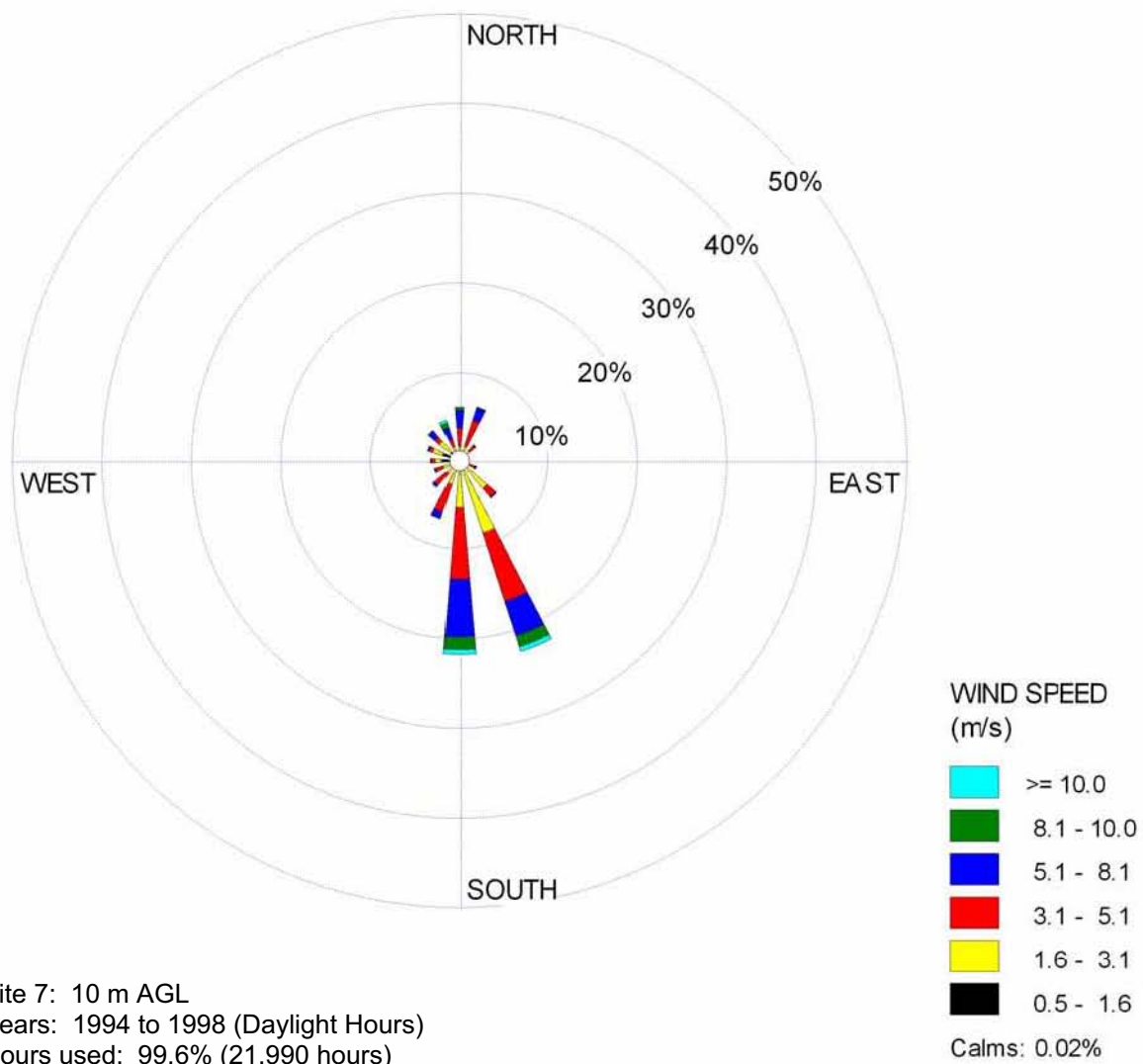
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-11. Wind Rose for Site 5 at 10 m AGL for Daylight Hours (1994 to 1998)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

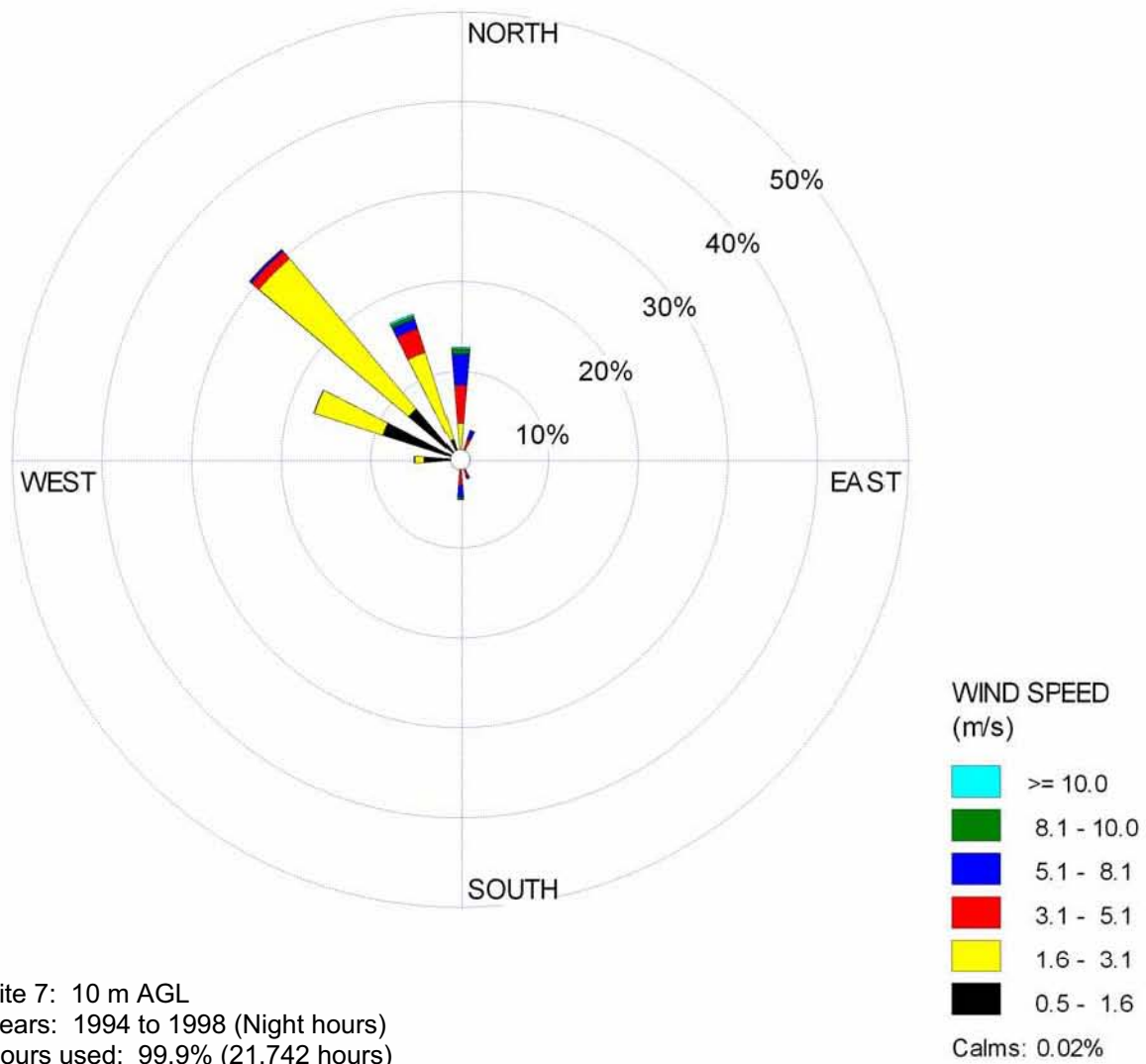
Figure F-12. Wind Rose for Site 5 at 10 m AGL for Night Hours (1994 to 1998)



Site 7: 10 m AGL
 Years: 1994 to 1998 (Daylight Hours)
 Hours used: 99.6% (21,990 hours)
 Display: Wind Direction (blowing from)

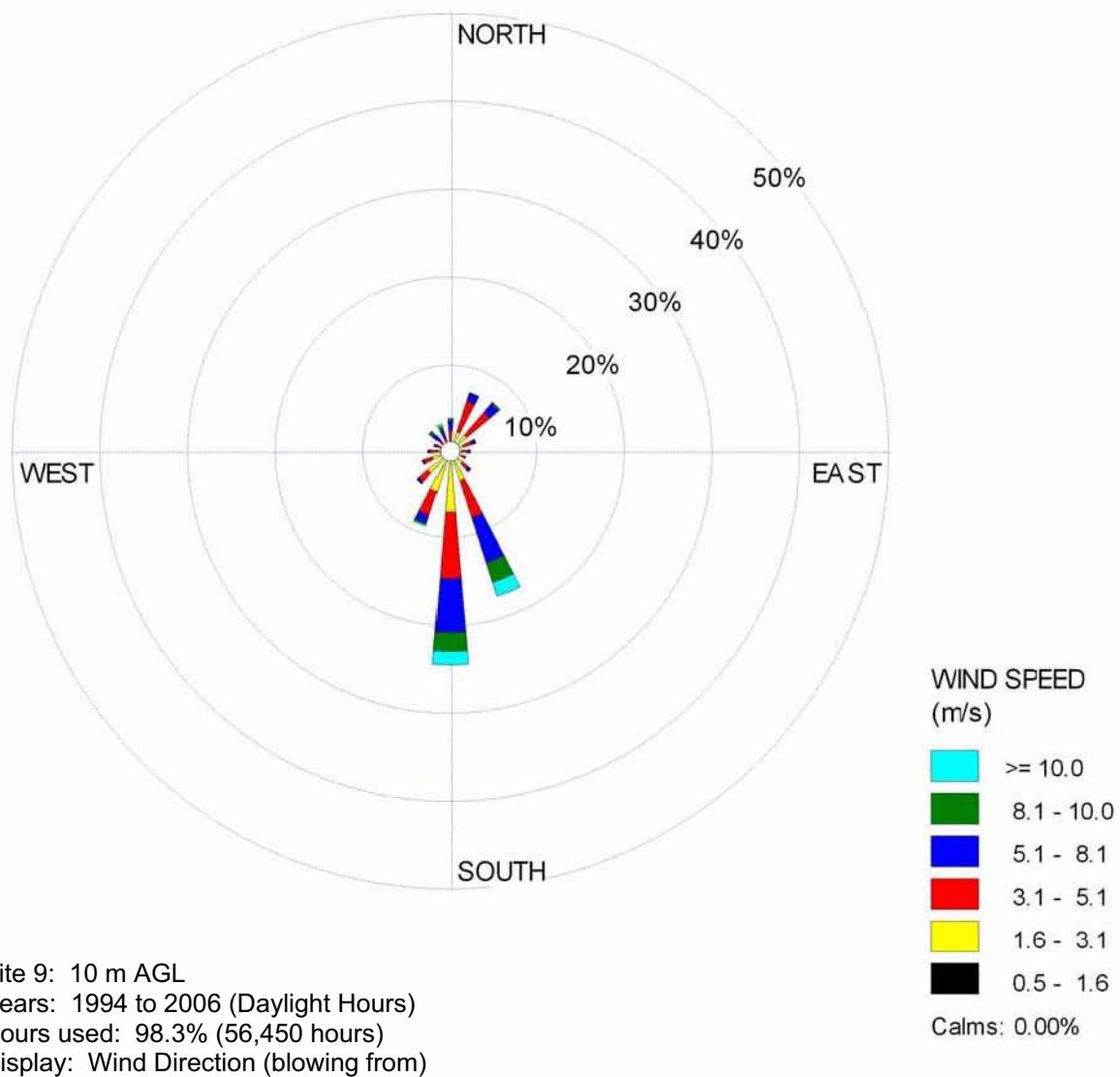
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-13. Wind Rose for Site 7 at 10 m AGL for Daylight Hours (1994 to 1998)



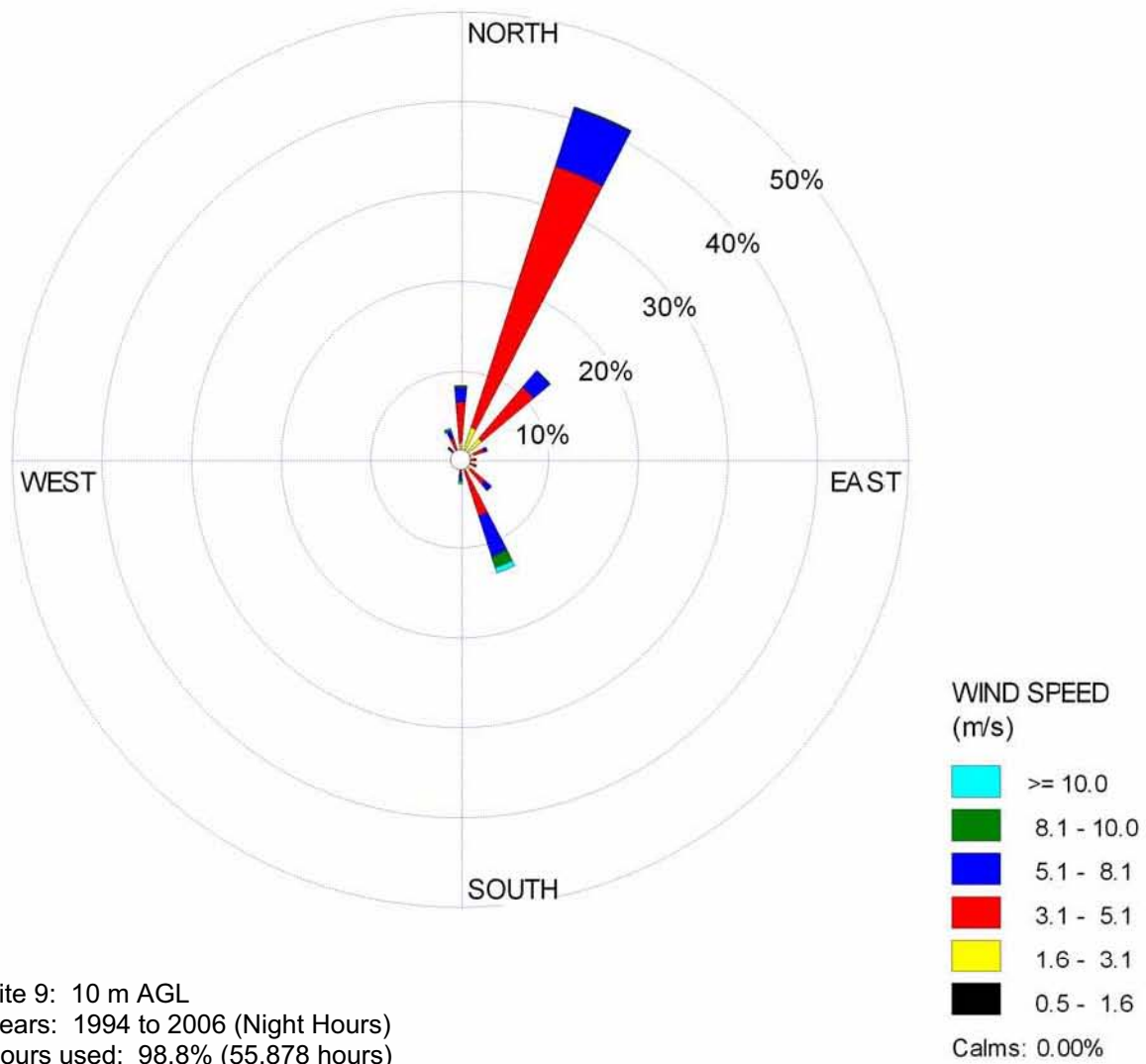
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-14. Wind Rose for Site 7 at 10 m AGL for Night Hours (1994 to 1998)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-15. Wind Rose for Site 9 at 10 m AGL for Daylight Hours (1994 to 2006)

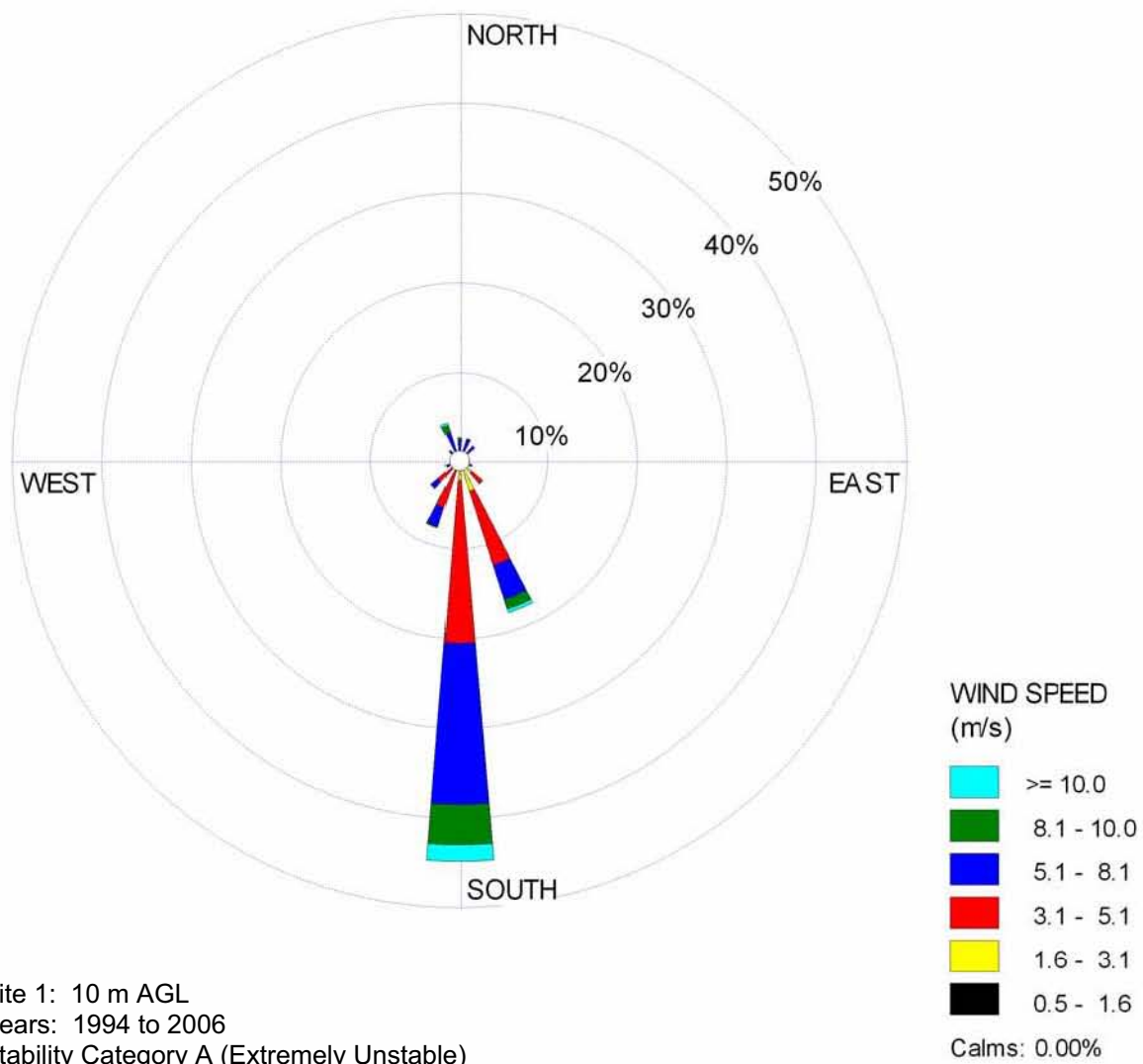


Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure F-16. Wind Rose for Site 9 at 10 m AGL for Night Hours (1994 to 2006)

APPENDIX G
WIND ROSES FOR ATMOSPHERIC STABILITY CATEGORIES AT SITE 1 AT THE
10 AND 60 m ABOVE GROUND LEVELS (1994 to 2006)

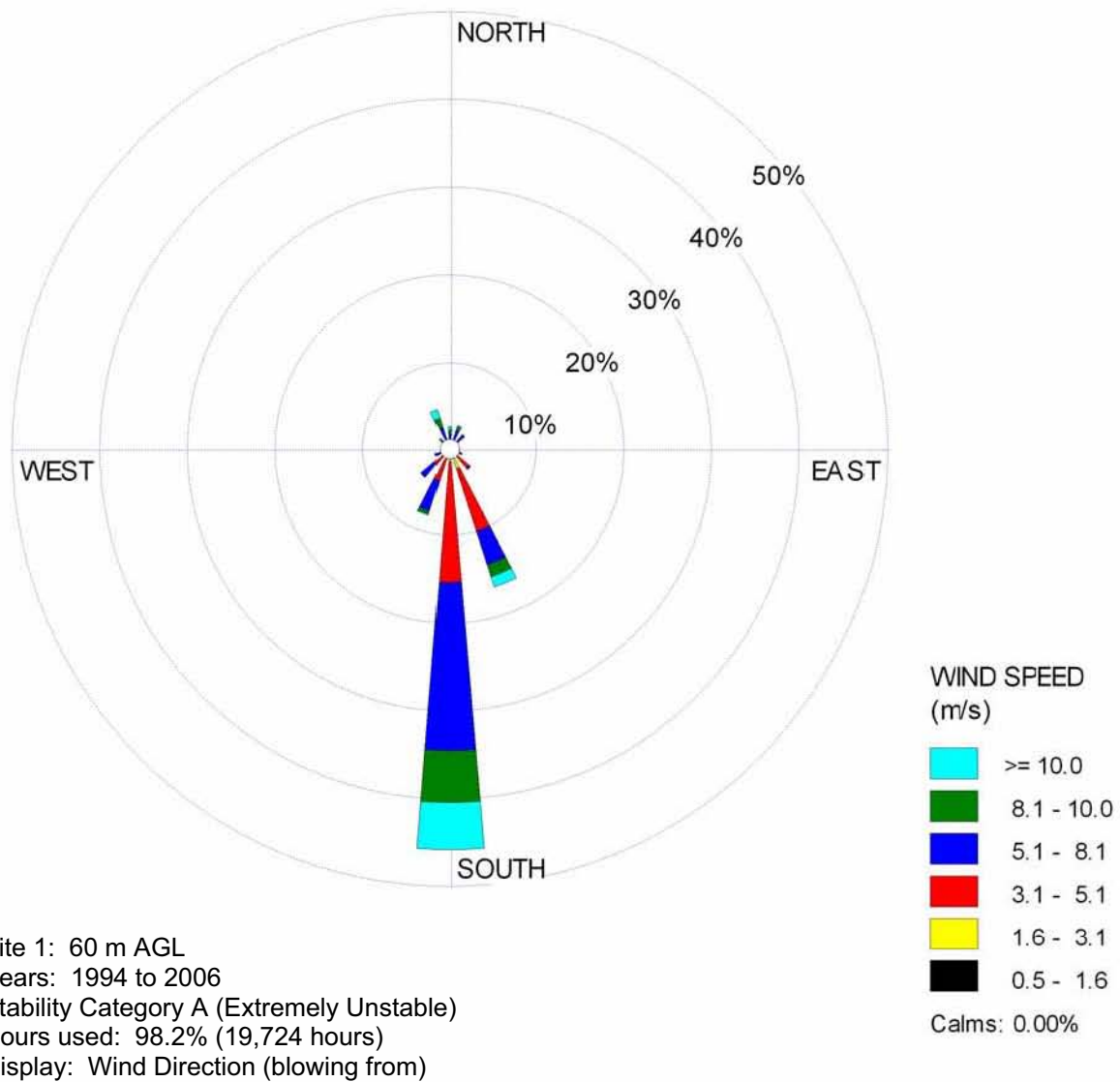
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Site 1: 10 m AGL
 Years: 1994 to 2006
 Stability Category A (Extremely Unstable)
 Hours used: 99.6% (20,000 hours)
 Display: Wind Direction (blowing from)

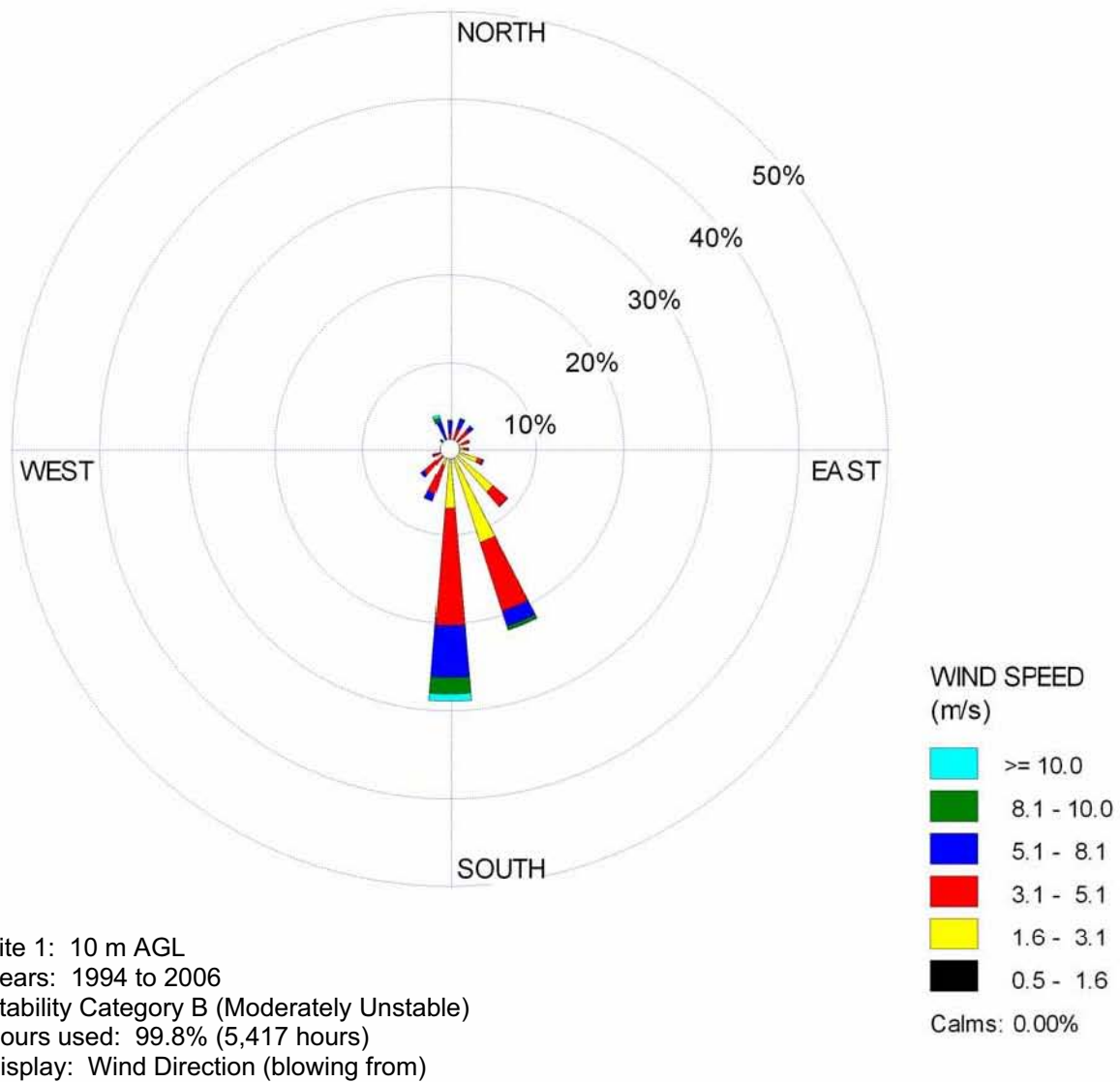
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-1. Wind Rose for Stability Category A at Site 1 at 10 m AGL (1994 to 2006)



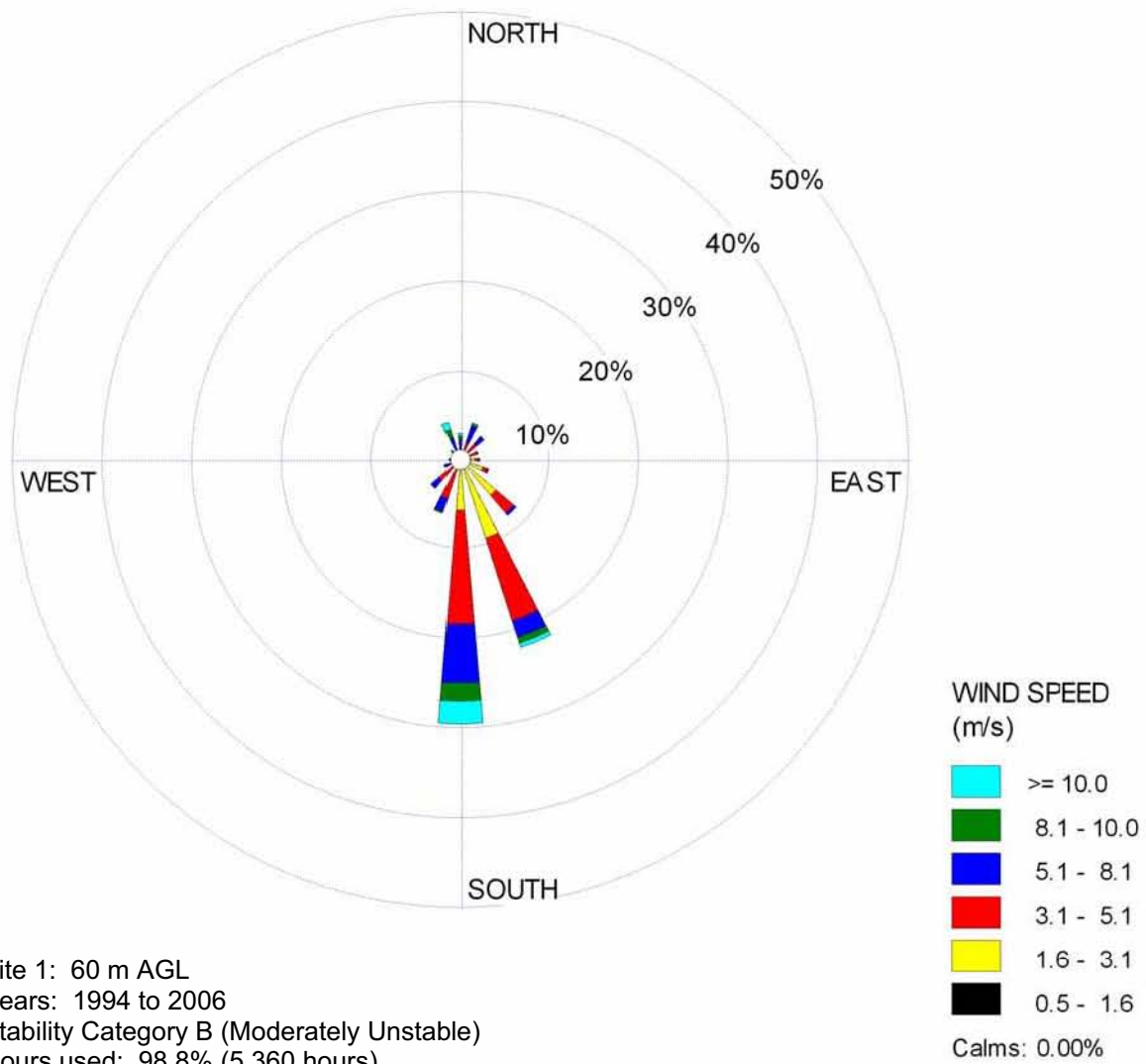
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-2. Wind Rose for Stability Category A at Site 1 at 60 m AGL (1994 to 2006)



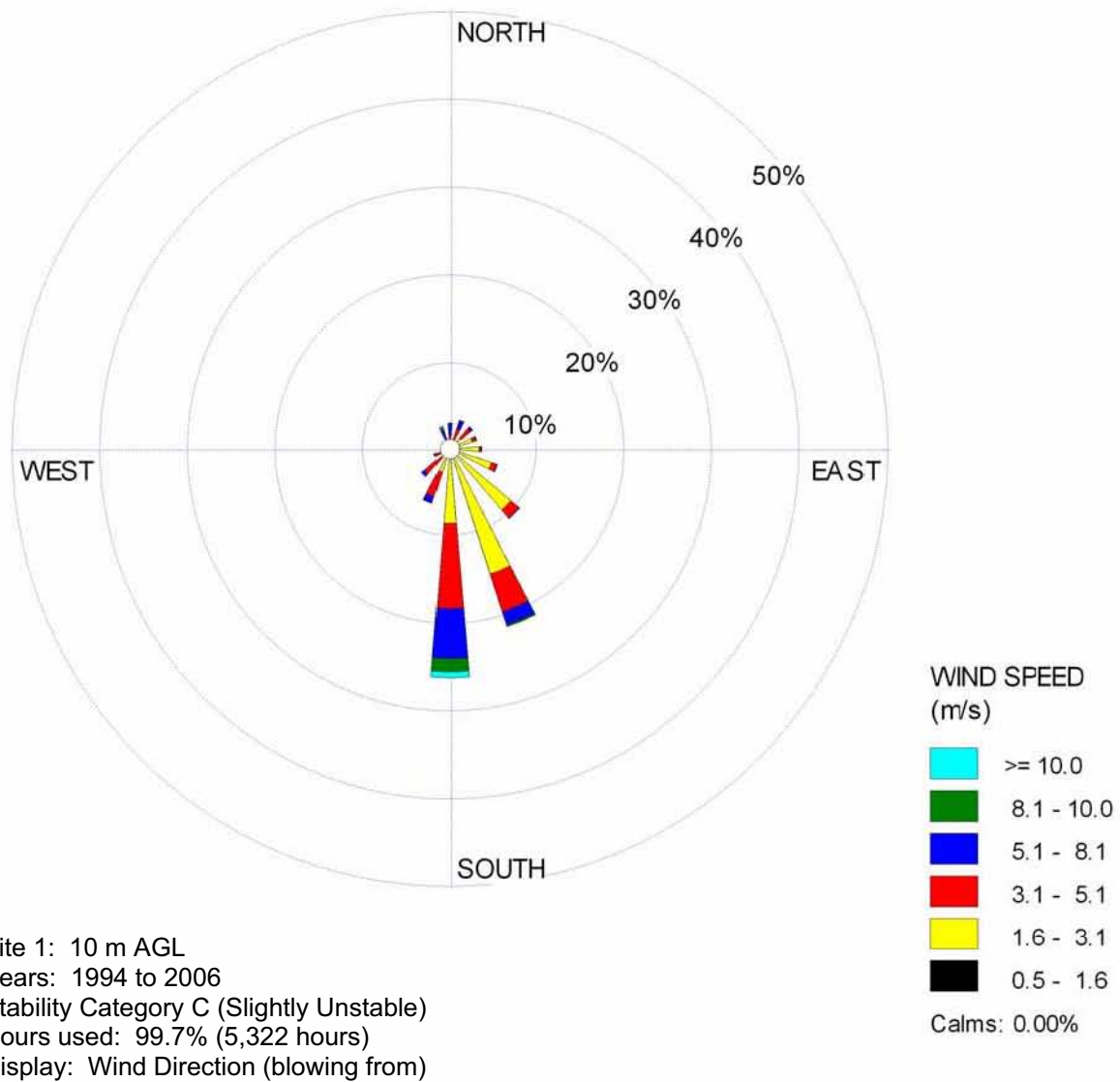
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-3. Wind Rose for Stability Category B at Site 1 at 10 m AGL (1994 to 2006)



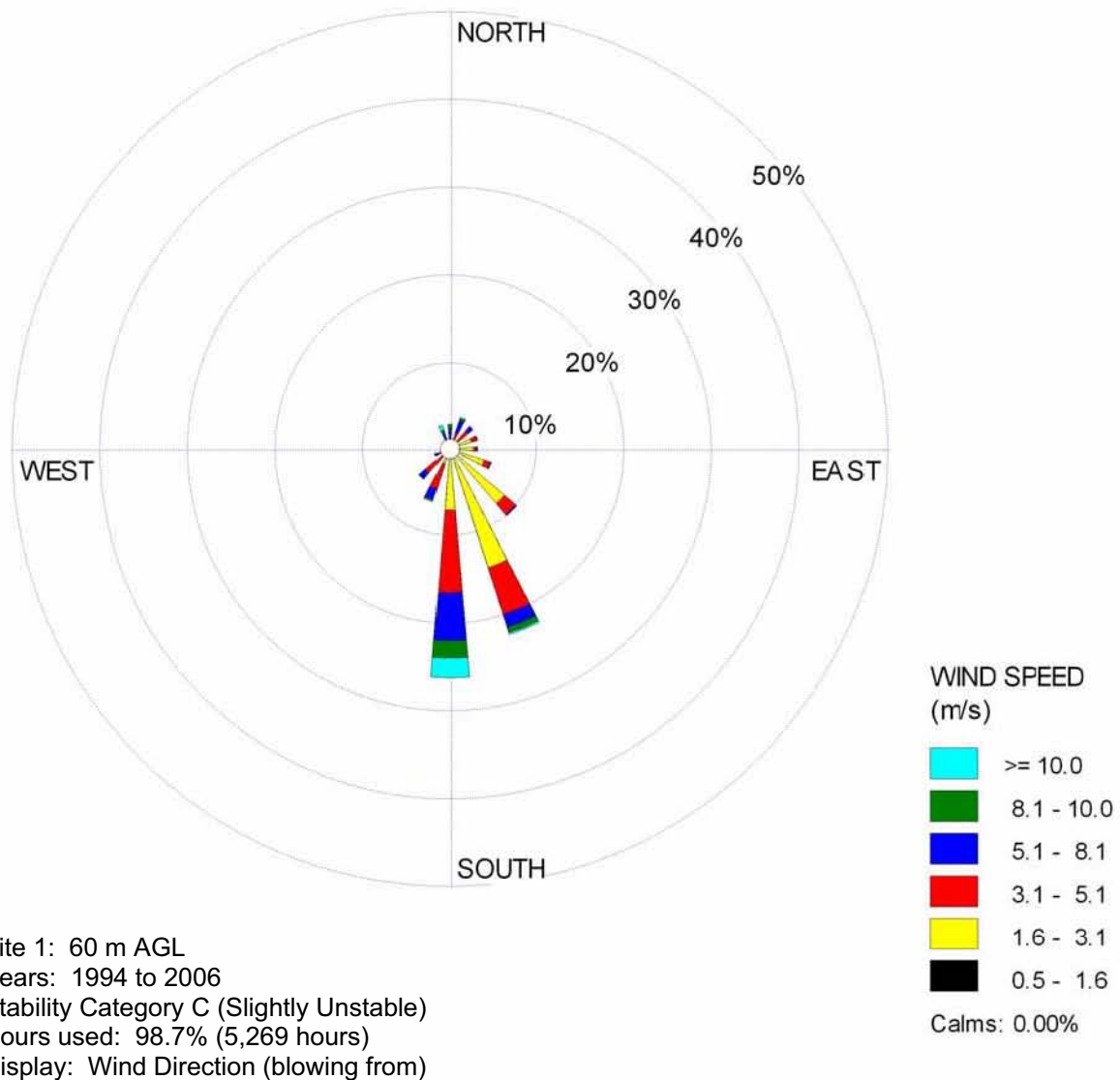
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-4. Wind Rose for Stability Category B at Site 1 at 60 m AGL (1994 to 2006)



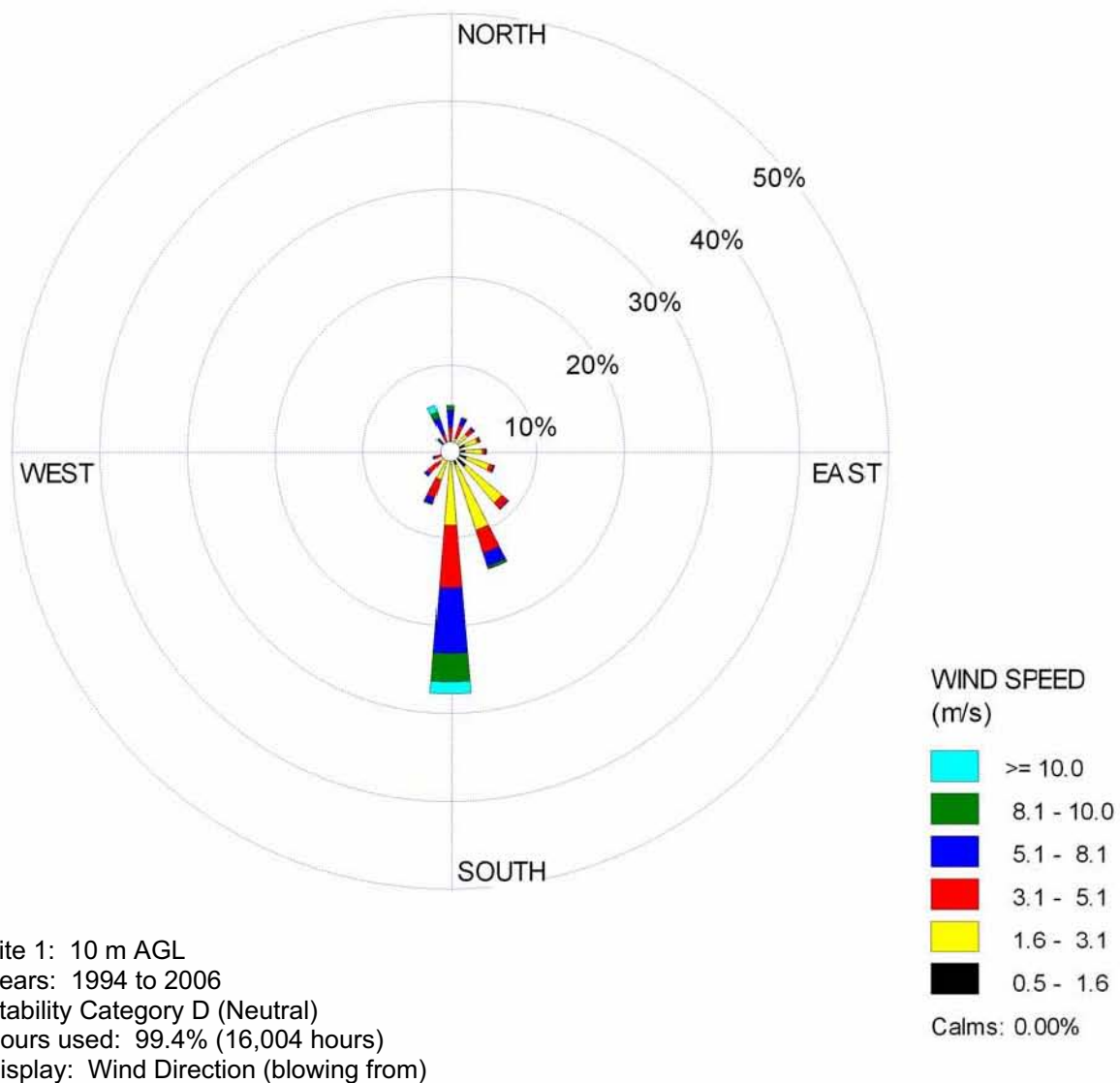
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-5. Wind Rose for Stability Category C at Site 1 at 10 m AGL (1994 to 2006)



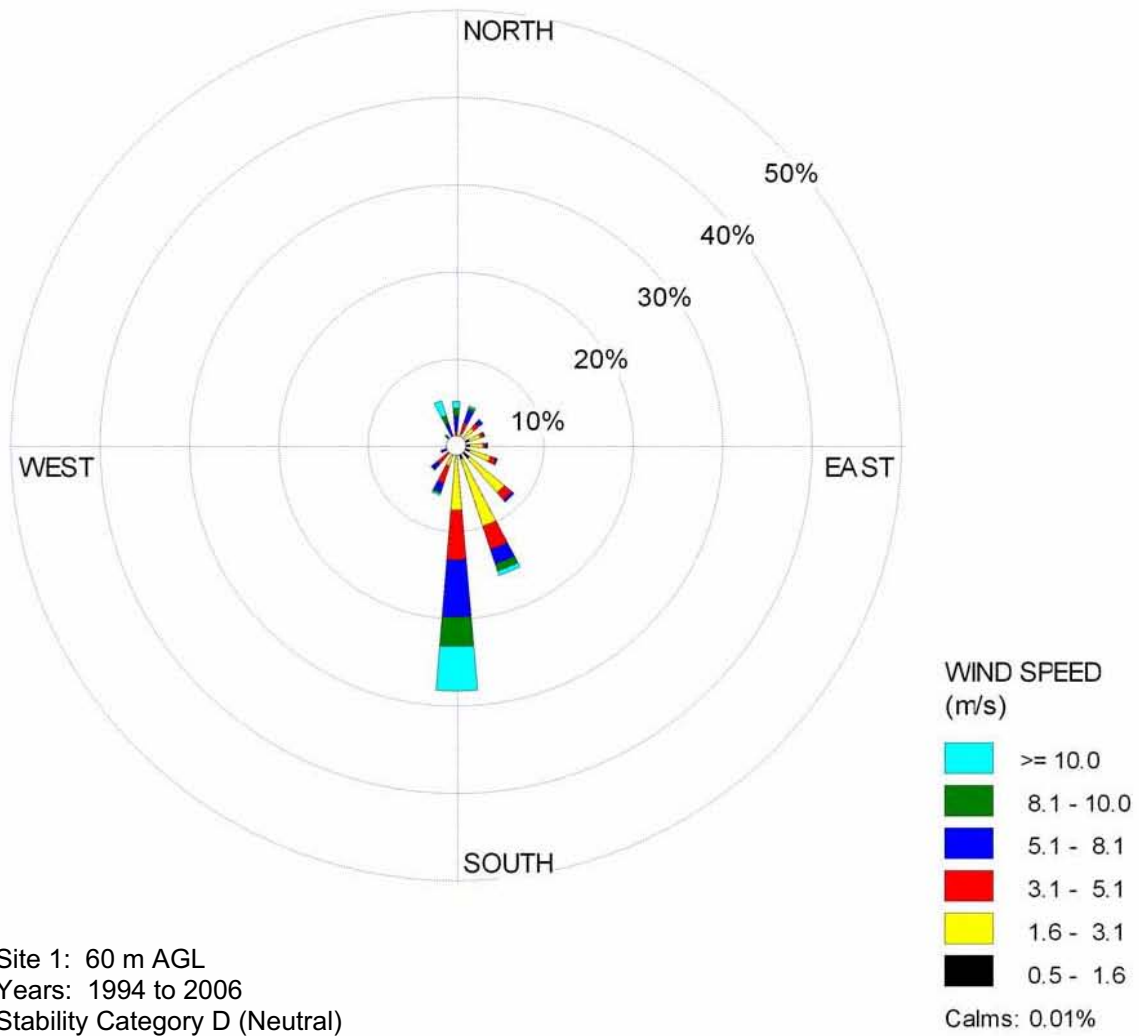
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-6. Wind Rose for Stability Category C at Site 1 at 60 m AGL (1994 to 2006)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

