



Deal Pier Wave Radar

Location			
OS	638145 E 152701 N		
WGS84	Latitude: 51° 13.428' N Longitude: 01° 24.556' E		
Instrument type			
Rosemount WaveRadar REX			
Water depth	N/A	Radar in situ on Deal Pier. Photo courtesy of Fugro EMU Limited	Location of radar (Google mapping)

Data Quality

Recovery rate (%)	Sample interval
94	30 minutes

Monthly Averages – 2015

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.38	5.9	4.1	-	-	30
February	0.35	5.4	3.8	-	-	25
March	0.31	5.2	3.6	-	-	25
April	0.26	4.7	3.2	-	-	28
May	0.27	4.9	3.4	-	-	31
June	0.28	4.8	3.3	-	-	29
July	0.26	5.0	3.4	-	-	29
August	0.23	4.6	3.1	-	-	29
September	0.35	5.2	3.7	-	-	30
October	0.33	4.9	3.5	-	-	29
November	0.39	5.9	4.1	-	-	30
December	0.44	5.6	3.9	-	-	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)
06-Feb-2015 12:30	1.63	-	5.3	-	-	HW	~4.9	-	-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_s. 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)
2005	-	1.37	1.23	1.12	0.92	0.78	16-Oct-2005 09:40	1.62
2006	1.62	1.37	1.25	1.11	0.91	0.75	26-Jan-2006 08:00	1.68
2007	1.60	1.33	1.22	1.08	0.89	0.75	28-Sep-2007 11:00	1.77
2008	1.79	1.35	1.25	1.11	0.92	0.77	22-Mar-2008 11:00	1.97
2009	1.71	1.43	1.30	1.16	0.97	0.79	12-May-2009 00:00	1.97
2010	2.00	1.58	1.40	1.24	1.02	0.83	23-Dec-2010 23:20	2.20
2011	1.62	1.21	1.13	1.01	0.83	0.68	02-May-2011 21:40	1.82
2012	1.56	1.13	0.98	0.86	0.69	0.55	27-Oct-2012 09:30	1.74
2013	1.79	1.24	1.12	0.99	0.79	0.65	11-Mar-2013 22:00	1.92
2014	1.49	1.16	1.01	0.87	0.71	0.58	28-Dec-2014 01:30	1.87
2015	1.40	0.98	0.89	0.81	0.69	0.57	06-Feb-2015 12:30	1.63

* i.e. 5 % of the H_s values measured in 2005 exceeded 0.92 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)
- Incidence of storm waves for 2015. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Wave height exceedance each year since deployment
- Percentage of occurrence of H_s , T_p , T_z and Direction for 2015
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

