

Rustington Directional WaveRider Buoy

Location

OS: 506331E 93784N

WGS84: Latitude: 50°44.0365'N Longitude: 00°29.6765'W

Water Depth

9.9m CD

Instrument Type

Datawell Directional WaveRider Buoy Mk III

Data Quality

C1(%)	Sample interval
99	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.33	7.7	4.3	205	9.1	31
February	1.15	9.2	4.5	195	8.1	27
March	0.86	8.6	4.2	197	9.0	31
April	0.43	7.2	3.6	167	10.9	30
May	0.84	5.6	3.7	197	13.6	31
June	0.67	6.0	3.6	197	16.4	30
July	0.87	5.1	3.6	215	17.4	31
August	0.58	4.6	3.2	194	18.4	31
September	0.60	4.3	3.2	205	17.5	30
October	0.60	6.5	3.6	180	15.1	31
November	0.70	5.3	3.5	207	12.4	19
December	1.23	7.6	4.3	187	9.5	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 2007									
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)
18-Jan-2007 10:00	4.32	10.0	6.8	217	3.13	HW	4.4	0.59	0.91
11-Jan2007 14:00	3.77	10.5	6.3	212	0.77	HW - 2	3.2	-0.04	0.77
06-Mar-2007 04:00	3.58	9.1	6.6	205	0.11	HW + 3	5.5	0.60	0.61
09-Dec-2007 12:00	3.51	10.0	7.1	217	2.56	HW + 1	4.9	0.38	0.61
03-Mar-2007 01:00	3.23	9.1	6.3	221	1.80	HW + 2	4.9	0.48	0.57

* Tidal information is obtained from the nearest recording tide 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

* 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 2007
- Percentage wave height exceedance (all recorded years) – note that the statistics for 2003 were based on measurements from July to December only
- Joint distribution of all parameters for 2007, 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 2007 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)