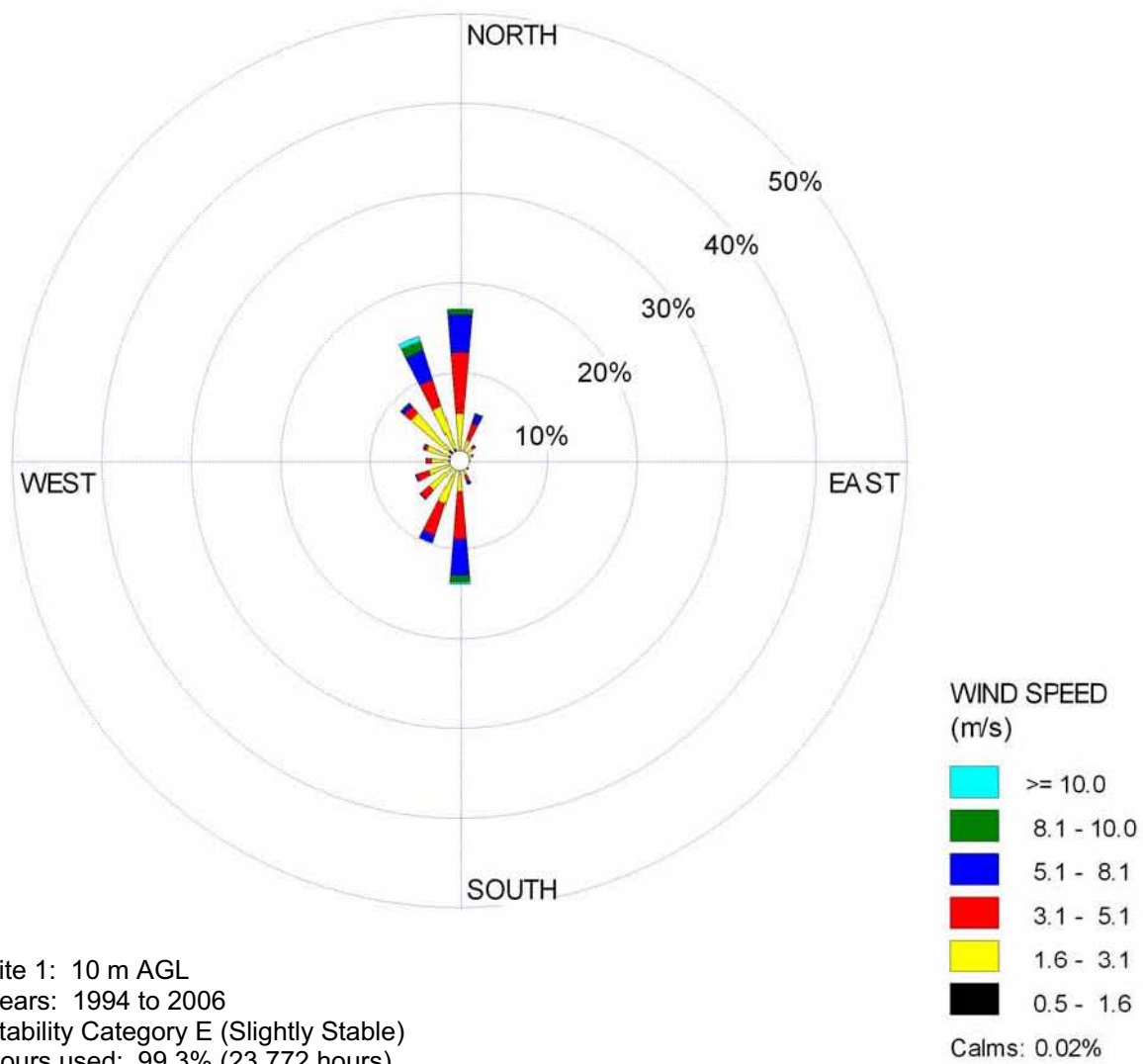
Figure G-7. Wind Rose for Stability Category D at Site 1 at 10 m AGL (1994 to 2006)



Site 1: 60 m AGL
 Years: 1994 to 2006
 Stability Category D (Neutral)
 Hours used: 98.9% (15,920 hours)
 Display: Wind Direction (blowing from)

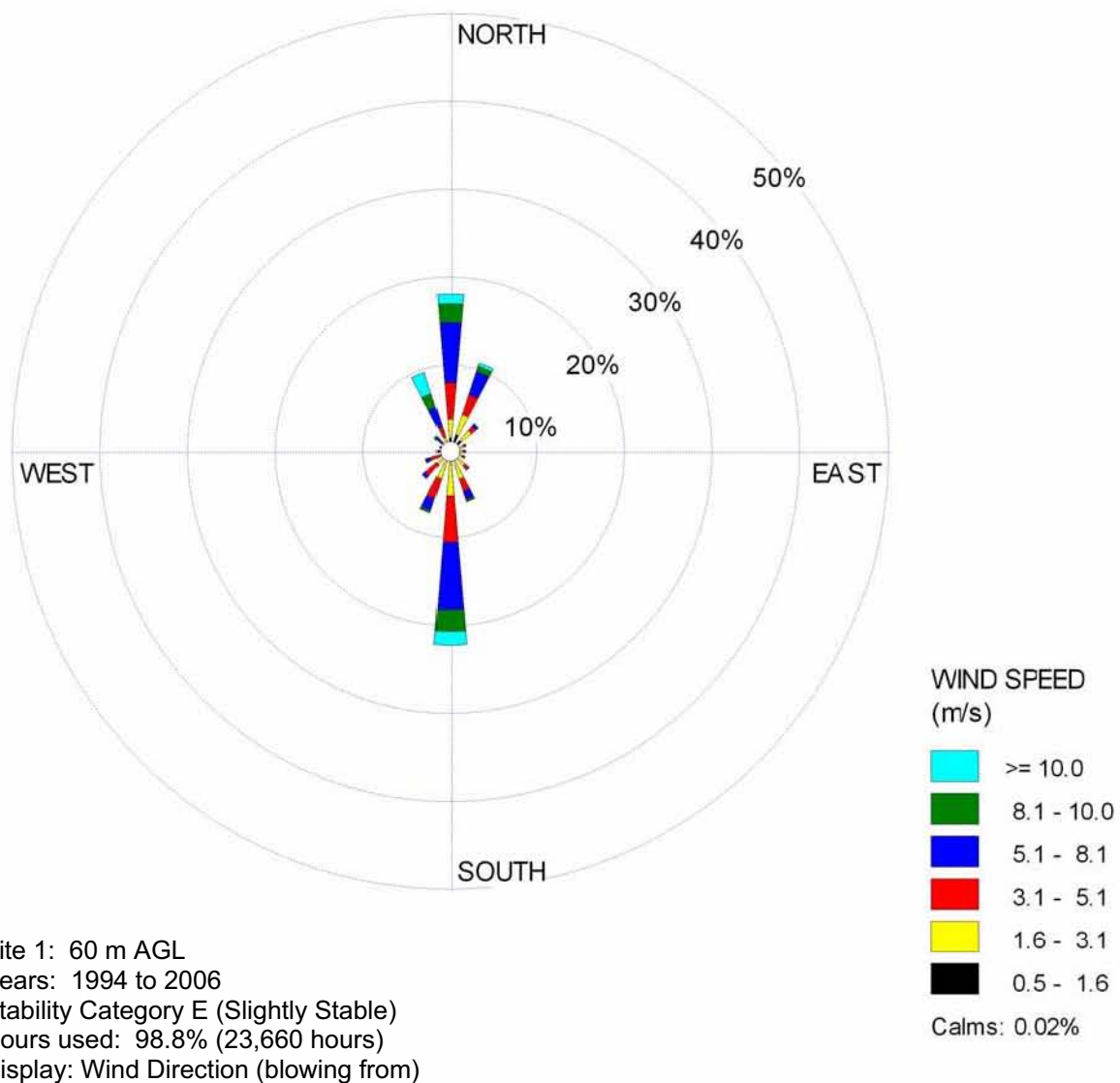
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-8. Wind Rose for Stability Category D at Site 1 at 60 m AGL (1994 to 2006)



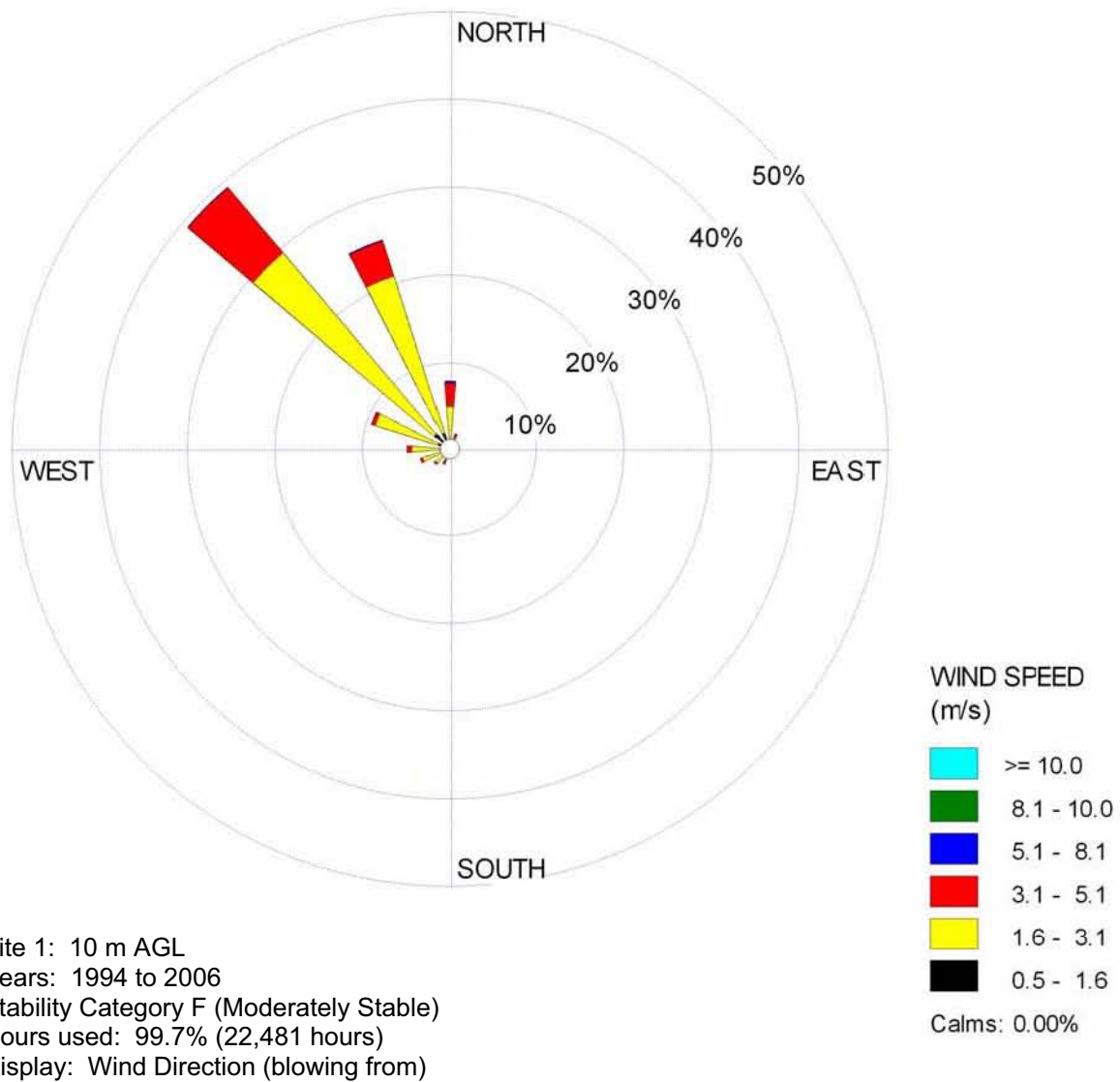
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-9. Wind Rose for Stability Category E at Site 1 at 10 m AGL (1994 to 2006)



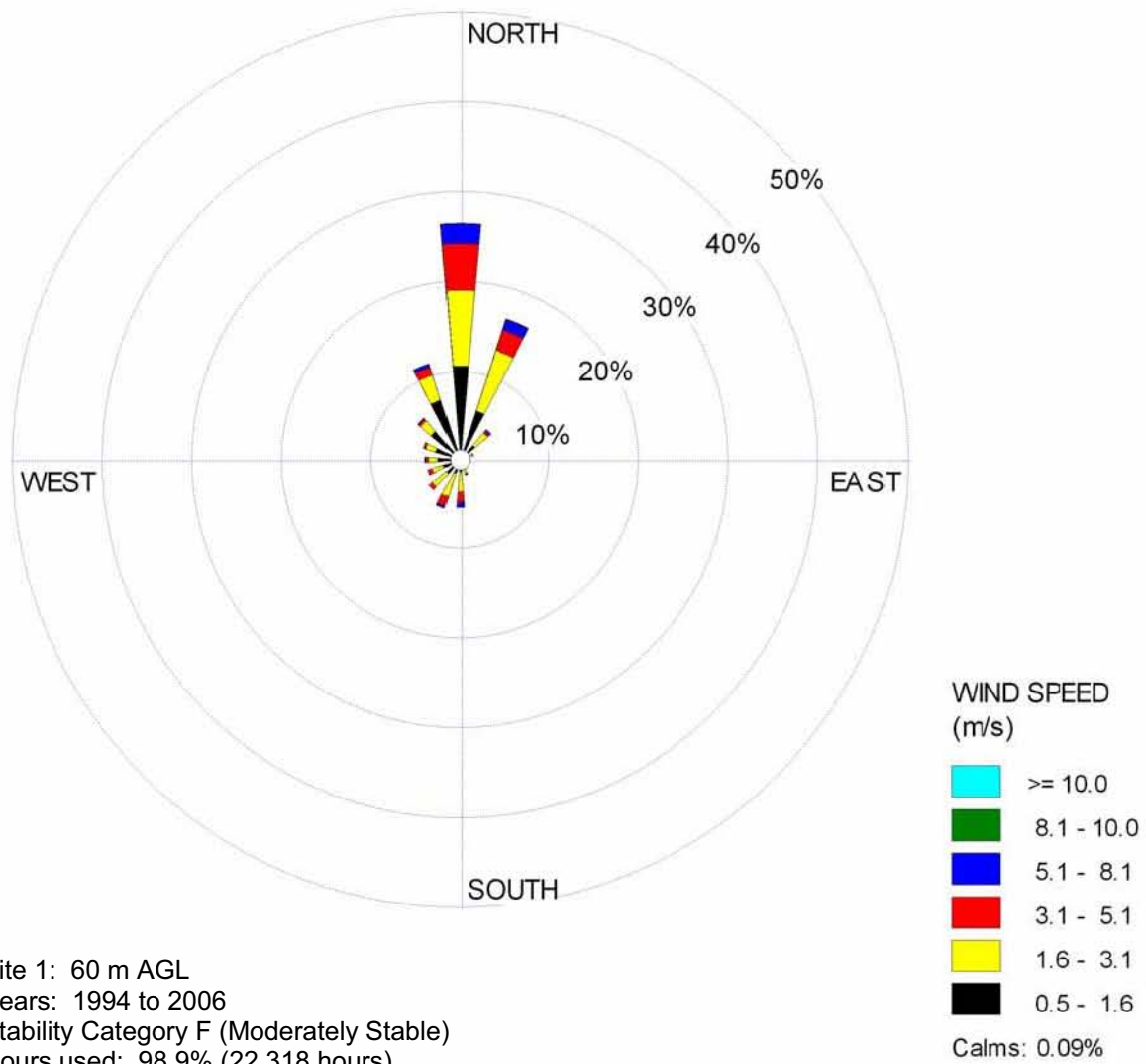
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-10. Wind Rose for Stability Category E at Site 1 at 60 m AGL (1994 to 2006)



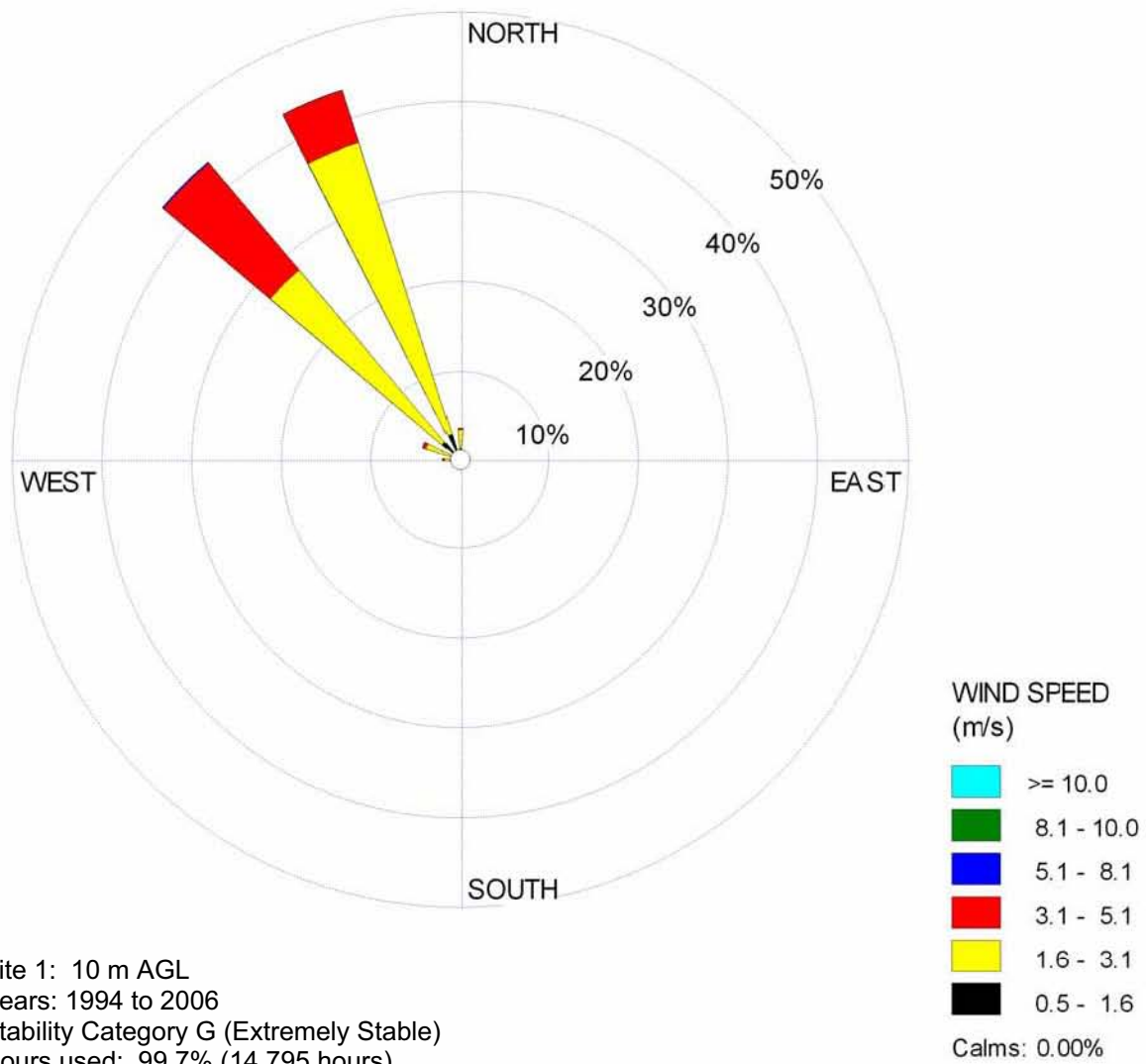
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-11. Wind Rose for Stability Category F at Site 1 at 10 m AGL (1994 to 2006)



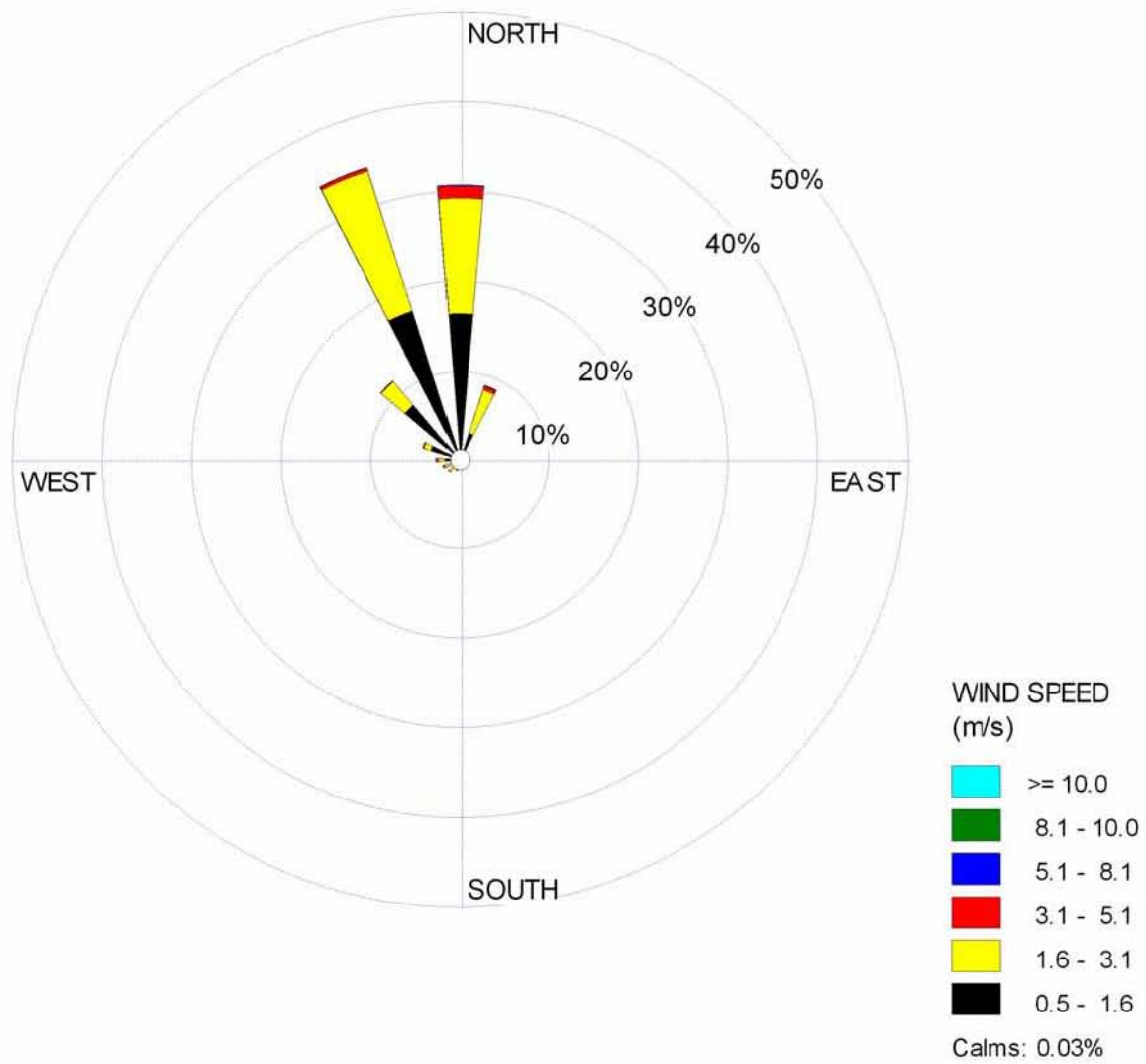
Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-12. Wind Rose for Stability Category F at Site 1 at 60 m AGL (1994 to 2006)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-13. Wind Rose for Stability Category G at Site 1 at 10 m AGL (1994 to 2006)



Source DTN: MO0708MD9406JF.000 [DIRS 182587].

Figure G-14. Wind Rose for Stability Category G at Site 1 at 60 m AGL (1994 to 2006)

APPENDIX H
1994 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table H-1. Meteorological Data 1994 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Mean Temperature	7.3	5.3	13.0	14.7	19.5	27.3	29.7	29.0	23.1	15.7	5.5	5.8	16.3
Barometric Pressure (mb)													
Mean Barometric Pressure	891.6	885.2	886.5	884.2	884.1	884.8	885.3	885.7	886.3	884.3	885.9	887.4	885.9
Precipitation (mm)													
Maximum one-hour total	3.30	3.05	4.32	2.79	1.27	0.00	0.51	0.25	0.76	0.00	4.06	5.84	5.84
Total	14.48	14.99	10.92	11.43	5.33	0.00	0.51	0.25	2.29	0.00	7.62	26.92	94.74
Wind													
Mean Speed	3.1	3.0	3.7	3.9	3.9	3.8	3.6	3.7	3.4	3.1	3.3	2.6	3.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.81	1.15	1.20	1.41	1.44	1.35	1.35	1.10	1.02	0.80	0.65	1.09

Source DTN: MO0312SEPQ1994.001 [DIRS 176093].

Table H-2. Meteorological Data 1994 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.2	16.4	24.0	29.6	32.1	39.9	39.1	39.1	33.8	27	17.9	15.6	39.9
Mean Maximum	11.4	8.6	17.8	19.5	25.2	33.8	35.9	35.1	28.8	20.3	8.6	8.8	21.2
Mean Temperature	7.3	4.3	12.3	13.6	18.2	26.6	29	28.2	22.6	15.1	4.4	5.5	15.6
Mean Minimum	4	0.9	7.8	8.9	12.5	20.5	23.3	22.9	17.8	11.3	0.7	2.6	11.1
Extreme Minimum	-4.5	-3.8	0.2	0.5	2.8	11.6	19.0	18.1	9.5	1.4	-7.3	-3.4	-7.3
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	18	31	28	3	0	0	0	80
0°C (32°F) and below	9	15	0	0	0	0	0	0	0	0	12	8	44
Barometric Pressure (mb)													
Mean Barometric Pressure	854.2	849.6	850.8	849.1	849.1	851.7	853.1	853.6	853.1	849.9	849.3	850.9	851.2
Mean Relative Humidity (%)													
Hour 0400 PST	35.4	49.8	35.1	35.9	35.5	17.2	19.5	23.0	26.0	32.8	42.7	48.2	33.4
Hour 1000 PST	32.3	46.9	32.6	29.4	25.3	12.8	14.8	18.0	21.0	25.9	37.1	43.0	28.3
Hour 1600 PST	26.5	38.1	20.8	20.9	17.1	6.2	8.5	11.7	13.0	19.6	30.4	39.6	21.0
Hour 2200 PST	31.3	42.6	28.2	31.3	28.6	10.2	14.6	18.0	21.4	27.7	39.8	43.6	28.1
Precipitation (mm)													
Maximum one-hour total	7.87	2.29	7.62	3.3	1.78	0.00	0.76	0.00	0.76	0.00	5.08	5.84	7.87
Total	13.71	21.08	22.61	9.14	6.10	0.00	1.02	0.00	3.05	0.00	10.16	31.24	118.11
Wind													
Mean Speed (m/sec)	4.1	4.0	4.5	5.0	4.5	4.8	4.2	4.5	4.3	3.8	4.4	3.3	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	22.7	26.3	27.2	24.5	21.6	19.5	23.0	15.0	19.2	16.8	22.7	15.6	27.2
Peak 3 sec Gust (m/sec)	27.2	31.0	34.8	28.2	23.6	24.0	27.3	18.1	21.5	19.5	28.3	18.3	34.8
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.85	1.19	1.26	1.41	1.48	1.45	1.37	1.22	1.05	0.80	0.65	1.13

Source DTN: MO0312SEPC1994.001 [DIRS 176093].

Table H-3. Meteorological Data 1994 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.5	16.9	24.4	29.5	31.9	40.4	38.9	39.6	33.8	27.4	19.5	16.4	40.4
Mean Maximum	12.5	9.7	18.3	20.9	25.0	33.9	35.9	35.4	29.2	21.1	9.9	10.1	21.8
Mean Temperature	7.7	5.2	13.0	15.0	19.1	27.3	29.7	28.8	23.3	15.6	5.4	5.9	16.3
Mean Minimum	3.3	0.9	7.4	9.2	12.0	19.5	22.5	22.1	17.3	10.5	0.7	2.0	10.6
Extreme Minimum	-2.6	-4.2	0.6	2.3	3.8	12.2	18.1	17.9	8.9	4.2	-5.9	-3.9	-5.9
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	18	31	28	4	0	0	0	81
0°C (32°F) and below	8	15	0	0	0	0	0	0	0	0	13	9	45
Barometric Pressure (mb)													
Mean Barometric Pressure	875.8	871.4	872.0	870.8	869.4	871.1	872.2	872.9	873.0	870.7	871.1	872.4	871.9
Mean Relative Humidity (%)													
Hour 0400 PST	38.5	54.0	38.6	37.7	39.3	21.2	21.1	24.0	27.8	35.3	44.8	51.9	36.2
Hour 1000 PST	29.9	44.5	29.6	26.2	24.6	13.7	13.3	15.4	19.1	23.6	34.5	42.8	26.4
Hour 1600 PST	26.0	36.4	19.7	19.6	17.3	8.2	8.0	10.9	12.4	19.2	30.2	38.8	20.6
Hour 2200 PST	33.2	45.6	30.4	31.4	29.6	12.3	13.9	17.5	21.9	28.7	40.9	46.9	29.4
Precipitation (mm)													
Maximum one-hour total	6.86	3.05	7.37	3.56	2.29	0.00	0.51	0.00	1.02	0.00	8.89	5.84	8.89
Total	14.48	25.40	18.04	11.18	8.38	0.00	0.76	0.00	3.05	0.00	14.73	33.02	129.04
Wind													
Mean Speed (m/sec)	2.7	2.5	2.8	2.8	2.9	2.8	2.7	2.6	2.7	2.5	2.6	2.2	2.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.3	15.9	11.1	13.8	13.0	10.7	18.6	11.3	13.9	10.0	14.8	10.0	18.6
Peak 3 sec Gust (m/sec)	23.3	21.8	19.5	17.8	19.2	15.4	21.0	17.3	19.5	14.9	21.5	14.9	23.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.77	0.81	1.16	1.19	1.40	1.47	1.44	1.37	1.22	1.05	0.79	0.65	1.11

Source DTN: MO0312SEPBQ1994.001 [DIRS 176093].

Table H-4. Meteorological Data 1994 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.6	18.0	25.7	31.2	33.5	42.3	40.7	40.9	35.6	28.5	20.1	17.3	42.3
Mean Maximum	13.2	10.6	19.7	21.7	26.7	35.4	37.6	36.9	30.6	22.3	10.7	11.1	23.0
Mean Temperature	7.9	5.6	13.4	15.2	19.6	27.9	30.4	29.7	23.7	16.0	5.7	6.4	16.8
Mean Minimum	3.0	1.0	7.7	9.2	12.7	19.8	23.3	22.8	16.9	9.9	0.9	1.8	10.8
Extreme Minimum	-2.9	-4.8	2.1	2.3	4.5	12.9	19.0	18.6	8.8	4.2	-6.0	-5.2	-6.0
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	23	31	30	11	0	0	0	97
0°C (32°F) and below	5	14	0	0	0	0	0	0	0	0	13	11	43
Barometric Pressure (mb)													
Mean Barometric Pressure	880.7	876.5	876.6	874.7	874.2	875.9	877.0	877.7	877.8	875.5	876.3	877.7	876.7
Mean Relative Humidity (%)													
Hour 0400 PST	38.3	53.3	37.6	38.4	37.3	17.5	19.8	22.8	27.3	34.8	43.8	50.3	35.1
Hour 1000 PST	32.8	46.5	29.5	28.3	23.9	12.0	13.8	16.3	19.3	24.2	36.8	43.9	27.3
Hour 1600 PST	25.3	36.2	19.1	21.1	16.1	5.8	8.0	11.3	12.4	18.4	29.7	37.0	20.0
Hour 2200 PST	33.1	45.5	29.7	33.4	29.2	10.2	14.2	18.2	21.9	27.9	40.9	45.2	29.1
Precipitation (mm)													
Maximum one-hour total	7.37	3.30	1.52	4.32	0.76	0.00	0.00	1.02	1.02	0.00	3.81	5.84	7.37
Total	14.74	22.10	5.59	19.30	2.29	0.00	0.00	1.02	2.29	0.00	9.91	35.31	112.55
Wind													
Mean Speed (m/sec)	4.9	4.1	5.3	5.2	5.1	4.8	4.3	4.3	4.6	4.4	4.7	3.4	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	24.4	25.3	25.0	21.0	21.5	17.0	22.2	19.9	22.9	20.5	25.6	17.2	25.6
Peak 3 sec Gust (m/sec)	27.7	29.2	28.1	24.2	25.0	30.9	26.2	21.6	24.9	23.0	29.8	20.6	30.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.78	0.83	1.16	1.24	1.40	1.46	1.42	1.36	1.20	1.03	0.80	0.66	1.11

Source DTN: MO0312SEPC1994.001 [DIRS 176093].

Table H-5. Meteorological Data 1994 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.9	21.2	28.4	34.0	36.0	43.6	42.6	42.8	37.7	30.8	23.6	19.0	43.6
Mean Maximum	15.6	13.7	22.3	23.6	29.1	37.9	39.7	39.1	33.0	24.4	13.3	13.2	25.4
Mean Temperature	8.0	7.1	14.6	16.3	21.1	28.8	31.3	30.6	24.8	16.7	6.5	6.7	17.7
Mean Minimum	0.8	0.5	7.1	8.2	11.9	17.8	20.9	21.8	16.3	9.3	-0.6	0.5	9.5
Extreme Minimum	-5.7	-6.9	0.5	0.5	3.1	10.3	14.7	16.3	7.7	1.7	-6.6	-7.9	-7.9
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	3	12	27	31	31	20	0	0	0	124
0°C (32°F) and below	12	9	0	0	0	0	0	0	0	0	18	13	52
Barometric Pressure (mb)													
Mean Barometric Pressure	910.9	907.6	906.4	904.4	903.3	904.4	905.3	905.9	906.6	904.8	906.6	908.0	906.2
Mean Relative Humidity (%)													
Hour 0400 PST	42.7	51.7	38.6	39.0	38.2	19.0	20.4	23.5	27.3	34.8	47.3	54.1	36.4
Hour 1000 PST	30.0	38.3	25.5	23.6	20.7	9.7	11.7	13.8	16.6	21.6	32.0	40.9	23.7
Hour 1600 PST	21.9	28.6	15.5	16.4	13.5	4.1	6.2	9.0	10.0	16.0	24.0	32.9	16.5
Hour 2200 PST	38.8	47.2	31.4	32.7	28.4	10.4	14.0	17.7	21.5	28.5	42.3	50.1	30.3
Precipitation (mm)													
Maximum one-hour total	4.06	1.78	2.29	1.78	1.02	0.00	0.00	0.00	0.25	0.00	1.27	5.84	5.84
Total	14.99	8.89	5.84	9.91	1.78	0.00	0.00	0.00	0.76	0.00	2.54	37.59	82.30
Wind													
Mean Speed (m/sec)	4.2	4.1	4.7	4.8	4.8	4.8	4.4	4.8	4.8	4.4	4.4	3.8	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.2	18.9	19.6	17.1	20.3	13.8	15.2	15.3	16.4	13.8	18.2	14.0	20.3
Peak 3 sec Gust (m/sec)	20.7	22.9	24.9	20.9	24.8	16.8	20.4	18.3	20.0	17.3	21.7	16.8	24.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.84	1.19	1.30	1.43	1.48	1.45	1.39	1.23	1.04	0.82	0.66	1.14

Source DTN: MO0312SEPO1994.001 [DIRS 176093].

Table H-6. Meteorological Data 1994 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	16.8	24.5	29.5	31.5	39.6	38.2	41.9	33.7	26.8	18.7	17.0	41.9
Mean Maximum	12.6	9.6	18.0	19.9	24.8	33.4	35.5	35.3	29.0	21.0	10.3	10.3	21.6
Mean Temperature	6.2	3.9	11.7	13.2	17.8	25.8	28.1	27.3	21.7	14.2	4.2	4.6	14.9
Mean Minimum	0.6	-1.6	5.2	6.2	9.6	16.2	19.3	18.8	14.1	7.6	-1.6	-0.3	7.8
Extreme Minimum	-5.9	-7.0	-1.2	-1.4	1.4	8.9	15.3	14.8	6.2	2.7	-7.8	-7.2	-7.8
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	16	31	29	3	0	0	0	79
0°C (32°F) and below	15	20	1	2	0	0	0	0	0	0	19	14	71
Barometric Pressure (mb)													
Mean Barometric Pressure	872.6	867.9	867.8	865.0	865.0	868.0	869.5	869.9	869.0	865.6	865.8	867.6	867.8
Mean Relative Humidity (%)													
Hour 0400 PST	44.1	61.7	44.6	44.0	46.4	23.3	25.3	29.7	33.6	41.8	53.1	60.1	42.3
Hour 1000 PST	31.4	43.9	30.9	28.2	25.1	12.5	14.7	16.6	21.2	25.5	36.5	43.7	27.5
Hour 1600 PST	26.6	38.2	20.7	21.2	17.9	7.1	9.3	12.2	14.1	20.4	32.4	41.3	21.8
Hour 2200 PST	38.4	54.9	37.0	38.3	34.9	13.2	17.1	21.5	25.8	34.0	48.7	54.5	34.9
Precipitation (mm)													
Maximum one-hour total	3.05	3.05	3.05	4.83	2.03	0.00	0.00	0.00	0.51	0.00	5.33	6.10	6.10
Total	16.51	27.43	12.45	20.07	7.37	0.00	0.00	0.00	3.05	0.00	15.75	37.08	139.71
Wind													
Mean Speed (m/sec)	3.8	3.6	4.3	4.3	4.2	4.2	4.1	4.1	4.0	3.9	3.9	3.4	4.0
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.4	18.4	17.7	18.2	19.7	15.9	17.5	15.7	19.1	15.0	19.9	13.0	19.9
Peak 3 sec Gust (m/sec)	21.4	21.8	21.9	23.2	26.5	20.6	21.3	19.9	24.0	22.9	24.7	18.2	26.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.80	1.18	1.27	1.43	1.48	1.44	1.38	1.21	1.03	0.79	0.67	1.12

Source DTN: MO0312SEPO1994.001 [DIRS 176093].

Table H-7. Meteorological Data 1994 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.2	19.5	27.0	32.6	34.8	42.3	41.6	41.8	36.5	29.4	21.7	18.4	42.3
Mean Maximum	14.7	12.0	20.9	22.8	27.9	36.3	38.7	38.0	31.9	23.4	12.5	12.4	24.3
Mean Temperature	6.1	4.8	12.6	14.5	19.4	26.8	29.4	28.4	22.6	14.6	4.8	4.6	15.7
Mean Minimum	-2.3	-2.6	3.6	4.8	8.8	13.9	17.7	17.2	12.0	4.8	-3.5	-3.2	5.9
Extreme Minimum	-9.3	-9.5	-1.7	-1.7	1.5	7.7	13.0	10.8	3.8	0.2	-8.2	-12.8	-12.8
Number of Days													
Temperature													
32°C (90°F) and above	0	0	0	1	6	24	31	29	16	0	0	0	107
0°C (32°F) and below	23	20	5	3	0	0	0	0	0	0	24	23	98
Barometric Pressure (mb)													
Mean Barometric Pressure	896.0	891.8	891.3	889.4	888.5	889.9	890.9	891.6	891.9	890.0	891.6	893.1	891.3
Mean Relative Humidity (%)													
Hour 0400 PST	52.7	67.4	49.2	48.5	49.7	25.8	26.3	30.2	34.7	44.4	53.7	64.3	45.6
Hour 1000 PST	32.3	44.8	27.7	26.1	22.5	11.3	12.9	15.5	18.7	23.1	33.8	42.2	25.9
Hour 1600 PST	24.4	34.4	18.0	19.6	15.9	5.3	7.5	11.3	11.9	17.7	27.1	35.1	19.0
Hour 2200 PST	44.0	59.4	39.9	37.7	33.7	13.3	17.1	22.0	25.5	33.0	48.2	55.5	35.8
Precipitation (mm)													
Maximum one-hour total	3.30	3.56	1.27	3.81	1.02	0.00	0.00	3.56	1.27	0.00	3.81	7.11	7.11
Total	16.26	19.30	4.57	21.34	3.30	0.00	0.00	3.56	2.29	0.00	9.14	38.10	117.86
Wind													
Mean Speed (m/sec)	2.9	2.8	3.4	3.6	3.6	3.5	3.3	3.3	3.3	2.9	3.1	2.4	3.2
Fastest one-minute speed													
Speed (m/sec)	13.1	16.6	17.5	15.8	18.9	13.1	15.3	14.8	16.0	14.0	18.0	12.9	18.9
Peak 3 sec Gust (m/sec)	17.7	20.5	21.5	19.8	22.3	20.2	19.2	21.5	19.6	16.9	21.9	15.1	22.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.77	0.81	1.13	1.24	1.40	1.48	1.45	1.39	1.23	1.05	0.86	0.70	1.13

Source DTN: MO0312SEPO1994.001 [DIRS 176093].

Table H-8. Meteorological Data 1994 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.2	19.2	26.2	31.5	34.2	41.9	41.0	41.0	36.2	29.2	20.9	17.8	41.9
Mean Maximum	14.1	11.4	20.6	21.8	27.3	35.6	38.0	37.3	31.1	22.9	11.9	11.9	23.7
Mean Temperature	6.4	4.8	12.7	14.5	19.3	27.2	29.7	28.7	22.9	14.8	5.2	5.2	16.0
Mean Minimum	-0.8	-1.7	4.9	6.1	9.9	15.7	19.6	19.1	13.5	6.6	-1.9	-1.2	7.5
Extreme Minimum	-7.4	-8.1	1.0	-1.0	2.3	9.2	15.9	13.7	5.9	2.4	-8.0	-9.6	-9.6
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	24	31	30	13	0	0	0	102
0°C (32°F) and below	16	21	0	3	0	0	0	0	0	0	22	20	82
Barometric Pressure (mb)													
Mean Barometric Pressure	892.6	888.5	887.4	885.3	884.0	884.8	885.6	886.3	887.1	885.6	886.6	888.0	886.8
Mean Relative Humidity (%)													
Hour 0400 PST	48.3	63.3	46.9	44.6	45.4	22.4	23.6	27.9	33.2	41.4	49.5	61.9	42.4
Hour 1000 PST	31.4	44.5	27.7	25.4	22.2	10.6	12.5	15.4	18.2	22.3	33.8	42.3	25.5
Hour 1600 PST	24.0	33.7	18.1	19.7	15.9	5.0	7.2	11.1	11.4	17.4	27.4	36.1	18.9
Hour 2200 PST	40.4	52.7	36.9	36.4	33.0	11.5	15.7	20.4	24.4	31.4	44.9	53.9	33.5
Precipitation (mm)													
Maximum one-hour total	5.33	4.57	3.81	5.84	1.27	0.00	0.00	7.87	1.02	0.00	3.30	4.06	7.87
Total	17.02	19.56	12.7	17.53	3.81	0.00	0.00	7.87	3.05	0.00	8.38	22.86	112.78
Wind													
Mean Speed (m/sec)	2.6	2.7	3.3	3.5	3.5	3.5	3.2	3.4	3.1	2.6	3.1	2.3	3.1
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.3	18.9	17.7	15.9	17.2	12.5	15.4	15.0	15.3	13.6	15.6	12.9	18.9
Peak 3 sec Gust (m/sec)	18.2	22.6	22.1	19.0	20.4	16.0	18.3	18.0	19.3	16.0	21.8	16.0	22.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.77	0.80	1.16	1.26	1.38	1.47	1.43	1.38	1.22	1.01	0.80	0.66	1.11

Source DTN: MO0312SEPPQ1994.001 [DIRS 176093].

Table H-9. Meteorological Data 1994 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.9	21.5	29.2	34.7	36.5	45.1	43.2	43.8	38.9	31.3	24.6	18.4	45.1
Mean Maximum	16.2	14.0	23.2	25.0	29.9	38.6	40.5	39.9	33.8	25.0	14.2	13.7	26.2
Mean Temperature	8.0	7.2	15.1	17.1	21.9	29.6	32.1	31.5	25.3	16.9	6.9	6.7	18.2
Mean Minimum	0.7	0.5	6.8	8.8	12.8	18.4	21.9	22.1	16.5	8.6	-0.5	0.4	9.8
Extreme Minimum	-4.3	-5.3	0.6	2.6	5.8	10.3	16.6	16.3	7.5	0.6	-6.8	-7.7	-7.7
Number of Days													
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	5	12	29	31	31	23	0	0	0	131
0° (32°F) and below	11	14	0	0	0	0	0	0	0	0	18	17	60
Barometric Pressure (mb)													
Mean Barometric Pressure	922.1	917.9	917.9	916.0	915.1	916.4	917.4	918.0	918.4	916.3	917.5	920.7	917.8
Mean Relative Humidity (%)													
Hour 0400 PST	48.0	56.2	42.6	39.7	39.2	20.3	21.4	24.0	28.2	36.7	49.0	58.9	38.7
Hour 1000 PST	31.2	40.5	25.9	22.5	20.7	10.4	11.3	14.8	16.6	21.8	34.0	42.7	24.4
Hour 1600 PST	21.5	27.8	15.2	14.8	13.0	4.7	6.4	9.1	10.0	15.6	24.2	32.2	16.2
Hour 2200 PST	40.0	46.8	30.7	30.9	27.3	11.0	13.7	17.1	21.4	27.7	41.8	51.5	30.0
Precipitation (mm)													
Maximum one-hour total	2.79	1.78	1.27	4.06	1.52	0.00	0.25	0.00	0.25	0.00	1.27	5.08	5.08
Total	7.87	5.84	4.06	8.64	2.79	0.00	0.51	0.00	0.51	0.00	3.05	28.45	61.72
Wind													
Mean Speed (m/sec)	4.0	4.1	4.6	4.6	4.8	4.8	4.5	4.8	4.7	4.0	4.4	3.8	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.6	17.4	18.3	16.7	18.5	14.7	18.8	16.0	16.5	14.3	16.7	14.1	18.8
Peak 3 sec Gust (m/sec)	17.5	21.4	22.7	20.4	23.6	18.3	22.3	18.9	20.1	17.9	19.2	16.3	23.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.78	0.88	1.17	1.30	1.42	1.46	1.43	1.37	1.23	1.03	0.80	0.64	1.13

Source DTN: MO0312SEPPQ1994.001 [DIRS 176093].

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APPENDIX I
1995 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table I-1. Meteorological Data 1995 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Mean Temperature	5.2	11.8	9.4	13.1	16.3	22.2	28.1	28.0	24.5	18.1	13.7	7.4	16.5
Barometric Pressure (mb)													
Mean Barometric Pressure	886.3	887.8	884.6	882.8	881.6	883.2	885.8	883.9	885.2	886.7	889.1	887.9	885.4
Precipitation (mm)													
Maximum one-hour total	2.79	2.54	5.59	2.29	6.10	1.27	1.52	7.62	1.02	0.00	0.00	0.00	7.62
Total	98.04	8.89	59.69	9.91	30.99	2.29	3.56	18.54	1.02	0.00	0.00	0.00	232.93
Wind													
Mean Speed (m/sec)	2.3	2.9	3.7	4.2	3.4	4.0	3.8	3.6	3.3	2.8	2.6	2.8	3.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.51	0.96	0.95	1.24	1.29	1.40	1.43	1.36	1.24	1.04	0.84	0.67	1.08

Source DTN: MO0312SEPO1995.001 [DIRS 176094].

