

## Deal Pier Wave Gauge

### Location

OS: 638145E 152700N  
 WGS84: Latitude: 51° 13.43' N Longitude: 001° 24.56' E

### Water Depth

N/A

### Instrument Type

Rosemount WaveRadar Rex

### Data Quality

All times GMT

C1 (%)	Sample interval
90	20 minutes

### Monthly Means

Month	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	0.50	8.6	3.9	-	-	28
February	0.45	8.3	3.9	-	-	23
March	0.39	8.0	3.9	-	-	13
April	0.33	8.6	3.5	-	-	29
May	0.41	8.2	3.7	-	-	28
June	0.36	8.0	3.8	-	-	29
July	0.33	8.0	3.7	-	-	31
August	0.27	8.5	3.5	-	-	31
September	0.47	8.2	3.8	-	-	27
October	0.45	7.9	3.9	-	-	30
November	0.65	8.2	4.5	-	-	30
December	0.59	8.0	4.1	-	-	31

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 2009									
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)
12-May-2009 00:00	1.97	8.3	5.1	-	2.23	HW -1	4.59	-0.12	-0.40
02-Feb-2009 02:00	1.78	8.4	4.8	-	1.99	HW -1	4.37	-0.15	-0.45
16-Sep-2009 20:40	1.72	7.7	5.2	-	2.35	HW -1	4.56	0.12	0.17
31-Dec-2009 21:20	1.64	8.5	4.8	-	1.77	HW -2	4.79	0.22	0.38
05-Jan-2009 16:00	1.60	7.9	4.7	-	1.32	HW -2	3.20	-0.06	-0.38

\* 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<sub>s</sub>.

Year	Annual $H_s$ exceedance* (m)						Annual Maximum $H_s$ (m)	
	0.05%	0.5%	1%	2%	5%	10%	Date	$A_{max}$
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

*i.e. 2% of the  $H_s$  values measured in 2005 exceeded 1.12m*

### Distribution plots

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

- Percentage of occurrence of  $H_s$ ,  $T_p$ , and  $T_z$  for 2009
- Percentage wave height exceedance (all recorded years)
- Joint distribution of all parameters for 2009, given both as number of observations and as percentage of occurrence
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Incidence of storms during 2009 and for all previous years. 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)

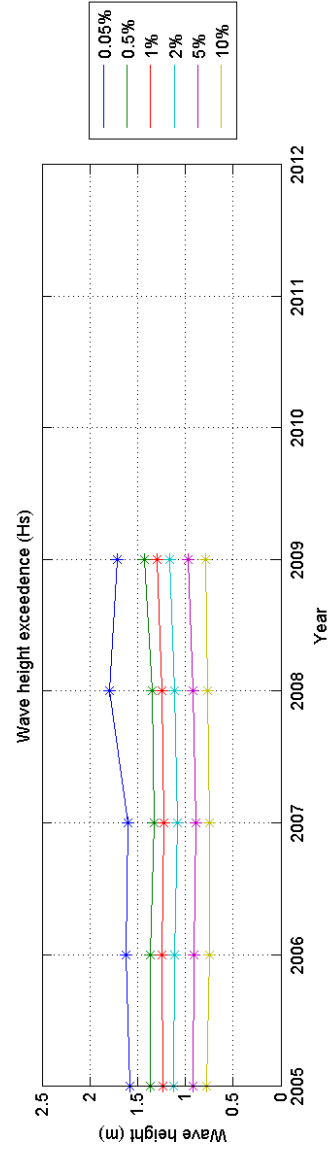
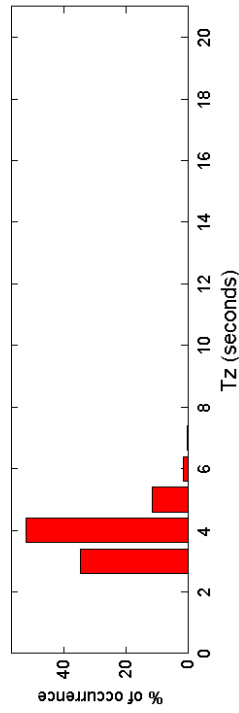
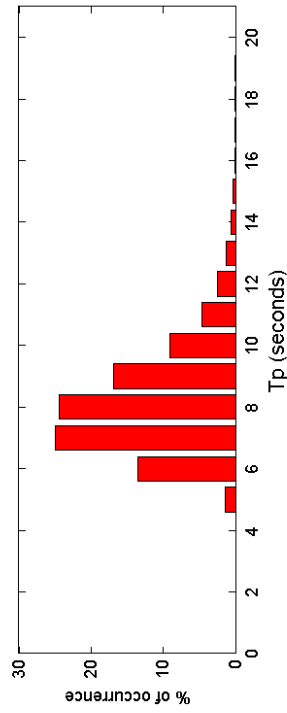
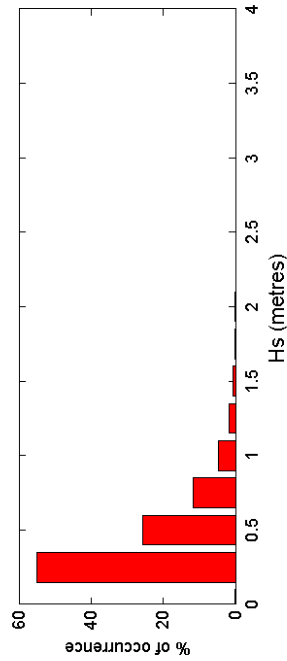
### General

