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ENVIRONMENTAL DATA GULLFAKS C. ANNUAL SYNTHESIS/ANALYSIS 1997

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SUMMARY

The history of the environmental data system at Statfjord A/Gullfaks C is presented very shortly. The performance of the system in 1997 with regard to the main environmental parameters is described and the results are summarised. Frequency tables for wind speed /wind direction and significant wave height (Hs)/wave period(Tz) are computed for 1997 and the combined series from Statfjord A and Gullfaks C.
Probability values for different return periods are computed for wind speed and significant wave height based on the combined data series from Statfjord A and Gullfaks C.

SIGNATURE

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GULLFAKS C

ANNUAL SYNTHESIS/ANALYSIS 1997

1. Introduction

This report is primarily a summary of the environmental conditions recorded at the Gullfaks C platform during 1997. The data has been recorded by Statoil a/s , the operator of the Gullfaks field. Probability values for wind speed and significant wave heights with different recurrence intervals are also computed. These computations are based on the combined data series from Statfjord A and Gullfaks C.

It is an established practice that the first permanent platform in a new area is instrumented to record the environmental conditions. In the Statfjord/Gullfaks region this responsibility was first given to the platform Statfjord A. From this site measurements started in 1978. The reporting of environmental data from the area was transferred to the platform Gullfaks C in November 1989. Gullfaks C was from this time established as an operational centre for the helicopter traffic in the area.

Oceanographic and meteorological data has thus been measured since November 1989 at Gullfaks C giving information of the environmental conditions the platform are influenced by. The regularity of the recording system was very variable in the beginning and the data reported from the platform were in periods actually measured at platform Statfjord A. The storing system for the instrumental data was operational in November 1990 but December 1990 is the first one with data coverage near 100 %. Until December 1992 the EMS system archived hourly values and data was transferred to DNMI in the data format DF005. In December 1992 the format was changed to DF015 and later to DF022. From December 1992 values are recorded each 20 minute.

The collection of environmental data related to the oil activity is specified in the "Acts, regulations and provisions for the petroleum activities" issued by the Norwegian Petroleum Directorate.

The environmental data are collected in order to :

- Judge the safety of the installations
- Determine the long-term effects of the environment on the structures

- Improve construction requirements
- Help to plan field operations.

Three hourly weather reports are produced routinely and submitted to DNMI in the form of a coded message (SYNOP/SHIP message). The SHIP messages are important for the weather forecasting system. The three hourly weather reports are also stored at DNMI in the general archive serving climatological purposes.

At Gullfaks C the complete set of parameters available in the EMS are stored each 20 minute. Each month these data are retrieved from the system and copied to a streamer tape. The streamer tape is sent to MIROS a/s where the data are checked. Quality controlled data are sent to DNMI on a monthly basis together with a quality report. The parameters available in the complete DF022 format is given in Appendix A.

The data controlled by MIROS a/s are the basis for this annual synthesis report.

2. The data collecting system (GFC-EMS)

2.1 Instrumentation

The EMS is delivered by MIROS A/S and all parameters regarding waves are measured by a MIROS wave radar. The meteorological parameters are measured by instruments from other firms. The different instruments are interfaced to the EMS with an exception for the sea temperature. This parameter is measured by personnel on board the stand by vessel each 3 hour and reported to the platform.

The main environmental parameters are measured with the following sensors :

WIND SENSORS

Manufacturer	Vaisala
Type	Wind speed and wind direction sensors
Model	WAA 15 and WAW 15
Range	0-75 m/s 0-360 °
Location B	Top of derrick 142.5 m above mean sea l. (SHIP message)
Location A	Top of antenna tower 99 m above mean sea l. (METAR)

AIR TEMPERATURE SENSOR

Manufacturer	Vaisala
Type	Platinum Resistance Element
Model	DTS 12
Range	-100 - +100 °C
Location	Top of the module LQ-L13 73 m above mean sea l.

AIR HUMIDITY SENSOR

Manufacturer	Vaisala
Type	Humicap
Model	HMP 30U
Range	0 - 100 % RH
Location	Top of the module LQ-L13 73 m above mean sea l.

AIR PRESSURE SENSOR

Manufacturer	Vaisala
Type	Vaisala aneroid
Model	PA 21
Range	500 - 1060 hPa
Location	77.5 m above mean sea l.

WAVE SENSOR

Manufacturer	MIROS a/s	
Type	MIROS Wave Radar	
Model	SH-001/03, CP-6506 (From 18.12.96 MIROS Mk.2 type no. SM-001)	
Location	SW corner of the platform 69 m above mean sea l.	
Range	Max. wave height	0-40 m
	Signif. wave height	0-20 m
	Period, mean and peak	3-30 s
	Direction, mean	0-360 °
	Direction, spread	15-90 °

2.2 Performance and data coverage

Personnel from DNMI has not visited Gullfaks on behalf of The Norwegian Petroleum Directorate (NPD) in 1997.

The data coverage in 1997 for the main parameters are given in table 2.1. As mentioned above, the sea temperature (Tw) is measured by the crew of the stand by vessel and reported from Gullfaks C to DNMI on a 3 hourly basis in the SYNOP-SHIP message. The data coverage is near 100 % throughout the year for this parameter. All the other parameters are logged in the GFC-EMS system each 20 minute. The data coverage for these parameters vary through the year. The wind parameters have a coverage near 100 % while the wave parameters have a more varying coverage. The wave data is missing from the 19 of February and the rest of the month. Wave data is also missing the whole month of March. The reason for this was intrusion of water in the radar cabinet . The radar was operating again from April 1.

Table 2.1 Data coverage in percent for the main parameters at Gullfaks C in 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
T	100	98.5	62.8	100	100	100	100	99.9	100	100	100	100	99.3
Tw	100	97.8	100	99.6	99.6	99.6	98.8	99.6	81.7	99.6	100	99.6	98.3
Hm0	90.9	61.5	0	94.4	89.1	80.0	81.6	89.3	93.1	95.6	99.3	96.0	81.0
Hmax	90.9	61.5	0	94.4	89.1	80.0	81.6	89.3	93.1	95.6	99.3	96.0	81.0
FF	52.4	98.5	92.8	100	100	100	100	99.9	100	100	100	100	95.2
FG	52.4	98.5	92.8	100	100	100	100	99.9	100	100	100	100	95.2

3. Special weather events in 1997

The criterion "significant wave height ≥ 10 m" has been applied to determine weather events of some interest. In 1997 there are two periods where Hm0 reaches values above 10 m. The first period is 16-19 of February and the second 17-20 of November. In both periods the wind direction was very stable about 165-170°.

The weather maps valid for 00 UTC on February 17 and 18 are presented in the Figures 3.1 and 3.2 . On both a high pressure system over Scandinavia with centre over the Southern part of Sweden have a steering effect on the low pressure systems entering the Norwegian sea from West. This resulted in a strong south easterly wind field with a near constant wind direction lasting for more than 48 hours in the Gullfaks area. This produced significant wave heights (Hm0) above 12.5 m on the 17. Unfortunately, the wave radar dropped out on the 18 of February, but at that time wave heights had decreased to about 5 m.

Wind speed and wave heights are plotted in Figures 3.3 and 3.4 respectively. The measured wind speed was highest (30 m/s) the hours before midnight on the 18 while the highest wave heights were measured earlier when the wind speed was about 25 m/s. As the wind direction was nearly constant during the 18, the highest wave heights should be expected when the wind speed had its maximum.

The weather situation in the period 17-20 of November is very similar to the conditions prevailing in the period 16-19 of February. A high pressure system with centre over Scandinavia have again a steering effect on the low pressure systems approaching from west. The centres move from SW to NE resulting in a wind field with almost constant direction (178 °) at Gullfaks C in the period. The weather maps valid for 00 UTC on November 18 and 19 are presented in Figures 3.5 and 3.6. Wind speed and wave heights for the period are plotted in Figures 3.7 and 3.8. In this situation the maximum in significant wave height (10. m) occurs near midnight on the 18. This is in very good correspondence with the wind speed measurements. Maximum in wind speed (25 m/s) is registered in the afternoon the 18 and the values are still high in the evening.

In the period 1980-1994 there are about 12 events recorded in the Statfjord/Gullfaks area where the significant wave height was 10 m or higher. In 1995 there were 6 different situations where the criterion is fulfilled. This is the highest number of events of this kind for a single year in the record.

In 1996 there are only one weather event with significant wave heights above 10 m. On this occasion the significant wave height was above 9m from 11 March 1840 GMT until 12 March 1940 GMT. Most of the time the values stayed above 10 m with 11.9 m as a maximum for Hm0 1100 GMT on the 12. Estimate for Hmax was 18.5 m at the same time.

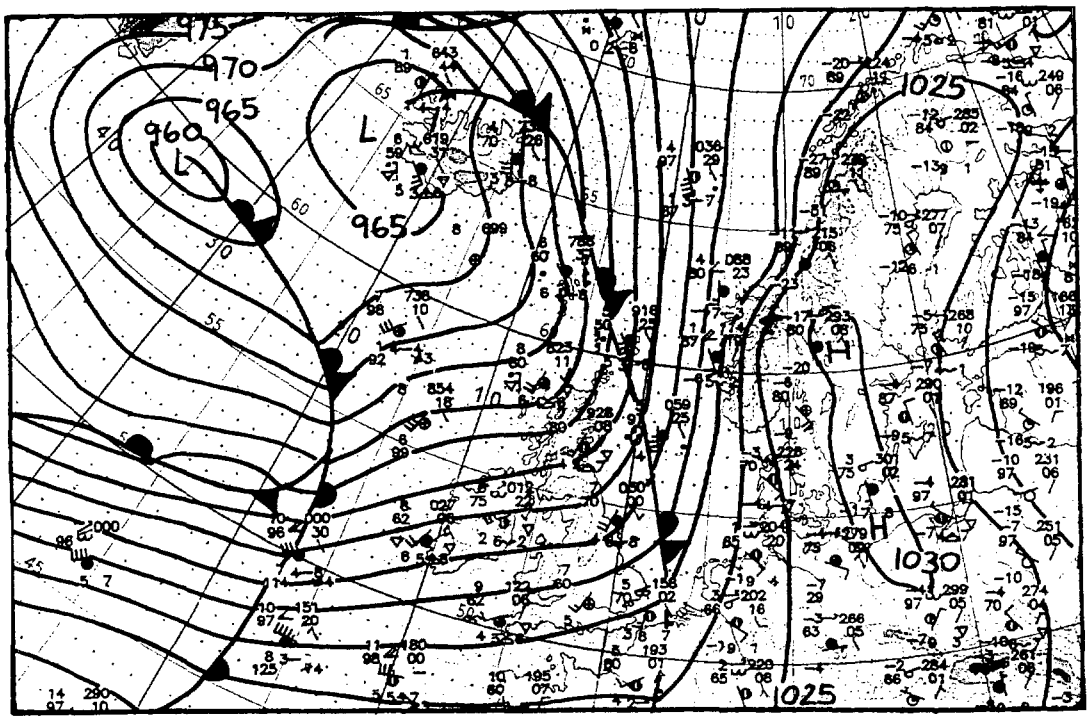


Figure 3.1 Weather map valid for 00 UTC February 17, 1997.

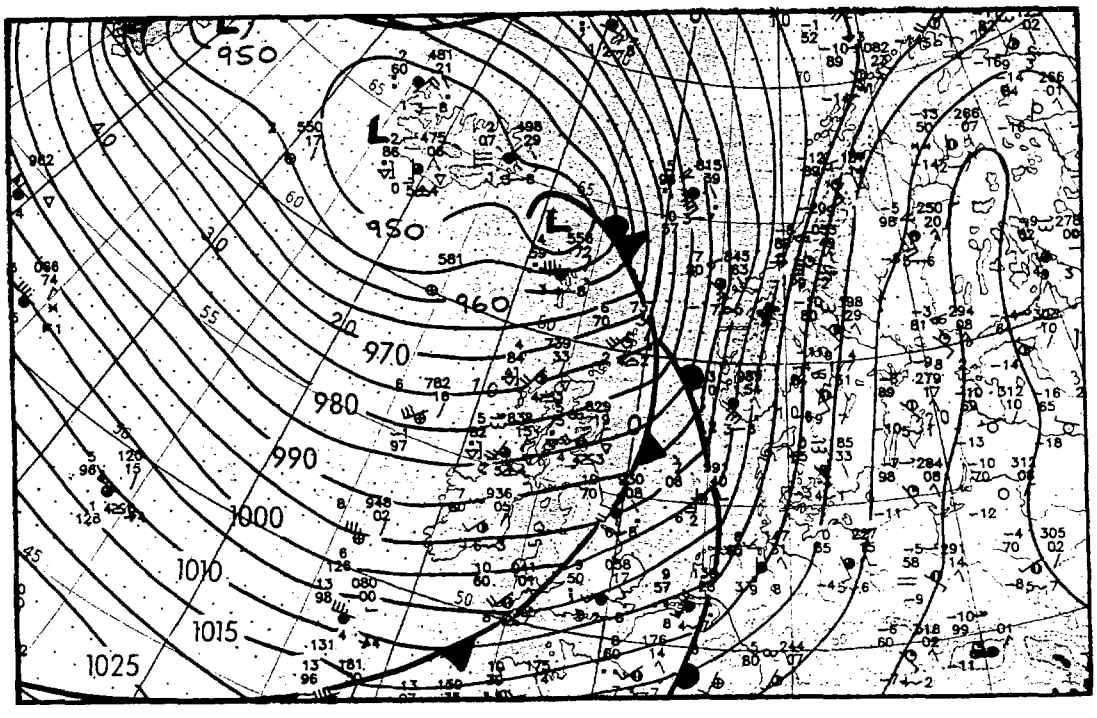


Figure 3.2 Weather map valid for 00 UTC February 18, 1997.

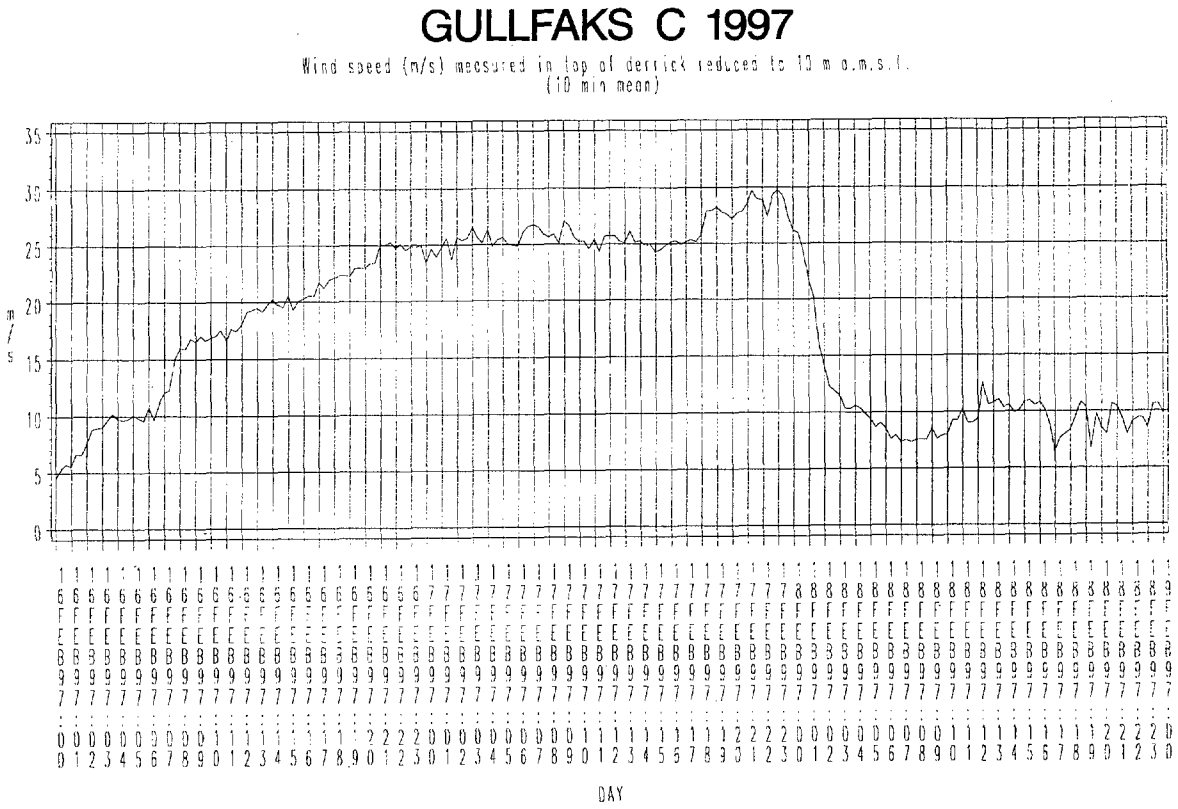


Figure 3.3 Wind speed 16-19.2.1997.

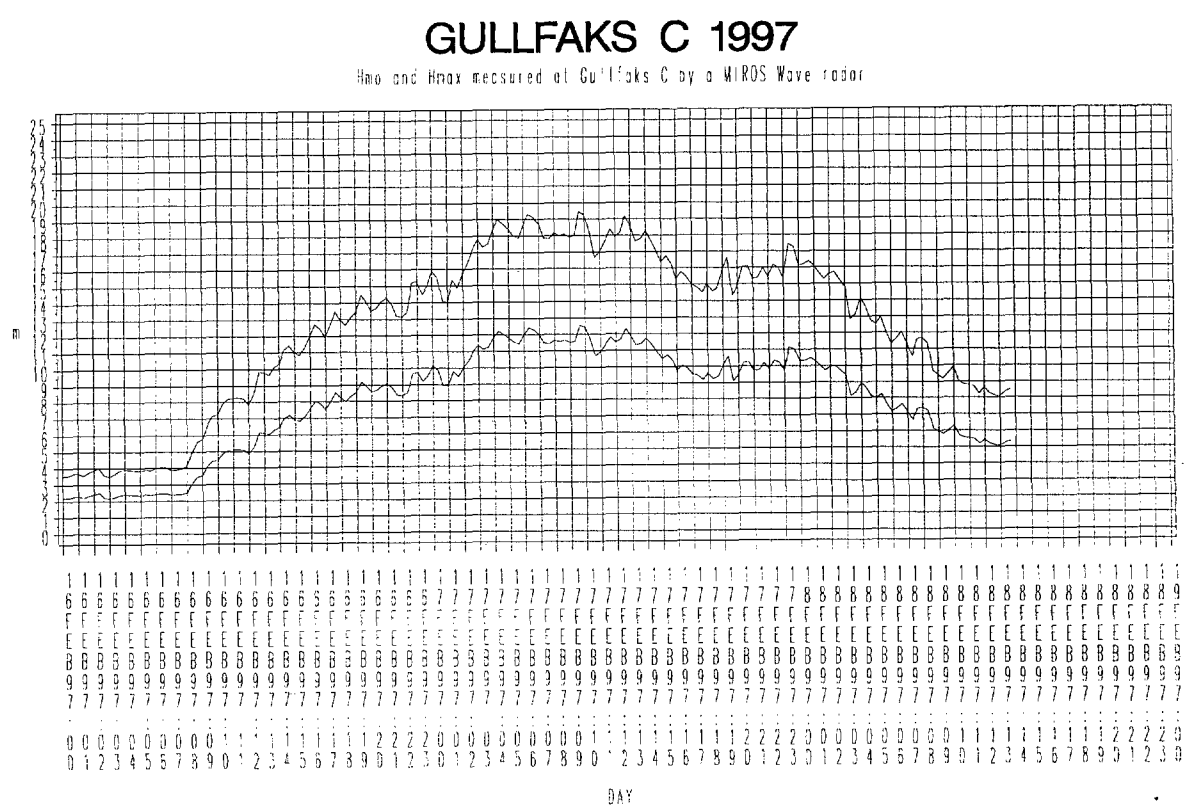


Figure 3.4 Wave height (Hm0 and Hmax) 16-19.2.1997.

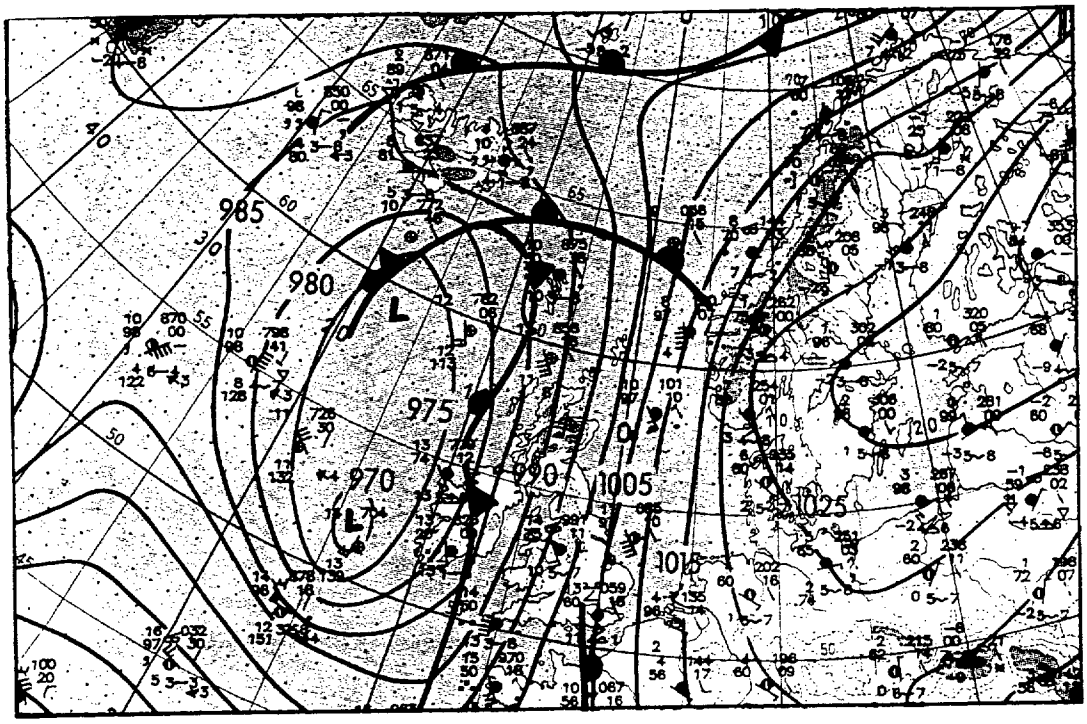


Figure 3.5 Weather map valid for 00 UTC November 18, 1997.

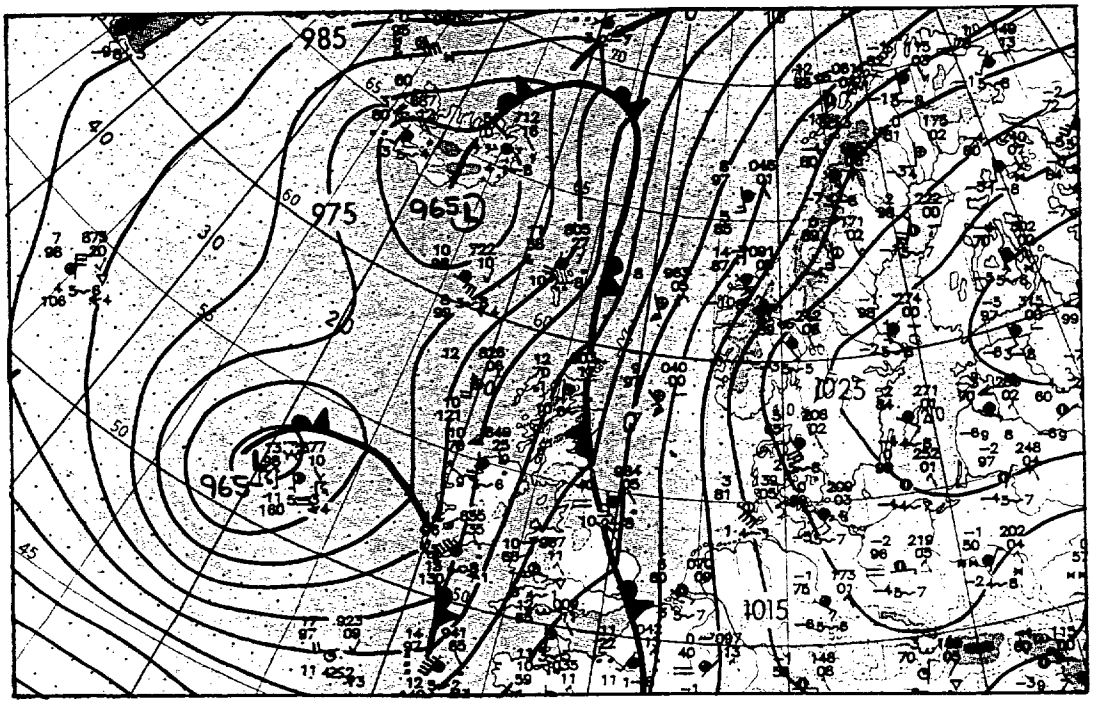


Figure 3.6 Weather map valid for 00 UTC November 19, 1997.