Table I-2. Meteorological Data 1995 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.5	21.1	19.7	25.0	30.2	36.6	39.1	38.6	35.3	27.6	24.3	18.1	39.1
Mean Maximum	6.9	16.2	12.5	17.6	21.1	28.0	34.5	34.3	30.3	23.1	18.8	10.6	21.2
Mean Temperature	4.0	11.6	7.9	11.5	14.8	21.0	27.7	27.4	24.2	17.9	14.2	7.2	15.8
Mean Minimum	1.7	8.2	4.2	6.3	9.9	15.4	21.8	21.9	19.4	13.7	10.8	4.2	11.5
Extreme Minimum	-2.9	1.4	-3.7	-0.6	1.9	3.4	15.8	17.0	10.7	4.1	1.9	-2.0	-3.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	1	1	2	1	1	0	0	6
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	10	26	24	13	0	0	0	73
0°C (32°F) and below	11	0	5	2	0	0	0	0	0	0	0	6	24
Barometric Pressure (mb)													
Mean Barometric Pressure	849.5	852.6	848.7	847.5	847.0	849.8	853.2	851.4	852.4	852.7	854.4	851.8	850.9
Mean Relative Humidity (%)													
Hour 0400 PST	78.8	40.1	61.5	42.8	49.4	30.3	20.9	24.3	22	20.1	28.1	41.4	38.3
Hour 1000 PST	76.2	38.6	57.2	35.0	37.8	23.1	15.8	19.2	17.5	18.0	24.9	36.8	33.3
Hour 1600 PST	74.6	26.8	43.9	24.8	28.3	15.1	9.1	11.9	11.6	13.2	19.4	28.9	25.6
Hour 2200 PST	77.6	37.1	50.5	35.6	37.4	26.6	14.5	19.5	16.1	18.3	25.8	37.8	33.1
Precipitation (mm)													
Maximum one-hour total	4.83	4.57	6.1	1.52	2.29	1.78	1.78	5.59	2.54	0.25	0.00	0.00	6.10
Maximum daily total	—	—	—	—	^a	2.29	4.57	12.45	2.54	0.25	0.00	0.00	12.45
Total	114.30	21.84	80.26	6.60	4.06	2.29	4.57	14.48	2.54	0.25	0.00	0.00	251.19
Wind													
Mean Speed (m/sec)	3.8	3.7	4.5	5.5	4.6	5.3	4.8	4.5	4.0	3.7	3.2	3.6	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.9	16.2	22.0	28.9	20.1	30.0	21.6	17.7	20.9	21.2	20.5	26.0	30.0
Peak 3 sec Gust (m/sec)	17.7	19.1	25.9	38.2	24.2	33.4	28.5	22.4	23.2	24.5	25.2	31.4	38.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.48	0.98	1.00	1.29	1.33	1.45	1.47	1.39	1.26	1.05	0.87	0.69	1.10

Source DTN: MO0312SEPPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-3. Meteorological Data 1995 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.9	22.5	19.8	25.2	29.8	36.4	39.9	39.0	35.3	27.9	25.2	18.5	39.9
Mean Maximum	7.9	17.1	13.5	18.2	21.6	28.3	34.5	34.4	30.7	24.0	19.6	12.1	21.8
Mean Temperature	4.8	12.1	8.8	12.6	15.8	21.8	28.1	27.9	24.5	18.2	14.1	7.6	16.4
Mean Minimum	2.0	7.1	4.1	6.2	9.8	14.8	20.7	20.7	18.3	12.5	9.3	3.6	10.8
Extreme Minimum	-2.7	0.6	-4.3	0.0	3.0	4.6	15.3	17.0	11.3	6.0	2.6	-3.1	-4.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	2	1	2	1	0	0	0	6
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	10	25	25	13	0	0	0	73
0°C (32°F) and below	8	0	6	1	0	0	0	0	0	0	0	5	20
Barometric Pressure (mb)													
Mean Barometric Pressure	871.2	873.6	870.1	868.4	867.6	869.8	872.6	870.7	872.1	873.1	875.2	873.2	871.5
Mean Relative Humidity (%)													
Hour 0400 PST	79.5	45.3	64.3	42.9	52.2	32.4	23.2	26.9	25.0	22.8	32.0	44.4	40.9
Hour 1000 PST	72.4	36.8	51.7	32.7	34.3	21.7	14.4	17.3	15.9	16.3	22.9	33.9	30.9
Hour 1600 PST	70.4	27.2	40.1	23.4	26.8	14.6	9.0	11.3	11.2	13.0	20.0	28.3	24.6
Hour 2200 PST	79.0	40.3	52.4	35.3	39.1	26.4	15.0	20.1	17.8	19.9	29.2	39.1	34.5
Precipitation (mm)													
Maximum one-hour total	4.57	3.3	7.37	2.54	5.84	1.78	1.52	7.87	6.86	0.00	0.00	0.00	7.87
Maximum daily total	—	—	—	—	^a	2.79	3.81	15.75	6.86	0.00	0.00	0.00	15.75
Total	136.4	18.8	83.06	9.4	23.62	3.05	3.81	17.02	6.86	0.00	0.00	0.00	302.02
Wind													
Mean Speed (m/sec)	2.0	2.5	2.8	3.3	2.6	3.1	2.8	2.6	2.5	2.4	2.3	2.4	2.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	9.3	11.8	13.9	17.0	13.7	17.3	12.0	11.2	13.1	12.2	12.8	14.6	17.3
Peak 3 sec Gust (m/sec)	15.1	16.5	21.0	24.5	18.2	24.3	17.8	16.6	18.7	17.9	18.5	22.0	24.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.49	0.98	1.0	1.28	1.32	1.44	1.47	1.39	1.26	1.05	0.85	0.68	1.10

Source DTN: MO0312SEPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-4. Meteorological Data 1995 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.0	23.6	21.4	27.0	32.1	38.0	41.6	40.6	37.7	29.5	26.5	19.5	41.6
Mean Maximum	8.6	18.2	14.5	19.3	23.0	29.8	36.2	36.0	32.3	25.1	20.5	12.9	23.0
Mean Temperature	5.2	12.1	9.3	13.1	16.3	22.5	28.9	28.8	25.3	18.5	14.4	7.8	16.9
Mean Minimum	2.1	6.1	4.5	6.8	10.2	15.0	21.2	21.6	18.2	11.7	8.6	3.1	10.8
Extreme Minimum	-2.5	0.4	-4.1	1.9	3.4	4.1	16.1	17.7	10.9	3.8	3.5	-4.3	-4.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	2	1	2	1	1	0	1	8
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	12	28	29	16	0	0	0	85
0°C (32°F) and below	9	0	3	0	0	0	0	0	0	0	0	7	19
Barometric Pressure (mb)													
Mean Barometric Pressure	876.5	878.5	875.1	873.5	872.6	874.6	877.4	875.5	876.9	878	880.2	878.5	876.4
Mean Relative Humidity (%)													
Hour 0400 PST	79.3	47.1	62.3	43.1	52.8	32.8	22.4	25.3	23.1	23.2	31.3	44.4	40.6
Hour 1000 PST	75.1	39.0	51.7	33.0	34.0	21.2	14.7	17.5	16.3	16.9	23.9	36.4	31.6
Hour 1600 PST	70.0	27.8	41.6	24.0	26.2	14.5	8.4	11.0	11.0	12.7	18.7	26.7	24.4
Hour 2200 PST	77.9	40.6	52.9	36.9	39.9	27.2	15.1	19.4	17.0	19.9	27.4	38.6	34.4
Precipitation (mm)													
Maximum one-hour total	3.05	3.56	5.59	2.54	3.56	1.52	1.27	9.65	0.51	0.25	0.00	0.25	9.65
Maximum daily total	—	—	—	—	^a	3.05	4.06	13.46	0.51	0.25	0.00	0.25	13.46
Total	122.43	18.54	76.96	10.16	17.53	4.32	4.06	14.22	0.51	0.25	0.00	0.25	269.23
Wind													
Mean Speed (m/sec)	3.0	4.3	5.1	6.0	4.6	5.5	4.8	4.3	4.0	4.0	3.5	3.9	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.0	20.4	23.9	29.2	19.0	26.8	19.7	17.9	19.9	23.5	22.0	23.7	29.2
Peak 3 sec Gust (m/sec)	19.3	23.8	28.3	32.2	23.6	30.0	25.7	20.6	22.9	26.8	27.0	27.9	32.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.53	0.99	1.02	1.30	1.32	1.43	1.47	1.39	1.27	1.06	0.84	0.66	1.11

Source DTN: MO0312SEPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-5. Meteorological Data 1995 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.0	26.0	24.1	29.5	34.5	40.4	43.5	42.3	39.7	31.8	28.3	20.9	43.5
Mean Maximum	10.9	20.5	17.2	22.0	25.0	32.0	38.4	38.3	34.6	27.3	22.6	15.1	25.3
Mean Temperature	6.4	12.7	10.8	14.5	17.5	23.6	29.6	29.6	25.8	18.8	14.3	8.2	17.7
Mean Minimum	2.3	5.5	4.3	6.6	9.3	13.9	19.3	20.1	16.9	10.8	6.9	1.6	9.8
Extreme Minimum	-2.6	-0.1	-4.7	1.2	1.4	2.6	13.8	13.7	8.8	4.6	-0.6	-4.4	-4.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	2	1	3	0	0	0	0	6
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	1	16	31	29	23	0	0	0	100
0°C (32°F) and below	7	1	4	0	0	0	0	0	0	0	1	13	26
Barometric Pressure (mb)													
Mean Barometric Pressure	906.8	908.3	905.1	903.2	901.9	903.5	905.7	903.7	905.5	907.2	909.8	908.6	905.8
Mean Relative Humidity (%)													
Hour 0400 PST	79.7	50.8	64.4	45.2	57.3	36.3	24.0	27.2	24.3	24.3	33.4	45.0	42.7
Hour 1000 PST	69.0	34.5	45.8	27.8	30.3	18.6	12.2	15.3	14.1	14.4	20.7	31.0	27.8
Hour 1600 PST	62.2	23.3	33.5	19.1	23.8	11.8	6.4	9.5	8.4	10.0	15.4	23.4	20.6
Hour 2200 PST	80.6	47.6	57.3	39.5	42.1	27.1	15.7	20.2	17.7	21.2	30.2	39.5	36.6
Precipitation (mm)													
Maximum one-hour total	4.83	5.84	4.06	1.27	2.54	2.29	0.25	1.78	0.00	0.00	0.00	0.00	5.84
Maximum daily total	—	—	—	—	^a	2.79	0.76	2.29	0.00	0.00	0.00	0.00	2.79
Total	104.65	13.97	36.07	4.83	20.07	3.05	0.76	4.57	0.00	0.00	0.00	0.00	187.97
Wind													
Mean Speed (m/sec)	3.3	4.3	4.5	4.9	4.0	4.9	4.7	4.7	4.3	4.3	4.1	4.2	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.0	16.1	19.4	21.6	14.3	20.9	15.5	16.7	13.6	17.6	17.1	18.4	21.6
Peak 3 sec Gust (m/sec)	17.9	19.3	23.7	26.4	17.3	25.1	26.5	19.2	16.1	19.8	19.2	21.3	26.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.54	0.97	1.04	1.30	1.34	1.41	1.44	1.36	1.26	1.04	0.86	0.67	1.10

Source DTN: MO0312SEPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-6. Meteorological Data 1995 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.4	23.1	20.0	25.0	29.7	35.9	39.6	38.9	35.8	28.3	25.5	18.5	39.6
Mean Maximum	7.6	17.2	13.4	18.0	21.2	28.1	34.8	34.2	30.9	25.5	19.8	12.4	21.9
Mean Temperature	4.1	10.8	8.0	11.6	14.8	20.8	27.1	26.4	23.2	17.7	12.6	6.2	15.3
Mean Minimum	1.0	4.4	2.4	4.6	7.8	12.3	17.9	17.6	15.1	10.7	6.4	1.1	8.4
Extreme Minimum	-3.6	-1.5	-6.9	-0.1	-0.3	2.3	14.8	13.0	8.6	5.5	0.8	-5.9	-6.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	3	1	1	1	0	0	1	7
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	10	24	24	14	0	0	0	72
0°C (32°F) and below	13	3	8	1	1	0	0	0	0	0	0	14	40
Barometric Pressure (mb)													
Mean Barometric Pressure	866.4	868.7	865.2	863.8	863.1	865.6	868.7	866.9	868.0	868.8	870.7	868.5	867.0
Mean Relative Humidity (%)													
Hour 0400 PST	83.3	53.9	71.0	51.3	61.8	40.0	30.0	34.1	31.6	27.7	37.3	50.4	47.7
Hour 1000 PST	73.1	37.7	54.6	34.9	37.5	23.1	15.9	18.9	17.7	18.3	23.5	34.9	32.5
Hour 1600 PST	72.7	28.7	43.2	25.4	28.7	16.2	9.7	12.4	12.6	14.2	20.6	28.6	26.1
Hour 2200 PST	82.8	50.7	61.3	43.1	47.0	32.9	19.4	24.8	23.1	24.7	34.3	45.4	40.8
Precipitation (mm)													
Maximum one-hour total	11.18	6.86	6.35	3.81	8.64	2.03	2.03	7.11	7.11	0.00	0.00	0.25	11.18
Maximum daily total	—	—	—	—	^a	4.83	4.83	15.49	7.11	0.00	0.00	0.25	15.49
Total	144.28	32.51	93.98	14.22	27.18	5.84	4.83	16.26	7.11	0.00	0.00	0.25	346.46
Wind													
Mean Speed (m/sec)	2.8	3.7	4.3	4.8	3.8	4.6	4.4	3.9	3.9	3.8	3.7	3.8	4.0
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.6	15.1	19.9	21.4	13.6	22.6	17.3	16.0	17.8	17.9	17.3	20.8	22.6
Peak 3 sec Gust (m/sec)	21.5	22.5	25.9	28.7	19.9	28.8	23.6	20.8	22.9	22.5	26.7	23.6	28.8
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.50	0.98	0.99	1.29	1.30	1.42	1.44	1.38	1.25	1.04	0.85	0.68	1.09

Source DTN: MO0312SEPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-7. Meteorological Data 1995 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.1	25.3	22.6	27.7	34.3	39.0	42.8	41.5	38.7	30.8	27.8	20.5	42.8
Mean Maximum	9.7	19.7	16.0	20.8	24.4	31.0	37.5	37.2	33.5	26.6	21.9	14.4	24.4
Mean Temperature	5.0	10.8	9.2	12.9	16.2	22.1	27.8	27.5	23.6	16.7	12.0	6.0	15.8
Mean Minimum	0.7	1.5	1.7	4.2	7.1	10.9	15.0	16.1	12.6	5.6	2.1	-2.5	6.2
Extreme Minimum	-6.1	-3.2	-6.6	0.3	-0.8	0.2	10.6	10.8	6.8	-2.1	-3.3	-10.0	-10.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	1	1	2	0	1	0	1	6
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	16	31	30	22	0	0	0	101
0°C (32°F) and below	16	10	10	0	1	0	0	0	0	3	5	23	68
Barometric Pressure (mb)													
Mean Barometric Pressure	892.0	894.0	890.7	889.1	888.2	890.3	893.1	891.1	892.5	893.6	895.8	894.1	892.0
Mean Relative Humidity (%)													
Hour 0400 PST	86.3	63.6	73.2	53.1	65.5	43.1	32.5	34.9	33.3	32.0	44.2	54.8	51.4
Hour 1000 PST	73.1	36.5	48.9	29.8	32.1	19.5	13.2	15.4	14.8	15.5	21.8	33.4	29.5
Hour 1600 PST	65.8	25.2	36.1	21.5	24.5	13.2	7.5	10.0	9.7	11.5	17.3	25.2	22.3
Hour 2200 PST	85.1	58.5	64.0	45.0	46.1	31.1	19.8	24.7	22.9	25.6	36.9	46.3	42.2
Precipitation (mm)													
Maximum one-hour total	10.41	3.30	6.10	2.03	4.57	1.27	1.52	8.38	0.00	0.51	0.00	0.51	10.41
Maximum daily total	—	—	—	—	^a	2.54	3.56	12.7	0.00	0.51	0.00	0.51	12.7
Total	120.14	15.49	71.12	8.89	22.86	2.54	3.56	13.97	0.00	0.51	0.00	0.51	259.59
Wind													
Mean Speed (m/sec)	2.1	2.9	3.4	4.1	3.3	3.9	3.6	3.4	3.0	2.7	2.5	2.6	3.1
<i>Fastest one-minute speed</i>													
Speed (m/sec)	12.4	14.9	17.4	21.3	13.2	18.5	14.7	14.3	13.0	13.5	14.9	16.5	21.3
Peak 3 sec Gust (m/sec)	15.4	19.3	22.3	25.5	17.9	24.8	23.5	19.0	16.5	17.1	18.4	20.3	25.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.55	1.04	1.07	1.36	1.35	1.41	1.45	1.37	1.27	1.06	0.86	0.69	1.12

Source DTN: MO0312SEPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-8. Meteorological Data 1995 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.1	24.7	22	27.2	32.5	38.9	42.0	40.9	38.1	30.0	27.2	19.6	42.0
Mean Maximum	9.4	19.1	15.4	20.2	23.6	30.4	36.8	36.6	32.8	25.8	21.4	13.9	23.8
Mean Temperature	5.1	11.0	9.1	13.0	16.2	22.2	28.1	27.9	24.0	17.0	12.5	6.6	16.1
Mean Minimum	1.1	2.9	2.3	4.6	8.0	12.1	17.1	17.7	14.3	7.8	4.4	-0.3	7.7
Extreme Minimum	-4.2	-1.8	-6.6	0.3	0.3	2.5	11.9	14.1	8.4	0.1	0.0	-7.2	-7.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	2	1	2	1	0	0	0	6
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	1	14	30	29	18	0	0	0	92
0°C (32°F) and below	13	3	7	0	0	0	0	0	0	0	0	16	39
Barometric Pressure (mb)													
Mean Barometric Pressure	886.9	888.9	885.6	884.0	883.0	885.0	887.8	885.9	887.3	888.4	890.7	889.1	886.9
Mean Relative Humidity (%)													
Hour 0400 PST	82.7	60.5	70.1	49.5	61.6	39.4	29.5	31.8	30.4	29.6	40.4	51.2	48.1
Hour 1000 PST	71.5	35.8	48.8	29.5	32.1	19.3	12.8	16.2	14.7	15.1	21.5	32.8	29.2
Hour 1600 PST	65.6	25.3	37.4	19.7	24.5	12.8	7.3	10.0	9.6	11.4	17.3	24.9	22.2
Hour 2200 PST	81.4	52.1	59.4	40.2	44.2	29.2	17.2	22.3	20.9	23.9	34.8	43.6	39.1
Precipitation (mm)													
Maximum one-hour total	10.92	2.79	5.59	1.78	6.60	0.76	1.52	8.38	0.25	0.00	0.00	0.00	10.92
Maximum daily total	—	—	—	—	^a	1.52	3.05	17.53	0.25	0.00	0.00	0.00	17.53
Total	119.89	15.75	67.82	7.87	25.15	1.78	3.05	18.54	0.25	0.00	0.00	0.00	260.10
Wind													
Mean Speed (m/sec)	2.1	2.5	3.4	4.0	3.1	3.8	3.4	3.3	2.8	2.4	2.2	2.5	3.0
<i>Fastest one-minute speed</i>													
Speed (m/sec)	12.1	15.6	16.6	19.9	12.9	19.7	14.6	13.6	12.8	14.3	15.2	16.7	19.9
Peak 3 sec Gust (m/sec)	14.9	18.0	21.0	27.6	16.2	23.9	18.4	18.1	17.8	17.8	17.4	20.3	27.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.52	0.98	1.02	1.29	1.31	1.42	1.47	1.40	1.28	1.06	0.87	0.68	1.11

Source DTN: MO0312SEPPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

Table I-9. Meteorological Data 1995 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	26.6	24.6	30.5	35.1	41.2	44.7	43.5	40.5	33.0	28.5	22.5	44.7
Mean Maximum	11.7	21.0	17.9	22.8	26.3	33.1	39.3	39.1	35.3	28.0	23.1	15.6	26.1
Mean Temperature	6.9	12.7	11.2	15.2	18.4	24.5	30.4	30.6	26.5	19.0	14.0	8.1	18.1
Mean Minimum	2.7	5.1	4.4	6.6	10.1	14.1	19.9	20.6	17.2	10.3	6.3	1.4	9.9
Extreme Minimum	-3.1	0.7	-3.8	0	1.2	2.5	12.2	13.8	10.6	3.2	-1.4	-4.9	-4.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	—	—	—	—	^a	2	1	1	0	0	0	0	4
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	18	31	30	24	1	0	0	107
0°C (32°F) and below	5	0	6	0	0	0	0	0	0	0	2	12	25
Barometric Pressure (mb)													
Mean Barometric Pressure	920.1	921.8	918.6	916.9	913.4	914.3	916.1	914.0	916.0	918.2	921.1	920.4	917.6
Mean Relative Humidity (%)													
Hour 0400 PST	82.2	55.9	68.7	46.7	64.5	37.8	23.0	25.8	23.6	25.3	36.6	45.9	44.7
Hour 1000 PST	69.4	34.8	46.2	26.5	36.3	18.4	11.8	14.5	13.7	13.6	20.3	30.1	28.0
Hour 1600 PST	61.6	23.5	33.8	20.3	28.5	11.2	6.3	9.4	8.1	9.4	14.5	23.0	20.8
Hour 2200 PST	81.3	48.0	59.6	40.3	47.3	25.6	14.0	18.2	16.6	19.5	29.6	39.0	36.6
Precipitation (mm)													
Maximum one-hour total	3.3	0.51	3.05	1.52	4.57	1.78	0.25	1.02	0.00	0.00	0.00	0.00	4.57
Maximum daily total	—	—	—	—	^a	2.03	0.25	1.02	0.00	0.00	0.00	0.00	2.03
Total	72.90	1.52	30.23	6.60	22.61	3.81	0.25	1.27	0.00	0.00	0.00	0.00	139.19
Wind													
Mean Speed (m/sec)	3.6	4	4.6	4.8	4.1	4.8	4.6	4.7	4.2	4.1	3.8	4.1	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.7	17.0	19.1	19.9	14.7	17.8	15.6	15.5	13.0	16.8	15.8	19.8	19.9
Peak 3 sec Gust (m/sec)	18.2	21.1	22.5	25.4	20.6	26.7	19.5	19.7	17.3	21.1	19.2	23.2	26.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.54	0.96	1.06	1.29	1.35	1.42	1.44	1.37	1.24	1.04	0.86	0.69	1.10

Source DTN: MO0312SEPPQ1995.001 [DIRS 176094].

^a Maximum daily total precipitation and number of days with precipitation for January through May 1995 were not included because daily precipitation data recording began on Day 151, May 31.

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APPENDIX J
1996 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table J-1. Meteorological Data 1996 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.1	23.8	25.2	31.7	36	38.5	40.9	40.2	37.2	34.7	24.6	17.4	40.9
Mean Maximum	13.3	15.2	18.8	23.5	27.8	33.8	37.8	36.9	29.9	22.8	16.4	11.6	24.0
Mean Temperature	6.9	9.5	11.7	16.6	20.7	26.3	30.4	29.3	23.1	16.1	10.7	6.5	17.3
Mean Minimum	0.7	3.6	4.4	8.6	12.5	17.1	22.1	20.8	15.7	9.2	5.1	1.9	10.1
Extreme Minimum	-5.1	-10.1	-0.8	1.3	7.2	6.7	16.9	15.9	7.4	-0.3	-1.4	-3.6	-10.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	3	0	2	1	4	0	0	3	4	3	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	21	31	31	7	5	0	0	99
0°C (32°F) and below	10	8	3	0	0	0	0	0	0	1	3	11	36
Barometric Pressure (mb)													
Mean Barometric Pressure	887.7	886.8	885.8	887.0	883.7	884.9	886.6	886.7	885.1	886.7	888.5	889.0	886.5
Precipitation (mm)													
Maximum one-hour total	0.51	2.54	3.56	0.00	0.76	1.02	11.94	0.00	0.00	2.79	10.16	5.59	11.94
Maximum daily total	1.52	5.59	8.64	0.00	1.78	1.02	12.19	0.00	0.00	14.73	22.61	18.80	22.61
Total	0.00	19.3	15.49	0.00	3.81	1.52	20.57	0.00	0.00	6.35	59.18	22.35	148.59
Wind													
Mean Speed (m/sec)	2.8	3.2	4.1	4.6	4.0	3.8	3.5	3.3	3.5	3.4	3.3	3.0	3.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.0	17.5	17.4	19.2	16.7	15.5	14.9	18.7	16.4	23.3	16.2	15.6	23.3
Direction (deg)	348.9	186.5	341.3	184.6	176.2	156.7	94.6	251.7	163.5	338.1	4.3	182.6	338.1
Peak 3 sec Gust (m/sec)	18.5	22.9	21.7	23.2	20.6	19.3	18.4	22.9	18.9	27.1	21.1	21.1	27.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.75	0.83	1.12	1.38	1.37	1.36	1.39	1.34	1.20	1.00	0.74	0.61	1.09

Source DTN: MO0312SEPQ1996.001 [DIRS 176095].

Table J-2. Meteorological Data 1996 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.2	21.7	23.9	29.8	34.2	37.2	39.7	38.9	36.1	33.5	22.0	15.3	39.7
Mean Maximum	10.9	12.9	16.7	21.7	26.1	32.6	36.6	35.5	28.3	20.4	13.8	9.1	22.0
Mean Temperature	6.6	8.6	10.6	15.1	19.3	25.8	29.4	28.6	22.1	15.3	9.8	5.7	16.4
Mean Minimum	3.4	5.5	5.8	9.4	13.8	19.8	23.8	23.2	17.2	11.4	6.4	2.9	11.9
Extreme Minimum	-2.8	-6.8	-1.7	3.9	5.8	8.7	17.4	17.7	8.8	-0.4	-2.1	-3.1	-6.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	6	3	0	2	1	4	0	0	3	2	4	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	22	30	28	6	2	0	0	91
0°C (32°F) and below	8	7	2	0	0	0	0	0	0	1	4	4	26
Barometric Pressure (mb)													
Mean Barometric Pressure	850.5	850.0	849.4	851.0	848.5	851.1	853.4	853.3	850.4	850.7	851.6	850.9	850.9
Mean Relative Humidity (%)													
Hour 0400 PST	39.1	49.1	37.2	27.2	29.3	17.5	25.2	18.8	27.4	29.1	44.8	54.1	33.2
Hour 1000 PST	35.9	45.4	31.2	17.4	20.9	14.3	17.9	13.9	20.7	26.6	40.2	50.0	27.9
Hour 1600 PST	27.4	36.4	21.3	9.3	13.1	6.8	13.7	7.9	12.5	21.0	33.8	45.9	20.8
Hour 2200 PST	37.8	47.1	29.5	18.3	24.0	11.4	21.5	13.2	19.1	27.4	40.3	52.8	28.5
Precipitation (mm)													
Maximum one-hour total	0.76	2.79	3.56	0.00	1.27	2.03	2.54	0.00	0.00	3.05	6.60	5.59	6.60
Maximum daily total	2.03	5.59	8.64	0.00	3.05	2.54	2.54	0.00	0.00	17.78	22.86	20.07	22.86
Total	1.27	14.73	11.68	0.00	4.32	2.79	5.33	0.00	0.00	25.15	30.48	20.83	116.59
Wind													
Mean Speed (m/sec)	3.9	4.0	5.4	6.1	5.1	4.4	4.1	4.0	4.5	4.4	4.2	4.1	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	23.2	20.7	28.7	24.9	20.7	14.8	18.7	19.7	19.3	29.4	25.0	23.8	29.4
Peak 3 sec Gust (m/sec)	26.9	25.5	32.0	29.1	27.2	20.8	21.1	25.1	24.1	33.3	31.9	29.7	33.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.86	1.19	1.41	1.39	1.50	1.43	1.38	1.25	1.00	0.76	0.59	1.13

Source DTN: MO0312SEPPQ1996.001 [DIRS 176095]

Table J-3. Meteorological Data 1996 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.6	22.6	23.9	30.9	34.6	39.0	39.6	39.4	36.6	33.5	23.0	16.5	39.6
Mean Maximum	11.8	13.9	17.2	22.1	26.4	33.0	36.8	35.8	28.7	21.3	14.9	10.4	22.7
Mean Temperature	7.1	9.2	11.4	16.1	20.0	26.4	30.1	29.1	22.8	15.8	10.5	6.3	17.1
Mean Minimum	2.5	4.9	5.8	9.5	13.0	18.6	23.0	22.1	16.7	10.5	6.0	2.5	11.3
Extreme Minimum	-3.9	-7.6	0.2	2.9	6.2	8.2	17.3	17.0	8.8	0.3	-1.8	-3.5	-7.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	6	3	0	3	1	4	0	0	3	3	4	28
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	22	30	29	7	3	0	0	93
0°C (32°F) and below	9	8	0	0	0	0	0	0	0	0	2	5	24
Barometric Pressure (mb)													
Mean Barometric Pressure	872.0	871.3	870.6	871.9	868.8	870.7	872.6	872.7	870.5	871.4	872.9	872.5	871.5
Mean Relative Humidity (%)													
Hour 0400 PST	41.5	51.6	39.2	27.5	30.8	18.6	27.4	20.3	28.8	29.9	48.7	58.0	35.2
Hour 1000 PST	32.9	41.1	27.7	15.8	19.4	12.6	16.0	12.6	18.7	23.8	36.3	46.8	25.3
Hour 1600 PST	27.3	33.6	20.2	9.2	12.5	6.2	12.8	7.0	11.9	19.8	32.3	45.1	19.8
Hour 2200 PST	39.5	49.9	30.9	17.7	24.0	11.7	20.9	13.3	19.4	27.9	43.1	55.8	29.5
Precipitation (mm)													
Maximum one-hour total	0.76	2.79	5.84	0.00	1.02	2.03	2.54	0.00	0.00	3.56	14.48	5.84	14.48
Maximum daily total	2.29	5.33	11.68	0.00	3.05	2.03	2.54	0.00	0.00	19.05	25.91	20.57	25.91
Total	1.52	15.49	16.51	0.00	4.57	2.29	5.33	0.00	0.00	3.05	64.52	22.86	136.14
Wind													
Mean Speed (m/sec)	2.4	2.6	3.2	3.4	3.0	2.8	2.6	2.5	2.7	2.6	2.6	2.4	2.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.3	12.2	16.0	16.3	12.7	11.2	12.2	11.6	12.3	18.0	15.2	11.4	18.0
Direction (degree)	306.7	150.1	309.2	302.1	166.9	168.3	103.8	294.3	151.6	307.4	309.7	294.6	307.4
Peak 3 sec Gust (m/sec)	21.4	18.9	25.2	22.9	19.1	19.4	16.5	16.9	19.1	26.2	21.3	17.4	26.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.75	0.84	1.17	1.39	1.34	1.49	1.43	1.38	1.25	0.99	0.75	0.59	1.11

Source DTN: MO0312SEPPQ1996.001 [DIRS 176095].

Table J-4. Meteorological Data 1996 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.5	23.7	26.5	32.3	36.8	39.6	41.2	41.0	38.0	34.8	23.9	16.2	41.2
Mean Maximum	12.6	15.1	18.7	23.5	28.1	34.5	38.2	37.3	30.0	22.3	15.6	11.0	23.9
Mean Temperature	7.6	9.7	11.8	16.5	20.9	27.0	30.6	29.7	23.4	16.1	10.8	6.8	17.6
Mean Minimum	2.8	4.8	5.6	9.4	14.0	18.9	23.3	22.2	16.9	10.2	6.0	2.9	11.4
Extreme Minimum	-4.0	-7.9	-0.3	3.5	7.8	9.4	18.5	18.0	8.4	0.0	-0.2	-2.2	-7.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	5	3	0	2	1	3	0	0	3	2	3	23
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	4	25	31	31	9	4	0	0	105
0°C (32°F) and below	8	6	2	0	0	0	0	0	0	1	1	6	24
Barometric Pressure (mb)													
Mean Barometric Pressure	877.2	876.5	875.5	876.4	873.2	875.1	877.1	877.2	875	876.1	877.9	877.6	876.2
Mean Relative Humidity (%)													
Hour 0400 PST	40.3	51.1	39.6	27.3	29.8	17.5	27.1	18.7	27.8	29.5	46.5	55.3	34.2
Hour 1000 PST	35.1	43.1	28.8	16.1	19.8	13.4	17.0	13.3	19.5	24.7	36.4	48.7	26.3
Hour 1600 PST	26.2	33.0	20.0	9.2	12.3	6.3	13.5	7.2	11.9	20.1	30.8	42.9	19.4
Hour 2200 PST	39.0	48.9	30.8	18.4	23.1	11.8	21.7	13.5	19.6	27.6	40.4	54.6	29.1
Precipitation (mm)													
Maximum one-hour total	0.51	2.29	3.3	0.00	0.76	0.25	8.38	0.00	0.00	2.79	10.67	5.84	10.67
Maximum daily total	1.02	5.08	7.62	0.00	1.52	0.51	9.14	0.00	0.00	17.02	27.43	20.57	27.43
Total	0.00	13.97	11.68	0.00	2.54	0.51	9.91	0.00	0.00	27.69	37.59	23.88	127.76
Wind													
Mean Speed (m/sec)	3.9	4.3	5.6	6.6	5.5	4.6	4.5	4.1	4.4	4.9	4.8	3.7	4.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	24.4	21.1	27.8	25.3	24.6	20.3	25.1	19.8	21.0	33.2	22.8	19.5	33.2
Peak 3 sec Gust (m/sec)	28.0	25.0	31.4	29.9	29.3	23.6	28.2	28.5	24.1	37.2	26.8	23.2	37.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.74	0.86	1.16	1.37	1.39	1.48	1.42	1.38	1.24	1.00	0.77	0.60	1.12

Source DTN: MO0312SEPCQ1996.001 [DIRS 176095].

Table J-5. Meteorological Data 1996 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.0	25.4	28.5	34.6	38.8	41.6	43.1	42.3	39.9	36.9	26.0	17.9	43.1
Mean Maximum	14.9	17.3	21.0	25.7	30.1	36.7	40.5	39.4	32.4	24.8	18.0	13.2	26.2
Mean Temperature	7.6	10.6	12.9	17.8	21.9	27.8	32.0	30.5	24.2	17.0	11.5	7.3	18.4
Mean Minimum	0.2	3.9	5.2	9.4	12.3	17.0	22.5	20.8	15.5	9.5	5.2	1.6	10.3
Extreme Minimum	-7.1	-6.7	-0.9	2.2	6.7	8.0	16.1	14.9	7.6	-0.2	-1.6	-4.7	-7.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	3	0	2	1	2	0	0	3	3	3	23
<i>Temperature</i>													
32°C (90° F) and above	0	0	0	3	8	26	31	31	20	7	0	0	126
0°C (32°F) and below	14	8	3	0	0	0	0	0	0	1	2	12	40
Barometric Pressure (mb)													
Mean Barometric Pressure	907.4	906.4	905.4	906.1	902.6	903.9	905.6	905.7	904.0	905.8	907.9	908.0	905.7
Mean Relative Humidity (%)													
Hour 0400 PST	43.2	51.3	41.2	26.3	31.1	18.1	26.8	18.5	27.0	29.4	50.7	60.6	35.4
Hour 1000 PST	31.5	39.8	24.6	13.3	18.2	11.2	14.0	11.1	16.9	20.6	33.9	43.9	23.2
Hour 1600 PST	22.3	29.6	16.4	7.1	10.2	4.7	9.6	5.5	9.6	17.3	27.5	36.2	16.3
Hour 2200 PST	40.3	50.3	32.4	17.8	22.3	11.2	20.3	13.3	20.2	28.0	46.2	59.6	30.2
Precipitation (mm)													
Maximum one-hour total	2.03	5.59	2.29	0.00	1.27	0.25	0.76	0.00	0.00	6.35	4.06	3.81	6.35
Maximum daily total	3.30	7.87	5.08	0.00	2.54	0.51	0.76	0.00	0.00	19.81	24.13	13.46	24.13
Total	0.25	18.54	6.60	0.00	3.30	0.51	1.02	0.00	0.00	28.45	29.46	15.24	103.38
Wind													
Mean Speed (m/sec)	4.0	4.3	5.0	5.5	4.8	4.7	4.5	4.4	4.5	4.6	4.3	4.1	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.2	19.6	19.7	20.1	18.0	17.3	18.4	15.3	16.7	25.3	15.7	17.1	25.3
Direction (degree)	339.7	185.2	349.1	340.0	73.5	180.5	81.8	133.1	177.7	336.9	314.9	170.0	336.9
Peak 3 sec Gust (m/sec)	19.2	23.1	23.6	24.6	22.8	20.1	21.7	20.0	20.6	30.4	19.2	22.1	30.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.87	1.18	1.39	1.39	1.48	1.43	1.37	1.24	0.99	0.77	0.64	1.13

Source DTN: MO0312SEPO1996.001 [DIRS 176095].

Table J-6. Meteorological Data 1996 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.0	22.5	24.1	30.4	34.7	38.0	39.2	39.2	36.3	33.7	23.4	16.4	39.2
Mean Maximum	12.0	14.0	17.3	22.0	26.3	32.7	36.5	35.7	28.6	21.1	14.9	10.2	22.6
Mean Temperature	5.6	8.2	10.2	15.2	19.3	25.1	28.9	27.7	21.5	14.6	9.3	5.3	15.9
Mean Minimum	-0.2	2.6	3.4	7.5	11.4	15.6	20.2	19.0	14.1	8.0	4.0	0.6	8.8
Extreme Minimum	-7.1	-9.9	-1.8	0.4	6.8	5.2	14.4	13.1	6.6	-1.0	-2.9	-5.1	-9.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	6	3	0	2	1	3	0	0	3	3	4	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	21	29	27	6	3	0	0	89
0°C (32°F) and below	16	8	4	0	0	0	0	0	0	2	3	16	49
Barometric Pressure (mb)													
Mean Barometric Pressure	867.3	866.7	865.9	867.3	864.5	866.7	868.9	868.9	866.4	867.1	868.4	868.0	867.2
Mean Relative Humidity (%)													
Hour 0400 PST	47.8	55.8	46.7	30.7	34.3	22.3	33.6	23.6	32.8	33.4	54.0	63.4	39.9
Hour 1000 PST	34.1	41.7	29.3	16.9	19.3	14.1	17.8	13.9	20.3	25.1	37.5	46.7	26.4
Hour 1600 PST	27.9	34.2	20.9	10.0	13.7	7.3	15.1	8.2	13.1	20.7	33.0	44.1	20.7
Hour 2200 PST	44.8	54.2	36.1	20.6	26.8	14.7	25.1	16.3	23.1	31.2	48.3	61.9	33.6
Precipitation (mm)													
Maximum one-hour total	2.03	3.05	5.59	0.00	1.02	1.02	7.87	0.00	0.00	2.79	6.35	6.10	7.87
Maximum daily total	3.30	4.83	10.41	0.00	2.54	1.02	10.16	0.00	0.00	9.91	30.23	20.57	30.23
Total	0.00	15.24	17.78	0.00	4.57	1.02	16.76	0.00	0.00	27.18	35.31	22.86	140.72
Wind													
Mean Speed (m/sec)	3.7	3.9	4.6	4.9	4.3	4.2	3.9	3.8	4.1	4.1	4.0	3.5	4.1
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.6	18.1	20.2	18.1	17.5	19.1	17.0	15.9	15.1	19.8	16.6	16.4	20.2
Direction (degree)	335.5	154.4	346.2	349.3	354.1	142.8	158.5	164.4	148.9	345.1	337.1	154.4	346.2
Peak 3 sec Gust (m/sec)	21.2	25.7	26.1	26.6	24.1	25.0	23.4	21.1	20.1	27.0	23.0	23.0	27.0
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.75	0.83	1.16	1.39	1.39	1.48	1.42	1.38	1.24	0.99	0.76	0.58	1.11

Source DTN: MO0312SEPPQ1996.001 [DIRS 176095].

Table J-7. Meteorological Data 1996 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.7	24.5	27.0	33.3	37.8	40.4	42.5	42.3	39.3	36.1	25.6	17.3	42.5
Mean Maximum	14.1	16.5	20.1	24.8	29.2	35.7	39.4	38.5	31.4	23.8	17.2	12.1	25.2
Mean Temperature	5.6	8.8	11.3	16.4	20.4	26.1	30.2	28.6	22.3	15.1	9.9	5.7	16.7
Mean Minimum	-3.3	0.6	2.2	5.9	9.8	13.4	19.0	16.8	12.1	6.1	2.4	-0.6	7.0
Extreme Minimum	-10.2	-10.8	-4.4	-0.9	6.0	3.5	13.9	11.9	4.2	-5.0	-3.3	-6.8	-10.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	5	3	0	3	1	3	0	0	4	3	4	27
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	7	26	31	31	13	7	0	0	117
0°C (32°F) and below	26	11	8	1	0	0	0	0	0	2	7	19	74
Barometric Pressure (mb)													
Mean Barometric Pressure	892.8	892.1	891.3	892.5	899.4	891.2	893.2	893.3	891.1	892.2	893.9	893.8	892.2
Mean Relative Humidity (%)													
Hour 0400 PST	51.6	57.6	48.3	31.0	35.1	22.9	34.5	23.9	32.9	34.6	60.1	69.6	41.8
Hour 1000 PST	32.4	39.7	25.8	14.0	17.8	11.6	15.0	11.4	17.3	21.9	34.8	46.4	24.0
Hour 1600 PST	24.2	30.1	18.4	8.0	10.9	5.3	12.1	6.1	10.4	18.0	28.9	39.1	17.6
Hour 2200 PST	45.6	53.8	36.3	19.9	24.9	13.6	23.6	15.6	22.6	30.1	52.2	66.2	33.7
Precipitation (mm)													
Maximum one-hour total	0.51	3.30	4.32	0.00	0.76	0.25	14.99	0.00	0.00	2.79	10.16	5.84	14.99
Maximum daily total	1.02	5.59	7.87	0.00	1.78	0.51	15.24	0.00	0.00	17.27	27.18	20.07	27.18
Total	0.51	13.21	11.18	0.00	2.54	0.51	19.81	0.00	0.00	25.4	36.32	22.61	132.08
Wind													
Mean Speed (m/sec)	2.7	3.0	3.9	4.4	3.9	3.6	3.4	3.2	3.3	3.2	3.1	2.6	3.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.8	16.4	18.1	18.0	17.0	16.8	15.6	15.1	16.9	23.2	17.5	17.1	23.2
Direction (degree)	319.9	161.5	328.5	190.2	165.8	160.8	164.8	151.6	217.8	331.3	338.9	161.9	331.3
Peak 3 sec Gust (m/sec)	20.5	20.7	21.1	23.3	23.0	23.1	19.1	18.6	26.9	27.7	20.7	20.6	27.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.85	1.15	1.38	1.39	1.46	1.42	1.36	1.23	0.99	0.76	0.61	1.11

Source DTN: MO0312SEPO1996.001 [DIRS 176095].

Table J-8. Meteorological Data 1996 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.3	24.1	26.1	32.8	37.1	39.9	41.7	41.2	38.2	35.6	24.8	16.7	41.7
Mean Maximum	13.5	15.8	19.3	24.2	28.6	34.9	38.7	37.7	30.7	23.1	16.6	11.8	24.6
Mean Temperature	6.1	9.0	11.4	16.3	20.6	26.4	30.2	28.8	22.6	15.3	10.0	6.0	16.9
Mean Minimum	-1.3	1.9	3.2	7.1	10.8	15.2	20.1	18.4	13.5	7.3	3.5	0.3	8.3
Extreme Minimum	-7.1	-9.5	-2.3	0.9	0.0	6.6	14.6	13.7	5.9	-3.1	-2.6	-5.4	-9.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	4	3	0	2	1	4	0	0	3	3	4	25
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	4	26	31	31	10	6	0	0	109
0°C (32°F) and below	19	8	7	0	1	0	0	0	0	2	5	15	57
Barometric Pressure (mb)													
Mean Barometric Pressure	887.8	887.9	886.1	887.3	884.0	885.8	887.8	887.8	885.7	886.9	888.6	888.5	886.9
Mean Relative Humidity (%)													
Hour 0400 PST	47.9	56.5	46.6	29.5	33.0	21.0	32.6	23.0	31.3	33.0	56.9	64.4	39.6
Hour 1000 PST	31.8	39.8	25.9	14.0	17.9	11.7	15.1	11.3	17.3	21.8	34.8	44.8	23.9
Hour 1600 PST	24.1	30.6	18.2	7.9	10.9	5.2	12.4	6.1	10.5	18.1	29.3	40.8	17.8
Hour 2200 PST	44.0	54.0	34.9	18.7	24.3	12.6	23.6	14.6	21.4	29.5	49.3	61.7	32.4
Precipitation (mm)													
Maximum one-hour total	0.51	4.32	3.3	0.00	0.76	1.02	7.37	0.00	0.00	3.30	10.16	5.59	10.16
Maximum daily total	1.27	5.33	7.62	0.00	2.29	1.27	7.87	0.00	0.00	19.56	25.91	19.30	25.91
Total	0.51	17.53	12.7	0.00	3.81	1.27	17.78	0.00	0.00	6.60	57.91	23.37	141.48
Wind													
Mean Speed (m/sec)	2.5	2.9	3.7	4.3	3.7	3.5	3.2	2.9	3.1	3.0	2.8	2.7	3.2
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.6	17.0	16.9	17.8	17.1	15.8	14.0	14.3	16.7	21.3	16.4	17.1	21.3
Direction (degree)	327.9	181.1	353.1	346.3	180.4	179.6	164.1	184.7	167.4	332.3	4.1	200.7	332.3
Peak 3 sec Gust (m/sec)	20.5	21.3	25	21.9	20.6	19.7	20.5	18.9	21.4	27.3	21.9	20.8	27.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.86	1.17	1.40	1.40	1.47	1.41	1.37	1.24	1.00	0.77	0.62	1.12

Source DTN: MO0312SEPO 1996.001 [DIRS 176095].

Table J-9. Meteorological Data 1996 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.6	25.5	29.0	35.4	39.5	42.0	43.9	43.2	40.4	37.8	26.4	18.3	43.9
Mean Maximum	15.5	18.0	21.8	26.7	31.0	37.4	41.2	40.1	33.1	25.4	18.7	14.0	26.9
Mean Temperature	7.5	10.9	13.4	18.2	22.6	28.5	32.8	31.0	24.7	17.2	11.6	7.5	18.8
Mean Minimum	-0.1	4.1	5.3	8.9	12.6	17.4	22.9	20.8	15.7	9.3	5.0	2.1	10.3
Extreme Minimum	-7.6	-4.9	-1.3	2.7	7.9	8.4	16.1	14.4	8.4	1.0	-3.0	-3.9	-7.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	2	0	2	0	2	0	0	3	2	3	20
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	5	11	27	31	31	20	9	0	0	134
0°C (32°F) and below	13	6	2	0	0	0	0	0	0	0	3	10	34
Barometric Pressure (mb)													
Mean Barometric Pressure	919.1	918.1	916.9	917.3	913.4	914.2	915.6	915.9	914.6	916.8	919.4	919.8	916.8
Mean Relative Humidity (%)													
Hour 0400 PST	45.0	53.5	41.9	26.2	30.8	18.1	25.6	19.0	27.2	29.7	54.4	60.8	36.0
Hour 1000 PST	30.9	41.0	24.3	12.6	17.6	10.2	13.4	10.3	16.2	19.5	33.5	44.0	22.8
Hour 1600 PST	21.5	28.6	15.7	6.7	9.6	4.4	8.5	5.3	9.1	16.6	26.4	35.0	15.6
Hour 2200 PST	39.8	50.6	31.0	16.9	20.4	9.7	18.2	12.0	18.9	26.8	46.3	58.6	29.1
Precipitation (mm)													
Maximum one-hour total	0.51	4.83	1.78	0.00	0.76	0.00	0.51	0.00	0.00	2.54	4.06	3.30	4.83
Maximum daily total	1.52	7.87	2.03	0.00	1.52	0.00	0.76	0.00	0.00	13.46	15.49	9.14	15.49
Total	0.25	18.03	3.56	0.00	2.79	0.00	1.27	0.00	0.00	4.57	37.34	11.68	79.50
Wind													
Mean Speed (m/sec)	3.8	4.4	4.7	5.3	4.7	4.7	4.5	4.2	4.4	4.3	4.1	4.3	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.5	19.3	17.7	18.8	18.2	17.5	19.2	20.5	16.8	19.1	15.7	17.5	20.5
Peak 3 sec Gust (m/sec)	20.2	24.7	21.8	23.2	21.9	20.5	23.2	25.1	19.8	23.0	18.1	21.0	25.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.86	1.19	1.41	1.42	1.48	1.44	1.39	1.24	1.02	0.78	0.63	1.14

Source DTN: MO0312SEFQ1996.001 [DIRS 176095].

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APPENDIX K
1997 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table K-1. Meteorological Data 1997 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.1	19.7	27.1	28.5	36.6	36.7	38.6	40.5	35.5	31.0	26.4	19.2	40.5
Mean Maximum	11.3	14.1	21.4	21.4	30.5	31.2	34.8	35.6	30.3	22.5	16.6	10.6	23.4
Mean Temperature	6.2	8.0	13.9	14.7	23.5	24.2	27.6	28.2	23.7	15.6	10.3	4.9	16.7
Mean Minimum	1.3	1.8	5.5	7.2	15.3	16.3	19.1	20.1	16.9	7.9	4.6	-0.6	9.6
Extreme Minimum	-9.2	-2.6	-5.2	-1.3	6.2	9.7	15.3	16.1	12.9	1.8	0.3	-5.0	-9.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	8	1	0	1	1	2	2	1	4	1	5	4	30
Temperature													
32°C (90°F) and above	0	0	0	0	10	13	26	31	8	0	0	0	88
0°C (32°F) and below	13	10	3	3	0	0	0	0	0	0	0	19	48
Barometric Pressure (mb)													
Mean Barometric Pressure	888.0	887.5	887.8	884.0	885.2	882.3	886.1	887.0	886.2	886.6	886.3	889.2	886.4
Precipitation (mm)													
Maximum one-hour total	3.05	0.76	0.00	0.25	0.51	4.83	1.02	0.25	10.67	0.25	2.79	2.79	10.67
Maximum daily total	4.57	0.76	0.00	0.25	0.51	15.49	3.30	0.25	28.96	0.25	4.83	13.72	28.96
Total	13.72	0.00	0.76	0.00	0.76	26.42	5.08	0.00	55.88	0.25	9.65	28.7	141.22
Wind													
Mean Speed (m/sec)	3.2	3.9	3.3	4.2	3.5	4.0	3.6	3.8	3.5	3.7	2.5	3.5	3.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.0	17.2	14.6	14.6	14.1	16.8	14.4	13.8	13.8	16.9	15.1	15.3	17.2
Direction (degree)	13.9	349.3	181.7	345.5	349.1	162.7	169.7	183.7	183.5	173.7	170.6	336.4	349.3
Peak 3 sec Gust (m/sec)	19.1	21.5	17.5	18.8	20.6	22.1	17.7	18.5	16.5	22.5	20.3	19.6	22.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.65	0.96	1.18	1.29	1.38	1.38	1.40	1.37	1.17	1.07	0.74	0.69	1.11

Source DTN: MO0312SEPQ1997.001 [DIRS 167116].

