

Herne Bay Step Gauge

Location

OS: 616895E 169377N

WGS84: Latitude: 51° 22.919' N Longitude: 01° 06.934' E

Water Depth

N/A

Instrument Type

Etrometa Step Gauge

Data Quality

Recovery rate (%)	Sample interval
91	20 minutes

Statistics - 2011

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.28	2.9	2.9	-	-	19
February	0.22	3.0	2.8	-	-	19
March	0.24	3.1	2.9	-	-	25
April	0.20	3.0	2.8	-	-	29
May	0.20	2.8	2.7	-	-	31
June	0.19	2.7	2.7	-	-	29
July	0.19	2.9	2.7	-	-	30
August	0.16	2.8	2.6	-	-	29
September	0.13	2.7	2.6	-	-	30
October	0.18	3.1	2.8	-	-	31
November	0.16	3.2	2.7	-	-	30
December	0.22	2.9	2.7	-	-	31

Storm Analysis

Date/Time	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
02-Mar-2011 23:40	1.90	3.5	3.6	-	1.99	HW	4.0	-0.02	-0.27
04-Mar-2011 00:20	1.85	2.9	3.9	-	2.09	HW	3.9	-0.07	-0.36

* 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_s. The maximum tidal surge is the largest surge during the storm event.

Annual Statistics

Year	Annual H_s exceedance* (m)						Annual Maximum H_s	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
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	0.60	20-Mar-2007 14:20	1.58
2008	1.54	1.06	0.92	0.78	0.58	0.44	22-Nov-2008 10:00	1.74
2009	1.43	1.08	0.94	0.77	0.57	0.43	23-Jan-2009 11:40	1.88
2010	1.53	1.12	1.01	0.86	0.67	0.52	07-Jan-2010 05:40	1.89
2011	1.49	0.93	0.81	0.70	0.52	0.38	02-Mar-2011 21:40	1.90

* i.e. 5 % of the H_s values measured in 1996 exceeded 0.93 m

Distribution plots

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

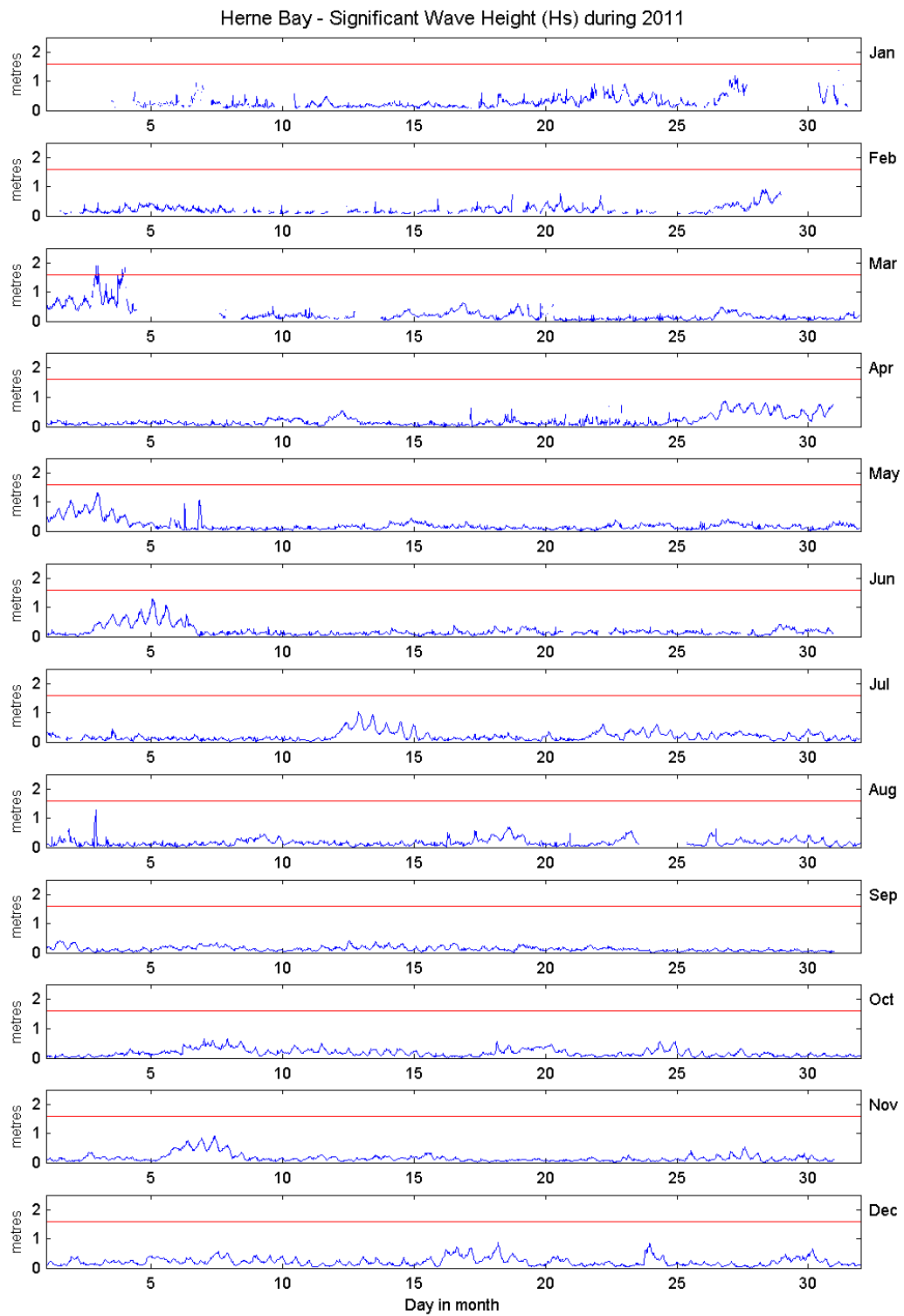
- Annual time series of H_s (red line is 1.6 m storm threshold)
- Percentage of occurrence of H_s , T_p and T_z for 2011
- Incidence of storm waves for 2011. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

