



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
96	30 minutes

Monthly Averages – 2017

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.29	4.9	3.5	-	-	28
February	0.34	5.1	3.6	-	-	26
March	0.30	5.4	3.5	-	-	29
April	0.22	4.9	3.3	-	-	27
May	0.25	4.5	3.1	-	-	30
June	0.22	4.9	3.3	-	-	29
July	0.24	4.6	3.2	-	-	31
August	0.20	4.8	3.2	-	-	31
September	0.25	5.0	3.5	-	-	30
October	0.31	5.5	3.8	-	-	29
November	0.30	5.3	3.8	-	-	30
December	0.38	5.9	4.2	-	-	31

Monthly Averages - All Years (August 2005 – December 2016)

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)
January	0.49	7.3	4.1	-	-
February	0.46	7.6	3.9	-	-
March	0.41	7.2	3.8	-	-
April	0.35	7.4	3.6	-	-
May	0.37	6.9	3.6	-	-
June	0.33	7.0	3.6	-	-
July	0.30	7.0	3.5	-	-
August	0.31	6.8	3.5	-	-
September	0.36	7.2	3.7	-	-
October	0.41	7.0	3.8	-	-
November	0.49	7.3	4.1	-	-
December	0.49	7.5	4.1	-	-

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)
11-Dec-2017 15:30	1.56	-	5.2	-	0.63	HW -2	3.72	0.02	0.22
13-Jan-2017 23:30	1.24	6.4	7.2	-	3.55	HW	4.86	1.06	1.54
25-Mar-2017 21:00	1.20	-	5.5	-	1.83	HW -1	4.16	0.00	0.00
13-Feb-2017 11:30	1.20	-	4.9	-	1.67	HW -1	5.39	0.00	0.00
27-Dec-2017 17:00	1.18	7.1	6.9	-	2.02	HW -1	3.52	0.32	0.70

* Tidal information is obtained from the Deal Pier WaveRadar Rex. The surge shown is the residual at the time of the highest H_s. The maximum tidal surge is the largest 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
2016	1.65	1.24	1.08	0.91	0.73	0.58	20-Nov-2016 08:30	2.05
2017	1.31	1.02	0.91	0.78	0.62	0.50	11-Dec-2017 15:30	1.56

* 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:

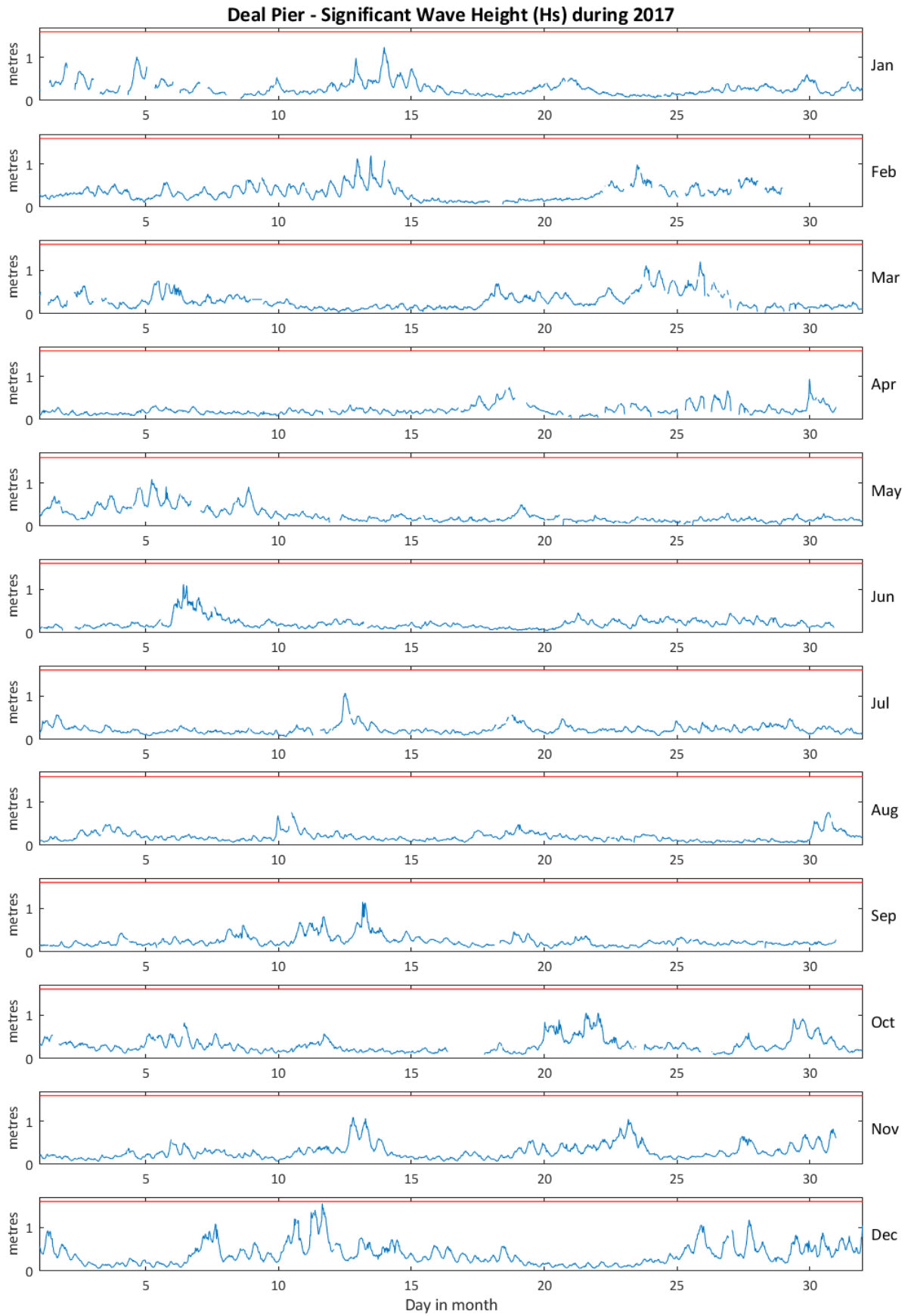
- Annual time series of H_s (red line is 1.6 m storm threshold)
- Incidence of storm waves for 2017. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Wave height exceedance each year since deployment
- Percentage of occurrence of H_s, T_p, T_z and Direction for 2017
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