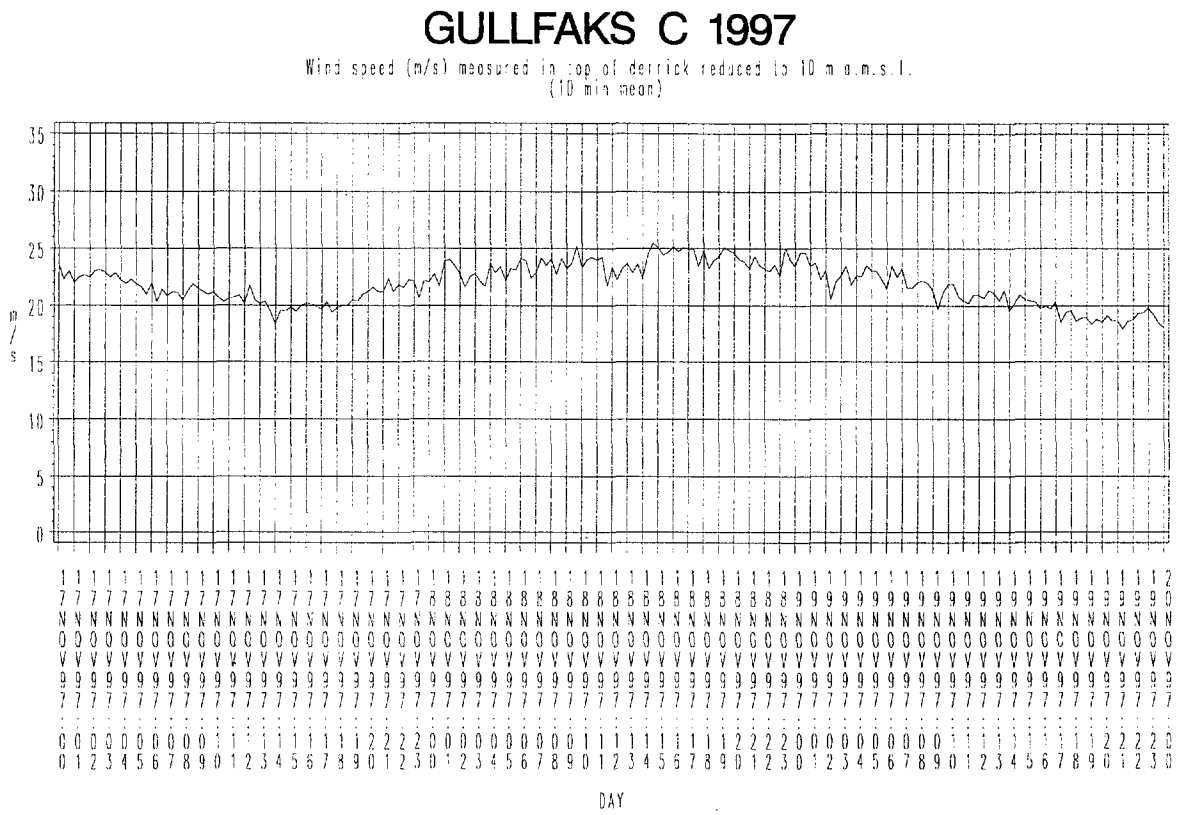


Figure 3.7 Wind speed 17-20.11.1997.

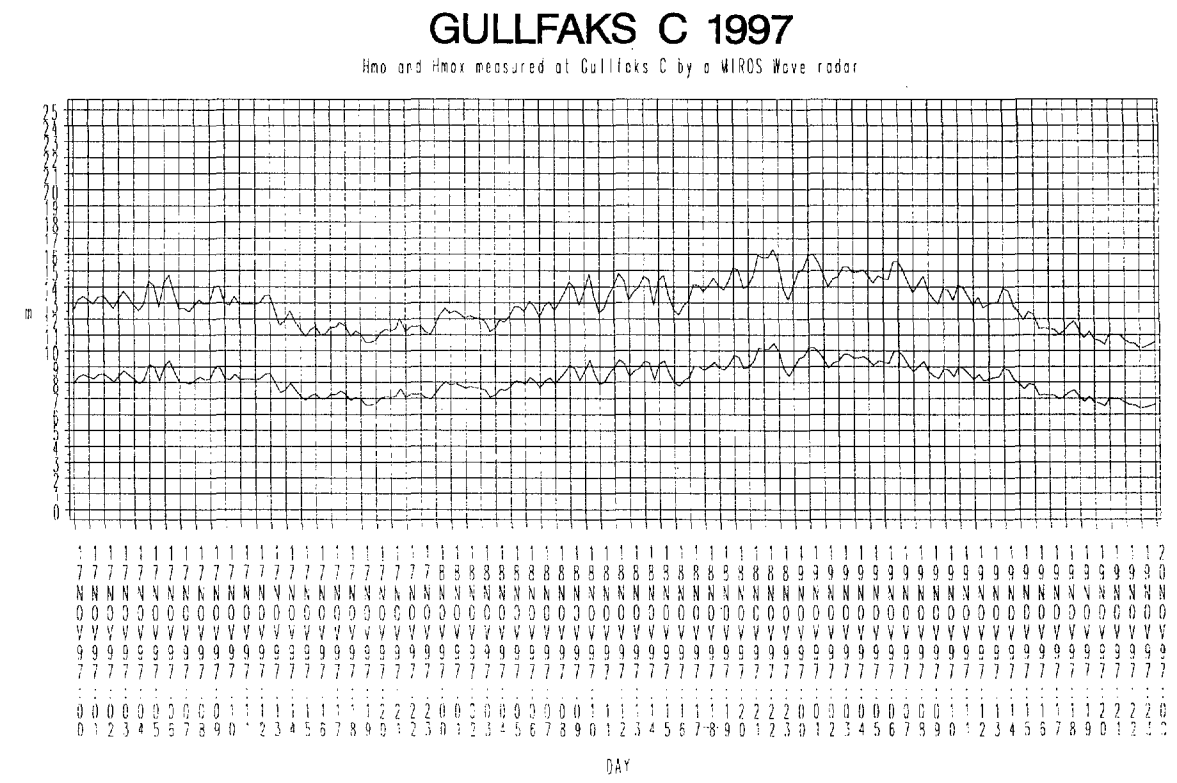


Figure 3.8 Wave height (Hmo and Hmax) 17-20.11.1997.

4. Results

4.1 Climatological summary Gullfaks C 1997

A short summary of the main parameters measured at Gullfaks C is presented in table 4.1. The parameters presented are listed below.

T = Air temperature measured 73 m a.m.s.level
Tw = Sea temperature measured by the stand by vessel
U = Air humidity in %
QFF = Air pressure measured 77,5 m above m.s.l. reduced to m.s.l.
Hm0 = Estimate of significant wave height
Hmax = Estimate of maximum wave height
FF = Wind speed (10 min mean) measured in top of derrick (142 m) and reduced to reference level 10 m a.m.s.level
FX = Maximum wind speed (10 min mean) ...
FG = Gust wind speed (3 sec mean) measured in top of derrick (142 m) and reduced to reference level 10 m a.m.s.level

The reduction coefficient applied both for FF, FX and FG in the GFC-EMS is : x=(10/142)**0.13=.708

The reduction coefficient for the gust wind speed (FG) taken equal to the reduction to the 10 min mean wind speed (FF) is not correct. In most cases this will give a to high reduction. The reason that this is not changed is not to introduce inhomogeneities in the archive. It is easy to reconstruct the measured value in the derrick 142 m a.m.s.l. and give it a more correct treatment when needed.

The parameters are stored each 20 minute in the existing system at Gullfaks C. The 10 min mean wind speed (FF) represents the last 10 min of the 20 min period. The maximum of the 10 min mean may have occurred in the period not presented. The maximum 10 min mean of the wind speed (FX) is recorded independently and updated each 3 hour. As can be seen from the table the maximum of FX is thus ≥ the maximum of FF.

Table 4.1 Summary of the main parameters measured at Gullfaks C in 1997.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
T													
Max	9.9	9.8	8.9	9.5	12.7	17.7	20.4	20.9	17.7	13.7	10.5	10.5	20.9
Mean	6.0	5.2	5.4	5.3	7.5	10.5	14.1	15.4	11.3	8.1	7.5	7.1	8.7
Min	2.3	-.4	-1.0	-1.7	2.3	7.1	10.3	11.8	6.5	1.0	1.8	2.6	-1.7
Cover.	100	98.5	92.8	100	100	100	100	99.9	100	100	100	100	99.3
Tw													
Max	8.8	9.5	8.8	8.3	9.3	11.9	17.0	16.3	15.3	11.8	10.3	10.1	17.0
Mean	8.5	8.4	8.3	8.0	8.2	10.1	14.0	15.0	12.8	10.5	9.7	9.9	10.2
Min	7.9	7.4	7.9	6.8	7.2	8.6	11.5	13.6	10.7	8.6	9.3	9.4	6.8
Cover.	100	97.8.	100	99.6	99.6	99.6	98.8	81.7	99.6	100	100	99.6	98.3
U													
Max	99	98	98	98	99	98	100	100	100	100	100	100	100
Mean	78	77	79	73	79	89	90	92	83	79	78	79	81
Min	49	44	42	41	39	66	50	50	53	38	45	35	35
Cover.	100	98.5	92.8	100	100	42.5	99.7	99.9	99.9	100	100	100	94.5
QFF													
Max	1038.0	1035.7	1031.8	1029.3	1036.3	1037.3	1029.3	1027.6	1032.8	1030.5	1026.1	1046.6	1046.6
Mean	1017.9	993.6	1011.3	1014.8	1014.1	1012.4	1016.7	1015.7	1011.9	1010.1	1006.6	1006.3	1011.1
Min	993.5	959.8	971.9	982.5	983.5	997.3	1001.4	993.3	981.8	982.9	984.2	976.3	959.8
Cover.	99.3	97.8	92.6	99.9	99.1	99.2	99.5	99.3	99.4	99.2	99.2	99.3	98.6
Hm0													
Max	8.8	12.6	-	6.8	5.2	4.5	4.5	3.7	8.1	8.2	10.5	7.4	12.6
Mean	3.2	5.1	-	2.9	2.3	1.9	1.4	1.6	2.9	2.7	3.4	2.3	2.6
Min	1.0	1.9	-	0.9	0.7	0.7	0.0	0.0	0.4	0.3	0.6	0.3	0.0
Cover.	90.9	61.5	0	94.4	89.1	80.0	81.6	89.3	93.1	95.6	99.3	96.0	81.0
Hmax													
Max	13.9	19.5	-	10.9	8.2	7.2	7.2	6.1	12.8	12.9	16.3	11.8	19.5
Mean	5.2	8.1	-	4.7	3.7	3.2	2.3	2.6	4.7	4.3	5.4	3.7	4.1
Min	1.7	3.0	-	1.4	1.2	1.2	0.1	0.1	0.7	0.5	1.0	0.6	0.0
Cover.	90.9	61.5	0	94.4	89.1	80.0	81.6	89.3	93.1	95.6	99.3	96.0	81.0
FF													
Max	22.1	29.7	23.3	22.3	18.7	18.5	18.0	20.9	19.3	22.9	25.5	22.5	29.7
Mean	7.1	13.0	10.9	8.7	8.0	7.7	5.4	6.0	8.5	8.8	10.3	7.1	8.5
Min	0.0	0.4	0.5	0.7	0.0	0.0	0.0	0.0	0.2	0.1	1.0	2.6	0.0
Cover.	52.4	98.5	92.8	100	100	100	100	99.9	100	100	100	100	95.2
FX													
Max	22.4	30.5	24.2	23.2	18.8	18.6	18.1	21.6	19.7	23.4	26.1	22.8	30.6
Cover.	52.4	98.5	92.8	100	100	100	100	99.9	100	100	100	100	95.2
FG													
Max	26.3	33.9	26.4	26.7	20.3	20.2	19.9	23.5	25.0	25.5	29.0	25.9	33.9
Mean	9.9	17.2	14.3	11.7	10.2	9.6	7.2	7.9	11.4	11.6	12.9	9.7	11.1
Min	3.8	3.5	3.6	2.6	1.8	1.8	2.1	1.5	2.1	1.6	3.3	2.4	1.5
Cover.	52.4	98.5	92.5	100	100	100	100	99.9	100	100	100	100	95.2

4.2 Frequency tables wind speed/wind direction

As mentioned in the introduction, environmental data has been measured in the Statfjord/Gullfaks area since 1978. From 1978 until November 1989 the measurements were performed at the platform Statfjord A. The logging of the environmental data was operational from 1981. For the period 1978-1980 3 hourly data is available. Below we have based the computations on the combined series from Statfjord A and Gullfaks C covering the period 1981-1997. In doing so hourly values of the parameters have been extracted from the period covered by Gullfaks C.

The reason for this is the change in storing frequency from December 1992. Until November 1992 only hourly values are available both from Statfjord A and Gullfaks C. From December 1992 measurements exist each 20 minute. Without reduction to hourly values the period after December 1992 would have been given too much weight.

The data coverage varies through the period analysed. The year to year variations are presented i Figure 4.1. It is seen that data coverage are low in 1988, 1990 and 1992. Statistical parameters of the frequency distribution are given in Figure 4.2. Due to the low data coverage the statistical parameters given for 1988, 1990 and 1992 are dubious.

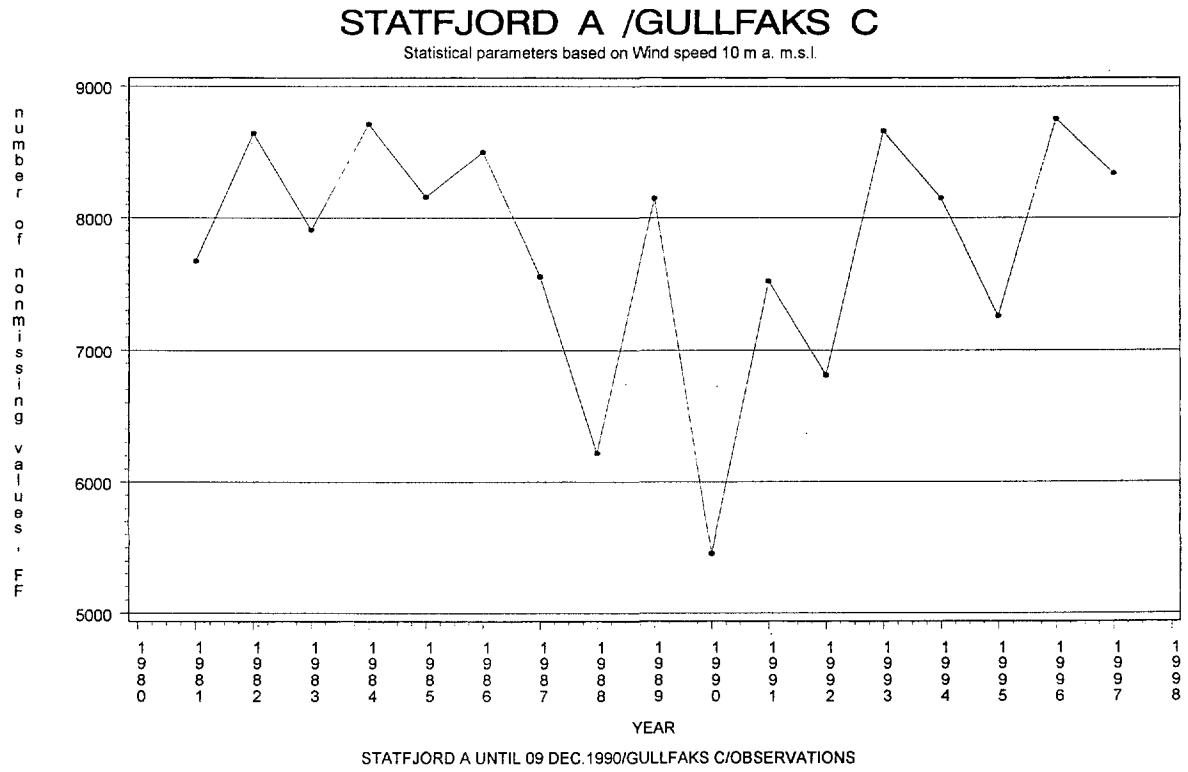


Figure 4.1 Data coverage for wind speed given as number of observations each year. 8760/8784 observations /year represents 100 % coverage

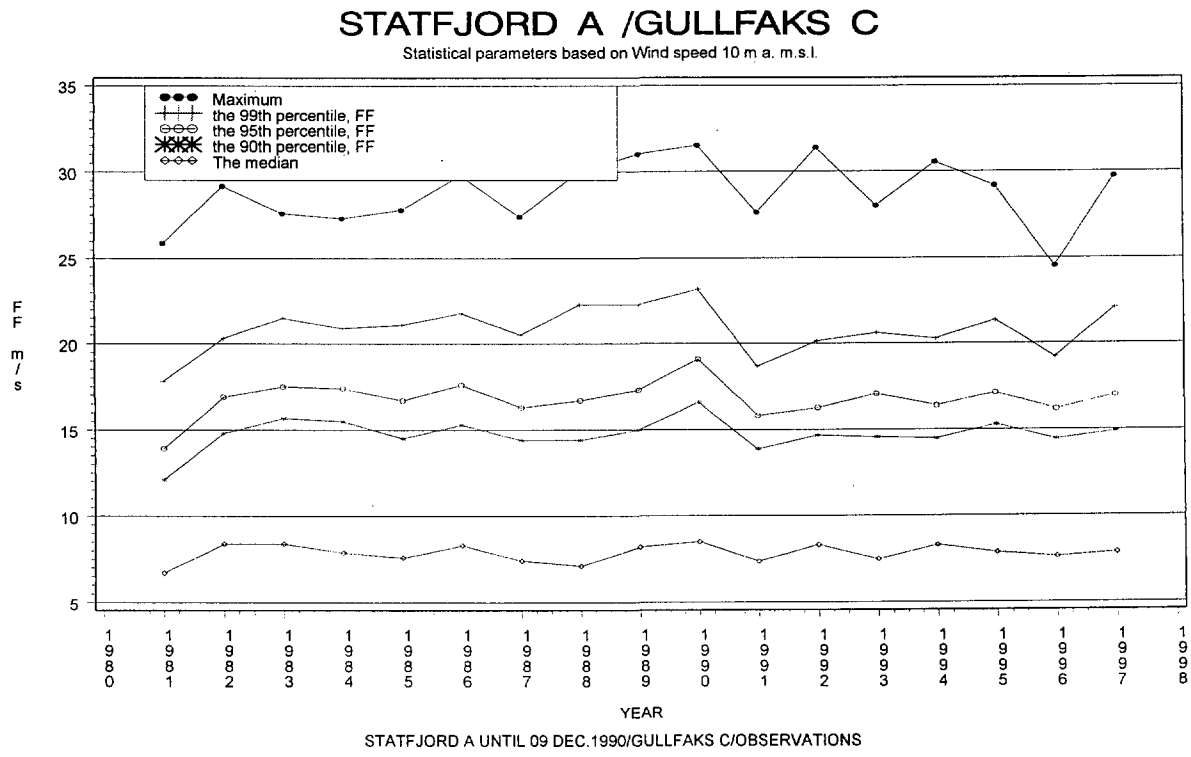


Figure 4.2 Statistical parameters based on the Yearly frequency distributions of wind speed. .Valid for 10 m. a.m.s.l. (Statfjord A/Gullfaks C)

4.2.1 Frequency tables wind speed / wind direction for 1997

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
January 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	7	3	2	.	1	2	3	.	1	3	.	2	24	6.15	6.15
2.0- 3.9	18	7	4	8	4	.	.	2	4	11	10	3	71	18.21	24.36
4.0- 5.9	15	15	6	14	3	.	.	.	.	5	38	11	107	27.44	51.79
6.0- 7.9	5	9	16	6	2	2	.	1	.	2	12	5	60	15.38	67.18
8.0- 9.9	4	1	9	1	6	.	4	1	5	9	7	2	49	12.56	79.74
10.0- 11.9	3	.	.	.	.	.	2	1	3	9	.	10	28	7.18	86.92
12.0- 13.9	.	.	.	.	.	.	4	1	5	5	.	3	18	4.62	91.54
14.0- 15.9	.	.	.	.	.	.	4	1	.	4	2	1	12	3.08	94.62
16.0- 17.9	.	.	.	.	.	.	3	.	2	.	.	.	5	1.28	95.90
18.0- 19.9	.	.	.	.	.	.	3	.	5	3	.	.	11	2.82	98.72
20.0- 21.9	.	.	.	.	.	.	5	.	.	.	.	.	5	1.28	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	52	35	37	29	16	4	28	7	25	51	69	37	390		
Rel.fr.	13.3	9.0	9.5	7.4	4.1	1.0	7.2	1.8	6.4	13.1	17.7	9.5			
Cum.fr.	13.3	22.3	31.8	39.2	43.3	44.4	51.5	53.3	59.7	72.8	90.5	100.0			
Max. FF	11.6	8.3	9.6	8.9	8.7	7.5	21.7	14.6	19.8	19.1	15.0	15.3			
Mean FF	4.6	4.8	6.3	5.1	5.7	4.5	13.8	8.5	11.4	8.5	5.6	7.6			
St.dev. FF	2.8	2.0	2.3	1.6	2.5	3.3	6.1	4.8	5.7	4.8	2.3	3.8			

DATA COVERAGE: 52.4%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
February 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	.	3	2	2	1	2	1	.	1	1	.	1	14	2.11	2.11
2.0- 3.9	3	.	.	3	.	3	4	3	2	.	3	.	21	3.17	5.28
4.0- 5.9	3	.	.	3	.	2	4	3	5	2	5	.	27	4.07	9.35
6.0- 7.9	.	3	1	1	.	1	8	7	11	5	6	2	45	6.79	16.14
8.0- 9.9	.	1	4	.	.	3	10	16	10	17	13	3	77	11.61	27.75
10.0- 11.9	.	8	8	.	.	2	7	20	29	16	21	9	120	18.10	45.85
12.0- 13.9	.	.	6	.	.	2	11	17	20	13	15	7	91	13.73	59.58
14.0- 15.9	.	.	14	.	1	1	9	18	22	8	5	7	85	12.82	72.40
16.0- 17.9	.	.	8	.	.	.	10	25	19	10	8	6	86	12.97	85.37
18.0- 19.9	.	.	.	.	.	.	7	11	5	2	1	1	27	4.07	89.44
20.0- 21.9	.	.	.	.	.	1	6	7	1	3	11	2	31	4.68	94.12
22.0- 23.9	.	.	.	.	.	2	4	.	.	.	.	1	7	1.06	95.17
24.0- 25.9	.	.	.	.	.	4	15	.	.	.	.	2	21	3.17	98.34
26.0- 27.9	.	.	.	.	.	2	5	.	.	.	.	.	7	1.06	99.40
28.0- 29.9	.	.	.	.	.	3	1	.	.	.	.	.	4	0.60	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	6	15	43	9	2	28	102	127	125	77	88	41	663		
Rel.fr.	0.9	2.3	6.5	1.4	0.3	4.2	15.4	19.2	18.9	11.6	13.3	6.2			
Cum.fr.	0.9	3.2	9.7	11.0	11.3	15.5	30.9	50.1	68.9	80.5	93.8	100.0			
Max. FF	5.3	11.5	17.9	6.8	15.3	28.8	29.7	21.6	20.3	21.5	21.6	24.4			
Mean FF	4.2	7.9	13.0	4.1	8.0	15.1	15.6	13.4	12.3	12.2	12.3	14.0			
St.dev. FF	1.1	3.7	3.8	1.8	10.3	10.0	7.1	4.3	3.9	3.9	4.7	4.8			

DATA COVERAGE: 98.7%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
March 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	2	1	1	2	1	.	.	1	1	1	1	.	11	1.59	1.59
2.0- 3.9	6	7	4	3	.	.	2	3	5	7	2	9	48	6.96	8.55
4.0- 5.9	10	6	2	5	1	.	2	6	6	7	5	8	58	8.41	16.96
6.0- 7.9	2	5	3	.	1	.	3	5	7	4	7	16	53	7.68	24.64
8.0- 9.9	9	5	.	.	4	.	4	18	19	22	7	17	105	15.22	39.86
10.0- 11.9	7	.	.	.	.	6	2	22	37	23	9	9	115	16.67	56.52
12.0- 13.9	1	.	.	.	.	16	2	20	21	19	11	17	107	15.51	72.03
14.0- 15.9	.	.	.	.	.	10	27	12	13	26	8	10	106	15.36	87.39
16.0- 17.9	.	.	.	.	.	3	24	7	3	7	6	3	53	7.68	95.07
18.0- 19.9	.	.	.	.	.	7	4	5	.	3	3	1	23	3.33	98.41
20.0- 21.9	.	.	.	.	.	.	2	5	.	1	.	.	8	1.16	99.57
22.0- 23.9	.	.	.	.	.	.	2	.	.	1	.	.	3	0.43	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	37	24	10	10	7	42	74	104	112	121	59	90	690		
Rel.fr.	5.4	3.5	1.4	1.4	1.0	6.1	10.7	15.1	16.2	17.5	8.6	13.0			
Cum.fr.	5.4	8.8	10.3	11.7	12.8	18.8	29.6	44.6	60.9	78.4	87.0	100.0			
Max. FF	13.5	9.5	7.4	4.7	9.6	19.7	23.3	20.9	17.8	22.5	18.1	18.4			
Mean FF	7.0	5.5	4.3	3.5	7.0	14.5	14.8	11.8	10.6	11.5	11.2	9.6			
St.dev. FF	3.3	2.5	2.0	1.1	3.2	2.5	3.9	4.3	3.3	4.1	4.2	4.0			

