

Rustington Directional Waverider Buoy

Location

OS: 506333E 93783N

WGS84: Latitude: 50° 44.04' N Longitude: 000° 29.68' W

Water Depth

Approx 10m CD

Instrument Type

Datwell Directional Waverider Buoy Mk III

Data Quality

C1(%)	Sample interval
92	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.40	8.3	4.5	207	8.5	31
February	0.91	7.1	3.9	183	8.0	29
March	1.03	7.0	4.0	213	8.2	17
April	0.66	6.2	3.6	190	9.6	27
May	0.50	5.1	3.3	139	13.3	27
June	0.62	5.9	3.5	207	16.3	30
July	0.75	5.5	3.5	207	17.7	28
August	0.93	5.5	3.7	213	18.2	28
September	0.87	5.3	3.6	165	16.7	28
October	0.93	6.8	4.0	209	14.8	30
November	0.87	5.7	3.7	197	11.3	30
December	0.84	7.0	4.0	193	8.3	30

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 2008									
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)
13-Dec-2008 12:00	4.01	8.3	6.6	177	2.68	HW +1	5.40	0.30	0.52
15-Jan-2008 12:00	3.69	8.3	6.2	215	-0.32	HW -4	4.19	0.45	0.60
31-Jan-2008 14:30	3.59	10.0	6.1	207	0.27	HW -3	2.19	-0.02	0.48
04-Dec-2008 09:00	3.41	7.7	5.8	210	-1.12	HW -6	3.50	0.45	0.50
09-Nov-2008 23:00	3.25	10.0	6.1	217	0.08	HW +3	3.50	0.12	0.20

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Newhaven). 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}
2003	3.27	2.76	2.47	2.27	1.85	1.45	29-Nov-2003 13:00	3.34
2004	3.83	2.81	2.62	2.37	2.03	1.65	08-Jan-2004 11:30	4.17
2005	3.64	3.01	2.56	2.19	1.79	1.42	02-Dec-2005 19:00	3.84
2006	3.84	3.01	2.76	2.45	2.05	1.68	03-Dec-2006 08:00	4.81
2007	3.89	2.98	2.7	2.41	2.03	1.69	18-Jan-2007 10:00	4.32
2008	3.70	3.02	2.74	2.46	2.05	1.70	13-Dec-2008 12:00	4.01

* i.e. 5 % of the measured H_s values in 2003 exceeded 1.85m

Distribution plots

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

- Percentage of occurrence of H_s , T_p , T_z and Direction for 2008
- Percentage wave height exceedence (all recorded years) – note that the statistics for 2003 were based on measurements from July to December only
- Joint distribution of all parameters for 2008, 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 2008 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