Table K-2. Meteorological Data 1997 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	14.3	17.4	25.3	26.7	35.1	35.4	37.8	39.8	34.1	29.2	23.7	15.9	39.8
Mean Maximum	8.7	11.4	19.4	19.5	28.8	29.5	33.2	34.3	28.5	20.9	13.9	8.2	21.4
Mean Temperature	5.0	6.7	13.5	13.2	22.3	22.6	26.6	27.2	22.2	15.5	9.9	4.2	15.7
Mean Minimum	1.7	2.6	8.6	8.0	17.0	16.9	20.8	21.7	17.7	11.3	6.7	0.8	11.2
Extreme Minimum	-10.4	-2.4	-3.7	-2.2	9.0	7.5	13.6	17.4	12.7	2.5	1.2	-5.2	-10.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	6	1	0	1	0	2	2	0	4	1	5	4	26
<i>Temperature</i>													
32° (90°F) and above	0	0	0	0	6	8	21	27	5	0	0	0	67
0°C (32°F) and below	9	9	2	2	0	0	0	0	0	0	0	12	34
Barometric Pressure (mb)													
Mean Barometric Pressure	850.3	850.2	851.9	847.9	850.8	848.0	852.5	853.5	851.7	851.1	849.6	851.4	850.7
Mean Relative Humidity (%)													
Hour 0400 PST	60.7	34.5	19.8	30.3	21.6	32.3	22.3	24.9	43.1	30.2	50.7	42.3	34.4
Hour 1000 PST	60.4	32.5	18.2	23.0	15.1	25.0	20.2	18.6	33.2	23.4	44.9	37.0	29.3
Hour 1600 PST	52.9	20.7	10.1	16.4	10.3	16.1	11.1	10.9	25.1	16.8	41.0	32.8	22.0
Hour 2200 PST	58.5	30.0	14.6	24.6	17.0	24.1	17.6	18.6	37.1	25.1	48.4	40.1	29.6
Precipitation (mm)													
Maximum one-hour total	2.79	0.25	0.00	0.25	0.00	5.08	1.52	0.00	9.40	0.25	2.79	2.03	9.40
Maximum daily total	7.37	0.51	0.00	0.25	0.00	20.83	3.81	0.00	29.21	0.51	6.60	13.46	29.21
Total	11.81	0.00	0.00	0.00	0.00	31.12	4.32	0.00	50.55	0.51	13.21	23.62	135.13
Wind													
Mean Speed (m/sec)	4.4	5.4	4.3	5.8	4.6	4.6	4.1	4.6	4.4	4.9	3.4	4.8	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	22.4	25.3	19.1	22.5	21.1	19.8	14.7	14.4	14.1	24.5	17.1	23.3	25.3
Direction (degree)	311.7	316.3	331.7	321.2	317.0	281.1	189.6	215.0	238.9	322.1	211.1	310.1	316.3
Peak 3 sec Gust (m/sec)	24.9	29.5	23.0	25.5	25.0	22.3	17.5	17.1	19.7	27.2	20.1	27.8	29.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.98	1.21	1.33	1.43	1.40	1.44	1.39	1.23	1.09	0.75	0.70	1.13

Source DTN: MO0312SEPQ1997.001 [DIRS 167116].

Table K-3. Meteorological Data 1997 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	15.7	18.6	26.3	27.3	35.3	35.4	37.6	39.6	34.4	29.2	24.9	17.5	39.6
Mean Maximum	9.8	12.6	20.1	20.2	29.5	29.9	33.6	34.3	29.1	21.8	15.0	9.2	22.1
Mean Temperature	5.9	7.7	13.8	14.2	23.2	23.6	27.2	27.9	23.1	16.1	10.2	4.8	16.5
Mean Minimum	1.8	2.9	7.2	8.1	16.3	16.6	20.0	21.0	17.2	10.4	5.8	0.8	10.7
Extreme Minimum	-10.1	-1.6	-4.2	-0.1	8.1	8.7	12.7	16.4	12.4	2.6	0.4	-4.6	-10.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	6	1	0	1	2	2	2	1	4	1	6	5	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	9	24	25	5	0	0	0	71
0°C (32°F) and below	9	4	2	1	0	0	0	0	0	0	0	14	30
Barometric Pressure (mb)													
Mean Barometric Pressure	872.0	871.7	872.7	868.8	870.8	867.9	872.1	873.0	871.8	871.8	870.8	873.1	871.4
Mean Relative Humidity (%)													
Hour 0400 PST	63.2	36.2	23.2	31.8	22.8	34.2	24.0	26.2	45.9	33.1	57.1	46.7	37.0
Hour 1000 PST	57.3	30.0	16.3	20.8	13.4	22.7	18.3	16.7	30.1	21.1	41.4	35.3	27.0
Hour 1600 PST	49.8	20.1	9.7	15.5	9.2	14.9	10.2	10.3	23.4	16.3	39.9	32.7	21.0
Hour 2200 PST	60.9	31.1	17.1	24.5	17.0	24.2	17.3	18.4	38.4	26.8	52.7	42.5	30.9
Precipitation (mm)													
Maximum one-hour total	2.79	0.76	0.00	0.25	1.02	5.59	1.27	0.25	9.65	0.51	2.79	2.03	9.65
Maximum daily total	9.40	0.76	0.00	0.51	1.02	19.30	3.56	0.25	28.96	0.76	6.10	14.48	28.96
Total	14.68	0.00	0.00	0.00	1.02	31.37	4.32	0.00	46.99	0.76	17.78	27.94	144.86
Wind													
Mean Speed (m/sec)	2.5	3.1	2.7	3.3	2.7	2.9	2.6	2.7	2.7	3.0	2.2	2.9	2.8
<i>Fastest one-minute speed</i>													
Speed (m/sec)	12.8	14.2	12.2	13.3	11.9	12.0	11.0	11.7	10.5	14.5	11.4	14.9	14.9
Direction (degree)	284.4	306.3	300.6	307.6	289.6	139.9	100.5	170.7	94.7	300.3	150.1	303.8	303.8
Peak 3 sec Gust (m/sec)	17.8	21.1	18.8	19.2	17.3	19.4	16.7	16.7	16.1	24.8	16.5	21.4	24.8
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.98	1.20	1.33	1.42	1.38	1.42	1.38	1.22	1.09	0.75	0.71	1.13

Source DTN: MO0312SEPPQ1997.001 [DIRS 167116].

Table K-4. Meteorological Data 1997 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.4	19.5	27.3	28.3	36.8	37.5	39.6	41.7	35.7	31.1	25.2	18.6	41.7
Mean Maximum	10.4	13.1	21.2	21.2	30.9	31.3	35.1	35.7	30.4	22.9	15.8	9.6	23.1
Mean Temperature	6.1	8.0	14.2	14.5	23.7	24.2	27.8	28.5	23.5	16.2	10.5	5.1	16.9
Mean Minimum	2.0	2.9	6.9	8.0	16.6	17.2	20.2	21.6	17.5	9.6	5.7	1.1	10.8
Extreme Minimum	-8.5	-1.6	-3.5	0.2	9.4	8.7	14.9	17.8	14.3	3.5	1.1	-3.0	-8.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	1	0	1	1	2	2	1	4	1	6	4	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	15	26	31	9	0	0	0	92
0°C (32°F) and below	7	6	2	0	0	0	0	0	0	0	0	11	26
Barometric Pressure (mb)													
Mean Barometric Pressure	877.1	876.6	877.4	873.5	875.3	872.4	876.6	877.5	876.3	876.4	875.7	878.2	876.1
Mean Relative Humidity (%)													
Hour 0400 PST	63.7	37.5	23.3	32.8	23.4	32.8	23.7	25.5	45.3	32.9	55.1	46.5	36.9
Hour 1000 PST	60.2	32.3	17.8	21.6	14.1	23.5	19.2	17.7	31.9	22.1	44.9	38.4	28.6
Hour 1600 PST	49.9	20.7	10.2	15.6	9.7	15.1	10.3	10.8	24.0	16.3	39.9	31.8	21.2
Hour 2200 PST	60.9	31.8	16.8	25.5	17.1	24.8	17.5	18.3	38.1	26.7	51.7	43.9	31.0
Precipitation (mm)													
Maximum one-hour total	2.54	0.76	0.00	0.25	0.51	4.57	1.27	1.78	12.70	0.25	3.05	2.79	12.70
Maximum daily total	8.64	0.76	0.00	0.51	0.51	13.72	4.57	2.03	28.96	0.25	7.37	15.49	28.96
Total	13.97	0.00	0.00	0.00	0.00	23.37	6.60	1.02	54.86	0.25	19.05	24.13	143.26
Wind													
Mean Speed (m/sec)	4.5	6.1	4.6	6.4	5.0	5.1	4.3	4.5	4.7	5.1	3.4	5.8	5.0
<i>Fastest one-minute speed</i>													
Speed (m/sec)	27.0	25.2	26.0	23.5	21.7	20.5	18.0	17.4	20.2	24.0	21.0	25.2	27.0
Direction (degree)	19.1	344.8	16.8	24.5	342.8	164.8	27.4	183.1	24.5	338.2	183.0	21.0	19.1
Peak 3 sec Gust (m/sec)	30.7	29.3	28.8	26.5	26.3	24.6	21.6	21.2	22.3	27.6	25.0	27.4	30.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.97	1.20	1.32	1.43	1.41	1.43	1.39	1.21	1.09	0.73	0.69	1.13

Source DTN: MO0312SEPPQ1997.001 [DIRS 167116].

Table K-5. Meteorological Data 1997 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.1	21.9	29.6	30.6	39.0	39.5	41.1	43.2	38.1	33.4	27.6	20.6	43.2
Mean Maximum	13.0	16.0	23.6	23.5	33.1	33.7	37.3	38.0	32.5	25.1	18.1	12.1	25.5
Mean Temperature	7.3	9.0	14.7	15.8	24.7	25.7	28.8	29.6	24.8	16.9	11.1	5.8	17.8
Mean Minimum	1.5	1.9	5.4	7.4	15.2	16.6	18.7	20.5	17.5	9.2	4.8	-0.2	9.9
Extreme Minimum	-6.4	-3.4	-6.7	-0.5	5.1	10.6	12.2	14.9	14.4	2.5	0.5	-6.7	-6.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	1	0	1	1	2	2	1	5	0	6	3	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	20	25	29	31	19	1	0	0	125
0°C (32°F) and below	12	6	5	2	0	0	0	0	0	0	0	15	40
Barometric Pressure (mb)													
Mean Barometric Pressure	907.6	907.1	907.4	903.4	904.5	901.3	905.3	906.2	905.3	906.1	905.8	909.0	905.8
Mean Relative Humidity (%)													
Hour 0400 PST	64.3	39.1	25.4	32.8	23.4	32.9	24.3	25.4	44.7	33.8	57.6	50.6	37.9
Hour 1000 PST	52.2	26.3	14.9	18.7	11.6	20.3	17.1	14.9	29.2	19.2	40.7	35.1	25.0
Hour 1600 PST	40.9	16.1	7.4	12.2	7.4	12.5	8.0	8.1	20.9	13.4	35.2	27.9	17.5
Hour 2200 PST	59.8	33.1	19.6	25.0	16.6	24.2	17.4	17.6	40.4	29.0	56.5	46.8	32.2
Precipitation (mm)													
Maximum one-hour total	2.29	1.02	0.00	0.25	1.78	4.06	10.67	0.25	10.16	0.00	2.54	2.54	10.67
Maximum daily total	5.33	1.02	0.00	0.25	1.78	9.65	12.70	0.25	26.67	0.00	6.35	11.18	26.67
Total	8.13	1.02	0.00	0.25	1.78	18.54	12.95	0.00	55.63	0.00	13.21	17.78	129.29
Wind													
Mean Speed (m/sec)	4.2	4.8	4.7	4.9	4.5	4.7	4.4	4.8	4.7	5	3.8	4.3	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.0	18.9	16.5	17.0	14.2	19.5	15.3	14.8	17.1	19.2	17.8	14.2	19.5
Direction (degree)	171.7	336.3	341.8	359.6	164.9	161.5	200.6	192.0	160.2	187.4	213.4	0.5	161.5
Peak 3 sec Gust (m/sec)	18.4	22.4	22.7	21.2	23.5	24.6	19.1	17.9	20.4	26.0	21.9	17.0	26.0
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.66	0.96	1.21	1.34	1.45	1.41	1.43	1.37	1.21	1.08	0.74	0.67	1.13

Source DTN: MO0312SEPG1997.001 [DIRS 167116].

Table K-6. Meteorological Data 1997 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	15.4	19	25.8	26.6	34.9	35.1	37.7	39.4	34.0	29.3	25.1	17.7	39.4
Mean Maximum	9.7	12.6	20.0	19.9	29.3	29.8	33.4	34.2	29.0	21.8	15.0	9.2	22.0
Mean Temperature	4.9	6.5	12.3	13.1	21.9	22.6	25.9	26.4	21.9	14.8	8.9	3.7	15.2
Mean Minimum	0.2	0.7	4.4	5.9	13.8	14.4	17.2	17.8	14.8	8.0	3.5	-1.2	8.3
Extreme Minimum	-11.1	-2.6	-6.2	-0.9	5.7	8.2	12.6	12.7	11.1	1.1	-1.1	-6.5	-11.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	7	1	0	1	1	2	2	1	5	1	6	3	30
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	7	9	22	25	5	0	0	0	68
0°C (32°F) and below	14	13	6	4	0	0	0	0	0	0	2	23	62
Barometric Pressure (mb)													
Mean Barometric Pressure	867.5	867.2	868.4	864.6	866.9	864.0	868.3	869.3	867.8	867.6	866.6	868.8	867.2
Mean Relative Humidity (%)													
Hour 0400 PST	66.9	42.4	28.5	35.3	27.7	38.8	28.2	31.5	51.2	38.3	61.6	52.1	41.9
Hour 1000 PST	56.8	31.2	17.4	22.0	14.9	23.6	19.4	18.6	31.2	22.4	41.7	36.7	28.0
Hour 1600 PST	49.9	21.3	10.7	16.7	10.9	16.3	11.2	11.7	24.6	17.2	40.3	33.5	22.0
Hour 2200 PST	64.3	36.2	22.4	28.7	20.8	28.0	21.1	21.4	42.9	31.7	57.9	48.0	35.3
Precipitation (mm)													
Maximum one-hour total	2.29	1.27	0.00	0.51	0.51	5.33	1.27	0.25	13.97	1.27	3.81	1.52	13.97
Maximum daily total	8.64	1.27	0.00	0.51	0.51	19.30	4.06	0.25	28.45	1.78	8.64	12.95	28.45
Total	16.51	1.27	0.00	0.76	0.25	29.97	5.59	0.00	56.13	1.78	22.86	29.97	165.1
Wind													
Mean Speed (m/sec)	3.9	4.8	4.2	4.8	4.0	4.2	4.0	4.2	3.9	4.5	3.4	4.5	4.2
<i>Fastest one-minute speed</i>													
Speed (m/sec)	20.1	18.5	17.9	18.0	16.8	17.8	16.4	16.4	15.1	18.3	17.4	18.5	20.1
Direction (degree)	358.4	346.0	5.2	350.6	49.0	154.0	150.5	154.7	146.1	151.0	148.6	355.7	358.4
Peak 3 sec Gust (m/sec)	26.1	21.1	22.6	22.9	20.5	23.9	22.9	24.0	21.1	26.0	24.8	24.4	26.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.97	1.20	1.33	1.41	1.40	1.42	1.39	1.22	1.08	0.74	0.70	1.12

Source DTN: MO0312SEPO1997.001 [DIRS 167116].

Table K-7. Meteorological Data 1997 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.9	20.9	28.7	29.6	38.3	38.7	40.2	42.4	36.7	32.4	26.8	20.4	42.4
Mean Maximum	11.9	15.0	22.6	22.6	32.0	32.6	36.4	37.2	31.6	24.3	17.3	11.2	24.6
Mean Temperature	5.8	7.5	12.7	14.4	23.2	24.0	27.0	27.5	23.2	15.1	9.2	4.2	16.1
Mean Minimum	-0.4	-0.6	1.5	4.9	12.0	13.5	15.3	16.4	14.3	5.3	1.6	-2.9	6.7
Extreme Minimum	-9.3	-6.2	-6.9	-3.5	5.6	9.4	10.1	10.1	8.2	-2.9	-2.2	-9.0	-9.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	2	0	1	1	2	2	0	4	1	6	5	28
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	14	20	29	31	14	1	0	0	109
0°C (32°F) and below	20	15	9	7	0	0	0	0	0	3	13	24	91
Barometric Pressure (mb)													
Mean Barometric Pressure	893.3	893.0	893.8	890.0	891.8	888.8	893.0	893.9	892.7	892.9	892.1	894.9	892.5
Mean Relative Humidity (%)													
Hour 0400 PST	71.5	47.3	32.5	37.0	27.6	40.2	29.4	31.7	54.0	45.7	66.6	58.1	45.1
Hour 1000 PST	55.1	28.7	15.3	19.1	12.2	20.7	16.9	15.5	28.4	19.5	40.4	37.2	25.7
Hour 1600 PST	44.8	18.4	8.7	13.9	8.3	13.3	8.8	9.1	21.5	14.5	36.2	30.2	19.0
Hour 2200 PST	66.3	37.6	22.7	27.7	19.4	26.9	20.8	21.0	42.9	32.7	60.4	54.1	36.0
Precipitation (mm)													
Maximum one-hour total	5.84	1.27	0.00	0.25	0.76	4.83	4.06	0.00	9.14	0.51	2.79	2.54	9.14
Maximum daily total	9.14	1.27	0.00	0.51	0.76	13.21	7.87	0.00	29.72	0.51	7.11	13.46	29.72
Total	15.49	0.00	1.52	0.64	0.38	23.75	9.78	0.00	52.32	0.51	15.49	27.69	147.57
Wind													
Mean Speed (m/sec)	3.0	3.8	3.2	4.1	3.5	3.8	3.4	3.5	3.4	3.5	2.3	3.4	3.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.4	16.8	15.0	15.2	13.1	16.6	14.6	14.2	15.7	17.1	16.6	16.0	17.4
Direction (degree)	0.8	338.3	163.5	4.8	164.3	164.2	162.3	154.0	163.6	169.5	162.3	1.2	0.8
Peak 3 sec Gust (m/sec)	20.7	20.7	18.7	19.3	18.4	20.4	20.3	18.7	18.6	26.5	20.3	18.6	26.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.98	1.19	1.31	1.41	1.41	1.43	1.39	1.22	1.07	0.74	0.7	1.12

Source DTN: MO0312SEPPQ1997.001 [DIRS 167116].

Table K-8. Meteorological Data 1997 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.0	20.1	28.1	29.2	37.4	37.6	39.4	41.4	36.1	31.5	26.0	18.9	41.4
Mean Maximum	11.5	14.4	21.8	21.9	31.4	31.9	35.6	36.4	30.8	23.6	16.7	10.7	23.9
Mean Temperature	5.9	7.5	13.0	14.3	23.2	24.1	27.2	27.9	23.1	15.3	9.5	4.4	16.3
Mean Minimum	0.6	0.5	2.9	5.7	13.5	14.5	16.8	18.0	15.0	6.8	2.8	-1.6	8.0
Extreme Minimum	-8.9	-4.0	-6.3	-2.2	5.2	9.2	13.2	13.1	10.0	-0.3	-1.2	-6.9	-8.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	1	0	0	3	2	2	0	5	0	7	5	29
<i>Temperature</i>													
32° C (90°F) and above	0	0	0	0	14	17	27	31	9	0	0	0	98
0°C (32°F) and below	13	13	7	5	0	0	0	0	0	2	6	23	69
Barometric Pressure (mb)													
Mean Barometric Pressure	888.1	887.7	888.3	884.5	886.1	883.1	887.3	888.2	887.0	887.2	886.5	889.3	886.9
Mean Relative Humidity (%)													
Hour 0400 PST	68.3	43.3	28.9	35.9	25.9	37.7	26.6	28.6	50.9	40.4	63.7	53.4	42.0
Hour 1000 PST	54.5	28.0	15.0	19.1	12.1	20.6	17.0	15.3	28.1	19.3	40.3	35.4	25.4
Hour 1600 PST	44.1	18.0	8.4	13.5	8.2	13.1	8.7	8.9	21.5	14.3	35.7	30.2	18.7
Hour 2200 PST	64.0	35.9	20.8	25.7	18.1	25.6	18.7	19.3	42.2	30.8	57.5	49.0	34.0
Precipitation (mm)													
Maximum one-hour total	5.33	0.25	0.00	0.00	0.76	4.83	1.02	0.00	9.14	0.00	3.05	2.03	9.14
Maximum daily total	8.13	0.51	0.00	0.00	0.76	12.70	2.54	0.00	29.46	0.00	5.59	11.43	29.46
Total	13.33	0.00	0.00	0.00	0.51	23.88	5.33	0.00	55.12	0.00	14.99	25.15	138.30
Wind													
Mean Speed (m/sec)	3	3.6	2.9	3.9	3.2	3.8	3.2	3.5	3.2	3.4	2.2	3.2	3.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.9	17.9	13.8	14.9	14.9	17.9	14.8	13.7	16.2	17.6	15.9	15.5	17.9
Direction (degree)	358.5	345.2	170.8	350.3	174.8	166.1	170.4	174.6	182.3	183.2	167.8	340.1	345.2
Peak 3 sec Gust (m/sec)	19.8	21.0	17.1	20.1	17.8	21.7	21.5	17.2	17.6	22.1	20.7	18.3	22.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.64	0.99	1.20	1.33	1.43	1.39	1.42	1.37	1.21	1.07	0.76	0.71	1.13

Source DTN: MO0312SEPPQ1997.001 [DIRS 167116].

Table K-9. Meteorological Data 1997 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.0	22.9	30.7	31.8	39.5	40.2	41.5	43.6	38.9	34.5	27.9	21.0	43.6
Mean Maximum	13.9	16.9	24.4	24.4	33.8	34.4	38.0	38.7	33.3	25.8	18.7	12.8	26.3
Mean Temperature	7.6	9.5	15.1	16.3	25.4	26.6	29.5	30.5	25.5	17.3	11.3	5.9	18.4
Mean Minimum	1.6	2.2	5.6	7.4	15.3	17.4	19.5	20.9	18.0	9.0	4.8	-0.6	10.1
Extreme Minimum	-5.8	-3.4	-6.0	0.0	10.5	10.6	13.7	14.6	13.8	2.0	1.0	-6.9	-6.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	1	0	0	0	2	1	0	3	0	4	2	16
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	22	25	30	31	21	2	0	0	131
0°C (32°F) and below	13	7	4	1	0	0	0	0	0	0	0	17	42
Barometric Pressure (mb)													
Mean Barometric Pressure	919.4	918.8	918.6	914.6	915.0	911.8	915.5	916.4	915.9	917.2	917.1	920.8	916.8
Mean Relative Humidity (%)													
Hour 0400 PST	65.6	38.9	25.9	33.3	23.2	32.5	23.8	24.2	46.1	35.7	59.6	51.4	38.4
Hour 1000 PST	51.6	25.2	14.4	17.7	11.2	19.9	15.1	13.9	28.4	19.0	40.2	35.3	24.3
Hour 1600 PST	38.9	14.5	6.5	11.4	6.6	12.2	7.4	7.4	20.1	12.8	32.6	26.1	16.4
Hour 2200 PST	57.0	30.9	17.3	22.8	15.0	23.3	15.4	16.8	38.2	28.1	54.6	46.5	30.5
Precipitation (mm)													
Maximum one-hour total	0.76	0.25	0.00	0.00	0.00	4.32	0.25	0.00	5.84	0.00	1.52	2.29	5.84
Maximum daily total	2.54	0.25	0.00	0.00	0.00	11.68	0.51	0.00	28.19	0.00	5.33	8.38	28.19
Total	6.60	0.00	0.00	0.00	0.00	18.54	0.51	0.00	50.29	0.00	9.40	10.41	95.76
Wind													
Mean Speed (m/sec)	4.4	4.6	4.4	4.3	4.3	5.1	4.4	4.9	4.6	4.7	3.7	4.1	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.5	18.0	17.4	16.3	16.8	17.9	15.4	16.0	17.0	18.9	17.2	15.2	18.9
Direction (degree)	160.1	349.4	164.1	342.5	68.2	169.7	173.9	185.5	157.8	181.2	209.7	359.5	181.2
Peak 3 sec Gust (m/sec)	18.5	21.7	21.0	20.3	19.6	21.4	18.2	19.8	21.4	23.1	20.7	17.0	23.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.68	0.95	1.19	1.30	1.43	1.39	1.43	1.35	1.19	1.06	0.77	0.69	1.12

Source DTN: MO03125EPQ1997.001 [DIRS 167116].

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APPENDIX L
1998 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table L-1. Meteorological Data 1998 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.4	14.5	25.7	27.2	28.0	36.7	42.4	40.3	34.7	27.2	20.0	21.9	42.4
Mean Maximum	12.0	10.1	15.5	17.7	21.4	28.2	36.3	36.4	28.7	21.6	15.5	13.0	21.4
Mean Temperature	6.4	5.6	9.3	11.1	14.5	20.7	28.7	28.6	21.6	14.8	9.2	6.2	14.7
Mean Minimum	1.2	1.5	3.4	3.9	6.7	12.2	19.6	20.0	14.8	8.0	2.9	-0.2	7.8
Extreme Minimum	-4.6	-2.4	-2.1	-1.8	2.7	6.9	15.3	14.1	7.5	3.3	-2.9	-10.9	-10.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	5	15	8	6	3	6	1	3	4	4	2	0	57
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	5	28	28	6	0	0	0	67
0°C (32°F) and below	9	4	5	7	0	0	0	0	0	0	4	15	44
Barometric Pressure (mb)													
Mean Barometric Pressure	886	882.6	883.5	884.8	883.2	883.6	886.1	887.2	883.5	885.7	887	890.6	885.3
Precipitation (mm)													
Maximum one-hour total	1.78	7.11	3.81	4.57	7.11	6.60	0.76	5.33	6.60	4.32	1.78	0.00	7.11
Maximum daily total	4.06	54.10	11.18	9.91	14.99	17.02	1.52	8.89	7.11	7.62	3.05	0.00	54.10
Total	10.92	185.93	45.97	23.88	23.88	32.77	1.52	2.29	25.15	10.16	4.06	0.00	366.52
Wind													
Mean Speed (m/sec)	2.6	3.5	3.4	3.6	4.4	3.4	3.4	3.4	3.1	3.3	2.6	3.4	3.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.7	13.6	15.6	16.6	16.6	20.5	13.7	20.2	14.5	14.1	12.1	17.0	20.5
Direction (degree)	177.9	338.9	309.5	184.0	165.5	337.8	166.6	338.1	158.7	340.5	209.6	351.4	337.8
Peak 3 sec Gust (m/sec)	19.4	18.7	19.8	20.9	21.7	24.6	18.0	24.1	17.7	17.0	15.1	20.6	24.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.77	1.04	1.31	1.32	1.41	1.41	1.35	1.18	1.00	0.74	0.74	1.08

Source DTN: MO0206SEPO1998.001 [DIRS 166731].

Table L-2. Meteorological Data 1998 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	15.3	12.8	24.2	25.8	26.4	34.9	41.2	42.7	33.8	25.3	17.4	19.5	42.7
Mean Maximum	9.6	7.5	13.4	15.9	19.8	26.6	35.1	35.3	27.0	19.3	13.2	10.6	19.4
Mean Temperature	6.0	3.8	8.4	10.1	13.3	19.8	28.3	28.1	20.9	14.1	9.0	6.2	14.0
Mean Minimum	3.3	1.3	4.6	5.2	7.9	13.8	22.6	22.4	16.4	10.0	5.8	2.1	9.6
Extreme Minimum	-2.4	-2.2	-3.6	-1.5	0.8	6.1	16.2	15.7	8.3	4.2	-0.4	-9.7	-9.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	14	7	8	3	7	2	4	4	3	2	0	56
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	4	26	27	1	0	0	0	58
0°C (32°F) and below	2	5	5	6	0	0	0	0	0	0	2	12	32
Barometric Pressure (mb)													
Mean Barometric Pressure	848.6	844.8	846.6	848.2	847.5	849.3	853.1	854.2	849.1	850.2	850.2	852.6	849.5
Mean Relative Humidity (%)													
Hour 0400 PST	52.9	75.8	52.5	53.0	55.0	44.0	27.0	27.8	47.1	35.6	40.1	33.1	45.3
Hour 1000 PST	48.1	71.7	50.7	44.4	41.1	34.8	21.6	20.8	39.1	30.0	36.8	28.0	38.9
Hour 1600 PST	43.9	61.4	41.9	31.0	25.6	24.3	11.6	13.9	27.9	23.4	31.5	21.4	29.8
Hour 2200 PST	51.4	71.8	51.8	43.8	40.2	32.9	19.9	23.4	38.9	31.5	37.2	29.3	39.3
Precipitation (mm)													
Maximum one-hour total	1.52	10.16	6.60	6.35	4.06	9.14	1.52	5.33	4.06	3.30	1.27	0.00	10.16
Maximum daily total	6.10	50.04	15.24	12.95	14.99	21.34	2.79	5.33	8.13	6.35	2.29	0.00	50.04
Total	7.62	162.05	41.66	25.91	24.38	39.37	3.56	8.89	18.54	13.97	1.02	2.54	349.5
Wind													
Mean Speed (m/sec)	3.3	5.0	4.5	4.9	5.0	4.3	4.2	4.3	4.0	4.5	3.7	4.3	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	19.2	22.9	27.6	22.7	21.5	28.1	20.1	27.8	18.0	20.8	25.7	21.0	28.1
Direction (degree)	299.7	317.7	310.5	315.4	312.1	327.6	281.7	314.1	250.7	313.7	311.3	312.4	327.6
Peak 3 sec Gust (m/sec)	22.9	28.2	31.9	25.9	26.1	31.3	23.7	33.7	20.6	23.3	30.6	24.1	33.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.68	0.76	1.08	1.32	1.32	1.4	1.41	1.35	1.18	1.00	0.77	0.71	1.08

Source DTN: MO0206SEPPQ1998.001 [DIRS 166731].

Table L-3. Meteorological Data 1998 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	15.9	13.1	24.5	25.9	26.6	35.6	41.7	39.8	33.8	25.7	18.4	20.3	41.7
Mean Maximum	10.5	8.4	14.3	16.6	20.2	27.4	35.4	35.4	27.7	20.2	14.2	11.6	20.2
Mean Temperature	6.2	4.8	9.1	11.1	14.1	20.5	28.7	28.7	21.5	14.7	9.4	6.4	14.6
Mean Minimum	2.4	1.5	4.2	5.1	7.5	12.9	21.2	21.4	15.9	9.5	4.6	1.5	9.0
Extreme Minimum	-3.1	-2.0	-1.8	-0.9	2.0	7.2	16.4	14.6	8.5	4.1	-0.4	-8.6	-8.6
Number of Days													
Precipitation													
0.01 inch or more	5	14	9	7	3	7	1	4	4	4	2	0	60
Temperature													
32°C (90°F) and above	0	0	0	0	0	5	27	27	4	0	0	0	63
0°C (32°F) and below	4	3	5	5	0	0	0	0	0	0	3	13	33
Barometric Pressure (mb)													
Mean Barometric Pressure	870.0	866.4	867.8	869.4	868.4	869.4	872.4	873.5	869.2	871.0	871.4	874.1	870.2
Mean Relative Humidity (%)													
Hour 0400 PST	58.3	77.4	57.7	57.2	59.6	50.1	30.3	31.1	51.3	39.1	44.0	36.4	49.4
Hour 1000 PST	45.8	67.2	46.1	40.1	37.5	31.1	19.4	18.5	36.0	27.4	34.3	26.9	35.9
Hour 1600 PST	42.4	55.9	39.4	28.5	23.8	22.4	10.9	13.3	26.8	22.6	31.0	22.6	28.3
Hour 2200 PST	56.0	73.3	55.4	47.1	40.8	35.8	20.5	24.1	40.5	34.3	40.6	31.7	41.7
Precipitation (mm)													
Maximum one-hour total	1.27	11.43	5.59	4.06	5.33	5.08	1.27	4.57	6.10	3.05	1.27	0.00	11.43
Maximum daily total	4.06	54.36	12.45	12.70	14.99	15.24	2.79	6.35	8.64	6.10	2.79	0.00	54.36
Total	9.40	206.25	45.21	28.19	25.65	41.15	3.05	8.64	31.24	11.94	0.76	3.05	414.53
Wind													
Mean Speed (m/sec)	2.2	2.9	2.8	2.8	3.2	2.7	2.6	2.6	2.5	2.8	2.3	2.7	2.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	12.1	13.2	15.9	14.8	13.3	20.1	11.1	18.5	10.5	13.3	15.6	13.9	20.1
Direction (degree)	158.9	303.4	283.2	303.0	90.0	302.3	105.2	297.7	152.5	300.3	303.2	303.2	302.3
Peak 3 sec Gust (m/sec)	17.2	18.8	21.6	19.2	19.6	27.3	15.4	26.4	16.4	20.7	20.9	19.3	27.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.66	0.76	1.04	1.31	1.31	1.42	1.43	1.37	1.19	1.01	0.79	0.72	1.08

Source DTN: MO0206SEPMQ1998.001 [DIRS 166731].

Table L-4. Meteorological Data 1998 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.0	14.1	25.5	27.1	28.6	37.5	43.0	41.1	35.3	27.4	19.8	21.1	43.0
Mean Maximum	11.5	9.2	15.2	17.8	21.8	28.8	37.0	37.1	29.0	21.1	15.4	12.2	21.3
Mean Temperature	6.7	5.1	9.4	11.5	14.8	21.3	29.5	29.4	22.1	15.2	9.9	6.9	15.2
Mean Minimum	2.4	1.6	4.3	5.1	8.1	13.6	21.6	21.9	16.0	9.5	4.5	1.9	9.2
Extreme Minimum	-4.6	-0.7	-2.5	-2.0	2.0	7.9	16.4	16.5	9.9	4.9	-1.4	-9.5	-9.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	14	7	5	2	6	2	3	3	3	2	0	51
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	6	30	28	9	0	0	0	73
0°C (32°F) and below	4	5	5	2	0	0	0	0	0	0	2	12	30
Barometric Pressure (mb)													
Mean Barometric Pressure	875.2	871.6	872.8	874.2	873.1	874.0	876.8	878.0	873.6	875.6	876.3	879.1	875.0
Mean Relative Humidity (%)													
Hour 0400 PST	57.6	77.8	57.0	57.4	57.1	46.1	29.8	29.7	50.4	38.4	43.8	35.5	48.4
Hour 1000 PST	50.1	69.1	48.3	41.3	37.5	31.3	19.7	19.0	36.4	28.1	35.6	29.5	37.2
Hour 1600 PST	40.8	59.6	41.9	29.5	24.3	21.7	10.9	13.2	26.7	22.0	29.4	20.7	28.4
Hour 2200 PST	54.0	73.5	55.8	46.0	41.7	34.9	20.8	23.6	39.8	32.9	39.9	31.1	41.2
Precipitation (mm)													
Maximum one-hour total	1.78	9.40	4.06	3.05	5.08	9.91	1.27	7.37	2.54	6.10	1.52	0.00	9.91
Maximum daily total	5.08	59.44	14.99	8.64	13.21	16.26	1.52	16.51	6.35	8.13	2.29	0.00	59.44
Total	11.43	180.09	42.67	18.80	19.56	30.48	1.52	14.73	12.95	9.91	0.51	2.29	344.93
Wind													
Mean Speed (m/sec)	3.4	4.8	4.9	4.9	5.5	4.4	4.4	4.3	4.1	5.0	3.8	5.0	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	20.9	23.5	23.8	20.8	22.2	30.4	22.4	32.9	18.2	20.8	19.9	25.5	32.9
Direction (degree)	185.0	341.6	331.8	202.7	180.8	343.0	1.5	340.1	238.5	17.7	30.3	13.9	340.1
Peak 3 sec Gust (m/sec)	23.9	25.9	27.4	26.0	25.1	35.1	25.6	37.9	21.4	24.1	24.8	29.0	37.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.65	0.76	1.03	1.32	1.34	1.43	1.45	1.38	1.21	1.03	0.81	0.81	1.10

Source DTN: MO0206SEPO1998.001 [DIRS 166731].

Table L-5. Meteorological Data 1998 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.9	16.7	28.5	30.3	30.2	39.3	44.9	43.1	38.0	29.6	21.8	23.2	44.9
Mean Maximum	13.6	11.7	17.8	20.4	23.9	31.1	39.2	39.0	31.1	23.7	17.5	14.5	23.6
Mean Temperature	7.1	6.7	10.8	12.7	16.2	22.3	30.3	30.2	23.2	16.0	10.4	6.8	16.1
Mean Minimum	0.7	1.9	4.3	5.1	7.7	12.7	20.8	21.1	15.8	8.6	3.0	-1.0	8.4
Extreme Minimum	-5.5	-1.6	-1.4	-0.6	2.9	7.8	16.0	13.7	9.6	3.1	-2.9	-11.4	-11.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	13	7	5	3	6	1	3	2	2	2	0	48
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	14	31	31	15	0	0	0	91
0°C (32°F) and below	11	5	3	3	0	0	0	0	0	0	4	18	44
Barometric Pressure (mb)													
Mean Barometric Pressure	905.6	902.0	902.9	904.3	902.8	903.2	905.4	906.5	902.7	905.4	906.6	910.0	904.8
Mean Relative Humidity (%)													
Hour 0400 PST	64.4	78.7	60.1	61.3	59.1	50.4	29.9	30.6	51.1	39.1	44.9	38.7	50.7
Hour 1000 PST	44.6	62.1	40.9	35.6	32.1	27.9	17.3	16.6	32.6	24.6	31.2	26.0	32.6
Hour 1600 PST	36.2	52.9	33.9	22.9	20.9	16.9	8.2	10.5	22.3	18.6	24.8	16.9	23.8
Hour 2200 PST	60.8	76.2	58.6	51.1	44.0	38.2	20.5	25.4	40.0	32.9	42.6	32.3	43.5
Precipitation (mm)													
Maximum one-hour total	4.06	7.37	4.06	3.56	10.67	3.81	0.25	8.13	7.37	1.78	1.27	0.00	10.67
Maximum daily total	4.32	50.04	14.48	7.11	18.8	7.62	0.25	9.14	14.48	2.54	1.78	0.00	50.04
Total	4.83	151.38	31.24	13.72	32.0	18.54	0.00	13.21	25.65	3.81	2.54	0.00	296.93
Wind													
Mean Speed (m/sec)	3.8	4.2	4.5	4.6	5.3	4.3	4.5	4.6	4.2	4.6	4	4.6	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	18.9	16.2	17.7	18.1	17.8	21.2	15.8	21.5	16.1	20.8	14.2	18.4	21.5
Direction (degree)	179.4	248.8	338.7	211.4	162.7	340.8	194.1	322.9	212.6	150.0	3.3	166.5	322.9
Peak 3 sec Gust (m/sec)	23.7	18.9	20.5	22.9	21.8	28.3	18.5	26.6	20.0	25.8	18.4	21.3	28.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.68	0.76	1.08	1.31	1.35	1.41	1.42	1.37	1.19	1.00	0.81	0.79	1.10

Source DTN: MO0206SEPQ1998.001 [DIRS 166731].

Table L-6. Meteorological Data 1998 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.4	12.9	24.4	25.4	26.3	35.3	41.7	39.4	34.0	25.9	19.2	20.5	41.7
Mean Maximum	10.6	8.2	14.4	16.3	19.9	27.0	35.2	35.3	27.5	20.2	14.4	11.7	20.1
Mean Temperature	5.1	4.0	8.1	9.9	13.0	19.3	27.3	27.1	20.3	13.4	8.1	5.2	13.4
Mean Minimum	0.3	0.2	2.5	3.2	5.0	10.8	18.3	18.0	13.6	7.0	1.9	-1.1	6.6
Extreme Minimum	-5.4	-3.1	-2.7	-2.7	0.8	5.4	13.4	10.7	5.9	2.1	-3.2	-11.2	-11.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	15	8	4	4	7	3	2	4	2	2	0	55
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	4	25	26	3	0	0	0	58
0°C (32°F) and below	13	16	8	9	0	0	0	0	0	0	4	15	65
Barometric Pressure (mb)													
Mean Barometric Pressure	865.9	862.3	863.8	865.2	864.2	865.5	868.8	870.8	865.4	867.1	867.5	870.3	866.3
Mean Relative Humidity (%)													
Hour 0400 PST	66.1	80.8	65.2	65.4	68.9	57.3	36.8	40.0	59.0	45.1	49.3	41.3	56.3
Hour 1000 PST	46.1	66.9	48.0	42.1	39.4	32.7	21.4	20.0	37.1	28.9	35.7	27.8	37.2
Hour 1600 PST	42.7	58.0	41.4	30.8	25.9	23.3	12.4	15.1	28.4	22.9	32.0	23.2	29.7
Hour 2200 PST	61.8	77.9	63.7	56.3	48.9	42.8	25.6	29.8	47.2	38.9	47.2	35.9	48.0
Precipitation (mm)													
Maximum one-hour total	1.27	12.95	5.08	4.06	4.83	8.64	3.05	2.54	6.35	4.83	2.29	0.00	12.95
Maximum daily total	3.56	43.18	14.73	13.72	12.95	21.34	5.08	2.54	7.62	5.84	2.79	0.00	43.18
Total	10.41	207.01	61.72	30.99	24.38	44.20	7.11	5.08	36.32	11.18	0.51	3.05	441.96
Wind													
Mean Speed (m/sec)	3.4	4.1	4.1	4.1	4.7	3.9	4.0	3.8	3.6	4.2	3.4	4.1	4.0
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.8	15.7	20.7	17.3	19.4	22.4	15.3	21.9	13.8	15.2	17.7	16.9	22.4
Direction (degree)	144.9	327.0	326.6	156.2	149.3	342.7	146.7	340.3	142.2	5.2	346.4	142.3	342.7
Peak 3 sec Gust (m/sec)	26.0	20.4	26.5	24.7	28.1	29.9	19.9	27.3	19.5	20.8	24.2	24.9	29.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.69	0.76	1.03	1.32	1.34	1.41	1.41	1.37	1.18	1.02	0.81	0.79	1.09

Source DTN: MO0206SEPQ1998.001 [DIRS 166731].

Table L-7. Meteorological Data 1998 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.3	15.6	27.1	29.1	29.4	38.4	43.9	42.1	36.2	28.5	21.0	22.6	43.9
Mean Maximum	12.8	10.7	17.0	19.3	23.1	30.0	38.1	38.2	30.2	22.7	16.5	13.7	22.7
Mean Temperature	5.3	5.6	9.4	11.5	14.7	20.7	28.3	28.2	21.6	14.2	8.5	5.0	14.4
Mean Minimum	-1.9	0.6	1.6	2.1	5.1	10.0	16.3	16.6	12.8	5.1	0.1	-3.6	5.4
Extreme Minimum	-9.3	-3.5	-4.6	-2.2	0.9	5.0	11.6	9.3	6.5	0.2	-5.4	-16.4	-16.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	5	15	7	4	3	8	1	2	4	3	2	0	54
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	8	31	30	12	0	0	0	81
0°C (32°F) and below	21	13	11	10	0	0	0	0	0	0	12	23	90
Barometric Pressure (mb)													
Mean Barometric Pressure	891.7	888.2	889.5	890.9	889.8	890.6	893.3	894.6	890.3	892.5	893.1	896.2	891.7
Mean Relative Humidity (%)													
Hour 0400 PST	72.1	81.2	69.3	70.4	67.3	60.7	38.9	38.2	61.4	46.1	53.4	44.1	58.6
Hour 1000 PST	46.3	61.9	41.9	36.2	33.3	28.1	17.6	17.0	32.6	25.2	31.8	26.7	33.2
Hour 1600 PST	37.9	52.8	35.9	25.6	21.8	19.4	9.5	12.0	24.2	19.7	26.5	18.9	25.3
Hour 2200 PST	65.6	77.7	63.3	58.3	47.8	40.9	24.5	28.1	45.6	37.6	46.7	38.2	47.9
Precipitation (mm)													
Maximum one-hour total	1.52	7.11	4.32	3.30	4.83	9.91	1.27	15.49	2.54	3.56	1.27	0.00	15.49
Maximum daily total	4.32	60.20	13.46	9.65	12.45	18.80	1.78	22.35	6.35	5.84	2.03	0.00	60.20
Total	9.91	184.91	41.15	19.30	21.08	30.99	1.78	17.78	16.51	7.87	0.51	2.54	354.33
Wind													
Mean Speed (m/sec)	2.3	3.2	3.3	3.4	4.1	3.3	3.3	3.2	2.9	3.2	2.5	3.2	3.2
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.1	14.2	15.8	15.8	18.6	20.9	15.5	21.8	16.0	13.5	13.0	16.6	21.8
Direction (degree)	162.7	332.9	15.7	185.7	162.8	331.5	131.8	326.1	165	349.6	163.4	339.3	326.1
Peak 3 sec Gust (m/sec)	18.2	17.6	19.6	19.4	22.6	26.3	22.5	24.8	18.7	17.1	15.0	21.2	26.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.77	1.04	1.33	1.35	1.41	1.41	1.36	1.19	1.00	0.83	0.86	1.10

Source DTN: MO0206SEPO1998.001 [DIRS 166731].

Table L-8. Meteorological Data 1998 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.6	14.9	26.2	28.2	28.6	37.9	43.3	41.4	35.8	28.0	20.0	22.2	43.3
Mean Maximum	12.2	10.1	16.0	18.5	22.3	29.3	37.4	37.5	29.5	22.1	15.9	13.2	22.0
Mean Temperature	5.7	5.2	9.1	11.1	14.6	20.7	28.6	28.5	21.5	14.3	8.7	5.5	14.5
Mean Minimum	-0.5	0.6	2.2	3.0	5.8	11.1	18.1	18.3	13.7	6.2	1.2	-1.7	6.5
Extreme Minimum	-8.0	-2.3	-2.9	-1.7	1.8	6.1	13.2	11.4	7.5	1.3	-4.1	-13.1	-13.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	6	14	7	4	3	6	1	3	2	3	3	0	52
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	6	30	29	8	0	0	0	73
0°C (32°F) and below	16	14	9	8	0	0	0	0	0	0	8	17	72
Barometric Pressure (mb)													
Mean Barometric Pressure	886.1	882.6	883.7	885.2	883.9	884.8	887.6	888.9	884.6	886.7	887.4	890.5	886.0
Mean Relative Humidity (%)													
Hour 0400 PST	67.4	80.6	66.2	66.9	65.6	56.4	35.6	35.3	57.9	44.3	50.4	41.3	55.7
Hour 1000 PST	45.2	63.6	42.8	36.5	33.8	27.9	16.1	16.7	32.5	25.0	31.8	26.0	33.2
Hour 1600 PST	37.9	53.6	36.4	25.4	21.2	19.4	9.3	11.6	23.6	19.8	27.1	18.9	25.3
Hour 2200 PST	61.1	77.1	62.1	55.0	46.4	40.2	23.0	26.2	43.0	36.5	46.0	35.5	46.0
Precipitation (mm)													
Maximum one-hour total	1.02	8.38	4.32	3.81	5.08	6.86	1.52	8.38	3.30	3.05	1.78	0.00	8.38
Maximum daily total	3.81	54.36	12.70	9.40	13.21	14.73	2.03	12.19	6.60	5.08	2.79	0.00	54.36
Total	8.38	182.12	38.35	20.07	22.10	27.18	2.54	11.43	15.75	7.87	1.78	3.30	340.87
Wind													
Mean Speed (m/sec)	2.3	3.3	3.2	3.4	4.2	3.1	3.1	3.1	2.8	3	2.4	3.1	3.1
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.4	14.7	17.0	17.0	16.4	20.8	13.9	20.8	15.5	14.0	12.0	15.4	20.8
Direction (degree)	172.6	329.9	320.1	197.1	182.2	342.8	171.4	333.2	163.8	344.5	200	323.4	342.8
Peak 3 sec Gust (m/sec)	20.0	17.9	22.0	21.5	21.5	27.4	20.8	25.0	18.0	17.9	15.5	20.1	27.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.77	1.05	1.31	1.35	1.41	1.43	1.37	1.2	1.02	0.83	0.87	1.11

Source DTN: MO0206SEPPQ1998.001 [DIRS 166731].