DATA COVERAGE: 92.7%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
April 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			1	0.14	
<= 1.9	.	2	4	3	2	2	3	1	.	.	.	.	17	2.36	2.50
2.0- 3.9	13	4	2	1	3	10	8	3	.	6	9	6	65	9.03	11.53
4.0- 5.9	25	20	7	.	3	4	3	1	6	9	12	17	107	14.86	26.39
6.0- 7.9	15	23	16	4	5	11	11	3	13	17	20	9	147	20.42	46.81
8.0- 9.9	23	18	2	3	5	4	9	6	8	18	22	17	135	18.75	65.56
10.0- 11.9	20	6	.	2	.	4	2	12	11	17	16	10	100	13.89	79.44
12.0- 13.9	26	4	1	1	.	.	2	.	9	16	8	7	74	10.28	89.72
14.0- 15.9	12	8	4	.	.	.	3	.	.	6	6	6	45	6.25	95.97
16.0- 17.9	4	1	.	.	.	.	.	.	1	4	1	4	15	2.08	98.06
18.0- 19.9	7	.	.	.	.	.	.	.	.	.	.	3	10	1.39	99.44
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	.	3	3	0.42	99.86
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	1	1	0.14	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	145	86	36	14	18	35	41	26	48	93	94	83	720		
Rel.fr.	20.1	11.9	5.0	1.9	2.5	4.9	5.7	3.6	6.7	12.9	13.1	11.5			
Cum.fr.	20.1	32.1	37.1	39.0	41.5	46.4	52.1	55.7	62.4	75.3	88.3	99.9			
Max. FF	19.6	16.2	15.1	12.0	8.6	10.9	15.4	11.8	16.1	17.5	16.5	22.3			
Mean FF	9.8	8.0	6.8	6.8	5.9	5.9	7.3	8.5	9.3	9.7	8.7	9.8			
St.dev. FF	4.4	3.4	3.6	3.7	2.4	2.9	3.7	3.1	2.9	3.6	3.4	4.9			

DATA COVERAGE: 100.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
May 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	0	0.00	
<= 1.9	6	4	9	7	2	1	4	5	5	.	.	1	44	5.91	5.91
2.0- 3.9	6	18	9	10	7	1	5	20	6	15	8	15	120	16.13	22.04
4.0- 5.9	10	12	13	4	1	4	2	14	18	12	.	11	101	13.58	35.62
6.0- 7.9	20	9	25	2	4	3	2	25	12	3	6	25	136	18.28	53.90
8.0- 9.9	13	19	9	4	3	3	10	8	9	.	1	18	97	13.04	66.94
10.0- 11.9	5	14	8	1	4	9	23	7	2	.	1	3	77	10.35	77.28
12.0- 13.9	2	29	7	2	4	6	27	1	7	1	.	.	86	11.56	88.84
14.0- 15.9	.	16	27	.	.	1	.	.	6	.	.	.	50	6.72	95.56
16.0- 17.9	.	.	30	.	.	.	.	.	.	.	.	.	30	4.03	99.60
18.0- 19.9	.	.	3	.	.	.	.	.	.	.	.	.	3	0.40	100.00
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	62	121	140	30	25	28	73	80	65	31	16	73	744		
Rel.fr.	8.3	16.3	18.8	4.0	3.4	3.8	9.8	10.8	8.7	4.2	2.2	9.8			
Cum.fr.	8.3	24.6	43.4	47.4	50.8	54.6	64.4	75.1	83.9	88.0	90.2	100.0			
Max. FF	13.0	15.9	18.5	12.4	13.1	15.0	13.5	12.0	15.9	12.6	11.7	11.9			
Mean FF	6.6	9.3	10.8	4.6	7.2	9.3	10.0	5.8	7.3	4.4	5.3	6.4			
St.dev. FF	3.0	4.3	5.4	3.6	4.1	3.5	3.5	2.7	4.1	2.0	2.8	2.4			

DATA COVERAGE: 100.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
June 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	0	0.00	
<= 1.9	10	4	8	7	7	6	2	4	8	5	1	2	64	8.89	8.89
2.0- 3.9	7	13	22	11	4	6	5	4	4	4	5	6	93	12.92	21.81
4.0- 5.9	13	11	12	3	3	3	11	5	2	5	8	17	93	12.92	34.72
6.0- 7.9	1	21	16	10	6	15	33	21	1	.	7	14	145	20.14	54.86
8.0- 9.9	7	19	19	5	1	15	17	4	.	.	.	8	95	13.19	68.06
10.0- 11.9	26	53	2	1	.	2	13	.	.	.	.	3	100	13.89	81.94
12.0- 13.9	8	49	.	.	.	1	12	.	.	.	.	.	70	9.72	91.67
14.0- 15.9	.	23	.	.	.	.	25	.	.	.	.	.	48	6.67	98.33
16.0- 17.9	.	2	.	.	.	.	10	.	.	.	.	.	12	1.67	100.00
18.0- 19.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	72	195	79	37	21	48	128	38	15	14	21	52	720		
Rel.fr.	10.0	27.1	11.0	5.1	2.9	6.7	17.8	5.3	2.1	1.9	2.9	7.2			
Cum.fr.	10.0	37.1	48.1	53.2	56.1	62.8	80.6	85.8	87.9	89.9	92.8	100.0			
Max. FF	13.0	16.6	11.0	10.4	8.3	12.9	17.7	8.3	6.2	5.8	6.6	10.4			
Mean FF	7.5	10.3	5.5	4.8	4.1	6.5	10.1	5.7	2.3	3.1	4.8	5.8			
St.dev. FF	4.3	3.6	2.8	3.0	2.7	3.1	4.2	2.0	1.7	1.7	1.6	2.3			

DATA COVERAGE: 100.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
July 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	10	7	10	5	4	4	.	1	4	1	1	2	49	6.59	6.59
2.0- 3.9	19	13	17	9	17	15	30	16	14	16	15	10	191	25.67	32.26
4.0- 5.9	1	18	25	2	9	31	45	8	20	37	35	6	237	31.85	64.11
6.0- 7.9	.	36	11	1	6	18	34	9	21	3	10	.	149	20.03	84.14
8.0- 9.9	.	6	4	.	.	29	22	2	4	.	8	.	75	10.08	94.22
10.0- 11.9	.	5	.	.	.	16	6	.	.	.	.	.	27	3.63	97.85
12.0- 13.9	.	.	2	.	.	6	.	.	.	.	.	.	8	1.08	98.92
14.0- 15.9	.	.	2	.	.	.	.	.	.	.	.	.	2	0.27	99.19
16.0- 17.9	.	5	1	.	.	.	.	.	.	.	.	.	6	0.81	100.00
18.0- 19.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	30	90	72	17	36	119	137	36	63	57	69	18	744		
Rel.fr.	4.0	12.1	9.7	2.3	4.8	16.0	18.4	4.8	8.5	7.7	9.3	2.4			
Cum.fr.	4.0	16.1	25.8	28.1	32.9	48.9	67.3	72.2	80.6	88.3	97.6	100.0			
Max. FF	4.0	17.3	17.7	7.0	7.6	13.6	11.6	9.0	8.4	6.3	8.6	5.8			
Mean FF	2.2	6.3	5.1	2.9	4.0	7.0	5.9	4.6	5.1	4.4	5.2	3.2			
St.dev. FF	0.9	3.6	3.3	1.6	1.7	3.1	2.1	2.0	2.0	1.0	1.8	1.6			
DATA COVERAGE:	100.0%														

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
August 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	9	7	6	9	5	3	1	1	5	3	4	3	56	7.54	7.54
2.0- 3.9	10	20	13	20	10	8	22	25	14	35	23	5	205	27.59	35.13
4.0- 5.9	5	20	20	4	13	8	27	27	6	39	21	2	192	25.84	60.97
6.0- 7.9	1	5	8	5	5	7	16	13	23	6	4	1	94	12.65	73.62
8.0- 9.9	1	.	10	.	4	2	15	17	20	.	1	.	70	9.42	83.04
10.0- 11.9	.	.	1	1	.	17	24	12	15	.	.	.	70	9.42	92.46
12.0- 13.9	.	.	.	.	1	1	21	12	.	.	.	.	35	4.71	97.17
14.0- 15.9	.	.	.	.	1	.	15	2	.	.	.	.	18	2.42	99.60
16.0- 17.9	.	.	.	.	.	1	1	.	.	.	.	.	2	0.27	99.87
18.0- 19.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	99.87
20.0- 21.9	.	.	.	.	.	1	.	.	.	.	.	.	1	0.13	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	26	52	58	39	39	48	142	109	83	83	53	11	743		
Rel.fr.	3.5	7.0	7.8	5.2	5.2	6.5	19.1	14.7	11.2	11.2	7.1	1.5			
Cum.fr.	3.5	10.5	18.3	23.6	28.8	35.3	54.4	69.0	80.2	91.4	98.5	100.0			
Max. FF	8.4	7.8	10.0	10.1	14.7	20.9	16.2	14.4	11.9	7.2	8.4	6.0			
Mean FF	3.0	3.8	5.2	3.5	5.0	7.7	8.6	7.0	6.9	4.2	4.0	2.9			
St.dev. FF	1.9	1.7	2.5	2.0	3.2	4.3	4.0	3.5	3.0	1.2	1.7	1.7			
DATA COVERAGE:	99.9%														

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
September 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
									Number of calms				0	0.00	
<= 1.9	3	.	.	.	.	.	1	1	4	1	1	1	12	1.67	1.67
2.0- 3.9	.	.	.	.	.	.	8	13	19	29	19	10	98	13.61	15.28
4.0- 5.9	.	.	.	.	1	.	7	22	10	21	30	11	102	14.17	29.44
6.0- 7.9	2	.	.	.	3	.	10	25	26	18	28	14	126	17.50	46.94
8.0- 9.9	6	.	.	.	2	.	17	18	30	30	33	24	160	22.22	69.17
10.0- 11.9	.	.	.	.	.	3	16	7	11	10	12	13	72	10.00	79.17
12.0- 13.9	.	.	.	.	.	7	16	8	3	11	3	7	55	7.64	86.81
14.0- 15.9	.	.	.	.	.	4	14	14	2	3	7	13	57	7.92	94.72
16.0- 17.9	.	.	.	.	.	1	6	5	2	2	6	10	32	4.44	99.17
18.0- 19.9	.	.	.	.	.	.	.	.	1	3	2	.	6	0.83	100.00
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	11	0	0	0	6	15	95	113	108	128	141	103	720		
Rel.fr.	1.5	0.0	0.0	0.0	0.8	2.1	13.2	15.7	15.0	17.8	19.6	14.3			
Cum.fr.	1.5	1.5	1.5	1.5	2.4	4.4	17.6	33.3	48.3	66.1	85.7	100.0			
Max. FF	9.4	.	.	.	9.7	16.1	17.0	17.7	18.1	18.6	18.9	17.6			
Mean FF	6.2	.	.	.	7.6	13.3	10.3	8.4	7.4	7.6	7.8	9.7			
St.dev. FF	3.9	.	.	.	1.4	1.8	4.0	4.1	3.6	3.9	3.9	4.3			

DATA COVERAGE: 100.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
October 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			1	0.13	
<= 1.9	4	3	5	5	8	2	2	.	1	.	.	4	34	4.57	4.70
2.0- 3.9	10	10	5	10	6	9	3	.	7	1	2	2	65	8.74	13.44
4.0- 5.9	14	3	3	2	.	5	8	9	10	9	.	3	66	8.87	22.31
6.0- 7.9	21	7	.	.	.	1	30	22	14	28	5	8	136	18.28	40.59
8.0- 9.9	24	3	.	.	.	3	35	13	12	15	16	23	144	19.35	59.95
10.0- 11.9	27	.	.	.	6	5	18	9	4	24	15	46	154	20.70	80.65
12.0- 13.9	30	.	.	.	4	4	12	1	6	4	2	16	79	10.62	91.26
14.0- 15.9	11	.	.	.	.	.	6	1	1	2	1	9	31	4.17	95.43
16.0- 17.9	.	.	.	.	.	.	9	1	.	1	3	5	19	2.55	97.98
18.0- 19.9	.	.	.	.	.	.	3	2	.	.	2	4	11	1.48	99.46
20.0- 21.9	.	.	.	.	.	.	.	.	.	.	1	.	1	0.13	99.60
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	3	.	3	0.40	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	141	26	13	17	24	29	126	58	55	84	50	120	744		
Rel.fr.	19.0	3.5	1.7	2.3	3.2	3.9	16.9	7.8	7.4	11.3	6.7	16.1			
Cum.fr.	19.0	22.4	24.2	26.5	29.7	33.6	50.5	58.3	65.7	77.0	83.7	99.9			
Max. FF	15.9	9.8	4.7	4.3	13.2	13.3	19.4	19.9	14.4	16.5	22.9	19.6			
Mean FF	9.3	4.6	2.8	2.5	6.1	6.6	9.7	8.6	7.5	8.7	11.3	10.7			
St.dev. FF	3.6	2.6	1.3	1.1	5.2	4.2	3.8	3.2	3.2	2.5	4.5	3.6			
DATA COVERAGE:	100.0%														

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
November 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			0	0.00	
<= 1.9	.	.	.	.	2	2	4	1	1	.	.	.	10	1.39	1.39
2.0- 3.9	1	.	3	11	14	8	12	10	.	.	.	.	59	8.19	9.58
4.0- 5.9	3	2	7	4	14	35	18	7	1	.	.	1	92	12.78	22.36
6.0- 7.9	4	5	4	.	1	29	40	4	8	1	1	1	98	13.61	35.97
8.0- 9.9	3	16	4	2	16	27	39	12	4	4	6	1	134	18.61	54.58
10.0- 11.9	5	7	6	4	5	57	43	5	.	2	1	.	135	18.75	73.33
12.0- 13.9	.	1	.	.	4	32	34	.	.	.	.	.	71	9.86	83.19
14.0- 15.9	.	.	.	.	.	4	12	.	.	.	.	.	16	2.22	85.42
16.0- 17.9	.	.	.	.	.	3	4	.	.	.	.	.	7	0.97	86.39
18.0- 19.9	.	.	.	.	.	.	21	.	.	.	.	.	21	2.92	89.31
20.0- 21.9	.	.	.	.	.	.	31	.	.	.	.	.	31	4.31	93.61
22.0- 23.9	.	.	.	.	.	.	37	.	.	.	.	.	37	5.14	98.75
24.0- 25.9	.	.	.	.	.	.	9	.	.	.	.	.	9	1.25	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	16	31	24	21	56	197	304	39	14	7	8	3	720		
Rel.fr.	2.2	4.3	3.3	2.9	7.8	27.4	42.2	5.4	1.9	1.0	1.1	0.4			
Cum.fr.	2.2	6.5	9.9	12.8	20.6	47.9	90.1	95.6	97.5	98.5	99.6	100.0			
Max. FF	11.3	12.0	10.9	11.0	13.9	16.9	25.2	10.7	9.4	11.0	10.9	8.1			
Mean FF	8.2	8.9	7.1	5.2	6.7	9.1	13.3	6.5	7.0	9.1	9.0	6.9			
St.dev. FF	2.6	1.8	2.8	3.3	3.3	3.3	6.5	3.0	2.0	1.1	0.9	1.9			

DATA COVERAGE: 100.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
December 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			1	0.13	
<= 1.9	7	4	2	3	2	6	3	1	3	.	1	1	33	4.44	4.57
2.0- 3.9	8	17	15	24	21	19	13	5	15	12	9	7	165	22.18	26.75
4.0- 5.9	13	18	15	17	4	6	9	10	19	4	2	8	125	16.80	43.55
6.0- 7.9	21	21	18	8	6	8	15	35	13	4	2	11	162	21.77	65.32
8.0- 9.9	1	10	7	9	.	13	15	28	8	3	1	6	101	13.58	78.90
10.0- 11.9	.	.	.	.	.	9	11	18	10	1	2	5	56	7.53	86.42
12.0- 13.9	.	.	.	.	.	4	11	11	5	.	1	.	32	4.30	90.73
14.0- 15.9	.	.	.	.	.	2	24	2	2	.	.	.	30	4.03	94.76
16.0- 17.9	.	.	.	.	.	3	9	.	2	.	.	.	14	1.88	96.64
18.0- 19.9	.	.	.	.	.	18	3	.	.	.	.	.	21	2.82	99.46
20.0- 21.9	.	.	.	.	.	3	1	.	.	.	.	.	4	0.54	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.			
Sum	50	70	57	61	33	91	114	110	77	24	18	38	744		
Rel.fr.	6.7	9.4	7.7	8.2	4.4	12.2	15.3	14.8	10.3	3.2	2.4	5.1			
Cum.fr.	6.7	16.1	23.8	32.0	36.4	48.7	64.0	78.8	89.1	92.3	94.8	99.9			
Max. FF	8.4	9.6	9.1	9.1	6.5	21.8	20.1	15.9	16.3	11.6	13.5	11.3			
Mean FF	5.0	5.5	5.4	4.7	3.6	9.9	10.3	8.5	7.0	4.9	5.4	6.4			
St.dev. FF	2.1	2.2	2.2	2.2	1.6	6.5	4.9	2.7	3.8	2.6	3.3	2.5			
DATA COVERAGE:	100.0%														

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
Jan.-Dec. 1997

FF	DD 345.0 - 15.0	15.0 - 45.0	45.0 - 75.0	75.0 - 105.0	105.0 - 135.0	135.0 - 165.0	165.0 - 195.0	195.0 - 225.0	225.0 - 255.0	255.0 - 285.0	285.0 - 315.0	315.0 - 345.0	Sum	Rel. fr.	Cum. fr.
Number of calms													3	0.04	
<= 1.9	58	38	49	43	35	30	24	16	34	15	9	17	368	4.41	4.45
2.0- 3.9	101	109	94	110	86	79	112	104	90	136	105	75	1201	14.40	18.84
4.0- 5.9	112	125	110	58	52	98	136	112	103	150	156	95	1307	15.67	34.51
6.0- 7.9	92	144	118	37	39	95	202	170	149	91	108	106	1351	16.20	50.71
8.0- 9.9	91	98	68	24	41	99	197	143	129	118	115	119	1242	14.89	65.60
10.0- 11.9	93	93	25	9	15	130	167	113	122	102	77	108	1054	12.63	78.23
12.0- 13.9	67	83	16	3	13	79	152	71	76	69	40	57	726	8.70	86.93
14.0- 15.9	23	47	47	.	2	22	139	50	46	49	29	46	500	5.99	92.93
16.0- 17.9	4	8	39	.	.	11	76	38	29	24	24	28	281	3.37	96.30
18.0- 19.9	7	.	3	.	.	25	41	18	11	11	8	9	133	1.59	97.89
20.0- 21.9	.	.	.	.	.	5	45	12	1	4	12	5	84	1.01	98.90
22.0- 23.9	.	.	.	.	.	2	43	.	.	1	3	2	51	0.61	99.51
24.0- 25.9	.	.	.	.	.	4	24	.	.	.	.	2	30	0.36	99.87
26.0- 27.9	.	.	.	.	.	2	5	.	.	.	.	.	7	0.08	99.95
28.0- 29.9	.	.	.	.	.	3	1	.	.	.	.	.	4	0.05	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	648	745	569	284	283	684	1364	847	790	770	686	669	8342		
Rel.fr.	7.8	8.9	6.8	3.4	3.4	8.2	16.4	10.2	9.5	9.2	8.2	8.0			
Cum.fr.	7.8	16.7	23.5	26.9	30.3	38.5	54.9	65.0	74.5	83.7	91.9	100.0			
Max. FF	19.6	17.3	18.5	12.4	15.3	28.8	29.7	21.6	20.3	22.5	22.9	24.4			
Mean FF	7.4	7.7	7.4	4.4	5.5	8.9	10.9	8.8	8.5	8.2	8.1	8.9			
St.dev. FF	4.2	4.0	4.6	2.6	3.4	4.9	5.6	4.4	4.2	4.3	4.4	4.4			

DATA COVERAGE: 95.2%

STATISTICS

	Mean FF *m/s*	*St.dev. FF* *m/s*	*Maximum FF* *m/s*	*DD* *degrees*	*date*
January	7.0	4.4	21.7	175.5	11.01.1997 23 UT
February	13.0	5.4	29.7	169.1	17.02.1997 23 UT
March	11.0	4.5	23.3	186.6	25.03.1997 13 UT
April	8.7	4.0	22.3	344.3	02.04.1997 22 UT
May	8.0	4.4	18.5	50.4	19.05.1997 06 UT
June	7.7	4.2	17.7	174.3	07.06.1997 16 UT
July	5.4	2.7	17.7	45.0	01.07.1997 04 UT
August	6.0	3.5	20.9	147.7	28.08.1997 23 UT
September	8.5	4.1	18.9	306.3	08.09.1997 17 UT
October	8.8	4.0	22.9	307.7	01.10.1997 17 UT
November	10.3	5.5	25.2	173.6	18.11.1997 16 UT
December	7.2	4.3	21.8	156.0	24.12.1997 08 UT

4.2.2 Frequency tables wind speed and wind direction for the period 1981-1997

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
January 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			69	0.65	
<= 1.9	22	16	29	31	17	22	18	22	29	68	16	19	309	2.91	3.56
2.0- 3.9	73	49	75	103	53	44	72	65	103	72	75	61	845	7.96	11.52
4.0- 5.9	100	97	94	113	72	93	101	77	96	99	165	102	1209	11.39	22.90
6.0- 7.9	101	136	102	63	50	86	110	115	129	107	118	147	1264	11.90	34.81
8.0- 9.9	160	114	78	39	33	121	183	214	179	126	133	178	1558	14.67	49.48
10.0- 11.9	141	98	23	7	23	106	205	165	156	134	98	153	1309	12.33	61.80
12.0- 13.9	115	88	8	3	15	95	254	242	174	120	66	91	1271	11.97	73.77
14.0- 15.9	76	23	8	2	4	114	301	213	135	111	57	54	1098	10.34	84.11
16.0- 17.9	36	6	4	.	15	83	255	164	73	91	28	38	793	7.47	91.58
18.0- 19.9	13	4	.	2	10	35	119	77	54	71	9	26	420	3.96	95.54
20.0- 21.9	5	.	.	.	2	26	65	51	29	30	7	9	224	2.11	97.65
22.0- 23.9	1	.	.	.	2	20	54	36	20	15	3	4	155	1.46	99.11
24.0- 25.9	.	.	.	.	.	7	24	11	6	6	.	.	54	0.51	99.61
26.0- 27.9	.	.	.	.	.	1	9	1	4	3	.	.	18	0.17	99.78
28.0- 29.9	.	.	.	.	.	.	8	5	4	1	.	.	18	0.17	99.95
>=30.0	.	.	.	.	.	.	.	.	4	.	.	1	5	0.05	100.00
Sum	843	631	421	363	296	853	1778	1458	1195	1054	775	883	10619		
Rel.fr.	7.9	5.9	4.0	3.4	2.8	8.0	16.7	13.7	11.3	9.9	7.3	8.3			
Cum.fr.	7.9	13.9	17.8	21.3	24.1	32.1	48.8	62.6	73.8	83.7	91.0	99.4			
Max. FF	22.4	19.6	17.7	19.3	23.3	26.8	29.8	29.5	31.4	29.7	23.4	30.5			
Mean FF	9.5	8.5	6.3	5.1	7.5	11.4	13.2	12.4	11.0	10.8	8.6	9.5			
St.dev. FF	4.2	3.6	3.2	2.8	4.7	5.3	5.3	5.1	5.4	5.8	4.3	4.4			