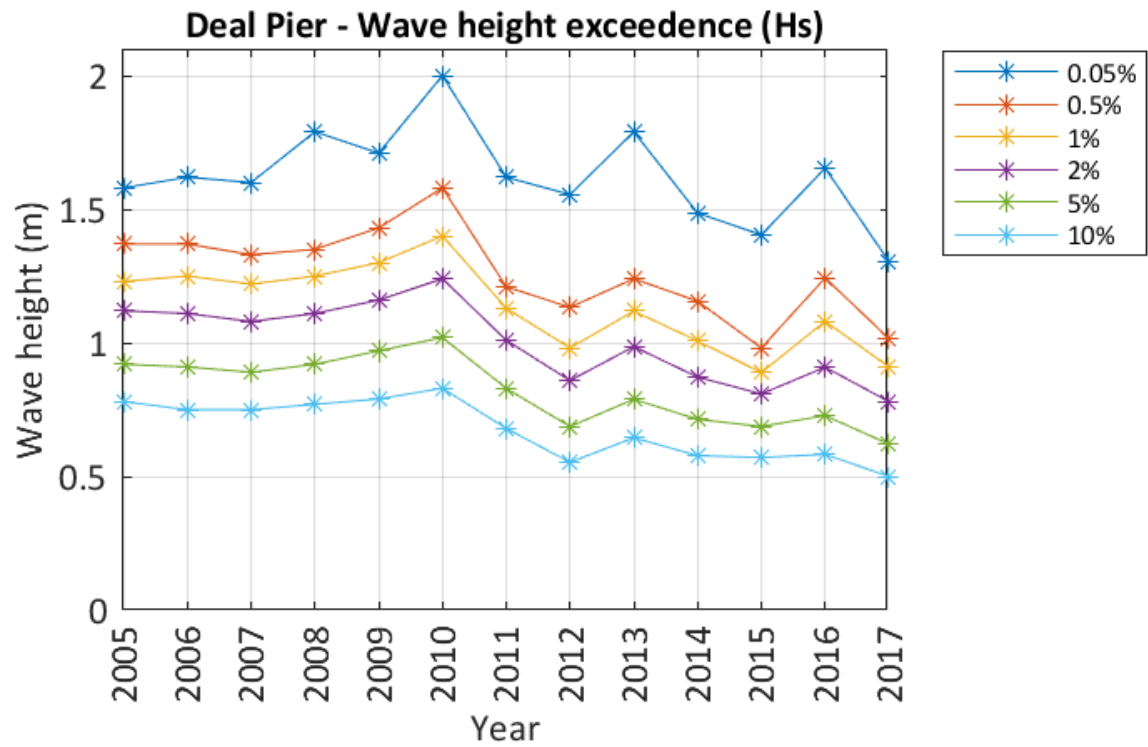
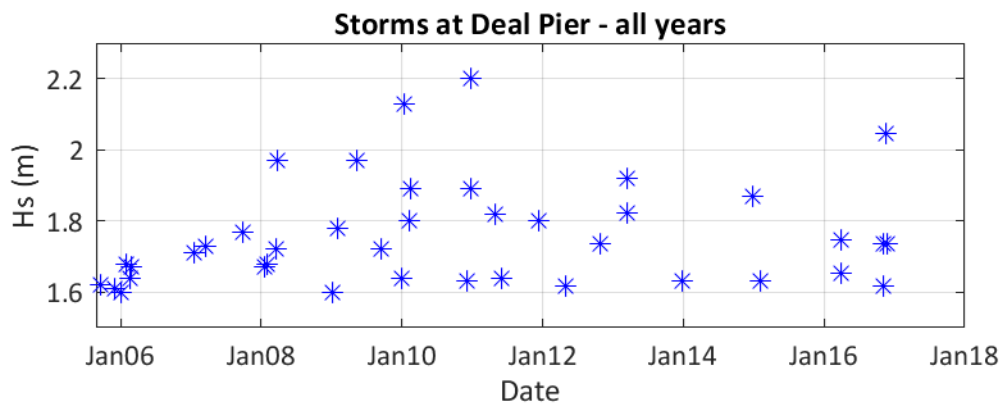
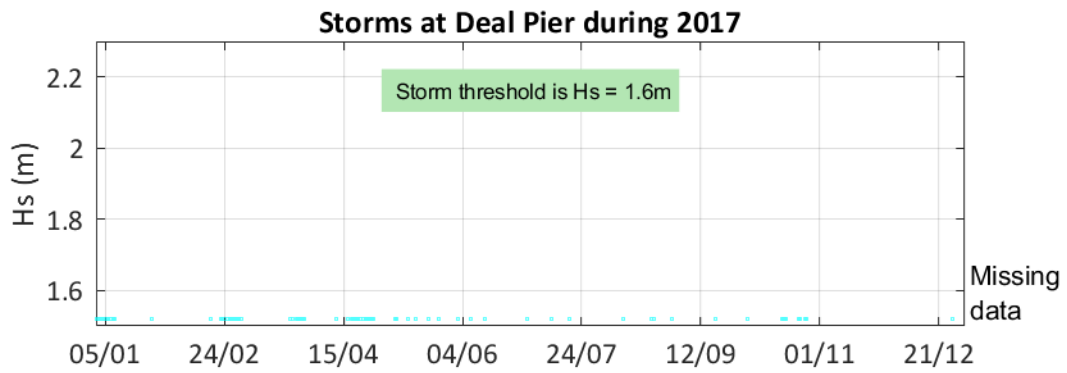
General