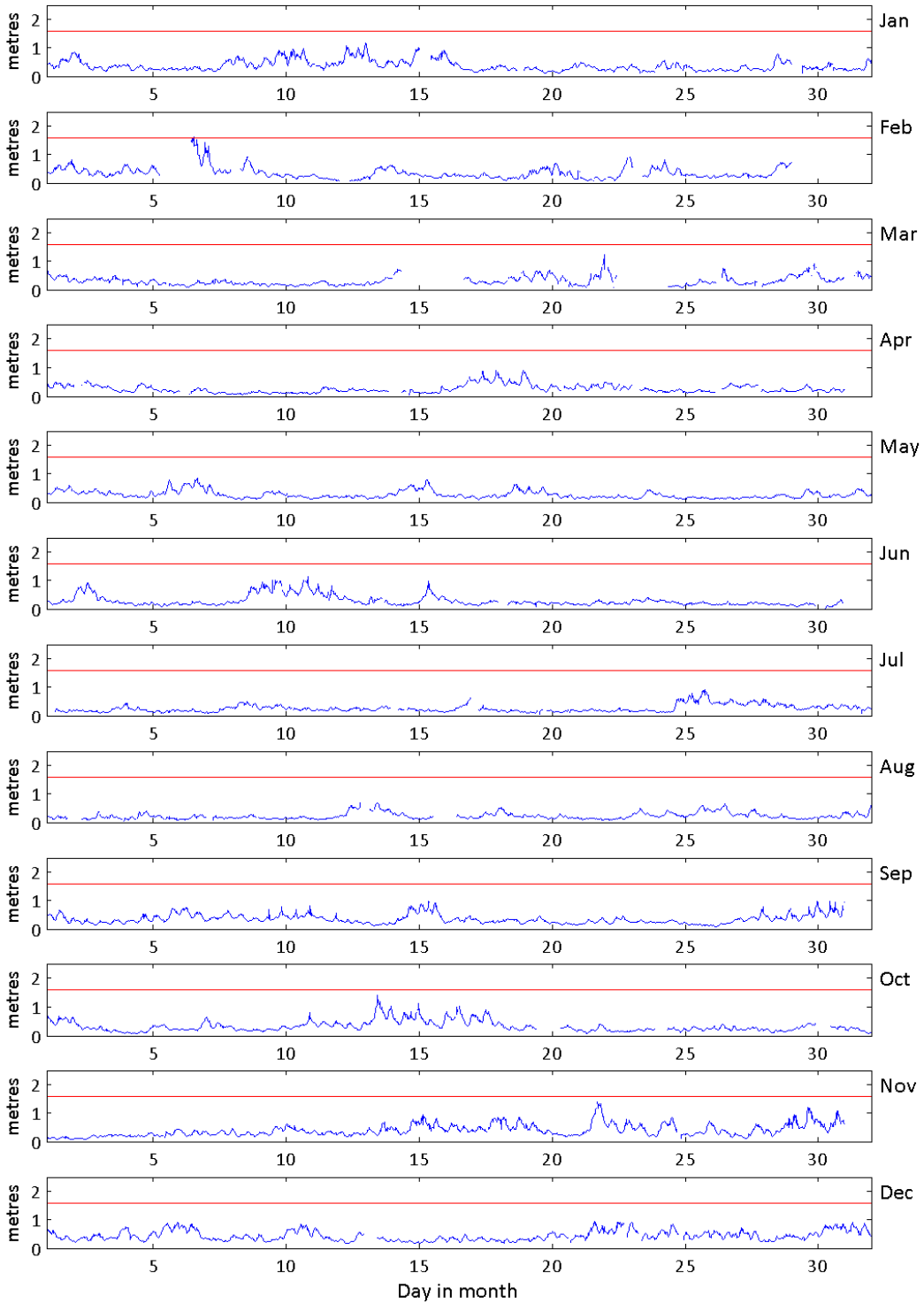
General

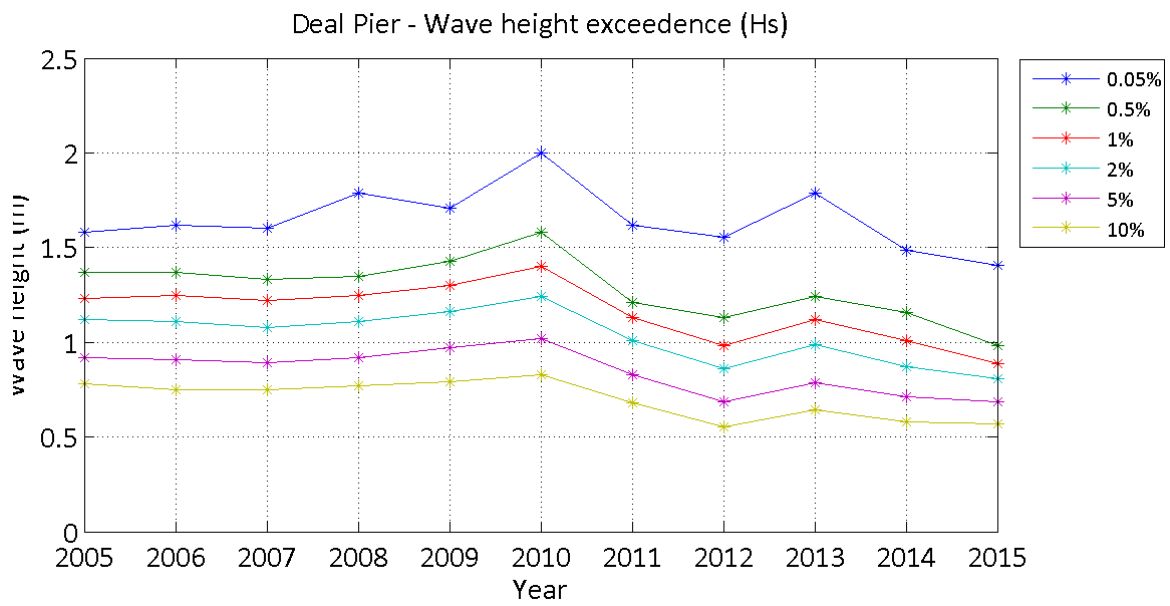
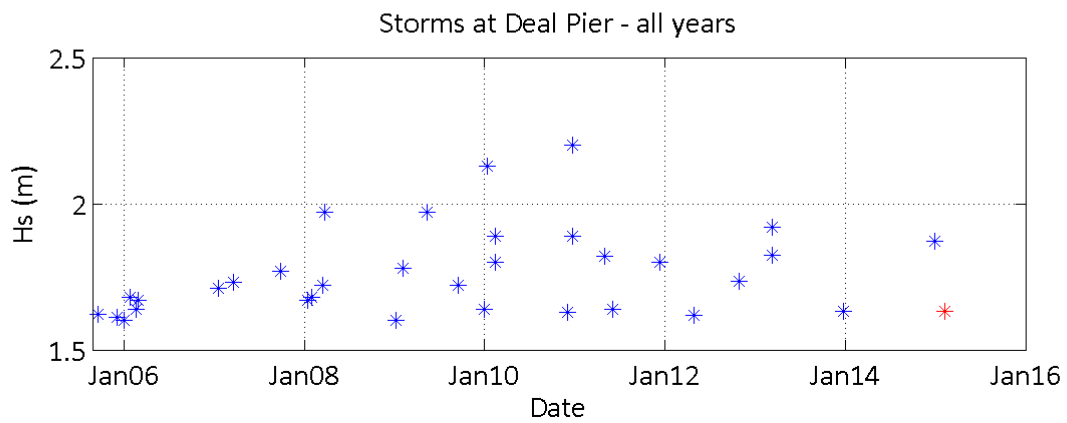
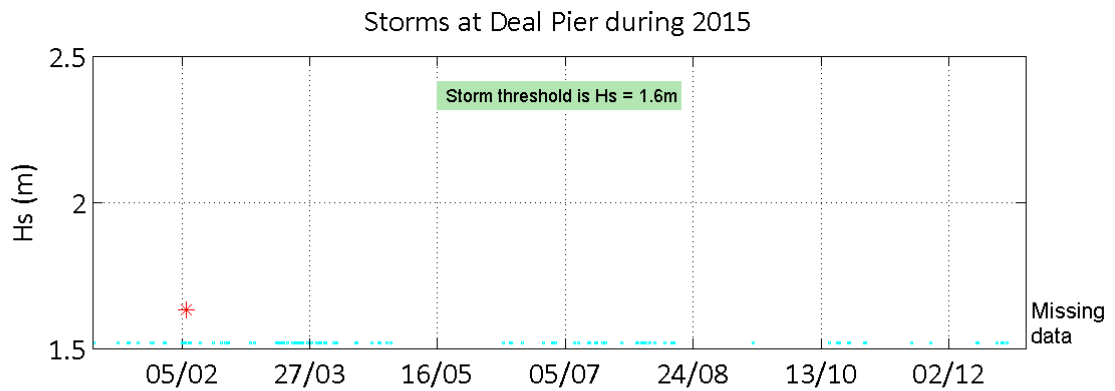
The WaveRadar REX was installed on 26 August 2005.

