

## Teignmouth Pier Wave Radar

### Location

OS: 294370E 72631N

WGS84: Latitude: 50° 32.632' N Longitude: 03° 29.529' W

### Water Depth

N/A

### Instrument Type

Rosemount WaveRadar REX

### Data Quality

Recovery rate (%)	Sample interval
94	20 minutes

### Statistics - 2011

All times are GMT

Month	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	SST (°C)	No. of days
January	0.58	-	4.0	-	-	30
February	0.61	-	4.1	-	-	28
March	0.53	-	3.7	-	-	30
April	0.45	-	3.6	-	-	29
May	0.46	-	3.6	-	-	31
June	0.39	-	3.6	-	-	30
July	0.38	-	3.4	-	-	30
August	0.42	-	3.4	-	-	31
September	0.43	-	4.3	-	-	13
October	0.53	-	4.9	-	-	30
November	0.65	-	6.1	-	-	30
December	0.45	-	5.2	-	-	30

### Storm Analysis

Date/Time	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
24-Oct-2011 15:00	2.16	-	8.9	-	1.98	HW -1	3.1	0.42	0.50
02-Oct-2011 18:20	1.91	-	3.7	-	-0.28	HW -3	3.3	-0.27	-0.27
12-Jun-2011 13:40	1.87	-	4.9	-	1.32	HW -2	2.8	0.16	0.20

\* 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>. 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)
2008	-	1.36	1.23	1.05	0.78	0.65	05-Sep-2008 09:00	1.93
2009	2.00	1.65	1.47	1.25	0.97	0.80	29-Dec-2009 03:20	2.17
2010	1.88	1.52	1.40	1.23	0.98	0.79	16-Jan-2010 06:20	2.13
2011	1.94	1.53	1.41	1.27	1.03	0.81	24-Oct-2011 15:00	2.16

\* i.e. 5 % of the  $H_s$  values measured in 2008 exceeded 0.78 m

## Distribution plots

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

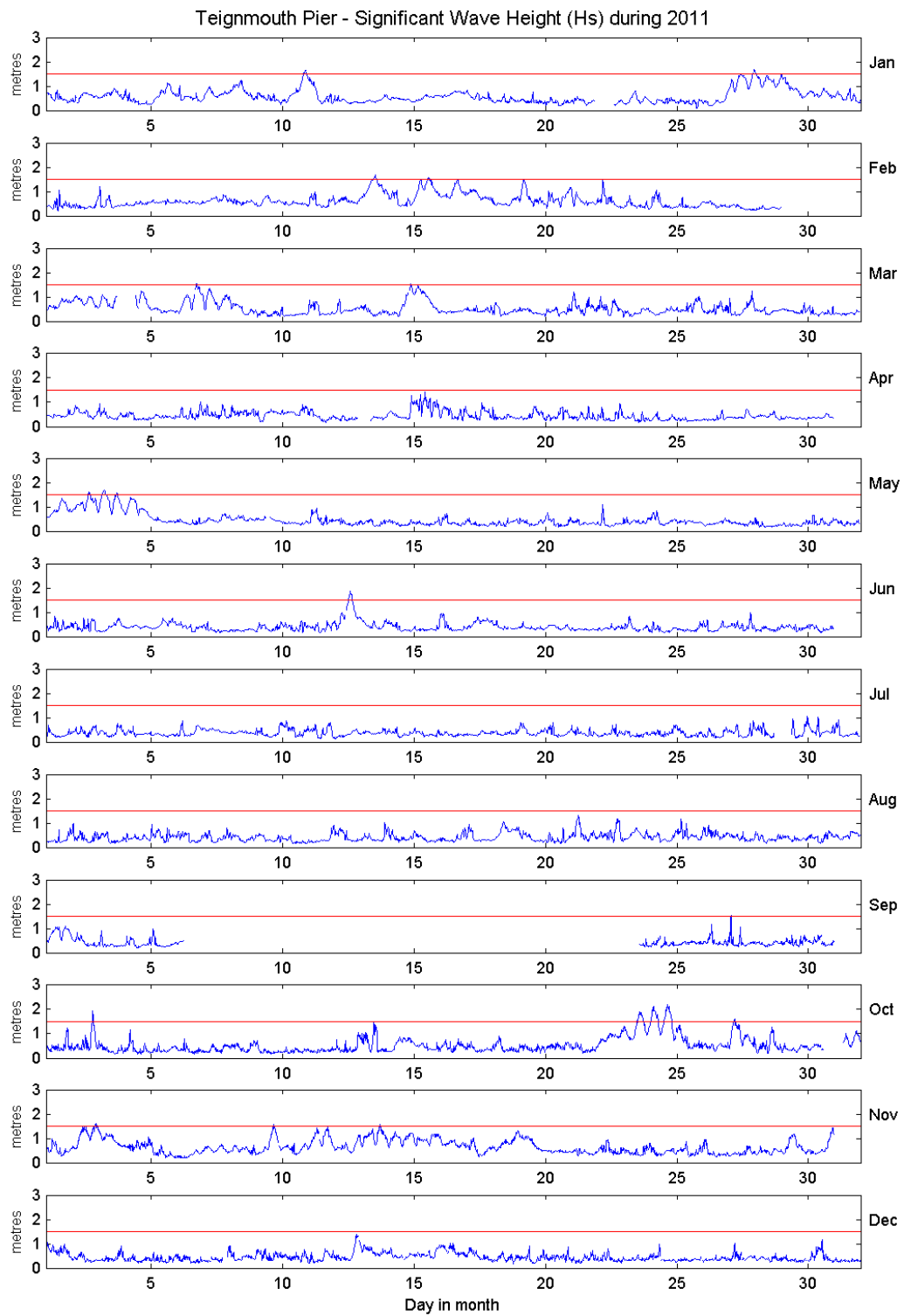
- Annual time series of  $H_s$  (red line is 1.5 m storm threshold)
- Percentage of occurrence of  $H_s$  and  $T_z$  for 2011
- Incidence of storm waves for 2011. Storm events are defined using the Peaks-over-Threshold method. The highest  $H_s$  of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

