

Pevensey Bay Directional WaveRider Buoy

Location

OS: 569358E 99118N
 WGS84: Latitude: 50°47'0.2"N Longitude: 00°25'1.5"E

Water Depth

9.8m CD

Instrument Type

Datawell Directional WaveRider Buoy Mk III

Data Quality

C1(%)	Sample interval
99	30 minutes

Monthly Means

All times are GMT

Month	H _s	T _p	T _m	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.28	6.6	4.3	202	9.3	31
February	0.93	6.5	4.0	184	8.5	26
March	0.79	7.1	4.0	182	9.2	30
April	0.44	5.5	3.4	137	10.8	30
May	0.79	5.3	3.7	175	13.4	31
June	0.62	5.4	3.5	182	16.0	30
July	0.80	5.2	3.6	205	17.5	31
August	0.53	4.6	3.3	168	18.4	31
September	0.56	5.1	3.4	174	17.7	30
October	0.57	5.6	3.5	158	15.4	31
November	0.75	5.5	3.8	184	12.2	30
December	1.16	6.4	4.2	180	9.7	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 12:00	4.23	10.0	6.8	222	2.42	HW + 2	4.8	0.54	0.91
11-Jan-2007 14:00	3.60	10.0	6.2	211	0.77	HW - 2	3.4	-0.04	0.77
06-Mar-2007 06:30	3.32	8.3	6.1	204	-2.12	HW + 6	5.7	0.46	0.62
02-Dec-2007 14:30	3.14	9.1	5.6	210	0.46	HW - 2	3.5	0.16	0.55
03-Mar-2007 02:00	3.09	8.3	6.0	212	-0.12	HW + 5	5.3	0.38	0.58

* 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.

Annual Statistics

Year	Annual H_s exceedance* (m)						Annual Maximum H_s	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
2003	3.38	2.66	2.41	2.08	1.61	1.34	02-Nov-2003 11:30	4.18
2004	3.65	2.72	2.51	2.24	1.86	1.53	31-Oct-2004 17:00	3.92
2005	3.44	2.83	2.37	2.09	1.71	1.31	03-Dec-2005 00:00	3.55
2006	3.59	2.89	2.64	2.33	1.91	1.59	03-Dec-2006 09:30	4.10
2007	3.85	2.84	2.58	2.26	1.89	1.54	18-Jan-2007 12:00	4.23

* i.e. 5 % of the H_s values measured in 2003 exceeded 1.61m

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. Storms are defined using the Peaks-over-Threshold method. The highest H_s of each storm is shown.
- Annual time series of H_s (red line is storm threshold)

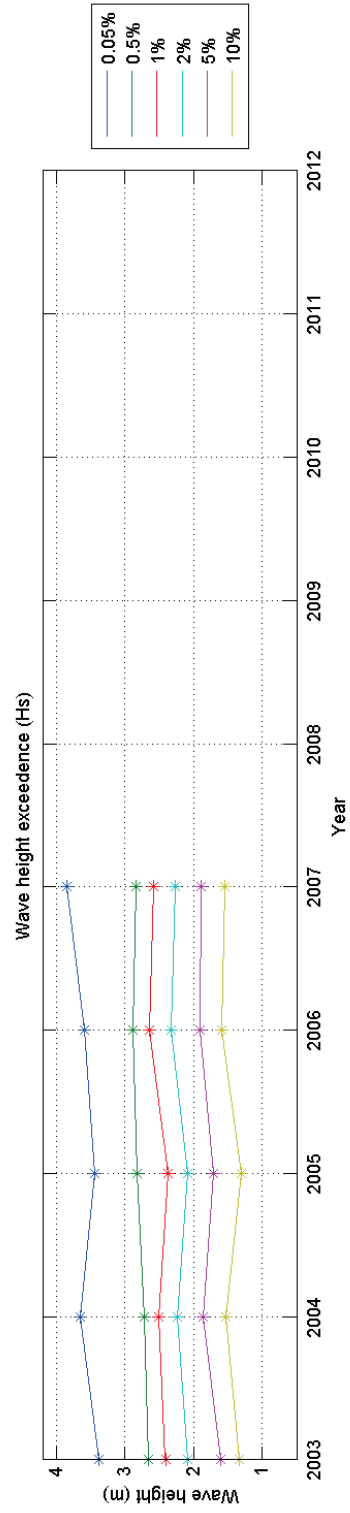
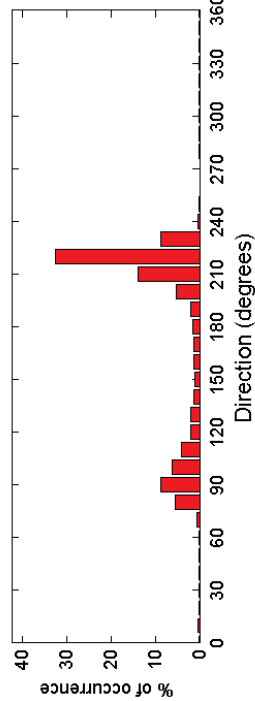
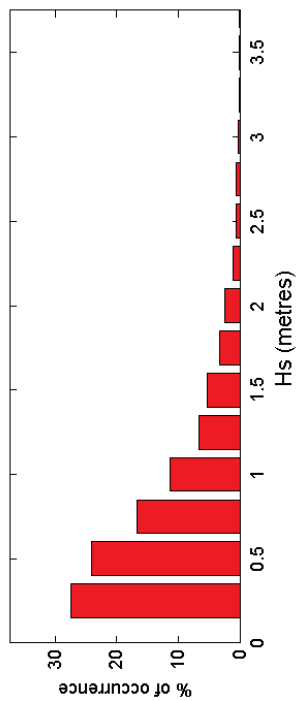
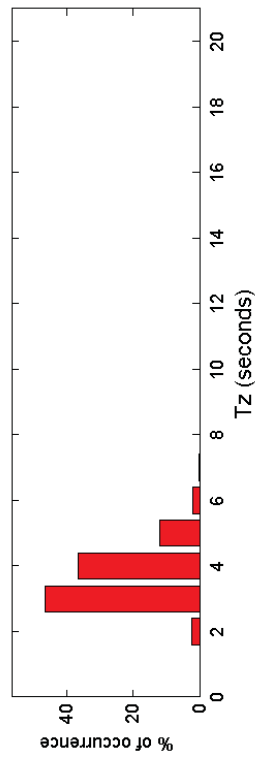
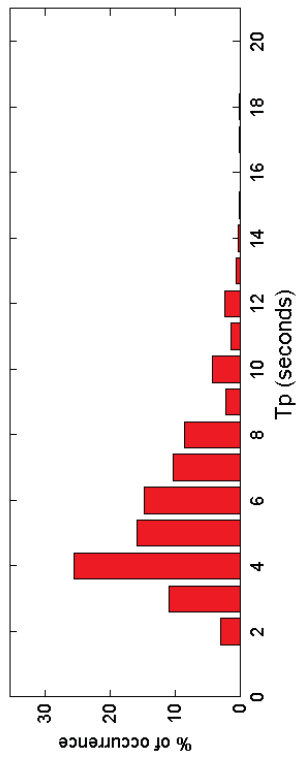
General