Table L-9. Meteorological Data 1998 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.9	17.8	28.8	31.0	31.3	40.7	45.7	43.7	37.9	30.7	22.4	24.0	45.7
Mean Maximum	14.2	12.5	18.5	21.1	25.1	32.0	40.0	39.9	31.9	24.5	18.0	14.9	24.4
Mean Temperature	7.4	7.4	11.3	13.4	17.2	23.2	31.1	31.1	23.8	16.3	10.4	6.5	16.6
Mean Minimum	1.3	2.3	4.6	5.0	8.4	13.3	21.2	21.7	16.1	7.9	3.1	-1.4	8.6
Extreme Minimum	-5.5	-2.1	-0.9	-0.4	2.2	8.9	16.3	12.8	8.0	1.7	-1.0	-10.8	-10.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	5	15	7	5	4	4	2	2	3	3	3	0	53
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	16	31	31	15	0	0	0	93
0°C (32°F) and below	8	5	1	3	0	0	0	0	0	0	2	18	37
Barometric Pressure (mb)													
Mean Barometric Pressure	917.3	913.8	914.5	915.7	913.9	913.9	915.5	916.6	913.3	916.5	918	921.6	915.9
Mean Relative Humidity (%)													
Hour 0400 PST	62.8	79.9	62.2	62.3	56.2	48.7	30.6	29.0	51.5	39.8	46.7	38.6	50.7
Hour 1000 PST	44.9	61.3	40.8	34.9	30.2	26.9	16.1	15.8	31.0	23.7	31.2	25.8	31.9
Hour 1600 PST	34.3	49.5	32.0	22.8	18.1	15.7	7.8	9.6	20.9	17.9	23.1	16.1	22.3
Hour 2200 PST	58.3	74.7	56.5	48.8	39.7	34.9	18.5	23.3	38.1	31.8	41.2	31.4	41.4
Precipitation (mm)													
Maximum one-hour total	1.27	5.33	5.84	4.32	1.78	4.83	0.51	6.60	6.10	1.02	0.51	0.00	6.60
Maximum daily total	1.52	37.08	13.21	7.37	5.33	10.41	0.51	10.41	13.21	1.27	0.51	0.00	37.08
Total	3.30	108.71	32.77	9.91	10.41	21.59	0.76	11.18	22.35	2.54	1.27	0.00	224.79
Wind													
Mean Speed (m/sec)	3.8	4.3	4.4	4.5	5.5	4.1	4.4	4.5	4.1	4.2	3.9	4.1	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.6	17.2	17.9	18.3	18.3	19.4	14.5	21.0	16.7	16.3	13.8	17.5	21.0
Direction (degree)	172.0	207.8	334.7	198.9	178.6	340.6	189.7	333.4	271.8	151.0	181.9	166.9	333.4
Peak 3 sec Gust (m/sec)	22.5	26.9	22.4	22.1	28.4	23.0	18.6	26.2	20.9	21.1	17.0	21.1	28.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.68	0.76	1.06	1.31	1.36	1.43	1.43	1.37	1.22	1.00	0.81	0.86	1.11

Source DTN: MO0206SEPP1998.001 [DIRS 166731].

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APPENDIX M
1999 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table M-1. Meteorological Data 1999 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.0	21.0	23.4	29.5	33.4	40.8	41.4	37.4	36.0	33.0	26.8	18.5	41.4
Mean Maximum	14.0	14.3	18.7	18.1	26.6	32.4	34.5	34.5	31.4	27.4	19.9	13.8	23.8
Mean Temperature	7.6	7.9	11.0	11.5	19.2	24.6	26.7	26.6	23.8	19.1	12.5	7.1	16.5
Mean Minimum	0.9	1.5	3.3	4.9	11.1	15.5	18.6	17.9	15.8	10.6	5.4	0.7	8.8
Extreme Minimum	-6.1	-6.4	-1.9	-3.9	4.1	6.3	14.7	12.8	10.9	5.2	-3.9	-4.4	-6.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	1	0	9	4	1	5	1	3	0	0	0	27
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	1	19	26	22	14	2	0	0	84
0°C (32°F) and below	8	7	3	6	0	0	0	0	0	0	3	13	40
Barometric Pressure (mb)													
Mean Barometric Pressure	889.3	889.3	883.4	883.7	884.0	883.9	887.2	887.1	886.7	890.2	890.7	892.7	887.4
Mean Relative Humidity (%)													
Hour 0400 PST	45.2	45.9	43.1	48.0	38.7	27.6	44.5	32.4	34.5	21.1	32.8	34.8	37.4
Hour 1000 PST	32.2	32.7	25.7	32.1	21.5	16.4	24.6	17.0	20.1	11.7	21.2	23.6	23.2
Hour 1600 PST	28.8	25.5	17.4	27.1	15.3	10.1	19.7	10.7	15.2	8.6	16.6	18.5	17.8
Hour 2200 PST	44.1	40.9	32.6	42.5	27.8	19.4	33.4	21.6	28.2	17.0	29.1	29.3	30.5
Precipitation (mm)													
Maximum one-hour total	2.79	0.25	0.00	4.06	13.97	0.25	16.0	0.25	2.79	0.00	0.00	0.00	16.00
Maximum daily total	13.21	0.25	0.00	18.8	16.76	0.51	36.58	0.76	5.84	0.00	0.00	0.00	36.58
Total	20.57	1.02	0.00	22.86	34.8	20.07	66.04	7.87	10.16	0.00	0.00	0.00	183.39
Wind													
Mean Speed (m/sec)	3.1	3.3	3.9	4.1	3.7	4	3.7	3.9	3.2	3	3	3.2	3.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.5	17.1	15.6	15.9	14.7	17.7	14.3	15.7	14.6	16.8	14.6	19.2	19.2
Direction (degree)	181.5	179.3	191.7	180.4	350.4	178.7	314.4	183.0	150.9	332.8	341.1	342.3	342.3
Peak 3 sec Gust (m/sec)	17.0	22.4	19.5	20.3	18.6	20.5	18.2	20.0	17.2	20.7	19.1	22.4	22.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.73	0.84	1.14	1.20	1.40	1.42	1.34	1.34	1.21	1.07	0.82	0.74	1.10

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-2. Meteorological Data 1999 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.7	18.1	21.6	27.5	31.5	38.6	39.5	35.9	33.9	31.1	24.2	16.8	39.5
Mean Maximum	11.4	11.7	16.1	15.7	24.5	30.4	32.5	32.6	29.1	25.1	17.3	11.3	21.5
Mean Temperature	7.4	7.1	10.0	9.7	17.7	23.6	25.5	25.9	23.0	19.5	12.8	6.9	15.8
Mean Minimum	4.0	3.1	5.1	5.1	11.9	17.8	20.1	20.4	18.0	15.2	9.5	3.2	11.1
Extreme Minimum	-4.3	-5.9	-2.0	-3.2	3.7	3.8	15.8	14.1	12.1	6.1	-1.8	-3.4	-5.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	4	0	7	5	1	3	2	3	0	0	0	29
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	17	16	20	6	0	0	0	59
0°C (32°F) and below	3	5	1	7	0	0	0	0	0	0	1	6	23
Barometric Pressure (mb)													
Mean Barometric Pressure	851.7	851.6	846.5	846.6	848.2	849.0	852.4	852.2	851.5	854.5	854.0	854.8	851.1
Mean Relative Humidity (%)													
Hour 0400 PST	38.0	40.4	38.9	48.0	32.1	23.0	37.3	27.2	29.8	16.5	26.8	29.4	32.3
Hour 1000 PST	35.1	38.0	29.6	39.0	25.3	19.1	28.3	20.6	23.5	13.3	24.4	25.1	26.8
Hour 1600 PST	33.6	30.2	19.1	31.3	16.6	11.3	21.4	13.8	17.1	9.5	18.6	20.2	20.2
Hour 2200 PST	38.4	37.1	30.7	43.0	24.7	16.7	30.5	19.5	25.6	13.6	25.1	25.8	27.6
Precipitation (mm)													
Maximum one-hour total	3.30	0.76	0.00	3.81	20.07	0.25	19.05	0.25	2.29	0.00	.00	.00	20.07
Maximum daily total	12.45	1.02	0.00	16.76	20.07	0.25	28.96	0.25	3.56	0.00	.00	.00	28.96
Total	13.97	1.91	0.00	26.92	34.80	10.67	48.26	0.76	7.87	0.00	.00	.00	145.16
Wind													
Mean Speed (m/sec)	3.8	4.4	4.7	5.7	4.9	4.7	4.5	4.4	4.1	3.5	3.6	4.5	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	19.1	27.7	24.0	22.1	24.2	20.1	26.4	16.4	22.0	20.7	22.2	29.8	29.8
Direction (degree)	333.5	315.0	320.8	266.5	322.9	325.1	283.9	190.4	313.1	320.2	326.8	323.2	323.2
Peak 3 sec Gust (m/sec)	23.4	32.5	27.9	29.4	28.4	24.6	28.0	20.6	25.9	25.3	26.1	34.3	34.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.71	0.81	1.11	1.17	1.36	1.38	1.33	1.31	1.19	1.04	0.80	0.71	1.08

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-3. Meteorological Data 1999 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.4	19.4	21.5	28.1	31.6	39.5	39.6	36.5	34.2	31.8	25.1	16.9	39.6
Mean Maximum	12.7	13.7	16.8	16.4	25.0	30.9	32.8	32.8	29.8	25.9	18.4	12.3	22.3
Mean Temperature	7.5	8.0	10.7	10.9	18.7	24.2	26.2	26.3	23.6	19.3	12.8	7.4	16.3
Mean Minimum	2.8	2.8	4.4	5.6	11.7	16.5	19.4	19.4	17.3	13.5	8.1	2.8	10.4
Extreme Minimum	-5.3	-5.0	-0.3	-2.5	3.7	5.8	16.0	13.3	12.5	7.7	-0.1	-1.9	-5.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	1	0	9	4	1	5	2	3	0	0	0	28
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	19	18	20	8	0	0	0	65
0°C (32°F) and below	3	4	2	5	0	0	0	0	0	0	1	6	21
Barometric Pressure (mb)													
Mean Barometric Pressure	873.0	873.4	867.5	867.7	868.6	868.8	871.4	—	—	—	—	—	870.1
Mean Relative Humidity (%)													
Hour 0400 PST	42.7	36.5	41.9	47.5	36.1	25.2	41.8	31.7	32.3	19.3	30.6	32.3	34.8
Hour 1000 PST	32.5	27.3	26.9	35.1	22.3	17.1	26.3	18.9	21.4	12.0	22.6	24.1	23.9
Hour 1600 PST	31.9	21.6	18.4	29.3	15.6	10.4	20.6	13.5	16.2	9.4	19.0	21.2	18.9
Hour 2200 PST	42.9	32.9	31.9	42.7	25.9	17.3	31.2	21.1	27.9	16.3	28.0	27.4	28.8
Precipitation (mm)													
Maximum one-hour total	4.06	0.25	0.00	2.79	18.80	0.25	15.49	4.83	3.30	0.00	0.00	0.00	18.80
Maximum daily total	10.41	0.25	0.00	16.26	19.56	0.51	40.64	6.10	6.60	0.00	0.00	0.00	40.64
Total	21.84	1.02	0.00	20.57	39.88	9.65	70.61	7.11	10.67	0.00	0.00	0.25	181.61
Wind													
Mean Speed (m/sec)	2.6	2.8	3	3.2	2.8	2.9	2.8	—	—	—	—	—	2.9
<i>Fastest one-minute speed</i>													
Speed (m/sec)	12.7	16.9	14.5	13.0	13.4	12.7	13.9	—	—	—	—	—	16.9
Direction (degree)	304.7	308.2	304.2	164.6	301.1	160.3	286.5	—	—	—	—	—	308.2
Peak 3 sec Gust (m/sec)	18.0	23.2	21.8	20.9	19.0	19.1	18.4	—	—	—	—	—	23.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.71	0.86	1.10	1.17	1.37	1.37	1.22	—	—	—	—	—	1.11

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-4. Meteorological Data 1999 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.3	20.2	23.1	30.5	33.3	40.6	40.6	37.9	35.5	32.5	26.1	18.0	40.6
Mean Maximum	13.3	13.6	18.0	17.6	26.5	32.0	33.9	34.0	31.1	26.9	19.4	12.9	23.3
Mean Temperature	8.0	8.3	11.3	11.2	19.3	24.8	27.0	27.1	24.0	19.6	13.3	7.5	16.8
Mean Minimum	2.8	3.0	4.4	5.6	12.3	17.2	20.5	20.2	17.1	12.2	7.4	2.3	10.4
Extreme Minimum	-3.6	-4.6	-0.8	-2.0	3.9	5.9	16.6	15.2	12.7	5.8	-2.0	-1.5	-4.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	1	0	9	3	1	5	2	4	0	0	0	27
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	1	19	22	25	12	2	0	0	81
0°C (32°F) and below	6	5	2	5	0	0	0	0	0	0	3	7	28
Barometric Pressure (mb)													
Mean Barometric Pressure	878.0	878.0	872.3	872.5	873.1	873.3	876.5	876.3	875.8	879.4	879.7	881.2	876.3
Mean Relative Humidity (%)													
Hour 0400 PST	41.6	43.3	38.9	48.3	34.1	23.5	37.7	27.8	31.7	19.3	29.1	32.3	34.0
Hour 1000 PST	35.3	36.1	27.9	35.5	22.5	18.0	26.8	19.3	22.1	13.0	23.6	26.6	25.6
Hour 1600 PST	30.9	28.5	18.1	28.8	15.4	11.0	21.5	14.3	16.2	9.1	17.6	19.8	19.3
Hour 2200 PST	40.6	37.5	30.2	44.6	25.9	17.7	30.8	20.7	26.2	15.2	26.1	27.4	28.6
Precipitation (mm)													
Maximum one-hour total	5.33	0.25	0.00	4.06	23.88	0.25	30.99	10.16	2.29	0.00	0.00	0.00	30.99
Maximum daily total	9.91	0.25	0.00	18.80	26.67	0.25	56.9	11.68	5.84	0.00	0.00	0.00	56.90
Total	17.27	0.25	0.00	17.53	45.72	19.30	86.11	12.70	8.89	0.00	0.00	0.00	207.77
Wind													
Mean Speed (m/sec)	4.2	4.6	4.9	5.9	5.1	4.7	4.5	4.5	4.3	3.9	3.4	5.2	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	22.5	25.9	25.6	21.3	24.1	23.4	20.4	19.0	20.9	23.9	23.3	29.5	29.5
Direction (degree)	15.1	341.4	14.7	179.3	25.5	178.4	342.5	174.0	321.5	358.7	343.7	352.2	352.2
Peak 3 sec Gust (m/sec)	24.7	29.5	29.7	25.0	26.3	26.5	25.2	22.1	23.6	29.8	26.7	33.6	33.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.80	0.94	1.26	1.35	1.57	1.57	1.49	1.50	1.36	1.17	0.92	0.81	1.23

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-5. Meteorological Data 1999 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.9	22.7	25.4	31.3	35.6	42.5	43.2	40.1	37.9	34.4	28.0	20.4	43.2
Mean Maximum	15.5	16.0	20.4	19.9	28.7	34.6	36.6	36.9	33.2	29.1	21.6	15.2	25.6
Mean Temperature	8.1	8.8	12.1	12.6	20.5	25.8	28.3	28.3	24.8	19.9	13.4	7.8	17.5
Mean Minimum	0.9	1.3	3.4	4.9	11.5	15.2	19.6	19.3	16.3	11.9	6.7	0.6	9.3
Extreme Minimum	-4.5	-5.7	-1.2	-4.4	4.3	6.4	14.8	13.9	11.7	5.2	-3.2	-3.3	-5.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	0	0	8	3	1	5	1	5	0	0	0	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	5	20	29	30	20	8	0	0	112
0°C (32°F) and below	12	7	3	7	0	0	0	0	0	0	2	13	44
Barometric Pressure (mb)													
Mean Barometric Pressure	908.6	908.6	902.5	902.7	902.6	902.2	905.2	905.1	904.8	908.8	909.6	911.9	906.0
Mean Relative Humidity (%)													
Hour 0400 PST	43.6	45.2	40.0	50.4	37.7	24.9	40.5	28.5	33.7	18.8	30.9	33.4	35.6
Hour 1000 PST	31.3	30.9	25.1	30.9	19.8	14.0	22.7	15.8	19.2	10.7	20.1	23.1	22.0
Hour 1600 PST	26.6	22.7	15.4	24.5	12.0	7.4	16.9	10.3	13.5	7.1	14.6	16.3	15.6
Hour 2200 PST	43.8	41.5	31.1	43.5	26.7	17.6	30.4	21.4	28.1	17.1	27.6	28.3	29.8
Precipitation (mm)													
Maximum one-hour total	4.32	0.00	0.00	3.56	3.05	0.25	15.49	1.02	6.10	0.00	0.00	0.00	15.49
Maximum daily total	5.33	0.00	0.00	18.03	4.57	0.25	20.57	1.52	10.67	0.00	0.00	0.00	20.57
Total	16.00	0.25	0.00	16.76	24.89	0.00	10.92	1.27	16.26	0.00	0.00	0.00	86.36
Wind													
Mean Speed (m/sec)	4.4	4.4	5.0	4.9	4.5	4.9	4.7	—	—	—	—	—	4.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.0	20.1	19.7	19.4	16.7	20.3	14.9	—	—	—	—	—	20.3
Direction (degree)	165.2	159.7	347.4	178.9	2.9	183.0	158.1	—	—	—	—	—	183.0
Peak 3 sec Gust (m/sec)	20.4	24.9	23.4	22.5	19.9	25.1	18.8	—	—	—	—	—	25.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.78	0.92	1.22	1.28	1.50	1.51	1.40	—	—	—	—	—	1.23

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-6. Meteorological Data 1999 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.0	19.6	21.5	27.9	32.1	38.7	38.9	36.3	34.3	31.4	25.7	18.0	38.9
Mean Maximum	12.8	12.8	16.7	16.3	24.9	30.4	32.7	32.6	29.8	25.8	18.5	12.4	22.1
Mean Temperature	6.2	6.5	9.5	10.0	17.7	22.8	25.3	25.0	22.3	17.8	11.1	6.3	15.0
Mean Minimum	0.3	0.4	1.6	3.8	9.8	13.7	17.1	16.6	14.9	10.5	5.0	0.8	7.9
Extreme Minimum	-7.1	-6.2	-3.1	-4.7	2.7	4.7	13.0	10.9	10.7	2.4	-2.8	-4.0	-7.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	2	0	5	4	1	5	2	3	0	0	0	25
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	0	18	17	21	7	0	0	0	63
0°C (32°F) and below	13	12	11	8	0	0	0	0	0	0	3	14	61
Barometric Pressure (mb)													
Mean Barometric Pressure	869.2	869.2	863.7	863.9	864.9	865.3	868.0	—	—	—	—	—	866.3
Mean Relative Humidity (%)													
Hour 0400 PST	47.9	50.3	47.6	52.1	41.5	30.0	45.7	36.8	37.1	23.2	35.9	36.0	40.3
Hour 1000 PST	33.9	36.2	28.3	37.1	23.7	18.8	27.0	19.7	22.7	13.1	23.9	24.8	25.8
Hour 1600 PST	32.5	29.8	19.3	30.6	16.5	12.0	21.5	14.7	17.2	10.0	19.5	21.2	20.4
Hour 2200 PST	47.2	46.9	37.0	46.9	30.6	21.6	34.0	25.0	31.9	19.4	32.9	30.8	33.7
Precipitation (mm)													
Maximum one-hour total	1.78	0.76	0.00	2.79	15.24	0.25	16.51	5.84	2.29	0.00	0.00	0.00	16.51
Maximum daily total	8.64	1.27	0.00	19.81	15.75	0.25	18.8	6.86	5.08	0.00	0.00	0.00	19.81
Total	18.54	2.29	0.00	20.32	37.85	9.40	29.97	7.62	8.38	0.00	0.00	0.00	134.37
Wind													
Mean Speed (m/sec)	3.8	3.8	4.3	4.7	4.0	4.3	4.0	—	—	—	—	—	4.1
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.4	18.5	17.2	18.7	16.2	18.2	17.0	—	—	—	—	—	18.7
Direction (degree)	346.9	150.2	167.5	153.7	339.7	149.2	323.2	—	—	—	—	—	153.7
Peak 3 sec Gust (m/sec)	19.7	27.7	24.3	24.6	23.4	27.1	21.9	—	—	—	—	—	27.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.78	0.89	1.21	1.27	1.48	1.49	1.39	—	—	—	—	—	1.22

Source DTN: M00302METMON99.001 [DIRS 166165].

Table M-7. Meteorological Data 1999 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.3	21.9	24.6	30.7	34.7	41.6	42.3	39.2	36.9	33.8	27.3	19.4	42.3
Mean Maximum	14.7	15.1	19.4	18.9	27.6	33.5	35.4	35.5	32.4	28.3	20.7	14.4	24.7
Mean Temperature	6.4	7.2	10.3	11.4	19.1	24.0	26.3	26.0	23.1	17.5	10.6	6.1	15.7
Mean Minimum	-2.2	-1.1	0.1	3.0	9.0	11.9	16.4	14.8	12.6	6.2	0.9	-2.7	5.7
Extreme Minimum	-7.2	-9.5	-5.8	-6.9	4.1	5.1	11.6	9.0	5.4	0.2	-7.9	-8.0	-9.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	0	0	11	4	1	5	2	3	0	0	0	28
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	20	28	26	17	5	0	0	98
0°C (32°F) and below	24	18	14	9	0	0	0	0	0	0	10	25	100
Barometric Pressure (mb)													
Mean Barometric Pressure	894.9	895.6	889.2	889.5	890.6	890.6	892.6	—	—	—	—	—	891.6
Mean Relative Humidity (%)													
Hour 0400 PST	51.7	53.0	47.4	52.3	44.8	34.7	53.9	42.0	41.3	27.8	41.2	39.9	44.2
Hour 1000 PST	32.3	32.6	24.9	31.3	20.3	15.4	24.1	17.4	19.7	11.3	21.5	24.1	22.9
Hour 1600 PST	28.0	24.9	16.4	25.9	13.9	9.2	19.4	12.8	14.7	8.1	16.4	18.2	17.3
Hour 2200 PST	48.0	46.1	35.3	44.4	31.2	22.8	38.5	28.0	31.2	20.4	34.0	31.9	34.3
Precipitation (mm)													
Maximum one-hour total	4.32	0.00	0.00	3.05	16.76	0.25	31.50	5.59	2.54	0.00	0.00	0.00	31.50
Maximum daily total	15.75	0.00	0.00	17.02	19.30	0.51	64.77	8.64	6.86	0.00	0.00	0.00	64.77
Total	22.10	0.00	0.00	14.99	38.10	16.51	90.93	9.14	9.40	0.00	0.00	0.00	201.17
Wind													
Mean Speed (m/sec)	2.9	3	3.5	3.9	3.5	3.6	3.4	—	—	—	—	—	3.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.6	18.4	15.9	16.3	14.2	18.8	13.5	—	—	—	—	—	18.8
Direction (degree)	331.5	163.7	165.7	165.2	13.1	157.2	156.7	—	—	—	—	—	157.2
Peak 3 sec Gust (m/sec)	16.9	22.6	20.3	20.9	19.3	23.0	27.2	—	—	—	—	—	27.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.84	0.97	1.29	1.38	1.61	1.62	1.43	—	—	—	—	—	1.31

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-8. Meteorological Data 1999 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.9	20.9	23.9	29.9	33.9	41.2	41.3	38.3	36.3	33.5	26.6	18.5	41.3
Mean Maximum	14.1	14.5	18.7	18.4	27.0	32.8	34.8	34.9	31.7	27.6	20.1	13.9	24.0
Mean Temperature	6.7	7.4	10.6	11.2	19.0	24.2	26.6	26.4	23.2	17.9	11.4	6.3	15.9
Mean Minimum	-0.8	0.1	1.4	3.6	9.8	13.5	17.5	16.5	13.8	8.1	3.1	-1.1	7.1
Extreme Minimum	-7.8	-6.3	-3.4	-4.7	3.7	6.3	13.0	11.8	8.5	3.5	-5.8	-5.3	-7.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	0	0	10	4	1	5	5	3	0	0	0	30
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	19	27	25	14	2	0	0	89
0°C (32°F) and below	19	12	9	8	0	0	0	0	0	0	4	22	74
Barometric Pressure (mb)													
Mean Barometric Pressure	889.2	889.3	883.5	883.8	884.3	884.4	887.0	—	—	—	—	—	885.9
Mean Relative Humidity (%)													
Hour 0400 PST	48.1	49.2	46.0	50.1	42.7	30.2	47.5	35.2	38.4	24.2	36.6	37.7	40.5
Hour 1000 PST	32.2	32.3	25.0	31.6	20.4	15.1	23.9	16.9	19.5	10.6	20.8	23.2	22.6
Hour 1600 PST	28.4	24.6	16.1	26.6	14.5	8.6	18.7	11.9	14.3	7.6	15.9	17.9	17.1
Hour 2200 PST	46.2	43.7	33.5	43.9	28.5	20.1	34.0	23.7	30.2	18.4	31.2	30.7	32.0
Precipitation (mm)													
Maximum one-hour total	5.59	0.00	0.00	3.56	9.4	0.51	9.65	3.05	2.79	0.00	0.00	0.00	9.65
Maximum daily total	12.19	0.00	0.00	17.53	17.78	0.51	24.13	3.81	5.84	0.00	0.00	0.00	24.13
Total	22.86	0.25	0.00	15.37	41.40	12.19	52.07	5.33	10.67	0.00	0.00	0.00	160.15
Wind													
Mean Speed (m/sec)	2.8	3.0	3.6	3.9	3.4	3.7	3.5	—	—	—	—	—	3.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.9	18.2	17.3	17	14.9	17.3	14.9	—	—	—	—	—	18.2
Direction (degree)	174.6	166.6	352.1	189.4	350.0	167.7	335.8	—	—	—	—	—	166.6
Peak 3 sec Gust (m/sec)	18.6	23.0	21.2	20.7	20.0	22.0	18.5	—	—	—	—	—	23.0
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.84	0.98	1.28	1.36	1.60	1.62	1.46	—	—	—	—	—	1.31

Source DTN: MO0302METMON99.001 [DIRS 166165].

Table M-9. Meteorological Data 1999 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.9	23.5	26.1	32.5	35.9	43.0	43.7	40.8	38.8	34.7	28.4	20.3	43.7
Mean Maximum	16.1	16.7	21.1	20.9	29.5	35.4	37.5	37.6	33.9	29.6	22.0	15.7	26.3
Mean Temperature	8.0	9.2	12.6	13.3	21.3	26.7	29.4	29.2	25.4	19.9	13.2	7.8	18.0
Mean Minimum	0.7	1.4	3.6	5.5	11.9	16.0	20.4	20.3	16.6	11.0	5.9	0.4	9.5
Extreme Minimum	-6.0	-5.3	-1.7	-3.5	6.0	7.3	15.6	12.9	12.8	5.3	-2.0	-4.2	-6.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	0	0	11	3	1	3	1	3	0	0	0	24
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	7	22	30	31	21	10	0	0	122
0°C (32°F) and below	12	7	5	5	0	0	0	0	0	0	3	14	46
Barometric Pressure (mb)													
Mean Barometric Pressure	920.1	920.1	913.8	914.1	913.5	912.7	915.6	915.4	915.4	919.7	920.9	923.6	917.1
Mean Relative Humidity (%)													
Hour 0400 PST	44.1	45.3	39.5	51.8	37.0	23.3	36.5	27.2	33.2	20.4	32.3	34.2	35.4
Hour 1000 PST	30.2	30.3	24.9	30.1	18.8	13.0	21.5	14.7	19.0	10.4	19.9	22.8	21.3
Hour 1600 PST	25.1	21.0	14.8	22.4	10.5	6.9	13.9	9.3	13.0	6.6	14.0	15.6	14.4
Hour 2200 PST	41.5	36.8	29.3	42.5	22.9	15.1	26.7	18.9	26.8	16.4	26.4	27.2	27.5
Precipitation (mm)													
Maximum one-hour total	2.03	0.00	0.00	5.33	2.79	0.25	1.78	1.27	3.30	0.00	0.00	0.00	5.33
Maximum daily total	4.83	0.00	0.00	12.45	3.56	0.25	2.29	1.52	7.87	0.00	0.00	0.00	12.45
Total	8.89	0.00	0.00	22.1	18.54	0.00	2.54	1.02	12.70	0.00	0.00	0.00	65.79
Wind													
Mean Speed (m/sec)	4.1	4.2	4.9	4.7	4.2	4.8	4.9	4.7	4.1	4.1	4.2	4.3	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.9	18.0	17.5	18.1	15.6	18.8	19.3	17.5	14.4	15.0	17.4	18.2	19.3
Direction (degree)	174.6	157.5	167.3	191.0	32.5	184.4	325.3	9999 ^a	175.2	294.7	347.7	338.2	325.3
Peak 3 sec Gust (m/sec)	17.9	21.9	22.0	22.2	20.1	25.5	25.2	21.1	18.0	17.5	20.6	22.6	25.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.84	1.02	1.33	1.44	1.63	1.64	1.56	1.58	1.41	1.22	0.95	0.85	1.29

Source DTN: MO0302METMON99.001 [DIRS 166165].

^a Wind direction for fastest one-minute speed in August was missing.

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APPENDIX N
2000 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table N-1. Meteorological Data 2000 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.8	19.8	23.5	31.7	38.8	41.2	41.7	40.7	37.2	33.1	19.2	18.9	41.7
Mean Maximum	13.3	13.4	17.1	24.5	30.2	35.0	36.7	35.6	31.1	22.3	14.0	14.7	24.0
Mean Temperature	7.5	7.9	10.8	17.1	22.3	27.2	28.7	28.0	23.4	16.0	7.6	7.6	17.0
Mean Minimum	2.0	2.8	4.1	9.0	13.0	18.1	19.2	20.0	15.4	9.6	1.1	1.2	9.6
Extreme Minimum	-4.9	-1.0	-1.9	3.2	2.9	9.0	13.6	14.4	9.7	2.5	-5.0	-3.3	-5.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	12	4	2	1	1	0	4	1	4	1	0	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	26	27	28	11	1	0	0	104
0°C (32°F) and below	12	3	3	0	0	0	0	0	0	0	11	10	39
Barometric Pressure (mb)													
Mean Barometric Pressure	889.9	887.6	886.3	886.4	884.1	885.5	886.5	887.3	886.0	885.6	887.8	890.7	887.0
Mean Relative Humidity (%)													
Hour 0400 PST	54.6	67.4	50.4	39.0	33.0	25.7	19.6	34.9	33.2	48.4	47.2	42.2	41.3
Hour 1000 PST	42.7	54.6	32.5	23.0	17.1	13.9	11.1	22.3	18.1	32.8	29.1	28.8	27.2
Hour 1600 PST	31.5	41.5	27.4	14.4	11.2	8.1	6.2	16.3	11.7	27.3	23.1	22.8	20.1
Hour 2200 PST	48.9	61.3	43.4	31.9	20.7	15.9	12.7	27.8	23.3	42.0	39.8	36.7	33.7
Precipitation (mm)													
Maximum one-hour total	2.79	8.64	3.56	4.32	0.76	1.02	0.00	21.34	1.27	6.35	0.25	0.00	21.34
Maximum daily total	3.56	26.16	17.53	9.91	0.76	1.27	0.00	25.40	3.05	13.97	0.25	0.00	26.16
Total	6.10	103.12	41.15	9.91	0.51	0.25	0.00	54.61	2.54	27.69	0.25	0.00	246.13
Wind													
Mean Speed (m/sec)	3.0	3.2	4.0	4.0	4.1	4.1	4.0	3.5	3.8	3.5	3.0	2.6	3.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.3	14.4	17.1	16.9	17.1	17.2	13.2	13.2	14.3	14.0	15.6	15.8	17.2
Direction (deg)	347.4	172.5	346.2	171.8	167.8	160.7	219.3	295.4	169.7	177.5	174.1	349.7	160.7
Peak 3 sec Gust (m/sec)	18.9	17.6	21.4	20.5	20.0	21.7	19.4	17.7	20.6	17.6	19.4	20.4	21.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.71	0.76	1.10	1.28	1.39	1.45	1.44	1.29	1.24	0.95	0.85	0.71	1.10

Source DTN: MO0209SEPPQ2000.001 [DIRS 166730].

Table N-2. Meteorological Data 2000 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.3	16.5	21.8	29.8	36.7	38.8	39.8	38.7	35.2	30.9	17.0	16.4	39.8
Mean Maximum	10.6	10.8	14.8	22.4	28.1	33.1	34.9	33.6	28.7	19.9	11.8	12.5	21.8
Mean Temperature	6.8	6.5	9.5	16.1	21.0	26.0	27.8	26.6	22.7	14.8	7.0	8.4	16.1
Mean Minimum	4.0	3.2	5.0	10.3	14.8	19.8	21.9	21.5	17.6	11.1	3.3	5.0	11.5
Extreme Minimum	-2.5	-3.3	-3.8	0.7	2.3	8.2	15.0	14.2	9.8	-0.1	-3.1	-1.5	-3.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	12	5	2	0	1	0	5	1	4	0	0	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	22	24	24	8	0	0	0	86
0°C (32°F) and below	4	4	6	0	0	0	0	0	0	1	10	1	26
Barometric Pressure (mb)													
Mean Barometric Pressure	852.2	849.9	849.0	850.3	848.8	850.9	852.1	852.7	850.9	849.4	850.3	853.4	850.8
Mean Relative Humidity (%)													
Hour 0400 PST	51.5	63.9	44.9	32.1	28.7	23.6	17.5	33.3	27.7	46.9	39.2	33.2	36.9
Hour 1000 PST	47.8	63.1	38.8	26.8	20.9	16.4	13.1	26.4	21.8	39.8	33.2	29.3	31.4
Hour 1600 PST	37.0	49.0	31.5	16.0	12.9	9.2	7.2	19.9	13.7	31.9	26.2	25.4	23.3
Hour 2200 PST	46.3	60.7	38.3	26.4	19.7	15.0	11.9	28.7	20.5	42.4	34.3	31.3	31.3
Precipitation (mm)													
Maximum one-hour total	1.52	8.38	2.79	4.57	0.00	0.51	0.00	13.97	0.76	4.57	0.00	0.00	13.97
Maximum daily total	2.79	24.64	18.29	10.92	0.00	0.51	0.00	17.78	2.54	10.41	0.00	0.00	24.64
Total	4.83	94.74	38.86	11.68	0.00	0.00	0.00	44.20	3.30	24.13	0.00	0.00	221.74
Wind													
Mean Speed (m/sec)	4.1	4.4	5.1	4.9	4.8	4.7	4.4	4.1	4.3	4.5	4.0	2.6	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	20.5	23.9	27.3	20.5	24.4	19.1	15.8	18.1	16.7	23.1	17.0	22.5	27.3
Direction (deg)	307.8	311.2	296.1	242.5	282.5	273.7	265.5	289.6	225.4	314.0	324.4	324.4	296.1
Peak 3 sec Gust (m/sec)	24.6	27.9	30.3	26.2	26.2	24.8	19.7	19.6	21.3	26.9	20.4	27.5	30.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.68	0.73	1.08	1.25	1.36	1.40	1.39	1.24	1.21	0.93	0.81	0.68	1.06

Source DTN: MO0209SEPQ2000.001 [DIRS 166730].

Table N-3. Meteorological Data 2000 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.6	18.0	22.0	29.9	36.6	39.6	40.8	39.1	35.5	31.5	18.1	17.7	40.8
Mean Maximum	11.8	12.0	15.6	23.0	28.4	33.4	35.0	33.9	29.4	20.8	12.7	13.4	22.4
Mean Temperature	7.4	7.6	10.5	16.8	21.8	26.7	28.3	27.4	23.2	15.6	7.7	7.9	16.7
Mean Minimum	3.2	3.4	5.0	9.8	14.3	19.2	20.5	20.8	16.4	10.7	2.0	3.5	10.7
Extreme Minimum	-3.7	-0.5	-1.7	2.5	4.1	10.1	14.1	14.4	10.4	1.5	-4.0	-1.5	-4.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	11	4	2	0	1	0	4	1	4	0	0	30
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	22	24	26	8	0	0	0	89
0°C (32°F) and below	5	3	3	0	0	0	0	0	0	0	9	4	24
Mean Relative Humidity (%)													
Hour 0400 PST	54.4	67.8	48.7	36.3	31.4	25.2	19.0	35.1	31.9	48.8	44.0	40.1	40.2
Hour 1000 PST	44.6	58.7	35.1	24.4	19.2	15.1	11.9	23.9	19.4	36.1	31.1	29.1	29.1
Hour 1600 PST	35.9	45.5	29.5	15.2	12.3	8.7	6.8	18.2	12.7	30.4	26.8	27.1	22.4
Hour 2200 PST	48.0	62.7	41.8	29.2	19.9	15.5	12.0	28.2	21.9	42.9	36.6	36.1	32.9
Precipitation (mm)													
Maximum one-hour total	2.29	10.16	3.30	5.08	0.00	0.76	0.00	16.51	1.52	5.33	0.00	0.00	16.51
Maximum daily total	3.56	27.18	16.76	11.18	0.00	0.76	0.00	18.8	4.32	12.45	0.00	0.00	27.18
Total	4.57	118.36	52.58	12.83	0.00	0.00	0.00	38.86	2.54	4.06	26.67	0.00	260.48

Source DTN: MO0209SEPCQ2000.001 [DIRS 166730].

Table N-4. Meteorological Data 2000 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.6	19.4	23.3	31.4	38.2	41.1	41.7	40.2	37.1	32.7	18.4	18.8	41.7
Mean Maximum	12.6	13.0	16.5	24.2	30.1	34.8	36.5	35.2	30.7	22	13.3	14.0	23.6
Mean Temperature	7.9	8.0	10.8	17.3	22.5	27.4	29.1	28.1	23.6	15.9	8.0	8.5	17.3
Mean Minimum	3.5	3.4	5.0	10.3	14.4	19.8	21.6	21.4	16.8	10.3	2.9	3.4	11.1
Extreme Minimum	-4	-1.2	-1.2	2.2	4.4	10.0	14.5	14.7	10.9	1.7	-3.0	-1.2	-4.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	10	3	2	1	1	0	5	1	4	1	0	32
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	26	26	28	11	1	0	0	103
0°C (32°F) and below	5	3	3	0	0	0	0	0	0	0	9	2	22
Barometric Pressure (mb)													
Mean Barometric Pressure	878.6	876.4	875.0	875.5	873.3	874.8	876.0	876.7	875.2	874.6	876.4	879.5	876.0
Mean Relative Humidity (%)													
Hour 0400 PST	53.3	66.8	48.5	35.5	29.9	23.7	17.3	31.9	27.4	44.8	40.6	33.7	37.8
Hour 1000 PST	47.2	61.3	37.0	25.4	19.1	15.2	12.1	23.3	17.8	33.0	29.6	28.5	29.1
Hour 1600 PST	34.6	45.1	30.2	15.5	11.9	8.5	6.7	16.4	10.9	26.0	22.7	21.7	20.8
Hour 2200 PST	47.3	62.2	41.8	29.2	19.9	15.6	11.8	26.0	19.9	38.9	33.9	30.4	31.4
Precipitation (mm)													
Maximum one-hour total	3.3	7.11	3.05	3.56	0.51	0.25	0.00	14.99	1.52	7.37	0.51	0.00	14.99
Maximum daily total	4.83	24.38	13.46	7.62	0.51	0.25	0.00	27.18	2.79	15.24	0.51	0.00	27.18
Total	6.6	91.69	32.77	8.13	0.51	0.00	0.00	48.01	2.29	28.19	0.51	0.00	218.69
Wind													
Mean Speed (m/sec)	3.7	4.2	5.6	5.1	5.3	5.2	4.5	4.2	4.6	4.9	4.6	3.1	4.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	19.0	19.7	26.8	22.1	23.0	22.4	15.6	20.3	19.4	25.1	21.3	22.0	26.8
Direction (degree)	1.3	7.1	353.1	179.0	23.3	348.4	182.0	21.5	21.4	13.2	353.2	18.9	353.1
Peak 3 sec Gust (m/sec)	23.2	26.0	30.2	26.2	26.1	26.6	21.1	21.7	28.9	28.1	23.8	24.9	30.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.77	0.86	1.22	1.43	1.57	1.61	1.59	1.41	1.38	1.05	0.94	0.77	1.22

Source DTN: MO0209SEPPQ2000.001 [DIRS 166730].

Table N-5. Meteorological Data 2000 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.7	21.7	25.6	34.2	41.0	43.1	43.4	42.1	39.7	35.4	20.9	20.4	43.4
Mean Maximum	14.8	15.4	19.0	26.8	32.3	37.0	38.8	37.5	33.3	24.3	15.8	16.2	25.9
Mean Temperature	8.3	9.3	12.0	18.3	23.6	28.4	30.0	29.3	24.7	17.3	8.4	8.1	18.1
Mean Minimum	1.8	3.4	4.7	9.4	13.5	18.6	19.9	20.5	15.7	10.8	1.0	0.5	10.0
Extreme Minimum	-5.8	-1.2	-1.1	2.7	3.4	7.7	12.5	15.1	0.0	4.2	-4.5	-4.5	-5.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	10	2	2	1	2	0	4	1	5	2	0	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	16	27	31	28	19	6	0	0	129
0°C (32°F) and below	13	2	2	0	0	0	0	0	1	0	11	11	40
Barometric Pressure (mb)													
Mean Barometric Pressure	909.0	906.7	905.1	905.0	902.4	903.6	904.6	905.3	904.2	904.3	906.9	909.9	905.6
Mean Relative Humidity (%)													
Hour 0400 PST	53.8	67.2	49.2	37.0	30.2	23.9	17.4	32.5	32.0	46.3	47.4	41.0	39.8
Hour 1000 PST	41.8	53.1	31.1	20.7	16.0	12.5	9.9	20.3	16.0	31.6	29.0	28.6	25.9
Hour 1600 PST	29.1	38.4	24.9	11.5	9.0	6.2	4.7	14.1	9.5	24.7	20.6	20.3	17.8
Hour 2200 PST	48.0	61.4	44.1	32.5	18.5	15.0	11.4	27.1	22.9	40.8	41.4	37.3	33.4
Precipitation (mm)													
Maximum one-hour total	1.02	7.11	2.79	3.56	0.51	0.25	0.00	11.43	1.27	3.05	0.76	0.00	11.43
Maximum daily total	1.78	16.00	10.41	3.56	0.51	0.25	0.00	18.03	2.29	7.11	1.27	0.00	18.03
Total	4.32	60.71	24.89	5.84	0.25	0.00	0.00	20.57	1.02	17.02	1.52	0.00	136.14

Source DTN: MO0209SEPPQ2000.001 [DIRS 166730].

Table N-6. Meteorological Data 2000 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.8	18.3	21.8	29.4	36.3	39.3	40.4	38.8	35.1	31.4	18.5	17.8	40.4
Mean Maximum	11.8	11.9	15.5	22.6	27.9	33.0	34.6	33.5	29.2	20.5	12.7	13.6	22.2
Mean Temperature	6.1	6.4	9.5	15.5	20.6	25.4	26.7	26.1	21.8	14.4	6.4	6.6	15.5
Mean Minimum	0.8	1.5	3.3	7.7	11.8	16.4	17.2	18.1	13.9	8.6	0.5	1.0	8.4
Extreme Minimum	-6.9	-3.2	-2.5	1.6	3.1	9.2	11.3	12.1	6.0	0.9	-5.4	-3.6	-6.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	10	3	2	0	1	0	4	1	6	1	0	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	20	22	24	8	0	0	0	82
0°C (32°F) and below	14	8	4	0	0	0	0	0	0	0	13	10	49
Mean Relative Humidity (%)													
Hour 0400 PST	62.2	75.2	54.2	42.6	37.4	29.4	22.9	35.9	33.9	49.9	46.1	40.3	44.2
Hour 1000 PST	46.8	61.4	37.2	26.3	20.9	16.4	12.5	22.5	17.9	33.5	28.2	25.4	29.1
Hour 1600 PST	37.1	47.8	30.8	16.8	13.7	9.9	7.1	16.1	11.2	27.6	24.0	23.6	22.1
Hour 2200 PST	54.9	71.5	47.6	36.4	24.3	18.7	14.0	27.4	23.3	44.2	38.5	36.6	36.4
Precipitation (mm)													
Maximum one-hour total	3.05	8.38	4.57	5.33	0.00	1.27	0.00	14.99	0.51	5.08	0.25	0.00	14.99
Maximum daily total	4.57	31.50	20.57	13.21	0.00	1.27	0.00	28.19	1.02	10.67	0.25	0.00	31.50
Total	9.14	119.38	52.07	15.24	0.00	0.76	0.00	48.51	0.25	3.05	23.37	0.00	271.78

Source DTN: MO0209SEPQ2000.001 [DIRS 166730].

Table N-7. Meteorological Data 2000 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.6	20.7	24.8	32.8	39.5	42.2	43.2	41.9	38.0	33.8	20.3	19.8	43.2
Mean Maximum	14.0	14.3	18	25.6	31.2	36.1	37.7	36.5	31.9	23.2	14.8	15.5	24.9
Mean Temperature	6.5	7.6	10.5	16.7	21.8	26.7	28.0	27.5	22.6	15.2	6.7	5.7	16.3
Mean Minimum	-1.0	0.8	2.1	6.2	10.1	15.0	15.2	17.2	12.2	7.0	-1.6	-2.9	6.7
Extreme Minimum	-7.7	-2.0	-3.1	-0.1	0.4	6.4	9.3	11.7	4.5	1.1	-6.7	-7.1	-7.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	11	3	2	1	2	0	4	1	4	1	0	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	14	27	30	28	16	2	0	0	119
0°C (32°F) and below	19	12	7	1	0	0	0	0	0	0	21	28	88
Mean Relative Humidity (%)													
Hour 0400 PST	61.1	73.6	58.2	48.3	39.7	30.4	23.4	38.0	44.3	54.8	56.8	54.0	48.5
Hour 1000 PST	43.7	55.4	32.8	22.5	17.4	13.6	10.6	22.3	18.5	33.0	29.8	30.9	27.5
Hour 1600 PST	31.2	41.1	27.1	13.7	11.0	7.5	5.6	15.9	11.7	27.2	23.4	23.1	19.9
Hour 2200 PST	52.6	65.9	49.2	36.5	23.2	18.3	14.1	29.6	29.1	45.6	48.0	45.0	38.1
Precipitation (mm)													
Maximum one-hour total	3.56	6.10	3.56	3.30	0.51	1.02	0.00	25.65	1.27	7.37	0.76	0.00	25.65
Maximum daily total	5.08	26.42	14.73	7.11	0.76	1.27	0.00	40.89	2.03	17.02	0.76	0.00	40.89
Total	8.89	95.25	34.29	7.62	0.76	1.27	0.00	74.17	1.27	2.79	25.40	0.00	251.71

Source DTN: MO0209SEFQ2000.001 [DIRS 166730].

