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Meteorological Tower Data for the Nevada Nuclear Waste Storage Investigations (NNWSI)

Tri-Quarterly Report, October 1982 — June 1983 Yucca Alluvial (YA) Site

H. W. Church, D. L. Freeman, K. Boro, R. T. Egami

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550
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METEOROLOGICAL TOWER DATA FOR THE NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS (NNWSI)

TRI-QUARTERLY REPORT, OCTOBER 1982 - JUNE 1983 YUCCA ALLUVIAL (YA) SITE

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ABSTRACT

The purpose of the NNWSI meteorological data collection program is to support environmental evaluations of site suitability for a nuclear waste repository. This is the second of a series of quarterly data summaries for the NNWSI Alluvial Site in southern Nevada, and covers the 3-quarter period October, 1982, through June, 1983.

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METEOROLOGICAL TOWER DATA FOR THE NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS (NNWSI)

Tri-Quarterly Report, October 1982 - June 1983
Yucca Alluvial (YA) Site

INTRODUCTION

The U.S. Department of Energy is studying a site at Yucca Mountain on and adjacent to the NTS as one of several potential alternatives for the first repository for high level radioactive wastes. In support of environmental, engineering design, and possible air quality assessment requirements, Sandia National Laboratories installed two 10-metre meteorological tower systems at Yucca Mountain. One is at site YA (Yucca Alluvial) and one at site YR (Yucca Ridge), shown in Figure 1. Data collection activities began at site YA on June 19, 1982 and at site YR on November 23, 1982. Data acquisition and initial editing were conducted by Sandia National Laboratories. Final processing, editing, and archiving were conducted by the Atmospheric Sciences Center of the Desert Research Institute (DRI) in Reno, Nevada.

This report presents the results of the monitoring program for the nine-month period of October 1982 through June 1983 at site YA. A previous report, SAND83-1912, presented results for the quarter, July-September, 1982. For completeness, the instrumentation and processing details are repeated here.

INSTRUMENTATION

The data acquisition unit, consisting of a microprocessor-controlled logger, signal conditioning circuitry, and digital magnetic tape cassette recorder, was located near the base of the tower and was supplied with power from a battery charged by a solar collector. Table 1 presents a list of variables monitored, equipment used, and location on the tower. These variables were supplemented with squares and cross-products of orthogonal wind components to be used for analysis of turbulence. Component variances and correlation coefficients between them were calculated as an aid in locating values that did not fall within credible limits. Turbulence analysis was not started until June 3, 1983 because of software deficiencies in the microprocessor, which were remedied at that time.

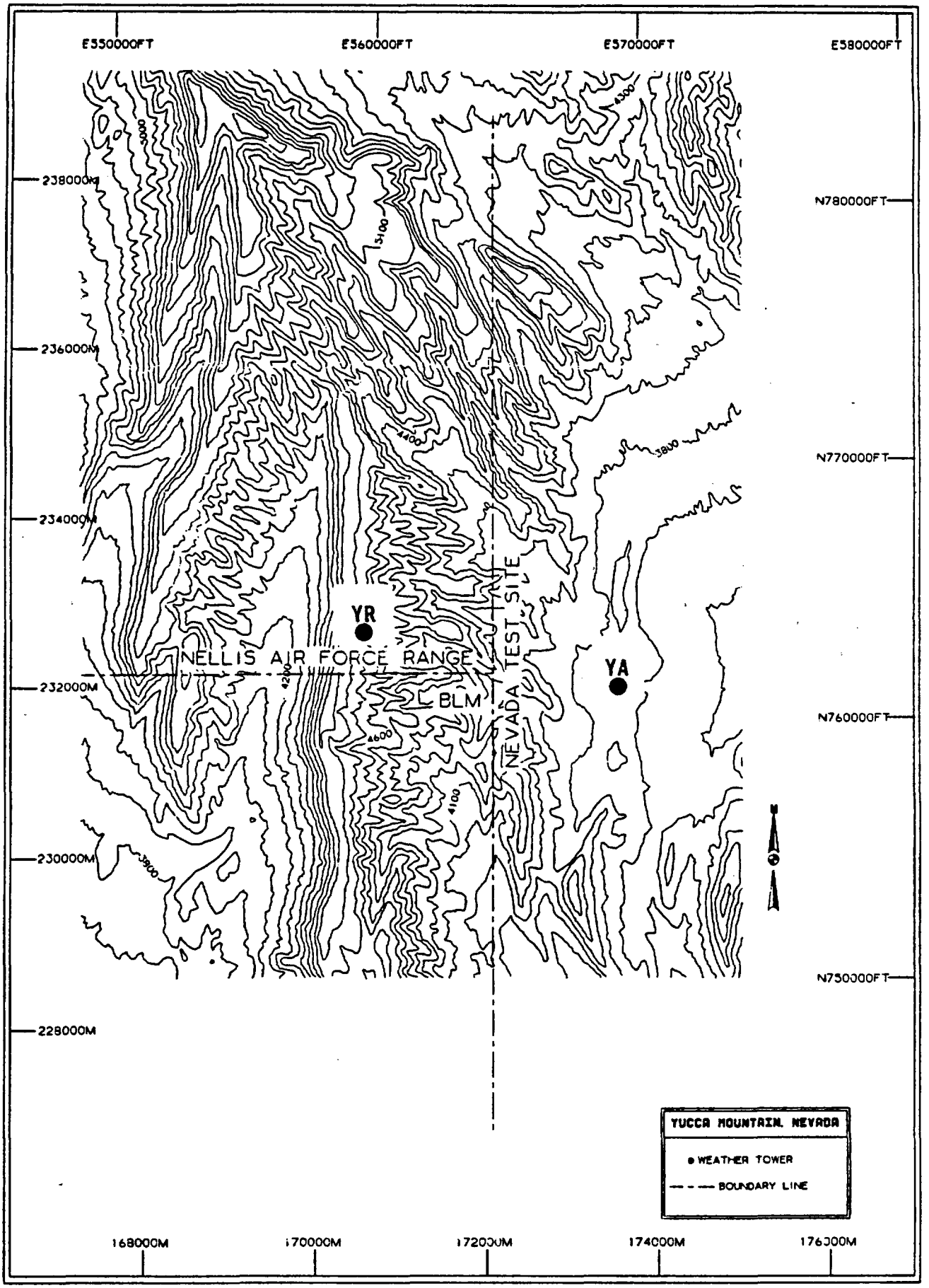

FIGURE 1. Yucca Mountain Contour Map, and Meteorological Tower Locations.

TABLE 1

Variables Monitored, Sensors Used, and YA Tower Location

Variable	Height (m)	Manufacturer/Model
Wind Direction	10, 3	Weathermeasure/ W 104
Wind Speed	10, 3	Weathermeasure/ W 103
Barometric Pressure	3	Weathermeasure/ B 242
Temperature	10, 3	Weathermeasure/ TP20
Relative Humidity	3	Weathermeasure/HMP-14U
Solar Radiation	3	Eppley/PSP
Ground IR Radiation	3	Eppley/PIR
Precipitation	1	Weathermeasure/P511E
Soil Temperature	-0.23	Weathermeasure/TP20

Tower Coordinates

YA Tower Position:	Latitude 36° 50' 34" N Longitude 116° 25' 50" W
Nevada Grid Central Coordinates:	N 761794 feet E 569122 feet
Altitude:	3,751 feet MSL

Each of the 16 channels (12 shown in Table 1, plus 4 spares) was sampled at 2-second intervals, digitized, and accumulated over 20-minute periods. Wind direction and speed values were converted to orthogonal (north-south and east-west) components, and data from each channel were averaged and recorded on cassette tape at the end of each 20-minute period. Besides component squares and products, the maximum individual measured 2-second speed was also recorded for each level. This makes a total of 24 items recorded during each 20-minute time frame.

DATA EDITING AND PROCESSING

Twenty minute average data on cassette tapes were transferred to a disk file at Sandia Labs in Albuquerque for initial quality editing. Data were filtered using a computer algorithm that checked data values against credible limits, shown in Table 2. In this process, data were either accepted, flagged, or rejected.

After filtering, the 20-minute data were edited manually using the flag codes from the filtering process, as well as time plots and station logs. Finally, computer tapes containing 20-minute data were shipped to the Desert Research Institute where hourly-average data lists were generated, manually reviewed for reasonableness, and used to prepare tabulated summaries. During this process, wind component data were used to generate vector wind speed and direction data, and temperature data were used to prepare ΔT (10m-3m) data.

Tabulated summaries are on microfiche contained in a pocket on the back cover of this report. Tables of joint frequency distribution of wind speed and direction for each month are also reproduced in hard copy form in the appendix. Fully-edited hourly data may be made available to qualified users on 9-track magnetic tape.

TABLE 2

Credible Limits Used for Initial Data Filtering

Variable	Flag Limits	Discard Limits
Orthogonal Wind Components	-40; +40 m/s	-50; +50 m/s
Maximum Wind Speed	40 m/s	50 m/s
Temperature	-30; +45C	-50; +50C
Soil Temperature	-10; +35C	-50; +50C
Barometric Pressure	86.5; 90.5 kPa	80; 95 kPa
Solar Radiation	-15; +1350 W/m^2	-100; +1500 W/m^2
Precipitation	0; 1000mm/day	0; 2500mm/day
Relative Humidity	2; 100%	-10;110%
Ground IR Radiation	200; 700 W/m^2	100; 1000 W/m^2
Wind Components Squared	0; 400 m^2/s^2	0; 1000 m^2/s^2
Cross Products	-400; +400 m^2/s^2	-1000;+1000m^2/s^2
Absolute Values of Wind Components	--	< maximum speeds
Wind Component Variance	< zero	--
Correlation Coefficient	<-1; >+1	--

DATA RECOVERY

Table 3 shows the percent data recovery (percent of all possible hours) for each parameter for each month. Except for the periods noted below, data losses were incurred during the data filtering and editing process. Additional data losses resulting in less than 80% data recovery are as follows:

July - December, 1982 - Extended sensor problems with 3-metre temperature and IR probes caused the low data recovery values for 3-metre temperature (September), Ground IR Radiation (July - November) and Temperature Gradient (September).

January - June, 1983 - Low data recovery for all parameters for the months of February and May were a result of the system being down because of power failure, operator error, or calibration activities. The system was down during the periods Feb. 7-14, Feb. 25 to March 6, May 2-6, May 12-16, and periodically May 17-19.

In addition, component failures caused data losses for soil temperature from Jan. 22-31 and Feb. 18-15, for pressure from March 6 to April 8, for 3-metre temperature from Jan. 16 to Feb. 3, for precipitation from March 11-25 and April 1-8, and for relative humidity from March 18 to April 8.

TABLE 3
Percent Data Recovery, Yucca Alluvial Site
July, 1982 - June, 1983

Variable	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Year
Monitored Variables													
U1 - 10m	96.9	97.0	98.8	99.1	99.9	98.8	99.5	58.0	79.8	98.9	69.5	99.4	91.5
V1 - 10m	94.4	96.5	96.9	99.5	99.4	98.4	100.0	58.3	80.9	99.4	69.2	99.4	91.2
Temperature - 10m	99.2	98.5	100.0	99.7	100.0	99.2	100.0	58.5	81.7	99.9	70.2	99.4	92.4
Soil Temperature	92.5	98.3	89.3	99.7	100.0	99.2	72.6	31.3	81.7	99.9	66.9	99.4	70.4
Pressure	100.0	97.4	100.0	99.7	67.8	99.2	100.0	58.5	0.0	75.1	70.0	99.4	80.7
Solar Radiation	98.7	98.3	99.7	99.3	100.0	99.2	100.0	58.5	81.7	99.9	70.0	99.4	92.3
U2 - 3m	98.7	97.6	97.9	99.6	99.7	98.7	99.5	61.2	80.1	98.9	69.4	99.4	91.9
V2 - 3m	93.4	97.0	96.7	99.3	99.7	98.3	99.5	61.3	80.9	99.0	69.4	99.4	91.3
Temperature - 3m	100.0	85.8	24.0	97.4	97.2	90.7	49.2	51.9	81.7	99.9	70.0	99.4	79.1
Pecipitation	86.6	94.4	97.2	99.6	99.4	98.1	99.7	61.5	37.1	75.6	69.0	98.6	84.8
Relative Humidity	93.2	98.4	99.4	99.7	100.0	99.2	100.0	58.3	38.3	75.1	70.0	99.4	86.1
Ground IR Radiation	11.8	0.0	0.0	0.0	67.8	99.2	100.0	28.4	81.7	99.9	70.0	99.4	54.9
Maximum Speed - 10m	92.5	95.8	98.3	99.7	100.0	99.2	100.0	58.6	81.7	99.9	73.3	99.4	91.7
Maximum Speed - 3m	90.6	95.6	98.1	99.7	100.0	99.2	100.0	61.8	81.7	99.9	73.3	99.4	91.8
Calculated Variables													
Vector Wind Speed - 10m	93.3	95.2	95.8	98.1	97.9	97.2	99.2	56.0	78.8	98.3	68.8	99.3	90.0
Vector Wind Direction - 10m	93.3	95.2	95.8	98.1	97.9	97.2	99.2	56.0	78.8	98.3	68.8	99.3	90.0
Vector Wind Speed - 3m	92.7	95.8	95.3	97.6	97.1	96.8	97.4	57.6	78.4	96.5	68.3	99.2	89.6
Vector Wind Direction - 3m	92.7	95.8	95.3	97.6	97.1	96.9	97.4	57.6	78.4	96.5	68.3	99.2	89.6
Temperature Gradient	98.9	83.6	20.4	96.2	97.2	89.5	49.2	49.0	81.7	99.9	70.0	99.4	78.1

WINDROSES

Figures 2-10 present graphic windroses for the 10-metre level for each month. Directions indicated are the directions from which the wind was blowing. Windroses are shown for all hours and for night and day, to illustrate the diurnal wind pattern.

Tabulated wind frequency distributions for these windroses and for wind monitored at 3 metres for all hours only are included in the Appendix and on microfiche.