## General

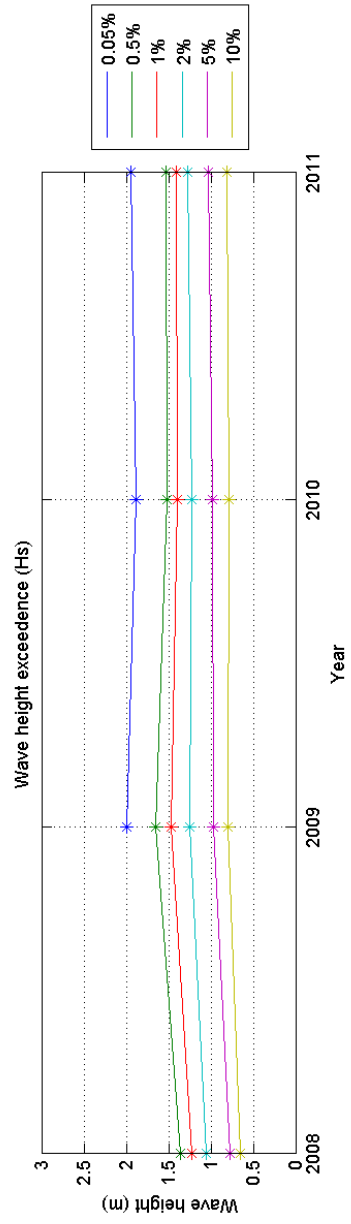
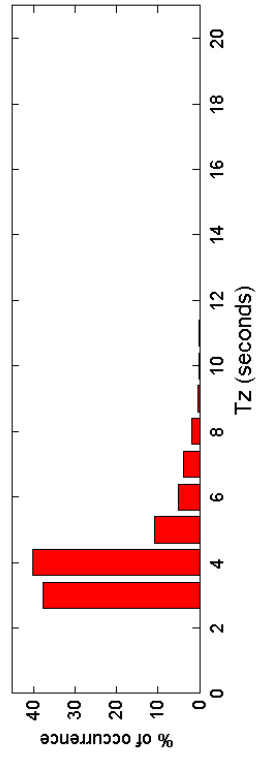
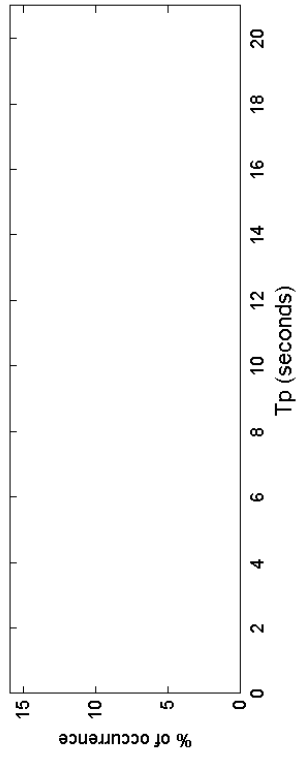
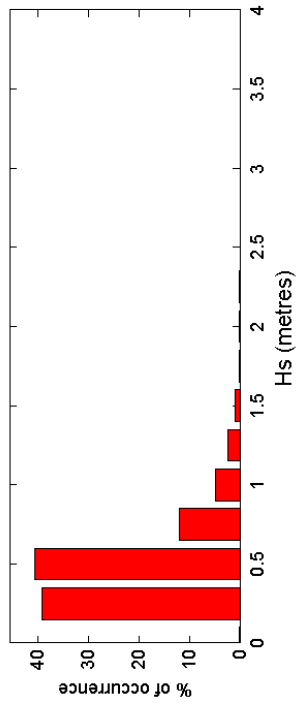
The WaveRadar REX was installed on 22 April 2008.

