Lymington Wave Gauge

Location
OS: 434877E 93528N
WGS84: *Latitude:* 50° 44' 25.18947" N *Longitude:* 01° 30' 25.60798"W

Water Depth
Approx. 3m

Instrument Type
Valeport pressure transducer Type 730D (modified)

Data Quality

C1 (%)	Sample interval
56	60 minutes

Monthly Means *All times GMT*

Month	H_s (m)	T_z (s)	T_p (s)	Direction (°)	SST (°C)	No. of days
January	0.23	2.6	2.8	-	6.0	17
February	0.26	2.7	2.9	-	5.2	17
March	0.31	2.8	2.9	-	5.4	21
April	0.22	2.7	2.7	-	9.1	16
May	0.34	2.7	2.8	-	12.5	16
June	0.22	2.6	2.6	-	16.5	11
July	0.23	2.8	2.6	-	20.0	11
August	0.18	2.7	2.5	-	19.1	15
September	0.22	2.7	2.8	-	18.3	18
October	0.31	2.7	2.9	-	15.8	21
November	0.33	2.8	2.8	-	12.2	20
December	0.41	2.8	2.8	-	9.9	23

Tables and plots of these values, together with the minimum and maximum values and the standard deviation are available on the website.

Highest storm events in 2006									
Date/Time	H_s	T_p	T_z	Dir.	Water level elevation * (OD)	Tidal stage (hours re: HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
03-Dec-2006 05:00	1.31	2.9	2.7	-	0.45	HW - 4	2.1	-	-
30-Dec-2006 15:00	1.27	2.7	2.6	-	-0.35	HW - 4	1.5	-	-
05-Dec-2006 07:00	1.25	2.4	2.4	-	-0.29	HW - 3	2.4	-	-
27-Mar-2006 07:00	1.12	2.8	2.7	-	0.14	HW - 1	2.0	-	-
20-Nov-2006 04:00	1.11	2.2	2.5	-	-0.64	HW + 4	2.5	-	-

* *Tidal information is obtained from the nearest recording tide gauge (co-located on the Royal Lymington Yacht Club Starting Platform). The surge shown is the residual at the time of the highest H_s. The maximum tidal surge is the largest positive surge during the storm event.*

Year	Annual H_s exceedance* (m)						Annual Maximum H_s (m)	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max}
2003	0.79	0.66	0.61	0.55	0.44	0.34	03-Nov-2003 04:00	0.81
2004	1.03	0.79	0.70	0.62	0.49	0.36	23-Jun-2004 12:00	1.11
2005	1.15	0.91	0.81	0.71	0.53	0.37	03-Nov-2005 06:00	1.43
2006	1.27	1.00	0.95	0.86	0.72	0.58	03-Dec-2006 05:00	1.31

** i.e. 5 % of the H_s values measured in 2003 exceeded 0.44m*

Distribution plots

The distribution of wave parameters are shown in the accompanying graphs of:

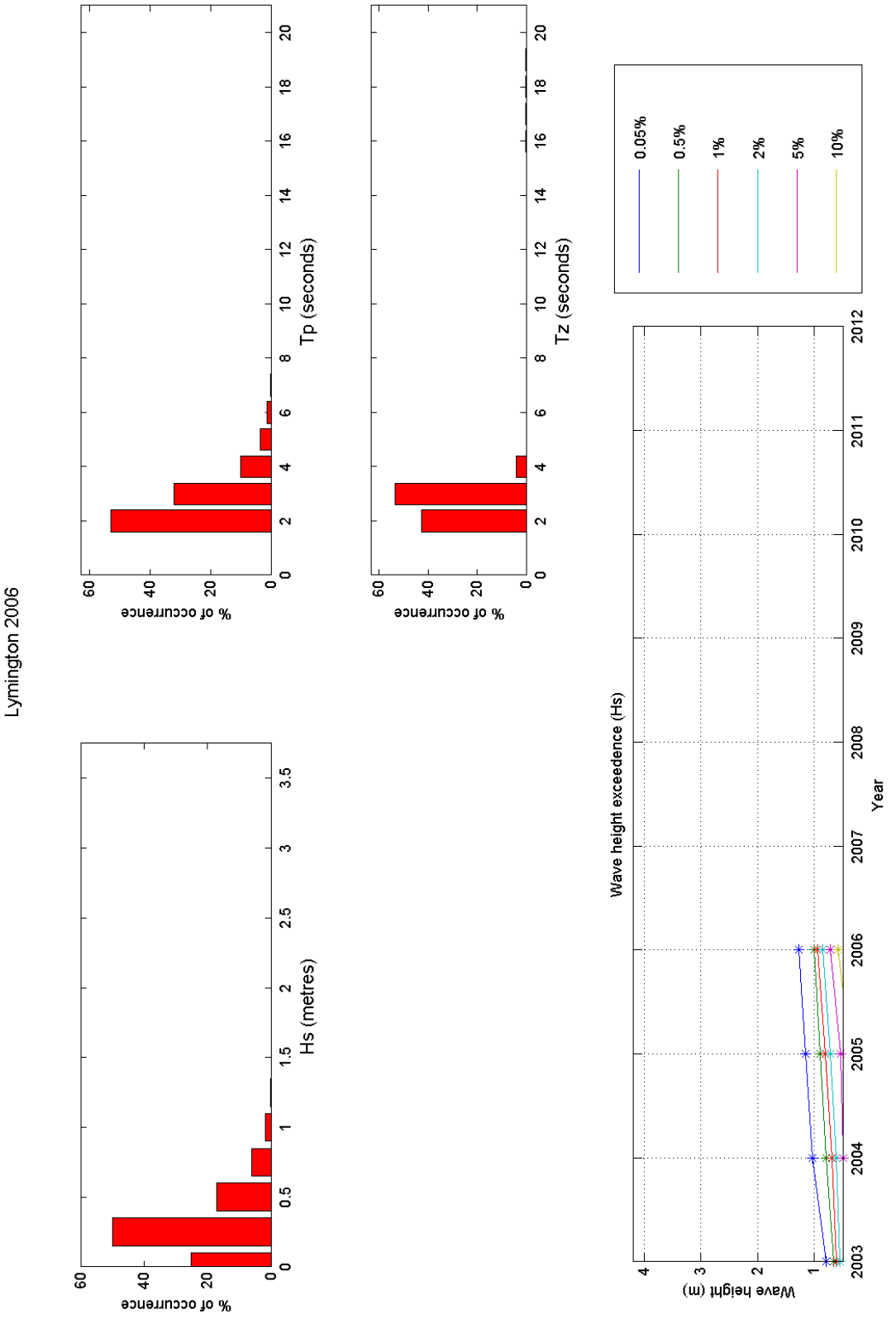
- Percentage of occurrence of H_s, T_p, and T_z for 2006
- Percentage wave height exceedance (all recorded years) – note that the statistics for 2003 were based on measurements from July to December only
- Joint distribution of all parameters for 2006, given both as number of observations and as percentage of occurrence
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Incidence of storms during 2006 and for all previous years. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown.
- Annual time series of H_s (red line is storm waves threshold)

