

Swanage Pier Wave Radar

Location

OS: 403692E 78849N

WGS84: Latitude: 50° 36.560' N Longitude: 01° 56.951' W

Water Depth

N/A

Instrument Type

Rosemount WaveRadar REX

Data Quality

Recovery rate (%)	Sample interval
89	20 minutes

Statistics - 2012

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.22	8.0	3.9	-	-	26
February	0.20	5.4	3.9	-	-	25
March	0.15	6.5	3.6	-	-	23
April	0.23	5.8	3.8	-	-	27
May	0.14	5.0	3.2	-	-	28
June	0.16	5.5	3.6	-	-	28
July	0.10	5.2	3.3	-	-	28
August	0.14	5.5	3.5	-	-	28
September	0.14	5.2	3.4	-	-	27
October	0.24	5.7	3.7	-	-	29
November	0.21	6.3	3.9	-	-	27
December	0.24	8.8	4.4	-	-	30

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)
23-Sep-2012 14:30	1.48	6.4	5.2	-	0.49	HW -3	0.9	0.1	0.5
24-Nov-2012 20:30	1.40	-	5.3	-	0.66	HW -1	0.6	0.4	0.5
25-Apr-2012 08:30	1.18	6.7	6.3	-	0.86	HW	0.3	0.5	0.6
26-Oct-2012 07:30	1.18	-	4.9	-	0.54	HW +1	1.0	0.1	0.4
29-Apr-2012 00:00	1.17	-	4.9	-	0.29	HW +1	0.7	0	0.1

* 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_s. 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	-	-	-	-	0.87	0.66	03-Dec-2006 06:40	1.82
2007	1.35	0.94	0.83	0.71	0.55	0.48	18-Nov-2007 18:20	1.65
2008	1.55	1.21	1.06	0.83	0.58	0.5	02-Jan-2008 19:20	1.69
2009	1.44	1.17	1.00	0.83	0.63	0.53	01-Feb-2009 14:20	1.51
2010	1.43	1.06	0.95	0.84	0.68	0.58	12-Jan-2010 21:00	1.62
2011	1.36	1.06	0.92	0.77	0.63	0.56	23-Oct-2011 22:40	1.62
2012	1.21	0.96	0.85	0.65	0.44	0.33	23-Sep-2012 14:30	1.48

* 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:

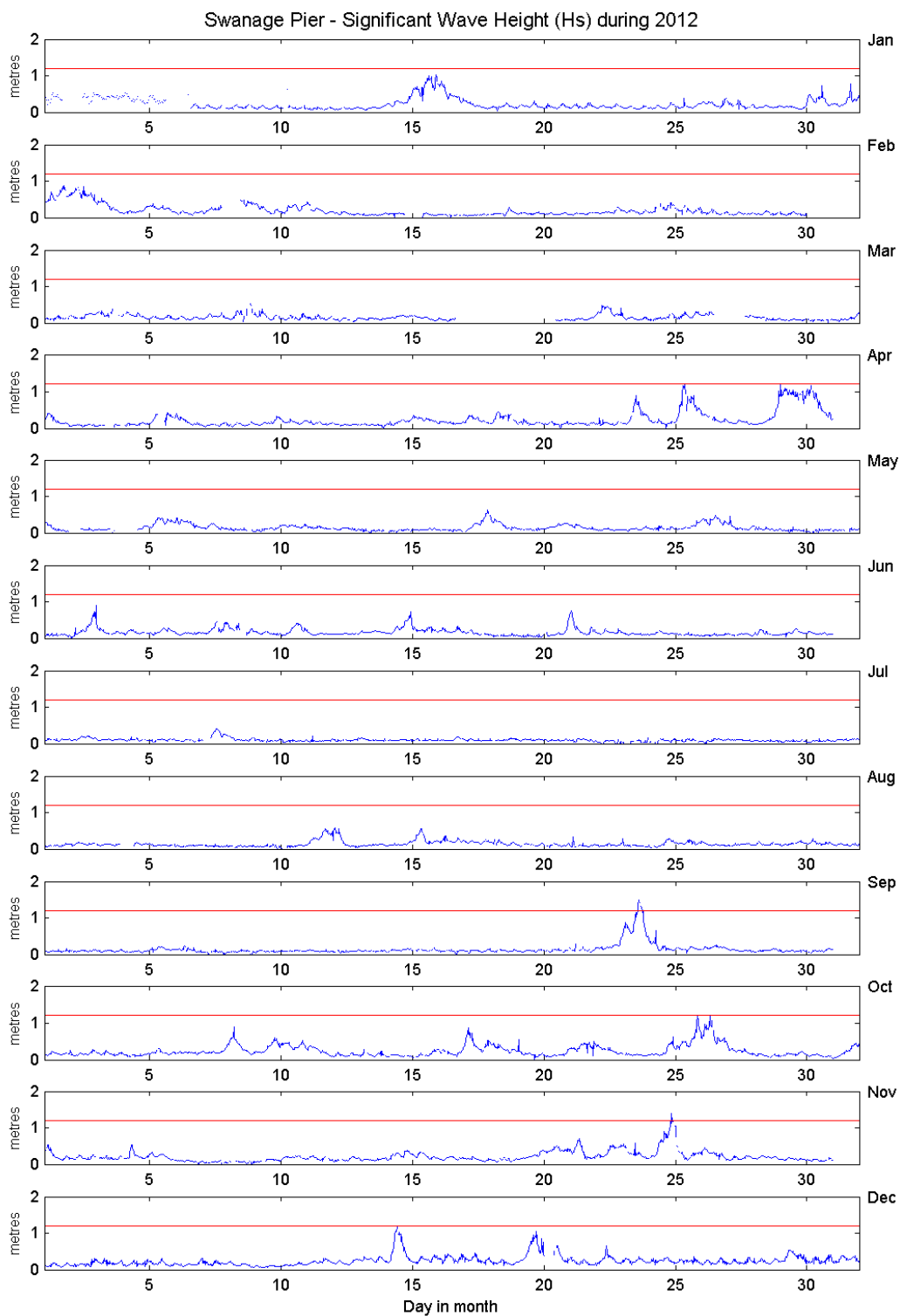
- Annual time series of H_s (red line is 1.2 m storm threshold)
- Percentage of occurrence of H_s and T_z for 2012
- Incidence of storm waves for 2012. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

