

West Bay Directional Waverider Buoy

Location

OS: 347123 E 88451 N

WGS84: Latitude: 50° 41.59' N Longitude: 002° 44.99' W

Water Depth

Approx. 10m CD

Instrument Type

Datawell Directional Waverider Buoy Mk III

Data Quality

C1 (%)	Sample interval
98	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	11.0	5.5	208	7.1	31
February	0.69	11.8	5.3	210	7.0	28
March	0.72	8.7	4.3	212	8.3	31
April	0.67	8.9	4.7	209	10.4	29
May	0.80	8.2	4.1	208	12.5	30
June	0.48	7.5	4.1	206	15.0	30
July	0.92	6.0	3.9	216	16.5	30
August	0.74	5.9	3.8	212	17.4	30
September	0.53	7.0	4.2	193	16.5	30
October	0.81	8.4	4.4	208	15.2	31
November	2.00	8.4	5.2	212	13.3	30
December	1.08	9.9	5.1	209	9.6	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)
14-Nov-2009 13:00	5.80	10.0	8.0	218	0.73	HW -3	1.99	0.73	1.03
24-Nov-2009 23:00	4.52	8.3	6.8	217	-	-	1.55	-	-
29-Nov-2009 07:30	4.43	11.8	7.3	214	0.44	HW +4	1.79	0.68	0.84
17-Jan-2009 22:00	4.24	9.1	6.7	218	1.53	HW	2.13	0.44	0.64

* Tidal information is obtained from the nearest recording tide gauge (the wave radar at West Bay Harbour). 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	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
2007	4.88	3.70	3.31	2.92	2.45	2.03	06-Mar-2007 02:30	5.61
2008	4.73	3.60	3.16	2.74	2.20	1.71	10-Mar-2008 13:30	5.05
2009	5.24	3.63	3.31	2.94	2.31	1.84	14-Nov-2009 13:00	5.80

* i.e. 5 % of the H_s values measured in 2007 exceeded 2.45m

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 2009
- Percentage wave height exceedance (all recorded years)
- 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 (percentage of occurrence only)
- Incidence of storms during 2009 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)

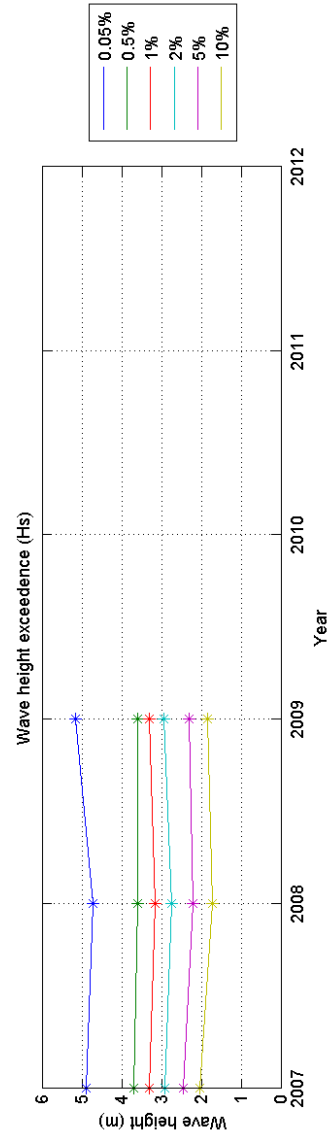
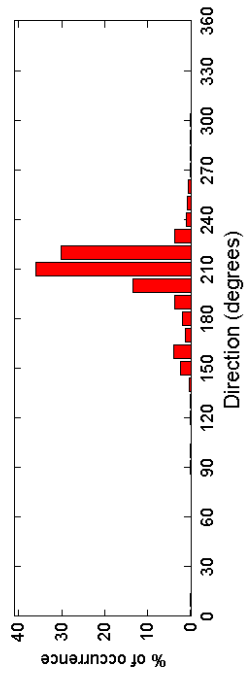
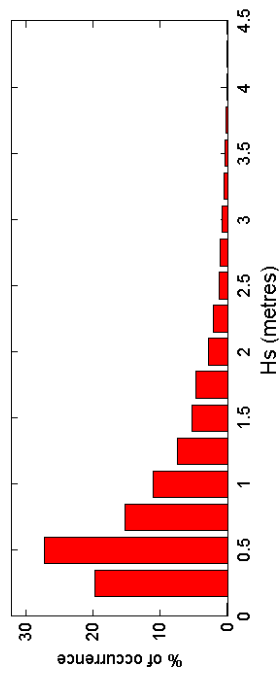
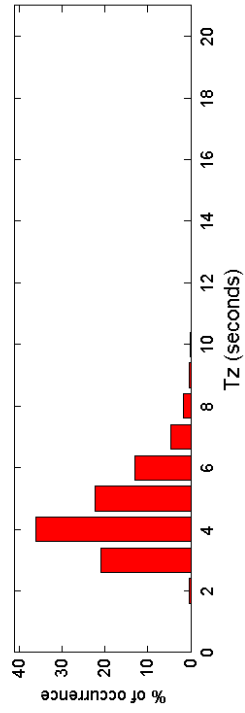
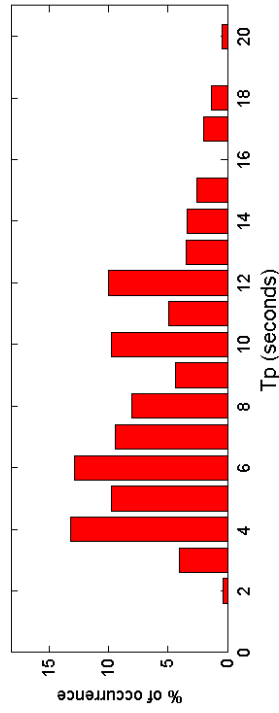
General