TABULATED SUMMARIES

Tabulated data summaries are on microfiche contained in a pocket on the back cover of this report. These summaries were prepared by the Desert Research Institute and show, for each parameter, all of the 1-hour-average values and percent data capture for each month. Missing data are indicated by asterisks. "Hours" refers to sequential hour (Pacific Standard Time) of the day, e.g., hour 1 is from 0000 to 0100. A description of each summary page follows:

10-metre East-West (U1) Wind Component: Numbers shown are average values in tenths of metres per second, positive from west to east. Daily averages are shown along the right margins and averages for each hour of the day are shown at the bottom. The three highest values for the month are also shown.

10-metre North-South (V1) Wind Component: Same as U1, positive from south to north.

10-metre Vector Wind Speed: Values are in tenths of metres per second and were generated from U1 and V1 components. Daily and hourly averages are shown on the right margin and at the bottom respectively. The three highest values for the month are also shown.

10-metre Vector Wind Direction: Values are in degrees (clockwise from true north) and represent the direction from which the wind was blowing. These were generated from U1 and V1 components. Daily and hourly averages are shown on the right margin and at the bottom respectively.

10-metre Temperature: Values are in tenths of a degree Celsius. Daily high temperatures are shown on the right margin and monthly averages for hour-of-day are shown at the bottom. The three highest values for the month are also shown.

Soil Temperature: Values are in tenths of degrees Celsius. Daily and hour-of-day averages are shown on the right margin and bottom, respectively.

Barometric Pressure: Values are in tenths of a kPa (kilopascal, 1 kPa = 10 mb). Daily averages and average by hour-of-day are also shown.

Total Solar Radiation: Values are in Watts/square metre. Daily highs and average by hour-of-day are also shown.

3-metre East-West (U2) Wind Component: Same as U1.

3-metre North-South (V2) Wind Component: Same as V1.

3-metre Vector Wind Speed: Same as 10-metre vector wind speed.

3-metre Vector Wind Direction: Same as 10-metre vector wind direction.

3-metre Temperature: Same as 10-metre temperature.

Precipitation: Values are in tenths of a millimetre. Daily totals and the highest hourly values are also shown.

Relative Humidity: Values are in tenths of a percent. Daily and hour-of-day averages and three highest hourly values are also shown.

Ground IR Radiation:: Values are in Watts/square metre. Daily and hour-of-day averages are also shown.

10-metre Maximum Speed: Values are in tenths of a metre per second and represent the maximum 2-second sample for the hour.

3-metre Maximum Speed: Same as 10-metre maximum speed.

Temperature Gradient (ΔT): Values are in hundredths of a degree Celsius per metre and are based on the difference between the 10-metre and 3-metre average temperature for the hour (temperature at 10 metres minus temperature at 3 metres). Averages by hour-of-day are also shown.

Note: These temperature gradient values are not the same as the conventionally-defined ΔT values, which are recorded as a running relative difference rather than as an absolute difference between hourly averages. They are generally consistent, however, and can be used as qualitative indicators of low-level stability.

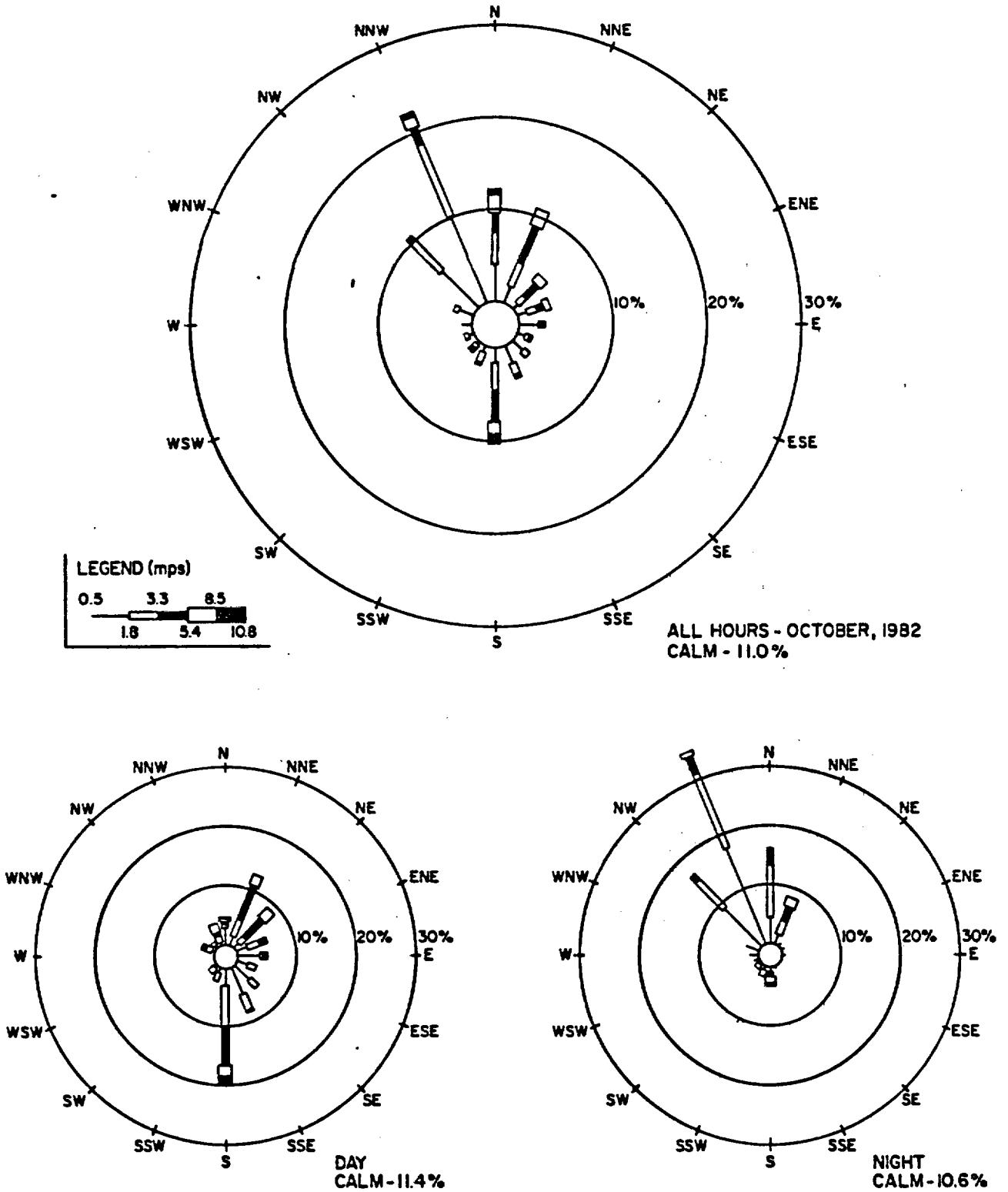

FIGURE 2. Windrose for 10 m height, Yucca Mountain Alluvial Site, October, 1982. Bar points toward direction from which wind blows.

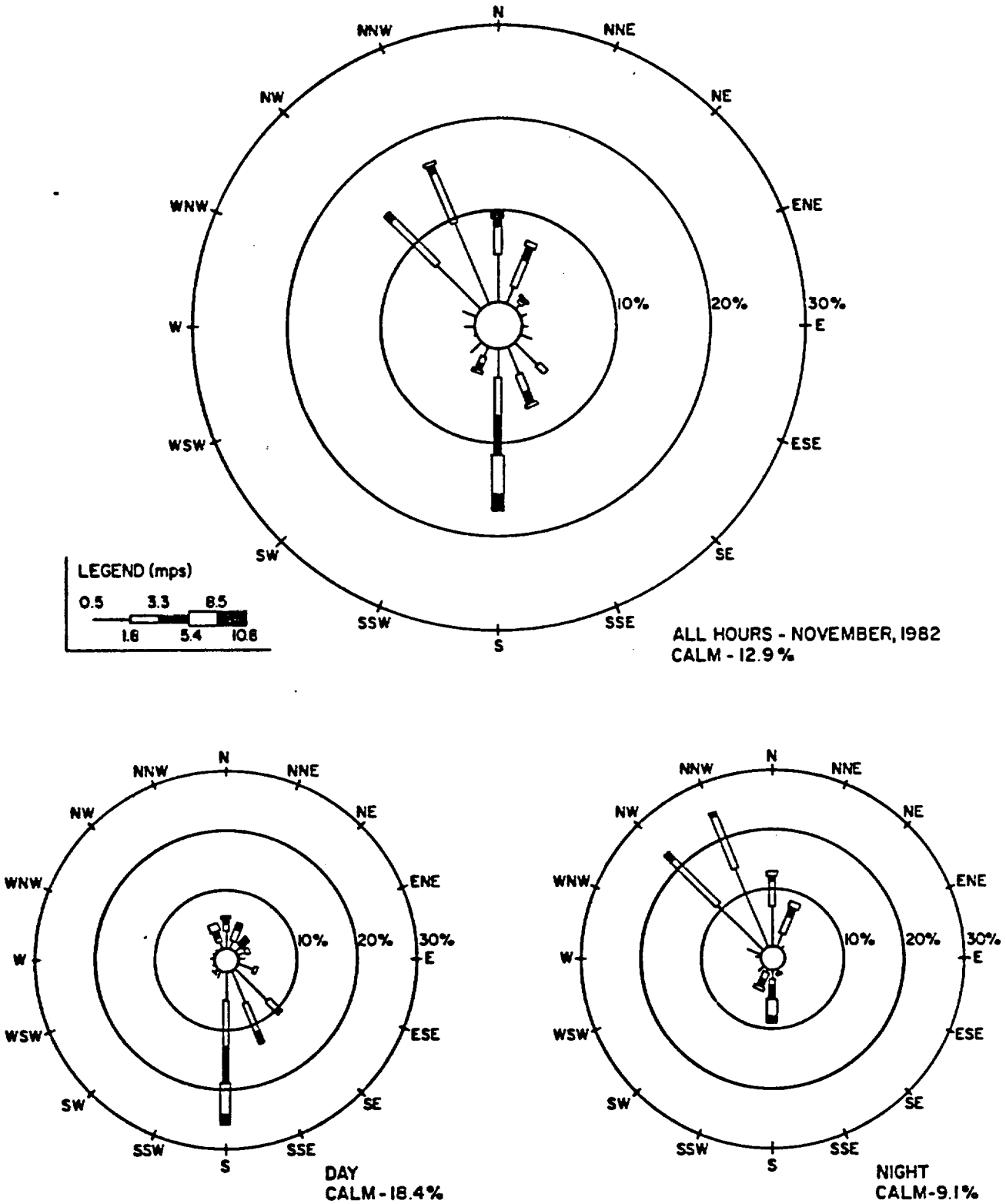

FIGURE 3. Windrose for 10 m height, Yucca Mountain Alluvial Site, November, 1982. Bar points toward direction from which wind blows.

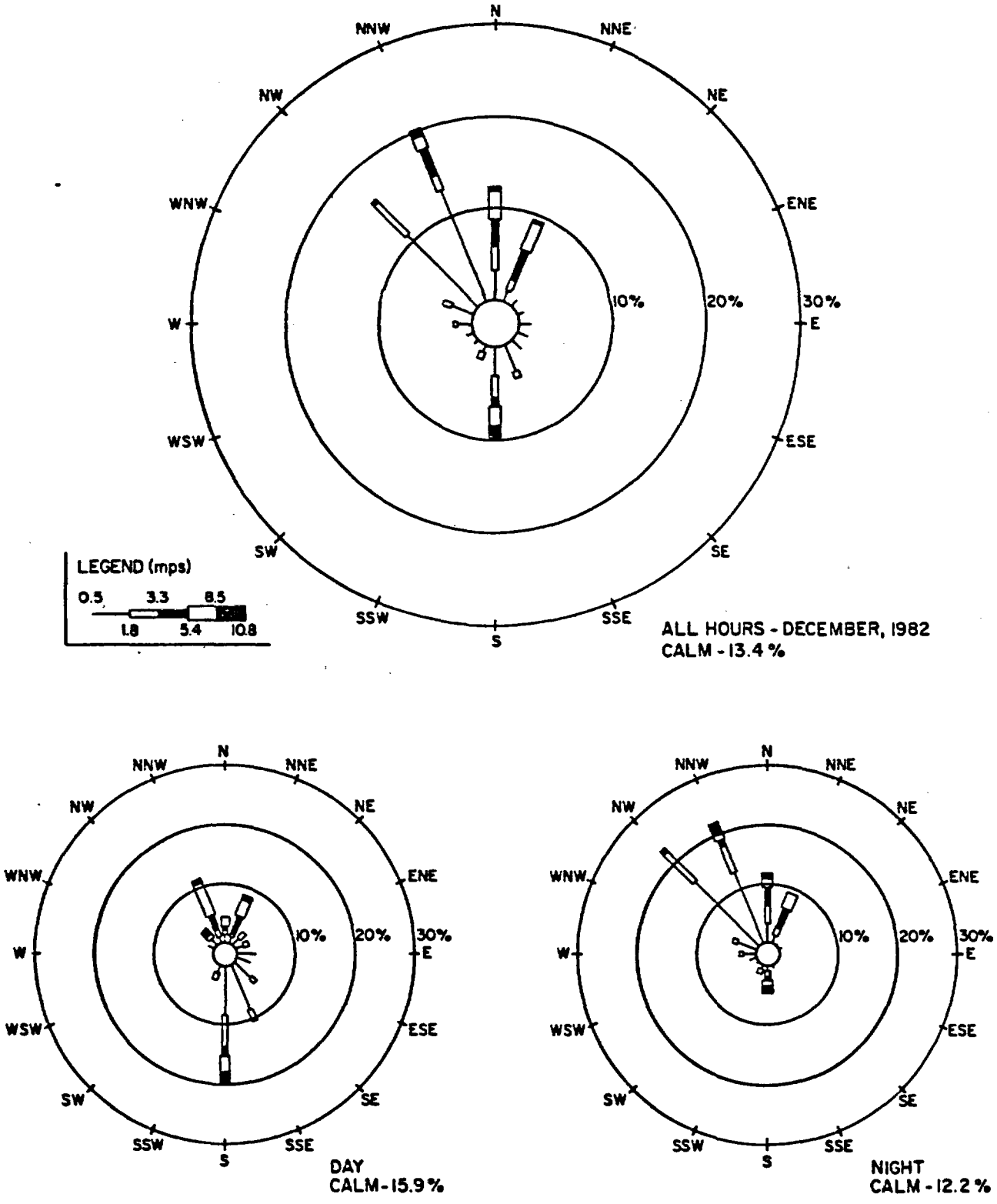

FIGURE 4. Windrose for 10 m height, Yucca Mountain Alluvial Site, December, 1982. Bar points toward direction from which wind blows.

