



Swanage Pier Wave Radar

Location			
OS	403692 E 78849 N		
WGS84	Latitude: 50° 36.560' N Longitude: 01° 56.951' W		
Instrument type			
Rosemount WaveRadar REX			
Water depth	N/A	Radar in situ on Swanage Pier. Photo courtesy of Fugro EMU Limited	Location of radar (Google mapping)

Data Quality

Recovery rate (%)	Sample interval
98	30 minutes

Monthly Averages - 2014

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.31	9.2	5.0	-	-	30
February	0.36	10.6	5.3	-	-	28
March	0.22	7.8	4.2	-	-	31
April	0.17	6.2	3.8	-	-	29
May	0.13	5.1	3.4	-	-	30
June	0.13	4.9	3.3	-	-	30
July	0.11	4.9	3.1	-	-	31
August	0.12	5.3	3.4	-	-	31
September	0.17	4.8	3.4	-	-	30
October	0.20	6.9	11.1	-	-	30
November	0.33	6.4	4.1	-	-	30
December	0.19	7.7	4.2	-	-	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)
04-Feb-2014 23:30	1.58	7.5	8.3	-	1.26	HW	1.7	0.7	0.8
14-Feb-2014 13:00	1.35	7.1	5.5	-	0.76	HW +4	0.7	0.5	1.1

* 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
2013	1.31	1.01	0.89	0.76	0.55	0.41	11-Mar-2013 17:00	1.41
2014	1.35	0.94	0.81	0.64	0.47	0.37	04-Feb-2014 23:30	1.58

* 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:

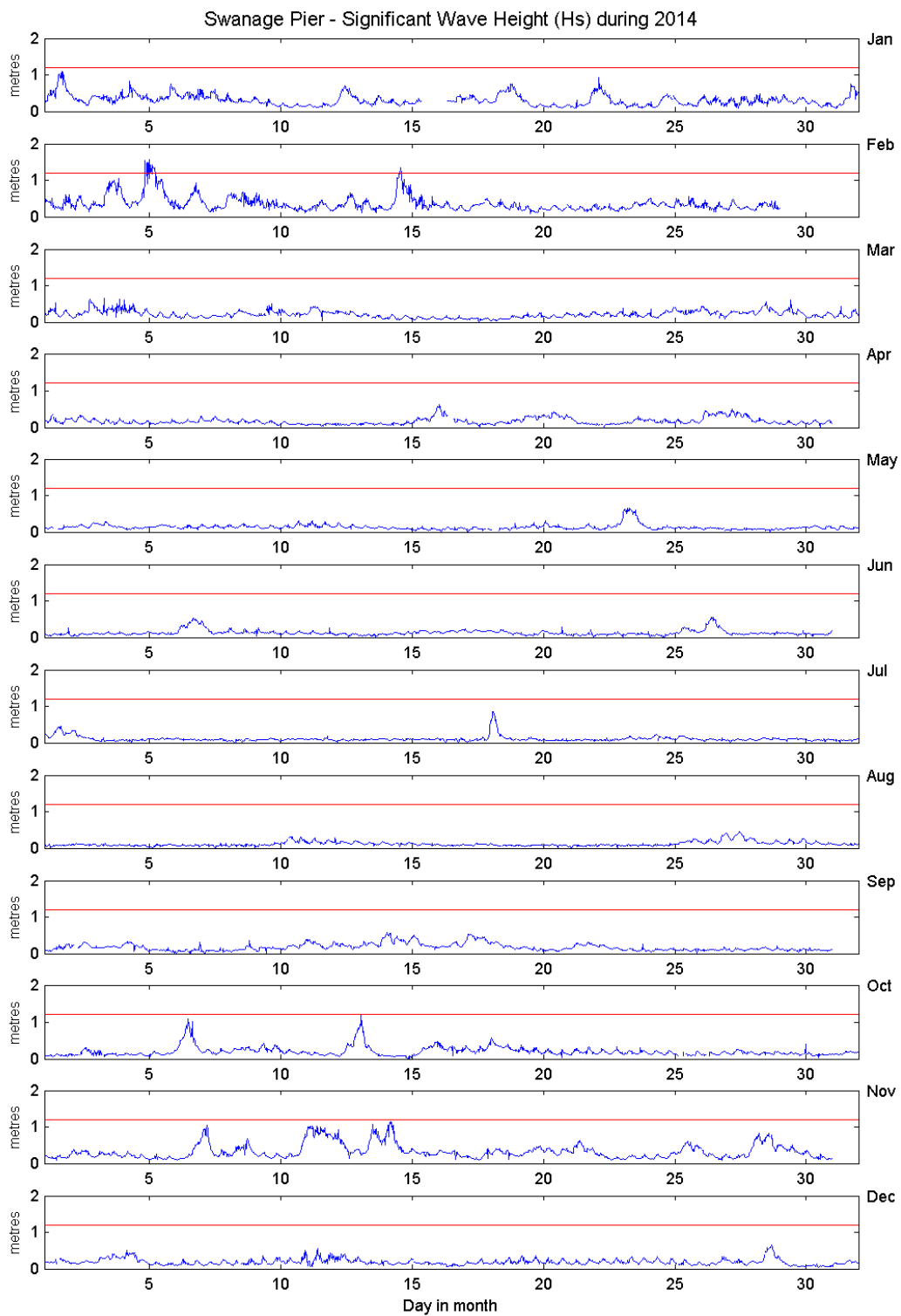
- Annual time series of H_s (red line is 1.2 m storm threshold)
- Percentage of occurrence of H_s and T_z for 2014
- Incidence of storm waves for 2014. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Joint distribution of all parameters for 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 2014