Acknowledgements

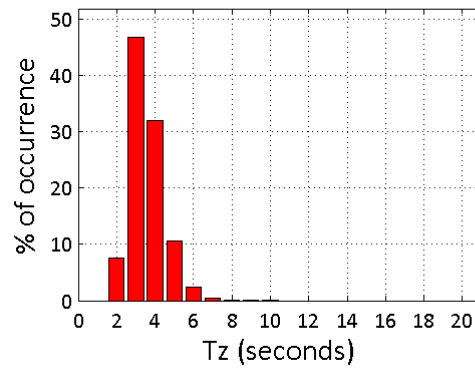
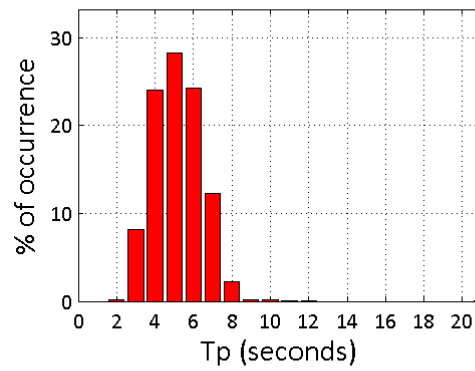
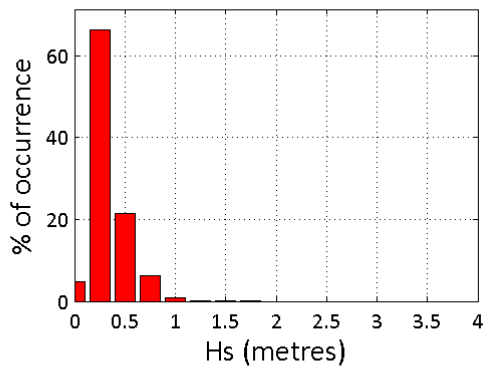
TASK2000 tidal prediction software was kindly provided by the Permanent Service for Mean Sea Level, Proudman Oceanographic Laboratory.

Deal Pier - Significant Wave Height (Hs) during 2015





Deal Pier 2015



Deal Pier 2005 to 2015 - Joint distribution (% of occurrence)