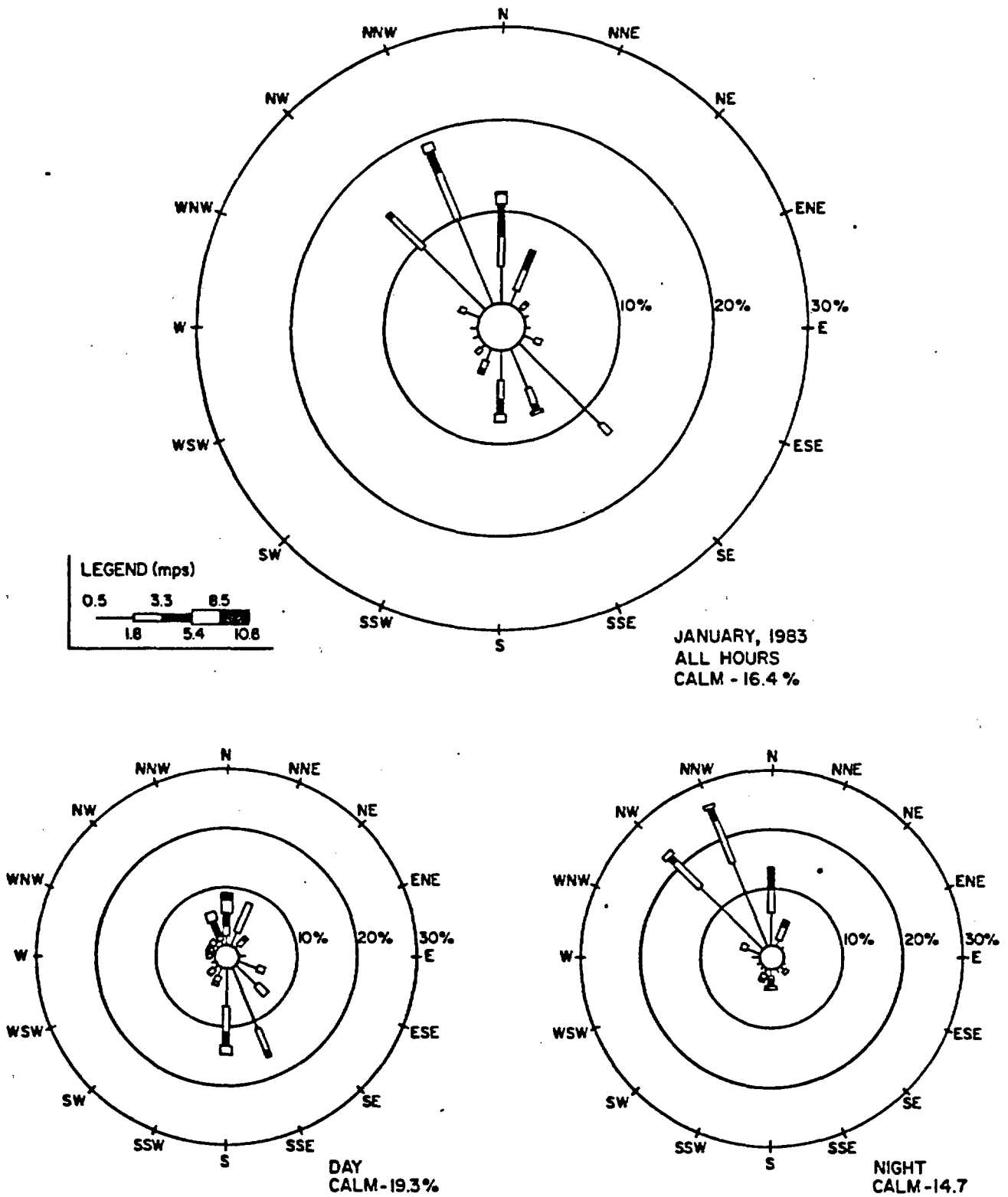

FIGURE 5. Windrose for 10 m height, Yucca Mountain Alluvial Site, January, 1983. Bar points toward direction from which wind blows.

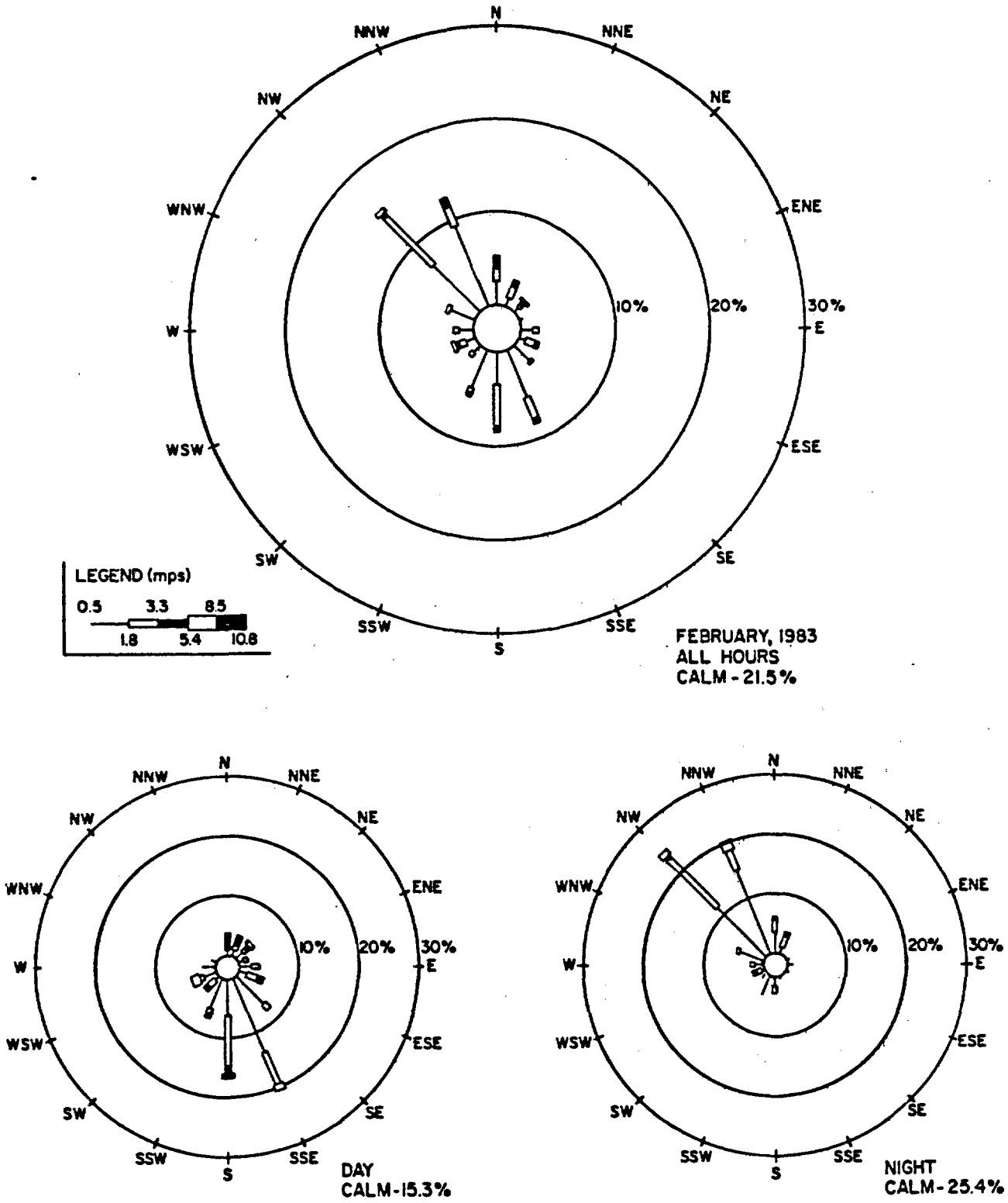

FIGURE 6. Windrose for 10 m height, Yucca Mountain Alluvial Site, February, 1983. Bar points toward direction from which wind blows.

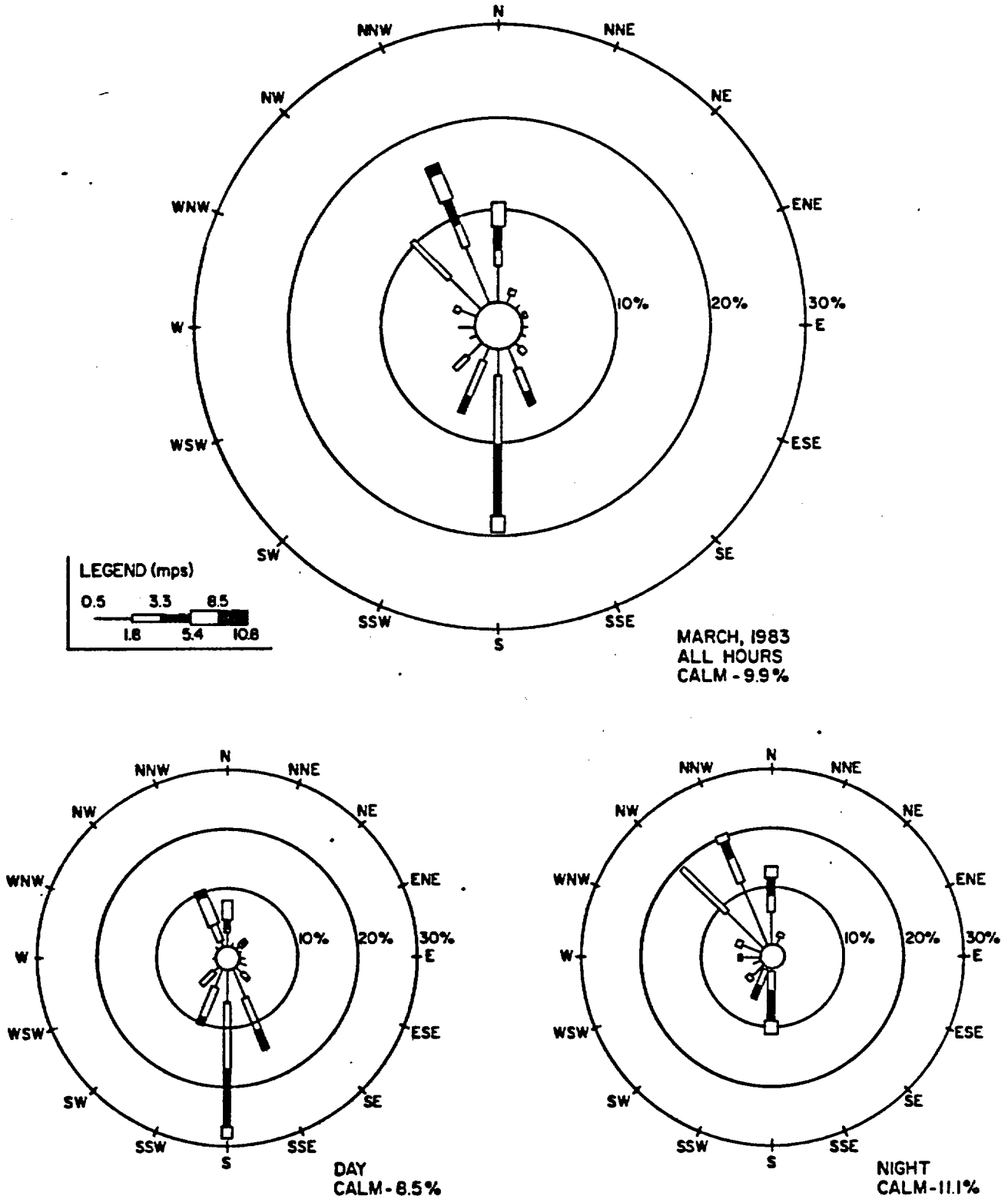

FIGURE 7. Windrose for 10 m height, Yucca Mountain Alluvial Site, March, 1983. Bar points toward direction from which wind blows.

