

## Herne Bay Wave Gauge

### 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
89	20 minutes

### Monthly Means

All times GMT

Month	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	0.32	3.1	2.9	-	-	31
February	0.21	3.4	3.0	-	-	21
March	0.35	3.2	3.0	-	-	31
April	0.30	3.2	3.0	-	-	30
May	0.24	3.0	2.9	-	-	24
June	0.22	2.9	2.9	-	-	27
July	0.25	3.1	2.9	-	-	12
August	0.26	3.0	2.9	-	-	31
September	0.31	3.1	2.9	-	-	30
October	0.23	3.1	2.9	-	-	31
November	0.30	3.3	3.0	-	-	28
December	0.27	3.4	3.0	-	-	30

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

Highest events in 2007									
Date/Time	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Dir.	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
20-Mar-2007 14:20	1.58	4.5	4.1	-	2.58	HW + 1	5.2	0.35	1.11
26-Sep-2007 22:40	1.51	4.5	3.8	-	2.31	HW - 2	5.0	0.40	0.75

\* Tidal information is obtained from the nearest recording tide gauge (the step gauge also provides tidal data). The surge shown is the residual at the time of the highest H<sub>s</sub>. 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	$A_{max}$
1996	1.66	1.42	1.33	1.19	0.93	0.72	23-Dec-1996 10:20	1.73
1997	1.50	1.15	1.04	0.88	0.69	0.54	01-Jan-1997 20:00	1.75
1998	1.64	1.17	1.00	0.87	0.71	0.54	08-Oct-1998 11:20	1.74
1999	1.56	1.28	1.16	1.01	0.79	0.62	11-Nov-1999 19:40	1.83
2000	1.61	1.19	1.05	0.92	0.67	0.50	04-Apr-2000 22:20	1.78
2001	1.74	1.30	1.14	0.98	0.77	0.59	08-Nov-2001 15:00	2.12
2002	1.44	1.17	1.05	0.90	0.72	0.54	14-Feb-2002 01:00	1.54
2003	1.60	1.25	1.13	0.96	0.73	0.55	29-Jan-2003 09:40	1.78
2004	1.51	1.25	1.11	0.94	0.70	0.52	07-Jul-2004 14:40	1.71
2005	1.71	1.36	1.21	1.04	0.81	0.61	14-Feb-2005 04:20	1.94
2006	1.50	1.26	1.11	0.93	0.71	0.53	20-Feb-2006 03:20	1.60
2007	1.45	1.23	1.11	0.98	0.76	0.6	20-Mar-2007 14:20	1.58

\* 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 2007
- Percentage wave height exceedance (all recorded years) – note that the statistics for 1996 were based on measurements from March to December only
- Joint distribution of all parameters for 2007, 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 2007 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 threshold).

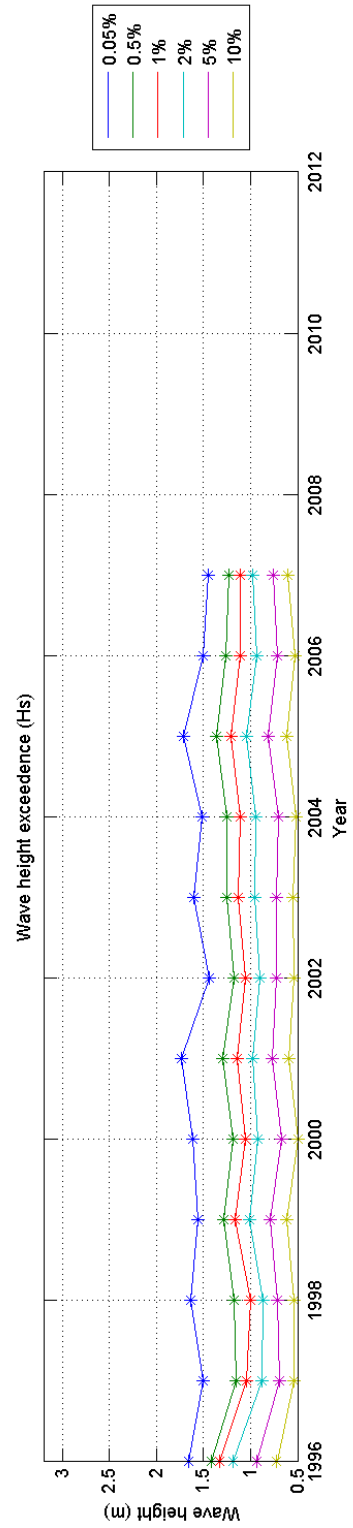
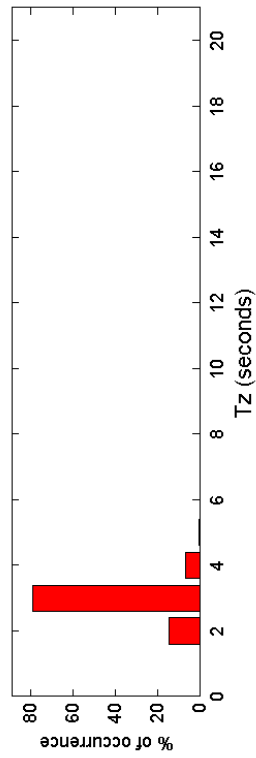
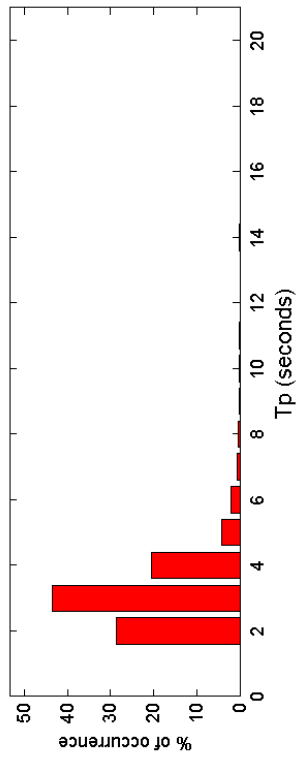
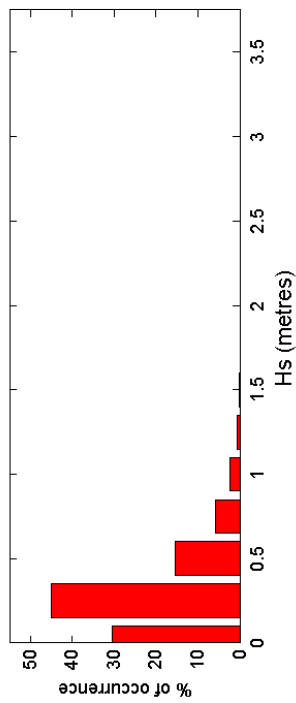
### General