DATA COVERAGE: 84.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
February 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	21	0.20	
<= 1.9	21	29	39	33	24	21	10	17	28	19	8	13	262	2.45	2.64
2.0- 3.9	71	66	76	63	56	62	64	114	118	95	56	64	905	8.45	11.09
4.0- 5.9	91	100	71	69	74	90	152	169	173	167	98	107	1361	12.71	23.80
6.0- 7.9	99	95	77	53	24	107	229	241	202	168	107	131	1533	14.31	38.11
8.0- 9.9	95	69	59	24	18	97	318	283	225	221	115	135	1659	15.49	53.60
10.0- 11.9	79	48	58	20	44	108	278	243	224	200	95	102	1499	13.99	67.59
12.0- 13.9	55	34	16	11	18	151	270	179	169	152	63	76	1194	11.15	78.74
14.0- 15.9	41	19	23	4	19	147	256	132	98	92	41	55	927	8.65	87.40
16.0- 17.9	22	7	12	.	6	58	219	117	60	58	30	29	618	5.77	93.17
18.0- 19.9	14	.	1	1	12	46	114	75	38	21	17	19	358	3.34	96.51
20.0- 21.9	6	.	.	.	2	20	87	43	19	12	13	8	210	1.96	98.47
22.0- 23.9	1	.	.	.	.	17	24	29	7	4	3	7	92	0.86	99.33
24.0- 25.9	.	.	.	.	.	5	23	13	1	.	1	4	47	0.44	99.77
26.0- 27.9	1	.	.	.	.	2	6	2	2	.	.	.	13	0.12	99.89
28.0- 29.9	.	.	.	.	.	3	1	3	.	.	.	1	8	0.07	99.96
>=30.0	.	.	.	.	.	.	.	1	2	.	.	1	4	0.04	100.00
Sum	596	467	432	278	297	934	2051	1661	1366	1209	647	752	10711		
Rel.fr.	5.6	4.4	4.0	2.6	2.8	8.7	19.1	15.5	12.8	11.3	6.0	7.0			
Cum.fr.	5.6	9.9	14.0	16.6	19.3	28.0	47.2	62.7	75.5	86.7	92.8	99.8			
Max. FF	26.6	17.3	18.0	18.3	21.5	28.8	29.7	30.4	31.5	22.8	25.0	31.0			
Mean FF	8.7	7.2	7.2	5.6	7.6	11.3	12.1	10.7	9.7	9.5	9.4	9.5			
St.dev. FF	4.6	3.7	4.1	3.4	4.9	5.3	5.0	5.2	4.6	4.3	4.5	4.8			

DATA COVERAGE: 93.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
March 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	82	0.73	
<= 1.9	31	28	24	19	37	22	23	20	20	20	16	29	289	2.58	3.31
2.0- 3.9	98	79	104	68	60	77	81	108	99	100	84	95	1053	9.38	12.69
4.0- 5.9	135	122	129	88	74	111	168	153	127	126	134	94	1461	13.02	25.71
6.0- 7.9	137	95	59	56	85	94	192	203	190	158	110	106	1485	13.23	38.94
8.0- 9.9	129	69	44	32	74	123	268	221	251	208	120	114	1653	14.73	53.68
10.0- 11.9	114	43	43	17	63	101	264	204	224	163	90	132	1458	12.99	66.67
12.0- 13.9	103	28	20	10	54	135	218	239	164	144	71	119	1305	11.63	78.30
14.0- 15.9	69	19	8	11	17	115	256	173	113	100	45	69	995	8.87	87.17
16.0- 17.9	33	13	3	3	9	100	199	123	70	58	28	34	673	6.00	93.16
18.0- 19.9	23	10	.	.	5	78	140	62	33	35	19	15	420	3.74	96.91
20.0- 21.9	13	8	.	.	3	27	93	43	15	12	5	4	223	1.99	98.89
22.0- 23.9	4	3	.	.	3	18	44	12	6	5	2	1	98	0.87	99.77
24.0- 25.9	.	2	.	.	.	1	10	2	1	2	.	1	19	0.17	99.94
26.0- 27.9	.	2	.	.	.	.	1	.	.	.	.	.	3	0.03	99.96
28.0- 29.9	.	2	.	.	.	.	.	.	.	1	.	.	3	0.03	99.99
>=30.0	.	1	.	.	.	.	.	.	.	.	.	.	1	0.01	100.00
Sum	889	524	434	304	484	1002	1957	1563	1313	1132	724	813	11221		
Rel.fr.	7.9	4.7	3.9	2.7	4.3	8.9	17.4	13.9	11.7	10.1	6.5	7.2			
Cum.fr.	7.9	12.6	16.5	19.2	23.5	32.4	49.9	63.8	75.5	85.6	92.0	99.3			
Max. FF	22.7	30.0	17.0	16.9	22.5	24.0	26.6	24.2	24.3	28.0	22.1	24.2			
Mean FF	9.0	7.8	6.2	6.2	8.0	11.3	12.1	10.8	9.9	9.9	8.8	9.3			
St.dev. FF	4.7	5.1	3.4	3.5	4.4	5.4	5.3	4.8	4.3	4.6	4.5	4.5			

DATA COVERAGE: 88.7%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
April 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	29	0.27	
<= 1.9	68	54	50	23	36	42	46	49	53	45	41	26	533	4.99	5.26
2.0- 3.9	195	127	101	151	138	116	151	187	114	105	150	126	1661	15.54	20.79
4.0- 5.9	270	219	123	113	103	127	182	191	121	108	121	167	1845	17.26	38.05
6.0- 7.9	231	266	138	76	66	150	224	217	143	121	106	106	1844	17.25	55.30
8.0- 9.9	168	205	75	27	40	109	249	287	191	103	85	105	1644	15.38	70.68
10.0- 11.9	110	158	49	19	19	76	259	222	143	60	89	105	1309	12.24	82.92
12.0- 13.9	96	133	20	12	27	66	189	104	63	51	52	80	893	8.35	91.27
14.0- 15.9	55	123	10	2	8	48	121	44	16	24	20	66	537	5.02	96.30
16.0- 17.9	26	54	2	.	1	18	65	12	9	7	13	34	241	2.25	98.55
18.0- 19.9	30	32	.	.	.	11	17	3	2	1	6	13	115	1.08	99.63
20.0- 21.9	7	.	.	.	1	4	8	4	.	2	.	5	31	0.29	99.92
22.0- 23.9	.	.	.	.	1	1	2	2	.	.	1	1	8	0.07	99.99
24.0- 25.9	.	.	.	.	.	1	.	.	.	.	.	.	1	0.01	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1256	1371	568	423	440	769	1513	1322	855	627	684	834	10691		
Rel.fr.	11.7	12.8	5.3	4.0	4.1	7.2	14.2	12.4	8.0	5.9	6.4	7.8			
Cum.fr.	11.7	24.6	29.9	33.8	38.0	45.2	59.3	71.7	79.7	85.5	91.9	99.7			
Max. FF	21.2	19.9	17.4	14.2	22.5	24.3	23.7	22.3	18.3	21.0	22.0	22.3			
Mean FF	7.6	8.7	6.2	5.2	5.7	7.9	9.2	7.9	7.6	7.2	7.1	8.4			
St.dev. FF	4.4	4.4	3.3	2.8	3.6	4.4	4.3	3.7	3.6	3.9	4.1	4.6			

DATA COVERAGE: 87.3%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
May 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			31	0.27	
<= 1.9	80	71	52	46	38	50	49	39	71	24	40	44	604	5.19	5.46
2.0- 3.9	199	134	82	112	133	139	138	176	138	123	175	220	1769	15.20	20.66
4.0- 5.9	265	167	94	80	117	227	204	191	165	120	158	337	2125	18.26	38.92
6.0- 7.9	387	298	104	58	100	187	183	180	166	111	90	221	2085	17.92	56.84
8.0- 9.9	296	479	75	52	88	170	219	206	155	77	69	153	2039	17.52	74.36
10.0- 11.9	185	393	48	22	70	135	211	175	69	52	45	43	1448	12.44	86.80
12.0- 13.9	128	273	21	14	53	101	136	91	31	24	30	24	926	7.96	94.76
14.0- 15.9	31	135	29	3	17	31	51	50	22	7	10	3	389	3.34	98.10
16.0- 17.9	2	54	33	1	3	22	27	9	3	3	7	4	168	1.44	99.54
18.0- 19.9	.	12	3	.	.	6	5	1	.	3	3	5	38	0.33	99.87
20.0- 21.9	.	.	.	.	.	4	1	2	.	2	4	.	13	0.11	99.98
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	2	.	2	0.02	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1573	2016	541	388	619	1072	1224	1120	820	546	633	1054	11637		
Rel.fr.	13.5	17.3	4.6	3.3	5.3	9.2	10.5	9.6	7.0	4.7	5.4	9.1			
Cum.fr.	13.5	30.8	35.5	38.8	44.1	53.4	63.9	73.5	80.5	85.2	90.7	99.7			
Max. FF	16.9	19.0	18.5	16.6	17.7	21.8	20.3	21.0	16.4	20.7	22.3	19.5			
Mean FF	7.3	9.2	7.3	5.5	6.9	7.7	8.2	7.7	6.6	6.6	6.2	6.0			
St.dev. FF	3.3	3.7	4.5	3.3	3.7	3.9	3.9	3.7	3.4	3.5	3.9	2.8			

DATA COVERAGE: 92.0%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
June 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			58	0.59	
<= 1.9	90	46	55	36	27	41	53	59	77	44	40	79	647	6.55	7.13
2.0- 3.9	269	150	103	80	90	96	110	123	151	161	199	285	1817	18.39	25.52
4.0- 5.9	406	182	60	31	85	128	114	150	188	174	259	336	2113	21.38	46.90
6.0- 7.9	540	195	49	27	50	119	146	183	201	112	114	250	1986	20.10	66.99
8.0- 9.9	408	241	44	8	47	92	146	168	142	90	69	173	1628	16.47	83.47
10.0- 11.9	239	260	11	3	13	28	155	73	46	23	22	59	932	9.43	92.90
12.0- 13.9	93	162	4	.	4	16	109	56	20	14	12	4	494	5.00	97.90
14.0- 15.9	20	57	1	.	.	5	38	12	2	9	3	4	151	1.53	99.42
16.0- 17.9	4	20	1	.	.	.	13	10	.	3	.	.	51	0.52	99.94
18.0- 19.9	.	.	.	.	.	.	5	.	.	.	.	.	5	0.05	99.99
20.0- 21.9	.	.	.	.	.	.	.	1	.	.	.	.	1	0.01	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	2069	1313	328	185	316	525	889	835	827	630	718	1190	9883		
Rel.fr.	20.9	13.3	3.3	1.9	3.2	5.3	9.0	8.4	8.4	6.4	7.3	12.0			
Cum.fr.	20.9	34.2	37.5	39.4	42.6	47.9	56.9	65.4	73.7	80.1	87.4	99.4			
Max. FF	17.0	17.6	17.2	10.6	12.8	15.3	19.6	20.1	15.0	16.8	15.3	15.5			
Mean FF	7.0	8.4	4.8	3.9	5.3	6.1	8.1	7.0	5.9	5.7	5.2	5.5			
St.dev. FF	3.0	3.7	3.1	2.4	2.8	3.0	4.0	3.5	2.9	3.0	2.5	2.6			

DATA COVERAGE: 80.7%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
July 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			70	0.62	
<= 1.9	99	77	62	46	32	50	47	44	82	65	53	63	720	6.34	6.95
2.0- 3.9	272	198	141	70	74	156	239	256	290	194	216	246	2352	20.70	27.66
4.0- 5.9	275	158	131	39	95	221	289	294	399	316	278	283	2778	24.45	52.11
6.0- 7.9	268	170	85	36	71	198	327	391	347	184	160	236	2473	21.77	73.88
8.0- 9.9	169	96	38	24	35	185	282	265	161	125	113	147	1640	14.44	88.31
10.0- 11.9	58	50	26	9	26	84	226	141	55	46	53	72	846	7.45	95.76
12.0- 13.9	23	31	10	2	15	48	100	57	11	29	18	10	354	3.12	98.87
14.0- 15.9	9	26	3	.	3	14	13	19	3	2	2	4	98	0.86	99.74
16.0- 17.9	.	5	1	.	4	1	1	4	1	.	.	.	17	0.15	99.89
18.0- 19.9	.	.	.	.	1	1	2	2	.	.	.	.	6	0.05	99.94
20.0- 21.9	.	.	.	.	1	.	2	1	.	.	.	.	4	0.04	99.97
22.0- 23.9	.	.	.	.	.	.	2	1	.	.	.	.	3	0.03	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1173	811	497	226	357	958	1530	1475	1349	961	893	1061	11361		
Rel.fr.	10.3	7.1	4.4	2.0	3.1	8.4	13.5	13.0	11.9	8.5	7.9	9.3			
Cum.fr.	10.3	17.5	21.8	23.8	27.0	35.4	48.9	61.9	73.7	82.2	90.0	99.4			
Max. FF	15.8	17.3	17.7	12.6	20.8	18.4	23.2	23.4	17.5	14.3	14.7	15.7			
Mean FF	5.7	6.0	5.1	4.6	6.1	6.7	7.2	6.8	5.6	5.7	5.6	5.7			
St.dev. FF	3.0	3.5	3.0	3.0	3.5	3.2	3.3	3.1	2.5	2.7	2.8	2.7			

DATA COVERAGE: 89.8%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
August 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	40	0.35	
<= 1.9	83	71	79	62	42	49	51	56	66	84	47	63	753	6.51	6.86
2.0- 3.9	138	96	126	108	93	100	178	238	279	259	233	182	2030	17.56	24.41
4.0- 5.9	197	147	130	49	109	190	307	301	360	315	264	261	2630	22.74	47.16
6.0- 7.9	261	157	79	36	82	198	242	328	398	243	167	240	2431	21.02	68.18
8.0- 9.9	177	142	47	27	76	176	230	268	292	132	95	161	1823	15.77	83.95
10.0- 11.9	136	82	22	9	22	156	268	159	113	45	24	66	1102	9.53	93.48
12.0- 13.9	39	17	11	12	16	69	182	85	27	25	3	21	507	4.38	97.86
14.0- 15.9	22	19	.	3	4	30	54	31	11	2	.	9	185	1.60	99.46
16.0- 17.9	5	10	.	.	1	12	4	10	.	.	.	.	42	0.36	99.83
18.0- 19.9	1	.	.	.	.	3	5	4	1	.	.	.	14	0.12	99.95
20.0- 21.9	.	.	.	.	.	3	.	3	.	.	.	.	6	0.05	100.00
22.0- 23.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
24.0- 25.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1059	741	494	306	445	986	1521	1483	1547	1105	833	1003	11563		
Rel.fr.	9.2	6.4	4.3	2.6	3.8	8.5	13.2	12.8	13.4	9.6	7.2	8.7			
Cum.fr.	9.2	15.6	19.8	22.5	26.3	34.9	48.0	60.8	74.2	83.8	91.0	99.7			
Max. FF	18.0	16.7	13.9	15.6	17.2	20.9	18.9	21.0	18.3	14.6	12.9	15.7			
Mean FF	6.9	6.8	4.9	4.5	5.9	7.7	7.9	7.1	6.4	5.5	5.2	6.1			
St.dev. FF	3.4	3.5	3.0	3.3	3.2	3.6	3.7	3.4	2.8	2.7	2.4	2.9			

DATA COVERAGE: 91.4%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
September 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			50	0.44	
<= 1.9	73	24	29	41	33	31	22	20	50	47	31	59	460	4.04	4.48
2.0- 3.9	196	97	87	91	70	102	119	143	172	131	164	168	1540	13.53	18.01
4.0- 5.9	240	162	75	108	148	142	167	188	193	173	197	257	2050	18.01	36.01
6.0- 7.9	221	134	60	60	128	169	223	197	247	197	170	232	2038	17.90	53.91
8.0- 9.9	187	108	40	33	88	193	266	212	206	183	163	172	1851	16.26	70.17
10.0- 11.9	134	87	7	20	98	154	221	208	167	132	98	112	1438	12.63	82.80
12.0- 13.9	70	47	5	10	48	99	197	145	97	110	58	68	954	8.38	91.18
14.0- 15.9	32	20	5	7	28	64	148	95	55	64	38	36	592	5.20	96.38
16.0- 17.9	13	7	.	.	6	32	56	49	22	21	14	16	236	2.07	98.45
18.0- 19.9	12	4	.	.	1	11	28	22	11	6	15	1	111	0.97	99.43
20.0- 21.9	9	3	.	.	.	11	4	13	2	.	5	1	48	0.42	99.85
22.0- 23.9	.	.	.	.	.	3	5	4	2	.	1	.	15	0.13	99.98
24.0- 25.9	.	.	.	.	.	.	2	.	.	.	.	.	2	0.02	100.00
26.0- 27.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1187	693	308	370	648	1011	1458	1296	1224	1064	954	1122	11385		
Rel.fr.	10.4	6.1	2.7	3.2	5.7	8.9	12.8	11.4	10.8	9.3	8.4	9.9			
Cum.fr.	10.4	16.5	19.2	22.5	28.2	37.0	49.8	61.2	72.0	81.3	89.7	99.6			
Max. FF	21.4	21.1	15.0	15.3	18.0	22.8	24.6	23.9	23.1	19.3	22.5	21.6			
Mean FF	7.2	7.4	5.3	5.4	7.5	8.8	9.6	9.1	7.9	8.1	7.5	7.1			
St.dev. FF	4.0	3.7	3.0	3.1	3.7	4.2	4.2	4.3	3.9	4.0	4.1	3.6			
DATA COVERAGE:	93.0%														

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
October 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			31	0.26	
<= 1.9	55	24	27	34	35	19	30	16	37	27	26	40	370	3.10	3.36
2.0- 3.9	173	78	93	65	65	51	67	86	146	89	80	102	1095	9.17	12.53
4.0- 5.9	157	106	65	56	90	120	156	172	174	122	106	157	1481	12.41	24.94
6.0- 7.9	190	117	67	41	58	121	214	209	224	202	170	153	1766	14.79	39.73
8.0- 9.9	229	98	54	46	67	148	262	242	257	189	159	132	1883	15.77	55.50
10.0- 11.9	285	75	52	22	62	166	287	254	257	165	123	112	1860	15.58	71.08
12.0- 13.9	202	89	18	8	27	106	279	250	182	120	54	79	1414	11.84	82.93
14.0- 15.9	46	120	13	9	14	100	220	204	118	65	37	37	983	8.23	91.16
16.0- 17.9	23	69	1	3	3	81	213	102	46	26	24	24	615	5.15	96.31
18.0- 19.9	16	35	.	2	3	36	99	53	13	5	10	12	284	2.38	98.69
20.0- 21.9	3	15	.	2	2	25	24	20	5	5	5	2	108	0.90	99.60
22.0- 23.9	5	1	.	.	.	5	2	11	4	2	3	1	34	0.28	99.88
24.0- 25.9	.	.	.	.	.	.	1	10	.	.	.	1	12	0.10	99.98
26.0- 27.9	.	.	.	.	.	.	.	2	.	.	.	.	2	0.02	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1384	827	390	288	426	978	1854	1631	1463	1017	797	852	11938		
Rel.fr.	11.6	6.9	3.3	2.4	3.6	8.2	15.5	13.7	12.3	8.5	6.7	7.1			
Cum.fr.	11.6	18.5	21.8	24.2	27.8	36.0	51.5	65.2	77.4	85.9	92.6	99.7			
Max. FF	23.4	23.4	16.3	21.6	20.7	23.4	25.6	27.6	23.1	22.8	22.9	24.5			
Mean FF	8.7	10.2	6.7	6.3	7.2	10.5	11.3	10.7	9.1	8.8	8.5	8.1			
St.dev. FF	4.1	5.1	3.6	4.0	4.0	4.7	4.5	4.6	4.1	3.9	4.0	4.2			

DATA COVERAGE: 94.4%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
November 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			15	0.14	
<= 1.9	45	27	26	23	16	16	17	17	22	18	14	21	262	2.52	2.66
2.0- 3.9	143	62	54	65	63	72	111	92	95	108	106	67	1038	9.97	12.62
4.0- 5.9	191	92	92	69	106	162	133	115	121	117	109	136	1443	13.85	26.48
6.0- 7.9	199	126	87	52	56	117	195	159	121	113	101	130	1456	13.98	40.46
8.0- 9.9	194	166	59	22	72	112	223	210	151	141	106	153	1609	15.45	55.90
10.0- 11.9	195	114	31	21	35	146	205	167	140	103	79	106	1342	12.88	68.79
12.0- 13.9	171	103	25	11	23	121	261	154	89	85	68	106	1217	11.68	80.47
14.0- 15.9	48	86	6	2	12	89	206	152	41	54	27	53	776	7.45	87.92
16.0- 17.9	38	37	3	1	10	60	186	92	31	53	24	24	559	5.37	93.29
18.0- 19.9	15	30	2	.	2	48	160	68	16	12	4	8	365	3.50	96.79
20.0- 21.9	8	10	2	.	8	35	84	25	15	9	1	6	203	1.95	98.74
22.0- 23.9	4	4	.	.	5	13	47	4	3	.	6	1	87	0.84	99.58
24.0- 25.9	5	6	.	.	1	.	10	.	4	1	2	3	32	0.31	99.88
26.0- 27.9	4	3	.	.	.	.	4	.	.	.	1	.	12	0.12	100.00
28.0- 29.9	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1260	866	387	266	409	991	1842	1255	849	814	648	814	10416		
Rel.fr.	12.1	8.3	3.7	2.6	3.9	9.5	17.7	12.0	8.2	7.8	6.2	7.8			
Cum.fr.	12.1	20.4	24.1	26.7	30.6	40.1	57.8	69.9	78.0	85.8	92.0	99.9			
Max. FF	27.8	27.0	21.3	17.1	24.5	23.9	27.3	23.1	24.4	24.5	26.2	25.9			
Mean FF	8.7	10.0	6.9	5.8	7.7	10.4	12.2	10.7	9.1	9.1	8.3	9.0			
St.dev. FF	4.5	4.8	3.6	3.3	4.6	5.2	5.4	4.7	4.6	4.6	4.4	4.2			

DATA COVERAGE: 85.1%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
December 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
										Number of calms			40	0.36	
<= 1.9	61	23	18	25	14	22	20	15	35	16	8	31	288	2.61	2.97
2.0- 3.9	176	113	80	126	83	87	73	77	145	117	117	119	1313	11.89	14.86
4.0- 5.9	248	110	110	121	110	86	77	120	184	139	132	182	1619	14.66	29.53
6.0- 7.9	212	117	94	73	41	76	115	226	176	114	120	143	1507	13.65	43.18
8.0- 9.9	230	134	68	62	26	68	126	253	198	108	116	152	1541	13.96	57.14
10.0- 11.9	237	102	45	36	24	89	182	207	164	115	101	146	1448	13.12	70.25
12.0- 13.9	127	65	35	5	29	91	204	258	152	122	125	101	1314	11.90	82.16
14.0- 15.9	47	86	13	1	24	77	190	170	72	96	74	66	916	8.30	90.45
16.0- 17.9	16	55	8	2	17	61	122	86	45	41	47	43	543	4.92	95.37
18.0- 19.9	3	11	2	3	6	47	68	32	21	17	14	18	242	2.19	97.56
20.0- 21.9	6	11	2	2	2	39	58	18	10	10	3	11	172	1.56	99.12
22.0- 23.9	5	1	.	1	.	6	27	5	2	5	.	4	56	0.51	99.63
24.0- 25.9	3	2	.	.	.	2	11	5	.	4	1	4	32	0.29	99.92
26.0- 27.9	.	.	.	.	.	3	1	.	.	2	.	2	8	0.07	99.99
28.0- 29.9	.	.	.	.	.	1	.	.	.	.	.	.	1	0.01	100.00
>=30.0	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	1371	830	475	457	376	755	1274	1472	1204	906	858	1022	11040		
Rel.fr.	12.4	7.5	4.3	4.1	3.4	6.8	11.5	13.3	10.9	8.2	7.8	9.3			
Cum.fr.	12.4	19.9	24.2	28.4	31.8	38.6	50.2	63.5	74.4	82.6	90.4	99.6			
Max. FF	25.8	24.2	21.1	23.3	20.7	29.2	26.1	25.6	23.5	27.6	24.7	26.5			
Mean FF	8.0	9.2	7.2	5.9	7.3	10.8	12.2	10.5	8.8	9.5	9.1	8.9			
St.dev. FF	4.0	4.8	3.8	3.3	4.7	5.8	5.2	4.3	4.4	4.9	4.5	4.7			

DATA COVERAGE: 87.3%

Frequency table of wind direction(DD) degrees
and wind speed(FF) m/s
Jan.-Dec. 1981- 1997

