

## Sandown Pier Wave Gauge

### Location

OS: 459964E 83835N  
 WGS84: Latitude: 50° 39.07' N Longitude: 001° 09.19' W

### Water Depth

N/A

### Instrument Type

Rosemount WaveRadar Rex

### Data Quality

C1(%)	Sample interval
93	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	0.54	11.3	4.1	-	-	26
February	0.43	10.9	3.7	-	-	27
March	0.38	11.8	3.9	-	-	31
April	0.37	12.3	3.6	-	-	29
May	0.35	11.4	3.5	-	-	30
June	0.28	13.1	3.5	-	-	30
July	0.31	12.2	3.5	-	-	30
August	0.33	11.0	3.6	-	-	30
September	0.39	10.0	3.7	-	-	29
October	0.37	12.0	3.7	-	-	27
November	0.40	10.9	3.8	-	-	20
December	0.43	12.3	3.8	-	-	30

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 2008									
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)
13-Dec-2008 09:00	2.01	10.1	5.4	-	1.01	HW -2	2.86	0.00	-0.40
03-Feb-2008 21:20	1.75	9.1	4.8	-	0.92	HW +1	1.48	0.06	0.12
10-Mar-2008 08:00	1.62	10.6	5.2	-	-0.13	HW +4	3.44	0.49	0.87

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

Year	Annual $H_s$ exceedance* (m)						Annual Maximum $H_s$ (m)	
	0.05%	0.5%	1%	2%	5%	10%	Date	$A_{max}$
2006	1.66	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	0.8	0.61	13-Dec-2008 09:00	2.01

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

### Distribution plots

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

- Percentage of occurrence of  $H_s$ ,  $T_p$ ,  $T_z$  and Direction for 2008
- Percentage wave height exceedance (all recorded years – note that 2006 data is for May to December only)
- Incidence of storms during 2008. 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

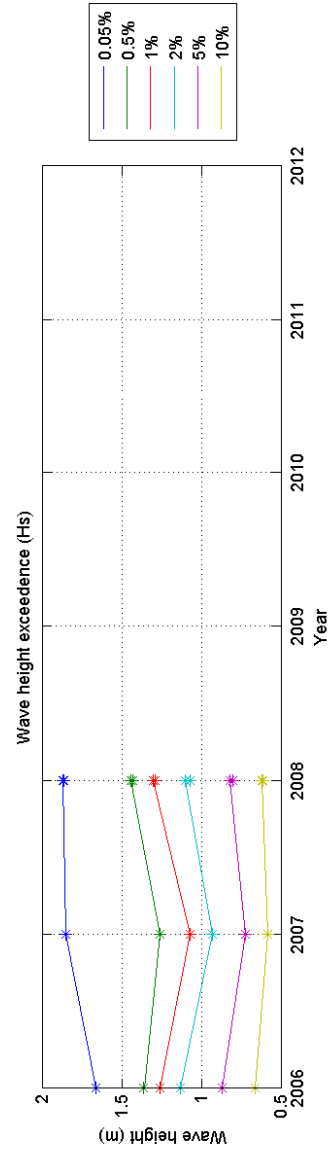
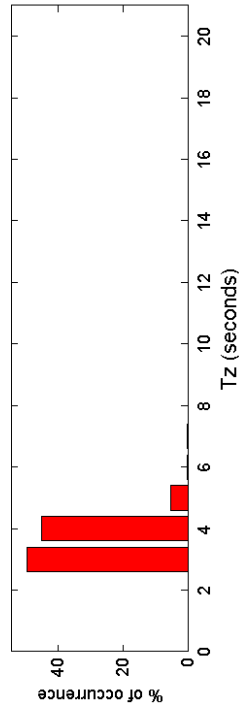
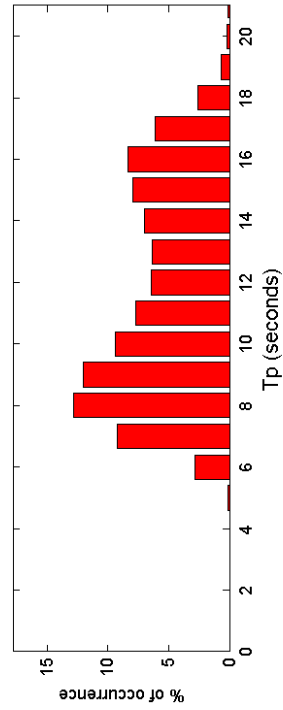
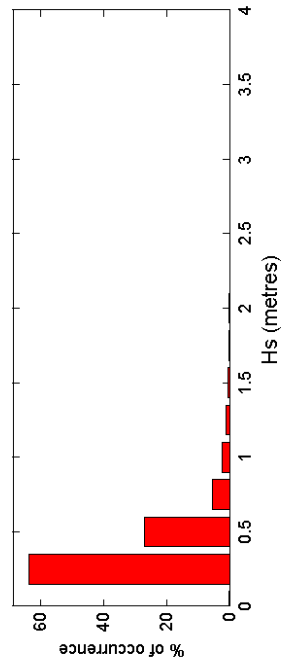
The wave radar was deployed on 04 May 2006.

