Herne Bay Wave Recorder

Location
OS: 616870E 169390N
WGS84: *Latitude:* 51° 22' 55.5"N *Longitude:* 01° 06' 54.66"E

Water Depth
~0.5m CD

Instrument Type
Etrometa Step Gauge

Data Quality

C1(%)	Sample interval
96	20 minutes

Monthly Means

Herne Bay 2004							
Month	H_s (m)	H_{max} (m)	T_p (s)	T_z (s)	Direction (^{o})	SST (^{o}C)	No. of days
January	0.290	0.510	3.2	3.0	-	-	31
February	0.398	0.702	3.3	3.1	-	-	29
March	0.245	0.455	3.2	3.0	-	-	31
April	0.215	0.401	3.2	3.0	-	-	30
May	0.187	0.352	3.1	3.0	-	-	31
June	0.184	0.333	3.0	2.9	-	-	30
July	0.193	0.357	2.9	2.9	-	-	31
August	0.198	0.361	3.0	2.9	-	-	19
September	0.273	0.492	3.2	3.0	-	-	30
October	0.237	0.443	3.4	3.0	-	-	31
November	0.307	0.552	3.2	3.0	-	-	29
December	0.237	0.431	3.0	2.9	-	-	31

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 2004									
Date/Time	H_s	T_p	T_z	Dir.	Water level elevation * (OD)	Tidal stage	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
07-Jul-2004 14:40	1.71	5.9	4.0	-	2.22	HW –1	4.3	0.14	0.42
19-Nov-2004 04:00	1.55	4.5	3.9	-	2.19	HW –1	3.3	0.37	0.61
17-Dec-2004 16:00	1.54	4.3	3.8	-	2.93	HW	4.2	0.68	0.90
12-Nov-2004 23:00	1.51	4.5	3.9	-	2.85	HW –1	4.8	0.80	1.01
22-Feb-2004 15:40	1.51	5.0	4.2	-	2.53	HW +2	4.4	1.04	1.04

* *Tidal information is obtained from the nearest recording tide gauge (the Etrometa step gauge also provides tidal data). 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)	
	0.5%	1%	2%	5%	10%	Date	A_{max}
1996	1.42	1.33	1.19	0.93	0.72	23-Dec-1996 10:20	1.73
1997	1.15	1.04	0.88	0.69	0.54	01-Jan-1997 20:00	1.75
1998	1.17	1.00	0.87	0.71	0.54	08-Oct-1998 11:20	1.74
1999	1.28	1.16	1.01	0.79	0.62	11-Nov-1999 19:40	1.83
2000	1.19	1.05	0.92	0.67	0.50	04-Apr-2000 22:20	1.78
2001	1.30	1.14	0.98	0.77	0.59	08-Nov-2001 15:00	2.12
2002	1.17	1.05	0.90	0.72	0.54	14-Feb-2002 01:00	1.54
2003	1.25	1.13	0.96	0.73	0.55	29-Jan-2003 09:40	1.78
2004	1.25	1.11	0.94	0.70	0.52	07-Jul-2004 14:40	1.71
2005							

