

## 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
96	20 minutes

### Statistics - 2012

All times are GMT

Month	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	SST (°C)	No. of days
January	0.11	3.1	2.8	-	-	27
February	0.09	3.3	2.9	-	-	28
March	0.06	3.2	2.9	-	-	29
April	0.10	3.3	2.8	-	-	27
May	0.10	3.2	2.8	-	-	30
June	0.08	3.1	2.7	-	-	29
July	0.05	2.9	2.7	-	-	30
August	0.05	2.9	2.7	-	-	30
September	0.08	3.0	2.7	-	-	29
October	0.10	3.3	2.8	-	-	30
November	0.08	3.2	2.8	-	-	30
December	0.09	3.3	2.8	-	-	31

### Storm Analysis

Date/Time	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
27-Oct-2012 08:30	1.06	4.5	3.7	-	1.93	HW -2	3.4	0.58	1.18

\* 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 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
2012	0.88	0.56	0.47	0.38	0.27	0.20	27-Oct-2012 08:30	1.06

\* 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:

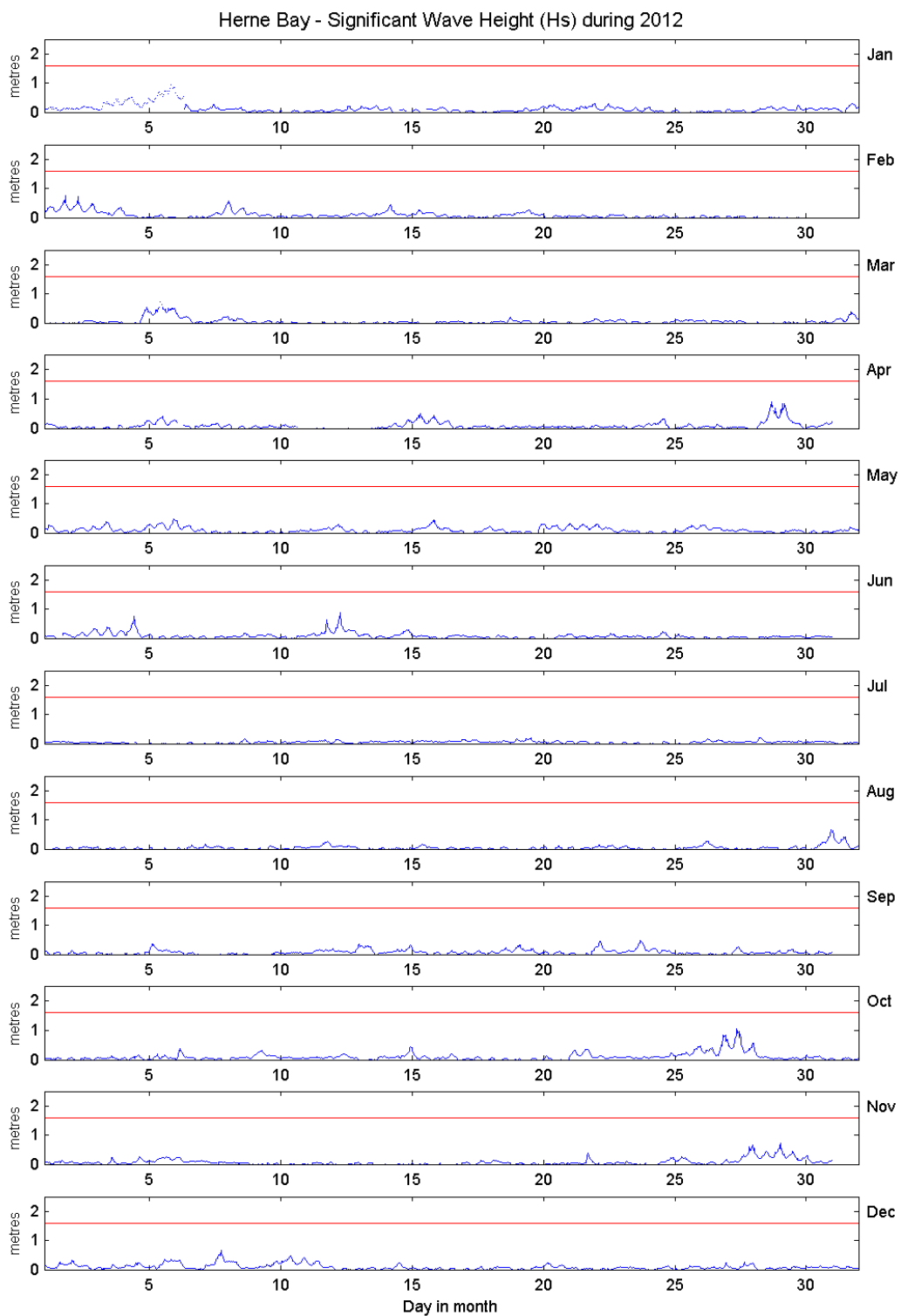
- Annual time series of  $H_s$  (red line is 1.6 m storm threshold)
- Percentage of occurrence of  $H_s$ ,  $T_p$  and  $T_z$  for 2012
- Incidence of storm waves for 2012. Storm events are defined using the Peaks-over-Threshold method. The highest  $H_s$  of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