General

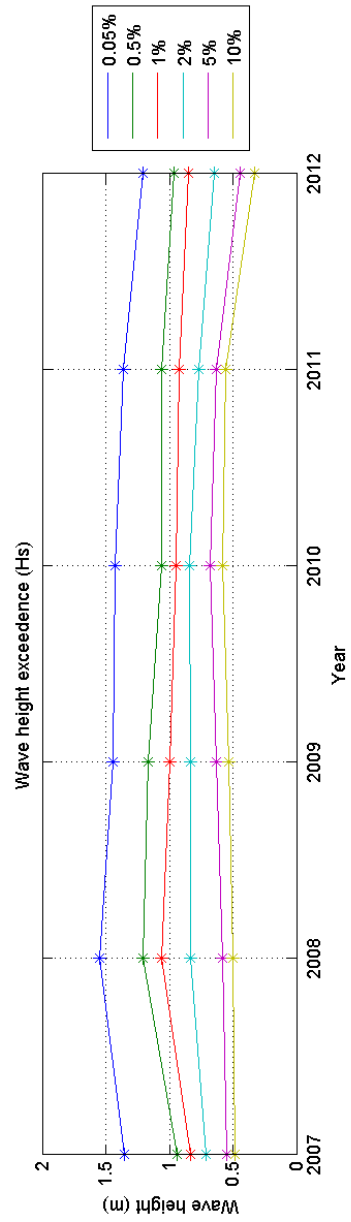
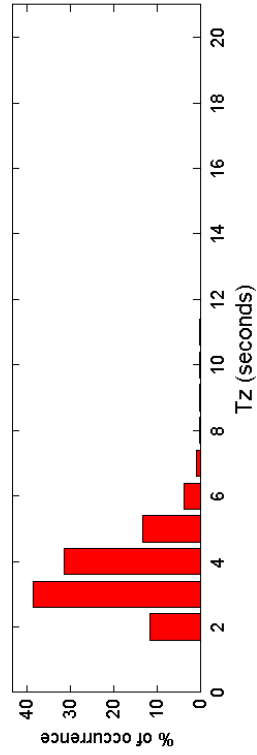
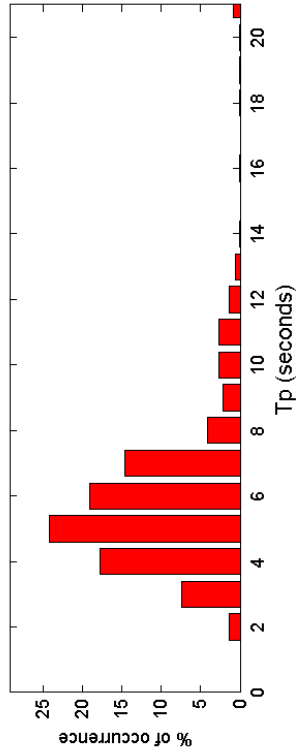
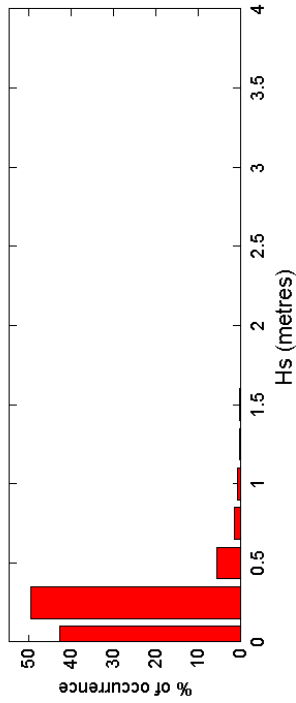
The WaveRadar REX was installed on 7 March 2007.