The WaveRadar Rex was installed on 25 August 2005.

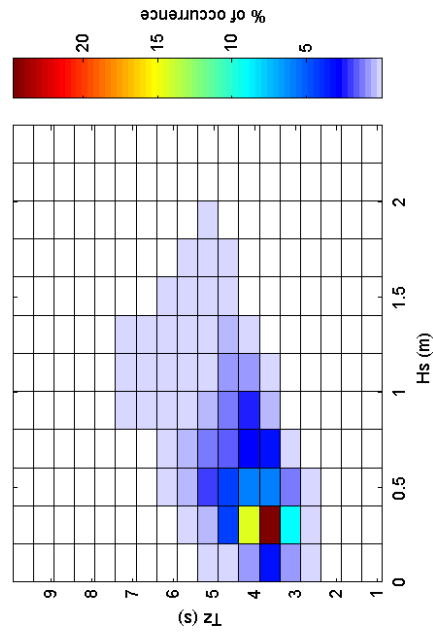
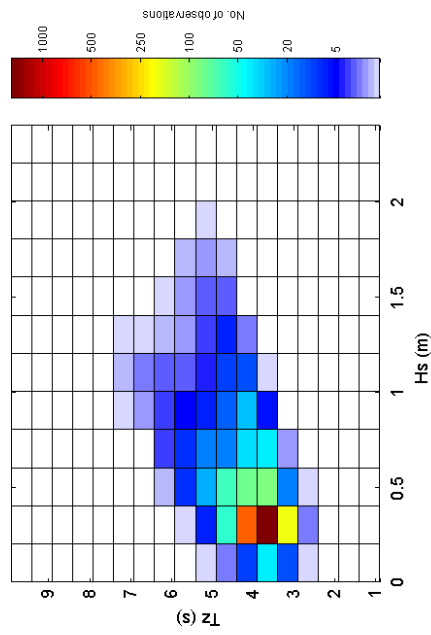
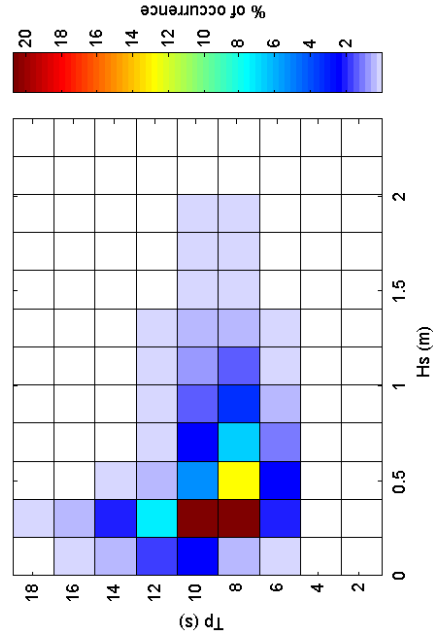
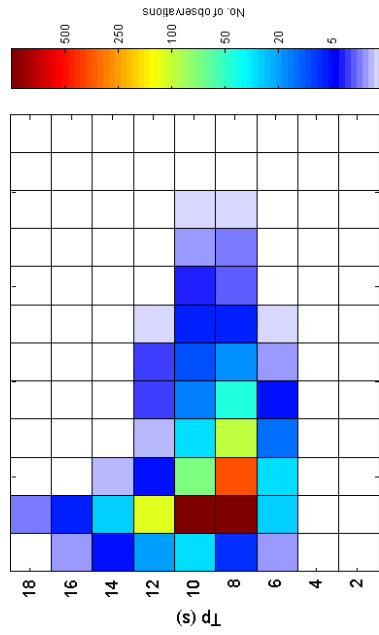
### Acknowledgements

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

Deal Pier 2009



Deal Pier 2009 - Joint distribution



Deal Pier 2006 to 2009 - Joint distribution (% of occurrence)