Table N-8. Meteorological Data 2000 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.1	20.0	23.7	32.3	38.8	41.4	41.8	40.7	37.6	33.2	19.8	19.1	41.8
Mean Maximum	13.4	13.7	17.5	24.8	30.4	35.2	36.9	35.7	31.2	22.4	14.3	14.9	24.2
Mean Temperature	6.9	7.6	10.4	16.7	21.9	26.8	28.3	27.6	22.7	15.3	7.0	6.4	16.5
Mean Minimum	0.3	1.5	2.7	7.5	11.4	16.4	17.3	18.4	13.3	7.9	-0.4	-0.9	8.0
Extreme Minimum	-5.9	-1.5	-3.2	1.7	1.2	8.3	11.2	13.4	8.2	2.4	-5.7	-4.6	-5.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	4	12	2	2	1	2	0	4	1	4	0	0	32
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	11	26	29	28	11	1	0	0	107
0°C (32°F) and below	17	8	7	0	0	0	0	0	0	0	14	24	70
Mean Relative Humidity (%)													
Hour 0400 PST	57.9	71.6	56.0	42.8	36.3	27.4	20.3	35.9	39.1	52.8	52.3	48.5	45.1
Hour 1000 PST	43.8	55.8	32.6	22.2	16.8	13.0	10.1	21.8	18.0	33.5	29.2	29.6	27.2
Hour 1600 PST	31.3	41.5	26.9	13.1	10.4	7.1	5.2	15.8	11.0	27.5	22.7	22.5	19.6
Hour 2200 PST	51.2	64.7	47.2	34.8	21.2	16.6	12.4	27.8	26.5	44.1	43.9	41.1	36.0
Precipitation (mm)													
Maximum one-hour total	1.52	7.87	3.3	3.56	0.51	2.29	0.00	27.18	1.52	6.86	0.00	0.00	27.18
Maximum daily total	1.52	24.64	14.48	7.62	0.76	3.05	0.00	30.48	2.79	15.24	0.00	0.00	30.48
Total	4.57	100.58	37.34	8.38	0.76	2.54	0.00	62.74	0.76	28.96	0.00	0.00	246.63

Source DTN: MO0209SEPCQ2000.001 [DIRS 166730].

Table N-9. Meteorological Data 2000 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.8	22.3	26.6	35.0	41.4	43.7	44.3	42.7	40.7	36.8	22.0	20.8	44.3
Mean Maximum	15.4	16.3	19.9	27.7	33.0	37.7	39.4	38.3	34.1	25.2	16.4	16.4	26.6
Mean Temperature	8.5	10.0	12.5	19.0	24.6	29.3	30.8	30.1	25.3	17.8	8.5	7.7	18.7
Mean Minimum	1.8	3.8	5.2	9.4	14.3	19.0	20.2	21.1	15.5	10.7	1.3	0.6	10.2
Extreme Minimum	-5.6	-1.9	-0.4	2.9	2.6	9.2	12.8	15.7	9.8	4.7	-5.6	-3.2	-5.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	10	3	2	0	1	0	3	1	4	1	0	27
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	17	28	31	28	21	7	0	0	134
0°C (32°F) and below	12	2	1	0	0	0	0	0	0	0	11	15	41
Barometric Pressure (mb)													
Mean Barometric Pressure	920.7	918.4	916.7	916.1	913.1	914.0	914.8	915.6	914.8	915.4	918.6	921.6	916.6
Mean Relative Humidity (%)													
Hour 0400 PST	53.4	65.3	50.5	35.9	27.0	23.4	16.8	32.6	29.5	45.4	46.2	42.8	39.1
Hour 1000 PST	40.3	50.8	31.1	19.2	15.0	11.7	8.9	19.3	15.5	30.6	27.7	29.3	25.0
Hour 1600 PST	27.5	35.4	23.5	10.2	8.2	5.8	4.2	13.4	8.9	23.2	19.2	20.1	16.6
Hour 2200 PST	44.8	56.7	44.3	27.2	16.6	13.7	9.8	24.9	19.7	37.8	38.2	35.3	30.8
Precipitation (mm)													
Maximum one-hour total	0.76	6.35	2.79	1.02	0.00	2.03	0.00	3.3	2.03	2.54	1.02	0.00	6.35
Maximum daily total	1.52	14.22	11.94	1.27	0.00	2.79	0.00	4.32	3.05	6.10	1.02	0.00	14.22
Total	3.05	45.47	33.27	1.78	0.00	1.52	0.00	4.83	2.29	11.68	0.00	0.00	103.89
Wind													
Mean Speed (m/sec)	3.9	4.6	4.5	4.8	5.1	4.8	4.9	4.4	4.7	4.6	3.8	3.7	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.4	16.8	16.5	18.1	22.6	19.6	14.8	14.2	14.0	15.5	16.1	13.8	22.6
Direction (degree)	165.0	154.5	8.9	170.9	179.6	154.4	148.4	154.8	184.7	166.2	178.0	8.9	179.6
Peak 3 sec Gust (m/sec)	17.1	19.4	20.4	21.7	27.4	23.8	18.3	20.6	18.0	18.7	21.1	16.9	27.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.82	0.93	1.29	1.54	1.62	1.67	1.64	1.50	1.43	1.14	0.97	0.82	1.28

Source DTN: MO0209SEPPQ2000.001 [DIRS 166730].

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APPENDIX O
2001 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table O-1. Meteorological Data 2001 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.6	21.6	25.4	30.7	37.9	39.9	42.4	40.7	35.5	34.0	24.5	15.4	42.4
Mean Maximum	10.7	10.8	19.1	20.5	32.1	34.7	35.6	37.5	33.2	26.8	17.4	10.9	24.1
Mean Temperature	5.1	5.3	12.5	13.4	24.0	26.8	27.6	29.6	25.2	19.1	11.1	5.1	17.1
Mean Minimum	-0.3	0.5	5.4	5.8	14.6	17.0	18.8	20.8	16.4	11.5	5.2	-0.5	9.6
Extreme Minimum	-4.1	-4.7	-0.9	-2.4	6.2	9.5	14.6	16.0	13.1	6.0	-4.2	-5.8	-5.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	8	8	1	5	1	0	2	1	1	1	3	2	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	19	23	28	31	25	4	0	0	130
0°C (32°F) and below	18	12	3	3	0	0	0	0	0	0	6	20	62
Barometric Pressure (mb)													
Mean Barometric Pressure	889.0	885.5	885.5	883.7	885.8	885.2	886.0	886.9	886.0	888.0	887.8	887.7	886.4
Mean Relative Humidity (%)													
Hour 0400 PST	55.7	70.3	51.8	51.7	25.6	20.9	34.3	28.4	27.9	29.4	51.3	52.6	41.7
Hour 1000 PST	42.0	52.1	35.3	29.2	13.3	10.9	18.9	16.1	16.6	18.4	34.8	37.7	27.1
Hour 1600 PST	38.0	48.5	26.1	20.2	9.1	6.1	12.3	9.8	10.7	14.7	31.4	32.9	21.6
Hour 2200 PST	52.9	66.2	43.6	39.4	19.3	13.5	24.2	19.3	22.7	25.2	46.3	47.9	35.0
Precipitation (mm)													
Maximum one-hour total	4.57	2.79	2.29	2.79	0.25	0.00	5.33	1.02	1.78	1.78	3.05	1.02	5.33
Maximum daily total	26.16	18.80	6.10	5.59	0.51	0.00	13.72	1.02	4.83	5.33	4.83	2.29	26.16
Total	59.69	59.94	6.35	13.46	0.51	0.00	15.75	0.00	5.08	0.00	16.26	2.54	179.58
Wind													
Mean Speed (m/sec)	3.1	3.2	3.6	4.3	3.8	4.3	3.8	3.4	3.5	3.0	3.3	3.3	3.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	13.7	14.6	14.8	16.8	14.3	18.1	15.1	12.6	13.1	16.2	17.1	14.3	18.1
Direction (degree)	187.3	342.2	346.3	171.2	338.3	326.4	8.2	336.6	158.8	355.4	167.8	175.9	326.4
Peak 3 sec Gust (m/sec)	17.5	18.9	18.6	20.1	17.9	21.9	18.9	17.0	16.7	19.6	21.8	20.0	21.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.69	0.78	1.08	1.30	1.40	1.44	1.42	1.35	1.22	0.99	0.79	0.71	1.10

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-2. Meteorological Data 2001 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.6	18.7	23.2	28.8	35.7	37.8	40.1	38.7	33	31.3	21.2	12.8	40.1
Mean Maximum	7.9	7.9	16.8	18.2	30.0	32.7	33.5	35.6	31.1	24.5	14.7	8.3	21.8
Mean Temperature	4.5	4.0	11.5	12.0	23.1	25.7	26.5	28.7	24.8	18.9	10.3	4.2	16.2
Mean Minimum	1.5	0.8	7.0	6.8	17.1	19.5	20.6	23.3	19.8	14.6	7.2	0.8	11.6
Extreme Minimum	-6.3	-5.6	-0.3	-1.6	3.7	12.0	15.3	18.9	14.6	7.3	-2.5	-5.6	-6.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	7	8	1	6	2	0	3	1	0	0	1	2	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	20	18	29	6	0	0	0	81
0°C (32°F) and below	15	13	2	4	0	0	0	0	0	0	5	11	50
Barometric Pressure (mb)													
Mean Barometric Pressure	851.0	847.7	848.9	847.4	851.0	850.8	851.7	853.0	851.5	852.5	851.1	850.1	850.6
Mean Relative Humidity (%)													
Hour 0400 PST	48.2	64.8	44.5	46.7	21.0	18.3	30.2	24.5	20.4	23.4	41.3	45.6	35.7
Hour 1000 PST	45.0	60.9	41.7	35.9	16.2	13.1	23.3	18.1	16.9	18.8	36.9	39.7	30.5
Hour 1600 PST	44.2	55.7	30.3	24.0	11.3	7.5	15.1	10.8	10.3	14.1	32.8	34.6	24.2
Hour 2200 PST	49.3	62.3	39.6	37.0	17.6	13.1	23.4	17.3	18.2	21.0	38.4	42.3	31.6
Precipitation (mm)													
Maximum one-hour total	6.10	6.35	2.29	2.29	0.51	0.00	13.21	2.03	^a	^a	2.54	1.02	13.21
Maximum daily total	30.99	13.97	6.60	4.32	0.51	0.00	26.67	2.54	^a	^a	4.57	1.78	30.99
Total	65.28	48.51	9.65	14.22	0.51	0.00	28.45	1.78	9.14	5.84	13.46	1.78	198.63
Wind													
Mean Speed (m/sec)	3.7	4.2	4.9	4.9	4.7	4.7	4.3	4.1	4.2	3.8	4.2	4.0	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	25.7	17.1	25.9	19.4	24.9	22.7	19.6	16.2	19.3	18.9	23.2	20.8	25.9
Direction (degree)	308.9	308.5	277.4	289.3	259.5	321.3	290.6	359.5	230.9	64.1	320.1	311.1	277.4
Peak 3 sec Gust (m/sec)	29.9	19.4	30.4	21.8	27.2	25.4	22.1	18.7	23.3	24.4	30.5	23.6	30.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.77	1.04	1.27	1.37	1.40	1.37	1.32	1.19	0.95	0.78	0.69	1.07

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

^a September and October: Maximum one-hour and daily totals of precipitation are missing because of out of service gauge equipment.

Table O-3. Meteorological Data 2001 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.5	19.8	24.0	29.0	36.7	38.2	41.2	39.4	33.3	32.6	22.8	14.1	41.2
Mean Maximum	9.4	9.4	17.6	18.6	30.6	33.1	33.8	36.0	31.6	25.3	15.8	9.4	22.5
Mean Temperature	5.1	5.0	12.3	12.8	23.7	26.3	27.2	29.2	25.0	19.1	11.0	4.8	16.8
Mean Minimum	1.0	1.0	6.4	6.6	16.0	18.2	19.7	22.0	18.2	13.4	6.5	0.7	10.8
Extreme Minimum	-4.3	-3.9	-0.6	-1.6	5.4	12.8	15.5	17.5	14.2	8.4	-2.7	-5.1	-5.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	6	8	1	7	2	0	3	1	1	1	3	3	36
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	20	18	29	8	1	0	0	87
0°C (32°F) and below	15	11	2	2	0	0	0	0	0	0	6	12	48
Mean Relative Humidity (%)													
Hour 0400 PST	53.9	69.8	50.6	50.3	23.9	20.3	33.0	26.1	24.7	26.3	47.8	48.3	39.6
Hour 1000 PST	43.0	56.2	38.5	32.7	14.5	11.9	20.0	15.5	15.5	16.7	34.5	36.7	28.0
Hour 1600 PST	42.2	52.9	28.8	22.9	10.7	6.8	13.0	9.4	9.8	13.5	32.1	34.3	23.0
Hour 2200 PST	51.8	67.5	41.3	38.4	18.6	13.1	22.4	17.3	19.7	22.7	42.3	44.8	33.3
Precipitation (mm)													
Maximum one-hour total	6.10	4.32	2.03	3.81	0.51	0.00	6.1	1.78	3.05	1.52	4.32	1.02	6.10
Maximum daily total	30.73	16.51	5.84	7.37	1.02	0.00	17.27	2.79	7.37	5.08	6.35	1.78	30.73
Total	72.64	62.23	8.13	18.54	1.52	0.00	22.61	2.29	8.13	0.00	20.32	2.79	219.20

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-4. Meteorological Data 2001 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.5	21.1	25.5	30.9	37.8	39.7	42.6	40.6	35.0	33.9	23.9	14.9	42.6
Mean Maximum	9.8	10.1	18.6	20.3	32.1	34.5	35.1	37.3	32.9	26.4	16.7	10.1	23.7
Mean Temperature	5.3	5.3	12.7	13.4	24.2	27.1	27.7	29.9	25.7	19.6	11.4	5.3	17.3
Mean Minimum	0.9	1.1	6.9	6.6	16	19.1	20.1	22.6	18.6	13.3	6.5	0.9	11.0
Extreme Minimum	-3.2	-4.7	0.0	-1.6	5.2	12.0	16.2	17.9	16.1	8.4	-2.9	-4.2	-4.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	5	8	1	4	2	0	2	1	1	2	3	3	32
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	19	23	26	31	23	4	0	0	126
0°C (32°F) and below	16	11	0	2	0	0	0	0	0	0	3	11	43
Barometric Pressure (mb)													
Mean Barometric Pressure	877.5	874.2	874.6	872.9	875.3	874.8	875.6	876.7	875.6	877.4	877.0	876.8	875.7
Mean Relative Humidity (%)													
Hour 0400 PST	47.8	61.3	43.1	45.0	20.6	16.2	29.3	23.2	22.4	24.5	45.4	48.0	35.6
Hour 1000 PST	41.8	52.9	35.3	29.1	12.7	10.4	18.4	15.5	15.3	17.2	35.0	39.2	26.9
Hour 1600 PST	37.2	47.9	26.0	19.2	8.1	5.2	12.3	8.9	9.4	12.7	30.3	32.4	20.8
Hour 2200 PST	46.8	59.8	36.5	33.9	15.9	10.9	22.2	16.0	18.4	21.3	40.3	43.5	30.5
Precipitation (mm)													
Maximum one-hour total	4.32	4.57	2.29	2.54	0.25	0.00	19.05	0.51	1.78	2.03	3.05	1.78	19.05
Maximum daily total	25.40	14.73	7.37	5.33	0.25	0.00	20.83	0.51	4.32	6.35	4.57	2.54	25.40
Total	60.71	50.04	7.87	11.18	0.25	0.00	32.00	0.00	4.32	0.00	15.75	3.56	185.67
Wind													
Mean Speed (m/sec)	4.6	4.2	5.1	5.2	5.2	4.8	4.6	3.9	4.3	3.9	4.2	4.1	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	23.2	22.3	24.0	21.9	24.8	23.8	23.3	22.0	18.9	23.7	23.6	18.8	24.8
Direction (degree)	345.6	16.1	354.9	23.4	11.3	327.4	13.9	358.1	36.4	8.8	359.9	21.9	11.26
Peak 3 sec Gust (m/sec)	25.2	25.6	27.0	24.8	28.5	28.3	25.5	25.8	21.4	32.2	26.5	21.7	32.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.74	0.86	1.21	1.45	1.57	1.60	1.57	1.50	1.37	1.10	0.87	0.78	1.22

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-5. Meteorological Data 2001 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.9	23.4	27.6	33.0	40.4	41.4	44.6	42.5	37.0	35.8	25.5	17.1	44.6
Mean Maximum	12.3	12.7	21.3	22.6	34.1	36.7	37.5	39.5	35.3	28.6	19.1	12.4	26.0
Mean Temperature	6.0	6.7	13.6	14.7	25.1	28.0	28.9	30.8	26.4	19.9	12.1	5.9	18.2
Mean Minimum	0.1	1.0	6.2	6.2	15.1	17.4	19.6	21.5	17.8	12.0	5.5	-0.6	10.2
Extreme Minimum	-4.0	-4.7	-1.6	-3.1	7.1	11.0	14.3	14.8	13.4	5.7	-4.7	-5.2	-5.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	6	8	1	3	3	0	2	0	2	2	2	2	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	3	25	27	30	31	30	4	0	0	150
0°C (32°F) and below	13	9	2	3	0	0	0	0	0	0	6	17	50
Barometric Pressure (mb)													
Mean Barometric Pressure	908.2	904.7	904.5	902.7	904.3	903.5	904.3	905.2	904.4	906.7	907.0	907.3	905.2
Mean Relative Humidity (%)													
Hour 0400 PST	55.9	69.6	52.3	49.1	24.9	18.8	32.6	25.0	25.7	27.3	52.2	54.5	40.7
Hour 1000 PST	41.2	51.4	33.9	26.4	12.4	10.1	17.8	15.2	15.2	17.6	34.8	37.5	26.1
Hour 1600 PST	36.1	45.9	23.3	17.1	7.5	4.8	10.8	8.3	8.7	12.6	28.2	30.8	19.5
Hour 2200 PST	53.3	67.2	45.4	37.8	18.8	12.3	23.4	17.4	21.9	24.4	47.1	50.2	34.9
Precipitation (mm)													
Maximum one-hour total	2.79	2.29	1.52	1.02	1.02	0.00	8.89	0.00	1.78	1.78	0.51	1.52	8.89
Maximum daily total	15.49	14.99	4.57	1.78	1.02	0.00	14.73	0.00	2.54	7.87	1.27	2.03	15.49
Total	45.21	38.86	4.83	4.32	1.27	0.00	17.02	0.00	2.79	0.00	10.67	2.79	127.76

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-6. Meteorological Data 2001 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.8	20.1	23.4	28.6	35.6	37.3	40.5	39.0	33.0	32.2	23.2	14.6	40.5
Mean Maximum	9.2	9.0	17.5	18.2	30.2	32.7	33.3	35.6	31.3	25.2	15.7	9.4	22.3
Mean Temperature	4.0	4.0	11.2	11.6	22.3	24.9	25.7	27.6	23.4	17.6	9.7	3.7	15.5
Mean Minimum	-0.6	-0.6	4.6	4.5	13.5	15.1	16.8	19.0	15.2	10.7	4.1	-1.4	8.4
Extreme Minimum	-4.7	-6.7	-1.9	-4.0	4.5	9.7	12.6	14.3	11.7	4.6	-5.0	-7.7	-7.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	7	8	1	5	2	0	4	1	1	1	3	2	35
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	7	19	18	27	6	0	0	0	77
0°C (32°F) and below	19	18	4	3	0	0	0	0	0	0	7	22	73
Mean Relative Humidity (%)													
Hour 0400 PST	52.2	67.2	50.6	53.0	25.8	21.9	36.8	29.8	28.5	29.0	53.0	53.7	41.8
Hour 1000 PST	38.9	52.0	34.9	31.1	13.1	10.5	18.8	15.5	14.9	16.4	33.7	36.8	26.4
Hour 1600 PST	38.6	48.2	26.2	20.9	9.2	5.6	12.2	9.2	9.5	12.7	31.5	34.2	21.5
Hour 2200 PST	52.3	66.7	44.0	41.2	19.7	13.7	24.5	19.6	22.7	24.6	47.7	50.4	35.6
Precipitation (mm)													
Maximum one-hour total	4.83	3.56	2.79	3.05	1.02	0.00	7.62	5.08	2.79	2.03	4.06	1.52	7.62
Maximum daily total	31.24	20.07	7.87	5.59	1.27	0.00	20.32	5.33	7.62	6.35	6.10	3.30	31.24
Total	66.29	54.10	9.14	20.07	1.52	0.00	37.08	4.57	7.87	0.00	19.56	4.06	224.28

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-7. Meteorological Data 2001 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.9	22.3	26.4	31.5	38.9	40.6	43.6	41.5	36.3	34.7	25.0	16.4	43.6
Mean Maximum	11.5	11.8	20.3	21.5	33.2	35.8	36.6	38.5	34.3	27.7	18.2	11.7	25.1
Mean Temperature	4.3	5.1	12.1	12.9	23.4	26.1	27.1	28.8	24.1	18.0	10.1	4.2	16.3
Mean Minimum	-2.4	-1.3	3.5	3.3	11.1	13.0	15.8	17.3	13.0	7.9	2.0	-3.2	6.7
Extreme Minimum	-6.1	-7.6	-3.1	-4.8	4.9	6.0	11.3	11.4	8.8	2.7	-7.2	-9.8	-9.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	7	8	1	4	1	0	2	0	1	2	3	2	31
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	22	25	29	31	27	4	0	0	138
0°C (32°F) and below	26	17	6	6	0	0	0	0	0	0	7	24	86
Mean Relative Humidity (%)													
Hour 0400 PST	63.6	77.8	60.8	61.2	32	25.4	42.1	33.4	34.7	34.2	64.1	63.3	49.4
Hour 1000 PST	43.8	53.0	35.4	29.0	13.5	10.9	18.6	15.9	16.1	18.2	35.8	39.7	27.5
Hour 1600 PST	37.7	47.9	25.9	19.9	9.0	5.8	12.8	9.6	10.2	13.8	31.2	32.9	21.4
Hour 2200 PST	58.6	72.9	51.5	45.2	22.8	15.6	28.8	21.2	25.7	28.0	54.7	56.8	40.2
Precipitation (mm)													
Maximum one-hour total	4.06	3.30	2.29	2.54	0.25	0.00	4.57	0.00	3.30	2.03	2.79	1.27	4.57
Maximum daily total	23.88	18.54	6.60	4.83	0.25	0.00	12.70	0.00	7.62	6.10	4.83	2.54	23.88
Total	57.66	53.85	6.10	10.41	0.25	0.00	15.75	0.00	7.62	0.00	17.02	2.54	171.20

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

Table O-8. Meteorological Data 2001 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	21.9	25.4	31.5	37.8	39.8	42.7	41.2	35.2	34.1	24.3	15.8	42.7
Mean Maximum	10.8	11.1	19.4	20.8	32.3	34.9	35.8	37.8	33.5	27.0	17.5	11.1	24.3
Mean Temperature	4.4	5.0	12.1	13.0	23.4	26.3	27.3	29	24.4	18.2	10.3	4.5	16.5
Mean Minimum	-1.6	-0.5	4.2	4.3	12.7	14.7	17.1	18.8	14.5	9.3	3.2	-1.8	7.9
Extreme Minimum	-4.4	-5.9	-1.5	-3.5	6.0	8.1	13.1	13.0	11.2	4.2	-5.8	-7.2	-7.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	7	9	1	5	1	0	2	1	1	1	3	2	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	20	23	28	31	27	4	0	0	133
0°C (32°F) and below	26	16	5	4	0	0	0	0	0	0	7	21	79
Mean Relative Humidity (%)													
Hour 0400 PST	61.5	75.7	57.8	56.8	29.1	22.6	36.5	30.2	30.6	31.9	60.9	58.5	46.0
Hour 1000 PST	43.4	53.8	35.3	28.9	12.8	10.3	18.6	15.5	15.6	17.4	35.4	38.5	27.1
Hour 1600 PST	38.4	48.7	25.7	19.5	8.3	5.3	11.7	9.1	9.4	13.4	31.0	32.7	21.1
Hour 2200 PST	57.0	71.5	48.0	41.8	21.2	13.6	24.8	19.9	24.3	27.0	52.0	52.4	37.8
Precipitation (mm)													
Maximum one-hour total	4.32	3.81	1.78	2.03	0.25	0.00	4.57	0.25	3.56	1.78	2.29	1.78	4.57
Maximum daily total	22.86	14.22	5.33	3.56	0.25	0.00	11.94	0.25	6.60	5.59	3.81	2.29	22.86
Total	58.42	59.69	6.10	10.16	0.51	0.00	14.99	0.00	7.11	0.00	15.24	2.29	174.50

Source DTN: M00305SEP01MET.002 [DIRS 166164].

Table O-9. Meteorological Data 2001 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.9	23.5	28.3	33.6	40.4	42.4	44.7	43.5	38.3	35.9	26.1	18.2	44.7
Mean Maximum	12.9	13.6	22.0	23.4	34.8	37.4	38.3	40.2	36.0	29.0	19.7	12.9	26.7
Mean Temperature	6.1	7.2	14.0	15.5	25.7	28.8	29.8	31.5	26.7	20.1	12.5	6.1	18.7
Mean Minimum	0.0	1.6	5.9	6.7	15.1	18.0	19.9	21.8	17.1	11.8	5.7	-0.5	10.3
Extreme Minimum	-5.6	-4.0	-1.0	-3.0	7.0	11.7	15.1	15.4	13.6	7.6	-3.6	-4.7	-5.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	5	7	1	3	3	0	2	0	1	1	1	2	26
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	4	26	27	31	31	30	5	0	0	154
0°C (32°F) and below	16	9	1	3	0	0	0	0	0	0	6	20	55
Barometric Pressure (mb)													
Mean Barometric Pressure	920.1	916.6	916.0	914.1	914.9	914.0	914.7	915.4	914.9	917.6	918.5	919.2	916.3
Mean Relative Humidity (%)													
Hour 0400 PST	57.4	69.4	53.6	46.4	25.1	17.8	33.1	24.9	28.0	28.6	51.0	51.5	40.6
Hour 1000 PST	42.5	49.0	34.0	24.8	11.6	9.3	17.6	14.8	14.8	17.4	32.7	36.0	25.4
Hour 1600 PST	34.7	43.2	22.3	16.4	7.0	4.5	10.3	7.9	8.1	12.0	25.8	28.8	18.4
Hour 2200 PST	54.2	66.3	43.9	33.0	17.0	10.9	22.2	16.3	21.0	23.8	43.1	45.4	33.1
Precipitation (mm)													
Maximum one-hour total	3.05	2.29	1.27	0.51	0.51	0.00	13.72	0.00	2.29	1.52	0.51	1.27	13.72
Maximum daily total	14.22	12.45	2.54	1.02	0.76	0.00	20.07	0.00	3.3	4.83	0.76	1.52	20.07
Total	43.69	33.78	2.54	1.78	1.27	0.00	20.32	0.00	3.3	0.00	5.84	2.03	114.55
Wind													
Mean Speed (m/sec)	3.8	4.2	4.1	5.3	4.3	4.8	4.6	4.3	4.2	3.7	4.2	4.0	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.0	16.5	17.2	18.3	19.0	19.5	16.0	13.9	14.4	12.5	17.5	15.0	19.5
Direction (degree)	184.0	173.5	5.7	162.2	146.4	339.2	139.9	4.9	168.3	142.2	164.9	165.3	339.2
Peak 3 sec Gust (m/sec)	16.9	20.6	20.3	21.7	22.8	22.6	20.7	22.4	18.4	14.7	21.8	17.9	22.8
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.82	0.91	1.26	1.50	1.64	1.68	1.65	1.56	1.43	1.13	0.91	0.79	1.27

Source DTN: MO0305SEP01MET.002 [DIRS 166164].

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APPENDIX P
2002 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table P-1. Meteorological Data 2002 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.8	22.4	27.5	32.1	37.6	39.5	43.2	42.1	37.3	30.5	23.6	16.3	43.2
Mean Maximum	11.6	16.7	17.0	24.0	28.3	35.3	38.8	36.2	31.9	23.7	18.2	11.2	24.4
Mean Temperature	5.4	9.1	10.0	16.6	20.6	27.4	30.9	28.2	24.4	16.5	11.5	5.6	17.2
Mean Minimum	-1.0	1.6	2.4	8.5	11.5	18.2	22.1	19.1	16.2	9.4	4.8	0.1	9.4
Extreme Minimum	-10.2	-5.4	-4.8	0.7	2.4	12.8	17.8	15.2	9.4	4.3	0.8	-5.9	-10.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	1	3	0	0	1	2	0	2	1	2	6	21
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	24	31	29	15	0	0	0	103
0°C (32°F) and below	15	10	11	0	0	0	0	0	0	0	0	14	50
Barometric Pressure (mb)													
Mean Barometric Pressure	888.9	890.7	886.2	883.9	883.9	883.6	886.6	885.7	885.0	885.0	889.8	887.6	886.4
Mean Relative Humidity (%)													
Hour 0400 PST	41.1	32.9	34.8	32.9	25.1	19.9	25.8	19.0	27.6	33.7	32.1	58.6	32.0
Hour 1000 PST	27.6	21.9	21.2	22.0	15.2	12.0	15.3	11.8	17.6	22.1	23.5	45.2	21.3
Hour 1600 PST	22.6	15.0	13.8	14.2	9.1	6.8	10.9	6.8	12.8	18.4	19.9	38.4	15.7
Hour 2200 PST	36.0	26.3	27.4	24.9	17.4	13.0	20.1	13.1	21.0	29.0	30.0	53.2	26.0
Precipitation (mm)													
Maximum one-hour total	1.02	0.51	0.25	0.00	0.00	0.25	9.14	0.00	0.76	0.76	1.27	3.81	9.14
Maximum daily total	2.29	0.76	0.25	0.00	0.00	0.25	9.14	0.00	0.76	0.76	4.83	5.59	9.14
Total	6.35	0.76	0.76	0.00	0.00	0.51	9.14	0.00	0.76	0.76	1.78	18.8	39.62
Wind													
Mean Speed (m/sec)	3.1	3.3	4.1	4.2	4.1	4.4	3.7	3.8	3.9	3.3	3.6	3.1	3.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.0	14.2	17.2	21.0	15.9	15.5	17.3	12.6	15.7	13.4	17.5	14.3	21.0
Direction (degree)	333.2	166.9	344.9	167.1	169.3	174.0	157.3	159.5	166.9	258.5	175.3	351.5	167.1
Peak 3 sec Gust (m/sec)	17.9	18.9	21.9	27.1	19.9	20.3	22.7	17.0	20.4	17.1	22.0	19.1	27.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.76	0.98	1.15	1.33	1.43	1.46	1.41	1.35	1.22	0.99	0.80	0.70	1.13

Source DTN: MO0305SEPO2MET.002 [DIRS 166163].

Table P-2. Meteorological Data 2002 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.3	19.8	25.1	30.0	35.6	37.6	41.4	40.0	34.4	28.4	20.4	14.2	41.4
Mean Maximum	9.1	14.1	14.8	21.9	26.4	33.4	36.9	34.3	29.8	21.3	15.5	8.5	22.2
Mean Temperature	5.0	8.9	8.9	15.3	19.4	26.3	29.8	27.4	23.4	15.9	10.9	4.8	16.3
Mean Minimum	1.4	4.7	4.1	10.1	13.4	20.1	24.1	21.7	18.7	12.1	7.4	2.1	11.7
Extreme Minimum	-7.6	-2.1	-3.8	1.2	3.3	10.7	18.8	16.8	10.6	4.4	2.0	-3.7	-7.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	3	0	1	1	0	1	2	0	1	1	2	6	18
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	21	31	20	10	0	0	0	85
0°C (32°F) and below	12	4	9	0	0	0	0	0	0	0	0	10	35
Barometric Pressure (mb)													
Mean Barometric Pressure	851.4	853.9	849.4	847.9	848.5	849.4	852.8	851.5	850.3	849.2	853.4	850.2	850.7
Mean Relative Humidity (%)													
Hour 0400 PST	33.4	24.9	30.6	30.5	21.5	16.2	19.3	14.5	23.0	28.7	26.5	50.4	26.6
Hour 1000 PST	28.1	22.6	22.3	22.9	15.4	11.6	14.7	10.8	17.5	22.8	24.3	47.1	21.7
Hour 1600 PST	23.4	15.1	13.6	14.0	8.3	5.7	9.7	5.5	11.9	18.3	20.3	40.4	15.5
Hour 2200 PST	31.0	21.3	25.4	23.4	15.4	10.4	16.4	10.0	18.2	25.7	26.8	45.4	22.4
Precipitation (mm)													
Maximum one-hour total	1.02	0.00	0.25	1.02	0.00	0.25	3.81	0.00	0.51	1.52	1.02	3.56	3.81
Maximum daily total	2.79	0.00	0.51	1.02	0.00	0.25	5.84	0.00	0.76	2.03	5.08	4.57	5.84
Total	5.33	0.00	0.51	1.02	0.00	0.25	7.62	0.00	0.25	2.03	1.52	13.46	32.00
Wind													
Mean Speed (m/sec)	4.0	4.2	4.6	5.2	4.8	4.5	4.4	4.4	4.5	3.8	4.6	4.0	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	21.1	21.4	26.3	22.6	17.5	20.1	15.9	16.2	23.0	19.8	19.5	27.4	27.4
Direction (degree)	312.3	327.7	321.6	274.1	228.1	271.3	143.5	256.9	267.4	316.2	5.2	313.1	313.1
Peak 3 sec Gust (m/sec)	25.1	26.1	31.7	27.8	21.1	23.8	19.8	19.7	27.2	22.4	24.8	31.2	31.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.74	0.94	1.12	1.28	1.39	1.41	1.37	1.32	1.17	0.97	0.78	0.68	1.10

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-3. Meteorological Data 2002 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.0	21.0	25.7	30.8	35.7	37.8	42.2	40.7	35.4	29.4	22.2	15.2	42.2
Mean Maximum	10.3	15.2	15.6	22.4	26.7	33.7	37.1	34.5	30.2	22.1	16.7	9.8	22.9
Mean Temperature	5.4	9.1	9.6	16.1	20.1	27.0	30.4	27.9	24.0	16.5	11.6	5.5	16.9
Mean Minimum	0.6	3.4	3.4	9.6	12.6	19.3	23.0	20.4	17.8	11.1	6.6	1.5	10.8
Extreme Minimum	-8.9	-3.9	-3.6	1.2	3.3	12.6	19.2	16.3	10.5	6.1	3.4	-4.0	-8.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	3	2	1	0	1	2	0	1	1	2	6	21
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	22	31	20	11	0	0	0	87
0°C (32°F) and below	14	4	10	0	0	0	0	0	0	0	0	12	40
Mean Relative Humidity (%)													
Hour 0400 PST	37.0	28.5	31.3	31.4	22.6	17.0	22.1	15.6	24.6	30.8	28.0	55.1	28.7
Hour 1000 PST	25.6	20.0	19.7	20.6	13.4	9.9	13.1	9.4	15.5	20.4	21.8	43.7	19.4
Hour 1600 PST	22.6	13.4	12.3	13.0	7.3	4.8	9.0	4.7	10.8	17.2	19.2	38.8	14.4
Hour 2200 PST	32.5	23.2	25.2	22.8	14.8	10.0	16.3	9.9	18.2	26.2	27.0	48.9	22.9
Precipitation (mm)													
Maximum one-hour total	1.52	0.51	0.51	1.27	0.00	0.51	5.84	0.00	0.51	2.03	1.02	2.54	5.84
Maximum daily total	3.05	0.51	0.76	1.27	0.00	0.51	6.35	0.00	0.76	2.29	5.08	5.84	6.35
Total	4.32	1.02	1.27	0.00	1.27	0.76	8.89	0.00	0.00	0.25	1.78	14.22	33.78

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-4. Meteorological Data 2002 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.4	22.3	27.2	31.9	37.1	39.1	43.8	42.0	37.1	30.5	23.0	16.2	43.8
Mean Maximum	10.9	16.2	16.5	23.7	28.1	35.1	38.5	36.0	31.8	23.3	17.5	10.7	24.0
Mean Temperature	5.9	9.6	10.0	16.6	20.7	27.6	31.1	28.6	24.5	16.7	11.7	5.8	17.4
Mean Minimum	1.2	3.3	3.5	9.6	12.7	20.0	23.7	20.8	17.8	10.5	6.3	1.4	10.9
Extreme Minimum	-5.7	-4.3	-3.7	2.7	4.2	12.5	19.4	17.3	11.6	6.3	3.0	-5.2	-5.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	1	2	1	0	0	2	0	2	0	2	6	17
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	5	24	31	27	17	0	0	0	104
0°C (32°F) and below	12	4	10	0	0	0	0	0	0	0	0	12	38
Barometric Pressure (mb)													
Mean Barometric Pressure	878	880.1	875.5	873.2	873.3	873.3	876.5	875.4	874.6	874.4	879.3	877.0	875.9
Mean Relative Humidity (%)													
Hour 0400 PST	35.9	27.9	32	29.8	20.8	15.5	20.1	13.7	23.6	28.5	28.2	53.4	27.4
Hour 1000 PST	28.0	20.9	20.1	20.6	13.3	9.8	13.1	9.3	15.7	20.5	23.0	46.0	20.0
Hour 1600 PST	21.5	12.4	12.1	12.5	6.6	4.5	8.4	4.4	10.2	16.1	18.5	37.2	13.7
Hour 2200 PST	31.1	21.7	24.6	22.3	13.7	9.7	16.0	9.0	17.5	24.0	26.4	48.2	22.0
Precipitation (mm)													
Maximum one-hour total	0.25	0.51	1.02	0.51	0.00	0.00	11.18	0.00	0.51	0.00	1.52	3.30	11.18
Maximum daily total	0.25	0.76	1.02	0.51	0.00	0.00	13.21	0.00	0.51	0.00	4.83	5.59	13.21
Total	0.51	0.76	1.78	0.51	0.00	0.25	14.22	0.00	0.51	0.00	2.03	12.70	33.27
Wind													
Mean Speed (m/sec)	4.6	4.5	5.3	5.5	5.1	4.8	4.3	4.4	4.6	4.0	5.3	3.8	4.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	21.8	24.3	24.0	29.1	22.8	21.3	23.5	17.8	19.5	17.9	25.9	23.2	29.1
Direction (degree)	18.1	11.9	2.7	166.1	15.0	22.6	150	164.5	167.8	1.5	24.6	338.9	166.1
Peak 3 sec Gust (m/sec)	26	26.9	28.3	33.3	26.5	25.7	26.5	21.2	23.6	20.8	29.1	26.8	33.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.83	1.09	1.29	1.46	1.58	1.62	1.57	1.51	1.36	1.08	0.89	0.77	1.25

Source DTN: MO0305SEPO2MET.002 [DIRS 166163].

Table P-5. Meteorological Data 2002 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	25	29.5	34.4	39.6	41.5	45.2	43.6	38.9	32.2	24.5	18.5	45.2
Mean Maximum	13.2	18.4	18.9	25.8	30.1	37.2	40.6	38.1	33.7	25.3	19.7	12.9	26.2
Mean Temperature	6	9.9	10.9	17.7	21.7	28.4	32	29.2	25.5	17.3	12.3	6.6	18.1
Mean Minimum	-1.0	1.5	2.3	9.3	11.8	18.0	22.5	19.0	17.0	9.8	4.7	0.4	9.6
Extreme Minimum	-9.1	-5.7	-6.1	1.1	3.7	10.5	17.6	13.1	8.8	4.3	-0.7	-5.5	-9.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	1	3	0	0	0	2	0	0	1	2	4	14
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	12	27	31	31	19	2	0	0	124
0°C (32°F) and below	18	10	12	0	0	0	0	0	0	0	1	15	56
Barometric Pressure (mb)													
Mean Barometric Pressure	908.5	910.3	905.6	902.7	902.5	901.9	904.8	903.9	903.3	903.8	909.2	907.2	905.3
Mean Relative Humidity (%)													
Hour 0400 PST	42.0	32.6	35.3	30.7	22.7	18.1	24.3	16.5	24.9	30.7	32.4	60.1	30.9
Hour 1000 PST	27.1	20.7	20.2	20.5	13.8	10.0	13.7	10.0	15.9	21.2	22.2	45.6	20.1
Hour 1600 PST	20.5	11.7	12.1	11.6	6.7	4.6	8.2	4.5	10.1	16.4	17.4	35.4	13.3
Hour 2200 PST	35.9	25.0	26.9	23.4	15.2	11.0	19.0	11.2	19.3	28.4	29.1	56.3	25.1
Precipitation (mm)													
Maximum one-hour total	0.25	0.25	1.52	0.00	0.00	0.00	12.95	0.00	0.00	0.25	1.02	2.29	12.95
Maximum daily total	0.25	0.25	3.56	0.00	0.00	0.00	13.21	0.00	0.00	0.51	4.32	4.32	13.21
Total	0.25	0.51	4.57	0.00	0.00	0.25	16.00	0.00	0.00	0.51	0.25	11.18	33.53

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-6. Meteorological Data 2002 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.3	20.5	25.3	30.2	35.2	37.2	41.8	40.5	35.6	29.3	21.5	15.4	41.8
Mean Maximum	10.4	15.2	15.3	22.0	26.3	33.3	36.8	34.4	30.1	22.1	16.7	9.8	22.7
Mean Temperature	4.2	7.9	8.4	14.9	18.9	25.7	29.1	26.4	22.7	15.0	10.4	4.3	15.7
Mean Minimum	-1.5	1.0	1.1	7.2	10.0	16.6	20.2	17.2	14.9	8.5	4.2	-1.0	8.2
Extreme Minimum	-9	-6.5	-6.6	-1.7	1.0	11.4	17.2	12.8	7.8	3.5	0.6	-6.7	-9.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	2	3	1	0	1	2	0	1	2	3	4	21
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	21	31	20	11	0	0	0	86
0°C (32°F) and below	19	11	15	1	0	0	0	0	0	0	0	16	62
Mean Relative Humidity (%)													
Hour 0400 PST	40.5	31.1	35.0	33.7	24.4	18.5	24.5	16.9	27.3	32.5	31.9	59.2	31.3
Hour 1000 PST	25.3	19.3	19.8	20.7	13.3	9.8	13.2	9.0	15.6	19.7	21.6	42.6	19.2
Hour 1600 PST	21.5	12.6	11.8	13.0	7.0	4.5	8.7	4.4	10.3	16.4	18.2	38.1	13.9
Hour 2200 PST	36	26.1	27.4	23.8	15.8	11.5	17.9	10.6	19.3	28.3	29.4	53.7	25.0
Precipitation (mm)													
Maximum one-hour total	0.76	0.76	1.02	2.03	0.00	2.03	2.29	0.00	0.25	2.03	1.27	1.52	2.29
Maximum daily total	1.52	0.76	1.02	2.03	0.00	2.03	3.56	0.00	0.51	2.03	4.57	5.33	5.33
Total	2.03	1.52	1.78	0.00	2.03	2.03	5.08	0.00	0.00	0.76	3.56	10.67	29.46

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-7. Meteorological Data 2002 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.5	23.3	28.5	33.3	38.6	40.4	44.0	43.0	38.5	31.8	21.6	17.3	44.0
Mean Maximum	12.5	17.6	18.0	25.0	29.3	36.3	39.9	37.3	32.9	24.6	19.0	12.2	25.4
Mean Temperature	4.4	7.8	9.4	16.1	20.2	26.9	30.4	27.3	23.7	15.5	10.2	4.7	16.4
Mean Minimum	-3.9	-2.6	-0.7	5.7	8.5	15	18.8	14.9	12.9	6.1	0.6	-2.6	6.1
Extreme Minimum	-11.9	-11	-9.1	-1.0	1.2	11.2	14.5	10.9	6.8	1.0	-5.2	-9.1	-11.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	2	3	1	0	0	2	0	1	2	1	5	18
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	10	26	31	30	19	0	0	0	118
0°C (32°F) and below	24	21	18	2	0	0	0	0	0	0	5	26	96
Mean Relative Humidity (%)													
Hour 0400 PST	47.3	40.6	39.1	35.9	27.3	22.2	29.1	20.9	29.7	35.8	35.0	62.9	35.5
Hour 1000 PST	29.0	21.8	20.8	21.3	14.3	10.7	14.1	10.7	16.6	21.3	22.1	43.9	20.6
Hour 1600 PST	22.4	13.7	13.1	13.4	7.8	5.3	9.7	5.8	11.9	17.4	18.0	36.1	14.6
Hour 2200 PST	40.5	30.6	29.2	26.3	17.7	13.7	20.9	13.5	21.4	29.8	31.4	57.1	27.7
Precipitation (mm)													
Maximum one-hour total	0.51	0.51	0.25	0.51	0.00	0.00	1.52	0.00	0.25	0.25	0.51	5.59	5.59
Maximum daily total	1.02	0.51	0.25	0.51	0.00	0.00	2.79	0.00	0.25	0.25	1.78	6.86	6.86
Total	1.27	0.76	0.76	0.00	0.51	0.25	6.6	0.00	0.00	0.00	1.78	20.07	32.00

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-8. Meteorological Data 2002 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.3	22.8	27.6	32.5	37.7	39.4	43.5	42.2	37.3	30.5	23.7	17.6	43.5
Mean Maximum	11.9	16.9	17.2	24.2	28.4	35.4	38.9	36.5	32.1	23.8	18.3	11.5	24.6
Mean Temperature	4.6	8.2	9.4	16.2	20.2	27.0	30.5	27.6	23.8	15.7	10.7	5.0	16.6
Mean Minimum	-2.7	-0.7	0.2	6.8	9.5	16.4	20.3	16.9	14.2	7.3	2.5	-1.5	7.4
Extreme Minimum	-10.1	-8.6	-7.0	-0.4	2.9	12.0	16.7	11.9	7.8	3.0	-2.1	-7.7	-10.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	2	2	1	0	0	2	0	1	1	2	6	18
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	5	24	31	28	16	0	0	0	105
0°C (32°F) and below	22	14	14	1	0	0	0	0	0	0	5	18	74
Mean Relative Humidity (%)													
Hour 0400 PST	45.2	36.8	37.6	34.5	25.9	19.8	27.9	19.2	28.9	37.2	35.3	66.8	34.6
Hour 1000 PST	27.6	20.8	20.9	20.8	13.6	10.1	13.6	9.9	16.2	20.9	22.8	47.2	20.3
Hour 1600 PST	21.6	12.8	12.2	12.6	7.1	4.8	9.0	4.8	10.9	17.2	18.6	38.7	14.2
Hour 2200 PST	38.3	27.9	28.2	24.9	16.6	12.0	19.6	11.9	20.3	30.3	31.5	59.4	26.7
Precipitation (mm)													
Maximum one-hour total	1.02	0.51	0.76	0.25	0.00	0.00	3.56	0.00	0.25	0.51	1.52	2.79	3.56
Maximum daily total	2.03	0.51	0.76	0.25	0.00	0.00	3.81	0.00	0.25	0.51	5.08	5.84	5.84
Total	2.79	0.76	1.78	0.00	0.00	0.00	4.06	0.00	0.00	0.76	1.78	14.99	26.92

Source DTN: MO0305SEP02MET.002 [DIRS 166163].

Table P-9. Meteorological Data 2002 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.0	25.7	29.9	35.5	39.9	41.8	45.4	44.3	39.5	32.7	25.8	18.6	45.4
Mean Maximum	13.9	18.9	19.5	26.5	30.8	37.8	41.3	38.8	34.4	25.9	20.4	13.4	26.8
Mean Temperature	6.1	10.3	11.4	18.2	22.3	29.0	32.7	29.7	26.0	17.5	12.4	6.8	18.5
Mean Minimum	-1.1	1.9	2.5	9.3	12.4	18.0	22.7	19.0	17.3	9.5	4.7	0.5	9.7
Extreme Minimum	-10.7	-6	-4.8	-0.2	3.3	11.3	17.9	14.0	10.5	3.7	0.4	-5.3	-10.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	1	2	0	0	0	1	0	0	2	1	3	10
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	13	28	31	31	22	2	0	0	129
0°C (32°F) and below	18	10	11	1	0	0	0	0	0	0	0	15	55
Barometric Pressure (mb)													
Mean Barometric Pressure	920.4	922.0	917.2	913.9	913.4	912.3	915.0	914.3	914.0	915.0	920.7	919.1	916.4
Mean Relative Humidity (%)													
Hour 0400 PST	40.4	30.6	34.4	30.4	22.2	17.7	22.5	16.0	23.4	33.0	31.8	61.3	30.3
Hour 1000 PST	26.4	20.2	19.1	19.8	13.2	9.8	13.1	9.8	15.3	20.8	21.7	44.5	19.5
Hour 1600 PST	19.0	11.3	11.4	11.1	6.6	4.5	7.9	4.5	9.9	15.8	16.1	33.6	12.6
Hour 2200 PST	33.6	22.4	25.6	21.7	13.9	10.1	15.9	10.2	17.9	27.0	27.3	53.5	23.3
Precipitation (mm)													
Maximum one-hour total	0.00	0.25	1.52	0.00	0.00	0.00	2.03	0.00	0.00	0.51	1.78	1.02	2.03
Maximum daily total	0.00	0.25	4.06	0.00	0.00	0.00	2.29	0.00	0.00	0.51	4.32	3.56	4.32
Total	0.00	0.25	5.33	0.00	0.00	0.00	2.29	0.00	0.00	0.76	0.00	10.16	18.80
Wind													
Mean Speed (m/sec)	4.1	4.4	4.6	5.1	4.6	4.5	4.5	4.5	4.4	3.8	4.5	3.9	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.2	17.1	17.3	23.0	18.2	18.4	18.5	14.8	18.4	13.2	19.6	17.3	23.0
Direction (degree)	174.7	163.0	332.3	154.1	165.9	164.2	122.9	160.4	242.2	336.6	173.4	188.7	154.1
Peak 3 sec Gust (m/sec)	20.0	20.9	20.2	27.3	22.0	21.1	22.0	20.1	27.0	16.1	23.2	20.6	27.3
Solar Radiation (calorie/cm²/minute)													
Mean Max	0.91	1.13	1.35	1.56	1.64	1.67	1.64	1.58	1.41	1.13	0.94	0.77	1.31

Source DTN: M00305SEP02MET.002 [DIRS 166163].