FF	DD 345.0 15.0	15.0 45.0	45.0 75.0	75.0 105.0	105.0 135.0	135.0 165.0	165.0 195.0	195.0 225.0	225.0 255.0	255.0 285.0	285.0 315.0	315.0 345.0	Sum	Rel. fr.	Cum. fr.
												Number of calms	536	0.40	
<= 1.9	728	490	490	419	351	385	386	374	570	477	340	487	5497	4.15	4.55
2.0- 3.9	2003	1249	1122	1102	978	1102	1403	1665	1850	1554	1655	1735	17418	13.15	17.70
4.0- 5.9	2575	1662	1174	936	1183	1697	2050	2121	2301	1976	2021	2419	22115	16.69	34.40
6.0- 7.9	2846	1906	1001	631	811	1622	2400	2649	2544	1830	1533	2095	21868	16.51	50.91
8.0- 9.9	2442	1921	681	396	664	1594	2772	2829	2408	1703	1343	1775	20528	15.50	66.40
10.0- 11.9	1913	1510	415	205	499	1349	2761	2218	1758	1238	917	1208	15991	12.07	78.48
12.0- 13.9	1222	1070	193	98	329	1098	2399	1860	1179	996	620	779	11843	8.94	87.42
14.0- 15.9	496	733	119	44	150	834	1854	1295	686	626	354	456	7647	5.77	93.19
16.0- 17.9	218	337	68	10	75	528	1360	778	360	361	215	246	4556	3.44	96.63
18.0- 19.9	127	138	8	8	40	322	762	399	189	171	97	117	2378	1.80	98.42
20.0- 21.9	57	47	4	4	21	194	426	224	95	82	43	46	1243	0.94	99.36
22.0- 23.9	20	9	.	1	11	83	207	104	44	31	21	19	550	0.42	99.78
24.0- 25.9	8	10	.	.	1	16	81	41	12	13	4	13	199	0.15	99.93
26.0- 27.9	5	5	.	.	.	6	21	5	6	5	1	2	56	0.04	99.97
28.0- 29.9	.	2	.	.	.	4	9	8	4	2	.	1	30	0.02	99.99
>=30.0	.	1	.	.	.	.	.	1	6	.	.	2	10	0.01	100.00
Sum	14660	11090	5275	3854	5113	10834	18891	16571	14012	11065	9164	11400	132465		
Rel.fr.	11.1	8.4	4.0	2.9	3.9	8.2	14.3	12.5	10.6	8.4	6.9	8.6			
Cum.fr.	11.1	19.4	23.4	26.3	30.2	38.4	52.6	65.1	75.7	84.1	91.0	99.6			
Max. FF	27.8	30.0	21.3	23.3	24.5	29.2	29.8	30.4	31.5	29.7	26.2	31.0			
Mean FF	7.7	8.5	6.2	5.4	6.9	9.3	10.5	9.4	8.2	8.2	7.4	7.6			
St.dev. FF	4.0	4.3	3.6	3.3	4.1	4.9	5.0	4.7	4.3	4.5	4.2	4.1			

DATA COVERAGE: 88.9%

STATISTICS

	Mean FF m/s	*St.dev. FF m/s*	*Maximum FF m/s*	*DD degrees*	*date*
January	*10.4*	*5.3*	*31.4*	*246.0*	*01.01.1992 04 UT*
February	*9.9*	*5.0*	*31.5*	*229.3*	*19.02.1990 23 UT*
March	*9.8*	*5.1*	*30.0*	*36.5*	*03.03.1988 11 UT*
April	*7.8*	*4.2*	*24.3*	*143.6*	*10.04.1989 18 UT*
May	*7.4*	*3.8*	*22.3*	*295.0*	*21.05.1991 22 UT*
June	*6.5*	*3.4*	*20.1*	*204.1*	*09.06.1986 21 UT*
July	*6.1*	*3.1*	*23.4*	*195.9*	*25.07.1988 19 UT*
August	*6.5*	*3.4*	*21.0*	*204.7*	*21.08.1987 03 UT*
September	*7.9*	*4.1*	*24.6*	*193.2*	*21.09.1982 04 UT*
October	*9.4*	*4.6*	*27.6*	*210.8*	*30.10.1983 06 UT*
November	*9.7*	*5.0*	*27.8*	*9.8*	*05.11.1985 20 UT*
December	*9.3*	*4.9*	*29.2*	*150.1*	*19.12.1982 12 UT*

4.3 Frequency tables wave height/wave period (Hs/Tz)

Environmental data has been measured in the Gullfaks area since 1978. From 1978 until November 1989 the measurements were performed at the platform Statfjord A. The logging of environmental data was operational from 1981. For the period 1978-1980 3 hourly data is available. Below we have based the computations on data from Gullfaks C for 1997 and on the combined series from Statfjord A ånd Gullfaks C for the period 1981-1997. In doing so, hourly values of the parameters have been extracted from the period covered by Gullfaks C.

The reason for this is the change in storing frequency from December 1992. Until November 1992 only hourly values are available both from Statfjord A and Gullfaks C. From December 1992 measurements exist each 20 minute. Without reduction to hourly values the period after December 1992 would have been given too much weight.

The data coverage of the wave measurements are varying. In the end of the period covered by Statfjord A (1988-1990) one of the tape units of the data acquisition system was out of order most of the time. This resulted in a data coverage near 0 % for the wave parameters for these years. The data coverage on a yearly basis is shown in figure 4.3 as the number of observations.

Statistical parameters based on the yearly frequency distributions of significant wave height are given in figure 4.4. The parameters are not defined for the years 1989 and 1990. The values for 1988 are also questionable.

At the Statfjord field, the wave measurements are performed by wave buoys. The processing is performed through a zero crossing algorithm. At Gullfaks C the wave parameters are determined through a spectral analysis. In the following tables the significant wave height is identified with Hs even if Hm0 would be more correct.

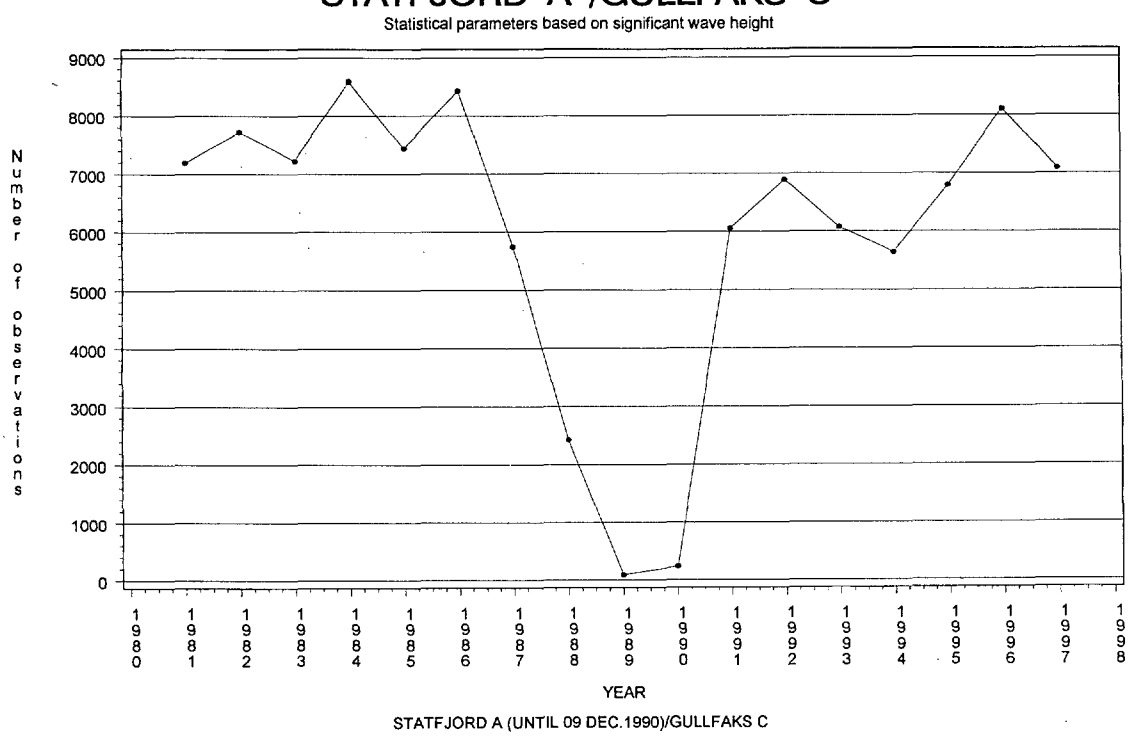


Figure 4.3 Data coverage for significant wave height given as number of observations each year. 8760/8784 observations/year represents 100 % coverage.

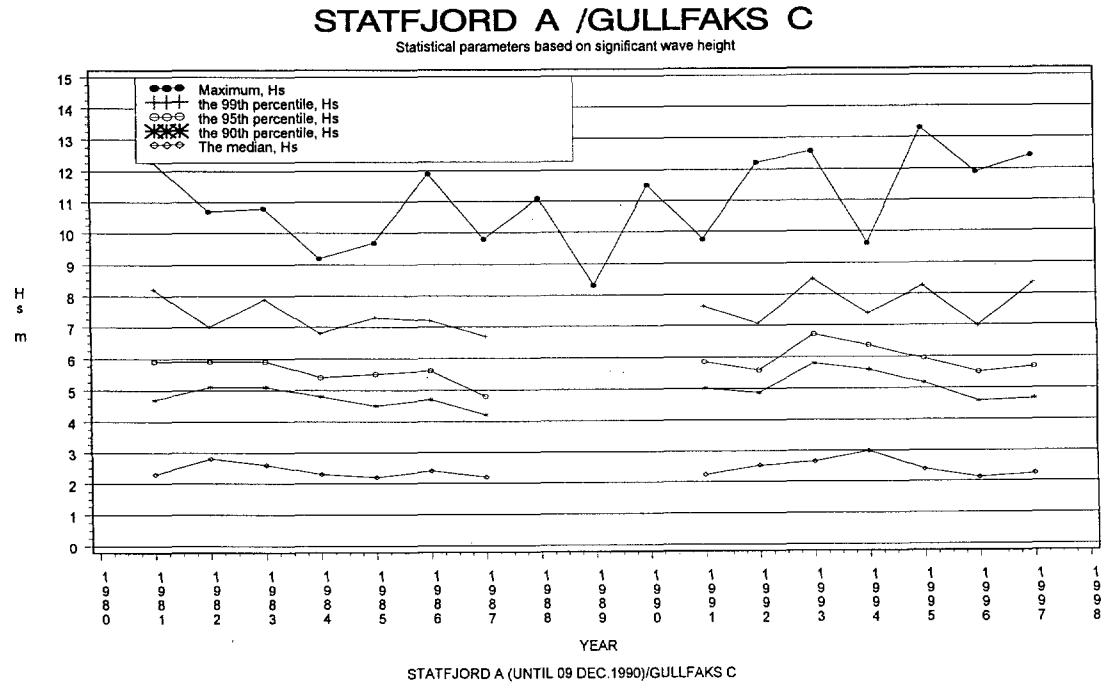


Figure 4.4 Statistical parameters based on the yearly frequency distribution of significant wave heights (Statfjord A/Gullfaks C).

4.3.1 Frequency tables wave height/wave period (Hs/Tz) for 1997

Frequency table of wave period(TZ) s
and wave height(HS) m
January 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
1.0- 1.4	.	.	.	.	.	.	58	11	.	.	.	.	.	.	.	69	10.41	10.41
1.5- 1.9	.	.	.	.	.	6	44	14	2	.	.	.	.	.	.	66	9.95	20.36
2.0- 2.4	.	.	.	.	.	6	11	28	13	.	.	.	.	.	.	58	8.75	29.11
2.5- 2.9	.	.	.	.	.	.	22	34	15	2	.	.	.	.	.	73	11.01	40.12
3.0- 3.4	.	.	.	.	.	.	52	48	18	2	.	.	.	.	.	120	18.10	58.22
3.5- 3.9	.	.	.	.	.	.	42	41	5	1	.	.	.	.	.	89	13.42	71.64
4.0- 4.4	.	.	.	.	.	.	14	49	15	1	.	.	.	.	.	79	11.92	83.56
4.5- 4.9	.	.	.	.	.	.	.	33	17	.	.	.	.	.	.	50	7.54	91.10
5.0- 5.4	.	.	.	.	.	.	.	14	9	.	.	.	.	.	.	23	3.47	94.57
5.5- 5.9	.	.	.	.	.	.	.	6	3	.	.	.	.	.	.	9	1.36	95.93
6.0- 6.4	.	.	.	.	.	.	.	3	6	.	.	.	.	.	.	9	1.36	97.29
6.5- 6.9	.	.	.	.	.	.	.	1	5	.	.	.	.	.	.	6	0.90	98.19
7.0- 7.4	.	.	.	.	.	.	.	.	5	.	.	.	.	.	.	5	0.75	98.94
7.5- 7.9	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	4	0.60	99.55
8.0- 8.4	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	2	0.30	99.85
8.5- 8.9	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0.15	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	12	243	282	119	7	0	0	0	0	0	663		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	1.8	36.7	42.5	17.9	1.1	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	1.8	38.5	81.0	98.9	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.4	4.3	6.5	8.6	8.0	.	.	.	.	.			
Mean Hs	.	.	.	.	.	2.0	2.5	3.5	4.3	3.9	.	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.2	1.0	1.1	1.7	1.9	.	.	.	.	.			

DATA COVERAGE: 89.1%

Frequency table of wave period(TZ) s
and wave height(HS) m
February 1997

Hs	Tz <= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
1.0- 1.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
1.5- 1.9	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0.24	0.24
2.0- 2.4	.	.	.	.	.	1	6	11	9	1	.	.	.	.	.	28	6.78	7.02
2.5- 2.9	.	.	.	.	.	.	5	12	3	2	.	.	.	.	.	22	5.33	12.35
3.0- 3.4	.	.	.	.	.	.	6	16	5	.	.	.	.	.	.	27	6.54	18.89
3.5- 3.9	.	.	.	.	.	.	6	26	7	.	.	.	.	.	.	39	9.44	28.33
4.0- 4.4	.	.	.	.	.	.	4	38	13	.	.	.	.	.	.	55	13.32	41.65
4.5- 4.9	.	.	.	.	.	.	3	41	23	1	.	.	.	.	.	68	16.46	58.11
5.0- 5.4	.	.	.	.	.	.	.	24	27	1	.	.	.	.	.	52	12.59	70.70
5.5- 5.9	.	.	.	.	.	.	.	9	7	3	.	.	.	.	.	19	4.60	75.30
6.0- 6.4	.	.	.	.	.	.	.	8	11	1	.	.	.	.	.	20	4.84	80.15
6.5- 6.9	.	.	.	.	.	.	.	.	14	1	.	.	.	.	.	15	3.63	83.78
7.0- 7.4	.	.	.	.	.	.	.	.	9	5	.	.	.	.	.	14	3.39	87.17
7.5- 7.9	.	.	.	.	.	.	.	.	4	5	.	.	.	.	.	9	2.18	89.35
8.0- 8.4	.	.	.	.	.	.	.	.	1	5	.	.	.	.	.	6	1.45	90.80
8.5- 8.9	.	.	.	.	.	.	.	.	1	7	.	.	.	.	.	8	1.94	92.74
9.0- 9.4	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	3	0.73	93.46
9.5- 9.9	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	9	2.18	95.64
10.0- 10.4	.	.	.	.	.	.	.	.	.	4	1	.	.	.	.	5	1.21	96.85
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.48	97.34
11.0- 11.4	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0.24	97.58
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	7	1.69	99.27
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	3	0.73	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	1	30	186	134	49	12	1	0	0	0	413		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	0.2	7.3	45.0	32.4	11.9	2.9	0.2	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	0.2	7.5	52.5	85.0	96.9	99.8	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.2	4.7	6.4	8.7	11.4	12.0	12.4	.	.	.			
Mean Hs	.	.	.	.	.	2.2	3.3	4.2	5.1	8.0	11.5	12.4	.	.	.			
St.dev. Hs	.	.	.	.	.	0.0	0.8	1.0	1.4	2.0	0.6	0.0	.	.	.			

DATA COVERAGE: 61.5%

Frequency table of wave period(TZ) s
and wave height(HS) m
April 1997

Hs	Tz <= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	2	0.29	0.29
1.0- 1.4	.	.	.	.	.	12	29	2	.	.	.	.	.	.	.	43	6.33	6.63
1.5- 1.9	.	.	.	.	.	15	70	31	.	.	.	.	.	.	.	116	17.08	23.71
2.0- 2.4	.	.	.	.	.	17	72	29	14	.	.	.	.	.	.	132	19.44	43.15
2.5- 2.9	.	.	.	.	.	3	48	30	23	.	.	.	.	.	.	104	15.32	58.47
3.0- 3.4	.	.	.	.	.	.	24	33	17	9	.	.	.	.	.	83	12.22	70.69
3.5- 3.9	.	.	.	.	.	.	10	36	15	5	.	.	.	.	.	66	9.72	80.41
4.0- 4.4	.	.	.	.	.	.	.	33	12	3	.	.	.	.	.	48	7.07	87.48
4.5- 4.9	.	.	.	.	.	.	.	16	14	4	.	.	.	.	.	34	5.01	92.49
5.0- 5.4	.	.	.	.	.	.	.	3	12	4	.	.	.	.	.	19	2.80	95.29
5.5- 5.9	.	.	.	.	.	.	.	1	16	1	1	.	.	.	.	19	2.80	98.09
6.0- 6.4	.	.	.	.	.	.	.	.	4	5	.	.	.	.	.	9	1.33	99.41
6.5- 6.9	.	.	.	.	.	.	.	.	1	2	1	.	.	.	.	4	0.59	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	47	255	214	128	33	2	0	0	0	0	679		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	6.9	37.6	31.5	18.9	4.9	0.3	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	6.9	44.5	76.0	94.8	99.7	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.6	3.9	5.4	6.8	6.7	6.6	.	.	.	.			
Mean Hs	.	.	.	.	.	1.8	2.2	3.1	3.9	4.5	6.2	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.5	0.6	1.0	1.2	1.2	0.5	.	.	.	.			

DATA COVERAGE: 94.3%

Frequency table of wave period(TZ) s
and wave height(HS) m
May 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	22	9	.	.	.	.	.	.	.	.	31	4.64	4.64
1.0- 1.4	.	.	.	.	1	105	18	2	.	.	.	.	.	.	.	126	18.86	23.50
1.5- 1.9	.	.	.	.	.	96	26	7	.	.	.	.	.	.	.	129	19.31	42.81
2.0- 2.4	.	.	.	.	.	21	40	34	14	.	.	.	.	.	.	109	16.32	59.13
2.5- 2.9	.	.	.	.	.	8	54	22	22	8	.	.	.	.	.	114	17.07	76.20
3.0- 3.4	.	.	.	.	.	.	43	13	1	2	.	.	.	.	.	59	8.83	85.03
3.5- 3.9	.	.	.	.	.	.	20	30	.	.	.	.	.	.	.	50	7.49	92.51
4.0- 4.4	.	.	.	.	.	.	3	33	.	.	.	.	.	.	.	36	5.39	97.90
4.5- 4.9	.	.	.	.	.	.	.	11	1	.	.	.	.	.	.	12	1.80	99.70
5.0- 5.4	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	2	0.30	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	1	252	213	154	38	10	0	0	0	0	0	668		
Rel.fr.	0.0	0.0	0.0	0.0	0.1	37.7	31.9	23.1	5.7	1.5	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.1	37.9	69.8	92.8	98.5	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	1.2	2.7	4.0	5.1	4.9	3.1	.	.	.	.	.			
Mean Hs	.	.	.	.	1.2	1.5	2.5	3.3	2.6	2.9	.	.	.	.	.			
St.dev. Hs	.	.	.	.	0.0	0.4	0.8	0.9	0.4	0.2	.	.	.	.	.			

DATA COVERAGE: 89.8%

Frequency table of wave period(TZ) s
and wave height(HS) m
June 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	26	.	.	.	.	.	.	.	.	.	26	4.51	4.51
1.0- 1.4	.	.	.	.	.	136	28	1	.	.	.	.	.	.	.	165	28.65	33.16
1.5- 1.9	.	.	.	.	.	87	84	4	.	.	.	.	.	.	.	175	30.38	63.54
2.0- 2.4	.	.	.	.	.	12	68	.	.	.	.	.	.	.	.	80	13.89	77.43
2.5- 2.9	.	.	.	.	.	.	33	3	.	.	.	.	.	.	.	36	6.25	83.68
3.0- 3.4	.	.	.	.	.	.	27	15	.	.	.	.	.	.	.	42	7.29	90.97
3.5- 3.9	.	.	.	.	.	.	19	17	.	.	.	.	.	.	.	36	6.25	97.22
4.0- 4.4	.	.	.	.	.	.	2	13	.	.	.	.	.	.	.	15	2.60	99.83
4.5- 4.9	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0.17	100.00
5.0- 5.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	261	261	54	0	0	0	0	0	0	0	576		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	45.3	45.3	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	45.3	90.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.3	4.1	4.4	.	.	.	.	.	.	.			
Mean Hs	.	.	.	.	.	1.4	2.2	3.4	.	.	.	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.3	0.7	0.7	.	.	.	.	.	.	.			

DATA COVERAGE: 80.0%

Frequency table of wave period(TZ) s
and wave height(HS) m
July 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	7	1.15	1.15
0.5- 0.9	.	.	.	.	.	66	4	.	.	.	.	.	.	.	.	70	11.53	12.69
1.0- 1.4	.	.	.	.	.	291	41	.	.	.	.	.	.	.	.	332	54.70	67.38
1.5- 1.9	.	.	.	.	1	83	43	2	.	.	.	.	.	.	.	129	21.25	88.63
2.0- 2.4	.	.	.	.	.	13	12	.	.	.	.	.	.	.	.	25	4.12	92.75
2.5- 2.9	.	.	.	.	.	2	7	12	.	.	.	.	.	.	.	21	3.46	96.21
3.0- 3.4	.	.	.	.	.	.	4	2	.	.	.	.	.	.	.	6	0.99	97.20
3.5- 3.9	.	.	.	.	.	.	2	6	.	.	.	.	.	.	.	8	1.32	98.52
4.0- 4.4	.	.	.	.	.	.	.	9	.	.	.	.	.	.	.	9	1.48	100.00
4.5- 4.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.0- 5.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	1	462	113	31	0	0	0	0	0	0	0	607		
Rel.fr.	0.0	0.0	0.0	0.0	0.2	76.1	18.6	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.2	76.3	94.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	1.5	2.9	3.6	4.4	.	.	.	.	.	.	.			
Mean Hs	.	.	.	.	1.5	1.2	1.7	3.2	.	.	.	.	.	.	.			
St.dev. Hs	.	.	.	.	0.0	0.3	0.6	0.8	.	.	.	.	.	.	.			

DATA COVERAGE: 81.6%

Frequency table of wave period(TZ) s
and wave height(HS) m
August 1997

Hs	Tz <= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	20	.	.	.	.	.	.	.	.	.	20	3.03	3.03
0.5- 0.9	.	.	.	.	1	47	5	.	.	.	.	.	.	.	.	53	8.03	11.06
1.0- 1.4	.	.	.	.	.	170	63	1	.	.	.	.	.	.	.	234	35.45	46.52
1.5- 1.9	.	.	.	.	1	108	64	3	.	.	.	.	.	.	.	176	26.67	73.18
2.0- 2.4	.	.	.	.	.	41	43	14	.	.	.	.	.	.	.	98	14.85	88.03
2.5- 2.9	.	.	.	.	.	8	38	2	.	.	.	.	.	.	.	48	7.27	95.30
3.0- 3.4	.	.	.	.	.	1	25	3	.	.	.	.	.	.	.	29	4.39	99.70
3.5- 3.9	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	2	0.30	100.00
4.0- 4.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
4.5- 4.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.0- 5.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	2	395	240	23	0	0	0	0	0	0	0	660		
Rel.fr.	0.0	0.0	0.0	0.0	0.3	59.8	36.4	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.3	60.2	96.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	1.8	3.0	3.7	3.4	.	.	.	.	.	.	.			
Mean Hs	.	.	.	.	1.3	1.3	2.0	2.3	.	.	.	.	.	.	.			
St.dev. Hs	.	.	.	.	0.7	0.5	0.7	0.5	.	.	.	.	.	.	.			

DATA COVERAGE: 88.7%

Frequency table of wave period(TZ) s
and wave height(HS) m
September 1997

Hs	Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4		.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0.15	0.15
0.5- 0.9		.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0.15	0.30
1.0- 1.4		.	.	.	.	.	35	27	1	.	.	.	.	.	.	.	63	9.40	9.70
1.5- 1.9		.	.	.	.	.	42	65	9	4	.	.	.	.	.	.	120	17.91	27.61
2.0- 2.4		.	.	.	.	.	14	73	11	.	.	.	.	.	.	.	98	14.63	42.24
2.5- 2.9		.	.	.	.	.	2	81	44	3	.	.	.	.	.	.	130	19.40	61.64
3.0- 3.4		.	.	.	.	.	.	25	27	4	.	.	.	.	.	.	56	8.36	70.00
3.5- 3.9		.	.	.	.	.	.	18	33	18	.	.	.	.	.	.	69	10.30	80.30
4.0- 4.4		.	.	.	.	.	.	21	22	3	.	.	.	.	.	.	46	6.87	87.16
4.5- 4.9		.	.	.	.	.	.	2	17	4	.	.	.	.	.	.	23	3.43	90.60
5.0- 5.4		.	.	.	.	.	.	.	14	5	.	.	.	.	.	.	19	2.84	93.43
5.5- 5.9		.	.	.	.	.	.	.	4	22	.	.	.	.	.	.	26	3.88	97.31
6.0- 6.4		.	.	.	.	.	.	.	.	9	1	.	.	.	.	.	10	1.49	98.81
6.5- 6.9		.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	2	0.30	99.10
7.0- 7.4		.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	2	0.30	99.40
7.5- 7.9		.	.	.	.	.	.	.	.	1	3	.	.	.	.	.	4	0.60	100.00
8.0- 8.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum		0	0	0	0	0	95	312	182	75	6	0	0	0	0	0	670		
Rel.fr.		0.0	0.0	0.0	0.0	0.0	14.2	46.6	27.2	11.2	0.9	0.0	0.0	0.0	0.0	0.0			
Cum.fr.		0.0	0.0	0.0	0.0	0.0	14.2	60.7	87.9	99.1	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs		.	.	.	.	.	2.7	4.8	5.7	7.5	7.9	.	.	.	.	.			
Mean Hs		.	.	.	.	.	1.5	2.4	3.5	4.7	7.3	.	.	.	.	.			
St.dev. Hs		.	.	.	.	.	0.4	0.8	1.0	1.4	0.6	.	.	.	.	.			