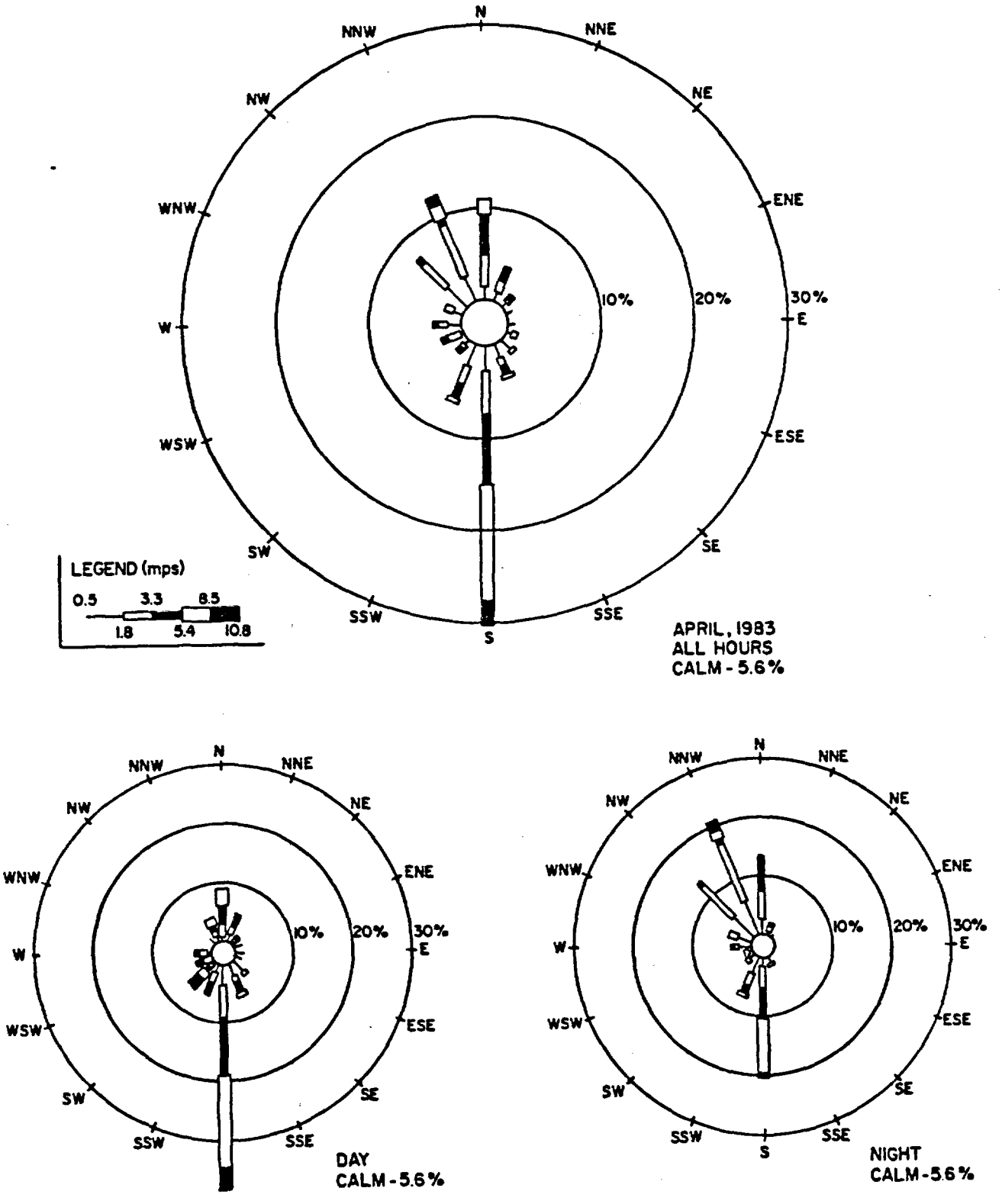

FIGURE 8. Windrose for 10 m height, Yucca Mountain Alluvial Site, April, 1983. Bar points toward direction from which wind blows.

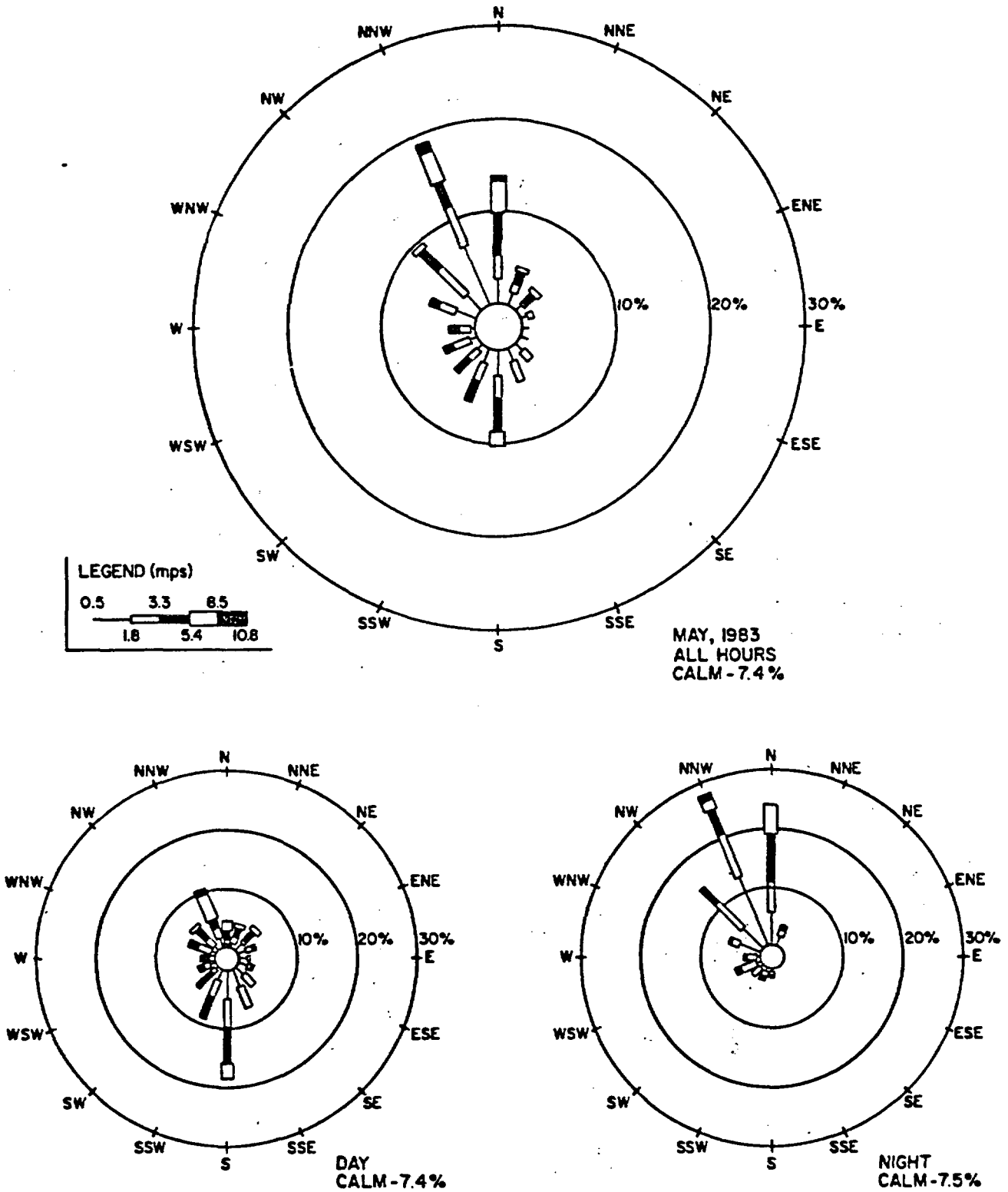

FIGURE 9. Windrose for 10 m height, Yucca Mountain Alluvial Site, May, 1983. Bar points toward direction from which wind blows.

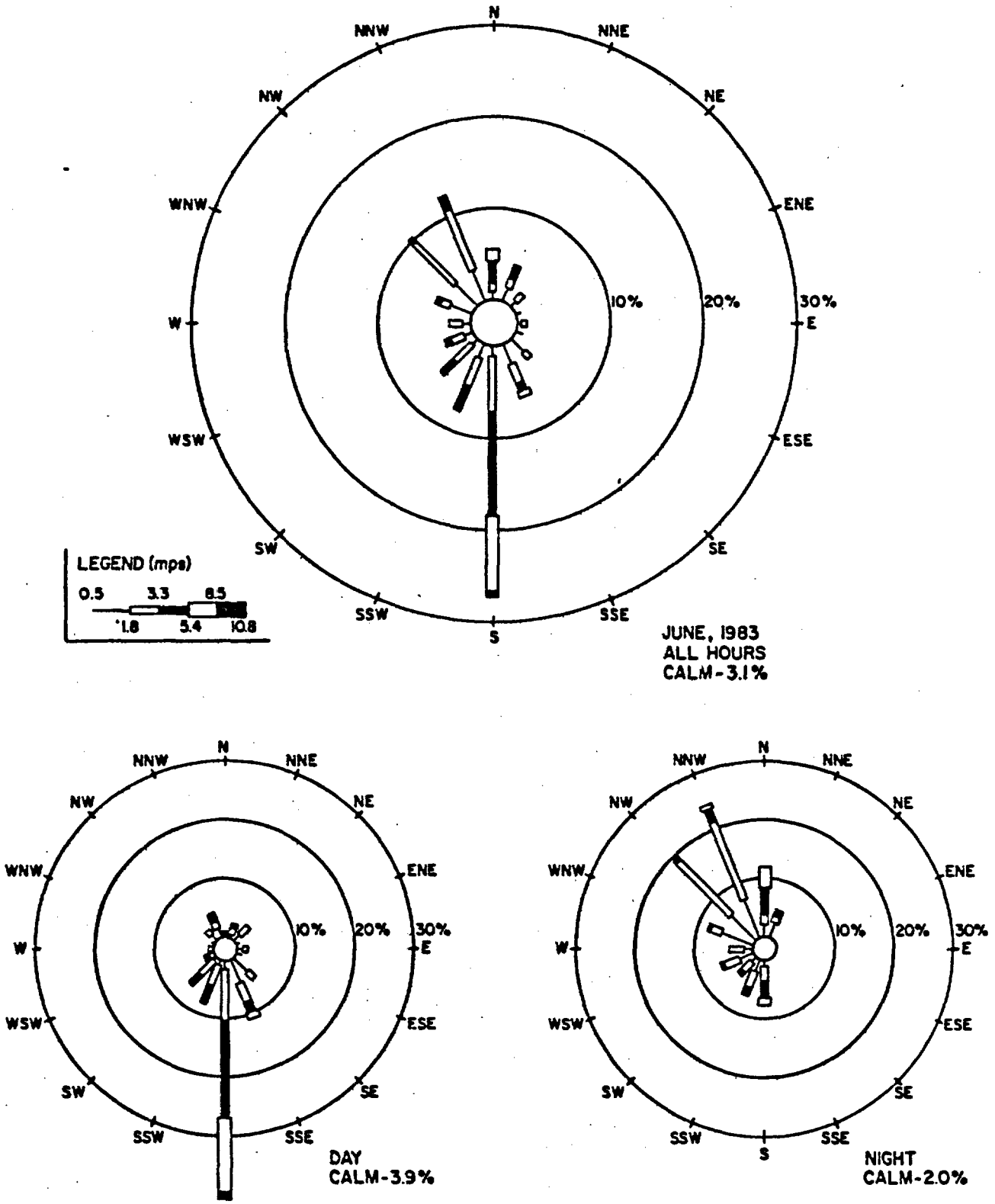

FIGURE 10. Windrose for 10 m height, Yucca Mountain Alluvial Site, June, 1983. Bar points toward direction from which wind blows.

REFERENCES

Church, H. W., D. L. Freeman, K. Boro, R. T. Egami, 1984. "Meteorological Tower Data for the Nevada Nuclear Waste Storage Investigations (NNWSI), Quarterly Report, July-September, 1982, Yucca Alluvial (YA) Site," SAND83-1912, Sandia National Laboratories, Albuquerque, NM.

APPENDIX

Tabulated Joint Frequency Distributions of Wind Speed and Direction

October 1982 - June 1983

10 Metres

All Hours
Day
Night

3 Metres

All Hours

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL 10/01/1982 - 10/31/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.8	3.3	2.3	1.9	.3	0.0	11.6	3.2	N
NNE	2	1.8	2.7	4.2	1.8	0.0	0.0	10.5	3.7	NNE
NE	3	.4	1.0	1.9	.8	0.0	0.0	4.1	4.0	NE
ENE	4	.8	.8	.7	.3	0.0	0.0	2.6	2.8	ENE
E	5	1.9	.1	.3	0.0	0.0	0.0	2.3	1.4	E
ESE	6	.8	.1	.4	0.0	0.0	0.0	1.4	2.1	ESE
SE	7	1.5	.8	0.0	0.0	0.0	0.0	2.3	1.5	SE
SSE	8	2.2	1.2	.4	0.0	0.0	0.0	3.8	2.0	SSE
S	9	1.4	3.0	3.2	1.4	1.1	.1	10.1	4.5	S
SSW	10	.7	1.1	.3	0.0	0.0	0.0	2.1	2.1	SSW
SW	11	.4	.4	0.0	.4	.1	0.0	1.4	4.3	SW
WSW	12	.5	.3	0.0	0.0	0.0	0.0	.8	1.4	WSW
W	13	1.0	.1	.1	0.0	0.0	0.0	1.2	1.6	W
WNW	14	1.6	.4	.3	0.0	0.0	0.0	2.3	1.9	WNW
NW	15	5.6	4.0	.7	.1	0.0	0.0	10.4	2.0	NW
NNW	16	10.3	8.4	1.8	1.1	.4	0.0	21.9	2.4	NNW
CALM		11.0						11.0		
TOTAL		45.8	27.8	16.6	7.8	1.9	.1	100.0	2.6	

98.1% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL - DAY

10/01/1982 - 10/31/1982
0700 - 1700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.7	.7	.7	.3	.3	0.0	4.7	2.7	N
NNE	2	1.7	3.4	6.4	2.3	0.0	0.0	13.8	3.8	NNE
NE	3	1.0	1.7	4.4	2.0	0.0	0.0	9.1	4.1	NE
ENE	4	2.0	2.0	1.7	.3	0.0	0.0	6.0	2.6	ENE
E	5	4.4	.3	.7	0.0	0.0	0.0	5.4	1.4	E
ESE	6	2.0	.3	1.0	0.0	0.0	0.0	3.4	2.1	ESE
SE	7	3.7	2.0	0.0	0.0	0.0	0.0	5.7	1.5	SE
SSE	8	5.4	3.0	.3	0.0	0.0	0.0	8.7	1.8	SSE
S	9	3.0	7.0	7.0	1.3	1.3	.3	20.1	4.0	S
SSW	10	1.0	1.3	.3	0.0	0.0	0.0	2.7	2.2	SSW
SW	11	.3	.3	0.0	1.0	.3	0.0	2.0	5.8	SW
WSW	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	WSW
W	13	0.0	0.0	.3	0.0	0.0	0.0	.3	3.7	W
WNW	14	.3	.7	.7	0.0	0.0	0.0	1.7	3.1	WNW
NW	15	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.4	NW
NNW	16	.3	1.0	.3	1.7	.7	0.0	4.0	5.6	NNW
CALM		11.4						11.4		
TOTAL		40.3	23.8	23.8	9.1	2.7	.3	100.0	2.9	