The Step gauge was deployed on 19 March 1996. Sections of the gauge were renewed during February and July 2007.

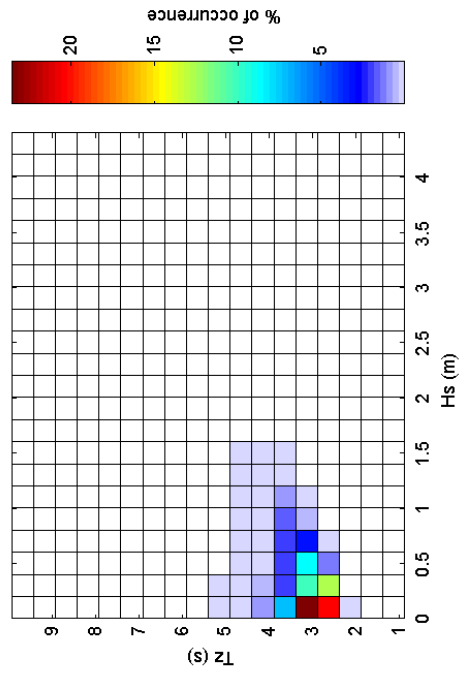
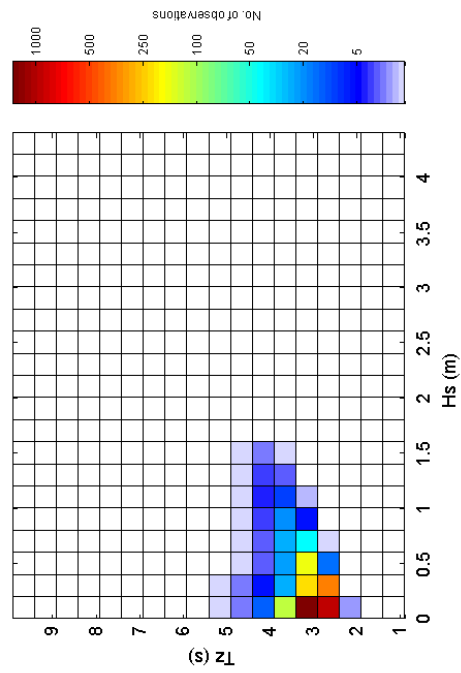
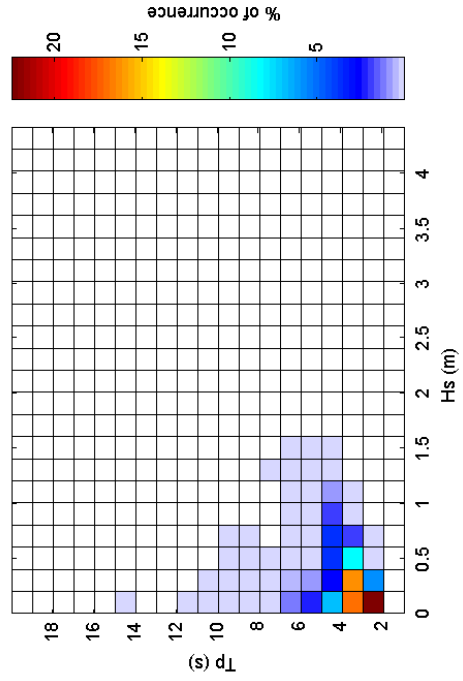
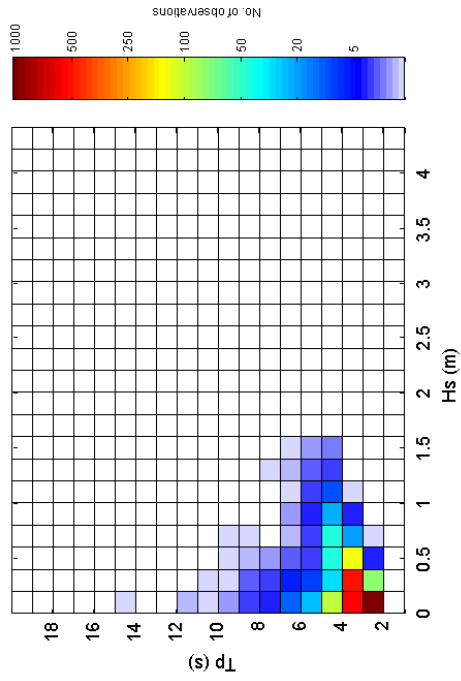
### Acknowledgements

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Herne Bay 2007



Herne Bay 2007 - Joint distribution



Herne Bay 1996 to 2007 - Joint distribution (% of occurrence)

