

Teignmouth Pier Wave Gauge

Location

OS: 294370 E 72631 N

WGS84: Latitude: 50° 32.63' N Longitude: 003° 29.52' W

Water Depth

N/A

Instrument Type

Rosemount WaveRadar Rex

Data Quality

C1 (%)	Sample interval
75	20 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	0.68	13.6	4.2	-	-	30
February	0.53	15.5	3.8	-	-	27
March	0.40	15.2	3.6	-	-	31
April	0.42	13.2	3.5	-	-	29
May	0.44	14.4	3.6	-	-	31
June	0.41	13.7	3.3	-	-	30
July	-	-	-	-	-	0
August	-	-	-	-	-	0
September	0.37	17.0	3.3	-	-	5
October	0.48	12.9	3.6	-	-	30
November	0.59	13.8	4.5	-	-	29
December	0.57	13.3	4.0	-	-	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 _s	T _p	T _z	Dir.	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
29-Dec-2009 03:20	2.17	8.3	5.3	-	1.72	HW	2.21	0.21	0.73
01-Feb-2009 10:20	1.94	9.2	5.4	-	1.75	HW +1	3.16	0.04	0.21
30-Jan-2009 22:00	1.91	7.8	5.2	-	1.78	HW +1	3.50	0.17	0.20

* Tidal information is obtained from the nearest recording tide gauge (the wave 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.

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

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

Distribution plots

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

- Percentage of occurrence of H_s , T_p , T_z for 2009
- Percentage wave height exceedance
- 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
- Incidence of storms during 2009. 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 waves threshold)

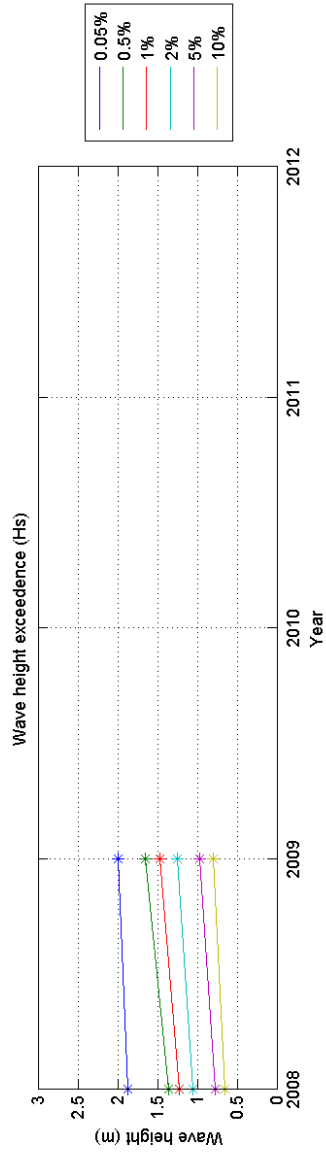
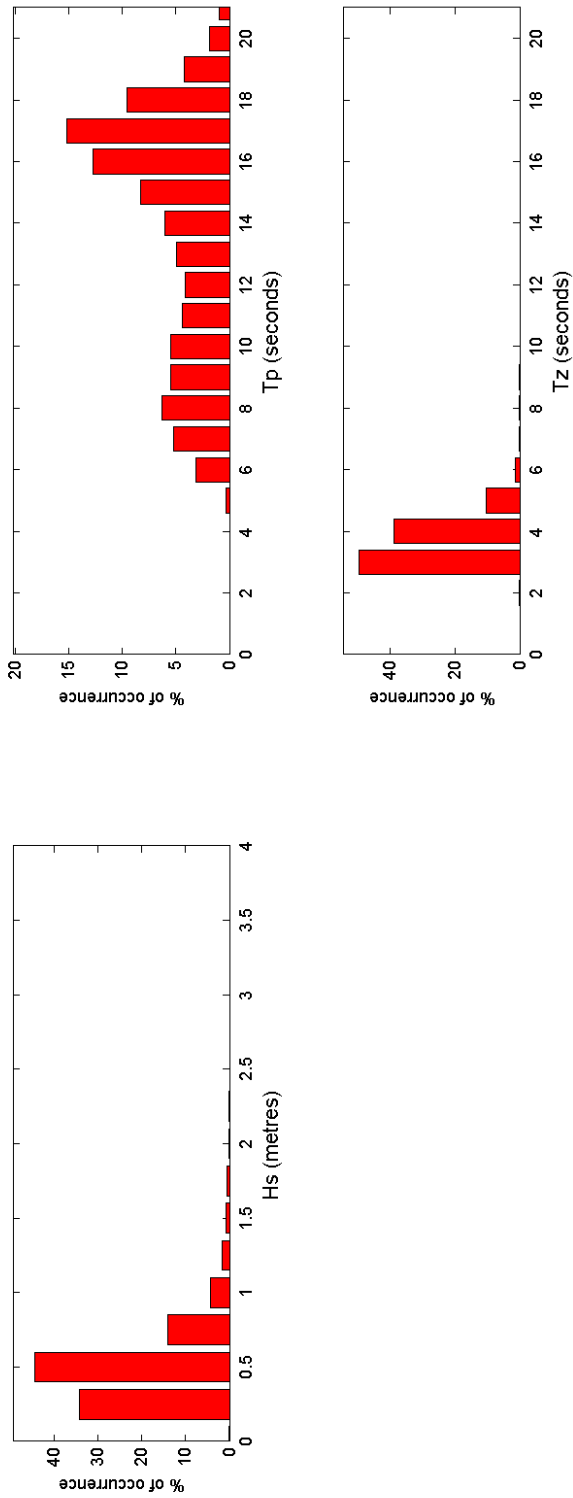
General

