

## Sandown Pier Wave Radar

### Location

OS: 459964E 83835N

WGS84: Latitude: 50° 39.066' N Longitude: 01° 09.189' W

### Water Depth

N/A

### Instrument Type

Rosemount WaveRadar REX

### Data Quality

Recovery rate (%)	Sample interval
98	20 minutes

### Statistics - 2011

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	0.44	-	3.7	-	-	30
February	0.43	-	3.9	-	-	28
March	0.36	-	3.6	-	-	31
April	0.33	-	3.5	-	-	30
May	0.34	-	3.5	-	-	31
June	0.33	-	3.6	-	-	30
July	0.30	-	3.5	-	-	30
August	0.30	-	3.5	-	-	31
September	0.35	-	3.7	-	-	30
October	0.43	-	3.7	-	-	30
November	0.50	-	3.8	-	-	30
December	0.40	-	4.1	-	-	27

### 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)
13-Dec-2011 00:40	1.74	-	5.2	-	2.16	HW	3.0	0.41	0.56
23-Oct-2011 23:00	1.72	-	5.2	-	0.61	HW +3	2.6	0.24	0.33
11-Jan-2011 03:00	1.71	-	4.6	-	1.70	HW	2.5	0.18	0.19

\* Tidal information is obtained from the nearest recording tide gauge (the radar 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.

## Annual Statistics

Year	Annual $H_s$ exceedance* (m)						Annual Maximum $H_s$	
	0.05%	0.5%	1%	2%	5%	10%	Date	$A_{max}$ (m)
2006	-	1.36	1.26	1.13	0.87	0.66	03-Dec-2006 06:40	1.82
2007	1.85	1.26	1.07	0.93	0.72	0.58	18-Nov-2007 17:40	2.00
2008	1.86	1.43	1.29	1.07	0.80	0.61	13-Dec-2008 09:00	2.01
2009	1.63	1.32	1.23	1.09	0.86	0.64	13-Nov-2009 22:00	1.79
2010	1.65	1.35	1.17	0.98	0.73	0.58	08-Nov-2010 08:40	1.83
2011	1.63	1.34	1.16	0.96	0.73	0.59	13-Dec-2011 00:40	1.74