The WaveRadar REX was installed on 26 August 2005.

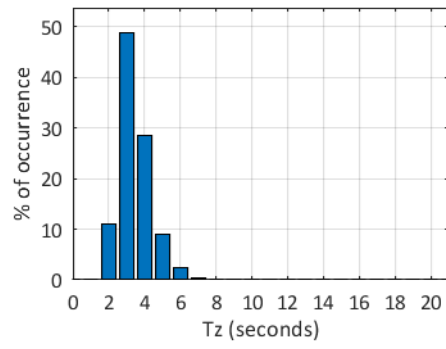
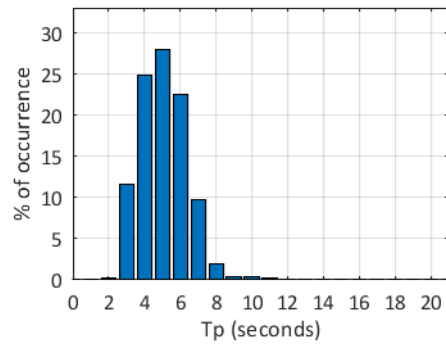
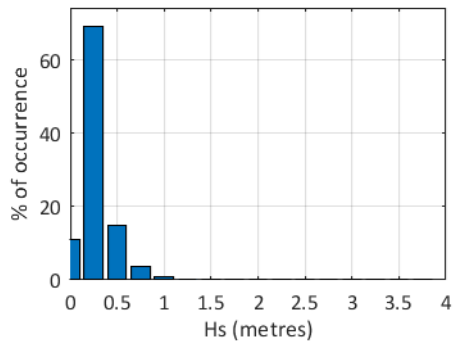
Acknowledgements

Tidal predictions and tide levels were produced by Fugro GB Marine Limited.





Deal Pier 2017



Deal Pier 2005 to 2017 - Joint distribution (% of occurrence)