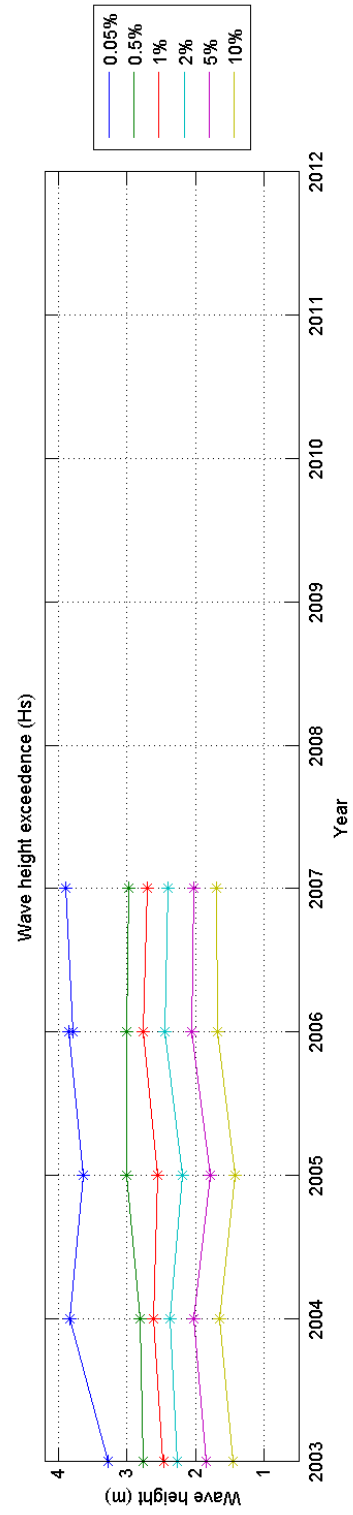
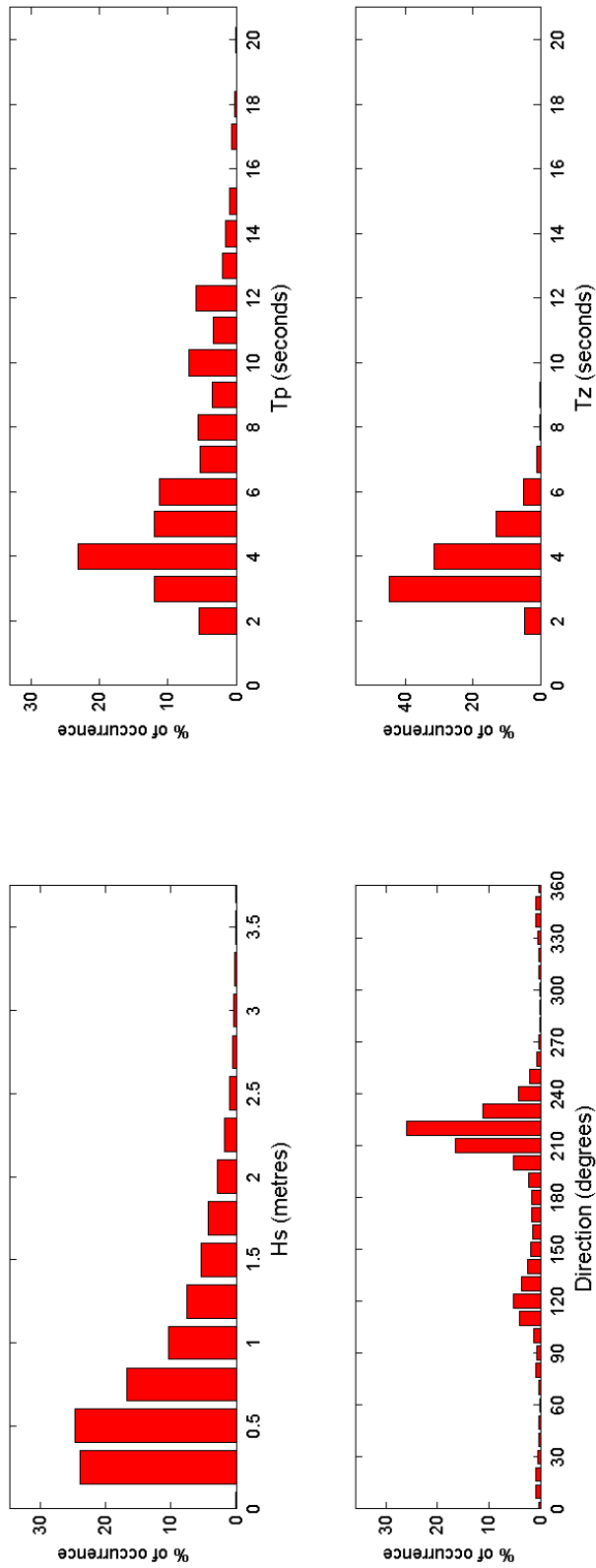
General

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.