DATA COVERAGE: 93.1%

Frequency table of wave period(TZ) s
and wave height(HS) m
October 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	0.14	0.14
0.5- 0.9	.	.	.	.	.	8	2	.	.	.	.	.	.	.	.	10	1.41	1.55
1.0- 1.4	.	.	.	.	.	52	32	1	.	.	.	.	.	.	.	85	11.95	13.50
1.5- 1.9	.	.	.	.	.	46	44	10	.	.	.	.	.	.	.	100	14.06	27.57
2.0- 2.4	.	.	.	.	.	26	84	30	.	.	.	.	.	.	.	140	19.69	47.26
2.5- 2.9	.	.	.	.	.	6	71	53	6	.	.	.	.	.	.	136	19.13	66.39
3.0- 3.4	.	.	.	.	.	.	31	62	18	.	.	.	.	.	.	111	15.61	82.00
3.5- 3.9	.	.	.	.	.	.	8	37	7	3	.	.	.	.	.	55	7.74	89.73
4.0- 4.4	.	.	.	.	.	.	1	13	2	1	.	.	.	.	.	17	2.39	92.12
4.5- 4.9	.	.	.	.	.	.	1	10	4	.	.	.	.	.	.	15	2.11	94.23
5.0- 5.4	.	.	.	.	.	.	.	5	5	.	.	.	.	.	.	10	1.41	95.64
5.5- 5.9	.	.	.	.	.	.	.	2	4	.	.	.	.	.	.	6	0.84	96.48
6.0- 6.4	.	.	.	.	.	.	.	3	6	2	.	.	.	.	.	11	1.55	98.03
6.5- 6.9	.	.	.	.	.	.	.	.	3	2	.	.	.	.	.	5	0.70	98.73
7.0- 7.4	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	5	0.70	99.44
7.5- 7.9	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	3	0.42	99.86
8.0- 8.4	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0.14	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	138	275	226	55	17	0	0	0	0	0	711		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	19.4	38.7	31.8	7.7	2.4	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	19.4	58.1	89.9	97.6	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.7	4.7	6.1	6.9	8.0	.	.	.	.	.			
Mean Hs	.	.	.	.	.	1.6	2.3	3.2	4.2	6.3	.	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.5	0.7	0.9	1.3	1.5	.	.	.	.	.			

DATA COVERAGE: 95.6%

Frequency table of wave period(TZ) s
and wave height(HS) m
November 1997

Hs	Tz <= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	.	8	3	.	.	.	.	.	.	.	.	11	1.54	1.54
1.0- 1.4	.	.	.	.	.	10	38	4	.	.	.	.	.	.	.	52	7.27	8.81
1.5- 1.9	.	.	.	.	.	31	69	11	1	.	.	.	.	.	.	112	15.66	24.48
2.0- 2.4	.	.	.	.	.	30	76	26	5	.	.	.	.	.	.	137	19.16	43.64
2.5- 2.9	.	.	.	.	.	5	81	27	1	.	.	.	.	.	.	114	15.94	59.58
3.0- 3.4	.	.	.	.	.	.	56	22	4	.	.	.	.	.	.	82	11.47	71.05
3.5- 3.9	.	.	.	.	.	.	15	11	.	.	.	.	.	.	.	26	3.64	74.69
4.0- 4.4	.	.	.	.	.	.	11	8	.	.	.	.	.	.	.	19	2.66	77.34
4.5- 4.9	.	.	.	.	.	.	1	16	4	.	.	.	.	.	.	21	2.94	80.28
5.0- 5.4	.	.	.	.	.	.	.	14	11	.	.	.	.	.	.	25	3.50	83.78
5.5- 5.9	.	.	.	.	.	.	.	5	14	.	.	.	.	.	.	19	2.66	86.43
6.0- 6.4	.	.	.	.	.	.	.	1	11	.	.	.	.	.	.	12	1.68	88.11
6.5- 6.9	.	.	.	.	.	.	.	.	10	1	.	.	.	.	.	11	1.54	89.65
7.0- 7.4	.	.	.	.	.	.	.	.	14	5	.	.	.	.	.	19	2.66	92.31
7.5- 7.9	.	.	.	.	.	.	.	.	3	9	.	.	.	.	.	12	1.68	93.99
8.0- 8.4	.	.	.	.	.	.	.	.	1	14	.	.	.	.	.	15	2.10	96.08
8.5- 8.9	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	9	1.26	97.34
9.0- 9.4	.	.	.	.	.	.	.	.	.	11	2	.	.	.	.	13	1.82	99.16
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.28	99.44
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	4	0.56	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	84	350	145	79	49	8	0	0	0	0	715		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	11.7	49.0	20.3	11.0	6.9	1.1	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	11.7	60.7	81.0	92.0	98.9	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	2.8	4.5	6.2	8.2	9.4	10.2	.	.	.	.			
Mean Hs	.	.	.	.	.	1.8	2.4	3.3	5.7	8.3	9.8	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.5	0.8	1.2	1.5	0.7	0.3	.	.	.	.			

DATA COVERAGE: 99.3%

Frequency table of wave period(TZ) s
and wave height(HS) m
December 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	3	0.42	0.42
0.5- 0.9	.	.	.	.	.	29	9	.	.	.	.	.	.	.	.	38	5.33	5.75
1.0- 1.4	.	.	.	.	.	99	85	1	.	.	.	.	.	.	.	185	25.95	31.70
1.5- 1.9	.	.	.	.	.	52	111	11	.	.	.	.	.	.	.	174	24.40	56.10
2.0- 2.4	.	.	.	.	.	5	47	22	1	.	.	.	.	.	.	75	10.52	66.62
2.5- 2.9	.	.	.	.	.	6	37	19	.	.	.	.	.	.	.	62	8.70	75.32
3.0- 3.4	.	.	.	.	.	1	20	16	1	.	.	.	.	.	.	38	5.33	80.65
3.5- 3.9	.	.	.	.	.	.	12	24	2	.	.	.	.	.	.	38	5.33	85.97
4.0- 4.4	.	.	.	.	.	.	8	16	2	.	.	.	.	.	.	26	3.65	89.62
4.5- 4.9	.	.	.	.	.	.	1	28	1	.	.	.	.	.	.	30	4.21	93.83
5.0- 5.4	.	.	.	.	.	.	.	19	2	.	.	.	.	.	.	21	2.95	96.77
5.5- 5.9	.	.	.	.	.	.	.	5	3	.	.	.	.	.	.	8	1.12	97.90
6.0- 6.4	.	.	.	.	.	.	.	1	6	.	.	.	.	.	.	7	0.98	98.88
6.5- 6.9	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	7	0.98	99.86
7.0- 7.4	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0.14	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	0	195	330	162	26	0	0	0	0	0	0	713		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	27.3	46.3	22.7	3.6	0.0	0.0	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	27.3	73.6	96.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	.	3.2	4.6	6.1	7.0	.	.	.	.	.	.			
Mean Hs	.	.	.	.	.	1.3	2.0	3.6	5.5	.	.	.	.	.	.			
St.dev. Hs	.	.	.	.	.	0.4	0.8	1.2	1.3	.	.	.	.	.	.			

DATA COVERAGE: 95.8%

Frequency table of wave period(TZ) s
and wave height(HS) m
Jan.-Dec. 1997

Hs	Tz <= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	31	1	.	.	.	.	.	.	.	.	32	0.45	0.45
0.5- 0.9	.	.	.	.	1	207	34	.	.	.	.	.	.	.	.	242	3.42	3.87
1.0- 1.4	.	.	.	.	1	910	419	24	.	.	.	.	.	.	.	1354	19.14	23.01
1.5- 1.9	.	.	.	.	2	566	620	103	7	.	.	.	.	.	.	1298	18.35	41.36
2.0- 2.4	.	.	.	.	.	186	532	205	56	1	.	.	.	.	.	980	13.85	55.21
2.5- 2.9	.	.	.	.	.	40	477	258	73	12	.	.	.	.	.	860	12.16	67.36
3.0- 3.4	.	.	.	.	.	2	313	257	68	13	.	.	.	.	.	653	9.23	76.59
3.5- 3.9	.	.	.	.	.	.	154	261	54	9	.	.	.	.	.	478	6.76	83.35
4.0- 4.4	.	.	.	.	.	.	64	234	47	5	.	.	.	.	.	350	4.95	88.30
4.5- 4.9	.	.	.	.	.	.	8	173	68	5	.	.	.	.	.	254	3.59	91.89
5.0- 5.4	.	.	.	.	.	.	.	95	71	5	.	.	.	.	.	171	2.42	94.30
5.5- 5.9	.	.	.	.	.	.	.	32	69	4	1	.	.	.	.	106	1.50	95.80
6.0- 6.4	.	.	.	.	.	.	.	16	53	9	.	.	.	.	.	78	1.10	96.90
6.5- 6.9	.	.	.	.	.	.	.	1	42	6	1	.	.	.	.	50	0.71	97.61
7.0- 7.4	.	.	.	.	.	.	.	.	29	17	.	.	.	.	.	46	0.65	98.26
7.5- 7.9	.	.	.	.	.	.	.	.	12	20	.	.	.	.	.	32	0.45	98.71
8.0- 8.4	.	.	.	.	.	.	.	.	3	21	.	.	.	.	.	24	0.34	99.05
8.5- 8.9	.	.	.	.	.	.	.	.	2	16	.	.	.	.	.	18	0.25	99.31
9.0- 9.4	.	.	.	.	.	.	.	.	.	14	2	.	.	.	.	16	0.23	99.53
9.5- 9.9	.	.	.	.	.	.	.	.	.	9	2	.	.	.	.	11	0.16	99.69
10.0- 10.4	.	.	.	.	.	.	.	.	.	4	5	.	.	.	.	9	0.13	99.82
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.03	99.84
11.0- 11.4	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0.01	99.86
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	7	0.10	99.96
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	3	0.04	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	4	1942	2622	1659	654	171	22	1	0	0	0	7075		
Rel.fr.	0.0	0.0	0.0	0.0	0.1	27.4	37.1	23.4	9.2	2.4	0.3	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.1	27.5	64.6	88.0	97.3	99.7	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	1.8	3.2	4.8	6.5	8.7	11.4	12.0	12.4	.	.	.			
Mean Hs	.	.	.	.	1.3	1.4	2.2	3.4	4.5	6.8	10.4	12.4	.	.	.			
St.dev. Hs	.	.	.	.	0.4	0.4	0.8	1.1	1.6	2.3	1.6	0.0	.	.	.			

DATA COVERAGE: 80.8%

STATISTICS

	Mean Hs m	St.dev. Hs m	Maximum Hs m	Tz s	date
January	3.3	1.4	8.6	8.9	12.01.1997 03 UT
February	5.1	2.1	12.4	11.0	17.02.1997 10 UT
April	2.9	1.2	6.8	8.1	14.04.1997 19 UT
May	2.3	1.0	5.1	7.8	19.05.1997 08 UT
June	1.9	0.8	4.5	7.0	07.06.1997 11 UT
July	1.4	0.6	4.4	7.4	01.07.1997 06 UT
August	1.6	0.7	3.7	6.2	29.08.1997 01 UT
September	2.9	1.3	7.9	9.3	16.09.1997 04 UT
October	2.7	1.2	8.0	9.6	01.10.1997 19 UT
November	3.4	2.1	10.2	10.2	19.11.1997 01 UT
December	2.3	1.3	7.0	8.5	24.12.1997 09 UT

	Mean Tz s	St.dev. Tz s	Maximum Tz s	Hs m	date
January	7.3	0.7	9.3	2.8	10.01.1997 23 UT
February	8.0	0.9	11.0	12.4	17.02.1997 10 UT
April	7.2	1.0	10.0	5.8	14.04.1997 20 UT
May	6.5	0.9	9.7	3.1	04.05.1997 04 UT
June	6.1	0.6	7.8	4.2	23.06.1997 04 UT
July	5.8	0.5	7.6	2.8	01.07.1997 22 UT
August	5.9	0.5	7.8	2.2	24.08.1997 06 UT
September	6.8	0.8	9.3	7.9	16.09.1997 04 UT
October	6.8	0.9	9.6	7.2	02.10.1997 00 UT
November	7.0	1.1	10.4	10.0	18.11.1997 23 UT
December	6.5	0.7	8.6	5.8	24.12.1997 10 UT

4.3.2 Frequency tables wave height/wave period (Hs/Tz) for the period 1981-1997

Frequency table of wave period(TZ) s
and wave height(HS) m
January 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0.01	0.01
0.5- 0.9	.	.	.	.	1	21	7	1	.	.	.	.	.	.	.	30	0.34	0.35
1.0- 1.4	.	.	.	.	1	70	170	96	31	16	4	2	.	.	.	390	4.39	4.74
1.5- 1.9	.	.	.	.	1	60	274	168	60	18	4	.	.	.	.	585	6.58	11.32
2.0- 2.4	.	.	.	.	.	104	412	305	140	28	7	1	.	.	.	997	11.22	22.54
2.5- 2.9	.	.	.	.	.	23	453	319	160	25	6	5	1	.	.	992	11.16	33.70
3.0- 3.4	.	.	.	.	.	4	308	404	203	69	11	.	.	.	.	999	11.24	44.94
3.5- 3.9	.	.	.	.	1	.	193	409	207	82	4	.	.	.	.	896	10.08	55.02
4.0- 4.4	.	.	.	.	.	.	89	495	235	87	11	.	.	.	.	917	10.32	65.34
4.5- 4.9	.	.	.	.	.	.	25	386	284	70	5	.	.	.	.	770	8.66	74.01
5.0- 5.4	.	.	.	.	.	1	5	285	242	77	12	1	.	.	.	623	7.01	81.02
5.5- 5.9	.	.	.	.	.	.	.	139	244	86	7	2	.	.	.	478	5.38	86.40
6.0- 6.4	.	.	.	.	.	.	.	49	212	93	7	3	2	.	.	366	4.12	90.51
6.5- 6.9	.	.	.	.	.	.	.	15	146	106	7	.	.	1	.	275	3.09	93.61
7.0- 7.4	.	.	.	.	.	.	.	2	85	92	11	.	.	.	.	190	2.14	95.75
7.5- 7.9	.	.	.	.	.	.	.	3	42	55	15	.	.	.	.	115	1.29	97.04
8.0- 8.4	.	.	.	.	.	.	.	.	15	48	19	1	.	.	.	83	0.93	97.97
8.5- 8.9	.	.	.	.	.	.	.	.	2	28	24	4	.	.	.	58	0.65	98.63
9.0- 9.4	.	.	.	.	.	.	.	.	1	15	23	7	.	.	.	46	0.52	99.14
9.5- 9.9	.	.	.	.	.	.	.	.	.	5	12	8	.	.	.	25	0.28	99.43
10.0- 10.4	.	.	.	.	.	.	.	.	.	3	6	3	.	.	.	12	0.14	99.56
10.5- 10.9	.	.	.	.	.	.	.	.	.	4	7	2	1	.	.	14	0.16	99.72
11.0- 11.4	.	.	.	.	.	.	.	.	.	1	12	1	.	.	.	14	0.16	99.88
11.5- 11.9	.	.	.	.	.	.	.	.	.	1	1	1	.	.	.	3	0.03	99.91
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	3	.	1	.	.	4	0.05	99.95
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	3	0.03	99.99
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0.01	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	4	283	1936	3077	2309	1009	221	42	5	1	0	8887		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	3.2	21.8	34.6	26.0	11.4	2.5	0.5	0.1	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.0	3.2	25.0	59.6	85.6	97.0	99.5	99.9	100.0	100.0	100.0			
Max. Hs	.	.	.	.	3.8	5.1	5.1	7.8	9.1	11.4	12.6	13.3	12.3	6.6	.			
Mean Hs	.	.	.	.	1.9	1.8	2.6	3.7	4.6	5.5	7.2	7.8	7.6	6.6	.			
St.dev. Hs	.	.	.	.	1.3	0.6	0.8	1.2	1.6	1.9	2.8	3.2	3.8	0.0	.			

DATA COVERAGE: 70.3%

Frequency table of wave period(TZ) s
and wave height(HS) m
February 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9	.	.	.	.	2	15	4	.	.	.	.	.	.	.	.	21	0.24	0.24
1.0- 1.4	.	.	.	.	6	75	126	110	46	19	.	.	.	.	.	382	4.43	4.67
1.5- 1.9	.	.	.	.	7	138	297	231	114	16	16	4	2	.	.	825	9.56	14.23
2.0- 2.4	.	.	.	.	.	110	388	287	167	25	10	2	.	.	.	989	11.46	25.70
2.5- 2.9	.	.	.	.	.	41	479	375	201	65	6	.	.	.	.	1167	13.53	39.22
3.0- 3.4	.	.	.	.	.	4	356	471	199	78	12	.	.	.	.	1120	12.98	52.20
3.5- 3.9	.	.	.	.	.	1	177	565	221	66	4	.	.	.	.	1034	11.98	64.19
4.0- 4.4	.	.	.	.	.	.	70	502	219	32	13	1	.	.	.	837	9.70	73.89
4.5- 4.9	.	.	.	.	.	.	25	366	277	42	10	3	.	.	.	723	8.38	82.27
5.0- 5.4	.	.	.	.	.	.	2	211	258	39	11	5	.	.	.	526	6.10	88.36
5.5- 5.9	.	.	.	.	.	.	1	105	215	35	7	3	.	.	.	366	4.24	92.61
6.0- 6.4	.	.	.	.	.	.	.	52	168	47	12	1	.	.	.	280	3.25	95.85
6.5- 6.9	.	.	.	.	.	.	.	17	75	49	5	1	.	.	.	147	1.70	97.55
7.0- 7.4	.	.	.	.	.	.	.	10	41	27	3	.	.	.	.	81	0.94	98.49
7.5- 7.9	.	.	.	.	.	.	.	3	14	22	8	.	.	.	.	47	0.54	99.04
8.0- 8.4	.	.	.	.	.	.	.	1	2	10	5	.	.	.	.	18	0.21	99.25
8.5- 8.9	.	.	.	.	.	.	.	.	1	7	14	1	.	.	.	23	0.27	99.51
9.0- 9.4	.	.	.	.	.	.	.	.	.	3	5	1	.	.	.	9	0.10	99.62
9.5- 9.9	.	.	.	.	.	.	.	.	.	9	1	.	.	.	.	10	0.12	99.73
10.0- 10.4	.	.	.	.	.	.	.	.	.	4	2	3	.	.	.	9	0.10	99.84
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.02	99.86
11.0- 11.4	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	2	0.02	99.88
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	7	0.08	99.97
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	3	0.03	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	0	15	384	1925	3306	2218	596	155	27	2	0	0	8628		
Rel.fr.	0.0	0.0	0.0	0.0	0.2	4.5	22.3	38.3	25.7	6.9	1.8	0.3	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.2	4.6	26.9	65.3	91.0	97.9	99.7	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	1.8	3.9	5.5	7.9	8.7	11.4	12.0	12.4	1.9	.	.			
Mean Hs	.	.	.	.	1.4	1.8	2.6	3.6	4.2	4.7	5.7	5.8	1.8	.	.			
St.dev. Hs	.	.	.	.	0.3	0.5	0.8	1.2	1.5	2.0	2.9	3.1	0.1	.	.			

DATA COVERAGE: 74.9%

Frequency table of wave period(TZ) s
and wave height(HS) m
March 1981- 1996

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	2	0.02	0.02
0.5- 0.9	.	.	.	.	1	32	14	10	2	7	.	.	.	.	.	66	0.76	0.78
1.0- 1.4	.	.	.	.	7	113	228	136	20	15	1	.	.	.	.	520	5.97	6.75
1.5- 1.9	.	.	.	1	5	129	332	267	123	20	4	.	.	.	.	881	10.11	16.86
2.0- 2.4	.	.	.	.	.	107	455	414	157	43	4	.	.	.	.	1180	13.54	30.40
2.5- 2.9	.	.	.	.	.	58	516	399	164	69	3	.	.	.	.	1209	13.87	44.27
3.0- 3.4	.	.	.	.	.	3	376	471	253	76	8	.	.	.	.	1187	13.62	57.89
3.5- 3.9	.	.	.	.	.	.	183	537	187	51	1	.	.	.	.	959	11.00	68.89
4.0- 4.4	.	.	.	.	.	.	88	474	185	30	2	.	.	.	.	779	8.94	77.83
4.5- 4.9	.	.	.	.	.	.	34	287	196	34	5	.	.	.	.	556	6.38	84.21
5.0- 5.4	.	.	.	.	.	.	7	158	219	34	6	.	.	.	.	424	4.87	89.08
5.5- 5.9	.	.	.	.	.	.	.	91	200	38	5	.	.	.	.	334	3.83	92.91
6.0- 6.4	.	.	.	.	.	.	.	35	138	57	3	.	.	.	.	233	2.67	95.58
6.5- 6.9	.	.	.	.	.	.	.	11	83	51	1	.	.	.	.	146	1.68	97.26
7.0- 7.4	.	.	.	.	.	.	.	4	29	55	3	.	.	.	.	91	1.04	98.30
7.5- 7.9	.	.	.	.	.	.	.	1	16	33	.	.	.	.	.	50	0.57	98.88
8.0- 8.4	.	.	.	.	.	.	.	.	5	18	11	.	.	.	.	34	0.39	99.27
8.5- 8.9	.	.	.	.	.	.	.	1	7	14	3	.	.	.	.	25	0.29	99.55
9.0- 9.4	.	.	.	.	.	.	.	.	.	7	7	.	.	.	.	14	0.16	99.71
9.5- 9.9	.	.	.	.	.	.	.	.	2	.	1	2	.	.	.	5	0.06	99.77
10.0- 10.4	.	.	.	.	.	.	.	.	.	1	4	.	.	.	.	5	0.06	99.83
10.5- 10.9	.	.	.	.	.	.	.	.	.	6	3	1	.	.	.	10	0.11	99.94
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.02	99.97
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	3	0.03	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	1	14	442	2234	3296	1986	659	80	3	0	0	0	8715		
Rel.fr.	0.0	0.0	0.0	0.0	0.2	5.1	25.6	37.8	22.8	7.6	0.9	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.2	5.2	30.9	68.7	91.5	99.0	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	1.8	1.8	3.3	5.4	8.5	9.7	10.9	11.9	10.7	.	.	.			
Mean Hs	.	.	.	1.8	1.3	1.8	2.5	3.4	4.2	4.9	6.4	10.0	.	.	.			
St.dev. Hs	.	.	.	0.0	0.4	0.6	0.8	1.2	1.5	2.2	3.0	0.6	.	.	.			