## General

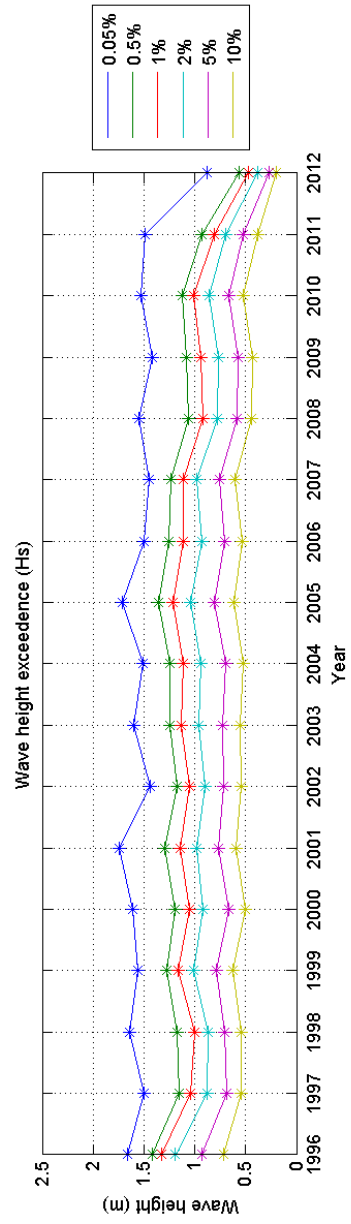
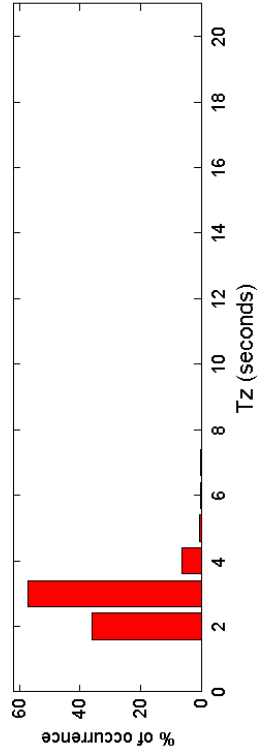
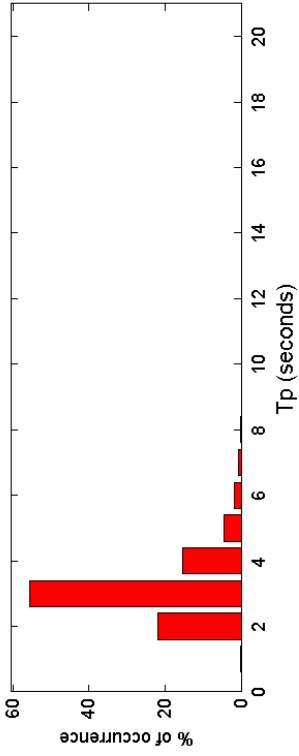
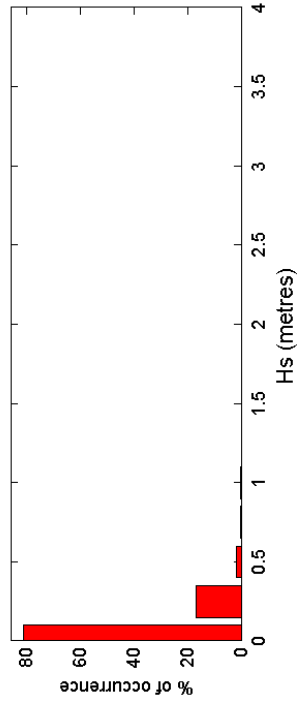
The Step Gauge was first deployed on 19 March 1996. Sections of the gauge were renewed during February and July 2007. The telemetry system was intermittently faulty for several weeks during the winter months of 2008 to 2011.

## Acknowledgements

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



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Herne Bay 1996 to 2012 - Joint distribution (% of occurrence)