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APPENDIX Q
2003 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table Q-1. Meteorological Data 2003 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	24.0	21.8	25.1	26.0	40.0	39.2	42.4	39.3	37.3	33.3	17.7	17.8	42.4
Mean Maximum	17.3	12.9	18.5	18.7	28.4	34.8	39.0	35.4	33.6	28.4	12.9	11.0	24.2
Mean Temperature	10.6	7.4	11.7	12.0	20.8	27.1	31.2	27.9	25.7	20.9	7.4	5.7	17.4
Mean Minimum	4.2	2.0	4.7	5.2	12.3	17.8	22.4	20.1	17.5	12.9	1.8	0.8	10.1
Extreme Minimum	-0.5	-5.2	-0.9	0.2	3.4	12.9	15.6	16.4	11.5	2.5	-3.6	-5.5	-5.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	8	4	3	3	0	4	3	2	1	6	6	41
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	21	30	28	22	1	0	0	113
0°C (32°F) and below	1	9	2	0	0	0	0	0	0	0	9	15	36
Barometric Pressure (mb)													
Mean Barometric Pressure	892.1	884.3	885.4	882.4	884.0	882.7	887.0	887.6	886.5	887.1	887.2	887.7	886.2
Mean Relative Humidity (%)													
Hour 0400 PST	46.9	51.9	47.4	51.8	36.2	25.1	28.3	44.4	28.9	27.3	59.8	53.6	41.8
Hour 1000 PST	34.7	39.9	32.3	32.3	21.5	14.1	17.9	28.6	19.1	17.1	43.5	40.5	28.5
Hour 1600 PST	28.1	32.6	24.5	25.9	14.2	9.2	12.7	19.6	12.9	13.7	36.8	39.4	22.5
Hour 2200 PST	42.8	49.5	38.7	43.1	28.6	16.0	23.1	34.7	23.0	23.2	52.1	51.7	35.5
Precipitation (mm)													
Maximum one-hour total	0.51	4.57	2.03	5.84	2.79	0.00	19.3	2.03	7.87	1.52	4.06	5.33	19.3
Maximum daily total	0.76	44.70	4.83	28.70	4.83	0.00	35.81	3.05	7.87	1.52	15.49	18.29	44.7
Total	0.76	64.26	10.92	33.78	6.10	0.00	45.47	6.10	7.87	0.00	42.67	29.46	247.4
Wind													
Mean Speed (m/sec)	2.8	3.4	4.2	5.0	3.9	3.9	3.3	3.4	3.3	3.3	2.8	3.2	3.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.4	20.8	16.2	17.4	13.4	14.3	16.6	14.6	16.6	13.0	12.9	20.0	20.8
Direction (degree)	32.7	330.5	343.7	162.5	168.4	185.0	117.0	132.8	132.5	165.3	336.9	308.4	330.5
Peak 3 sec Gust (m/sec)	19.1	24.8	20.6	22.7	17.0	17.9	22.1	19.0	21.5	15.9	16.6	27.1	27.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.73	0.85	1.14	1.31	1.35	1.44	1.39	1.28	1.25	1.04	0.75	0.63	1.10

Source DTN: MO0503SEPMMMD03.001 [DIRS 176097].

Table Q-2. Meteorological Data 2003 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.2	19.1	23.0	23.6	38.2	37.3	40.8	37.4	34.7	30.7	15.2	15.1	40.8
Mean Maximum	14.7	10.7	16.2	16.5	26.2	32.9	37.0	33.1	31.1	26.0	10.6	8.4	22.0
Mean Temperature	10.8	6.0	10.4	10.0	19.7	25.9	30.0	26.6	24.8	20.6	6.6	5.0	16.4
Mean Minimum	7.4	2.1	6.1	4.7	14.5	19.9	23.9	21.3	19.5	16.4	3.5	2.1	11.8
Extreme Minimum	1.4	-3.6	-0.4	-0.5	3.3	10.2	16.0	16.2	13.5	1.9	-3.7	-5.7	-5.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	7	5	3	3	1	4	5	3	1	7	7	48
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	19	30	22	11	0	0	0	91
0°C (32°F) and below	0	9	1	3	0	0	0	0	0	0	2	10	25
Barometric Pressure (mb)													
Mean Barometric Pressure	855.6	847.2	848.9	846.0	850.5	850.1	855.0	855.1	853.7	853.7	851.9	852.3	851.7
Mean Relative Humidity (%)													
Hour 0400 PST	36.4	46.6	40.7	49.2	29.7	20.4	22.6	35.9	24.0	21.4	49.4	45.2	35.1
Hour 1000 PST	35.7	43.3	35.3	35.2	22.6	13.4	17.1	29.2	20.4	17.3	44.3	41.8	29.6
Hour 1600 PST	29.1	34.3	25.4	26.4	14.0	8.2	12.0	19.6	12.8	13.1	38.5	41.3	22.9
Hour 2200 PST	35.2	44.4	33.8	39.5	24.4	13.3	20.3	28.3	19.6	19.0	43.3	44.2	30.4
Precipitation (mm)													
Maximum one-hour total	0.76	5.08	2.29	4.06	2.79	1.02	30.23	1.78	10.41	1.27	3.30	3.81	30.23
Maximum daily total	1.27	41.91	3.56	20.07	6.10	1.02	49.02	4.06	13.97	1.52	15.75	14.48	49.02
Total	1.52	68.07	11.18	28.70	7.11	1.02	56.9	11.43	26.16	0.00	44.20	21.59	277.88
Wind													
Mean Speed (m/sec)	3.3	4.8	5.2	5.8	4.4	4.4	4.1	4.2	4.1	3.7	3.5	4.2	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	23.5	33.1	24.0	23.5	17.4	19.1	22.3	17.4	18.5	15.4	24.0	31.4	33.1
Direction (degree)	325.1	309.7	312.7	315.6	233.1	221.6	99.0	290.6	296.5	12.4	322.7	300.7	309.7
Peak 3 sec Gust (m/sec)	27.4	37.6	27.8	27.3	24.0	22.8	26.8	19.5	20.4	19.2	27.9	36.8	37.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.70	0.84	1.11	1.29	1.32	1.40	1.33	1.24	1.20	1.00	0.72	0.61	1.06

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-3. Meteorological Data 2003 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.5	19.9	23.3	24.0	38.1	38.0	41.1	37.5	35.7	31.8	16.4	16.5	41.1
Mean Maximum	15.9	11.8	16.9	16.9	26.6	33.1	37.5	33.4	31.8	26.9	11.7	9.7	22.7
Mean Temperature	10.8	7.1	11.2	11.2	20.3	26.6	30.6	27.2	25.3	20.7	7.2	5.5	17.0
Mean Minimum	6.2	2.4	5.8	5.3	13.3	19.0	23.2	20.6	18.8	14.7	2.9	1.7	11.2
Extreme Minimum	0.6	-2.7	0.2	-0.4	3.1	12.1	17.0	16.8	15.2	3.0	-4.3	-5.5	-5.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	8	4	3	2	1	4	6	3	1	7	7	47
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	19	30	23	16	0	0	0	97
0 C (32 F) and below	0	6	0	1	0	0	0	0	0	0	4	11	22
Mean Relative Humidity (%)													
Hour 0400 PST	41.7	47.2	43.9	49.0	33.1	22.2	25.2	42.1	25.9	24.2	56.1	48.6	38.3
Hour 1000 PST	32.7	38.8	31.2	31.5	19.6	11.6	15.9	26.5	17.7	14.8	40.5	38.8	26.6
Hour 1600 PST	28.4	31.7	23.6	24.7	12.5	7.1	10.9	18.2	11.3	11.8	37.2	39.8	21.4
Hour 2200 PST	39.5	45.2	35.0	40.3	25.1	13.0	20.5	30.7	20.4	20.2	48.1	47.2	32.1
Precipitation (mm)													
Maximum one-hour total	0.76	6.35	2.03	5.84	3.56	2.03	22.35	3.56	10.41	2.03	3.30	3.81	22.35
Maximum daily total	1.27	40.13	3.56	28.19	7.62	2.03	47.50	4.06	12.19	2.29	15.75	17.27	47.50
Total	2.03	64.01	10.92	35.05	8.38	2.03	59.94	11.43	25.65	0.00	47.24	28.45	295.15

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-4. Meteorological Data 2003 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	23.5	21.7	24.8	25.7	40.1	39.1	42.4	39.3	37.2	33.2	17.5	17.8	42.4
Mean Maximum	16.6	12.6	18.1	18.3	28.1	34.6	38.8	35.1	33.3	27.9	12.4	10.3	23.8
Mean Temperature	11.1	7.3	11.6	11.7	21.0	27.3	31.3	28.2	25.9	21.1	7.7	6.0	17.5
Mean Minimum	5.5	2.5	5.4	5.4	13.8	19.5	23.4	21.6	18.7	14.5	2.9	1.7	11.2
Extreme Minimum	1.0	-4.5	-0.8	0.3	4.4	12.6	15.5	16.7	14.6	4.0	-2.1	-4.5	-4.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	7	3	4	2	0	3	4	3	1	6	7	41
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	22	30	28	22	1	0	0	114
0°C (32°F) and below	0	8	1	0	0	0	0	0	0	0	4	12	25
Barometric Pressure (mb)													
Mean Barometric Pressure	881.7	873.7	874.9	872.0	874.6	873.4	877.9	878.4	877.2	877.7	877.8	878.4	876.5
Mean Relative Humidity (%)													
Hour 0400 PST	40.1	47.4	42.4	47.8	30.4	19.4	23.2	35.3	23.4	22.3	52.9	46.0	35.9
Hour 1000 PST	34.3	40.0	31.4	31.3	19.1	11.6	15.6	25.7	16.4	14.9	43.4	38.4	26.8
Hour 1600 PST	26.9	30.4	22.7	24.1	11.6	6.4	10.3	16.5	10.7	10.9	35.2	37.7	20.3
Hour 2200 PST	36.7	43.7	33.1	38.9	23.4	12.1	19.3	27.0	17.2	18.4	45.6	45.4	30.1
Precipitation (mm)													
Maximum one-hour total	0.51	5.08	3.05	4.06	1.78	0.00	17.53	1.02	16.26	0.76	5.08	5.84	17.53
Maximum daily total	1.02	45.21	5.59	24.64	4.32	0.00	32.0	2.03	18.03	0.76	12.45	22.1	45.21
Total	1.02	57.91	11.94	30.73	5.59	0.00	34.29	2.29	17.27	0.00	41.15	26.67	228.85
Wind													
Mean Speed (m/sec)	3.6	5.0	5.3	6.0	4.8	4.7	4.1	4.0	4.4	4.5	3.5	3.6	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	22.7	32.0	26.0	22.8	21.6	22.8	24.4	19.4	23.3	20.8	20.5	26.9	32.0
Direction (degree)	330.3	315.2	21.4	16.0	19.6	12.4	68.5	262.4	161.5	14.1	2.1	331.7	315.2
Peak 3 sec Gust (m/sec)	27.3	36.2	28.8	24.9	27.0	26.9	28.3	21.9	27.2	22.8	24.5	30.9	36.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.80	0.95	1.27	1.46	1.51	1.60	1.53	1.43	1.38	1.14	0.82	0.69	1.22

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-5. Meteorological Data 2003 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	25.8	24.2	27.1	27.9	42.2	41.0	44.7	41.3	39.6	34.9	31.9	19.2	44.7
Mean Maximum	18.8	14.7	20.4	20.6	30.3	36.6	40.7	37.3	35.5	30.2	15.0	12.5	26.0
Mean Temperature	11.1	8.4	12.8	13.7	22.0	28.2	32.3	29.1	26.6	21.7	8.4	6.4	18.4
Mean Minimum	4.3	1.6	5.2	6.5	12.4	17.9	22.6	20.7	18.0	13.4	2.0	0.4	10.4
Extreme Minimum	-1.7	-5.8	-0.7	-0.8	3.9	11.8	15.7	14.6	14.0	3.3	-3.9	-7.0	-7.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	6	3	4	4	0	2	3	3	1	6	6	40
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	13	26	30	29	25	8	0	0	131
0°C (32°F) and below	1	8	1	1	0	0	0	0	0	0	5	16	32
Barometric Pressure (mb)													
Mean Barometric Pressure	911.6	903.9	904.7	901.7	903.9	902.2	906.5	907.2	906.1	906.9	908.1	908.8	906.0
Mean Relative Humidity (%)													
Hour 0400 PST	47.0	54.4	48.5	51.2	35.3	23.7	27.6	41.8	26.6	25.1	62.1	54.3	41.5
Hour 1000 PST	34.7	41.4	31.1	30.3	19.1	12.5	15.8	25.5	17.8	15.0	43.7	40.2	27.3
Hour 1600 PST	26.5	30.9	21.0	24.0	11.4	6.5	10.3	16.4	10.0	10.8	34.6	37.9	20.0
Hour 2200 PST	45.3	50.7	40.1	42.7	28.3	14.2	21.6	33.6	21.5	22.0	56.8	55.2	36.0
Precipitation (mm)													
Maximum one-hour total	0.51	4.32	3.30	4.32	1.78	0.00	29.21	0.51	2.54	1.02	4.83	3.81	29.21
Maximum daily total	1.02	43.43	6.10	22.61	3.30	0.00	43.94	0.51	5.08	1.02	14.22	14.99	43.94
Total	1.27	57.15	13.97	29.46	4.32	0.00	48.77	0.51	8.13	0.00	29.72	21.08	214.38

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-6. Meteorological Data 2003 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.6	19.6	23.4	24.2	38.2	37.5	40.9	37.5	35.7	31.8	16.6	16.9	40.9
Mean Maximum	16.0	11.5	16.9	16.8	26.4	32.9	37.2	33.5	31.9	26.7	11.7	9.7	22.6
Mean Temperature	9.5	6.2	10.1	10.5	19.2	25.3	29.5	26.2	24.2	19.3	6.1	4.3	15.9
Mean Minimum	3.8	0.8	3.6	3.6	10.8	16.1	20.7	18.4	16.5	12.0	0.8	-0.5	8.9
Extreme Minimum	-1.9	-5.4	-2.4	-2.4	1.1	11.2	13.3	14.6	13.2	-0.6	-5.7	-6.2	-6.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	7	4	4	3	1	3	4	3	1	7	7	45
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	19	30	23	15	0	0	0	96
0°C (32°F) and below	1	11	5	4	0	0	0	0	0	1	11	16	49
Mean Relative Humidity (%)													
Hour 0400 PST	45.1	50.1	49.7	53.5	36.3	23.6	27.0	44.4	28.3	26.7	62.0	54.3	41.8
Hour 1000 PST	32.2	39.0	31.1	32.5	19.8	11.4	15.7	26.7	17.0	14.7	41.1	38.3	26.6
Hour 1600 PST	27.4	31.2	23.5	24.4	12.4	6.8	11.0	17.7	10.2	11.4	37.6	40.1	21.1
Hour 2200 PST	44.3	46.8	38.3	45.1	28.0	14.1	21.5	32.9	22.4	21.9	53.5	52.7	35.1
Precipitation (mm)													
Maximum one-hour total	0.76	3.81	2.03	6.10	2.03	0.25	5.08	7.87	6.10	1.02	3.30	4.06	7.87
Maximum daily total	1.52	41.15	3.05	29.72	4.57	0.25	10.92	7.87	10.67	1.52	16.26	17.78	41.15
Total	1.78	56.39	10.41	38.10	5.08	0.00	13.21	15.24	16.26	0.00	44.20	26.67	227.33

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-7. Meteorological Data 2003 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	24.9	23.1	26.1	26.9	40.7	40.3	43.3	40.0	38.4	34.7	18.4	18.8	43.3
Mean Maximum	18.0	14.0	19.4	19.7	29.3	35.8	40.0	36.3	34.5	29.3	13.7	11.8	25.2
Mean Temperature	9.1	7.0	11.3	11.8	20.4	26.5	30.7	27.3	24.8	19.7	6.8	4.6	16.7
Mean Minimum	0.2	-0.3	2.8	3.2	9.1	14.1	19.2	17.7	14.1	8.9	-0.5	-2.1	7.2
Extreme Minimum	-4.0	-10.0	-3.3	-2.8	1.7	9.8	10.8	13.2	8.8	-1.7	-6.0	-8.0	-10.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	8	4	4	2	0	3	3	1	1	7	7	42
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	12	24	30	28	23	6	0	0	123
0°C (32°F) and below	15	12	7	3	0	0	0	0	0	1	16	24	78
Mean Relative Humidity (%)													
Hour 0400 PST	55.3	55.6	53.1	56.3	40.4	26.7	31.3	49.2	32.4	31.8	66.7	60.2	46.6
Hour 1000 PST	34.3	39.1	31.2	31.1	20.2	13.3	16.9	26.9	18.1	16.5	43.5	40.4	27.6
Hour 1600 PST	27.5	31.4	23.4	24.9	13.6	8.4	11.8	18.5	12.3	12.9	35.8	38.0	21.5
Hour 2200 PST	48.6	51.0	41.4	45.0	30.2	16.6	23.3	37.5	25.8	24.9	59.0	61.4	38.7
Precipitation (mm)													
Maximum one-hour total	0.51	4.83	3.05	4.83	1.52	0.00	26.16	1.78	7.62	1.02	4.83	6.35	26.16
Maximum daily total	0.76	44.45	5.33	24.38	4.06	0.00	44.45	2.03	7.87	1.02	12.70	25.15	44.45
Total	1.27	60.2	13.21	31.24	5.08	0.00	48.51	3.56	7.37	0.00	40.13	30.73	241.30

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-8. Meteorological Data 2003 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	24.1	22.1	25.4	26.1	40.2	39.3	42.5	39.6	37.2	33.3	18.2	18.0	42.5
Mean Maximum	17.4	13.1	18.8	18.9	28.6	35.0	39.1	35.4	33.7	28.5	13.0	11.1	24.4
Mean Temperature	9.5	7.0	11.2	11.8	20.4	26.7	30.7	27.4	24.9	19.8	6.8	5.0	16.8
Mean Minimum	1.8	0.7	3.3	4.2	10.5	15.9	20.2	18.8	15.4	10.3	0.6	-0.9	8.4
Extreme Minimum	-2.8	-7.9	-2.8	-2.3	2.3	12.2	13.8	15.2	10.0	0.6	-4.5	-6.5	-7.9
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	7	4	4	4	0	4	5	1	1	8	8	48
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	11	23	30	28	23	2	0	0	117
0°C (32°F) and below	4	10	4	3	0	0	0	0	0	0	12	19	52
Mean Relative Humidity (%)													
Hour 0400 PST	55.1	56.5	54.1	55.5	39.8	26.1	30.2	50.0	30.7	30.3	68	60.2	46.4
Hour 1000 PST	35.2	40.4	31.8	31.6	19.8	12.4	16.4	27.4	17.7	15.4	44.6	40.5	27.8
Hour 1600 PST	27.7	32.2	23.1	24.8	12.4	7.1	11.0	18.3	11.0	11.7	36.8	40.1	21.4
Hour 2200 PST	49.2	52.7	42.2	45.5	29.8	15.1	22.8	37.6	23.0	24.2	59.1	58.4	38.3
Precipitation (mm)													
Maximum one-hour total	0.76	4.32	2.79	5.33	2.03	0.00	25.15	2.79	4.06	1.78	4.57	6.10	25.15
Maximum daily total	0.76	42.67	4.32	26.16	3.30	0.00	42.67	3.30	4.57	1.78	16.00	22.61	42.67
Total	1.02	60.71	11.68	32.51	5.08	0.00	57.91	6.60	4.32	0.00	44.20	29.97	254.00

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

Table Q-9. Meteorological Data 2003 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	26.3	24.7	28.0	28.6	42.7	42.0	45.1	42.3	39.4	35.3	19.9	19.2	45.1
Mean Maximum	19.3	15.2	21.0	21.4	31.0	37.3	41.5	38.2	36.1	30.8	15.0	13.0	26.6
Mean Temperature	11.0	8.7	13.3	14.2	22.5	28.8	32.9	30.4	27.2	21.8	8.6	6.4	18.8
Mean Minimum	3.8	2.6	5.7	6.5	12.8	18.6	22.9	21.9	18.0	13.1	2.6	0.5	10.8
Extreme Minimum	-0.7	-5.7	-0.6	0.0	3.6	12.2	15.8	16.9	13.3	6.8	-3.1	-5.7	-5.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	6	4	4	2	0	2	1	3	1	5	5	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	14	27	30	30	27	13	0	0	141
0°C (32°F) and below	2	8	1	0	0	0	0	0	0	0	6	15	32
Barometric Pressure (mb)													
Mean Barometric Pressure	923.2	915.6	916.2	913.3	915.5	913.4	917.3	918.3	917.4	918.5	920.6	921.5	917.6
Mean Relative Humidity (%)													
Hour 0400 PST	48.9	54.5	47.4	48.5	35.8	23.4	26.5	37.9	27.2	25.7	61.1	56.6	41.1
Hour 1000 PST	35.2	41.1	30.5	28.8	18.3	12.6	15.9	23.7	17.2	15.2	42.5	41.6	26.9
Hour 1600 PST	25.6	30.6	20.2	23.0	11.3	6.4	10.1	15.4	9.6	10.5	32.7	36.9	19.4
Hour 2200 PST	44.1	48.9	37.8	39.9	26.6	13.2	20.1	27.0	19.3	20.8	53.4	54.2	33.8
Precipitation (mm)													
Maximum one-hour total	0.76	4.57	2.29	5.59	1.02	0.00	2.29	1.02	4.83	0.76	4.06	3.05	5.59
Maximum daily total	1.27	45.47	2.79	22.35	2.79	0.00	3.05	1.02	5.08	0.76	13.21	11.68	45.47
Total	1.27	51.56	10.67	27.43	3.56	0.00	5.84	0.25	7.87	0.0	25.91	18.8	153.16
Wind													
Mean Speed (m/sec)	3.9	4.2	4.7	5.7	4.3	4.5	4.1	4.5	4.2	4.3	3.6	3.6	4.3
<i>Fastest one-minute speed</i>													
Speed (m/sec)	18.3	20.8	16.8	18.1	14.7	15.0	27.5	14.4	12.8	17.7	13.9	21.6	27.5
Direction (degree)	347.8	331.2	155.5	170.0	184.1	160.4	70.1	178.4	44.5	162.5	346.8	336.5	70.1
Peak 3 sec Gust (m/sec)	20.8	26.6	20.3	22.1	18.9	19.3	33.1	19.7	15.6	22.6	17.2	25.8	33.1
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.86	1.01	1.33	1.52	1.56	1.67	1.60	1.50	1.44	1.20	0.86	0.74	1.27

Source DTN: MO0503SEPMMD03.001 [DIRS 176097].

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APPENDIX R
2004 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table R-1. Meteorological Data 2004 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.4	20.2	29.7	31.1	35.1	38.1	39.0	40.6	37.7	30.3	23.4	18.9	40.6
Mean Maximum	12.2	10.4	22.2	22.6	28.5	34.3	37.0	35.2	30.7	21.3	14.3	12.0	23.4
Mean Temperature	5.8	5.5	15.1	15.4	20.9	26.5	29.3	27.3	23.0	15.4	8.6	6.4	16.6
Mean Minimum	-0.2	0.6	7.7	7.9	11.8	17.2	20.5	19.0	14.7	9.6	2.8	0.7	9.4
Extreme Minimum	-7.6	-4.6	1.2	2.3	4.4	8.5	15.6	15.1	6.9	2.5	-7.4	-5	-7.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	0	0	4	0	2	0	4	1	6	3	4	24
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	25	30	27	16	0	0	0	101
0°C (32°F) and below	12	13	0	0	0	0	0	0	0	0	3	11	39
Barometric Pressure (mb)													
Mean Barometric Pressure	887.8	886.2	887.6	884.5	883.7	883.9	885.8	886.7	885.1	884.3	888.7	890	886.2
Mean Relative Humidity (%)													
Hour 0400 PST	51.6	59.6	42.0	46.7	29.6	25.5	24.0	35.7	32.3	51.3	60.4	56.5	42.9
Hour 1000 PST	35.9	47.0	29.0	28.0	18.3	14.8	16.1	22.3	19.8	39.0	43.7	44.7	29.9
Hour 1600 PST	28.6	39.6	21.9	22.0	11.7	10.6	10.6	16.0	13.3	33.9	40.1	42.0	24.2
Hour 2200 PST	45.1	56.4	36.4	35.5	20.7	19.4	17.4	27.8	25.2	47.8	57.3	55.6	37.1
Precipitation (mm)													
Maximum 1-hour total	0.00	a	a	2.03	0.00	1.02	0.00	7.11	4.32	3.81	5.59	5.59	7.11
Maximum daily total	0.00	a	a	6.60	0.00	1.78	0.00	9.14	4.32	26.16	17.53	24.64	26.16
Total	0.00	80.01	21.34	10.41	0.00	3.81	0.00	15.75	4.32	69.09	32.26	48.77	285.75
Wind													
Mean Speed (m/sec)	3	3.7	3.6	4.3	4.3	4.2	4	3.5	4	3.9	3.7	3.2	3.8
<i>Fastest one-minute speed</i>													
Speed (m/sec)	14.6	14.7	13.6	17.7	21.7	17.2	13.6	16.1	19.3	17.2	17.2	15.2	21.7
Direction (degree)	186.6	170.8	175.5	335.5	169.2	155.7	163.3	343.5	12.8	55.0	349.1	184.3	169.2
Peak 3 sec Gust (m/sec)	18.7	18.6	16.7	23.2	27.6	21.5	17.7	21.3	24.6	20.5	20.8	18.3	27.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.81	0.81	1.18	1.29	1.40	1.45	1.41	1.35	1.25	0.91	0.77	0.64	1.11

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

^a February and March: Maximum one-hour and daily totals of precipitation are missing because gauge was out of service.

Table R-2. Meteorological Data 2004 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	15.8	17.7	27.7	29.2	32.9	36.4	37.6	38.8	36.0	28.7	20.1	16.8	38.8
Mean Maximum	9.6	8.5	20.0	20.3	26.6	32.5	35.4	33.2	28.8	19.3	11.6	9.7	21.3
Mean Temperature	5.6	4.2	14.8	13.9	19.6	25.5	28.4	26.3	22.2	14.4	7.4	6.2	15.7
Mean Minimum	2.4	0.7	10.7	8.7	13.7	19.6	22.6	20.6	17.1	10.7	3.9	3.2	11.2
Extreme Minimum	-6.0	-4.7	0.7	1.9	5.5	8.2	18.4	14.4	5.9	1.5	-6.5	-3.1	-6.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	9	2	3	0	2	1	5	2	6	3	5	39
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	22	30	23	6	0	0	0	83
0°C (32°F) and below	7	12	0	0	0	0	0	0	0	0	6	10	35
Barometric Pressure (mb)													
Mean Barometric Pressure	852.6	850.5	853.4	850.3	850.2	851.4	853.6	854.2	852.0	850.1	852.9	853.3	852.0
Mean Relative Humidity (%)													
Hour 0400 PST	40.6	55.4	32.5	39.6	24.4	19.6	19.5	28.5	25.9	46.7	50.9	46.9	35.9
Hour 1000 PST	35.7	51.7	29.4	30.2	18.5	14.4	15.3	21.9	19.3	41.5	45.2	46.5	30.8
Hour 1600 PST	29.8	42.6	22.2	23.0	10.7	9.5	9.2	14.6	12.2	36.0	41.2	43.7	24.6
Hour 2200 PST	35.1	52.4	27.4	30.8	17.8	15.7	14.4	23.1	21.3	44.7	48.9	47.8	31.6
Precipitation (mm)													
Maximum one-hour total	0.51	4.83	4.32	2.79	0.00	2.29	0.25	8.38	0.51	4.06	5.08	5.08	8.38
Maximum daily total	0.76	18.8	11.68	9.65	0.00	2.54	0.25	10.41	0.76	29.97	18.54	23.88	29.97
Total	0.76	73.41	11.43	15.24	0.00	4.32	0.00	18.29	0.76	78.23	43.94	57.66	304.04
Wind													
Mean Speed (m/sec)	3.6	5.1	4.5	5.3	5.0	4.3	4.3	4.0	4.4	4.4	4.6	3.7	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	21.5	25.4	18.5	23.7	22.3	23.0	15.4	20.5	19.2	17.3	26.9	23.7	26.9
Direction (degree)	322.0	308.6	346.6	320.5	337.9	291.7	235.2	311.7	290.7	308.1	302.0	309.1	302.0
Peak 3 sec Gust (m/sec)	25.6	29.5	21.0	27.1	27.3	30.1	18.0	25.5	22.2	23.3	30.4	27.8	30.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.81	0.80	1.19	1.32	1.41	1.45	1.41	1.36	1.26	0.90	0.77	0.63	1.11

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

Table R-3. Meteorological Data 2004 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.0	18.2	28.6	30.0	34.0	36.8	37.6	39.3	35.9	28.6	22.0	17.8	39.3
Mean Maximum	10.7	9.5	20.8	21.1	26.8	32.7	35.6	33.6	29.2	20.3	13.0	10.6	22.0
Mean Temperature	5.7	5.1	15.3	14.9	20.5	26.1	28.9	26.9	22.8	15.3	8.2	6.4	16.3
Mean Minimum	1.2	1.0	9.3	8.5	13.0	18.3	21.4	19.8	16.3	10.8	3.8	2.6	10.5
Extreme Minimum	-6.3	-2.4	1.8	3.5	7.4	9.4	17.8	14.7	8.2	2.5	-4.4	-2.6	-6.3
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	10	2	4	0	2	1	5	2	6	3	5	40
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	3	21	29	23	6	0	0	0	82
0°C (32°F) and below	9	10	0	0	0	0	0	0	0	0	3	10	32
Mean Relative Humidity (%)													
Hour 0400 PST	46.4	56.5	36.8	42.5	25.6	21.9	20.9	31.9	28.3	48.6	56.2	52.5	39.0
Hour 1000 PST	33.1	47.8	26.2	26.2	15.9	12.1	13.4	19.6	17.2	38.6	42.5	44.6	28.1
Hour 1600 PST	28.7	39.1	20.0	20.6	9.2	8.1	8.0	13.4	10.7	33.5	40.4	44.2	23.0
Hour 2200 PST	40.0	53.7	30.2	31.5	16.9	15.2	13.5	23.7	21.3	46.3	53.3	52.3	33.2
Precipitation (mm)													
Maximum one-hour total	0.00	5.33	6.86	2.03	0.00	2.79	0.25	7.11	3.56	4.83	5.33	5.84	7.11
Maximum daily total	0.00	19.81	13.97	6.10	0.00	3.30	0.25	7.11	3.56	28.45	18.03	27.43	28.45
Total	0.00	85.85	18.80	11.68	0.00	0.00	0.00	14.99	3.81	89.15	34.54	57.66	316.48

Source DTN: MO0607SEPMMMD04.001 [DIRS 178311].

Table R-4. Meteorological Data 2004 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.2	19.5	29.9	31.9	35.4	38.0	39.1	41.2	37.5	30.3	22.8	17.9	41.2
Mean Maximum	11.7	9.5	21.7	22.3	28.4	34.0	36.9	35.1	30.5	21.0	13.5	11.1	23.0
Mean Temperature	6.3	5.5	15.7	15.3	21.1	26.8	29.7	27.5	23.2	15.5	8.5	6.8	16.8
Mean Minimum	1.3	1.1	9.5	8.7	13.4	19.0	22.4	20.2	16.2	10.2	3.9	2.5	10.7
Extreme Minimum	-7.1	-2.4	1.6	3.1	6.9	9.5	17.7	15.0	8.7	2.4	-4.2	-2.8	-7.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	10	2	3	0	2	1	4	1	6	3	5	37
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	5	25	30	26	13	0	0	0	99
0°C (32°F) and below	7	9	0	0	0	0	0	0	0	0	4	9	29
Barometric Pressure (mb)													
Mean Barometric Pressure	878.5	876.8	878.2	875.1	874.3	874.7	876.7	877.5	875.8	874.9	878.7	879.3	876.7
Mean Relative Humidity (%)													
Hour 0400 PST	45.2	55.9	35.2	40.5	23.6	19.5	18.6	28.9	27.2	47.8	54.0	49.3	37.1
Hour 1000 PST	34.8	49.4	27.0	25.9	15.5	11.8	13.1	19.5	17.1	38.8	43.3	44.4	28.4
Hour 1600 PST	26.4	39.4	19.7	19.8	8.3	7.3	7.4	12.4	10.1	32.5	38.3	40.4	21.8
Hour 2200 PST	36.5	53.3	29.1	29.9	16.3	14.5	12.9	22.7	20.4	44.1	50.5	49.0	31.6
Precipitation (mm)													
Maximum one-hour total	0.00	6.86	3.56	1.52	0.00	1.52	0.25	5.59	4.57	4.32	5.84	6.35	6.86
Maximum daily total	0.00	19.81	16.00	6.10	0.00	2.29	0.25	8.13	6.10	35.81	19.30	31.50	35.81
Total	0.00	75.18	19.30	8.38	0.00	3.81	0.00	11.68	5.59	80.26	28.70	52.32	285.24
Wind													
Mean Speed (m/sec)	3.9	5.1	4.8	5.9	5.1	4.7	4.3	4.3	4.9	5.0	5.1	4.3	4.8
<i>Fastest one-minute speed</i>													
Speed (m/sec)	20.8	21.5	21.2	25.4	29.4	23.7	17.8	25.2	24.2	20.9	25.1	22.3	29.4
Direction (degree)	336.9	343.5	7.4	11.1	11.1	29.0	20.5	333.8	150.3	2.7	5.2	10.8	11.1
Peak 3 sec Gust (m/sec)	23.1	25.2	24.7	28.5	34.3	26.2	20.6	31.8	31.1	23.8	29.6	25.7	34.3
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.80	0.81	1.19	1.31	1.42	1.46	1.43	1.37	1.26	0.92	0.78	0.65	1.12

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

Table R-5. Meteorological Data 2004 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.2	22.2	31.9	33.2	37.2	40.0	41.1	42.5	39.3	32.9	24.8	20.9	42.5
Mean Maximum	13.8	12.2	24.2	24.4	30.6	36.4	39.1	37.1	32.6	23.3	16.1	13.6	25.3
Mean Temperature	6.6	6.6	16.0	16.4	22.0	27.6	30.5	28.7	24.0	16.5	9.3	7.2	17.6
Mean Minimum	-0.3	0.8	7.8	8.0	11.8	17.3	20.7	19.6	15.4	10.1	3.3	1.2	9.6
Extreme Minimum	-6.2	-5.5	2.2	2.1	4.9	7.2	16.2	13.7	4.8	1.6	-5.5	-5.9	-6.2
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	11	2	3	0	1	2	2	1	9	2	3	36
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	2	8	27	31	29	19	1	0	0	117
0°C (32°F) and below	15	13	0	0	0	0	0	0	0	0	6	11	45
Barometric Pressure (mb)													
Mean Barometric Pressure	909.0	907.3	907.9	904.8	903.6	903.6	905.4	906.3	904.9	904.5	909.0	909.7	906.3
Mean Relative Humidity (%)													
Hour 0400 PST	53.0	64.2	43.1	48.3	28.5	24.1	21.5	32.0	31.1	53.2	61.6	56.4	43.1
Hour 1000 PST	34.3	48.3	27.0	27.5	16.2	12.6	12.9	19.4	17.5	39.0	42.8	42.6	28.3
Hour 1600 PST	24.9	37.9	18.4	19.3	8.6	7.2	7.4	12.6	10.2	30.6	35.4	37.4	20.8
Hour 2200 PST	46.6	60.5	39.6	35.8	18.8	17.2	14.8	25.7	23.9	49.3	61.6	56.3	37.5
Precipitation (mm)													
Maximum one-hour total	0.00	4.32	4.32	3.30	0.00	0.51	0.76	2.29	12.70	3.56	6.10	5.84	12.70
Maximum daily total	0.00	17.02	17.53	6.60	0.00	0.76	0.76	10.16	13.72	21.08	19.30	25.65	25.65
Total	0.00	70.10	19.05	13.21	0.00	0.00	0.00	9.91	12.95	44.20	26.92	35.05	231.39

Source DTN: MO0607SEPMMMD04.001 [DIRS 178311].

Table R-6. Meteorological Data 2004 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.8	18.3	28.4	29.9	33.3	36.7	37.2	39.0	35.9	28.6	22.4	17.7	39.0
Mean Maximum	10.9	9.2	20.7	20.8	26.6	32.4	35.2	33.4	28.9	19.6	12.8	10.5	21.8
Mean Temperature	4.4	4.1	14.0	13.8	19.1	24.7	27.4	25.6	21.4	14.0	7.2	5.2	15.1
Mean Minimum	-1.0	-0.4	6.9	6.3	10.2	15.3	18.2	17.1	13.5	8.4	1.8	0.4	8.1
Extreme Minimum	-8.7	-5.4	0.3	2.2	5.2	6.6	14.0	12.3	6.1	0.3	-6.3	-5.3	-8.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	10	2	3	0	2	1	4	2	6	4	5	40
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	2	20	29	23	8	0	0	0	82
0°C (32°F) and below	20	16	0	0	0	0	0	0	0	0	6	13	55
Mean Relative Humidity (%)													
Hour 0400 PST	54.3	61.1	41.6	47.7	30.0	24.6	24.1	35.9	31.2	52.0	60.3	56.3	43.3
Hour 1000 PST	31.7	48.9	25.8	26.9	16.1	12.3	13.9	19.5	17.2	39.7	42.1	43.8	28.2
Hour 1600 PST	27.5	40.6	19.5	20.9	9.3	8.1	8.0	13.0	10.4	34.2	40.6	44.4	23.0
Hour 2200 PST	48.0	60.4	34.8	36.4	19.5	17.7	15.8	26.2	23.1	49.2	58.2	56.5	37.2
Precipitation (mm)													
Maximum one-hour total	0.25	7.11	8.89	3.30	0.00	1.02	0.76	4.83	4.83	4.83	5.33	4.83	8.89
Maximum daily total	0.25	22.35	14.73	6.35	0.00	2.03	0.76	5.33	4.83	35.05	18.54	30.99	35.05
Total	0.00	87.63	19.05	14.73	0.00	0.00	0.00	12.19	5.33	91.69	33.53	61.21	325.37

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

Table R-7. Meteorological Data 2004 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.1	21.0	30.9	32.5	36.1	39.4	42.4	41.7	38.6	31.5	24.2	19.6	42.4
Mean Maximum	13.0	11.2	23.2	23.6	29.5	35.5	38.4	36.3	31.7	22.2	15.0	12.5	24.3
Mean Temperature	4.5	5.2	14.3	14.9	20.2	25.9	28.6	26.7	22.2	14.8	7.8	5.2	15.9
Mean Minimum	-3.8	-1.1	4.3	4.9	8.4	13.4	16.7	15.8	11.3	6.6	0.4	-2.6	6.2
Extreme Minimum	-10.5	-8.9	-0.3	-0.2	3.6	5.8	11.9	12.3	2.6	-0.9	-11.1	-9.4	-11.1
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	10	2	5	0	2	1	4	1	6	4	5	40
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	5	26	31	28	18	0	0	0	109
0°C (32°F) and below	29	16	1	1	0	0	0	0	0	1	13	24	85
Mean Relative Humidity (%)													
Hour 0400 PST	62.9	63.9	49.9	51.8	34.5	29.2	26.8	39.3	37.2	55.6	66.3	63.6	48.4
Hour 1000 PST	36.6	47.3	28.4	26.8	17.6	14.0	15.0	21.1	18.8	37.7	42.7	43.6	29.1
Hour 1600 PST	28.0	38.4	21.0	21.3	11.1	9.8	9.7	15.0	12.7	32.4	38.6	40.1	23.2
Hour 2200 PST	54.6	61.1	44.2	39.2	22.4	20.8	18.6	28.9	27.7	49.7	64.5	62.8	41.2
Precipitation (mm)													
Maximum one-hour total	0.00	8.38	3.56	1.27	0.00	0.76	0.25	5.84	6.10	4.57	7.37	6.60	8.38
Maximum daily total	0.00	20.32	17.02	6.35	0.00	1.27	0.25	8.13	6.10	30.99	20.57	28.96	30.99
Total	0.00	79.76	20.83	8.13	0.00	0.00	0.00	11.94	6.10	76.96	31.75	50.29	285.75

Source DTN: MO0607SEPMMMD04.001 [DIRS 178311].

Table R-8. Meteorological Data 2004 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.4	20.4	29.8	31.5	35.5	38.2	39.9	40.9	37.7	30.6	23.4	19.1	40.9
Mean Maximum	12.3	10.7	22.4	22.8	28.7	34.5	37.4	35.4	30.9	21.5	14.4	12.1	23.6
Mean Temperature	4.8	5.2	14.4	14.9	20.4	26.0	28.9	26.8	22.4	14.7	7.9	5.5	16.0
Mean Minimum	-2.1	-0.4	5.8	6.1	9.7	14.9	18.4	17.2	12.9	7.9	1.4	-0.9	7.6
Extreme Minimum	-10	-6.2	0.8	1.2	4.2	6.7	13.9	13.6	5.3	-0.4	-8.9	-7.4	-10.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	1	10	2	5	0	2	1	4	1	7	4	5	42
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	25	30	27	16	0	0	0	102
0°C (32°F) and below	27	15	0	0	0	0	0	0	0	1	6	16	65
Mean Relative Humidity (%)													
Hour 0400 PST	62.4	64.3	49.2	52.2	31.9	27.2	24.8	38.7	34.4	55.7	67.4	63.9	47.7
Hour 1000 PST	35.9	49.3	28.2	27.2	16.6	12.8	13.9	20.8	17.8	39.2	44.0	45.0	29.2
Hour 1600 PST	28.2	39.2	20.6	20.7	9.5	8.3	8.2	13.9	11.0	33.2	40.3	42.2	22.9
Hour 2200 PST	53.2	61.3	42.5	38.6	20.6	19.3	16.0	29.5	25.0	51.3	63.9	62.4	40.3
Precipitation (mm)													
Maximum one-hour total	1.27	5.84	4.83	2.03	0.00	1.02	0.25	7.62	1.02	3.81	5.84	5.59	7.62
Maximum daily total	2.03	20.32	16.00	6.86	0.00	1.02	0.25	11.94	1.02	26.42	18.29	23.11	26.42
Total	2.29	79.76	21.84	9.91	0.00	0.00	0.00	17.02	1.02	70.36	34.04	45.72	281.94

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

Table R-9. Meteorological Data 2004 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.5	22.7	32.6	34.2	37.6	40.9	42.0	43.2	40.2	33.5	25.4	21.1	43.2
Mean Maximum	14.3	13.2	25.0	25.3	31.2	37.1	39.8	37.7	33.3	24.0	16.6	13.9	26.0
Mean Temperature	6.7	7.1	16.5	17.2	22.8	28.3	31.4	29.3	24.4	16.7	9.7	7.2	18.1
Mean Minimum	0.0	1.3	7.7	8.4	12.3	17.6	21.1	20.3	15.1	10.1	3.5	1.2	9.9
Extreme Minimum	-6.8	-3.1	2.2	0.4	6.6	8.5	16.8	15.5	5.8	1.1	-5.8	-4.8	-6.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	0	10	2	2	0	0	1	1	2	8	2	2	30
<i>Temperature</i>													
32°C (90°F) and above	0	0	1	3	10	28	31	31	19	2	0	0	125
0°C (32°F) and below	13	11	0	0	0	0	0	0	0	0	3	11	38
Barometric Pressure (mb)													
Mean Barometric Pressure	921.6	920.0	920.0	916.9	915.2	914.8	916.4	917.5	916.4	916.5	921.5	922.3	918.3
Mean Relative Humidity (%)													
Hour 0400 PST	54.7	60.7	44.2	45.9	27.3	23.0	21.1	32.2	32.3	52.7	62.3	59.3	43.0
Hour 1000 PST	34.1	46.3	26.7	26.8	16.0	13.0	13.3	19.2	17.6	38.8	44.1	43.4	28.3
Hour 1600 PST	24.2	35.8	17.1	18.1	8.7	7.3	7.6	12.8	11.1	28.7	34.9	36.8	20.3
Hour 2200 PST	43.9	57.9	38	33.1	17.8	15.4	13.9	24.9	23.3	47.2	60.1	55.5	35.9
Precipitation (mm)													
Maximum one-hour total	0.00	5.08	5.33	1.27	0.00	0.00	0.25	4.57	1.27	2.54	5.08	4.83	5.33
Maximum daily total	0.00	12.45	15.75	4.57	0.00	0.00	0.25	10.41	2.29	14.48	14.99	19.56	19.56
Total	0.00	54.10	19.3	5.08	0.00	0.00	0.00	11.43	2.54	38.35	18.80	34.80	184.40
Wind													
Mean Speed (m/sec)	4.0	4.2	4.2	4.8	4.8	4.6	4.6	4.3	4.6	4.8	4.2	4.3	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	15.8	16.0	14.4	17.7	23.1	18.7	15.2	15.9	17.4	17.3	18.5	16.1	23.1
Direction (degree)	171.7	333.3	186.5	19.8	172.0	177.7	172.4	7.0	174.1	163.9	329.8	165.5	172.0
Peak 3 sec Gust (m/sec)	18.9	18.6	17.9	21.6	27.5	23.0	21.0	19.0	20.6	20.8	21.2	19.5	27.5
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.81	0.85	1.18	1.31	1.41	1.46	1.44	1.37	1.26	0.94	0.83	0.67	1.13

Source DTN: MO0607SEPMMD04.001 [DIRS 178311].

