

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

Pevensey Bay 2005							
Month	H _s	H _{max}	T _p	T _m	Direction	SST	No. of days
	(m)	(m)	(s)	(s)	(°)	(°C)	
January	1.064	1.662	6.0	4.0	190	8.5	31
February	0.686	1.072	5.1	3.5	159	6.4	28
March	0.579	0.890	6.4	3.6	179	5.4	30
April	0.495	0.765	5.7	3.5	188	8.6	30
May	0.633	0.987	5.3	3.5	179	11.5	31
June	0.524	0.813	5.1	3.3	175	14.9	30
July	0.552	0.857	4.7	3.3	190	17.2	28
August	0.472	0.732	4.8	3.3	189	18.3	31
September	0.545	0.846	5.6	3.4	184	18.6	30
October	0.836	1.309	5.2	3.7	171	16.4	31
November	0.834	1.036	5.6	3.7	182	13.3	30
December	0.824	1.228	6.3	3.9	180	9.3	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 2005									
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)
30-Dec-2005 12:30	3.55	7.7	6.2	176	1.25	HW +2	5.2	0.04	0.28
03-Dec-2005 00:00	3.55	7.7	6.1	201	3.15	HW	5.6	0.18	0.57
08-Jan-2005 09:00	3.53	9.1	6.2	218	2.61	HW	4.6	0.10	0.45

* 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	
	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
2003	2.66	2.41	2.08	1.61	1.34	02-Nov-2003 11:30	4.18
2004	2.72	2.51	2.24	1.86	1.53	31-Oct-2004 17:00	3.92
2005	2.83	2.37	2.09	1.71	1.31	03/12/2005 00:00	3.55

* 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 2005
- 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 2005, 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 2005 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)

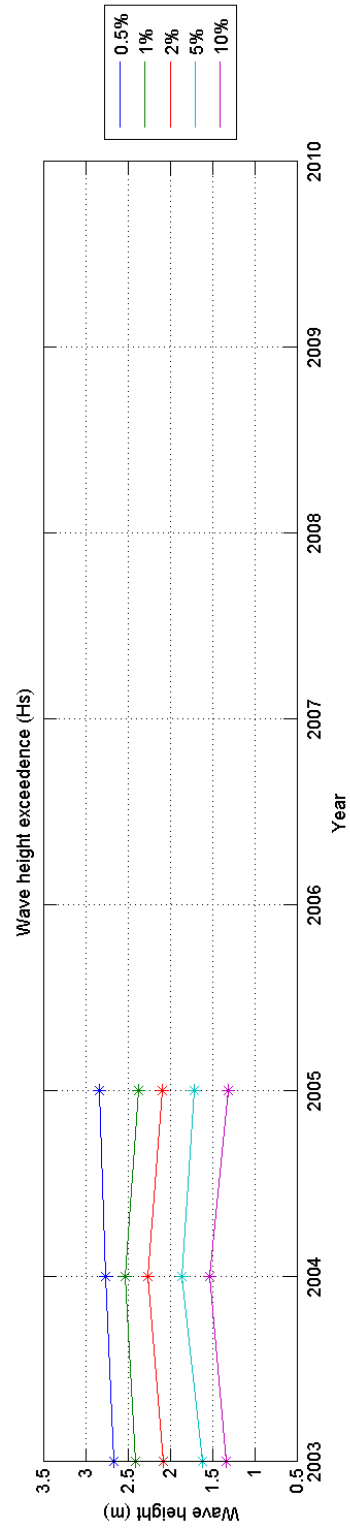
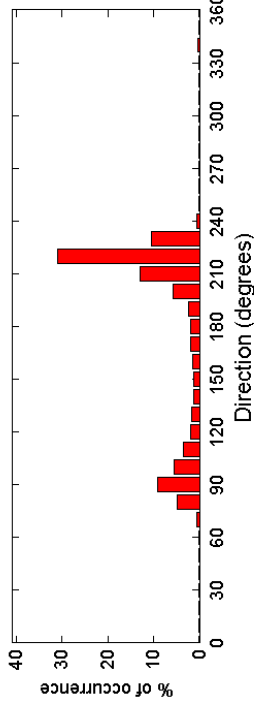
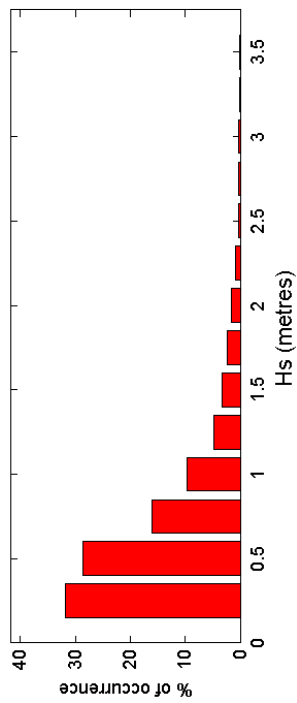
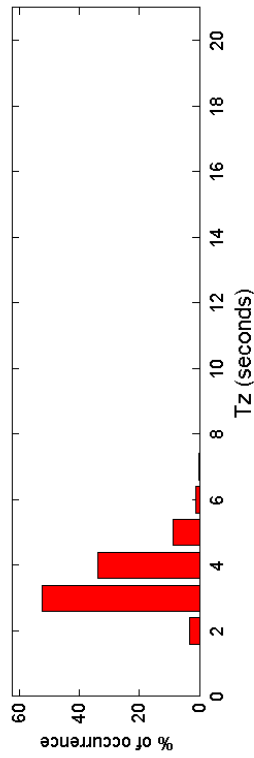
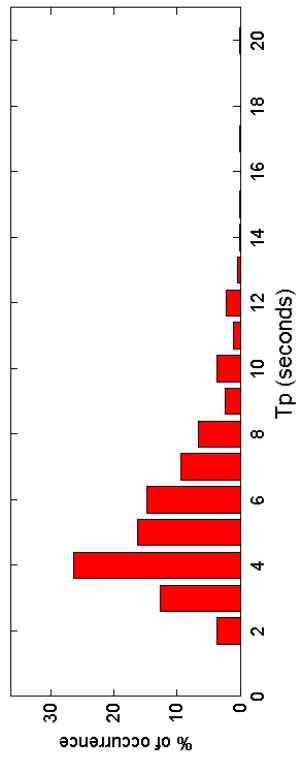
General