** i.e. 5 % of the H_s values measured in 2004 exceeded 0.70m*

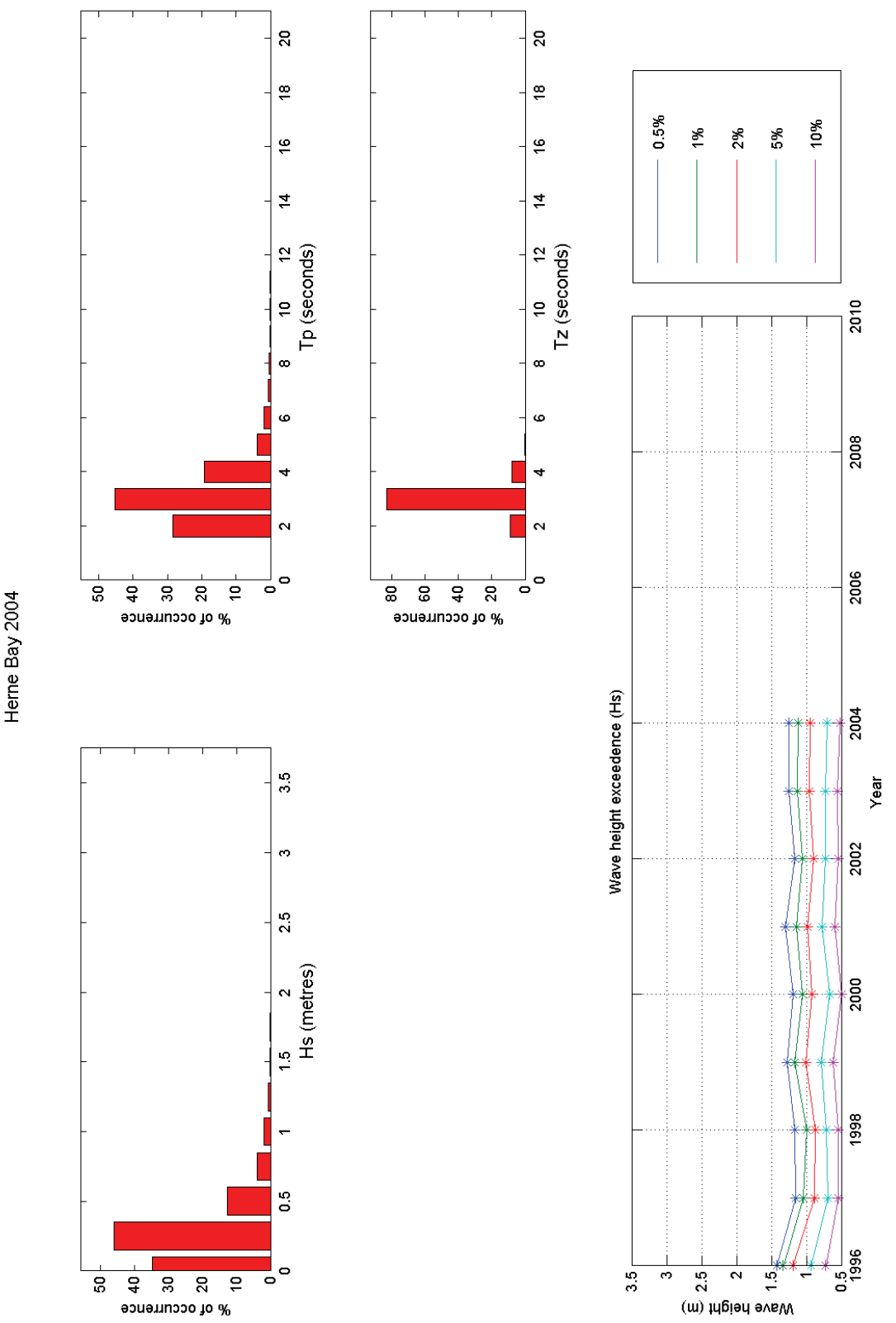
Distribution plots

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

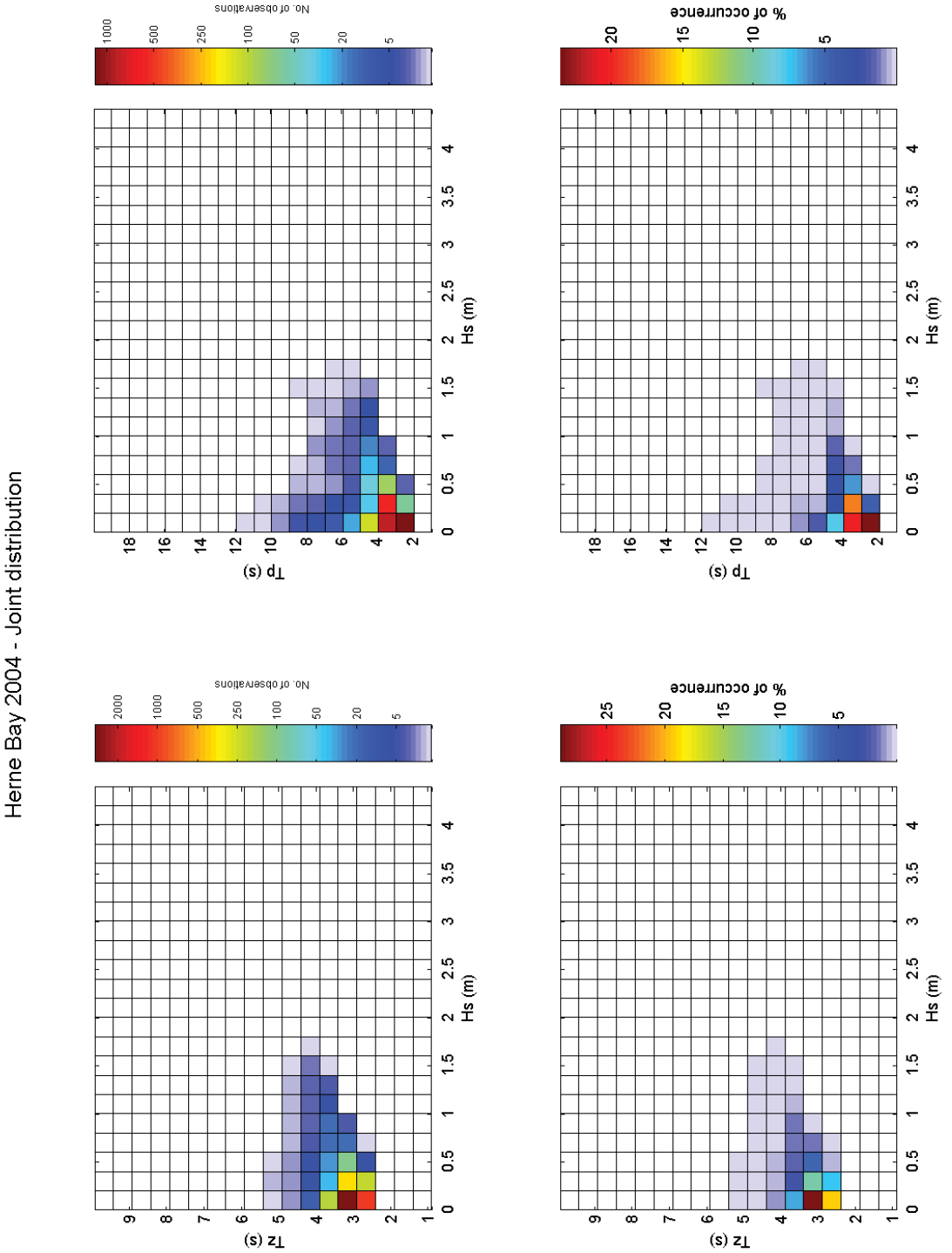
- Percentage of occurrence of H_s, T_p, and T_z for 2004
- Percentage wave height exceedence (all recorded years) – note that the statistics for 1996 were based on measurements from March to December only
- Joint distribution of all parameters for 2004, given both as number of observations and as percentage of occurrence
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Incidence of storms during 2004 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).