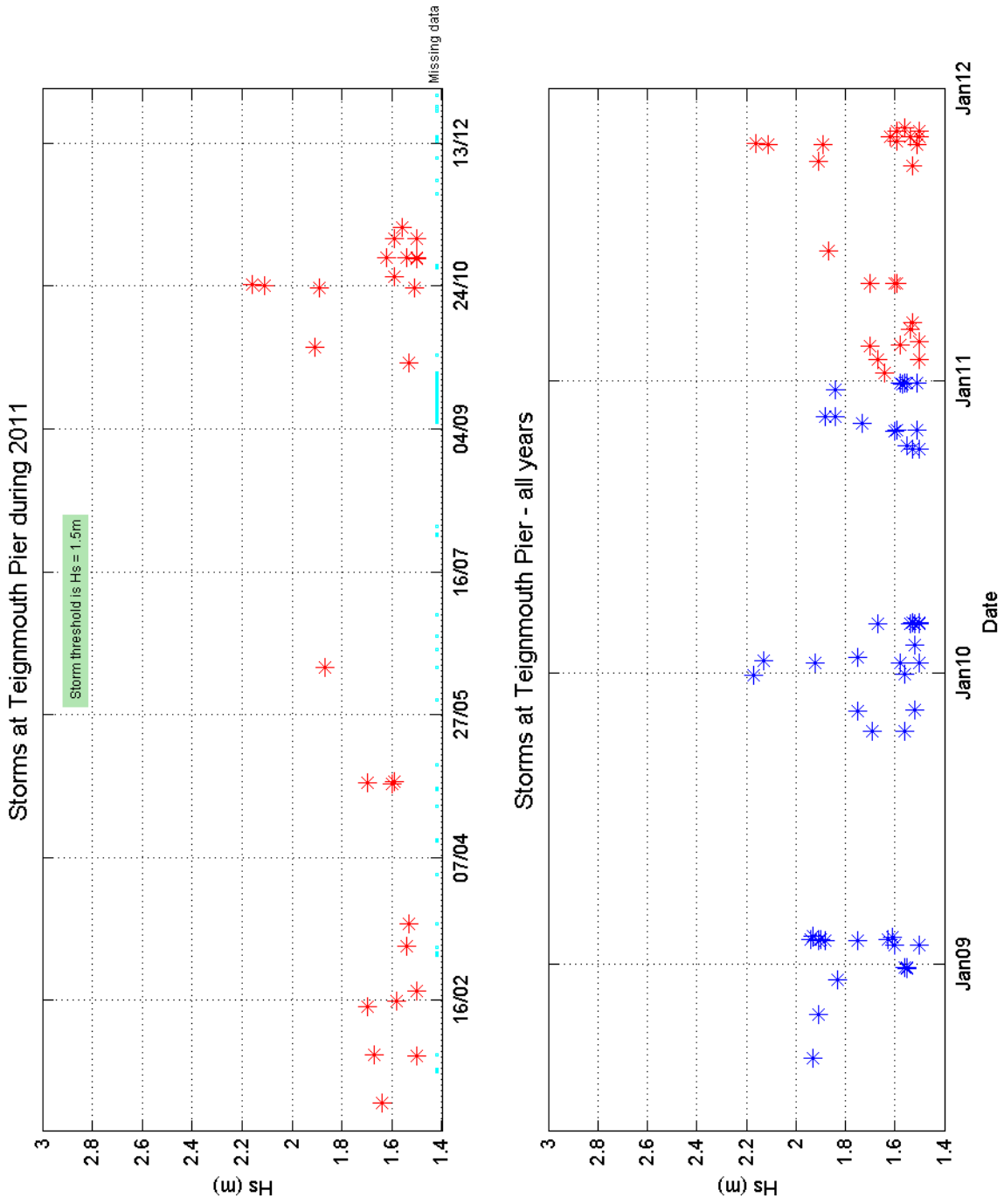
## Acknowledgements

The WaveRadar is installed on Teignmouth Pier by kind permission of the pier owners. TASK2000 tidal prediction software was kindly provided by the Permanent Service for Mean Sea Level, Proudman Oceanographic Laboratory.



Teignmouth Pier 2011





Teignmouth Pier 2008 to 2011 - Joint distribution (% of occurrence)