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APPENDIX S
2005 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table S-1. Meteorological Data 2005 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.2	17.0	25.3	27.8	36.2	37.8	43.3	38.8	35.2	30.4	23.2	21.0	43.3
Mean Maximum	12.3	12.4	17.0	21.0	28.4	31.6	38.8	35.5	29.4	23.6	18.7	13.3	23.5
Mean Temperature	7.5	7.6	10.6	13.5	20.7	23.8	30.6	27.5	21.6	16.6	11.6	7.0	16.6
Mean Minimum	2.7	2.9	3.6	5.6	11.9	14.2	21.4	19.3	13.4	9.9	5.0	0.6	9.2
Extreme Minimum	-4.3	-1.6	-0.9	1.1	5.9	8.6	18.0	15.3	7.5	5.6	-4.4	-7.0	-7.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	12	8	6	3	1	0	5	4	3	3	2	1	48
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	10	13	31	29	8	0	0	0	91
0°C (32°F) and below	7	3	3	0	0	0	0	0	0	0	3	11	27
Barometric Pressure (mb)													
Mean Barometric Pressure	888.4	887.3	886.8	885.5	884.6	883.1	887.0	887.6	887.2	887.7	890.0	890.0	887.1
Mean Relative Humidity (%)													
Hour 0400 PST	72.1	76.2	55.1	47.7	42.5	31.5	35.6	45.7	34.5	48.9	42.0	45.6	48.1
Hour 1000 PST	59.5	62.6	38.6	28.5	25.6	18.0	20.4	27.4	22.6	34.6	26.7	33.9	33.2
Hour 1600 PST	55.8	56.8	31.2	19.0	18.6	12.2	15.2	18.2	17.0	28.0	23.4	30.9	27.2
Hour 2200 PST	69.3	73.4	46.9	38.9	32.9	21.0	28.4	34.9	28.0	45.2	37.2	41.8	41.5
Precipitation (mm)													
Maximum one-hour total	4.06	5.08	3.05	3.05	1.52	0.00	16.0	5.08	3.81	5.33	1.78	0.51	16.00
Maximum daily total	18.29	41.66	6.10	4.83	2.54	0.00	16.0	8.38	25.65	11.43	3.05	0.76	41.66
Total	73.41	100.33	8.89	8.38	2.54	0.00	28.7	14.22	27.69	19.56	3.81	0.00	287.53
Wind													
Mean Speed (m/sec)	3.5	3.1	4.2	4.5	4.0	4.4	3.4	3.3	3.6	3.4	3.2	2.9	3.6
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.1	14.1	15.3	17.3	19.7	15.9	13.5	13.7	14.9	15.4	16.8	16.2	19.7
Direction (degree)	306.5	34.0	178.8	337.8	161.5	181.7	198.5	289.8	183.5	180.4	349.0	177.6	161.5
Peak 3 sec Gust (m/sec)	20.4	16.9	19.3	22.9	24.8	20.3	16.5	17.1	19.0	19.9	22.2	22.3	24.8
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.63	0.74	1.1	1.27	1.38	1.45	1.41	1.35	1.21	1.00	0.81	0.66	1.08

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-2. Meteorological Data 2005 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.3	13.9	23.0	25.5	34.1	36.3	41.1	37.1	33.2	28.3	20.3	18.1	41.1
Mean Maximum	9.4	9.8	14.7	18.7	26.6	29.9	37.0	33.4	27.4	21.0	16.1	10.8	21.2
Mean Temperature	6.3	6.1	9.4	12.3	19.6	22.6	29.8	26.6	21.1	15.9	11.6	7.0	15.7
Mean Minimum	3.6	3.6	5.0	6.8	13.8	16.2	24.1	20.9	16.2	12.0	8.2	4.0	11.2
Extreme Minimum	-3.7	0.3	0.3	0.9	4.7	8.6	18.1	13.0	10.2	6.6	-3.5	-4.4	-4.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	14	11	6	3	1	3	3	2	2	3	1	0	49
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	9	30	25	3	0	0	0	75
0°C (32°F) and below	7	0	0	0	0	0	0	0	0	0	3	3	13
Barometric Pressure (mb)													
Mean Barometric Pressure	851.8	850.7	850.8	849.6	849.6	848.8	853.7	853.9	852.6	852.3	854.2	853.4	851.8
Mean Relative Humidity (%)													
Hour 0400 PST	64.1	68.4	45.6	39.1	34.9	24.4	26.8	36.3	25.7	38.6	30.6	37.4	39.3
Hour 1000 PST	62.2	65.9	41.3	30.8	26.9	17.6	19.4	27.3	22.4	35.4	26.1	34.1	34.1
Hour 1600 PST	60.2	60.9	31.9	19.4	18.2	10.8	13.4	17.2	16.1	28.0	22.2	31.4	27.5
Hour 2200 PST	63.1	66.9	40.2	32.8	27.6	16.9	22.0	27.0	21.2	36.6	29.4	35.5	34.9
Precipitation (mm)													
Maximum one-hour total	3.30	5.08	3.30	1.78	1.78	1.27	5.84	10.92	4.32	5.33	2.79	0.00	10.92
Maximum daily total	15.24	43.69	6.35	4.57	2.79	1.27	10.16	13.46	25.40	9.91	4.57	0.00	43.69
Total	71.63	98.04	10.41	7.87	3.05	0.00	14.99	25.15	27.43	15.24	5.08	0.00	278.89
Wind													
Mean Speed (m/sec)	4.6	3.6	4.9	5.6	5.1	5.2	4.1	4.0	4.2	4.2	4.0	3.6	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	29.1	14.3	21.6	24.1	26.4	27.8	19.1	16.7	32.0	24.0	24.0	28.5	32.0
Direction (degree)	300.0	43.8	318.4	298.5	229.4	281.6	246.7	311.8	262.0	314.5	321.3	261.9	262.0
Peak 3 sec Gust (m/sec)	33.8	21.5	25.7	29.3	29.7	32.5	23.0	19.1	38.7	27.6	29.8	32.9	38.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.62	0.73	1.09	1.28	1.40	1.43	1.42	1.34	1.22	0.99	0.81	0.66	1.08

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-3. Meteorological Data 2005 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	15.8	23.5	25.6	34.4	36.4	41.7	37.3	33.7	28.8	21.9	19.5	41.7
Mean Maximum	10.7	11.2	15.6	19.2	26.8	30.0	37.3	33.9	28.0	22.0	17.4	11.9	22.0
Mean Temperature	7.1	7.2	10.4	13.1	20.2	23.3	30.3	27.1	21.4	16.5	11.8	7.1	16.3
Mean Minimum	3.6	3.8	4.8	6.6	13.0	15.4	22.7	20.1	14.8	11.2	6.8	2.7	10.5
Extreme Minimum	-3.3	0.1	0.7	2.5	5.7	10.3	18.8	13.8	9.5	7.1	-2.2	-4.5	-4.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	13	11	5	2	2	2	3	4	2	3	1	1	49
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	8	9	30	26	3	0	0	0	76
0°C (32°F) and below	5	0	0	0	0	0	0	0	0	0	2	5	12
Mean Relative Humidity (%)													
Hour 0400 PST	69.6	74.1	49.2	42.9	38.9	28.5	33.6	43.5	32.3	45.1	38.0	43.8	45.0
Hour 1000 PST	59.9	63.1	37.3	27.0	24.4	17.8	20.5	27.6	23.3	35.4	27.8	35.5	33.3
Hour 1600 PST	59.2	58.6	29.7	17.2	16.8	11.5	15.1	19.0	17.9	29.8	25.8	34.2	27.9
Hour 2200 PST	67.1	71.9	42.0	34.9	28.5	18.1	25.4	32.0	26.1	42.9	35.3	41.1	38.8
Precipitation (mm)													
Maximum one-hour total	3.56	5.33	4.83	3.3	2.54	1.52	10.92	14.73	4.32	5.08	4.32	0.25	14.73
Maximum daily total	20.32	43.69	8.64	4.83	3.56	1.52	11.18	16.76	28.70	10.67	6.10	0.25	43.69
Total	81.28	104.65	13.21	9.14	3.56	0.00	20.07	24.64	30.73	18.29	6.10	0.00	311.66

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-4. Meteorological Data 2005 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.4	16.1	24.5	27.8	36.4	37.8	43.5	38.4	35.0	30.5	22.8	20.4	43.5
Mean Maximum	12.4	12.4	16.5	20.7	28.2	31.4	38.8	35.3	29.1	22.9	18.2	12.6	23.2
Mean Temperature	7.7	7.8	10.7	13.6	20.8	24.1	31.0	27.8	22.1	16.7	12.3	7.7	16.9
Mean Minimum	3.4	3.6	5.2	6.9	13.3	16.6	23.1	20.8	15.3	10.8	6.8	2.9	10.7
Extreme Minimum	-3.8	-0.3	1.5	2.4	6.3	10.0	19.1	14.1	10.8	6.2	-2.8	-3.4	-3.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	13	9	6	3	1	2	4	4	1	3	2	1	49
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	14	31	28	7	0	0	0	89
0°C (32°F) and below	4	1	0	0	0	0	0	0	0	0	2	4	11
Barometric Pressure (mb)													
Mean Barometric Pressure	877.7	876.7	876.4	874.8	873.9	872.7	876.8	877.3	876.8	877.1	879.6	879.4	876.6
Mean Relative Humidity (%)													
Hour 0400 PST	66.6	71.7	46.7	39.2	36.7	24.5	27.1	37.3	27.1	43.3	33.8	40.9	41.2
Hour 1000 PST	60.7	63.4	37.7	25.5	23.0	15.0	17.6	25.3	20.3	34.2	24.9	34.3	31.8
Hour 1600 PST	56.7	57.3	29.5	16.1	15.8	9.1	11.8	15.0	13.9	26.2	19.8	29.2	25.0
Hour 2200 PST	65.2	68.8	41.8	32.7	27.8	15.5	21.5	27.5	21.5	39.5	31.1	36.7	35.8
Precipitation (mm)													
Maximum one-hour total	7.11	4.83	2.54	3.05	1.52	1.52	8.64	3.30	4.32	4.32	2.03	0.25	8.64
Maximum daily total	19.81	38.86	5.08	3.30	4.32	1.52	8.64	7.11	28.7	9.65	3.05	0.51	38.86
Total	80.01	87.38	8.89	6.10	4.06	1.27	23.11	15.24	28.19	16.76	4.32	0.00	275.34
Wind													
Mean Speed (m/sec)	4.4	3.6	5.5	5.7	5.2	5.6	3.9	4.0	4.3	4.5	4.0	3.8	4.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	27.5	19.9	25.0	22.7	26.9	21.9	19.6	24.3	22.5	20.9	26.0	21.8	27.5
Direction (degree)	333.9	18.8	347.6	352.7	176.6	330.4	97.6	79.1	271.7	329.2	339.6	169.2	333.9
Peak 3 sec Gust (m/sec)	31.7	23.2	27.5	26.9	31.3	26.8	22.4	29.3	24.9	25.0	31.4	25.3	31.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.62	0.72	1.11	1.29	1.40	1.46	1.44	1.36	1.23	1.00	0.81	0.65	1.09

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-5. Meteorological Data 2005 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.7	18.5	26.8	29.3	38.2	40.0	44.9	40.9	37.6	33.0	24.8	22.4	44.9
Mean Maximum	13.4	14.3	19.0	22.8	30.3	34.0	40.8	37.6	31.7	25.4	20.4	14.5	25.3
Mean Temperature	8.1	8.5	11.6	14.8	21.9	25.1	31.7	29.0	22.9	17.8	12.6	7.6	17.6
Mean Minimum	3.2	3.2	3.5	6.4	12.1	15.0	21.6	20.7	14.3	10.6	5.2	0.5	9.7
Extreme Minimum	-4.8	-2.0	-0.2	-1.2	6.0	0.2	16.2	17.3	8.3	6.3	-4.8	-6.4	-6.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	12	8	3	3	2	1	4	2	3	4	1	0	43
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	12	20	31	31	11	1	0	0	106
0°C (32°F) and below	7	3	3	1	0	0	0	0	0	0	3	12	29
Barometric Pressure (mb)													
Mean Barometric Pressure	907.9	906.8	906.4	904.5	903.1	901.6	905.2	906.0	905.8	906.5	909.4	909.5	906.1
Mean Relative Humidity (%)													
Hour 0400 PST	75.6	80.6	56.8	46.1	42.6	27.7	30.2	38.4	30.1	44.3	37.5	42.4	46.0
Hour 1000 PST	60.4	62.2	35.5	25.7	23.6	15.2	17.5	23.6	19.8	30.5	23.5	31.6	30.8
Hour 1600 PST	53	53.4	27.5	15.5	16.2	8.8	10.6	13.9	13.3	22.8	18.4	26.0	23.3
Hour 2200 PST	73.3	77.6	48.4	39.5	32.6	18.2	23.0	28.8	24.9	42.5	34.8	40.3	40.3
Precipitation (mm)													
Maximum one-hour total	3.30	3.30	4.57	1.78	2.29	0.51	4.06	4.83	3.56	5.59	2.54	0.00	5.59
Maximum daily total	14.99	28.96	5.08	2.79	2.29	0.51	5.33	5.08	23.11	10.67	3.05	0.00	28.96
Total	45.21	66.55	5.59	5.08	2.54	0.00	9.14	10.16	24.38	18.54	3.30	0.00	190.5

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-6. Meteorological Data 2005 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.8	15.5	24.0	25.2	34.2	35.8	41.7	37.1	33.2	28.7	21.9	19.5	41.7
Mean Maximum	10.3	10.9	15.4	19.1	26.5	29.6	37.1	33.6	27.6	21.8	17.4	11.9	21.8
Mean Temperature	5.9	6.2	9.4	11.9	19.0	22.0	29.0	25.7	19.8	15.2	10.4	5.9	15.0
Mean Minimum	1.5	2.0	2.9	4.5	10.4	12.5	19.9	17.6	11.9	9.3	4.2	0.2	8.1
Extreme Minimum	-6.0	-2.0	-2.1	0.3	3.2	6.4	15.3	12.6	7.3	4.9	-5.1	-7.6	-7.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	12	11	5	3	1	2	2	2	2	4	2	0	46
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	9	8	30	25	2	0	0	0	74
0°C (32°F) and below	10	3	4	0	0	0	0	0	0	0	4	14	35
Mean Relative Humidity (%)													
Hour 0400 PST	72.9	77.8	53.9	50.4	45.2	32.2	37.1	50.4	37.1	50.4	42.6	49.3	49.9
Hour 1000 PST	59.2	62.5	38.2	26.8	24.5	17.1	18.8	27.6	22.2	36.1	26.0	35.3	32.9
Hour 1600 PST	59.3	58.0	30.5	17.5	17.7	10.4	13.4	18.2	16.1	29.9	24.1	33.7	27.4
Hour 2200 PST	72.4	77.1	48.3	40.7	34.7	20.2	27.2	35.4	30.4	48.3	41.0	45.4	43.4
Precipitation (mm)													
Maximum one-hour total	6.60	4.32	4.06	2.79	2.29	1.78	3.30	16.51	4.57	5.08	2.54	0.00	16.51
Maximum daily total	20.07	44.70	6.60	4.83	6.35	2.03	7.62	20.07	27.94	11.18	3.05	0.00	44.7
Total	91.95	101.09	11.68	8.38	6.60	1.02	8.38	30.73	29.21	20.07	4.57	0.00	313.69

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-7. Meteorological Data 2005 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	22.3	17.7	25.8	28.9	37.5	39.2	44.1	39.9	36.4	31.7	23.9	21.6	44.1
Mean Maximum	12.5	13.1	18.0	21.9	29.4	32.7	40.0	36.7	30.4	24.3	19.7	13.9	24.4
Mean Temperature	6.5	7.0	10.2	12.9	20.2	23.2	29.8	26.9	20.5	15.7	10.1	5.4	15.7
Mean Minimum	0.7	1.3	1.2	2.9	8.8	11.0	17.7	16.4	9.5	6.7	0.8	-3.2	6.1
Extreme Minimum	-6.8	-5.2	-3.4	-4.0	4.0	5.2	12.1	10.7	5.1	2.3	-7.9	-11.8	-11.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	12	12	6	2	1	1	4	4	1	3	3	1	50
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	12	16	31	30	9	0	0	0	98
0°C (32°F) and below	11	9	10	6	0	0	0	0	0	0	13	24	73
Mean Relative Humidity (%)													
Hour 0400 PST	76.8	80.1	60.5	56.4	49.3	36.3	42.4	54.8	41.1	59.7	54.4	58.6	55.9
Hour 1000 PST	58.7	60.5	36.9	27.0	25.0	16.5	17.7	24.8	20.3	33.5	25.3	35.3	31.8
Hour 1600 PST	53.9	54.2	29.9	18.7	18.4	10.7	11.9	15.1	14.4	26.2	20.6	30.3	25.4
Hour 2200 PST	73.8	77.5	52.2	43.4	36.4	22.8	30.6	37.0	31.4	53.2	47.2	52.1	46.5
Precipitation (mm)													
Maximum one-hour total	6.86	5.08	3.05	4.83	1.02	0.25	4.06	4.32	3.81	4.32	1.52	0.51	6.86
Maximum daily total	18.54	39.62	5.84	4.83	3.3	0.25	5.08	7.37	28.96	10.16	2.03	0.51	39.62
Total	79.5	91.44	8.89	9.65	3.05	0.00	14.73	11.43	28.70	17.53	2.54	0.00	267.46

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-8. Meteorological Data 2005 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	21.4	17.1	25.0	27.8	36.1	39.5	43.7	39.2	35.6	30.6	23.6	20.9	43.7
Mean Maximum	11.9	12.6	17.2	21.1	28.6	32.3	39.1	35.8	29.7	23.6	19.0	13.4	23.7
Mean Temperature	6.6	6.9	10.1	13.0	20.3	23.5	30.1	27.1	20.9	15.8	10.6	6.0	15.9
Mean Minimum	1.6	1.9	2.2	4.3	10.3	12.6	19.3	17.9	11.4	7.9	2.7	-1.2	7.6
Extreme Minimum	-5.5	-2.9	-1.8	-1.2	5.1	0.2	14.2	13.9	6.9	3.2	-6.9	-7.8	-7.8
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	13	8	9	5	2	0	4	4	4	3	1	0	53
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	10	14	30	29	9	0	0	0	92
0°C (32°F) and below	9	7	7	1	0	0	0	0	0	0	6	18	48
Mean Relative Humidity (%)													
Hour 0400 PST	79.8	83.6	61.3	53.8	47.4	31.8	36.3	45.1	36.0	52.7	45.5	49.8	51.9
Hour 1000 PST	61.1	64.5	37.7	26.9	24.3	16.2	18.3	24.9	20.9	32.5	24.9	33.5	32.1
Hour 1600 PST	57.1	57.9	30.5	17.2	16.8	10.4	12.7	15.9	15.0	25.8	21.2	29.4	25.8
Hour 2200 PST	76.0	81.5	52.2	42.1	34.5	20.3	27.0	32.8	28.4	46.8	39.4	44.2	43.8
Precipitation (mm)													
Maximum one-hour total	6.35	7.87	2.03	2.79	0.76	0.00 ^a	12.70	3.81	3.05	4.83	2.54	0.00	12.70 ^a
Maximum daily total	17.78	41.15	4.06	3.81	1.52	0.00 ^a	12.70	6.35	21.59	11.94	4.06	0.00	41.15
Total	73.41	106.68	7.62	7.87	1.78	0.00	19.30	8.13	27.94	19.81	3.05	0.00	275.59

^a June: Maximum one-hour and daily precipitation totals set to zero from superseding data: DTN MO0708METMND05.001; new annual maximum, and number of days in June and annual total adjusted.

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

Table S-9. Meteorological Data 2005 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	23.0	19.5	27.3	30.3	38.5	41.0	45.6	41.8	38.4	34.2	25.1	22.5	45.6
Mean Maximum	14.0	15.0	19.5	23.6	31.0	34.4	41.4	38.4	32.1	25.9	20.7	14.9	25.9
Mean Temperature	8.3	8.9	11.9	15.4	22.7	26.0	32.5	29.8	23.3	18.2	12.6	7.6	18.1
Mean Minimum	3.1	3.5	3.8	6.2	12.5	15.5	22.5	21.0	14.1	10.5	5.1	0.6	9.9
Extreme Minimum	-3.3	-0.9	-0.6	-0.2	5.5	8.5	17.7	17.0	8.4	6.2	-3.6	-6.7	-6.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	12	8	2	2	3	1	2	1	1	3	1	0	36
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	13	22	31	31	13	2	0	0	112
0°C (32°F) and below	7	2	3	1	0	0	0	0	0	0	4	14	31
Barometric Pressure (mb)													
Mean Barometric Pressure	920.7	919.4	918.7	916.7	915.0	913.3	916.5	917.5	917.8	918.8	922.1	922.5	918.2
Mean Relative Humidity (%)													
Hour 0400 PST	78.8	80.5	60.9	47.7	41.9	29.0	31.6	39.7	34.3	48.0	40.2	45.0	48.1
Hour 1000 PST	61.6	63.9	37.2	25.8	23.9	15.8	19.1	24.7	21.6	30.9	23.4	30.3	31.5
Hour 1600 PST	52.2	53.3	28.2	16.2	16.6	9.4	11.2	15.1	14.2	21.8	16.9	24.4	23.3
Hour 2200 PST	74.6	76.4	48.8	37.7	30.0	18.1	23.1	28.7	25.8	42.7	34.2	40.7	40.1
Precipitation (mm)													
Maximum one-hour total	2.54	7.87	1.27	1.02	1.02	0.25	3.56	3.05	3.56	2.54	2.54	0.00	7.87
Maximum daily total	12.70	29.46	2.03	2.03	1.27	0.25	3.56	3.05	22.61	6.35	3.56	0.00	29.46
Total	41.91	73.91	2.79	3.30	3.56	0.00	5.84	3.05	24.89	10.92	3.56	0.00	173.74
Wind													
Mean Speed (m/sec)	4.2	3.6	4.5	5.2	4.8	5.1	4.2	4.2	4.3	4.4	4.1	4.1	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	16.4	16.0	15.9	17.9	21.8	18.4	15.9	15.6	16.0	17.1	20.5	18.3	21.8
Direction (degree)	157.3	30.5	351.1	211.5	174.4	169.3	192.8	32.0	172.5	162.7	345.7	168.5	174.4
Peak 3 sec Gust (m/sec)	19.8	20.7	20.1	21.5	25.7	22.7	19.6	18.6	20.6	21.1	24.3	22.4	25.7
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.67	0.80	1.12	1.33	1.41	1.47	1.43	1.36	1.23	1.01	0.83	0.64	1.11

Source DTN: MO0610METMND05.000 [DIRS 178328]; DTN: MO0708METMND05.001 [DIRS 182647] used for change in Site 8 precipitation data for Day 153 only.

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APPENDIX T
2006 METEOROLOGICAL DATA FOR SITES 1 THROUGH 9

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Table T-1. Meteorological Data 2006 – Site 1

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.0	22.6	20.8	31.5	35.5	42.1	42.2	38.4	37.3	30.0	26.8	20.5	42.2
Mean Maximum	13.0	16.0	13.2	20.7	29.6	35.5	38.2	35.5	30.8	22.8	18.0	11.9	23.8
Mean Temperature	6.5	8.9	7.2	13.6	22.1	27.7	30.5	27.5	23.1	15.6	11.0	5.5	16.6
Mean Minimum	0.2	1.3	1.0	5.8	12.9	18.4	22.1	18.6	14.8	8.3	4.0	-0.8	8.9
Extreme Minimum	-6.0	-8.3	-7.2	-1.4	4.7	12.2	17.0	16.0	6.6	0.9	-8.4	-6.8	-8.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	7	5	1	1	4	0	2	5	0	4	35
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	10	25	31	31	13	0	0	0	110
0°C (32°F) and below	15	11	11	1	0	0	0	0	0	0	5	17	60
Barometric Pressure (mb)													
Mean Barometric Pressure	890.4	889.2	883.7	884.7	885.3	886.6	887.8	886.9	887.4	886.9	888.5	890.5	887.3
Mean Relative Humidity (%)													
Hour 0400 PST	51.2	37.2	56.6	54.5	32.6	26.6	37.6	24.8	28.4	40.6	33.6	46.3	39.2
Hour 1000 PST	35.7	25.6	41.4	34.7	20.8	16.7	23.9	13.8	16.0	25.5	20.2	33.0	25.6
Hour 1600 PST	30.0	20.5	34.1	27.3	15.9	12.9	19.6	9.4	9.7	17.5	15.3	28.3	20.0
Hour 2200 PST	44.9	33.9	52.3	45.7	25.7	20.7	28.7	16.8	20.9	35.5	26.5	44.1	33.0
Precipitation (mm)													
Maximum one-hour total	2.54	4.06	6.10	1.27	1.78	0.25	5.59	0.00	1.27	1.52	0.00	1.78	6.10
Maximum daily total	10.16	12.45	29.97	2.79	2.29	0.51	9.14	0.00	2.29	2.03	0.00	6.35	29.97
Total	13.72	20.07	60.45	17.02	1.78	0.51	17.53	0.00	2.79	4.57	0.00	18.80	157.23
Wind													
Mean Speed (m/sec)	3.4	3.4	3.8	4.3	3.7	3.8	3.6	3.5	3.5	3.4	3.0	3.1	3.5
<i>Fastest one-minute speed</i>													
Speed (m/sec)	17.5	15.7	15.6	17.6	17.1	17.6	15.2	12.4	14.2	17.1	13.4	21.6	21.6
Direction (degree)	183.3	177.5	191.6	159.2	164.2	188.5	346.8	152.1	158.0	148.4	346.3	343.1	343.1
Peak 3 sec Gust (m/sec)	21.9	20.4	19.5	21.4	22.8	22.4	19.1	17.6	19.0	22.8	16.0	27.6	27.6
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.99	1.08	1.27	1.41	1.46	1.42	1.41	1.28	1.05	0.84	0.74	1.15

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-2. Meteorological Data 2006 – Site 2

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	16.5	19.5	18.4	28.4	33.0	39.5	40.3	36.6	34.8	28.0	25.0	17.9	40.3
Mean Maximum	10.4	13.5	10.6	18.3	27.5	33.4	36.2	33.5	28.5	20.3	15.5	9.3	21.4
Mean Temperature	6.2	8.6	5.6	12.2	21.2	26.8	29.2	27.0	22.3	14.9	11.0	5.7	15.9
Mean Minimum	2.6	4.5	1.8	7.0	15.7	21.0	23.4	21.3	17.4	10.7	7.6	2.2	11.3
Extreme Minimum	-4.5	-5.9	-4.6	0.2	5.6	12.8	17.5	16.6	7.0	2.9	-6.0	-6.6	-6.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	8	6	2	0	4	1	2	4	0	5	38
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	4	19	31	24	7	0	0	0	85
0°C (32°F) and below	5	7	9	0	0	0	0	0	0	0	3	10	34
Barometric Pressure (mb)													
Mean Barometric Pressure	853.4	852.7	846.8	848.9	850.8	852.9	854.4	853.2	853.0	851.6	852.8	854.3	852.1
Mean Relative Humidity (%)													
Hour 0400 PST	43.2	29.9	50.7	49.7	26.5	22.1	32.8	21.7	25.7	36.7	30.5	37.6	33.9
Hour 1000 PST	36.7	26.3	46.3	38.1	19.8	15.9	24.5	15.1	19.7	29.8	23.9	36.0	27.7
Hour 1600 PST	31.0	19.4	36.4	28.3	14.2	10.6	18.0	9.3	12.4	21.0	18.8	32.6	21.0
Hour 2200 PST	38.9	28.7	48.9	40.1	20.5	16.5	25.7	14.9	20.8	33.1	25.1	36.4	29.1
<i>Precipitation (mm)</i>													
Maximum one-hour total	2.79	4.32	8.89	1.78	0.25	0.00	4.32	0.76	2.54	1.78	0.00	3.56	8.89
Maximum daily total	10.67	10.16	24.13	7.62	0.25	0.00	8.38	1.52	3.3	2.03	0.00	6.86	24.13
Total	15.75	23.11	51.82	17.78	0.00	0.00	16.76	0.76	3.56	6.35	0.00	14.99	150.88
Wind													
Mean Speed (m/sec)	4.4	4.5	5.0	4.9	4.6	4.6	4.5	4.2	4.5	4.2	3.6	4.0	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	26.9	24.5	25.4	21.9	22.3	22.4	24.1	19.2	20.4	21.1	19.4	29.0	29.0
Direction (degree)	322.9	297.4	310.5	75.8	236.6	274.8	275.9	261.4	297.8	311.4	324.4	313.8	313.8
Peak 3 sec Gust (m/sec)	30.1	28.2	28.9	32.2	28.2	24.9	28.8	21.6	23.5	23.2	22.8	35.2	35.2
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.98	1.08	1.26	1.41	1.46	1.42	1.42	1.28	1.06	0.83	0.73	1.14

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-3. Meteorological Data 2006 – Site 3

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.8	21.3	19.0	29.8	34.9	40.9	41.1	37.4	35.8	29.0	25.6	18.6	41.1
Mean Maximum	11.8	14.6	11.8	19.2	28.4	34.2	36.9	34.2	29.5	21.4	16.6	10.2	22.4
Mean Temperature	6.5	9.0	6.7	13.1	21.9	27.5	30.1	27.3	22.9	15.5	11.1	5.3	16.4
Mean Minimum	1.7	3.2	1.8	6.6	14.6	19.9	22.8	19.7	16.4	10.0	6.2	0.8	10.3
Extreme Minimum	-5.0	-7.0	-4.2	0.0	7.4	13.3	18.1	16.8	6.2	2.6	-6.6	-6.1	-7.0
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	7	5	2	0	4	1	2	4	0	3	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	7	19	31	28	9	0	0	0	94
0°C (32°F) and below	6	8	10	0	0	0	0	0	0	0	3	12	39
Mean Relative Humidity (%)													
Hour 0400 PST	42.6	32.7	51.6	51.1	28.9	22.6	33.9	22.8	26.8	38.9	32.3	40.5	35.4
Hour 1000 PST	30.8	24.2	41.7	34.8	18.8	14.2	22.2	13.3	17.7	27.3	21.6	33.7	25.0
Hour 1600 PST	27.1	18.9	33.8	26.8	13.7	9.9	17.0	8.7	11.5	19.6	17.8	31.4	19.7
Hour 2200 PST	36.2	29.6	48.5	42.1	21.5	16.4	25.2	14.8	20.9	34.5	26.1	38.9	29.6
Precipitation (mm)													
Maximum one-hour total	3.05	3.56	6.10	2.03	0.76	0.00	5.84	1.02	4.06	0.76	0.00	8.89	8.89
Maximum daily total	10.92	11.68	29.46	8.89	0.76	0.00	9.65	1.27	4.83	2.03	0.00	15.49	29.46
Total	15.75	22.61	64.01	19.3	0.51	0.00	10.16	0.51	5.59	5.59	0.00	23.11	167.13

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-4. Meteorological Data 2006 – Site 4

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	18.4	21.5	19.5	31.0	35.1	41.7	42.3	38.3	37.1	29.3	26.4	20.1	42.3
Mean Maximum	12.3	15.3	12.6	20.5	29.7	35.4	38.0	35.4	30.6	22.4	17.4	11.3	23.4
Mean Temperature	7.1	9.3	7.2	13.7	22.4	28.0	30.6	28.1	23.3	15.9	11.6	6.2	17.0
Mean Minimum	1.9	3.1	2.2	7.2	14.8	20.2	23.4	20.4	16.0	9.8	6.1	1.2	10.5
Extreme Minimum	-3.8	-6.3	-3.8	0.7	7.0	14.1	17.1	17.4	8.3	4.7	-5.6	-6.4	-6.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	3	8	6	1	1	4	0	2	4	0	3	34
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	10	24	31	31	11	0	0	0	107
0°C (32°F) and below	5	7	8	0	0	0	0	0	0	0	2	10	32
Barometric Pressure (mb)													
Mean Barometric Pressure	879.5	878.5	872.9	874.1	874.9	876.4	877.5	876.6	877.0	876.4	878.2	880.5	876.9
Mean Relative Humidity (%)													
Hour 0400 PST	46.7	32.6	53.8	51.4	28.4	21.7	34.8	21.4	27.8	40.5	31.2	39.8	35.8
Hour 1000 PST	36.3	24.8	44.1	35.3	17.1	13.5	22.9	13.2	18.1	29.1	22.1	35.0	26.0
Hour 1600 PST	28.3	17.5	34.6	25.5	10.9	8.5	16.5	7.6	10.7	20.4	16.9	28.8	18.8
Hour 2200 PST	40.5	29.3	51.3	42.0	20.3	15.7	25.6	14.3	20.6	35.7	24.7	38.9	29.9
Precipitation (mm)													
Maximum one-hour total	3.30	4.32	5.84	2.79	0.25	0.25	11.68	0.00	1.02	1.52	0.00	6.86	11.68
Maximum daily total	11.68	13.72	30.99	11.18	0.25	0.25	12.95	0.00	1.52	2.03	0.00	8.89	30.99
Total	14.99	22.10	53.59	18.29	0.00	0.00	24.13	0.00	1.27	4.06	0.00	15.49	153.92
Wind													
Mean Speed (m/sec)	4.6	4.9	5.0	5.1	4.9	4.8	4.8	4.0	4.8	4.6	3.9	4.7	4.7
<i>Fastest one-minute speed</i>													
Speed (m/sec)	24.0	22.0	23.9	23.1	21.3	20.4	22.4	17.1	27.3	19.9	23.1	35.8	35.8
Direction (degree)	334.2	358.3	335.0	163.6	340.9	195.9	27.0	248.4	26.3	338.7	24.3	353.2	353.2
Peak 3 sec Gust (m/sec)	28.8	25.6	26.9	31.3	27.3	23.9	25.9	19.4	32.3	23.8	25.9	39.9	39.9
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.79	0.98	1.08	1.28	1.43	1.48	1.45	1.43	1.3	1.06	0.84	0.73	1.15

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-5. Meteorological Data 2006 – Site 5

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.5	24.0	22.8	33.0	38.0	43.7	44.0	40.6	39.1	31.5	28.3	21.7	44.0
Mean Maximum	14.7	17.6	15.2	23.0	31.9	37.5	40.3	37.7	32.7	24.6	19.7	13.0	25.7
Mean Temperature	7.3	9.9	8.7	15.0	23.6	29.0	32.0	28.8	24.2	16.6	11.9	5.8	17.7
Mean Minimum	0.1	1.7	2.1	6.5	14.1	18.7	23.6	19.2	15.8	9.0	4.9	-1.1	9.6
Extreme Minimum	-5.6	-8.5	-5.9	-0.2	6.9	10.4	19.1	14.2	7.1	3.0	-8.7	-7.2	-8.7
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	3	5	4	1	1	5	0	4	5	0	3	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	1	17	26	31	31	19	0	0	0	125
0°C (32°F) and below	17	7	9	1	0	0	0	0	0	0	2	20	56
Barometric Pressure (mb)													
Mean Barometric Pressure	909.8	908.6	902.9	903.7	903.9	905.0	906.0	905.2	905.9	905.9	908.0	910.8	906.3
Mean Relative Humidity (%)													
Hour 0400 PST	49.6	33.3	54.5	52.2	29.0	21.6	32.1	20.4	24.7	38.4	30.8	44.6	35.9
Hour 1000 PST	32.8	22.6	37.8	30.4	16.2	12.7	20.0	11.6	16.1	24.9	20.2	31.7	23.1
Hour 1600 PST	24.6	16.2	28.9	21.7	10.9	7.7	14.7	7.0	9.3	15.8	13.1	24.5	16.2
Hour 2200 PST	43.1	30.7	50.6	43.5	21.2	15.8	24.4	14.1	19.2	33.6	25.0	42.4	30.3
Precipitation (mm)													
Maximum one-hour total	1.78	3.05	4.83	1.78	0.25	1.27	2.54	0.00	2.03	2.29	0.00	2.54	4.83
Maximum daily total	4.83	9.65	22.86	6.10	0.25	2.54	3.81	0.00	4.06	2.29	0.00	8.13	22.86
Total	6.10	12.95	40.64	12.95	0.00	0.00	5.33	0.00	4.57	6.35	0.00	13.97	102.87

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-6. Meteorological Data 2006 – Site 6

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	17.9	20.6	17.9	29.5	34.0	40.3	40.5	36.6	35.5	28.8	25.8	19.5	40.5
Mean Maximum	11.5	14.6	11.3	18.8	27.8	33.6	36.6	33.7	29.2	21.3	16.5	10.1	22.1
Mean Temperature	5.2	7.7	5.6	11.9	20.5	26.1	28.9	25.6	21.4	14.0	9.6	4.0	15.0
Mean Minimum	-0.4	0.3	-0.3	4.2	11.8	16.8	20.4	16.4	13.6	7.4	3.5	-1.5	7.7
Extreme Minimum	-5.7	-10.4	-5.9	-1.9	5.3	10.2	14.8	12.9	4.2	0.0	-9.3	-9.4	-10.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	8	6	2	1	4	0	2	4	0	3	36
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	5	19	31	25	9	0	0	0	89
0°C (32°F) and below	18	11	18	2	0	0	0	0	0	1	6	20	76
Mean Relative Humidity (%)													
Hour 0400 PST	58.0	38.5	64.9	63.1	37.7	25.7	37.3	27.1	31.1	43.0	35.8	45.4	42.3
Hour 1000 PST	37.9	26.5	46.8	39.6	20.2	14.3	22.7	13.7	18.0	27.7	22.3	34.6	27.0
Hour 1600 PST	32.5	20.1	38.2	29.4	14.5	10.0	17.0	8.7	11.8	19.9	18.2	33.4	21.1
Hour 2200 PST	52.2	36.4	61.3	53.9	28.3	19.1	27.7	17.5	23.9	38.7	29.7	44.6	36.1
Precipitation (mm)													
Maximum one-hour total	3.05	2.79	7.11	2.03	1.78	0.25	3.56	0.00	4.32	1.02	0.00	8.89	8.89
Maximum daily total	11.94	10.92	31.50	8.89	3.56	0.25	7.62	0.00	5.33	1.78	0.00	13.21	31.5
Total	17.27	23.62	62.74	19.81	2.03	0.00	14.73	0.00	6.10	4.83	0.00	20.57	171.7

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-7. Meteorological Data 2006 – Site 7

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	20.1	23.2	21.3	32.0	36.8	42.9	43.4	39.7	38.2	30.9	27.6	21.2	43.4
Mean Maximum	13.8	16.9	14.3	22.0	30.9	36.5	39.3	36.7	31.8	23.7	18.8	12.4	24.8
Mean Temperature	5.2	7.9	6.8	13.2	21.7	27.1	30.3	26.4	22.2	14.5	9.4	4.0	15.7
Mean Minimum	-3.2	-1.9	-1.1	3.3	10.0	15.0	19.8	14.1	11.5	4.9	0.0	-4.2	5.7
Extreme Minimum	-9.8	-8.2	-8.8	-3.4	2.5	7.7	13.4	10.1	5.8	-0.9	-12.5	-10.7	-12.5
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	3	8	4	1	1	4	0	3	4	0	3	33
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	12	26	31	31	17	0	0	0	117
0°C (32°F) and below	27	18	19	2	0	0	0	0	0	4	14	29	113
Mean Relative Humidity (%)													
Hour 0400 PST	68.0	45.0	72.8	68.7	40.3	27.9	40.6	27.3	30.8	43.8	37.8	52.8	46.3
Hour 1000 PST	37.3	24.5	43.4	34.8	17.9	12.9	21.0	12.3	16.1	24.9	20.0	32.8	24.8
Hour 1600 PST	29.2	18.3	34.2	25.7	12.0	8.7	16.6	7.7	9.9	17.2	15.1	26.1	18.4
Hour 2200 PST	58.5	39.6	63.9	55.5	27.9	18.6	28.6	17.0	22.0	37.1	29.5	48.2	37.2
Precipitation (mm)													
Maximum one-hour total	3.30	4.06	5.84	2.54	0.25	0.25	5.33	0.00	0.76	1.78	0.00	3.81	5.84
Maximum daily total	11.43	13.21	29.46	10.67	0.25	0.25	6.60	0.00	1.02	2.54	0.00	7.11	29.46
Total	14.22	19.81	57.66	17.02	0.00	0.00	25.91	0.00	0.76	5.33	0.00	17.02	157.73

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-8. Meteorological Data 2006 – Site 8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.1	22.8	20.8	31.6	35.9	42.0	43.0	39.0	37.4	30.2	26.8	20.7	43.0
Mean Maximum	13.2	16.1	13.5	21.1	30.1	35.8	38.5	35.9	31.1	23.1	18.1	11.9	24.0
Mean Temperature	5.6	8.0	6.9	13.3	21.7	27.3	30.3	26.9	22.3	14.7	9.8	4.4	15.9
Mean Minimum	-1.7	-0.9	-0.1	4.6	11.1	16.4	21.0	16.2	12.6	6.5	1.7	-2.6	7.1
Extreme Minimum	-7.5	-9.6	-8.2	-1.0	3.5	10.9	15.7	12.3	6.9	1.1	-9.4	-8.1	-9.6
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	3	8	7	1	0	4	0	2	5	0	3	35
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	0	10	25	31	31	13	0	0	0	110
0°C (32°F) and below	23	16	17	2	0	0	0	0	0	0	9	24	91
Mean Relative Humidity (%)													
Hour 0400 PST	56.7	39.8	60.8	59.1	36.0	26.8	39.2	26.7	30.8	44.5	37.6	47.0	42.1
Hour 1000 PST	35.1	24.1	41.7	33.6	18.0	13.3	21.2	12.3	16.7	26.1	21.0	33.1	24.7
Hour 1600 PST	28.4	18.0	32.5	25.1	12.5	8.7	16.5	7.6	10.3	18.1	16.1	27.5	18.4
Hour 2200 PST	48.8	34.8	54.3	48.3	26.3	18.5	27.4	17.5	22.5	38.4	29.6	45.0	34.3
Precipitation (mm)													
Maximum one-hour total	2.79	4.32	6.86	2.29	1.78	0.00	8.13	0.00	1.27	1.52	0.00	6.60	8.13
Maximum daily total	10.67	12.70	28.96	9.65	2.03	0.00	8.89	0.00	2.03	2.29	0.00	11.68	28.96
Total	12.95	18.29	59.94	17.78	1.78	0.00	24.64	0.00	2.03	5.84	0.00	18.54	161.8

Source DTN: MO0706METMND06.000 [DIRS 181887].

Table T-9. Meteorological Data 2006 – Site 9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Extreme Maximum	19.4	25.1	23.6	33.6	38.0	43.9	44.3	41.0	39.2	32.9	28.0	22.8	44.3
Mean Maximum	15.3	18.2	16.1	23.7	32.4	38.0	40.8	38.2	33.1	25.1	20.0	13.5	26.2
Mean Temperature	7.5	10.2	9.5	15.9	24.3	29.7	33.0	29.5	24.7	17.0	12.0	6.1	18.3
Mean Minimum	0.5	2.0	2.9	7.6	14.9	19.0	24.5	19.3	16.0	9.2	4.5	-0.7	10.0
Extreme Minimum	-5.5	-7.4	-3.6	0.3	6.6	11.0	18.5	14.9	7.8	2.1	-6.3	-6.9	-7.4
Number of Days													
<i>Precipitation</i>													
0.01 inch or more	2	4	4	4	0	1	3	0	3	4	0	3	28
<i>Temperature</i>													
32°C (90°F) and above	0	0	0	3	18	27	31	31	19	1	0	0	130
0°C (32°F) and below	15	7	7	0	0	0	0	0	0	0	4	18	51
Barometric Pressure (mb)													
Mean Barometric Pressure	922.8	921.4	915.9	916.2	915.6	916.4	917.1	916.6	917.7	918.2	920.6	923.8	918.5
Mean Relative Humidity (%)													
Hour 0400 PST	49.9	35.8	59.0	52.7	29.5	22.4	33.8	19.9	26.7	38.2	32.0	47.3	37.3
Hour 1000 PST	31.8	21.7	35.2	28.2	14.4	11.2	18.0	10.0	15.0	23.8	19.4	30.4	21.6
Hour 1600 PST	23.4	14.6	26.7	19.8	8.7	6.2	13.5	5.4	8.2	15.5	13.5	24.3	15.0
Hour 2200 PST	43.0	29.4	49.0	40.3	19.3	14.4	22.6	12.5	19.0	32.6	23.9	43.4	29.1
Precipitation (mm)													
Maximum one-hour total	1.78	3.05	4.57	8.38	0.00	0.51	1.02	0.00	5.33	1.27	0.00	5.33	8.38
Maximum daily total	4.06	7.87	18.54	10.92	0.00	0.51	1.78	0.00	9.65	2.03	0.00	8.13	18.54
Total	5.33	12.19	29.97	16.76	0.00	0.00	1.78	0.00	10.16	4.83	0.00	11.94	92.96
Wind													
Mean Speed (m/sec)	4.3	4.4	5.0	5.1	4.3	4.3	4.5	4.4	4.5	4.1	4.0	4.2	4.4
<i>Fastest one-minute speed</i>													
Speed (m/sec)	18.2	17.9	18.7	19.1	15.8	16.8	18.2	14.5	16.5	15.4	13.9	16.4	19.1
Direction (degree)	166.0	149.6	182.2	149.5	154.7	173.2	71.5	132.9	180.5	345.0	6.4	316.2	149.5
Peak 3 sec Gust (m/sec)	21.6	21.3	22.2	24.4	19.0	21.6	22.4	20.0	20.3	18.5	16.5	20.5	24.4
Solar Radiation (calorie/cm²/minute)													
Mean Maximum	0.82	1.00	1.10	1.33	1.42	1.48	1.44	1.43	1.28	1.05	0.83	0.72	1.16

Source DTN: MO0706METMND06.000 [DIRS 181887]

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APPENDIX U
TOTAL PRECIPITATION FROM STORAGE GAUGE DATA FOR SITES 401,
405, AND 415

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Table U-1. Total Precipitation from Storage Gauge Data for Sites 401, 405, and 415 (1999 to 2006)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Site 401													
1999	12.2	3.0	0.0	19.1	37.6	9.1	24.4	6.4	10.4	0.0	0.0	0.0	122.2
2000	13.0	103.1	39.6	16.5	0.0	0.0	0.0	48.3	0.0	3.6	21.1	0.0	245.1
2001	57.2	45.5	9.4	17.8	1.0	0.0	29.2	5.3	12.2	0.0	22.9	5.3	205.7
2002	3.0	0.3	0.8	0.0	1.8	2.3	5.1	0.0	0.5	2.0	3.0	11.7	30.5
2003	2.0	55.4	8.6	39.1	6.1	0.0	22.6	4.3	19.6	0.0	42.4	24.9	225.0
2004	0.0	81.0	14.7	16.5	0.0	0.0	0.0	15.0	2.5	85.6	34.5	60.7	310.6
2005	83.8	95.5	11.9	5.8	7.9	1.3	13.0	31.8	31.0	17.3	8.1	0.3	307.6
2006	16.0	23.1	57.7	23.1	2.8	0.0	9.9	0.0	7.9	6.4	0.0	14.0	160.8
Site 405													
1999	12.4	1.8	0.0	16.3	24.4	36.6	62.5	0.5	6.1	0.0	0.0	0.0	160.5
2000	7.6	92.2	35.6	11.2	0.0	0.5	0.0	37.1	1.3	4.8	20.8	0.0	211.1
2001	46.5	39.4	5.8	10.2	1.3	0.0	20.3	0.5	9.7	0.0	15.7	2.0	151.4
2002	2.0	0.0	0.8	0.3	0.0	0.0	8.1	0.0	0.0	2.8	1.8	9.4	25.1
2003	1.3	52.8	9.4	27.9	6.1	0.0	37.1	7.6	6.9	0.0	41.7	21.1	211.8
2004	2.3	68.1	7.1	13.7	0.0	0.0	0.0	17.8	0.0	72.6	36.1	45.7	263.4
2005	52.3	98.3	12.2	5.8	2.8	0.0	18.5	13.7	27.9	15.5	6.1	0.0	253.2
2006	13.5	18.3	48.8	17.5	0.0	0.5	22.1	0.8	3.8	7.1	0.0	13.7	146.1
Site 415													
1999	13.0	0.8	0.0	17.3	27.9	9.9	61.2	5.1	8.1	0.0	0.0	0.0	143.3
2000	6.4	90.4	32.8	12.2	0.8	0.5	0.0	20.8	1.3	3.6	18.3	0.0	186.9
2001	42.7	47.0	7.1	8.9	0.8	0.0	24.9	0.0	13.0	0.0	13.0	50.8	208.0
2002	0.8	0.0	0.8	0.0	0.0	0.0	13.0	0.0	0.0	1.8	1.5	10.4	28.2
2003	0.8	54.4	10.7	26.9	5.1	0.0	52.6	8.4	7.6	0.0	42.4	22.9	231.6
2004	1.0	71.4	11.7	11.4	0.0	0.0	0.0	13.5	0.5	69.6	32.0	44.5	255.5
2005	57.7	97.3	14.5	4.6	2.3	0.0	18.3	9.7	30.0	17.0	6.6	0.0	257.8
2006	11.9	19.1	50.5	17.8	0.0	0.0	13.5	0.0	4.8	7.6	0.0	12.2	137.4

Source DTNs: MO0303SGOPM9502.000 [DIRS 162490], MO0412SEPSGP03.000 [DIRS 178864], MO0607SEPSGP04.001 [DIRS 178865], MO0605SEPSGP05.000 [DIRS 178663], MO0704SGPD2006.000 [DIRS 180426].

NOTE: Total precipitation in millimeters.

Table U-2. Average Total Precipitation, All Sites (1999 to 2006)

Site	Average Precipitation (mm)^a
1	203.3
2	201.2
3	223.2
4	198.6
5	140.4
6	212.2
7	201.0
8	197.7
9	113.4
401	200.9
405	177.8
415	181.1

^a Average total precipitation from Storage Gauge data for 1999 through 2006.