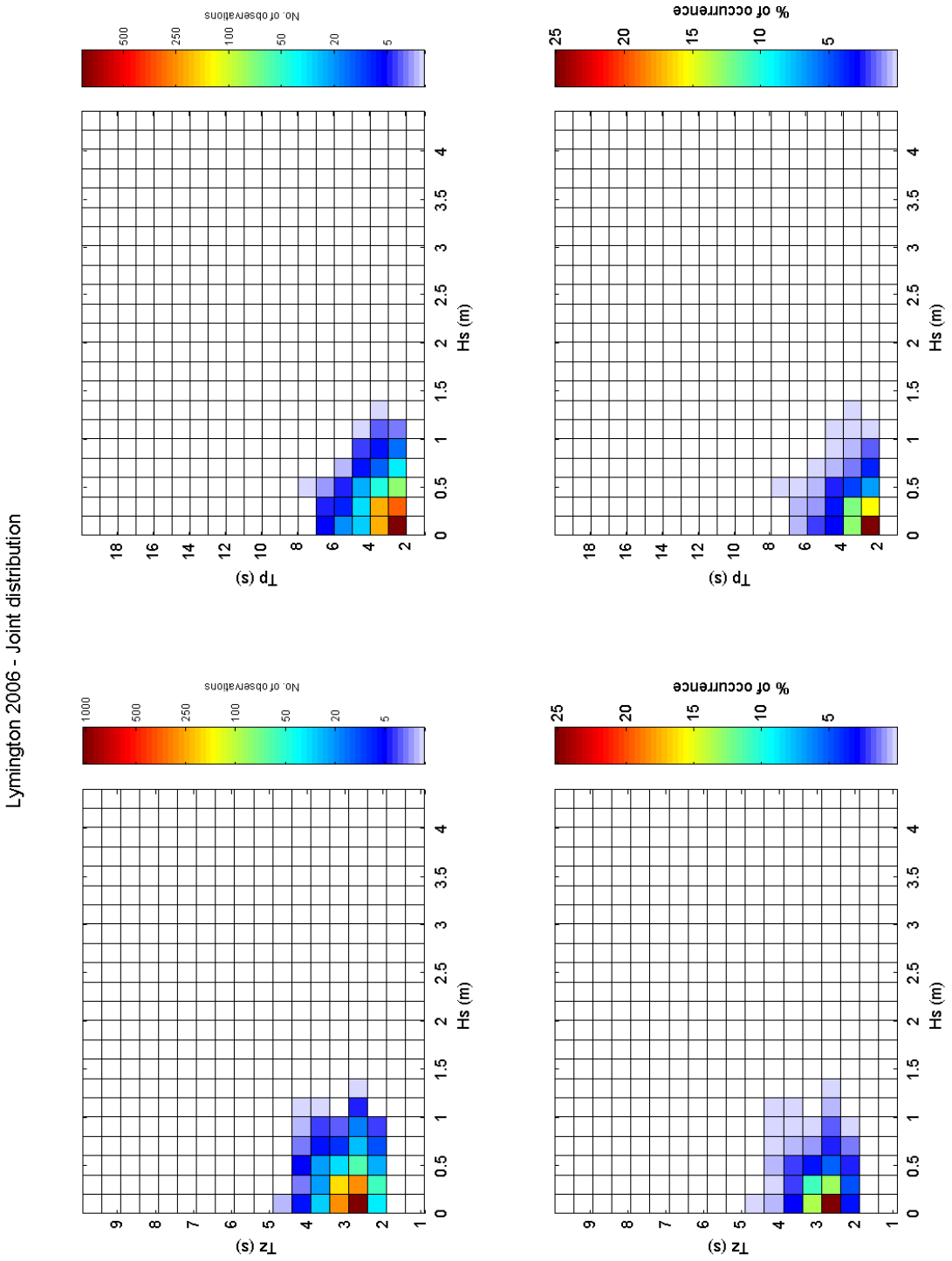
General

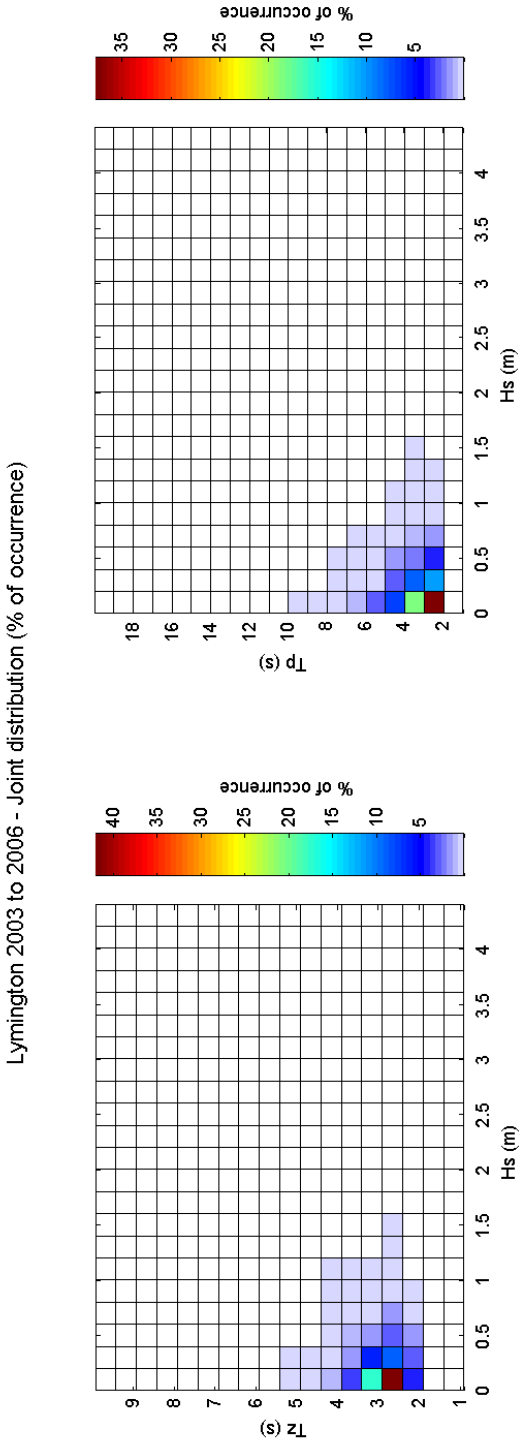
The pressure transducer was first deployed on 10 August 2003.