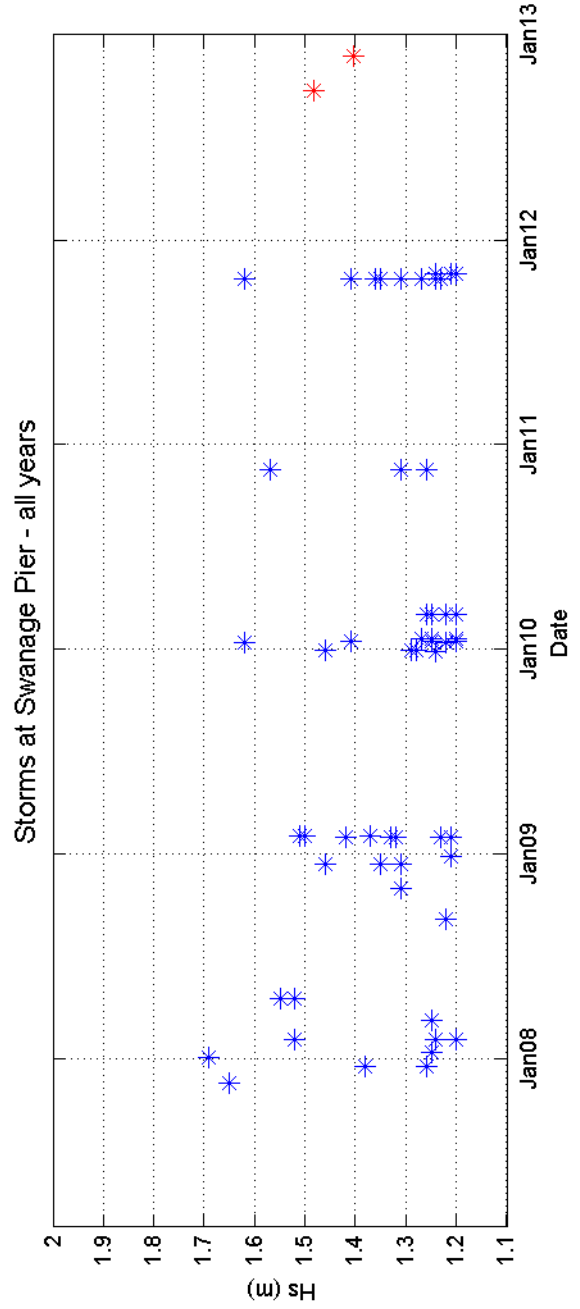
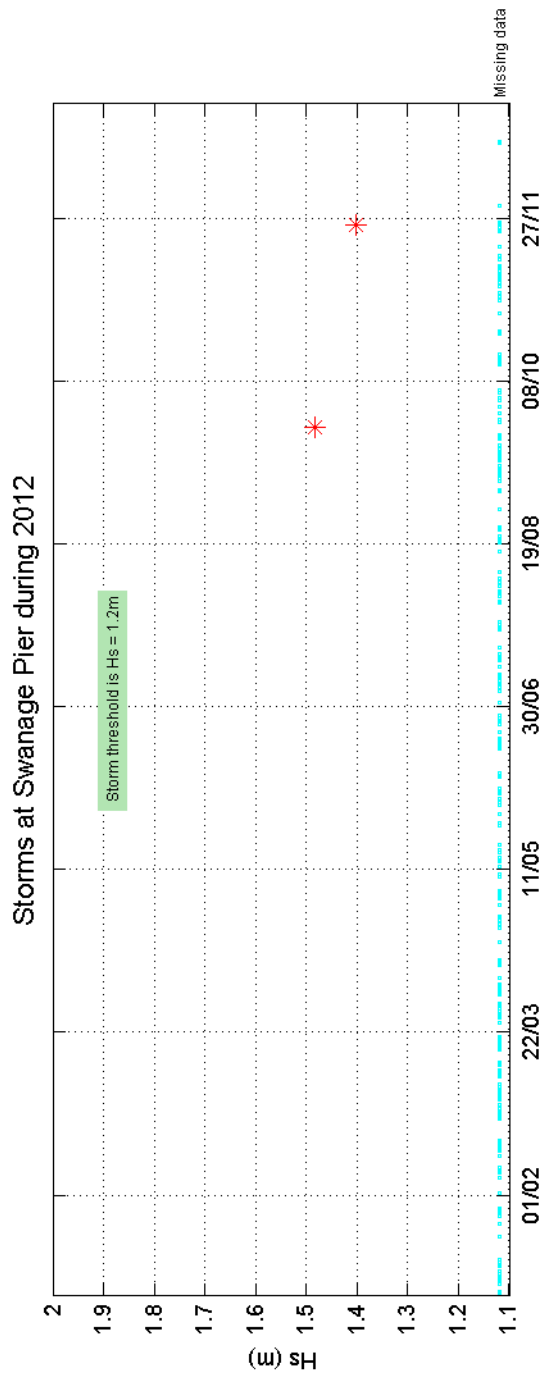
Acknowledgements

The WaveRadar REX is installed on Swanage Pier by kind permission of Swanage Pier Trust. Tide predictions for Swanage were provided by EMU Limited.



Swanage Pier 2012





Swanage Pier 2007 to 2012 - Joint distribution (% of occurrence)