96.1% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL - NIGHT

10/01/1982 - 10/31/1982
1700 - 0700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	4.6	5.1	3.5	3.0	.2	0.0	16.4	3.3	N
NNE	2	1.9	2.3	2.8	1.4	0.0	0.0	8.3	3.6	NNE
NE	3	0.0	.5	.2	0.0	0.0	0.0	.7	3.6	NE
ENE	4	0.0	0.0	0.0	.2	0.0	0.0	.2	5.5	ENE
E	5	.2	0.0	0.0	0.0	0.0	0.0	.2	1.2	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	0.0	0.0	.5	0.0	0.0	0.0	.5	4.4	SSE
S	9	.2	.2	.5	1.4	.9	0.0	3.2	6.8	S
SSW	10	.5	.9	.2	0.0	0.0	0.0	1.6	2.1	SSW
SW	11	.5	.5	0.0	0.0	0.0	0.0	.9	2.0	SW
WSW	12	.9	.5	0.0	0.0	0.0	0.0	1.4	1.4	WSW
W	13	1.6	.2	0.0	0.0	0.0	0.0	1.9	1.4	W
WNW	14	2.5	.2	0.0	0.0	0.0	0.0	2.8	1.3	WNW
NW	15	8.8	6.7	1.2	.2	0.0	0.0	16.9	2.0	NW
NNW	16	17.1	13.4	2.8	.7	.2	0.0	34.3	2.1	NNW
CALM		10.6						10.6		
TOTAL		49.5	30.6	11.6	6.9	1.4	0.0	100.0	2.4	

99.5% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

3M LEVEL

10/01/1982 - 10/31/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.4	2.5	1.9	.6	0.0	0.0	8.4	2.5	N
NNE	2	2.5	3.4	2.3	.1	0.0	0.0	8.4	2.7	NNE
NE	3	1.5	2.1	1.4	0.0	0.0	0.0	5.0	2.6	NE
ENE	4	1.0	.6	.7	0.0	0.0	0.0	2.2	2.4	ENE
E	5	1.2	.8	.1	0.0	0.0	0.0	2.2	1.7	E
ESE	6	1.2	.6	0.0	0.0	0.0	0.0	1.8	1.4	ESE
SE	7	1.7	.1	0.0	0.0	0.0	0.0	1.8	1.1	SE
SSE	8	2.1	.8	0.0	0.0	0.0	0.0	2.9	1.6	SSE
S	9	1.7	3.9	2.6	1.9	.1	0.0	10.2	3.5	S
SSW	10	1.0	.6	0.0	0.0	0.0	0.0	1.5	1.7	SSW
SW	11	.4	.1	.1	.4	0.0	0.0	1.1	3.8	SW
WSW	12	.6	0.0	0.0	0.0	0.0	0.0	.6	1.3	WSW
W	13	.7	.3	.1	0.0	0.0	0.0	1.1	1.8	W
WNW	14	1.5	.3	0.0	0.0	0.0	0.0	1.8	1.0	WNW
NW	15	14.6	3.9	.1	0.0	0.0	0.0	18.6	1.4	NW
NNW	16	11.4	2.6	1.4	1.2	0.0	0.0	16.7	2.0	NNW
CALM		15.8						15.8		
TOTAL		62.3	22.5	10.9	4.3	.1	0.0	100.0	1.9	

97.6% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/31

DOE ALLUVIAL SITE

10M LEVEL 11/01/1982 - 11/30/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.2	3.0	.9	.6	0.0	0.0	9.6	2.2	N
NNE	2	2.1	2.7	1.6	.6	0.0	0.0	7.0	2.6	NNE
NE	3	.6	.3	.6	0.0	0.0	0.0	1.4	2.5	NE
ENE	4	.6	.3	0.0	0.0	0.0	0.0	.9	1.5	ENE
E	5	.6	0.0	0.0	0.0	0.0	0.0	.6	.8	E
ESE	6	1.1	.1	0.0	0.0	0.0	0.0	1.3	1.1	ESE
SE	7	3.3	1.0	.1	0.0	0.0	0.0	4.4	1.5	SE
SSE	8	3.1	2.3	1.3	.3	0.0	0.0	7.0	2.4	SSE
S	9	3.1	4.0	4.3	4.0	1.1	.7	17.2	4.7	S
SSW	10	1.1	.9	.9	.3	0.0	0.0	3.1	2.8	SSW
SW	11	1.6	0.0	0.0	.1	0.0	0.0	1.7	1.6	SW
WSW	12	.1	0.0	.1	.3	0.0	0.0	.6	5.2	WSW
W	13	.9	0.0	0.0	0.0	0.0	0.0	.9	.8	W
WNW	14	1.6	0.0	0.0	0.0	0.0	0.0	1.6	1.0	WNW
NW	15	6.4	6.4	1.1	0.0	0.0	0.0	13.9	2.0	NW
NNW	16	9.1	5.7	.9	.6	0.0	0.0	16.2	2.0	NNW
CALM		12.9						12.9		
TOTAL		53.3	26.5	11.6	6.7	1.1	.7	100.0	2.3	

97.9% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/31

DOE ALLUVIAL SITE

10M LEVEL - DAY

11/01/1982 - 11/30/1982
0700 - 1700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.8	1.0	1.0	.3	0.0	0.0	5.2	2.4	N
NNE	2	1.7	2.1	1.4	0.0	0.0	0.0	5.2	2.4	NNE
NE	3	1.0	.7	1.4	0.0	0.0	0.0	3.1	2.7	NE
ENE	4	1.4	.7	0.0	0.0	0.0	0.0	2.1	1.5	ENE
E	5	1.4	0.0	0.0	0.0	0.0	0.0	1.4	.8	E
ESE	6	2.8	.3	0.0	0.0	0.0	0.0	3.1	1.1	ESE
SE	7	8.0	2.1	.3	0.0	0.0	0.0	10.4	1.5	SE
SSE	8	6.9	5.2	2.1	0.0	0.0	0.0	14.2	2.2	SSE
S	9	4.9	8.0	6.9	4.9	.7	1.0	26.4	4.2	S
SSW	10	1.7	.3	0.0	0.0	0.0	0.0	2.1	1.3	SSW
SW	11	1.0	0.0	0.0	.3	0.0	0.0	1.4	2.7	SW
WSW	12	.3	0.0	0.0	.7	0.0	0.0	1.0	5.2	WSW
W	13	.7	0.0	0.0	0.0	0.0	0.0	.7	.9	W
WNW	14	.3	0.0	0.0	0.0	0.0	0.0	.3	1.2	WNW
NW	15	.3	0.0	0.0	0.0	0.0	0.0	.3	.8	NW
NNW	16	1.4	.7	1.0	1.4	0.0	0.0	4.5	3.8	NNW
CALM		18.4						18.4		
TOTAL		55.2	21.2	14.2	7.6	.7	1.0	100.0	2.3	

96.0% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/31

DOE ALLUVIAL SITE

10M LEVEL - NIGHT 11/01/1982 - 11/30/1982
1700 - 0700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	7.0	4.3	.7	.7	0.0	0.0	12.7	2.1	N
NNE	2	2.4	3.1	1.7	1.0	0.0	0.0	8.2	2.7	NNE
NE	3	.2	0.0	0.0	0.0	0.0	0.0	.2	.9	NE
ENE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	.2	0.0	0.0	0.0	0.0	.2	2.2	SE
SSE	8	.5	.2	.7	.5	0.0	0.0	1.9	3.7	SSE
S	9	1.9	1.2	2.4	3.4	1.4	.5	10.8	5.4	S
SSW	10	.7	1.2	1.4	.5	0.0	0.0	3.8	3.3	SSW
SW	11	1.9	0.0	0.0	0.0	0.0	0.0	1.9	1.1	SW
WSW	12	0.0	0.0	.2	0.0	0.0	0.0	.2	5.3	WSW
W	13	1.0	0.0	0.0	0.0	0.0	0.0	1.0	.8	W
WNW	14	2.4	0.0	0.0	0.0	0.0	0.0	2.4	1.0	WNW
NW	15	10.6	10.8	1.9	0.0	0.0	0.0	23.3	2.0	NW
NNW	16	14.4	9.1	.7	0.0	0.0	0.0	24.2	1.7	NNW
CALM		9.1						9.1		
TOTAL		52.0	30.2	9.8	6.0	1.4	.5	100.0	2.3	

99.3% DATA RECOVERED
100.0% OF RECOVERED DATA
REPORTED ABOVE

WIND SPEED CLASSES
(MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/31

DOE ALLUVIAL SITE

3M LEVEL

11/01/1982 - 11/30/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.0	2.7	.9	0.0	0.0	0.0	8.6	1.9	N
NNE	2	1.7	1.0	.1	0.0	0.0	0.0	2.9	1.7	NNE
NE	3	1.0	.6	0.0	0.0	0.0	0.0	1.6	1.8	NE
ENE	4	.3	.1	0.0	0.0	0.0	0.0	.4	1.5	ENE
E	5	1.3	0.0	0.0	0.0	0.0	0.0	1.3	.7	E
ESE	6	1.3	.3	0.0	0.0	0.0	0.0	1.6	1.3	ESE
SE	7	2.9	.3	.1	0.0	0.0	0.0	3.3	1.2	SE
SSE	8	2.9	1.7	1.0	0.0	0.0	0.0	5.6	2.0	SSE
S	9	2.6	5.3	4.0	3.3	.7	0.0	15.9	3.8	S
SSW	10	.9	1.4	.4	0.0	0.0	0.0	2.7	2.3	SSW
SW	11	.6	0.0	.4	.1	0.0	0.0	1.1	2.9	SW
WSW	12	.3	0.0	0.0	0.0	0.0	0.0	.3	.8	WSW
W	13	.3	0.0	0.0	0.0	0.0	0.0	.3	.9	W
WNW	14	1.9	0.0	0.0	0.0	0.0	0.0	1.9	.7	WNW
NW	15	15.3	4.9	0.0	0.0	0.0	0.0	20.2	1.4	NW
NNW	16	9.2	1.6	.9	.1	0.0	0.0	11.7	1.5	NNW
CALM		20.7						20.7		
TOTAL		68.0	19.9	7.9	3.6	.7	0.0	100.0	1.7	

97.1% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL 12/01/1982 - 12/31/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.0	2.6	2.9	2.9	.4	.7	12.6	4.4	N
NNE	2	1.2	1.2	3.5	3.2	.1	0.0	9.3	4.6	NNE
NE	3	.7	.3	0.0	0.0	0.0	0.0	1.0	1.5	NE
ENE	4	.7	.1	0.0	0.0	0.0	0.0	.8	1.5	ENE
E	5	1.2	0.0	0.0	0.0	0.0	0.0	1.2	.9	E
ESE	6	1.0	.1	0.0	0.0	0.0	0.0	1.1	1.3	ESE
SE	7	1.5	.3	0.0	0.0	0.0	0.0	1.8	1.3	SE
SSE	8	3.2	.7	0.0	0.0	0.0	0.0	3.9	1.5	SSE
S	9	3.2	2.5	1.0	2.1	1.1	.3	10.1	4.2	S
SSW	10	.7	.8	.1	.3	0.0	0.0	1.9	2.6	SSW
SW	11	.4	0.0	0.0	0.0	0.0	0.0	.4	1.1	SW
WSW	12	.8	.1	0.0	0.0	0.0	0.0	1.0	1.5	WSW
W	13	1.4	.3	0.0	0.0	0.0	0.0	1.7	1.2	W
WNW	14	2.4	.7	0.0	0.0	0.0	0.0	3.0	1.5	WNW
NW	15	10.9	4.8	.3	.1	.3	.1	16.6	1.8	NW
NNW	16	9.5	3.5	1.8	3.0	1.4	1.0	20.2	3.6	NNW
CALM		13.4						13.4		
TOTAL		55.3	18.1	9.5	11.6	3.3	2.1	100.0	2.7	

97.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL - DAY

12/01/1982 - 12/31/1982
0800 - 1600 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	1.7	.4	1.3	5.9	0.0	.8	10.0	5.8	N
NNE	2	.8	.4	3.3	3.3	.4	0.0	8.4	5.2	NNE
NE	3	1.7	.8	0.0	0.0	0.0	0.0	2.5	1.7	NE
ENE	4	1.7	.4	0.0	0.0	0.0	0.0	2.1	1.6	ENE
E	5	3.8	0.0	0.0	0.0	0.0	0.0	3.8	.9	E
ESE	6	2.9	.4	0.0	0.0	0.0	0.0	3.3	1.3	ESE
SE	7	4.6	.8	0.0	0.0	0.0	0.0	5.4	1.3	SE
SSE	8	8.8	2.1	0.0	0.0	0.0	0.0	10.9	1.5	SSE
S	9	8.8	5.4	1.7	3.3	1.3	.4	20.9	3.4	S
SSW	10	.8	1.3	0.0	0.0	0.0	0.0	2.1	1.7	SSW
SW	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SW
WSW	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	WSW
W	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	W
WNW	14	.8	0.0	0.0	0.0	0.0	0.0	.8	1.2	WNW
NW	15	1.3	0.0	0.0	.4	.8	.4	2.9	5.7	NW
NNW	16	.8	.8	2.5	5.9	.8	0.0	10.9	5.8	NNW
CALM		15.9						15.9		
TOTAL		54.4	13.0	8.8	18.8	3.3	1.7	100.0	3.	