\* i.e. 5 % of the  $H_s$  values measured in 2006 exceeded 0.87 m

## Distribution plots

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

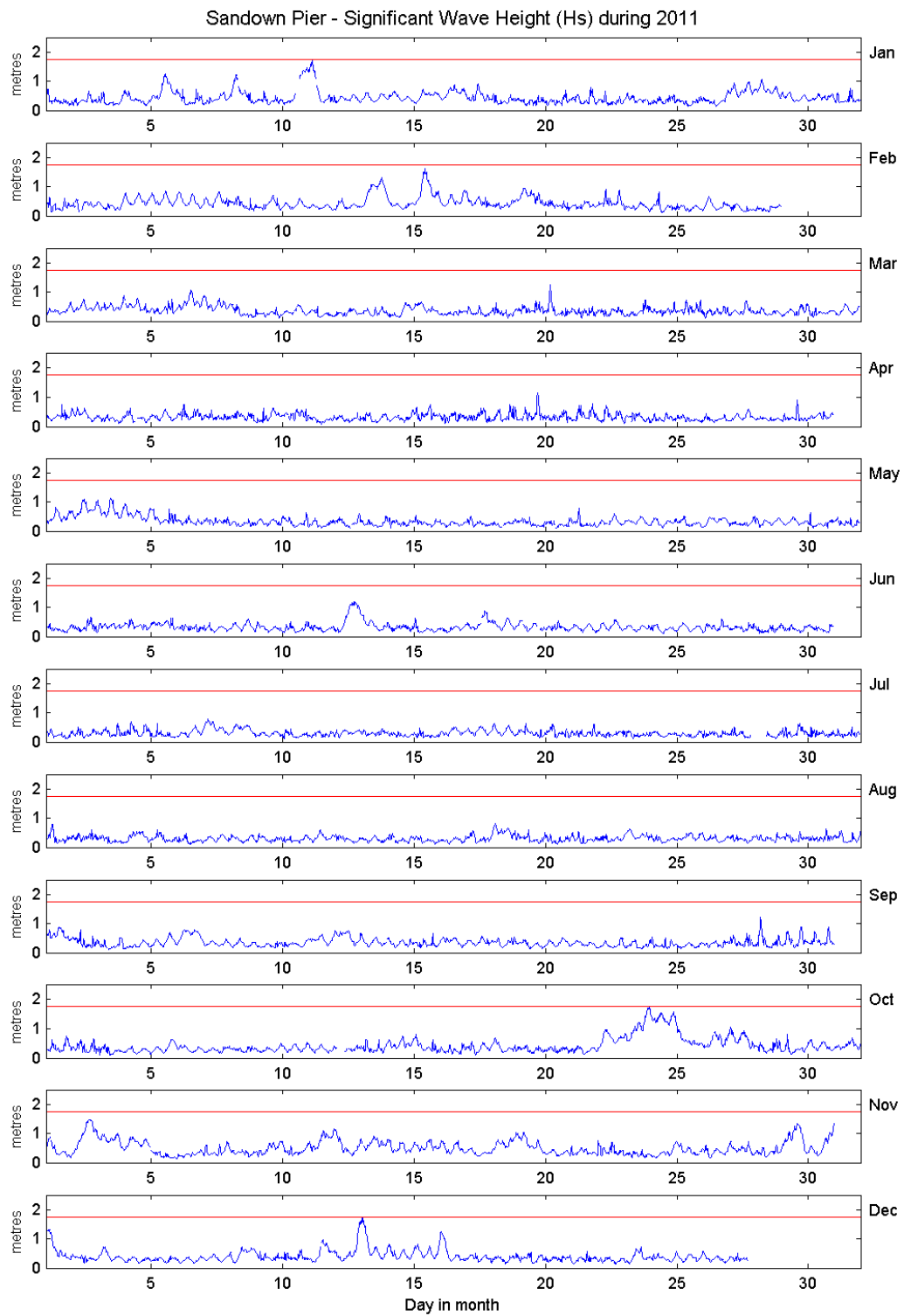
- Annual time series of  $H_s$  (red line is 1.75 m storm threshold)
- Percentage of occurrence of  $H_s$  and  $T_z$  for 2011
- Incidence of storm waves for 2011. Storm events are defined using the Peaks-over-Threshold method. The highest  $H_s$  of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