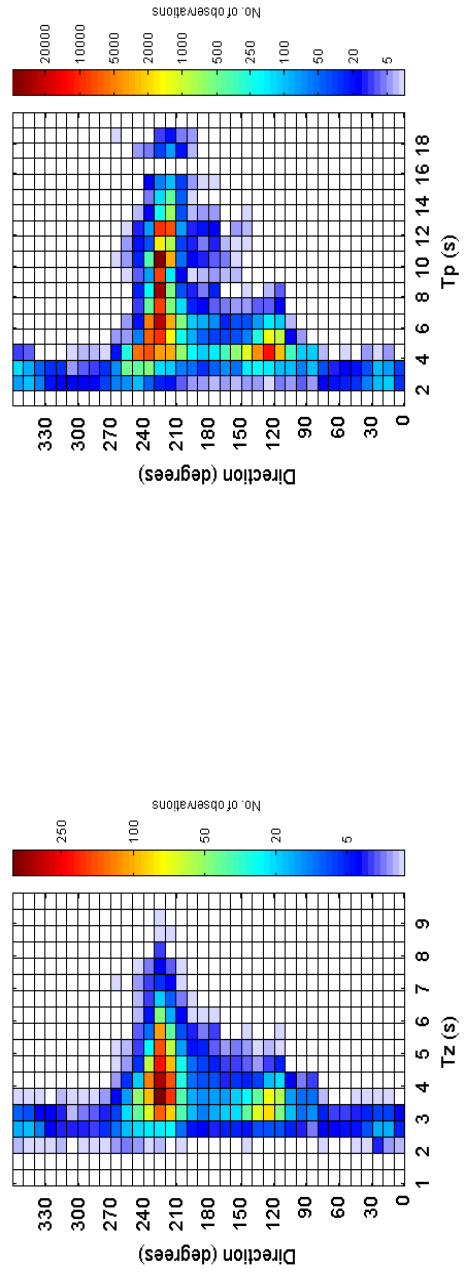
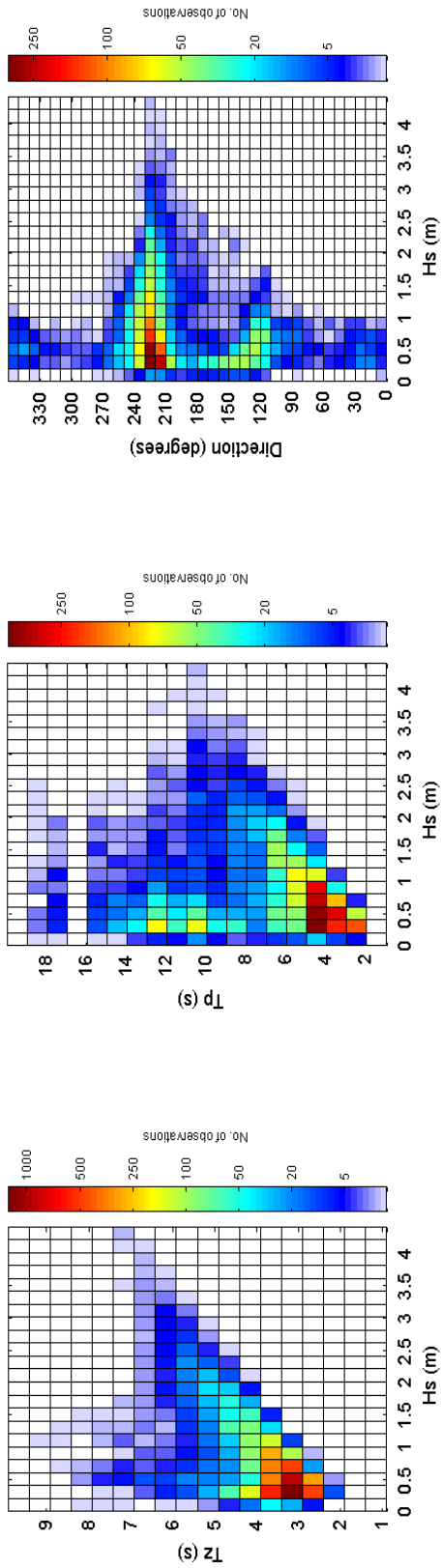
Acknowledgements