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.

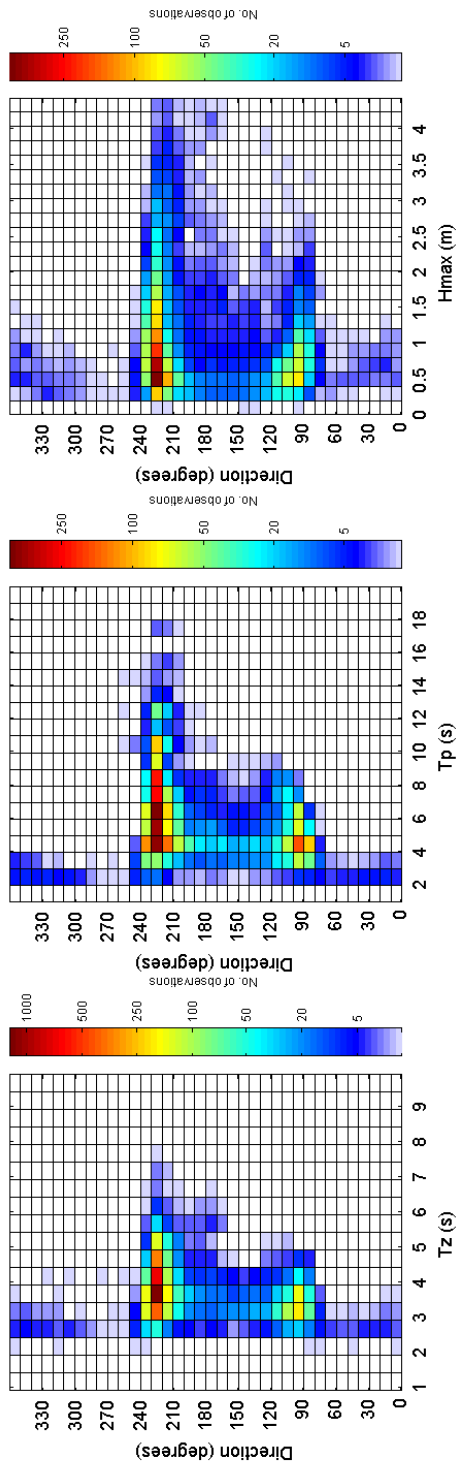
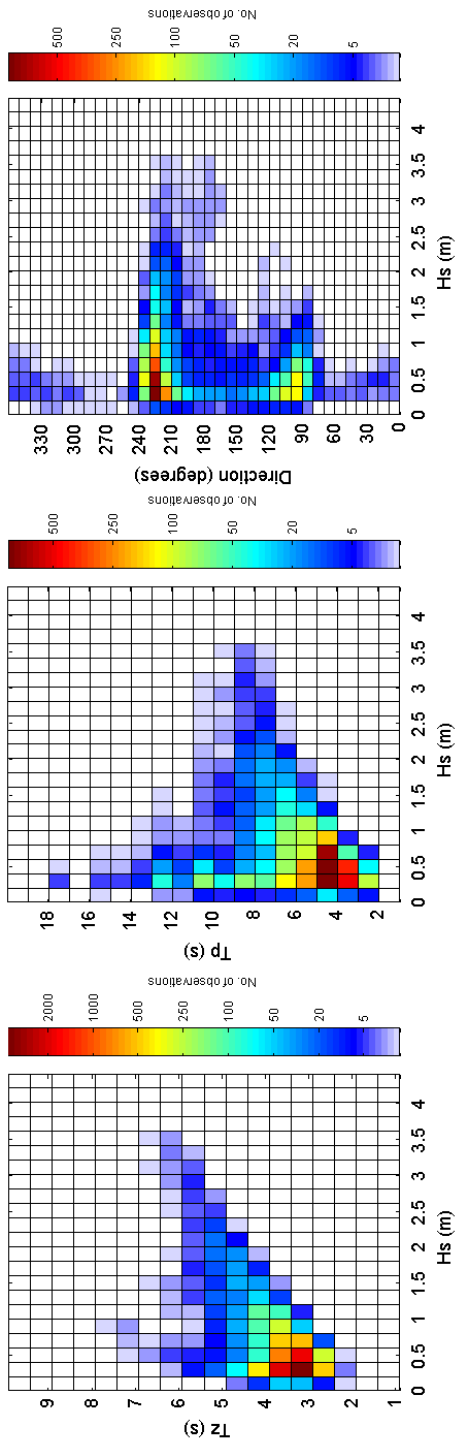
Acknowledgements