The buoy was first deployed on 8 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 late March 2004; wave directions measured before April 2004 were excluded from the analysis.

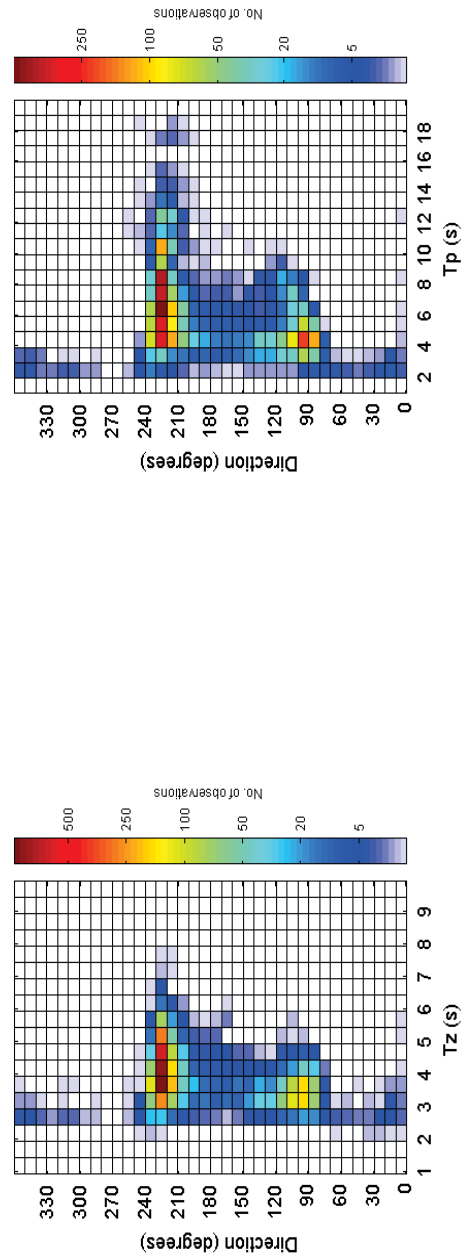
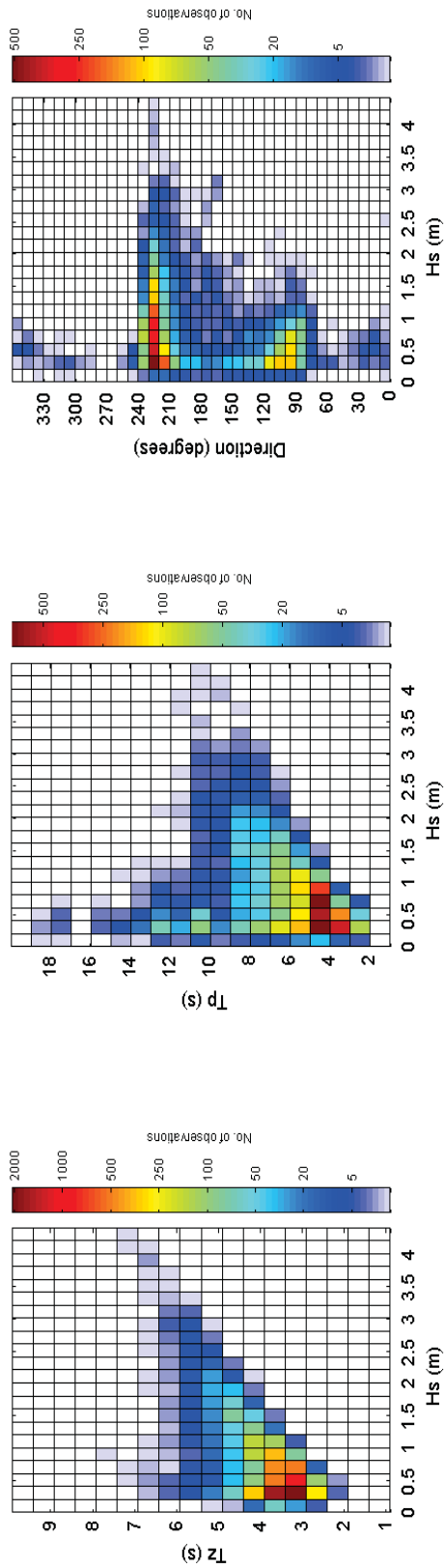
Acknowledgements