The Waverider was first deployed on 19 November 2006.

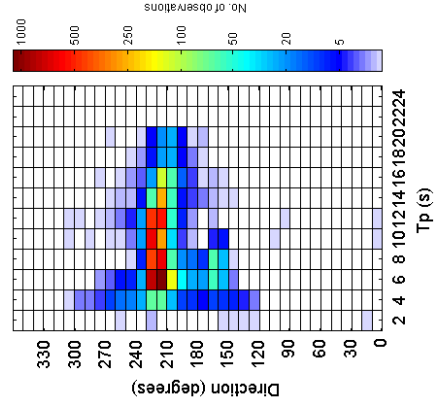
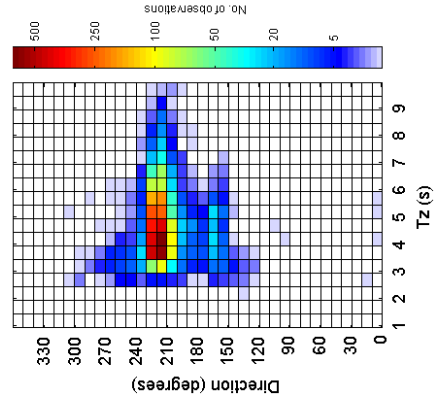
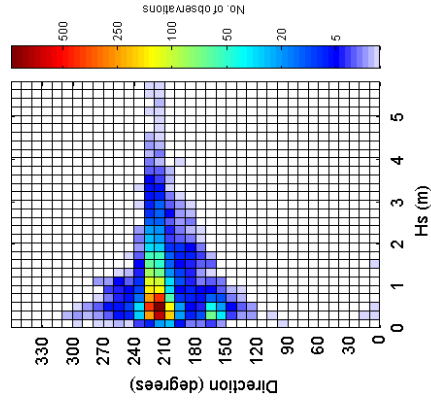
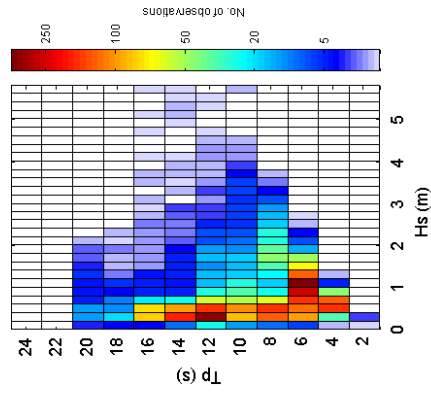
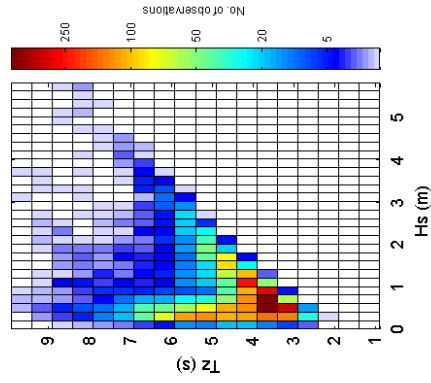
Acknowledgements