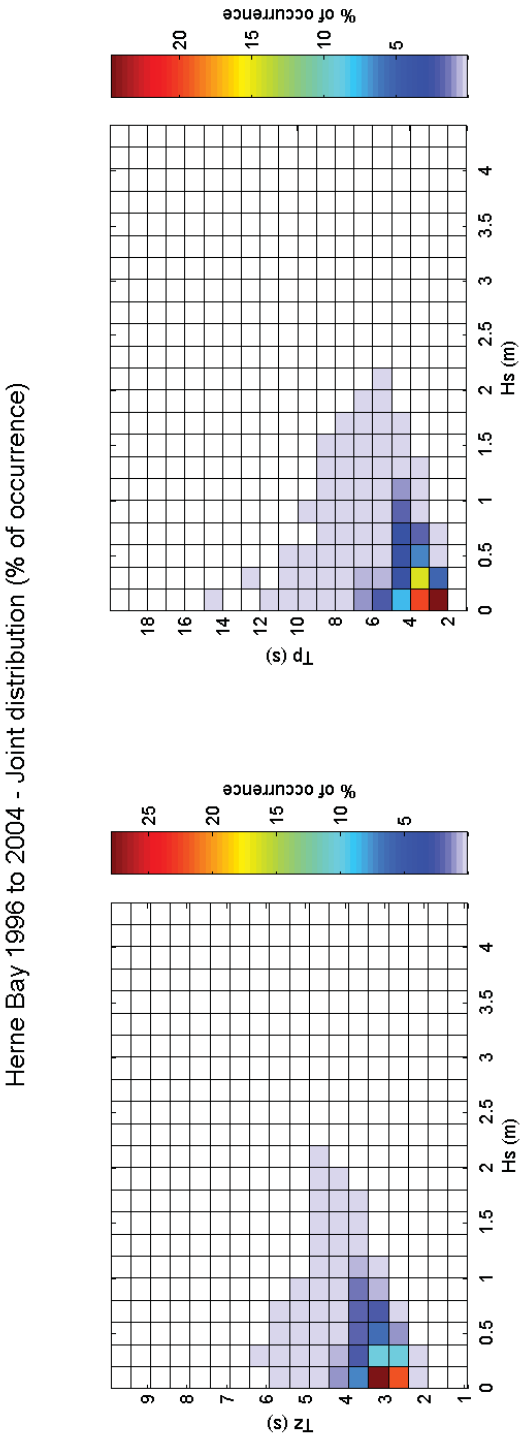
General

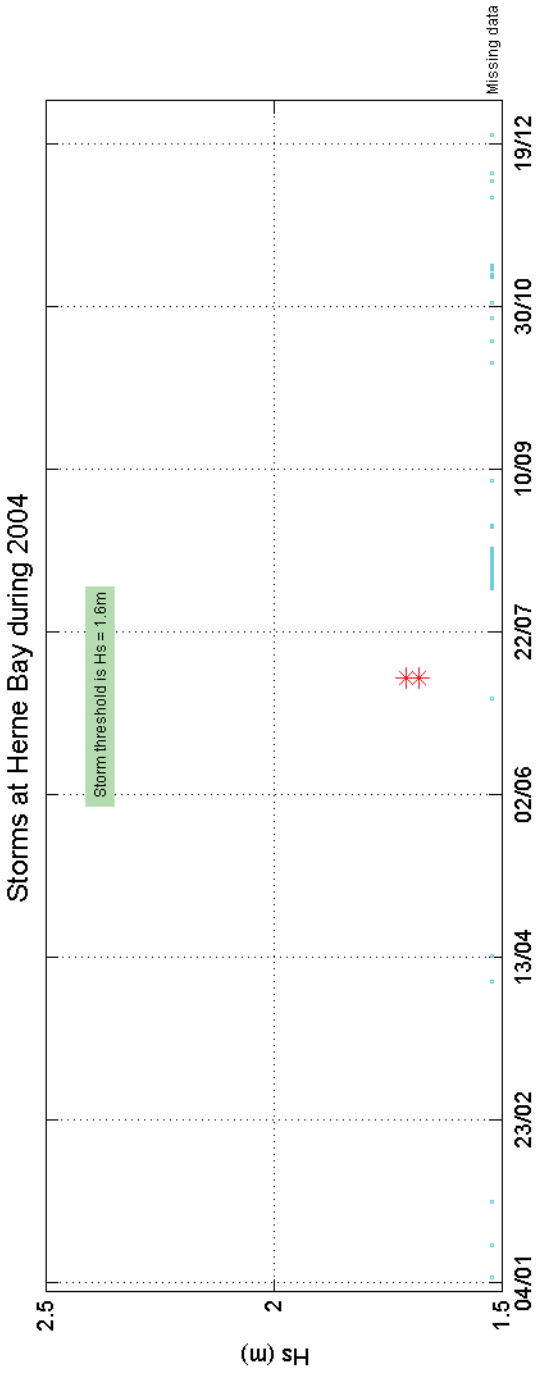
The Gauge was deployed on 19 March 1996.