DATA COVERAGE: 73.2%

Frequency table of wave period(TZ) s
and wave height(HS) m
April 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	1	2	1	.	.	.	.	.	.	.	.	4	0.05	0.05
0.5- 0.9	.	.	.	.	20	109	88	44	25	8	5	2	.	.	.	301	3.40	3.44
1.0- 1.4	.	.	.	.	18	315	404	214	127	58	35	19	13	.	.	1203	13.57	17.01
1.5- 1.9	.	.	.	.	3	496	763	388	81	14	21	14	7	.	.	1787	20.16	37.17
2.0- 2.4	.	.	1	.	1	309	720	479	110	26	11	.	.	.	.	1657	18.69	55.87
2.5- 2.9	3	1	2	1	2	75	568	383	169	28	6	.	.	.	.	1238	13.97	69.83
3.0- 3.4	.	2	1	1	3	3	430	397	108	41	2	.	.	.	.	988	11.15	80.98
3.5- 3.9	.	5	4	.	.	.	182	349	91	42	.	.	.	.	.	673	7.59	88.57
4.0- 4.4	.	1	1	1	.	.	53	226	73	21	3	.	.	.	.	379	4.28	92.85
4.5- 4.9	.	.	1	.	1	.	13	109	101	11	.	.	.	.	.	236	2.66	95.51
5.0- 5.4	.	.	.	.	1	.	2	36	78	10	1	.	.	.	.	128	1.44	96.95
5.5- 5.9	.	.	1	.	.	.	.	17	62	14	2	.	.	.	.	96	1.08	98.04
6.0- 6.4	.	.	.	.	.	.	.	5	31	33	.	.	.	.	.	69	0.78	98.82
6.5- 6.9	.	.	.	.	.	.	.	3	12	30	5	.	.	.	.	50	0.56	99.38
7.0- 7.4	.	.	.	.	.	.	.	1	6	23	8	.	.	.	.	38	0.43	99.81
7.5- 7.9	.	.	.	.	.	.	.	1	1	7	1	2	.	.	.	12	0.14	99.94
8.0- 8.4	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	4	0.05	99.99
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	0.01	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	3	9	11	3	50	1309	3224	2652	1075	368	103	37	20	0	0	8864		
Rel.fr.	0.0	0.1	0.1	0.0	0.6	14.8	36.4	29.9	12.1	4.2	1.2	0.4	0.2	0.0	0.0			
Cum.fr.	0.0	0.1	0.3	0.3	0.9	15.6	52.0	81.9	94.0	98.2	99.4	99.8	100.0	100.0	100.0			
Max. Hs	2.9	4.0	5.9	4.0	5.1	3.1	5.3	7.5	7.7	8.1	8.6	7.8	1.8	.	.			
Mean Hs	2.8	3.6	3.7	3.3	1.3	1.7	2.3	2.8	3.3	3.9	2.7	1.7	1.3	.	.			
St.dev. Hs	0.1	0.3	1.0	0.6	1.0	0.5	0.8	1.1	1.5	2.1	2.3	1.5	0.3	.	.			

DATA COVERAGE: 72.4%

Frequency table of wave period(TZ) s
and wave height(HS) m
May 1981- 1997

Hs	Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4		.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	3	0.04	0.04
0.5-	0.9	.	.	.	.	34	348	211	65	24	18	.	.	.	.	1	701	8.67	8.70
1.0-	1.4	.	.	.	.	78	926	537	345	140	78	50	5	1	.	.	2160	26.71	35.41
1.5-	1.9	.	.	.	.	28	897	728	286	48	23	2	1	.	.	.	2013	24.89	60.30
2.0-	2.4	.	.	.	1	.	396	715	186	27	7	.	.	.	.	.	1332	16.47	76.77
2.5-	2.9	.	.	.	.	.	90	543	150	29	8	.	.	.	.	.	820	10.14	86.91
3.0-	3.4	.	.	.	.	.	2	254	165	13	2	.	.	.	.	.	436	5.39	92.30
3.5-	3.9	.	.	.	.	.	.	122	164	13	1	.	.	.	.	.	300	3.71	96.01
4.0-	4.4	.	.	.	.	.	.	26	131	8	2	.	.	.	.	.	167	2.06	98.07
4.5-	4.9	.	.	.	.	.	.	1	55	22	.	.	.	.	.	.	78	0.96	99.04
5.0-	5.4	.	.	.	.	.	.	.	19	23	2	.	.	.	.	.	44	0.54	99.58
5.5-	5.9	.	.	.	.	.	.	.	2	7	3	.	.	.	.	.	12	0.15	99.73
6.0-	6.4	.	.	.	.	.	.	.	.	3	5	.	.	.	.	.	8	0.10	99.83
6.5-	6.9	.	.	.	.	.	.	.	.	2	3	.	.	.	.	.	5	0.06	99.89
7.0-	7.4	.	.	.	.	.	.	.	.	1	6	.	.	.	.	.	7	0.09	99.98
7.5-	7.9	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	2	0.02	100.00
8.0-	8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5-	8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0-	9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5-	9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0-	10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5-	10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0-	11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5-	11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0-	12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5-	12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0-	13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5-	13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.			
Sum		0	0	0	1	140	2662	3137	1568	360	160	52	6	1	0	1	8088		
Rel.fr.		0.0	0.0	0.0	0.0	1.7	32.9	38.8	19.4	4.5	2.0	0.6	0.1	0.0	0.0	0.0			
Cum.fr.		0.0	0.0	0.0	0.0	1.7	34.7	73.4	92.8	97.3	99.3	99.9	100.0	100.0	100.0	100.0			
Max. Hs		.	.	.	2.0	1.8	3.0	4.6	5.6	7.0	7.7	1.6	1.7	1.2	.	0.7			
Mean Hs		.	.	.	2.0	1.2	1.5	2.1	2.4	2.3	2.1	1.2	1.4	1.2	.	0.7			
St.dev. Hs		.	.	.	0.0	0.3	0.5	0.8	1.1	1.5	1.8	0.1	0.2	0.0	.	0.0			

DATA COVERAGE: 63.9%

Frequency table of wave period(TZ) s
and wave height(HS) m
June 1981- 1997

Hs	Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	0.00
0.5- 0.9		.	.	.	.	35	285	160	104	56	11	4	.	.	.	.	655	9.61	9.61
1.0- 1.4		.	.	.	3	71	1000	734	287	113	37	14	.	.	.	.	2259	33.14	42.75
1.5- 1.9		.	.	.	4	34	861	632	185	61	8	12	.	.	.	.	1797	26.36	69.12
2.0- 2.4		.	.	.	.	.	305	516	118	24	9	2	1	.	.	.	975	14.30	83.42
2.5- 2.9		.	.	.	.	.	57	369	71	3	.	.	.	.	.	.	500	7.34	90.76
3.0- 3.4		.	.	.	.	.	1	233	116	12	.	.	.	.	.	.	362	5.31	96.07
3.5- 3.9		.	.	.	.	.	.	70	109	8	.	.	.	.	.	.	187	2.74	98.81
4.0- 4.4		.	.	.	.	.	.	14	37	3	.	.	.	.	.	.	54	0.79	99.60
4.5- 4.9		.	.	.	.	.	.	.	11	2	.	.	.	.	.	.	13	0.19	99.79
5.0- 5.4		.	.	.	.	.	.	.	10	1	.	.	.	.	.	.	11	0.16	99.96
5.5- 5.9		.	.	.	.	.	.	.	1	2	.	.	.	.	.	.	3	0.04	100.00
6.0- 6.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum		0	0	0	7	140	2509	2728	1049	285	65	32	1	0	0	0	6816		
Rel.fr.		0.0	0.0	0.0	0.1	2.1	36.8	40.0	15.4	4.2	1.0	0.5	0.0	0.0	0.0	0.0			
Cum.fr.		0.0	0.0	0.0	0.1	2.2	39.0	79.0	94.4	98.6	99.5	100.0	100.0	100.0	100.0	100.0			
Max. Hs		.	.	.	1.7	1.9	3.0	4.4	5.8	5.8	2.2	2.3	2.0	.	.	.			
Mean Hs		.	.	.	1.5	1.2	1.5	1.9	2.1	1.5	1.3	1.4	2.0	.	.	.			
St.dev. Hs		.	.	.	0.2	0.3	0.4	0.8	1.1	0.9	0.4	0.4	0.0	.	.	.			

DATA COVERAGE: 55.7%

Frequency table of wave period(TZ) s
and wave height(HS) m
July 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	2	10	.	.	.	.	.	.	.	.	.	12	0.16	0.16
0.5- 0.9	.	.	1	3	73	511	180	125	53	35	7	.	1	.	1	990	13.60	13.76
1.0- 1.4	.	.	10	5	127	1572	696	311	169	45	6	.	.	.	.	2941	40.40	54.16
1.5- 1.9	.	.	10	3	40	973	610	203	62	.	.	.	.	.	.	1901	26.11	80.27
2.0- 2.4	.	6	7	.	5	277	382	71	13	1	.	.	.	.	.	762	10.47	90.74
2.5- 2.9	.	11	4	.	2	54	228	68	4	8	.	.	.	.	.	379	5.21	95.95
3.0- 3.4	.	12	.	.	.	4	74	68	2	.	.	.	.	.	.	160	2.20	98.15
3.5- 3.9	.	24	2	.	.	1	18	32	6	.	.	.	.	.	.	83	1.14	99.29
4.0- 4.4	.	8	.	.	.	.	1	21	6	.	.	.	.	.	.	36	0.49	99.78
4.5- 4.9	.	.	.	.	.	.	.	5	11	.	.	.	.	.	.	16	0.22	100.00
5.0- 5.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	61	34	11	249	3402	2189	904	326	89	13	0	1	0	1	7280		
Rel.fr.	0.0	0.8	0.5	0.2	3.4	46.7	30.1	12.4	4.5	1.2	0.2	0.0	0.0	0.0	0.0			
Cum.fr.	0.0	0.8	1.3	1.5	4.9	51.6	81.7	94.1	98.6	99.8	100.0	100.0	100.0	100.0	100.0			
Max. Hs	.	4.2	3.9	1.5	2.6	3.7	4.0	4.6	4.9	2.9	1.1	.	0.6	.	0.6			
Mean Hs	.	3.3	1.9	1.1	1.2	1.4	1.7	1.8	1.5	1.1	0.9	.	0.6	.	0.6			
St.dev. Hs	.	0.6	0.7	0.3	0.4	0.4	0.6	0.9	0.9	0.5	0.1	.	0.0	.	0.0			

DATA COVERAGE: 57.6%

Frequency table of wave period(TZ) s
and wave height(HS) m
August 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	10	.	.	.	11	28	1	.	.	.	.	.	.	.	.	50	0.63	0.63
0.5- 0.9	.	.	.	.	83	437	177	70	50	7	.	.	.	.	.	824	10.45	11.08
1.0- 1.4	.	27	59	140	159	975	604	280	108	7	5	3	.	.	.	2367	30.01	41.09
1.5- 1.9	.	3	8	8	43	862	954	228	60	16	5	.	.	.	.	2187	27.73	68.82
2.0- 2.4	.	.	.	1	20	419	632	235	28	7	11	1	.	.	.	1354	17.17	85.99
2.5- 2.9	.	.	.	.	.	54	483	129	14	4	.	.	.	.	.	684	8.67	94.66
3.0- 3.4	.	1	.	.	.	5	179	61	1	2	.	.	.	.	.	249	3.16	97.82
3.5- 3.9	.	.	.	.	.	.	27	44	6	.	.	.	.	.	.	77	0.98	98.80
4.0- 4.4	.	.	.	.	.	.	2	52	5	.	.	.	.	.	.	59	0.75	99.54
4.5- 4.9	.	.	.	.	.	.	.	27	5	1	.	.	.	.	.	33	0.42	99.96
5.0- 5.4	.	.	.	.	.	.	.	2	1	.	.	.	.	.	.	3	0.04	100.00
5.5- 5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.0- 6.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
6.5- 6.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.0- 7.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
7.5- 7.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	10	31	67	149	316	2780	3059	1128	278	44	21	4	0	0	0	7887		
Rel.fr.	0.1	0.4	0.8	1.9	4.0	35.2	38.8	14.3	3.5	0.6	0.3	0.1	0.0	0.0	0.0			
Cum.fr.	0.1	0.5	1.4	3.3	7.3	42.5	81.3	95.6	99.1	99.7	99.9	100.0	100.0	100.0	100.0			
Max. Hs	0.0	3.1	1.7	2.1	2.4	3.3	4.4	5.1	5.0	4.8	2.3	2.4	.	.	.			
Mean Hs	0.0	1.3	1.2	1.2	1.2	1.5	1.9	2.1	1.6	1.8	1.8	1.4	.	.	.			
St.dev. Hs	0.0	0.3	0.2	0.2	0.4	0.5	0.7	1.0	0.9	0.8	0.4	0.7	.	.	.			

DATA COVERAGE: 62.4%

Frequency table of wave period(TZ) s
and wave height(HS) m
September 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	1	4	4	1	.	.	.	.	.	.	.	.	10	0.12	0.12
0.5- 0.9	.	.	.	4	42	305	85	6	4	.	.	.	.	.	.	446	5.20	5.32
1.0- 1.4	.	.	3	1	28	537	524	175	49	4	.	.	.	.	.	1321	15.41	20.73
1.5- 1.9	.	3	4	8	11	551	672	287	82	11	4	2	.	.	.	1635	19.08	39.81
2.0- 2.4	.	.	1	.	.	314	875	358	98	28	1	4	2	1	.	1682	19.62	59.43
2.5- 2.9	.	.	.	.	.	64	722	322	63	20	2	3	2	4	.	1202	14.02	73.46
3.0- 3.4	.	.	.	.	.	3	374	306	43	10	2	1	1	.	.	740	8.63	82.09
3.5- 3.9	.	.	.	.	.	.	165	354	92	15	1	.	.	.	.	627	7.32	89.41
4.0- 4.4	.	.	.	.	.	.	69	256	82	17	2	.	.	.	.	426	4.97	94.38
4.5- 4.9	.	.	.	.	.	.	9	115	59	21	.	.	.	.	.	204	2.38	96.76
5.0- 5.4	.	.	.	.	.	.	.	45	46	9	2	.	.	.	.	102	1.19	97.95
5.5- 5.9	.	.	.	.	.	.	1	22	47	6	3	.	1	.	.	80	0.93	98.88
6.0- 6.4	.	.	.	.	.	.	.	10	31	7	4	.	.	.	.	52	0.61	99.49
6.5- 6.9	.	.	.	.	.	.	.	1	18	5	.	1	.	.	.	25	0.29	99.78
7.0- 7.4	.	.	.	.	.	.	.	.	5	6	.	.	.	.	.	11	0.13	99.91
7.5- 7.9	.	.	.	.	.	.	.	.	1	6	1	.	.	.	.	8	0.09	100.00
8.0- 8.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
8.5- 8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	3	8	14	85	1778	3497	2257	720	165	22	11	6	5	0	8571		
Rel.fr.	0.0	0.0	0.1	0.2	1.0	20.7	40.8	26.3	8.4	1.9	0.3	0.1	0.1	0.1	0.0			
Cum.fr.	0.0	0.0	0.1	0.3	1.3	22.0	62.8	89.2	97.6	99.5	99.7	99.9	99.9	100.0	100.0			
Max. Hs	.	1.8	2.1	1.7	1.9	3.0	5.9	6.5	7.5	7.9	7.5	6.8	5.7	2.9	.			
Mean Hs	.	1.7	1.5	1.3	1.0	1.5	2.2	3.0	3.5	3.9	4.2	2.8	3.1	2.7	.			
St.dev. Hs	.	0.1	0.3	0.4	0.4	0.5	0.8	1.1	1.6	1.7	1.8	1.4	1.3	0.2	.			

DATA COVERAGE: 70.0%

Frequency table of wave period(TZ) s
and wave height(HS) m
October 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	2	0.02	0.02
0.5- 0.9	.	.	.	.	2	50	48	3	10	2	.	.	.	.	.	115	1.26	1.29
1.0- 1.4	.	.	.	.	5	207	346	68	12	.	1	.	.	.	.	639	7.02	8.31
1.5- 1.9	.	.	.	1	1	215	462	273	38	5	2	.	.	.	.	997	10.96	19.27
2.0- 2.4	.	.	.	.	2	196	632	417	109	44	3	.	.	.	.	1403	15.42	34.69
2.5- 2.9	.	.	.	.	.	61	628	495	157	65	10	.	.	.	.	1416	15.56	50.25
3.0- 3.4	.	.	.	.	1	9	494	525	223	54	9	1	.	.	.	1316	14.46	64.71
3.5- 3.9	.	.	.	.	2	.	264	470	188	60	3	.	.	.	.	987	10.85	75.56
4.0- 4.4	.	.	.	.	2	.	87	415	164	57	6	.	.	.	.	731	8.03	83.59
4.5- 4.9	.	.	.	.	.	.	17	227	204	54	9	.	.	.	.	511	5.62	89.21
5.0- 5.4	.	.	.	.	.	.	1	116	237	40	5	.	.	.	.	399	4.39	93.59
5.5- 5.9	.	.	.	.	.	.	.	65	168	45	7	.	.	.	.	285	3.13	96.72
6.0- 6.4	.	.	.	.	.	2	.	22	87	31	4	.	.	.	.	146	1.60	98.33
6.5- 6.9	.	.	.	.	.	2	.	4	45	18	3	.	.	.	.	72	0.79	99.12
7.0- 7.4	.	.	.	.	.	.	.	.	11	11	2	.	.	.	.	24	0.26	99.38
7.5- 7.9	.	.	.	.	.	.	.	.	2	4	5	1	.	.	.	12	0.13	99.52
8.0- 8.4	.	.	.	.	.	.	.	.	1	2	6	.	.	.	.	9	0.10	99.62
8.5- 8.9	.	.	.	.	.	.	.	.	.	2	12	1	.	.	.	15	0.16	99.78
9.0- 9.4	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	9	0.10	99.88
9.5- 9.9	.	.	.	.	.	.	.	.	.	.	6	4	.	.	.	10	0.11	99.99
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	99.99
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0.01	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	0	0	1	15	743	2980	3100	1656	494	102	8	0	0	0	9099		
Rel.fr.	0.0	0.0	0.0	0.0	0.2	8.2	32.8	34.1	18.2	5.4	1.1	0.1	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.2	8.3	41.1	75.2	93.4	98.8	99.9	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	1.7	4.3	6.8	5.2	6.9	8.0	8.9	9.8	10.8	.	.	.			
Mean Hs	.	.	.	1.7	2.2	1.7	2.5	3.3	4.2	4.2	5.9	8.6	.	.	.			
St.dev. Hs	.	.	.	0.0	1.3	0.7	0.8	1.1	1.3	1.5	2.5	2.4	.	.	.			

DATA COVERAGE: 71.9%

Frequency table of wave period(TZ) s
and wave height(HS) m
November 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	2	0.02	0.02
0.5- 0.9	.	.	.	.	.	10	33	2	1	.	.	.	.	.	.	46	0.54	0.56
1.0- 1.4	.	.	.	.	9	91	166	63	4	.	.	.	.	.	.	333	3.89	4.45
1.5- 1.9	.	.	.	.	3	136	418	249	91	24	8	.	.	.	.	929	10.84	15.29
2.0- 2.4	.	.	.	.	1	143	498	318	155	31	1	.	.	.	.	1147	13.39	28.68
2.5- 2.9	.	.	.	.	.	39	576	490	135	30	1	.	.	.	.	1271	14.83	43.51
3.0- 3.4	.	.	.	.	.	4	387	465	185	30	5	.	.	.	.	1076	12.56	56.07
3.5- 3.9	.	.	.	.	.	.	229	483	143	22	.	.	.	.	.	877	10.24	66.30
4.0- 4.4	.	.	.	.	.	.	82	436	148	24	2	.	.	.	.	692	8.08	74.38
4.5- 4.9	.	.	.	.	.	.	26	321	228	31	11	.	.	.	.	617	7.20	81.58
5.0- 5.4	.	.	.	.	.	.	7	175	227	35	12	2	.	.	.	458	5.35	86.93
5.5- 5.9	.	.	.	.	.	.	.	86	173	32	8	3	.	.	.	302	3.52	90.45
6.0- 6.4	.	.	.	.	.	.	.	46	141	57	5	6	.	.	.	255	2.98	93.43
6.5- 6.9	.	.	.	.	.	.	.	7	91	77	4	4	1	.	.	184	2.15	95.58
7.0- 7.4	.	.	.	.	.	1	1	3	55	66	12	2	.	.	.	140	1.63	97.21
7.5- 7.9	.	.	.	.	.	.	.	.	23	46	13	1	.	.	.	83	0.97	98.18
8.0- 8.4	.	.	.	.	.	.	.	.	15	34	16	2	.	.	.	67	0.78	98.96
8.5- 8.9	.	.	.	.	.	.	.	.	4	24	15	4	.	.	.	47	0.55	99.51
9.0- 9.4	.	.	.	.	.	.	.	.	.	15	8	1	.	.	.	24	0.28	99.79
9.5- 9.9	.	.	.	.	.	.	.	.	.	3	6	1	.	.	.	10	0.12	99.91
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	7	0.08	99.99
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0.01	100.00
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0		
Sum	0	0	0	0	13	426	2423	3144	1819	581	134	27	1	0	0	8568		
Rel.fr.	0.0	0.0	0.0	0.0	0.2	5.0	28.3	36.7	21.2	6.8	1.6	0.3	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.0	0.0	0.2	5.1	33.4	70.1	91.3	98.1	99.7	100.0	100.0	100.0	100.0			
Max. Hs	.	.	.	.	2.0	7.0	7.4	7.2	8.8	9.6	10.3	10.7	6.7	.	.			
Mean Hs	.	.	.	.	1.4	1.9	2.5	3.5	4.4	5.7	6.8	7.2	6.7	.	.			
St.dev. Hs	.	.	.	.	0.2	0.6	0.8	1.1	1.6	2.1	2.3	1.5	0.0	.	.			

DATA COVERAGE: 70.0%

Frequency table of wave period(TZ) s
and wave height(HS) m
December 1981- 1997

Hs \ Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	4	0.04	0.04
0.5- 0.9	.	.	.	.	.	49	19	2	.	.	.	.	.	.	.	70	0.77	0.82
1.0- 1.4	.	.	.	.	3	120	236	124	13	13	4	1	.	.	.	514	5.68	6.50
1.5- 1.9	.	.	.	.	.	109	419	246	142	26	.	.	.	.	.	942	10.41	16.90
2.0- 2.4	.	.	.	.	.	77	337	350	176	47	8	.	.	.	.	995	10.99	27.90
2.5- 2.9	.	3	.	.	.	29	432	459	267	62	7	.	.	.	.	1259	13.91	41.81
3.0- 3.4	.	1	2	.	.	4	389	430	226	67	4	.	.	.	.	1123	12.41	54.22
3.5- 3.9	.	.	1	3	.	.	240	548	238	89	5	.	.	.	.	1124	12.42	66.63
4.0- 4.4	.	.	.	1	1	1	105	521	256	52	13	2	.	.	.	952	10.52	77.15
4.5- 4.9	.	.	.	.	.	1	27	383	199	63	14	4	.	.	1	692	7.65	84.80
5.0- 5.4	.	.	.	.	.	.	6	212	216	51	5	1	.	.	.	491	5.42	90.22
5.5- 5.9	.	.	.	.	.	.	2	76	147	67	7	1	.	.	.	300	3.31	93.54
6.0- 6.4	.	.	.	.	.	.	.	27	128	68	6	.	.	.	.	229	2.53	96.07
6.5- 6.9	.	.	.	.	.	.	.	8	80	45	5	.	.	.	.	138	1.52	97.59
7.0- 7.4	.	.	.	.	.	.	.	1	43	30	8	.	.	.	.	82	0.91	98.50
7.5- 7.9	.	.	.	.	.	.	.	.	11	32	10	.	.	.	.	53	0.59	99.08
8.0- 8.4	.	.	.	.	.	.	.	.	6	18	14	.	.	.	.	38	0.42	99.50
8.5- 8.9	.	.	.	.	.	.	.	.	4	7	13	.	.	.	.	24	0.27	99.77
9.0- 9.4	.	.	.	.	.	.	.	.	.	7	3	.	.	.	.	10	0.11	99.88
9.5- 9.9	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	2	0.02	99.90
10.0- 10.4	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	4	0.04	99.94
10.5- 10.9	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	0.02	99.97
11.0- 11.4	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	2	0.02	99.99
11.5- 11.9	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0.01	100.00
12.0- 12.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
12.5- 12.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.0- 13.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
13.5- 13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum	0	4	3	4	4	394	2212	3387	2152	745	134	11	0	0	1	9051		
Rel.fr.	0.0	0.0	0.0	0.0	0.0	4.4	24.4	37.4	23.8	8.2	1.5	0.1	0.0	0.0	0.0			
Cum.fr.	0.0	0.0	0.1	0.1	0.2	4.5	29.0	66.4	90.2	98.4	99.9	100.0	100.0	100.0	100.0			
Max. Hs	.	3.1	3.8	4.0	4.1	4.8	5.6	7.3	8.9	9.5	11.4	11.5	.	.	4.7			
Mean Hs	.	2.8	3.5	3.7	2.0	1.6	2.6	3.5	4.1	4.7	6.0	5.6	.	.	4.7			
St.dev. Hs	.	0.2	0.3	0.2	1.4	0.6	0.9	1.1	1.5	1.9	2.5	3.0	.	.	0.0			