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.

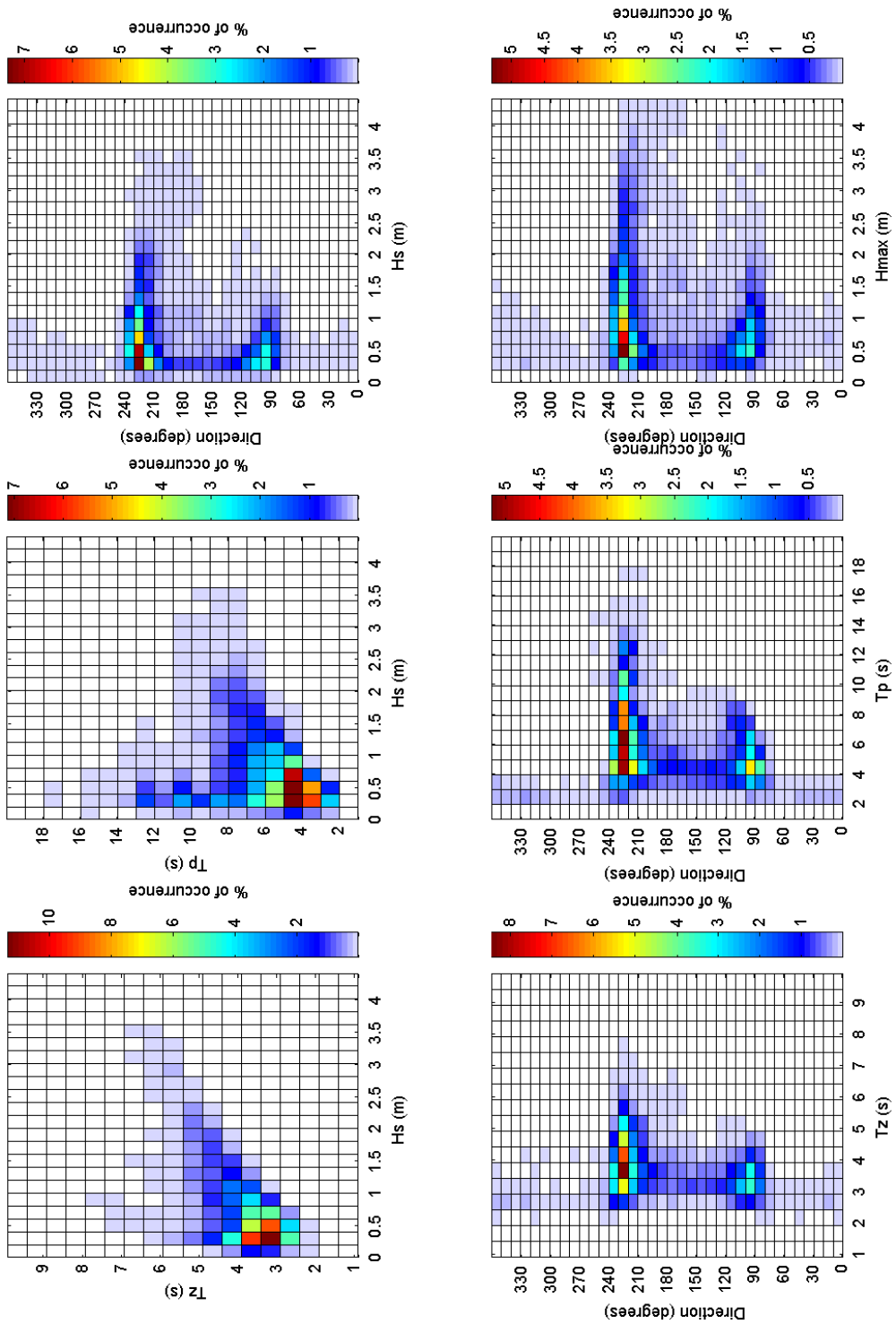
Pevensey Bay 2005



Pevensay Bay 2005 - Joint distribution



Pevensay Bay 2005 - Joint distribution (% of occurrence)



Pevensey Bay 2003 to 2005 - Joint distribution (% of occurrence)