## General

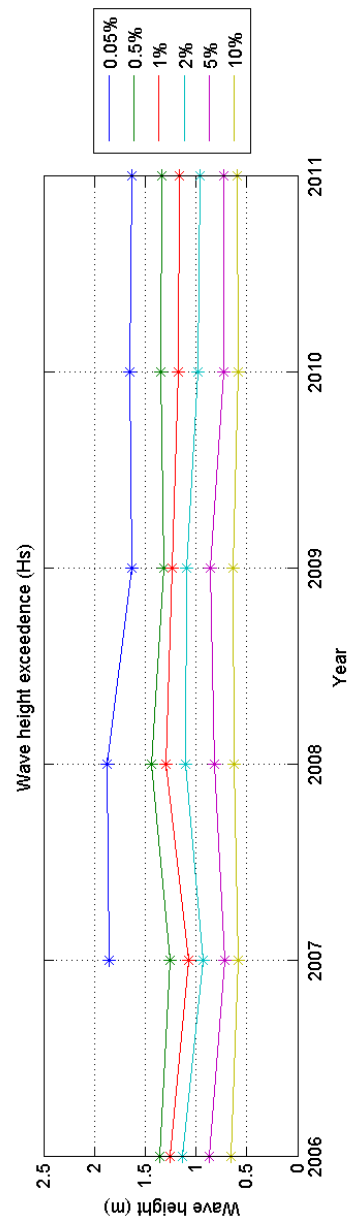
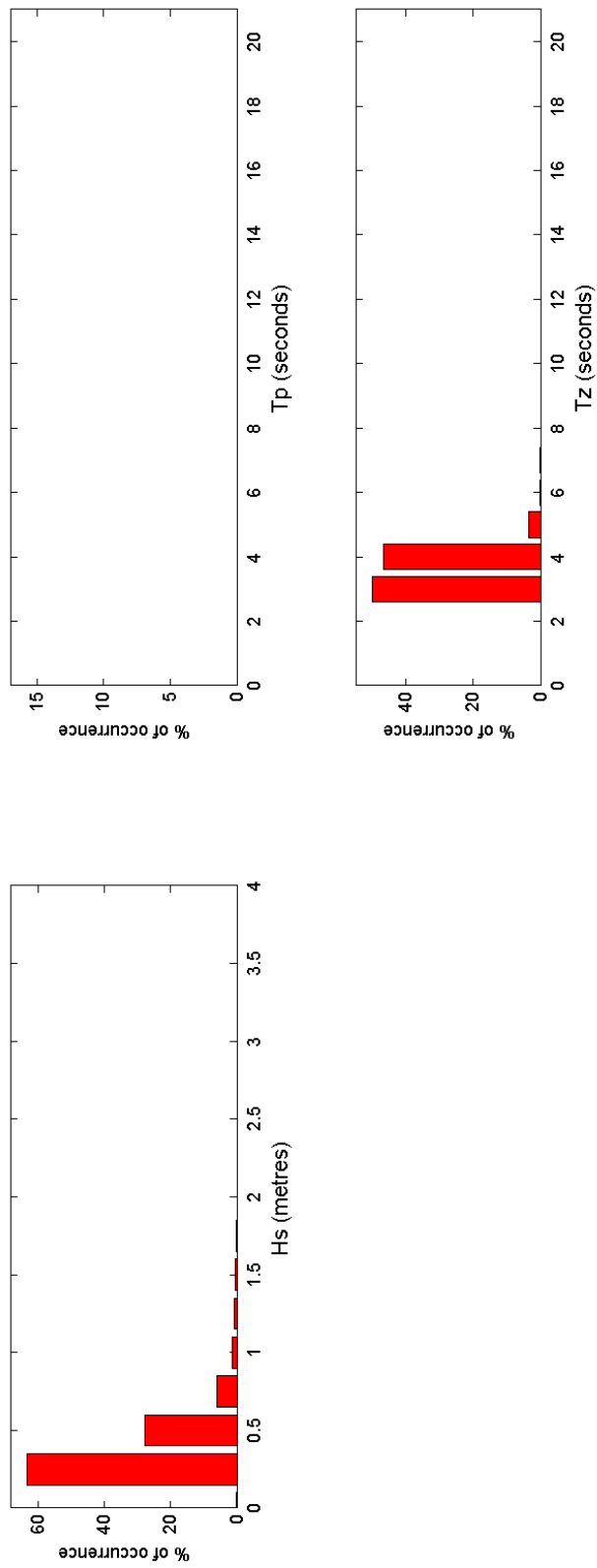
The WaveRadar REX was installed on 04 May 2006.