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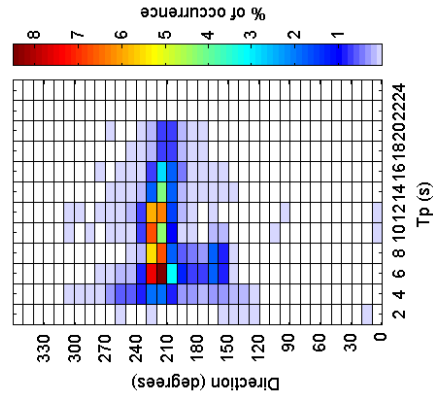
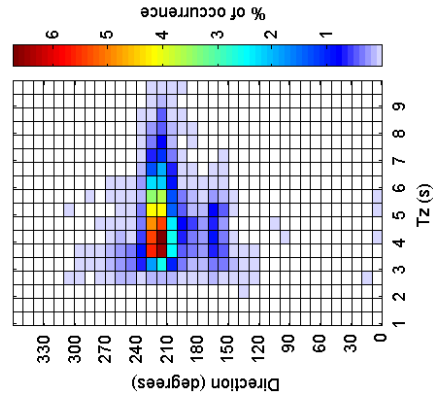
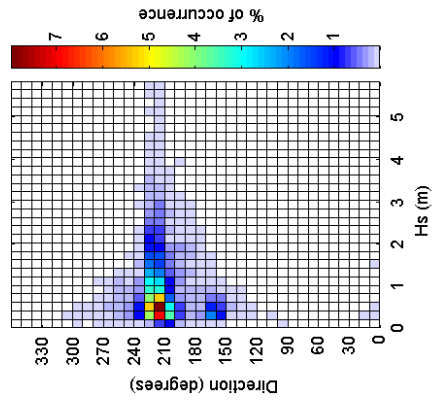
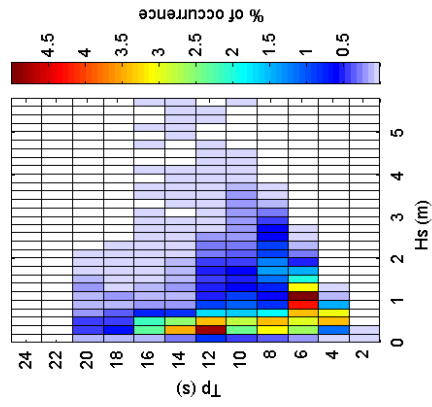
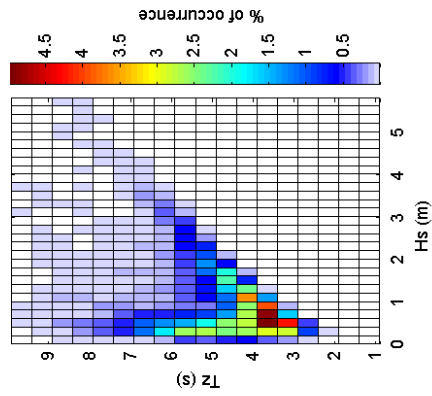
West Bay 2009



West Bay 2009 - Joint distribution



West Bay 2009 - Joint distribution (% of occurrence)



West Bay 2006 to 2009 - Joint distribution (% of occurrence)