The Wave Radar was deployed on 23 April 2008. It was hit by lightning in July 2009 and required major repair by the manufacturer in Sweden.

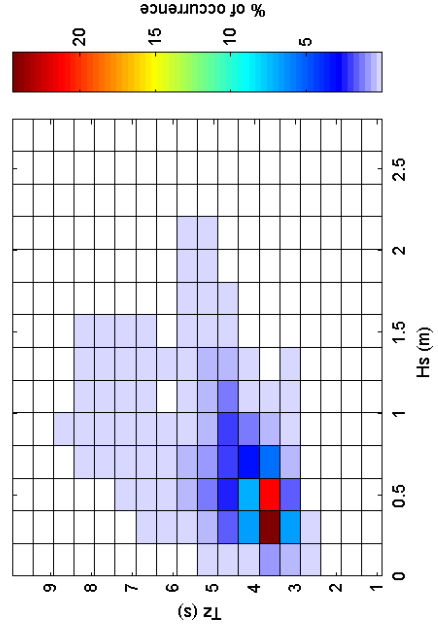
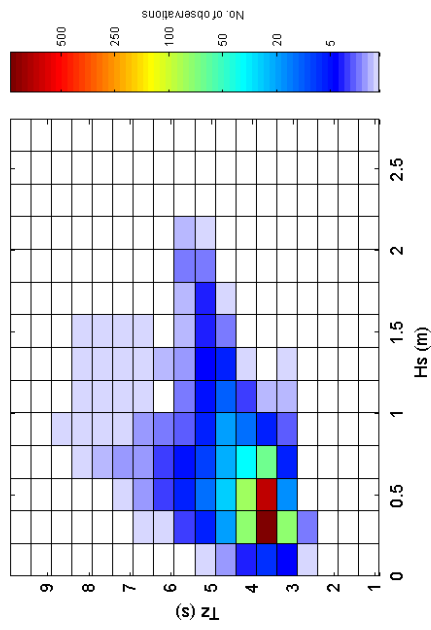
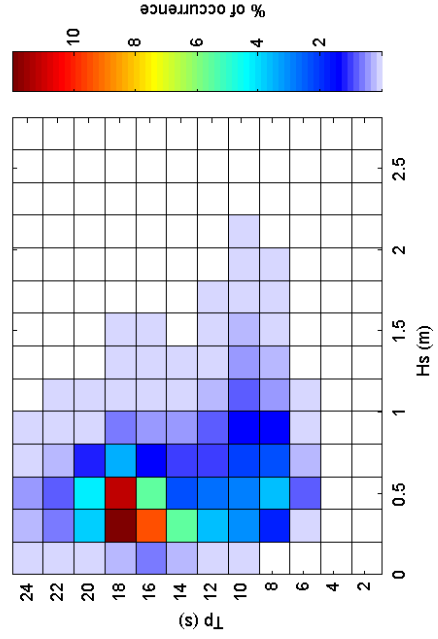
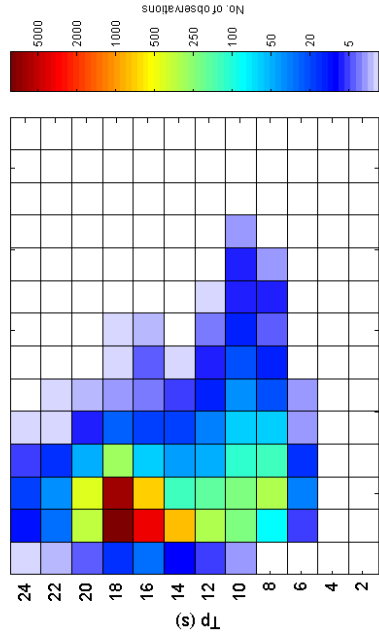
Acknowledgements

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

Teignmouth Pier 2009



Teignmouth Pier 2009 - Joint distribution



Teignmouth Pier 2008 to 2009 - Joint distribution (% of occurrence)