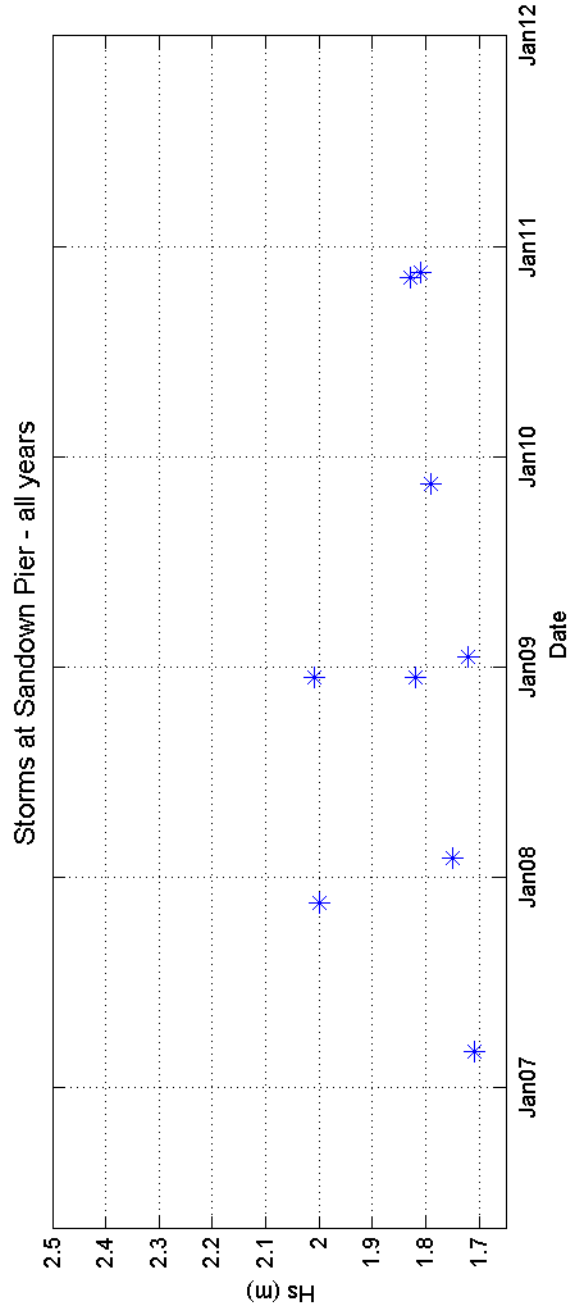
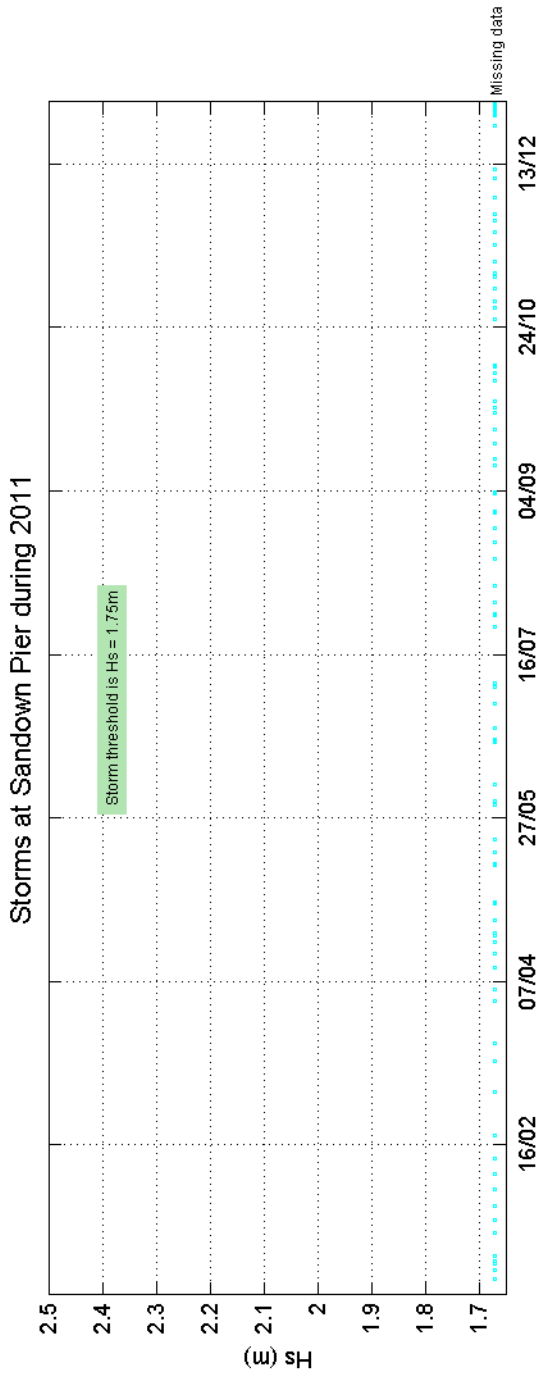
## Acknowledgements

The WaveRadar is deployed on Sandown Pier by kind permission of the Pier owners. TASK2000 tidal prediction software was kindly provided by the Permanent Service for Mean Sea Level, Proudman Oceanographic Laboratory.



Sandown Pier 2011





Sandown Pier 2006 to 2011 - Joint distribution (% of occurrence)