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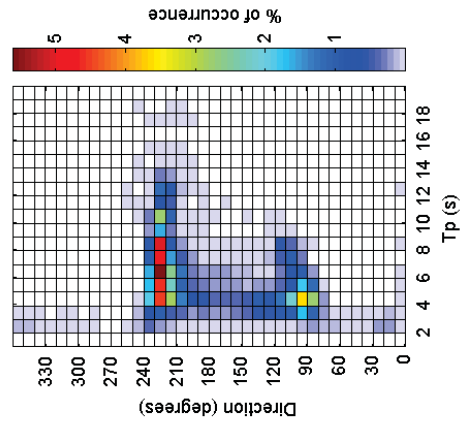
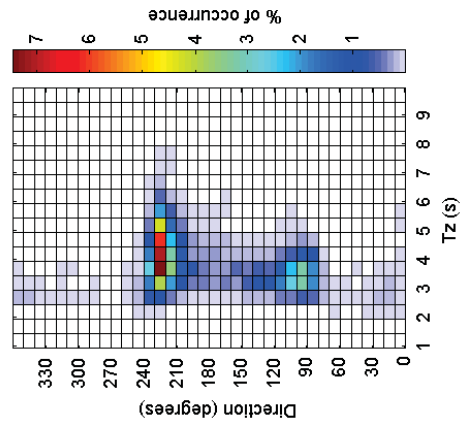
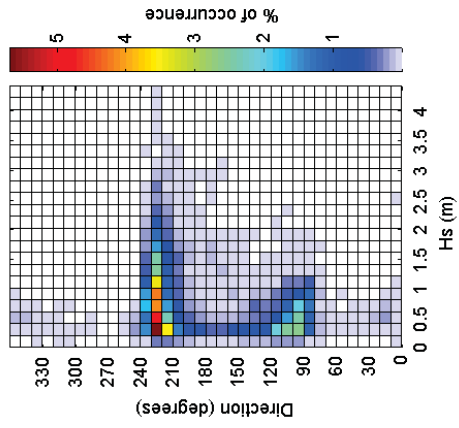
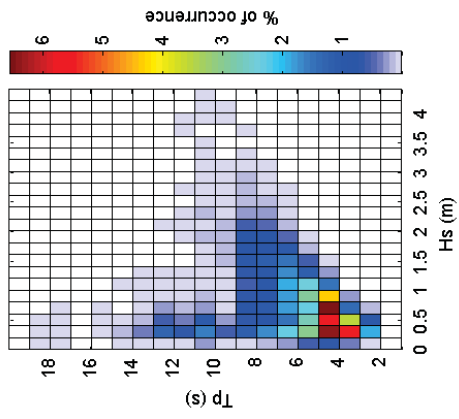
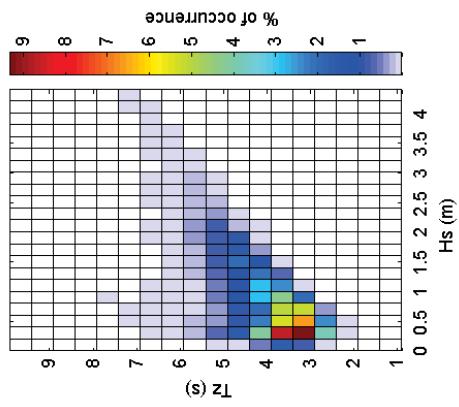
Pevensey Bay 2007



Pevensay Bay 2007 - Joint distribution



Pevensey Bay 2007 - Joint distribution (% of occurrence)



Pevensey Bay 2003 to 2007 - Joint distribution (% of occurrence)