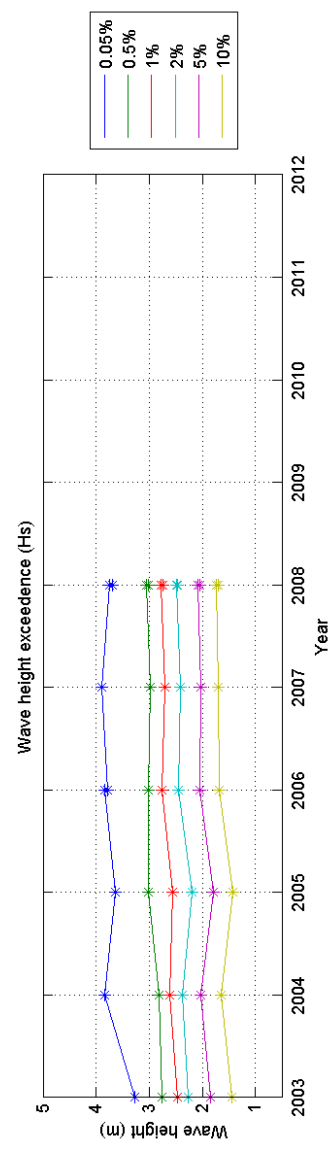
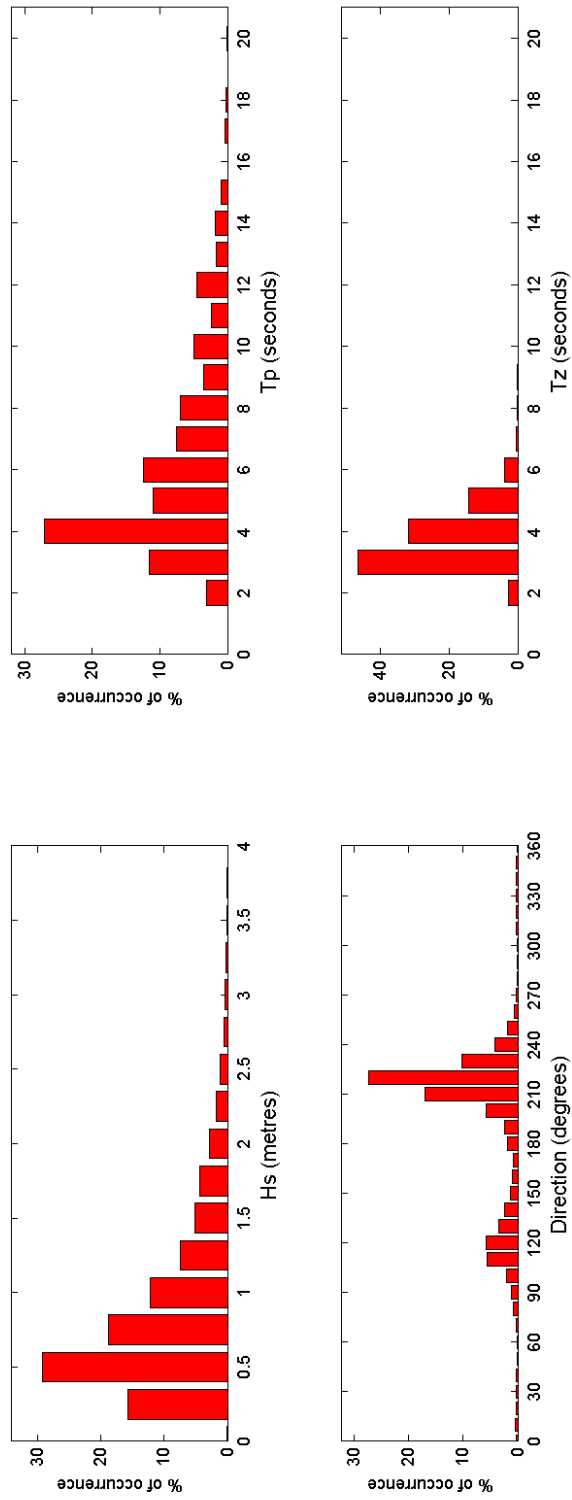
The buoy was first deployed on 9 July 2003. The wave directions recorded by the Datawell Directional WaveRider Mk III were found to be contaminated by a significant tidal signature, compounded by the on-board data processing. The buoy received new electronics to fix this problem in February 2004; wave directions measured before March 2004 were excluded from analysis.

The buoy came adrift on 4 March 2008 and was re-deployed on 19 March. It was cut adrift again on 27 April and re-deployed on 02 May.

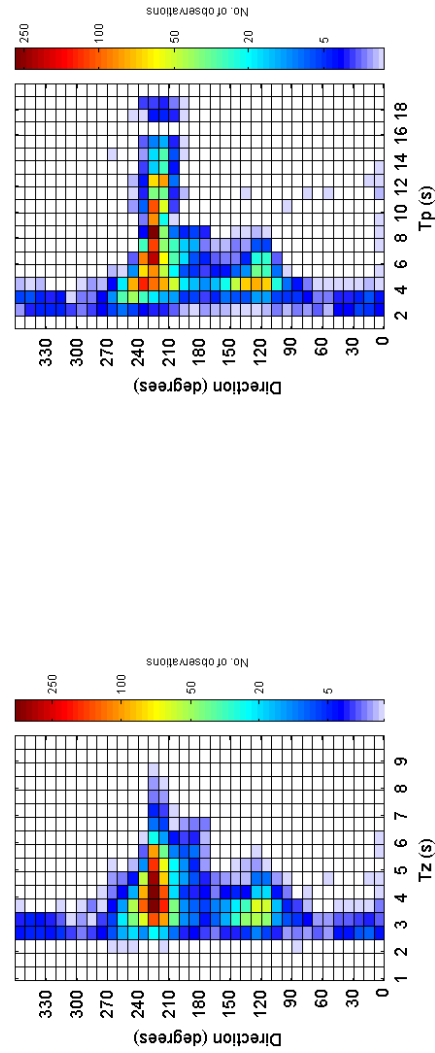
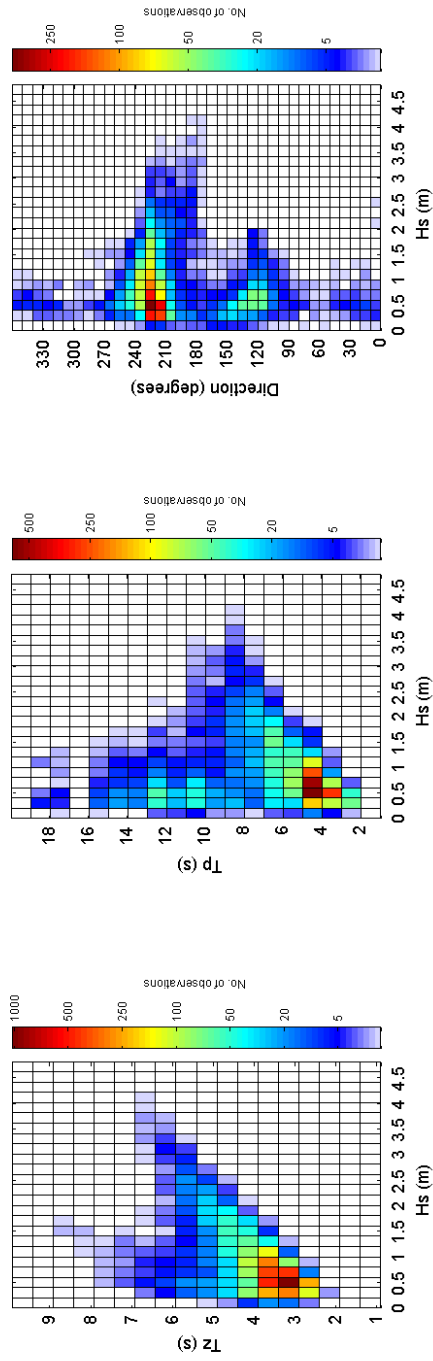
Acknowledgements

Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council.

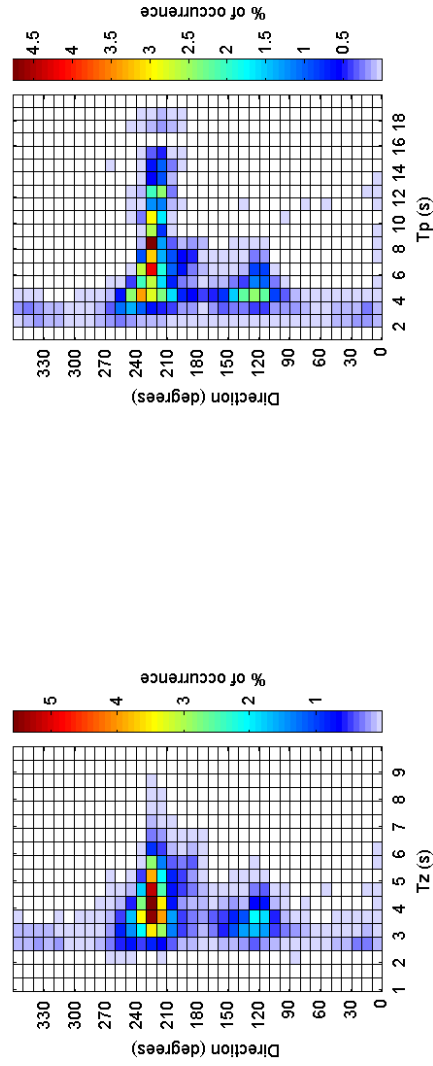
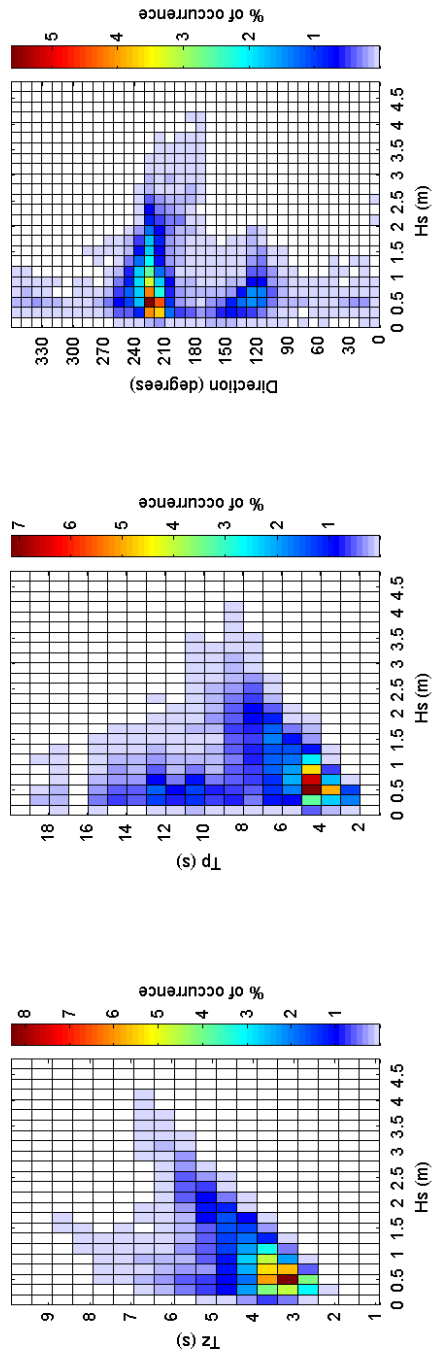
Rustington 2008



Rustington 2008 - Joint distribution



Rustington 2008 - Joint distribution (% of occurrence)



Rustington 2003 to 2008 - Joint distribution (% of occurrence)