96.4% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

10M LEVEL - NIGHT 12/01/1982 - 12/31/1982
1600 - 0800 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.7	3.7	3.7	1.4	.6	.6	13.8	3.8	N
NNE	2	1.4	1.7	3.5	3.1	0.0	0.0	9.7	4.3	NNE
NE	3	.2	0.0	0.0	0.0	0.0	0.0	.2	.6	NE
ENE	4	.2	0.0	0.0	0.0	0.0	0.0	.2	1.0	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	.4	0.0	0.0	0.0	0.0	0.0	.4	1.2	SSE
S	9	.4	1.0	.6	1.4	1.0	.2	4.8	5.8	S
SSW	10	.6	.6	.2	.4	0.0	0.0	1.9	3.0	SSW
SW	11	.6	0.0	0.0	0.0	0.0	0.0	.6	1.1	SW
WSW	12	1.2	.2	0.0	0.0	0.0	0.0	1.4	1.5	WSW
W	13	2.1	.4	0.0	0.0	0.0	0.0	2.5	1.2	W
WNW	14	3.1	1.0	0.0	0.0	0.0	0.0	4.1	1.5	WNW
NW	15	15.7	7.2	.4	0.0	0.0	0.0	23.3	1.5	NW
NNW	16	13.8	4.8	1.4	1.7	1.7	1.4	24.8	3.2	NNW
CALM		12.2						12.2		
TOTAL		55.8	20.7	9.9	8.1	3.3	2.3	100.0	2.6	

97.6% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/08/11

DOE ALLUVIAL SITE

3M LEVEL

12/01/1982 - 12/31/1982
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	4.7	3.5	4.0	1.9	.4	.1	14.7	3.4	N
NNE	2	.8	1.8	1.8	.4	0.0	0.0	4.9	3.2	NNE
NE	3	.7	0.0	0.0	0.0	0.0	0.0	.7	1.3	NE
ENE	4	.3	.1	0.0	0.0	0.0	0.0	.4	1.3	ENE
E	5	1.0	.1	0.0	0.0	0.0	0.0	1.1	1.0	E
ESE	6	1.1	0.0	0.0	0.0	0.0	0.0	1.1	1.1	ESE
SE	7	1.5	.1	0.0	0.0	0.0	0.0	1.7	1.0	SE
SSE	8	3.8	.3	.1	0.0	0.0	0.0	4.2	1.3	SSE
S	9	4.2	1.0	1.1	2.5	.3	0.0	9.0	3.4	S
SSW	10	.7	.6	.3	0.0	0.0	0.0	1.5	2.3	SSW
SW	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SW
WSW	12	.4	0.0	0.0	0.0	0.0	0.0	.4	1.1	WSW
W	13	1.0	.1	0.0	0.0	0.0	0.0	1.1	1.0	W
WNW	14	2.9	.3	0.0	0.0	0.0	0.0	3.2	1.0	WNW
NW	15	17.1	2.1	0.0	.4	.1	0.0	19.7	1.4	NW
NNW	16	10.1	1.7	2.8	3.2	.7	0.0	18.5	3.0	NNW
CALM		17.8						17.8		
TOTAL		68.1	11.7	10.1	8.5	1.5	.1	100.0	2.	

96.8% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL 01/01/1983 - 01/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.9	3.4	3.4	1.1	.3	0.0	12.1	3.1	N
NNE	2	1.8	2.4	2.2	.1	0.0	0.0	6.5	2.8	NNE
NE	3	.5	.4	.3	0.0	0.0	0.0	1.2	2.2	NE
ENE	4	.1	0.0	0.0	0.0	0.0	0.0	.1	.7	ENE
E	5	.4	0.0	0.0	0.0	0.0	0.0	.4	1.0	E
ESE	6	1.2	.8	0.0	0.0	0.0	0.0	2.0	1.7	ESE
SE	7	2.3	1.5	.1	0.0	0.0	0.0	3.9	1.9	SE
SSE	8	4.6	1.8	.5	.4	0.0	0.0	7.3	2.1	SSE
S	9	3.3	2.0	1.8	.9	.1	0.0	8.1	3.0	S
SSW	10	1.4	.9	.5	0.0	0.0	0.0	2.8	2.0	SSW
SW	11	.7	.5	0.0	0.0	0.0	0.0	1.2	1.8	SW
WSW	12	.7	0.0	0.0	0.0	0.0	0.0	.7	1.0	WSW
W	13	.9	.1	0.0	0.0	0.0	0.0	1.1	1.1	W
WNW	14	1.8	.4	.1	0.0	0.0	0.0	2.3	1.4	WNW
NW	15	9.5	3.9	1.1	.5	0.0	0.0	15.0	1.8	NW
NNW	16	10.0	5.3	2.4	.9	0.0	0.0	18.7	2.2	NNW
CALM		16.4						16.4		
TOTAL		59.5	23.6	12.5	4.1	.4	0.0	100.0	2.0	

99.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - DAY 01/01/1983 - 01/31/1983
0800 - 1700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	1.5	2.2	2.2	2.6	.7	0.0	9.1	4.4	N
NNE	2	2.6	2.2	3.3	0.0	0.0	0.0	8.0	2.7	NNE
NE	3	.7	1.1	.7	0.0	0.0	0.0	2.6	2.6	NE
ENE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ENE
E	5	1.1	0.0	0.0	0.0	0.0	0.0	1.1	1.0	E
ESE	6	3.3	1.5	0.0	0.0	0.0	0.0	4.7	1.7	ESE
SE	7	4.7	2.9	0.0	0.0	0.0	0.0	7.7	1.7	SE
SSE	8	11.3	4.4	1.1	0.0	0.0	0.0	16.8	1.8	SSE
S	9	6.6	4.7	2.2	1.5	0.0	0.0	15.0	2.6	S
SSW	10	1.5	1.1	.7	0.0	0.0	0.0	3.3	2.1	SSW
SW	11	.7	1.5	0.0	0.0	0.0	0.0	2.2	2.2	SW
WSW	12	.7	0.0	0.0	0.0	0.0	0.0	.7	1.0	WSW
W	13	.4	.4	0.0	0.0	0.0	0.0	.7	1.8	W
WNW	14	.4	.4	.4	0.0	0.0	0.0	1.1	2.2	WNW
NW	15	0.0	.4	1.1	0.0	0.0	0.0	1.5	3.4	NW
NNW	16	.7	.7	2.9	1.8	0.0	0.0	6.2	4.5	NNW
CALM		19.3						19.3		
TOTAL		55.5	23.4	14.6	5.8	.7	0.0	100.0	2.1	

98.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - NIGHT 01/01/1983 - 01/31/1983
1700 - 0800 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.4	4.1	4.1	.2	0.0	0.0	13.8	2.6	N
NNE	2	1.3	2.6	1.5	.2	0.0	0.0	5.6	2.8	NNE
NE	3	.4	0.0	0.0	0.0	0.0	0.0	.4	.9	NE
ENE	4	.2	0.0	0.0	0.0	0.0	0.0	.2	.7	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	.4	0.0	0.0	0.0	0.0	.4	2.4	ESE
SE	7	.9	.6	.2	0.0	0.0	0.0	1.7	2.2	SE
SSE	8	.6	.2	.2	.6	0.0	0.0	1.7	4.1	SSE
S	9	1.3	.4	1.5	.6	.2	0.0	4.1	3.8	S
SSW	10	1.3	.9	.4	0.0	0.0	0.0	2.6	2.0	SSW
SW	11	.6	0.0	0.0	0.0	0.0	0.0	.6	1.0	SW
WSW	12	.6	0.0	0.0	0.0	0.0	0.0	.6	.9	WSW
W	13	1.3	0.0	0.0	0.0	0.0	0.0	1.3	.9	W
WNW	14	2.6	.4	0.0	0.0	0.0	0.0	3.0	1.2	WNW
NW	15	15.1	6.0	1.1	.9	0.0	0.0	23.1	1.8	NW
NNW	16	15.5	8.0	2.2	.4	0.0	0.0	26.1	1.9	NNW
CALM		14.7						14.7		
TOTAL		61.9	23.7	11.2	3.0	.2	0.0	100.0	1.9	

99.8% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

3M LEVEL

01/01/1983 - 01/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.0	3.9	1.1	.4	0.0	0.0	10.3	2.2	N
NNE	2	1.5	1.5	.1	0.0	0.0	0.0	3.2	2.0	NNE
NE	3	.6	.4	.1	0.0	0.0	0.0	1.1	1.7	NE
ENE	4	.1	0.0	0.0	0.0	0.0	0.0	.1	.8	ENE
E	5	.6	0.0	0.0	0.0	0.0	0.0	.6	.7	E
ESE	6	1.2	.4	0.0	0.0	0.0	0.0	1.7	1.4	ESE
SE	7	2.1	.8	.1	0.0	0.0	0.0	3.0	1.4	SE
SSE	8	4.8	1.8	.6	0.0	0.0	0.0	7.2	1.6	SSE
S	9	3.7	1.1	1.8	.4	0.0	0.0	7.0	2.4	S
SSW	10	1.2	.8	0.0	0.0	0.0	0.0	2.1	1.5	SSW
SW	11	.4	.3	0.0	0.0	0.0	0.0	.7	1.6	SW
WSW	12	.6	0.0	0.0	0.0	0.0	0.0	.6	1.1	WSW
W	13	.6	0.0	0.0	0.0	0.0	0.0	.6	.9	W
WNW	14	2.3	.1	0.0	0.0	0.0	0.0	2.5	.9	WNW
NW	15	15.6	4.3	.6	0.0	0.0	0.0	20.4	1.4	NW
NNW	16	9.7	2.6	2.1	.3	0.0	0.0	14.6	1.9	NNW
CALM		24.4						24.4		
TOTAL		74.3	18.1	6.5	1.1	0.0	0.0	100.0	1.4	

97.4% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL

02/01/1983 - 02/28/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.4	1.3	1.3	0.0	0.0	0.0	5.1	2.3	N
NNE	2	1.1	1.3	.8	0.0	0.0	0.0	3.2	2.6	NNE
NE	3	.5	.3	.3	.3	0.0	0.0	1.3	2.6	NE
ENE	4	.5	0.0	.3	0.0	0.0	0.0	.8	1.8	ENE
E	5	1.3	.8	0.0	0.0	0.0	0.0	2.1	1.8	E
ESE	6	.8	1.1	.5	0.0	0.0	0.0	2.4	2.3	ESE
SE	7	2.7	.3	0.0	0.0	0.0	0.0	2.9	1.3	SE
SSE	8	5.6	2.4	0.0	.3	0.0	0.0	8.2	1.7	SSE
S	9	3.5	4.5	.5	0.0	.3	0.0	8.8	2.3	S
SSW	10	4.3	.3	.3	0.0	0.0	.3	5.1	2.0	SSW
SW	11	.8	.5	0.0	.3	0.0	.3	1.9	4.2	SW
WSW	12	1.1	.8	.3	.5	0.0	0.0	2.7	3.0	WSW
W	13	1.6	.5	0.0	0.0	0.0	0.0	2.1	1.8	W
WNW	14	2.9	.3	0.0	.3	0.0	.3	3.7	2.4	WNW
NW	15	7.2	7.2	.3	.5	0.0	0.0	15.2	1.9	NW
NNW	16	9.3	2.1	0.0	1.1	.3	.3	13.0	2.2	NNW
CALM		21.5						21.5		
TOTAL		67.0	23.7	4.5	3.2	.5	1.1	100.0	1.7	

56.0% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - DAY 02/01/1983 - 02/28/1983
0800 - 1700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	.7	0.0	2.8	0.0	0.0	0.0	3.5	3.6	N
NNE	2	.7	.7	1.4	0.0	0.0	0.0	2.8	2.9	NNE
NE	3	1.4	.7	.7	.7	0.0	0.0	3.5	2.6	NE
ENE	4	.7	0.0	.7	0.0	0.0	0.0	1.4	2.3	ENE
E	5	2.1	1.4	0.0	0.0	0.0	0.0	3.5	1.7	E
ESE	6	1.4	2.1	1.4	0.0	0.0	0.0	4.9	2.4	ESE
SE	7	6.9	.7	0.0	0.0	0.0	0.0	7.6	1.3	SE
SSE	8	13.9	6.3	0.0	.7	0.0	0.0	20.8	1.7	SSE
S	9	6.3	9.0	1.4	0.0	.7	0.0	17.4	2.5	S
SSW	10	5.6	.7	.7	0.0	0.0	.7	7.6	2.5	SSW
SW	11	.7	1.4	0.0	.7	0.0	.7	3.5	5.5	SW
WSW	12	2.1	.7	0.0	1.4	0.0	0.0	4.2	3.3	WSW
W	13	2.1	0.0	0.0	0.0	0.0	0.0	2.1	1.3	W
WNW	14	.7	0.0	0.0	.7	0.0	.7	2.1	6.6	WNW
NW	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NW
NNW	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NNW
CALM		15.3						15.3		
TOTAL		60.4	23.6	9.0	4.2	.7	2.1	100.0	2.1	

57.1% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - NIGHT 02/01/1983 - 02/28/1983
1700 - 0800 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.4	2.2	.4	0.0	0.0	0.0	6.0	1.8	N
NNE	2	1.3	1.7	.4	0.0	0.0	0.0	3.4	2.4	NNE
NE	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NE
ENE	4	.4	0.0	0.0	0.0	0.0	0.0	.4	.7	ENE
E	5	.9	.4	0.0	0.0	0.0	0.0	1.3	1.9	E
ESE	6	.4	.4	0.0	0.0	0.0	0.0	.9	1.8	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	.4	0.0	0.0	0.0	0.0	0.0	.4	.6	SSE
S	9	1.7	1.7	0.0	0.0	0.0	0.0	3.4	1.7	S
SSW	10	3.4	0.0	0.0	0.0	0.0	0.0	3.4	1.3	SSW
SW	11	.9	0.0	0.0	0.0	0.0	0.0	.9	1.1	SW
WSW	12	.4	.9	.4	0.0	0.0	0.0	1.7	2.6	WSW
W	13	1.3	.9	0.0	0.0	0.0	0.0	2.2	2.1	W
WNW	14	4.3	.4	0.0	0.0	0.0	0.0	4.7	1.2	WNW
NW	15	11.6	11.6	.4	.9	0.0	0.0	24.6	1.9	NW
NNW	16	15.1	3.4	0.0	1.7	.4	.4	21.1	2.2	NNW
CALM		25.4						25.4		
TOTAL		71.1	23.7	1.7	2.6	.4	.4	100.0	1.5	