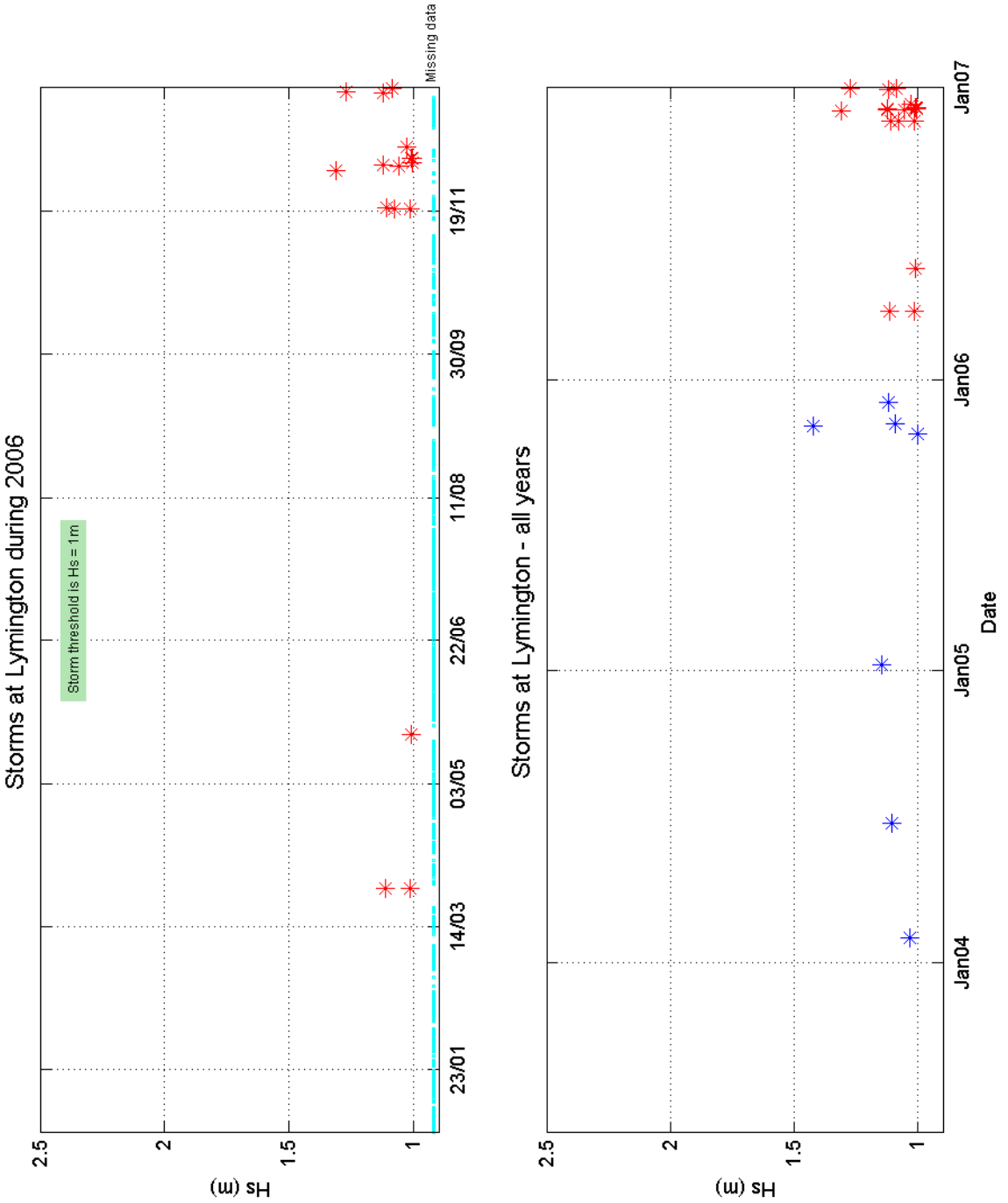
Acknowledgements

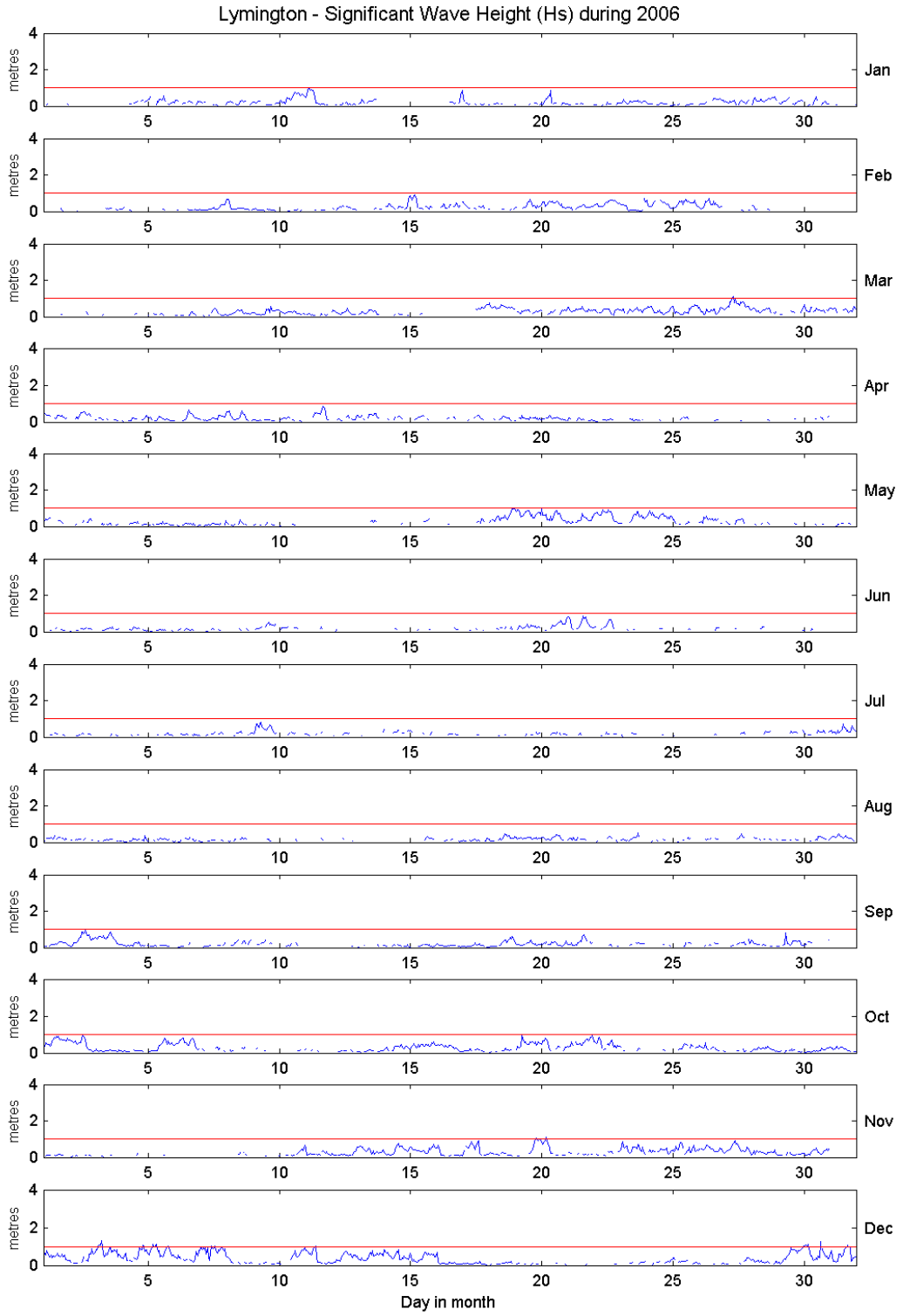
TASK2000 tidal prediction software was kindly provided by Proudman Oceanographic Laboratory.


Lymington 2006
% of occurrence
Hs (metres)
Tp (seconds)
Tz (seconds)
Wave height exceedence (Hs)
Wave height (m)
Year
0.05%
0.5%
1%
2%
5%
10%


Lymington 2006 - Joint distribution
Tp (s)
Hs (m)
No. of observations
% of occurrence
Tz (s)
Hs (m)
No. of observations
% of occurrence


Lymington 2003 to 2006 - Joint distribution (% of occurrence)
% of occurrence
35
30
25
20
15
10
5
Tp (s)
18
16
14
12
10
8
6
4
2
Hs (m)
0
0.5
1
1.5
2
2.5
3
3.5
4
% of occurrence
40
35
30
25
20
15
10
5
Tz (s)
9
8
7
6
5
4
3
2
1
Hs (m)
0
0.5
1
1.5
2
2.5
3
3.5
4


Storms at Lymington during 2006
Storm threshold is Hs = 1m
Missing data
Hs (m)
2.5
2
1.5
1
23/01
14/03
03/05
22/06
11/08
30/09
19/11
Storms at Lymington - all years
Hs (m)
Jan04
Jan05
Jan06
Jan07
Date


Lymington - Significant Wave Height (Hs) during 2006
metres
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
0
2
4
5
10
15
20
25
30
Day in month