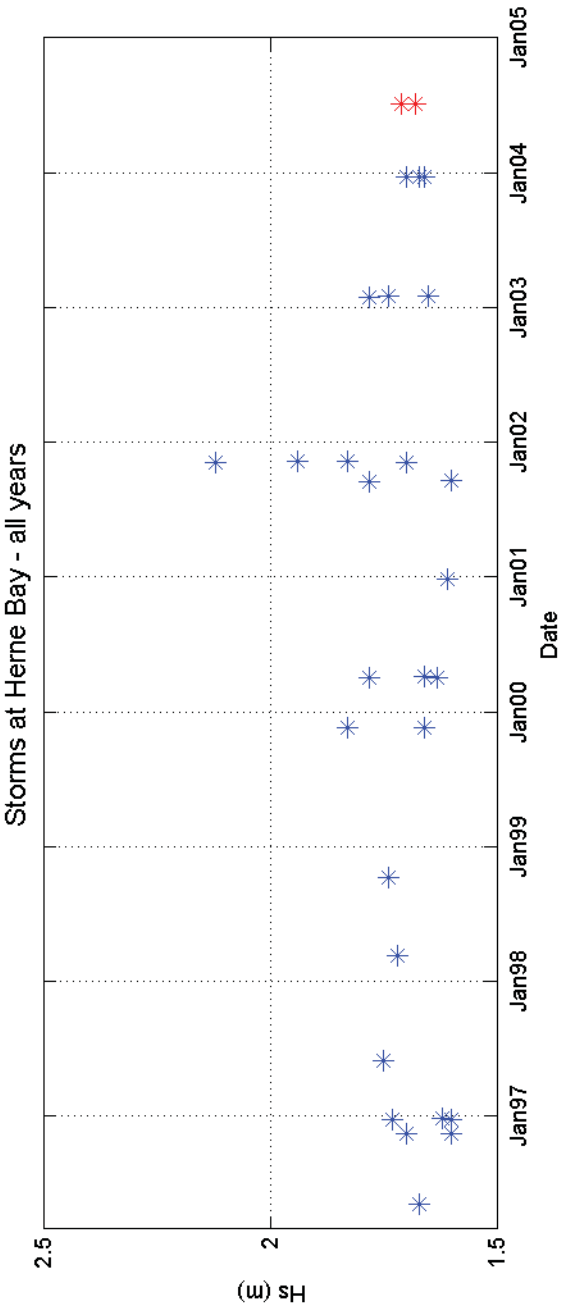

Herne Bay 2004
% of occurrence
Hs (metres)
Tp (seconds)
Tz (seconds)
Wave height exceedence (Hs)
Wave height (m)
Year
0.5%
1%
2%
5%
10%