55.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

3M LEVEL

02/01/1983 - 02/28/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.6	1.0	.3	0.0	0.0	0.0	3.9	1.9	N
NNE	2	.3	1.6	0.0	0.0	0.0	0.0	1.8	2.5	NNE
NE	3	.3	0.0	.3	0.0	0.0	0.0	.5	2.6	NE
ENE	4	0.0	.3	0.0	0.0	0.0	0.0	.3	2.9	ENE
E	5	1.8	.3	0.0	0.0	0.0	0.0	2.1	1.2	E
ESE	6	1.3	.8	0.0	0.0	0.0	0.0	2.1	1.6	ESE
SE	7	2.1	0.0	0.0	0.0	0.0	0.0	2.1	1.1	SE
SSE	8	5.4	.8	0.0	0.0	0.0	0.0	6.2	1.1	SSE
S	9	7.5	2.1	0.0	.5	0.0	0.0	10.1	1.5	S
SSW	10	1.8	.8	0.0	0.0	.3	0.0	2.8	2.1	SSW
SW	11	1.8	0.0	0.0	.3	.3	0.0	2.3	2.5	SW
WSW	12	1.0	0.0	.5	.3	0.0	0.0	1.8	2.8	WSW
W	13	2.1	0.0	0.0	0.0	0.0	0.0	2.1	1.1	W
WNW	14	1.0	0.0	0.0	.3	.3	0.0	1.6	3.0	WNW
NW	15	16.5	1.0	.5	0.0	0.0	0.0	18.1	1.2	NW
NNW	16	5.7	.3	1.0	.5	0.0	0.0	7.5	1.9	NNW
CALM		34.9						34.9		
TOTAL		86.0	8.8	2.6	1.8	.8	0.0	100.0	1.1	

57.6% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL 03/01/1983 - 03/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	4.1	1.9	2.4	2.6	.2	0.0	11.1	3.6	N
NNE	2	1.0	.5	0.0	0.0	0.0	0.0	1.5	1.6	NNE
NE	3	.5	.2	.3	0.0	0.0	0.0	1.0	2.6	NE
ENE	4	.2	.3	0.0	0.0	0.0	0.0	.5	1.8	ENE
E	5	.5	0.0	0.0	0.0	0.0	0.0	.5	1.0	E
ESE	6	.7	0.0	0.0	0.0	0.0	0.0	.7	1.3	ESE
SE	7	.7	.7	.3	0.0	0.0	0.0	1.7	2.1	SE
SSE	8	2.6	2.9	1.7	0.0	0.0	0.0	7.2	2.4	SSE
S	9	2.9	7.3	7.5	1.9	.2	0.0	19.8	3.4	S
SSW	10	1.7	4.1	2.0	.2	0.0	0.0	8.0	2.7	SSW
SW	11	2.0	2.0	.2	0.0	0.0	0.0	4.3	1.8	SW
WSW	12	.7	.2	0.0	0.0	0.0	0.0	.9	1.2	WSW
W	13	1.9	.3	0.0	0.0	0.0	0.0	2.2	1.0	W
WNW	14	1.9	.7	.2	0.0	0.0	0.0	2.7	1.6	WNW
NW	15	4.9	5.8	.3	.3	0.0	0.0	11.4	2.1	NW
NNW	16	6.8	2.6	3.1	3.1	1.0	0.0	16.6	3.4	NNW
CALM		9.9						9.9		
TOTAL		43.0	29.5	18.1	8.0	1.4	0.0	100.0	2.6	

78.8% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - DAY

03/01/1983 - 03/31/1983
0700 - 1800 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.6	.4	1.5	3.3	0.0	0.0	7.7	4.2	N
NNE	2	.7	.4	0.0	0.0	0.0	0.0	1.1	1.7	NNE
NE	3	.7	.4	.7	0.0	0.0	0.0	1.8	2.9	NE
ENE	4	.4	.7	0.0	0.0	0.0	0.0	1.1	1.8	ENE
E	5	1.1	0.0	0.0	0.0	0.0	0.0	1.1	1.0	E
ESE	6	1.5	0.0	0.0	0.0	0.0	0.0	1.5	1.3	ESE
SE	7	1.5	1.5	.7	0.0	0.0	0.0	3.7	2.1	SE
SSE	8	5.5	5.9	3.7	0.0	0.0	0.0	15.1	2.5	SSE
S	9	5.5	11.8	10.3	1.5	0.0	0.0	29.2	3.0	S
SSW	10	3.3	5.5	1.5	.4	0.0	0.0	10.7	2.5	SSW
SW	11	1.1	3.3	.4	0.0	0.0	0.0	4.8	2.3	SW
WSW	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	WSW
W	13	.4	0.0	0.0	0.0	0.0	0.0	.4	.6	W
WNW	14	0.0	.4	.4	0.0	0.0	0.0	.7	3.8	WNW
NW	15	.4	0.0	.4	.7	0.0	0.0	1.5	4.5	NW
NNW	16	1.1	0.0	3.3	5.2	1.5	0.0	11.1	5.5	NNW
CALM		8.5						8.5		
TOTAL		34.3	30.3	22.9	11.1	1.5	0.0	100.0	2.9	

79.5% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

10M LEVEL - NIGHT

03/01/1983 - 03/31/1983
1800 - 0700 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.4	3.2	3.2	1.9	.3	0.0	14.0	3.2	N
NNE	2	1.3	.6	0.0	0.0	0.0	0.0	1.9	1.6	NNE
NE	3	.3	0.0	0.0	0.0	0.0	0.0	.3	1.3	NE
ENE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	0.0	.3	0.0	0.0	0.0	0.0	.3	1.9	SSE
S	9	.6	3.5	5.1	2.2	.3	0.0	11.7	4.3	S
SSW	10	.3	2.9	2.5	0.0	0.0	0.0	5.7	3.0	SSW
SW	11	2.9	1.0	0.0	0.0	0.0	0.0	3.8	1.4	SW
WSW	12	1.3	.3	0.0	0.0	0.0	0.0	1.6	1.2	WSW
W	13	3.2	.6	0.0	0.0	0.0	0.0	3.8	1.1	W
WNW	14	3.5	1.0	0.0	0.0	0.0	0.0	4.4	1.3	WNW
NW	15	8.9	10.8	.3	0.0	0.0	0.0	20.0	1.9	NW
NNW	16	11.7	4.8	2.9	1.3	.6	0.0	21.3	2.5	NNW
CALM		11.1						11.1		
TOTAL		50.5	28.9	14.0	5.4	1.3	0.0	100.0	2.3	

78.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/03

DOE ALLUVIAL SITE

3M LEVEL

03/01/1983 - 03/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.4	2.2	1.7	1.0	0.0	0.0	7.4	2.9	N
NNE	2	1.0	.2	0.0	0.0	0.0	0.0	1.2	1.3	NNE
NE	3	.3	.3	0.0	0.0	0.0	0.0	.7	1.8	NE
ENE	4	.2	.2	0.0	0.0	0.0	0.0	.3	1.8	ENE
E	5	.5	0.0	0.0	0.0	0.0	0.0	.5	1.0	E
ESE	6	.5	0.0	0.0	0.0	0.0	0.0	.5	1.1	ESE
SE	7	.9	.5	0.0	0.0	0.0	0.0	1.4	1.8	SE
SSE	8	3.4	3.1	.5	0.0	0.0	0.0	7.0	2.0	SSE
S	9	6.2	8.1	4.6	.3	0.0	0.0	19.2	2.6	S
SSW	10	4.3	2.9	1.4	0.0	0.0	0.0	8.6	2.1	SSW
SW	11	1.7	1.0	0.0	0.0	0.0	0.0	2.7	1.6	SW
WSW	12	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	WSW
W	13	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.1	W
WNW	14	2.4	0.0	.2	0.0	0.0	0.0	2.6	1.1	WNW
NW	15	12.5	2.2	.5	0.0	0.0	0.0	15.3	1.4	NW
NNW	16	5.3	2.1	5.0	1.5	0.0	0.0	13.9	3.1	NNW
CALM		16.5						16.5		
TOTAL		60.4	22.8	13.9	2.9	0.0	0.0	100.0	1.9	

78.4% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL

04/01/1983 - 04/30/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	1.3	3.5	4.5	1.7	0.0	0.0	11.0	3.8	N
NNE	2	1.0	1.3	1.6	0.0	0.0	0.0	3.8	2.9	NNE
NE	3	.6	.3	.6	0.0	0.0	0.0	1.4	2.6	NE
ENE	4	.8	.1	.1	0.0	0.0	0.0	1.1	1.5	ENE
E	5	.8	.1	.1	0.0	0.0	0.0	1.1	1.5	E
ESE	6	.6	.8	0.0	0.0	0.0	0.0	1.4	2.0	ESE
SE	7	1.4	.4	.1	0.0	0.0	0.0	2.0	1.7	SE
SSE	8	1.6	1.0	1.0	.4	0.0	0.0	4.0	2.8	SSE
S	9	2.5	4.9	7.8	12.7	2.1	.1	30.2	5.2	S
SSW	10	2.3	2.1	1.8	.4	.1	0.0	6.8	2.9	SSW
SW	11	.6	.6	.7	.3	0.0	0.0	2.1	3.2	SW
WSW	12	.3	1.3	.8	.4	0.0	0.0	2.8	3.5	WSW
W	13	1.3	1.0	.7	.1	0.0	0.0	3.1	2.5	W
WNW	14	1.1	1.0	.1	0.0	0.0	0.0	2.3	1.8	WNW
NW	15	3.1	3.8	.8	0.0	0.0	0.0	7.8	2.2	NW
NNW	16	3.2	5.9	.8	1.7	1.0	.7	13.4	4.0	NNW
CALM		5.6						5.6		
TOTAL		28.1	28.2	21.8	17.8	3.2	.8	100.0	3.5	

98.3% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - DAY 04/01/1983 - 04/30/1983
0600 - 1800 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	.3	2.3	3.1	3.1	0.0	0.0	8.8	4.8	N
NNE	2	1.4	1.4	2.5	0.0	0.0	0.0	5.4	3.0	NNE
NE	3	.6	.6	.6	0.0	0.0	0.0	1.7	2.6	NE
ENE	4	1.7	.3	.3	0.0	0.0	0.0	2.3	1.5	ENE
E	5	1.7	.3	.3	0.0	0.0	0.0	2.3	1.5	E
ESE	6	1.1	1.7	0.0	0.0	0.0	0.0	2.8	2.0	ESE
SE	7	2.5	.8	.3	0.0	0.0	0.0	3.7	1.8	SE
SSE	8	2.3	1.4	2.0	.6	0.0	0.0	6.2	2.9	SSE
S	9	3.4	5.9	10.2	15.8	3.7	.3	39.3	5.3	S
SSW	10	1.4	1.7	2.3	.3	.3	0.0	5.9	3.3	SSW
SW	11	.3	.6	1.4	.6	0.0	0.0	2.8	3.9	SW
WSW	12	0.0	1.7	1.4	.6	0.0	0.0	3.7	4.0	WSW
W	13	.6	1.4	.8	0.0	0.0	0.0	2.8	2.8	W
WNW	14	0.0	.3	0.0	0.0	0.0	0.0	.3	3.1	WNW
NW	15	1.4	.3	.8	0.0	0.0	0.0	2.5	2.4	NW
NNW	16	.6	.8	.8	1.7	0.0	0.0	4.0	4.8	NNW
CALM		5.6						5.6		
TOTAL		24.9	21.5	26.8	22.6	4.0	.3	100.0	3.9	

98.3% DATA RECOVERED
100.0% OF RECOVERED DATA
REPORTED ABOVE

WIND SPEED CLASSES
(MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - NIGHT

04/01/1983 - 04/30/1983
1800 - 0600 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.3	4.8	5.9	.3	0.0	0.0	13.3	3.1	N
NNE	2	.6	1.1	.6	0.0	0.0	0.0	2.3	2.6	NNE
NE	3	.6	0.0	.6	0.0	0.0	0.0	1.1	2.6	NE
ENE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	.3	0.0	0.0	0.0	0.0	0.0	.3	1.5	SE
SSE	8	.8	.6	0.0	.3	0.0	0.0	1.7	2.3	SSE
S	9	1.7	4.0	5.4	9.6	.6	0.0	21.2	4.9	S
SSW	10	3.1	2.5	1.4	.6	0.0	0.0	7.6	2.5	SSW
SW	11	.8	.6	0.0	0.0	0.0	0.0	1.4	1.9	SW
WSW	12	.6	.8	.3	.3	0.0	0.0	2.0	2.6	WSW
W	13	2.0	.6	.6	.3	0.0	0.0	3.4	2.3	W
WNW	14	2.3	1.7	.3	0.0	0.0	0.0	4.2	1.8	WNW
NW	15	4.8	7.3	.8	0.0	0.0	0.0	13.0	2.1	NW
NNW	16	5.9	11.0	.8	1.7	2.0	1.4	22.9	3.9	NNW
CALM		5.6						5.6		
TOTAL		31.4	35.0	16.7	13.0	2.5	1.4	100.0	3.2	

98.3% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

3M LEVEL

04/01/1983 - 04/30/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.2	6.3	.4	1.4	.1	0.0	10.5	3.0	N
NNE	2	.3	1.3	.3	0.0	0.0	0.0	1.9	2.5	NNE
NE	3	.1	.6	.1	0.0	0.0	0.0	.9	2.5	NE
ENE	4	.6	.3	0.0	0.0	0.0	0.0	.9	1.5	ENE
E	5	.3	.1	0.0	0.0	0.0	0.0	.4	1.6	E
ESE	6	1.0	.7	.1	0.0	0.0	0.0	1.9	1.7	ESE
SE	7	.7	.1	0.0	0.0	0.0	0.0	.9	1.2	SE
SSE	8	2.4	.9	.7	.1	0.0	0.0	4.2	2.2	SSE
S	9	5.6	5.5	14.2	4.3	0.0	0.0	29.6	3.7	S
SSW	10	1.7	2.2	1.0	.1	0.0	0.0	5.0	2.5	SSW
SW	11	1.6	.7	.4	0.0	0.0	0.0	2.7	2.2	SW
WSW	12	.7	1.4	.4	0.0	0.0	0.0	2.6	2.4	WSW
W	13	.7	.9	.3	0.0	0.0	0.0	1.9	2.2	W
WNW	14	2.2	.4	0.0	0.0	0.0	0.0	2.6	1.2	WNW
NW	15	7.3	2.4	.3	0.0	0.0	0.0	10.1	1.6	NW
NNW	16	7.2	1.6	1.2	2.3	.7	0.0	12.9	3.2	NNW
CALM		11.1						11.1		
TOTAL		45.8	25.5	19.6	8.3	.9	0.0	100.0	2.6	