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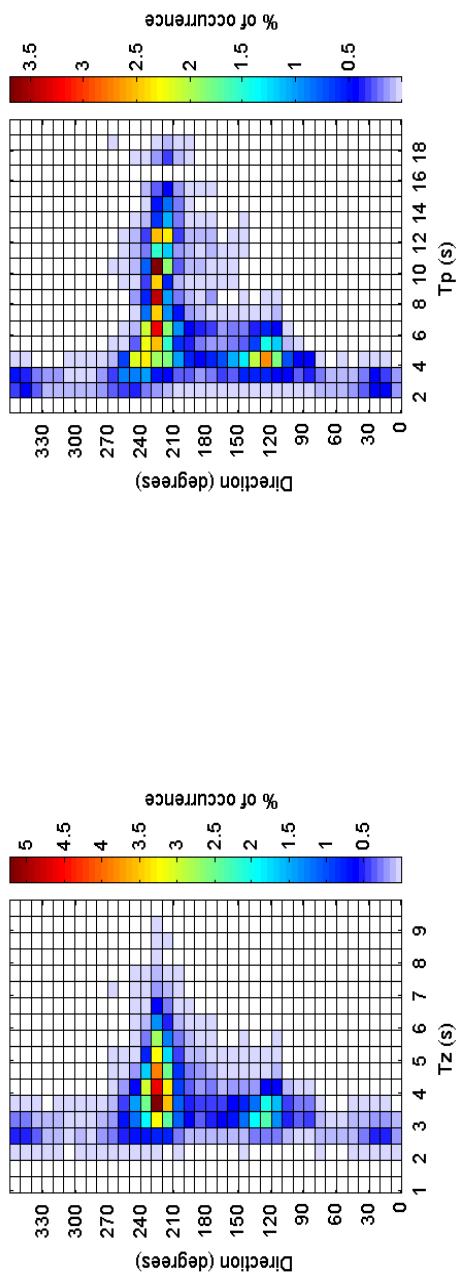
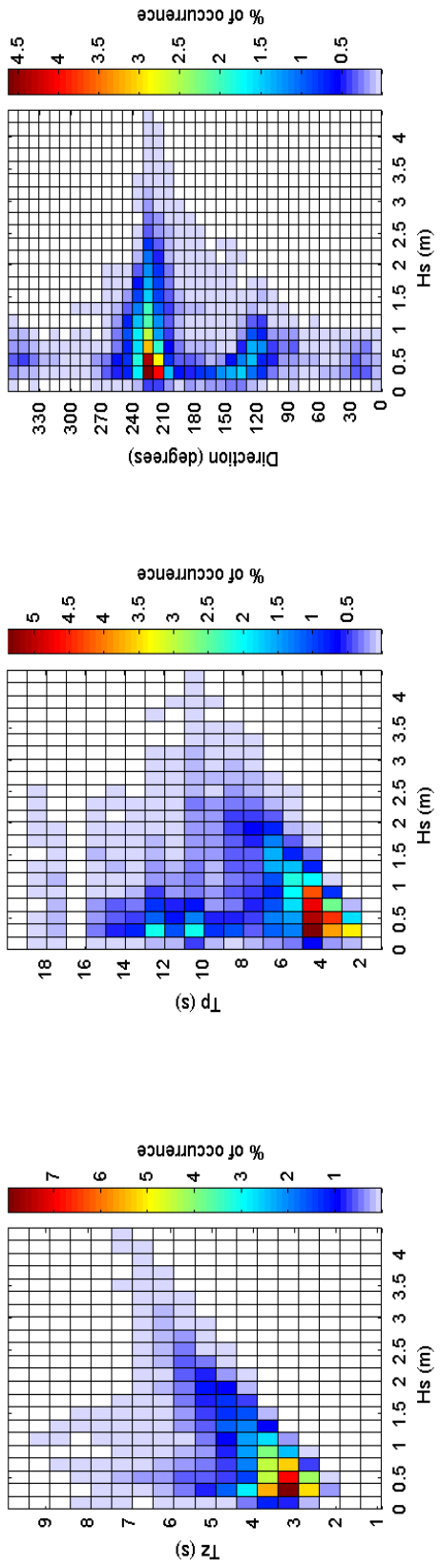
Rustington 2007



Rustington 2007 - Joint distribution



Rustington 2007 - Joint distribution (% of occurrence)



Rustington 2003 to 2007 - Joint distribution (% of occurrence)