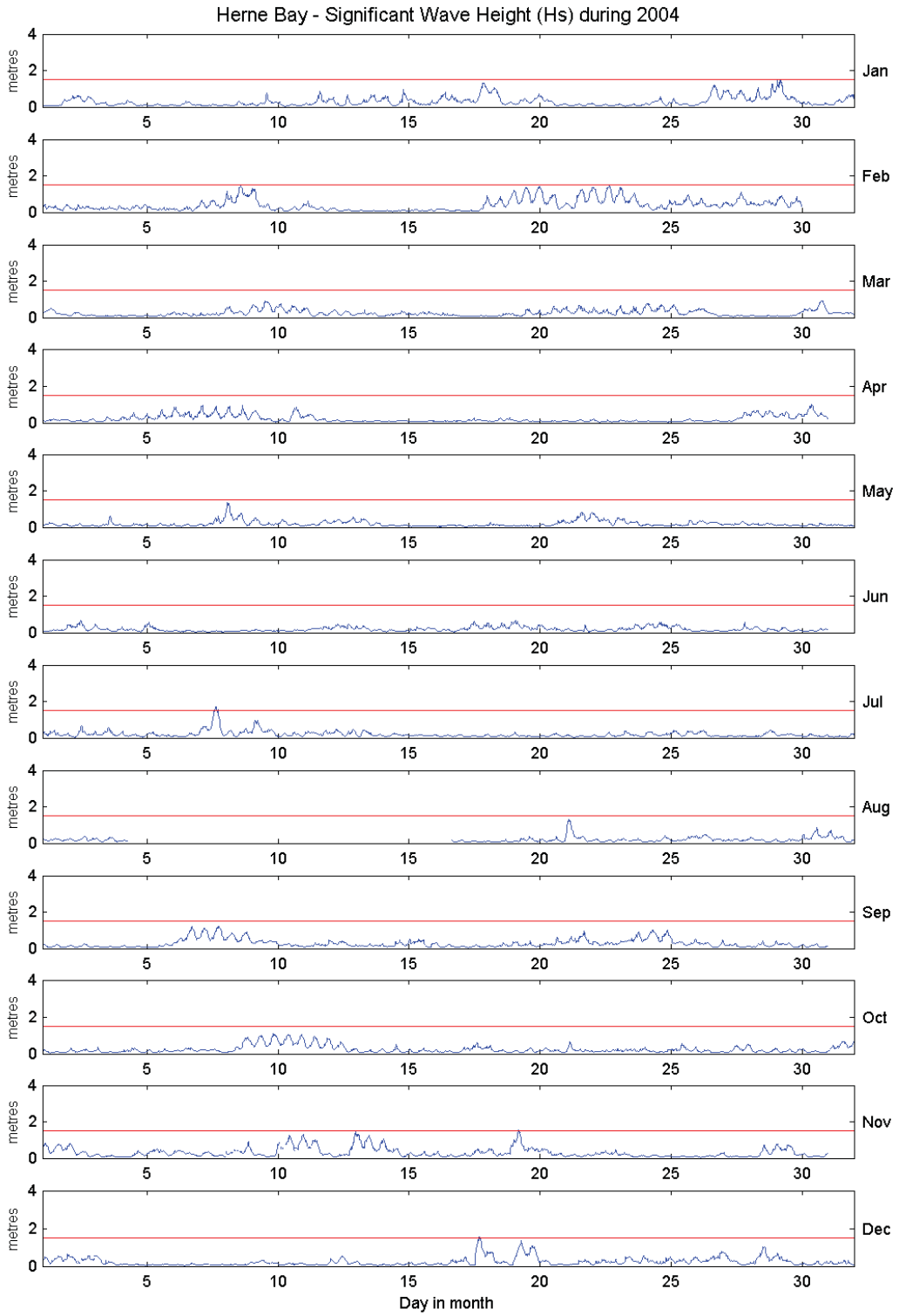
Herne Bay 2004 - Joint distribution




Herne Bay 1996 to 2004 - Joint distribution (% of occurrence)
% of occurrence
25
20
15
10
5
Tz (s)
0
1
2
3
4
5
6
7
8
9
Hs (m)
0
0.5
1
1.5
2
2.5
3
3.5
4
% of occurrence
20
15
10
5
Tp (s)
0
2
4
6
8
10
12
14
16
18
Hs (m)
0
0.5
1
1.5
2
2.5
3
3.5
4


Storms at Herne Bay during 2004
Storm threshold is Hs = 1.6m
Missing data
Hs (m)
2.5
2
1.5
04/01
23/02
13/04
02/06
22/07
10/09
30/10
19/12


Storms at Herne Bay - all years
Hs (m)
2.5
2
1.5
Jan97
Jan98
Jan99
Jan00
Jan01
Jan02
Jan03
Jan04
Jan05
Date


Herne Bay - Significant Wave Height (Hs) during 2004
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