DATA COVERAGE: 71.6%

Frequency table of wave period(TZ) s
and wave height(HS) m
Jan.-Dec. 1981- 1997

Hs	Tz	<= 0.9	1.0 1.9	2.0 2.9	3.0 3.9	4.0 4.9	5.0 5.9	6.0 6.9	7.0 7.9	8.0 8.9	9.0 9.9	10.0 10.9	11.0 11.9	12.0 12.9	13.0 13.9	>= 14.0	Sum	Rel. fr.	Cum. fr.
<= 0.4		10	.	.	1	19	54	5	1	.	.	.	.	.	.	.	90	0.09	0.09
0.5-	0.9	.	.	1	7	293	2172	1026	432	225	88	16	2	1	.	2	4265	4.25	4.34
1.0-	1.4	.	27	72	149	512	6001	4771	2209	832	292	120	30	14	.	.	15029	14.96	19.30
1.5-	1.9	.	6	22	25	176	5427	6561	3011	962	181	78	21	9	.	.	16479	16.40	35.70
2.0-	2.4	.	6	9	2	29	2757	6562	3538	1204	296	58	9	2	1	.	14473	14.41	50.11
2.5-	2.9	3	15	6	1	4	645	5997	3660	1366	384	41	8	3	4	.	12137	12.08	62.19
3.0-	3.4	.	16	3	1	4	46	3854	3879	1468	429	53	2	1	.	.	9756	9.71	71.90
3.5-	3.9	.	29	7	3	3	2	1870	4064	1400	428	18	.	.	.	.	7824	7.79	79.69
4.0-	4.4	.	9	1	2	3	1	686	3566	1384	322	52	3	.	.	.	6029	6.00	85.69
4.5-	4.9	.	.	1	.	1	1	177	2292	1588	327	54	7	.	.	1	4449	4.43	90.12
5.0-	5.4	.	.	.	.	1	1	30	1269	1548	297	54	9	.	.	.	3209	3.19	93.32
5.5-	5.9	.	.	1	.	.	.	4	604	1265	326	46	9	1	.	.	2256	2.25	95.56
6.0-	6.4	.	.	.	.	.	2	.	246	939	398	41	10	2	.	.	1638	1.63	97.19
6.5-	6.9	.	.	.	.	.	2	.	66	552	384	30	6	1	1	.	1042	1.04	98.23
7.0-	7.4	.	.	.	.	.	1	1	21	276	316	47	2	.	.	.	664	0.66	98.89
7.5-	7.9	.	.	.	.	.	.	.	8	110	207	53	4	.	.	.	382	0.38	99.27
8.0-	8.4	.	.	.	.	.	.	.	1	44	132	73	3	.	.	.	253	0.25	99.52
8.5-	8.9	.	.	.	.	.	.	.	1	18	82	82	10	.	.	.	193	0.19	99.72
9.0-	9.4	.	.	.	.	.	.	.	.	1	47	55	9	.	.	.	112	0.11	99.83
9.5-	9.9	.	.	.	.	.	.	.	.	2	18	27	15	.	.	.	62	0.06	99.89
10.0-	10.4	.	.	.	.	.	.	.	.	.	8	23	6	.	.	.	37	0.04	99.93
10.5-	10.9	.	.	.	.	.	.	.	.	.	10	14	5	1	.	.	30	0.03	99.96
11.0-	11.4	.	.	.	.	.	.	.	.	.	2	15	3	.	.	.	20	0.02	99.98
11.5-	11.9	.	.	.	.	.	.	.	.	.	1	11	2	.	.	.	14	0.01	99.99
12.0-	12.4	.	.	.	.	.	.	.	.	.	.	5	1	1	.	.	7	0.01	100.00
12.5-	12.9	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	3	0.00	100.00
13.0-	13.4	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0.00	100.00
13.5-	13.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
>=14.0		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00	100.00
Sum		13	108	123	191	1045	17112	31544	28868	15184	4975	1069	177	36	6		3100454		
Rel.fr.		0.0	0.1	0.1	0.2	1.0	17.0	31.4	28.7	15.1	5.0	1.1	0.2	0.0	0.0	0.0			
Cum.fr.		0.0	0.1	0.2	0.4	1.5	18.5	49.9	78.6	93.8	98.7	99.8	100.0	100.0	100.0	100.0			
Max. Hs		2.9	4.2	5.9	4.0	5.1	7.0	7.4	8.5	9.7	11.4	12.6	13.3	12.3	6.6	4.7			
Mean Hs		0.7	2.7	1.7	1.3	1.2	1.5	2.3	3.2	4.0	4.7	5.5	5.4	2.6	3.3	2.0			
St.dev. Hs		1.2	1.0	0.9	0.5	0.5	0.5	0.8	1.2	1.7	2.2	3.1	3.5	2.7	1.6	2.3			

DATA COVERAGE: 67.4%

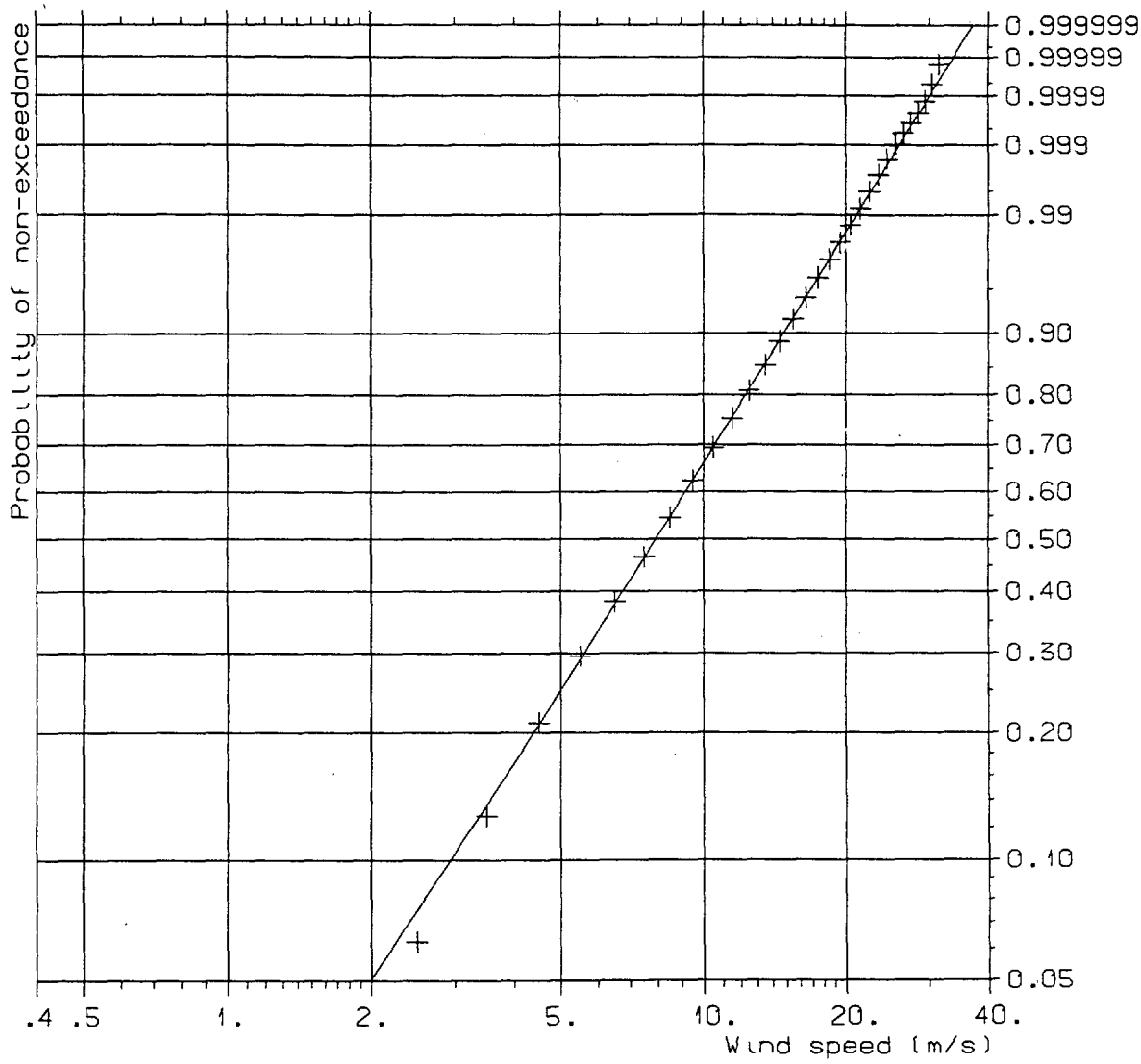
STATISTICS

	Mean Hs m	St.dev. Hs m	Maximum Hs m	Tz s	date
January	3.9	1.8	13.3	11.0	31.01.1995 11 UT
February	3.6	1.5	12.4	11.0	17.02.1997 10 UT
March	3.4	1.6	11.9	10.8	12.03.1996 11 UT
April	2.5	1.2	8.6	10.5	30.04.1981 20 UT
May	1.9	0.9	7.7	9.8	21.05.1991 23 UT
June	1.7	0.8	5.8	7.8	01.06.1996 11 UT
July	1.5	0.6	4.9	8.5	19.07.1983 06 UT
August	1.7	0.7	5.1	7.7	25.08.1982 13 UT
September	2.4	1.2	7.9	9.3	16.09.1997 04 UT
October	3.1	1.4	10.8	11.7	30.10.1983 19 UT
November	3.5	1.6	10.7	11.0	24.11.1981 14 UT
December	3.4	1.5	11.5	11.0	12.12.1990 08 UT

	Mean Tz s	St.dev. Tz s	Maximum Tz s	Hs m	date
January	7.7	1.1	13.0	6.6	14.01.1986 08 UT
February	7.5	1.0	12.2	1.9	17.02.1982 22 UT
March	7.4	1.0	11.0	9.8	02.03.1987 04 UT
April	7.0	1.2	12.7	1.7	07.04.1986 05 UT
May	6.4	1.0	21.5	0.7	30.05.1987 10 UT
June	6.3	0.9	11.0	2.0	15.06.1986 22 UT
July	6.1	1.1	14.7	0.6	18.07.1984 00 UT
August	6.1	1.1	11.7	1.1	27.08.1984 12 UT
September	6.7	1.0	13.0	2.7	30.09.1987 02 UT
October	7.2	1.0	11.7	10.8	30.10.1983 19 UT
November	7.4	1.0	12.0	6.7	17.11.1982 02 UT
December	7.5	1.0	14.2	4.7	26.12.1985 20 UT

5. Computation of 10-100 year estimates

5.1 10-100 year estimates of the wind speed based on the 10 m level



MODEL DISTRIBUTION:	
WEIBULL parameters:	
Shape	1.957
Scale	9.734
Location	-0.144
Estimated using:	
Method of Moments	

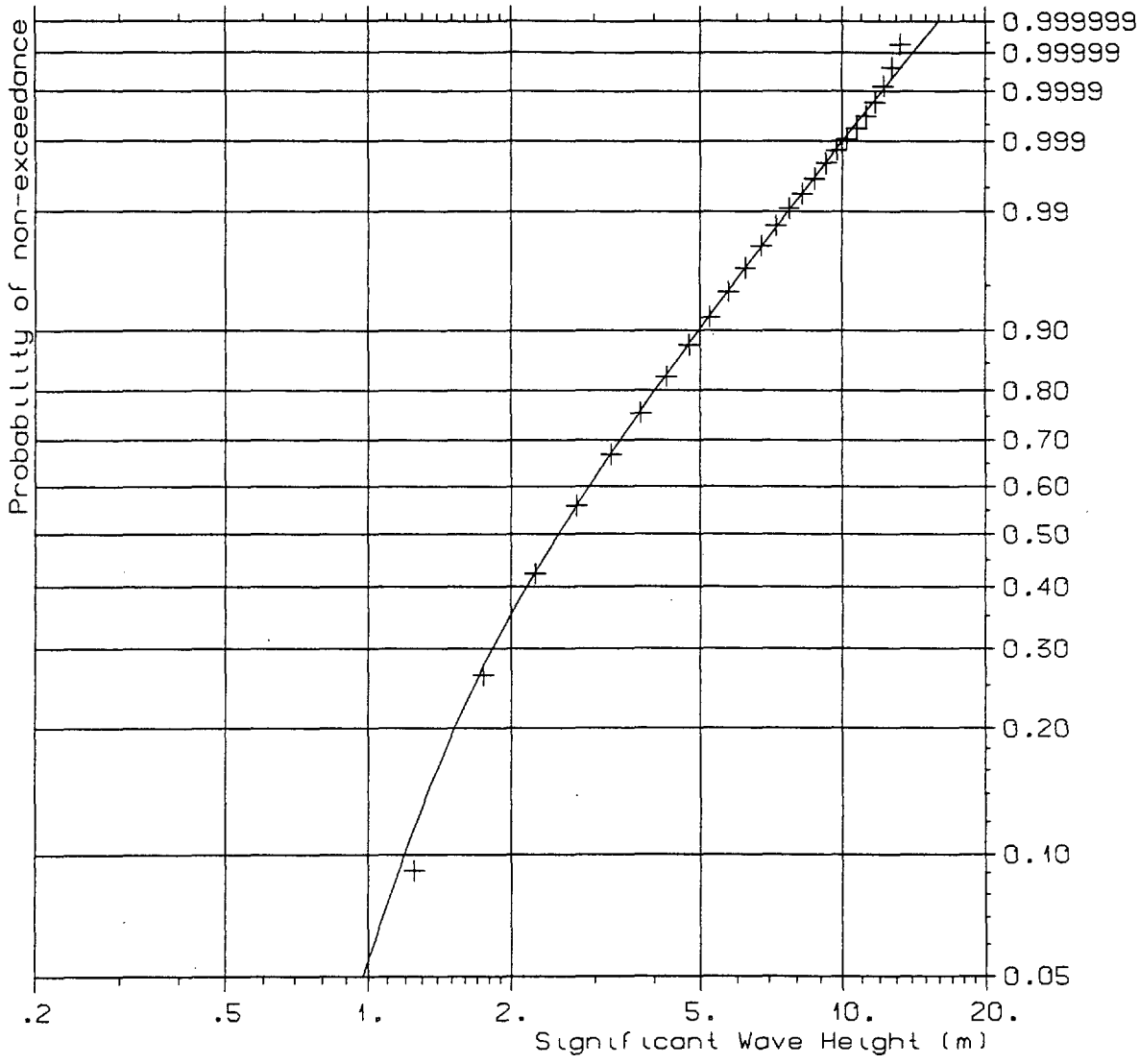
ESTIMATED EXTREMES:	
"RETURN" PERIOD	VALUE
- years -	- m/s -
1.0	28.0
5.0	30.8
25.	33.3
100.	35.4
Duration of exceedance:	
3.0 hours	

OBSERVED DISTRIBUTION:	
Mean value	8.49
Std. deviation	4.60
Skewness	0.66

GENERAL INFORMATION:	
No. of data	: 131929
No. of indep. data:	3665

	STATFJORD A/GULLFAKS C 1981-1997 Wind speed measured in top of derrick reduced to 10 m a.m.s.l.	FIGURE 5.1

5.2 10-100 year estimates of significant wave height based on data from buoy located at Statfjord A (until dec 1991) and MIROS wave radar on Gullfaks C



MODEL DISTRIBUTION:	
WEIBULL parameters:	
Shape	1.412
Scale	2.377
Location	0.685
Estimated using:	
Method of Moments	

ESTIMATED EXTREMES:	
"RETURN" PERIOD	VALUE
- years -	- m -
1.0	11.0
5.0	12.5
25.	13.8
100.	15.0
Duration of exceedance:	
3.0 hours	

OBSERVED DISTRIBUTION:	
Mean value	2.85
Std. deviation	1.55
Skewness	1.18

GENERAL INFORMATION:	
No. of data	: 100454
No. of indep. data:	2790

	STATFJORD A/GULLFAKS C 1981-1997 Significant Wave Height measured by buoy(-> 1990) and wave radar	FIGURE 5.2

6. References

Kvalitetskontroll rapport naturdata, januar 1996, Miros a/s

Kvalitetskontroll rapport naturdata, februar 1997, Miros a/s

Kvalitetskontroll rapport naturdata, mars 1997, Miros a/s

Kvalitetskontroll rapport naturdata, april 1997, Miros a/s

Kvalitetskontroll rapport naturdata, mai 1997, Miros a/s

Kvalitetskontroll rapport naturdata, juni 1997, Miros a/s

Kvalitetskontroll rapport naturdata, juli 1997, Miros a/s

Kvalitetskontroll rapport naturdata, august 1997, Miros a/s

Kvalitetskontroll rapport naturdata, september 1997, Miros a/s

Kvalitetskontroll rapport naturdata, oktober 1997, Miros a/s

Kvalitetskontroll rapport naturdata, november 1997, Miros a/s

Kvalitetskontroll rapport naturdata, desember 1997, Miros a/s

Appendix A

Complete set of parameters that can be available in the format DF022 but not all are implemented in the EMS at Gullfaks C.

Block -Navn	Par nr	-nr	-kode	Navn	Observasjons sted	Observasjons tid	Middl tid	Enhet	Merknad
WR1-031	01	07	VARn	Variance of surface elevation				m*m	Ref. to Point Spectrum
WR1-031	02	08	Hm0	Significant Wave Height				m	
WR1-031	03	09	Tp1	Peak Period				s	of Point Spectrum
WR1-031	04	10	SDp1	Peak Spectral Density				m*m/Hz	of Point Spectrum
WR1-031	05	11	Dp1	Peak Direction corresponding to SDp1				deg	
WR1-031	06	12	Dm1	Mean Direction corresponding to SDp1				deg	
WR1-031	07	13	SPR1	Spread corresponding to SDp1				deg	Around the Mean
WR1-031	08	14	H2	Wave Height corresp. to Secondary peak				m	
WR1-031	09	15	Tp2	Period of Secondary Peak				s	
WR1-031	10	16	SDp2	Secondary Peak Spectral Density				m*m/Hz	
WR1-031	11	17	Dp2	Peak Direction of Secondary Peak				deg	
WR1-031	12	18	Dm2	Mean Direction of Secondary Peak				deg	
WR1-031	13	19	SPR2	Spread corresponding to SDp2				deg	Around the Mean
WR1-031	14	20	Dpt	Total energy Peak Direction				deg	
WR1-031	15	21	Dmt	Total energy Mean Direction				deg	
WR1-031	16	22	SPRt	Total energy Directional Spread				deg	Around the Mean
WR1-031	17	23	Tz	Mean Zero Upcrossing Period				s	
WR1-031	18	24	Tav	Mean Period				s	
WR1-031	19	25	CM	Current Magnitude				m/s	
WR1-031	20	26	CD	Current Direction				deg	
WR1-031	21	27	CE	East component of Current velocity				m/s	
WR1-031	22	28	CN	North component of Current velocity				m/s	
WR1-031	23	29	SPRc	Current Spread				m/s	
WR1-031	24	30	Hmax	Maximum Wave height				m	
WR1-031	25	31	Ts	Significant Wave Period				s	
WR1-031	26	32	Tmax	Maximum Wave Period				s	
WR1-031	27	33	HTmax	Wave height of Maximum Wave Period				m	
WR1-031	28	34	THmax	Wave Period of Maximum Wave height				s	
WR1-031	29	35		not used					
WR1-031	30	36		not used					
ST1-002	01	38	Tew1	Seawater Temperature				deg	
ST2-002	01	40	Tew2	Seawater Temperature				deg	
WL1-002	01	42	Hw1	Water level ten min. average				m	
WL2-002	01	44	Hw2	Water level ten min. average				m	
WIA-015	01	46	DifWsa	Speed Difference				m/s	
WIA-015	02	47	DifWda	Direction Difference				deg	
WIA-015	03	48	Mwm1a	Min. Gust Last 2 min				m/s	
WIA-015	04	49	Mwa1a	Aver. Speed Last 2 min				m/s	
WIA-015	05	50	Mwp1a	Max. Gust Last 2 min				m/s	
WIA-015	06	51	Dwm1a	Min. Direction Last 2 min				deg	
WIA-015	07	52	Dwa1a	Aver. Direction Last 2 min				deg	
WIA-015	08	53	Dwp1a	Max. Direction Last 2 min				deg	
WIA-015	09	54	Mwm2a	Min. Gust Last 10 min reduced	10 m			m/s	
WIA-015	10	55	Mwa2a	Aver. Speed Last 10 min reduced	10 m			m/s	
WIA-015	11	56	Mwp2a	Max. Gust Last 10 min reduced	10 m			m/s	
WIA-015	12	57	Dwm2a	Min. Direction Last 10 min				deg	
WIA-015	13	58	Dwa2a	Aver. Direction Last 10 min				deg	
WIA-015	14	59	Dwp2a	Max. Direction Last 10 min				deg	
WIB-015	01	61	DifWsa	Speed Difference				m/s	
WIB-015	02	62	DifWda	Direction Difference				deg	
WIB-015	03	63	Mwm1b	Min. Gust Last 2 min				m/s	
WIB-015	04	64	Mwa1b	Aver. Speed Last 2 min				m/s	
WIB-015	05	65	Mwp1b	Max. Gust Last 2 min				m/s	
WIB-015	06	66	Dwm1b	Min. Direction Last 2 min				deg	
WIB-015	07	67	Dwa1b	Aver. Direction Last 2 min				deg	
WIB-015	08	68	Dwp1b	Max. Direction Last 2 min				deg	
WIB-015	09	69	Mwm2b	Min. Gust Last 10 min reduced	10 m			m/s	
WIB-015	10	70	Mwa2b	Aver. Speed Last 10 min reduced	10 m			m/s	
WIB-015	11	71	Mwp2b	Max. Gust Last 10 min reduced	10 m			m/s	
WIB-015	12	72	Dwm2b	Min. Direction Last 10 min				deg	
WIB-015	13	73	Dwa2b	Aver. Direction Last 10 min				deg	
WIB-015	14	74	Dwp2b	Max. Direction Last 10 min				deg	
TH1-009	01	76	Tea1	Air Temperature 1 min. mean	73 m		1 min	deg	
TH1-009	02	77	Ted1	Dewpoint Temp. 1 min. mean	73 m		1 min	deg	
TH1-009	03	78	Hua1	Air Humidity 1 min. mean	73 m		1 min	%RH	
TH1-009	04	79	Pa11	Air Pressure at sensor 1 min. mean	77.5 m		1 min	hPa	
TH1-009	05	80	Pa21	Air Pressure QFE 1 min. mean	m		1 min	hPa	QFE
TH1-009	06	81	Pa31	Air Pressure QNH 1 min. mean	00 m		1 min	hPa	QNH
TH1-009	07	82	Pa41	Air Pressure QFF 1 min. mean	00 m		1 min	hPa	QFF
TH1-009	08	83	Pa51	Air Pressure 3 Hour Trend	00 m		1 min	hPa	
TH2-009	01	85	Tea2	Air Temperature 1 min. mean	73 m		1 min	deg	
TH2-009	02	86	Ted2	Dewpoint Temp. 1 min. mean	73 m		1 min	deg	
TH2-009	03	87	Hua2	Air Humidity 1 min. mean	73 m		1 min	%RH	
TH2-009	04	88	Pa12	Air Pressure at sensor 1 min. mean	77.5 m		1 min	hPa	
TH2-009	05	89	Pa22	Air Pressure QFE 1 min. mean	m		1 min	hPa	QFE
TH2-009	06	90	Pa32	Air Pressure QNH 1 min. mean	00 m		1 min	hPa	QNH
TH2-009	07	91	Pa42	Air Pressure QFF 1 min. mean	00 m		1 min	hPa	QFF
TH2-009	08	92	Pa52	Air Pressure 3 Hour Trend	00 m		1 min	hPa	
CL1-005	01	94	Hc11	Cloud Level 1 (lowest cloud)				m	
CL1-005	02	95	Hc21	Cloud Level 2				m	
CL1-005	03	96	Hc31	Cloud Level 3				m	
CL1-005	04	97	Hv11	Vertical Visibility				m	
VI1-002	01	99	Lv11	Horisontal Visibility				m	
PT1-002	01	101	Hr11	Precipitation last fixed 3 hours				mm	
MR1-005	01	103	Mwpp31	Max Gust last fixed 3 hours				m/s	
MR1-005	02	104	Uwpp31	UTC time for parameter 103				h:m	
MR1-005	03	105	Mwap31	Max Average speed last fixed 3 hours				m/s	
MR1-005	04	106	Uwap31	UTC time for parameter 105				h:m	
MR2-005	01	108	Mwpp61	Max Gust last fixed 6 hours				m/s	
MR2-005	02	109	Uwpp61	UTC time for parameter 108				h:m	
MR2-005	03	110	Mwap61	Max Average speed last fixed 6 hours				m/s	
MR2-005	04	111	Uwap61	UTC time for parameter 110				h:m	
WS1-248	01	154		Observation direction spectrum 1				deg	
WS1-248	02	155		Configuration parameter				deg	
WS1-248	03	156		Spectral Density (point 1,direct.1)				m*m/Hz	
WS1-248	04	157		Spectral Density (point 2,direct.1)				m*m/Hz	
WS1-248	248	401		Spectral Density (point 41,direct.6)				m*m/Hz	
CV1-007	01	403	ffdd1	Current Speed, Direction 1				m/s	
CV1-007	02	404	ffdd2	Current Speed, Direction 2				m/s	
CV1-007	03	405	ffdd3	Current Speed, Direction 3				m/s	
CV1-007	04	406	ffdd4	Current Speed, Direction 4				m/s	
CV1-007	05	407	ffdd5	Current Speed, Direction 5				m/s	
CV1-007	06	408	ffdd6	Current Speed, Direction 6				m/s	