96.5% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL 05/01/1983 - 05/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.7	2.7	4.7	3.3	.4	0.0	13.9	3.9	N
NNE	2	1.4	1.0	1.6	.4	0.0	0.0	4.3	3.1	NNE
NE	3	1.0	.2	1.2	.6	0.0	0.0	2.9	3.7	NE
ENE	4	.8	.6	.2	0.0	0.0	0.0	1.6	2.1	ENE
E	5	.8	.2	0.0	0.0	0.0	0.0	1.0	1.5	E
ESE	6	1.0	.2	.2	0.0	0.0	0.0	1.4	1.8	ESE
SE	7	1.0	1.4	0.0	0.0	0.0	0.0	2.3	1.7	SE
SSE	8	1.6	2.3	0.0	.2	0.0	0.0	4.1	2.1	SSE
S	9	2.7	2.7	3.7	1.6	0.0	0.0	10.7	3.4	S
SSW	10	1.6	2.1	2.5	0.0	0.0	0.0	6.3	2.9	SSW
SW	11	.4	1.4	2.0	0.0	0.0	0.0	3.7	3.2	SW
WSW	12	.8	2.0	1.2	.2	0.0	0.0	4.1	2.8	WSW
W	13	.2	1.2	1.0	0.0	0.0	0.0	2.3	3.2	W
WNW	14	2.3	1.8	1.2	0.0	0.0	0.0	5.3	2.3	WNW
NW	15	2.3	4.1	2.9	.4	0.0	0.0	9.8	2.9	NW
NNW	16	6.8	4.7	2.9	3.3	1.2	0.0	18.9	3.5	NNW
CALM		7.4						7.4		
TOTAL		34.8	28.5	25.2	10.0	1.6	0.0	100.0	2.9	

68.8% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - DAY

05/01/1983 - 05/31/1983
0600 - 1900 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	.4	.4	1.5	1.8	0.0	0.0	4.1	4.4	N
NNE	2	1.1	.7	1.8	.4	0.0	0.0	4.1	3.4	NNE
NE	3	1.5	.4	2.2	1.1	0.0	0.0	5.2	3.8	NE
ENE	4	1.5	1.1	.4	0.0	0.0	0.0	3.0	2.1	ENE
E	5	1.5	.4	0.0	0.0	0.0	0.0	1.8	1.5	E
ESE	6	1.8	.4	.4	0.0	0.0	0.0	2.6	1.8	ESE
SE	7	1.8	2.6	0.0	0.0	0.0	0.0	4.4	1.7	SE
SSE	8	3.0	4.4	0.0	.4	0.0	0.0	7.7	2.1	SSE
S	9	4.8	4.8	6.6	2.6	0.0	0.0	18.8	3.4	S
SSW	10	2.2	3.3	4.1	0.0	0.0	0.0	9.6	3.1	SSW
SW	11	.4	.7	3.7	0.0	0.0	0.0	4.8	3.7	SW
WSW	12	.7	1.1	1.1	.4	0.0	0.0	3.3	3.1	WSW
W	13	0.0	.7	1.5	0.0	0.0	0.0	2.2	3.5	W
WNW	14	.7	2.2	1.8	0.0	0.0	0.0	4.8	3.1	WNW
NW	15	.4	1.8	2.6	.7	0.0	0.0	5.5	3.8	NW
NNW	16	1.5	1.8	1.5	4.8	1.1	0.0	10.7	5.4	NNW
CALM		7.4						7.4		
TOTAL		30.6	26.9	29.2	12.2	1.1	0.0	100.0	3.1	

67.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - NIGHT

05/01/1983 - 05/31/1983
1900 - 0600 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	5.4	5.4	8.3	5.0	.8	0.0	24.9	3.8	N
NNE	2	1.7	1.2	1.2	.4	0.0	0.0	4.6	2.7	NNE
NE	3	.4	0.0	0.0	0.0	0.0	0.0	.4	1.1	NE
ENE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SSE
S	9	.4	.4	.4	.4	0.0	0.0	1.7	3.4	S
SSW	10	.8	.8	.8	0.0	0.0	0.0	2.5	2.5	SSW
SW	11	.4	2.1	0.0	0.0	0.0	0.0	2.5	2.2	SW
WSW	12	.8	2.9	1.2	0.0	0.0	0.0	5.0	2.6	WSW
W	13	.4	1.7	.4	0.0	0.0	0.0	2.5	2.8	W
WNW	14	4.1	1.2	.4	0.0	0.0	0.0	5.8	1.6	WNW
NW	15	4.6	6.6	3.3	0.0	0.0	0.0	14.5	2.5	NW
NNW	16	12.9	7.9	4.6	1.7	1.2	0.0	28.2	2.8	NNW
CALM		7.5						7.5		
TOTAL		39.4	30.3	20.7	7.5	2.1	0.0	100.0	2.7	

70.7% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

3M LEVEL

05/01/1983 - 05/31/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	3.5	4.1	3.7	.4	0.0	0.0	11.8	2.7	N
NNE	2	.2	1.2	.6	0.0	0.0	0.0	2.0	2.8	NNE
NE	3	1.0	.6	.8	0.0	0.0	0.0	2.4	2.6	NE
ENE	4	.8	1.0	0.0	0.0	0.0	0.0	1.8	1.9	ENE
E	5	.4	0.0	0.0	0.0	0.0	0.0	.4	.8	E
ESE	6	1.4	.2	0.0	0.0	0.0	0.0	1.6	1.3	ESE
SE	7	1.4	.4	0.0	0.0	0.0	0.0	1.8	1.3	SE
SSE	8	2.6	.8	.2	0.0	0.0	0.0	3.5	1.6	SSE
S	9	3.5	3.7	3.3	0.0	0.0	0.0	10.6	2.7	S
SSW	10	2.0	2.8	.8	0.0	0.0	0.0	5.5	2.2	SSW
SW	11	1.6	1.2	.4	0.0	0.0	0.0	3.1	2.2	SW
WSW	12	2.0	1.4	.4	0.0	0.0	0.0	3.7	2.0	WSW
W	13	1.8	1.2	.4	0.0	0.0	0.0	3.3	2.0	W
WNW	14	2.2	1.0	0.0	0.0	0.0	0.0	3.1	1.9	WNW
NW	15	7.9	5.9	1.0	0.0	0.0	0.0	14.8	1.8	NW
NNW	16	8.3	3.1	3.0	2.6	0.0	0.0	16.9	2.8	NNW
CALM		13.6						13.6		
TOTAL		53.9	28.5	14.6	3.0	0.0	0.0	100.0	2.0	

68.3% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL 06/01/1983 - 06/30/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	.8	1.0	2.4	1.4	0.0	0.0	5.6	4.0	N
NNE	2	1.5	1.1	1.4	0.0	0.0	0.0	4.1	2.5	NNE
NE	3	.8	1.1	.3	0.0	0.0	0.0	2.2	2.2	NE
ENE	4	.6	.1	0.0	0.0	0.0	0.0	.7	1.4	ENE
E	5	.4	.4	0.0	0.0	0.0	0.0	.8	1.6	E
ESE	6	.7	.1	.1	0.0	0.0	0.0	1.0	1.7	ESE
SE	7	2.1	.8	.1	0.0	0.0	0.0	3.1	1.6	SE
SSE	8	2.4	2.1	1.1	.8	.1	0.0	6.6	3.0	SSE
S	9	1.1	6.0	11.2	8.0	.6	0.0	26.9	4.6	S
SSW	10	1.5	3.5	2.8	.1	0.0	0.0	8.0	2.8	SSW
SW	11	.7	2.8	2.0	0.0	0.0	0.0	5.5	2.9	SW
WSW	12	1.0	1.4	.8	0.0	0.0	0.0	3.2	2.5	WSW
W	13	.8	1.5	.1	0.0	0.0	0.0	2.5	2.0	W
WNW	14	2.5	1.0	.4	0.0	0.0	0.0	3.9	1.8	WNW
NW	15	3.4	6.2	.4	0.0	0.0	0.0	9.9	2.2	NW
NNW	16	3.8	7.1	1.8	.3	0.0	0.0	13.0	2.5	NNW
CALM		3.1						3.1		
TOTAL		27.3	36.4	25.0	10.6	.7	0.0	100.0	3.0	

99.3% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - DAY 06/01/1983 - 06/30/1983
0500 - 1900 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	0.0	.5	.5	0.0	0.0	0.0	1.0	3.3	N
NNE	2	.7	1.2	1.4	0.0	0.0	0.0	3.4	2.7	NNE
NE	3	1.4	1.7	.5	0.0	0.0	0.0	3.6	2.2	NE
ENE	4	.7	.2	0.0	0.0	0.0	0.0	1.0	1.5	ENE
E	5	.7	.7	0.0	0.0	0.0	0.0	1.4	1.6	E
ESE	6	1.2	.2	.2	0.0	0.0	0.0	1.7	1.7	ESE
SE	7	3.6	1.4	.2	0.0	0.0	0.0	5.3	1.6	SE
SSE	8	4.1	3.6	1.9	1.4	.2	0.0	11.3	3.0	SSE
S	9	1.4	8.7	17.3	13.0	1.0	0.0	41.4	4.7	S
SSW	10	1.0	3.9	3.6	0.0	0.0	0.0	8.4	3.0	SSW
SW	11	.5	3.4	2.7	0.0	0.0	0.0	6.5	3.1	SW
WSW	12	0.0	.5	1.0	0.0	0.0	0.0	1.4	3.3	WSW
W	13	.2	1.0	.2	0.0	0.0	0.0	1.4	2.3	W
WNW	14	.5	.2	.2	0.0	0.0	0.0	1.0	2.1	WNW
NW	15	1.4	1.0	.2	0.0	0.0	0.0	2.7	1.9	NW
NNW	16	1.7	1.4	1.4	0.0	0.0	0.0	4.6	2.4	NNW
CALM		3.9						3.9		
TOTAL		23.1	29.6	31.6	14.5	1.2	0.0	100.0	3.4	

98.8% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

10M LEVEL - NIGHT 06/01/1983 - 06/30/1983
1900 - 0500 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	2.0	1.7	5.0	3.3	0.0	0.0	12.0	4.1	N
NNE	2	2.7	1.0	1.3	0.0	0.0	0.0	5.0	2.3	NNE
NE	3	0.0	.3	0.0	0.0	0.0	0.0	.3	2.8	NE
ENE	4	.3	0.0	0.0	0.0	0.0	0.0	.3	.8	ENE
E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
ESE	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ESE
SE	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SE
SSE	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SSE
S	9	.7	2.3	2.7	1.0	0.0	0.0	6.7	3.7	S
SSW	10	2.3	3.0	1.7	.3	0.0	0.0	7.3	2.6	SSW
SW	11	1.0	2.0	1.0	0.0	0.0	0.0	4.0	2.5	SW
WSW	12	2.3	2.7	.7	0.0	0.0	0.0	5.7	2.3	WSW
W	13	1.7	2.3	0.0	0.0	0.0	0.0	4.0	1.8	W
WNW	14	5.3	2.0	.7	0.0	0.0	0.0	8.0	1.7	WNW
NW	15	6.0	13.3	.7	0.0	0.0	0.0	20.0	2.2	NW
NNW	16	6.7	15.0	2.3	.7	0.0	0.0	24.7	2.5	NNW
CALM		2.0						2.0		
TOTAL		33.0	45.7	16.0	5.3	0.0	0.0	100.0	2.6	

100.0% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

METEOROLOGICAL JOINT FREQUENCY DISTRIBUTION (PERCENT OF VALID HOUR OBSERVATIONS) 83/11/09

DOE ALLUVIAL SITE

3M LEVEL

06/01/1983 - 06/30/1983
0000 - 2400 (LST)

WIND SPEED CLASS

WIND DIRECTION	SECTOR	1	2	3	4	5	6	TOTAL	AVG WS (MPS)	
N	1	1.5	2.5	1.5	0.0	0.0	0.0	5.6	2.7	N
NNE	2	.8	.8	0.0	0.0	0.0	0.0	1.7	1.8	NNE
NE	3	1.3	.7	0.0	0.0	0.0	0.0	2.0	1.7	NE
ENE	4	.6	0.0	0.0	0.0	0.0	0.0	.6	1.2	ENE
E	5	.6	0.0	0.0	0.0	0.0	0.0	.6	1.2	E
ESE	6	.6	0.0	.1	0.0	0.0	0.0	.7	1.5	ESE
SE	7	2.5	.1	.1	0.0	0.0	0.0	2.8	1.2	SE
SSE	8	2.7	2.1	1.1	.7	0.0	0.0	6.6	2.7	SSE
S	9	2.8	10.9	11.2	1.5	0.0	0.0	26.5	3.4	S
SSW	10	2.1	3.5	.7	0.0	0.0	0.0	6.3	2.2	SSW
SW	11	2.1	2.4	.3	0.0	0.0	0.0	4.8	2.1	SW
WSW	12	1.7	1.0	0.0	0.0	0.0	0.0	2.7	1.7	WSW
W	13	2.2	.4	0.0	0.0	0.0	0.0	2.7	1.6	W
WNW	14	1.8	.3	0.0	0.0	0.0	0.0	2.1	1.3	WNW
NW	15	13.6	4.9	.1	0.0	0.0	0.0	18.6	1.6	NW
NNW	16	5.2	2.0	.6	0.0	0.0	0.0	7.7	1.7	NNW
CALM		8.3						8.3		
TOTAL		50.3	31.7	15.8	2.2	0.0	0.0	100.0	2.1	

99.2% DATA RECOVERED
100.0% OF RECOVERED DATA REPORTED ABOVE

WIND SPEED CLASSES (MPS)

CALM	< .5
1	.5 - 1.8
2	1.9 - 3.3
3	3.4 - 5.4
4	5.5 - 8.5
5	8.6 -10.8
6	>10.8

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