### Acknowledgements

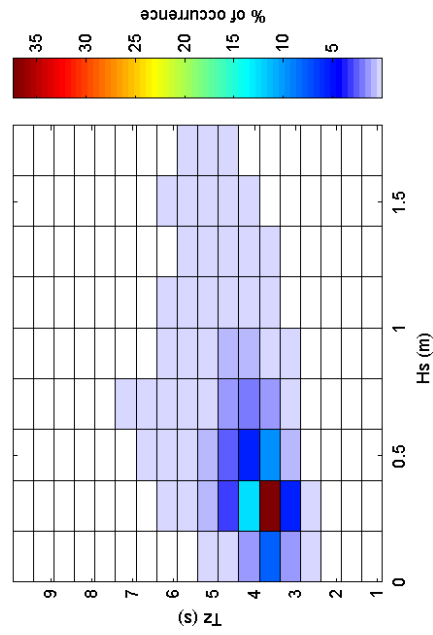
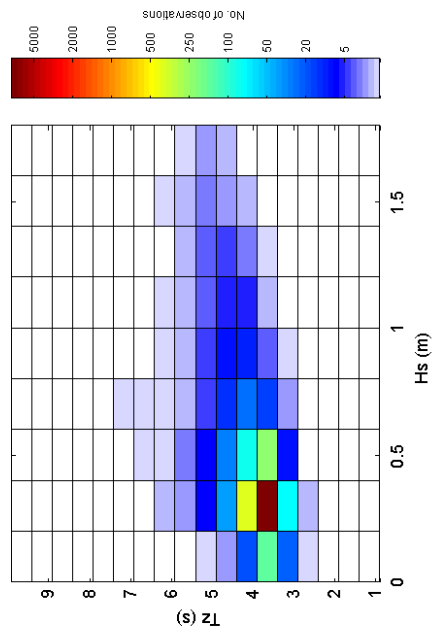
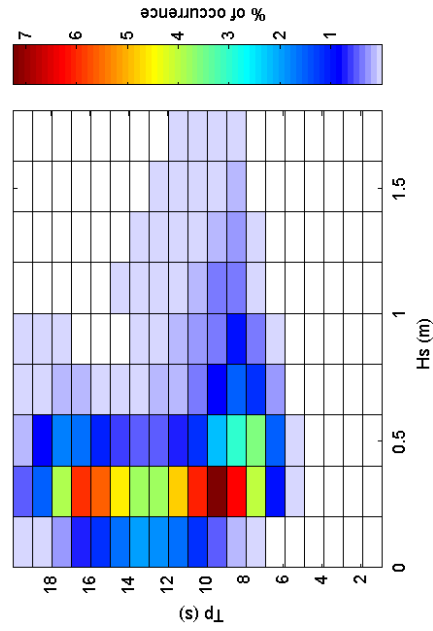
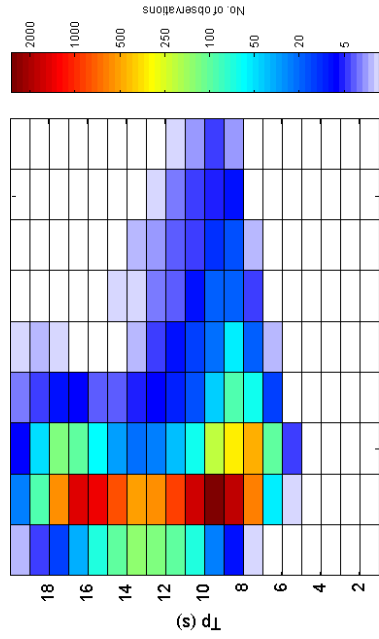
The WaveRadar is deployed on Sandown Pier by kind permission of the Pier owners.

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

Sandown Pier 2008



Sandown Pier 2008 - Joint distribution



Sandown Pier 2006 to 2008 - Joint distribution (% of occurrence)