General

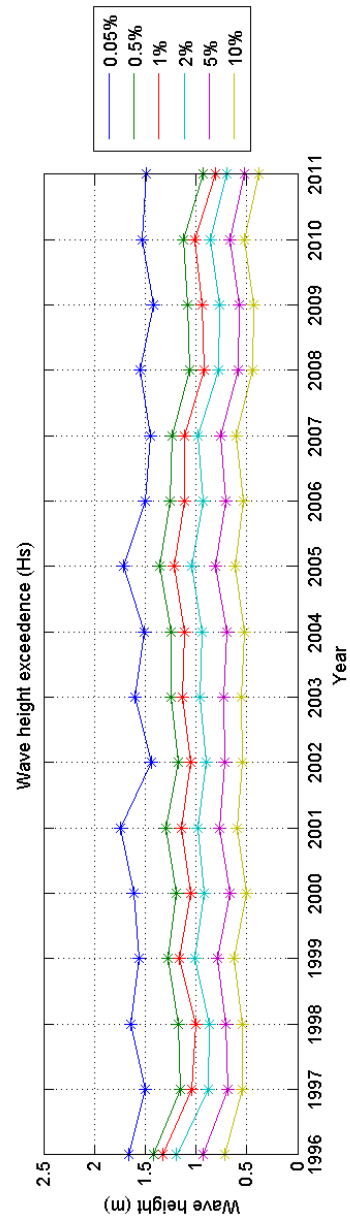
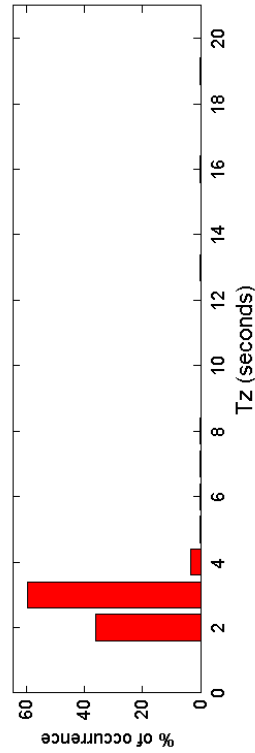
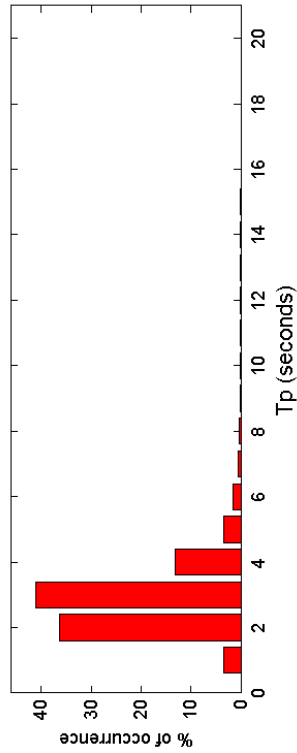
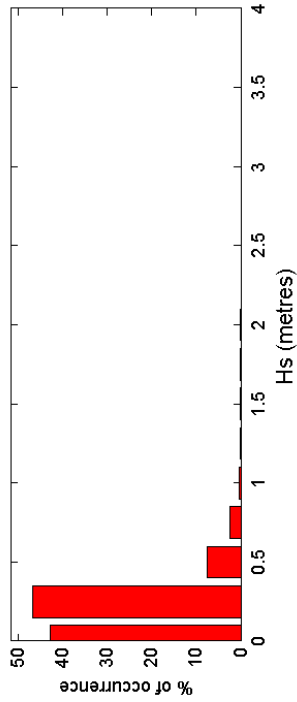
The Step Gauge was first deployed on 19 March 1996. Sections of the gauge were renewed during February and July 2007. The telemetry system was intermittently faulty for several weeks during the winter months of 2008 to 2011.

Acknowledgements

TASK2000 tidal prediction software was kindly provided by the Permanent Service for Mean Sea Level, Proudman Oceanographic Laboratory.



Herne Bay 2011



Herne Bay 1996 to 2011 - Joint distribution (% of occurrence)

