

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
91	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.28	9.3	4.6	211	9.4	16
February	0.97	8.6	4.5	202	9.0	28
March	1.10	7.9	4.5	216	9.0	29
April	0.67	7.4	4.0	210	10.0	29
May	0.43	8.1	4.2	193	12.5	30
June	0.61	7.6	4.0	216	14.6	28
July	0.84	6.5	3.8	209	16.3	29
August	1.00	5.9	4.0	213	17.2	29
September	0.81	7.3	4.2	195	16.3	29
October	1.06	7.1	4.4	213	14.6	30
November	0.79	7.5	4.2	205	11.5	28
December	0.73	8.4	4.6	202	8.8	29

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)
10-Mar-2008 13:30	5.05	10.5	7.8	217	-	-	-	-	-
03-Feb-2008 18:30	4.28	8.3	6.6	187	0.70	HW + 3	1.63	0.41	0.55
31-Jan-2008 12:30	4.16	10.0	6.8	217	-	-	-	-	-
04-Oct-2008 20:30	4.02	8.3	6.7	221	1.55	HW	2.55	0.38	0.54

* 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

* 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 2008
- 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 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 storm waves for 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. Note that the buoy was not deployed during the late autumn storms – see below.
- Annual time series of H_s (red line is storm threshold)

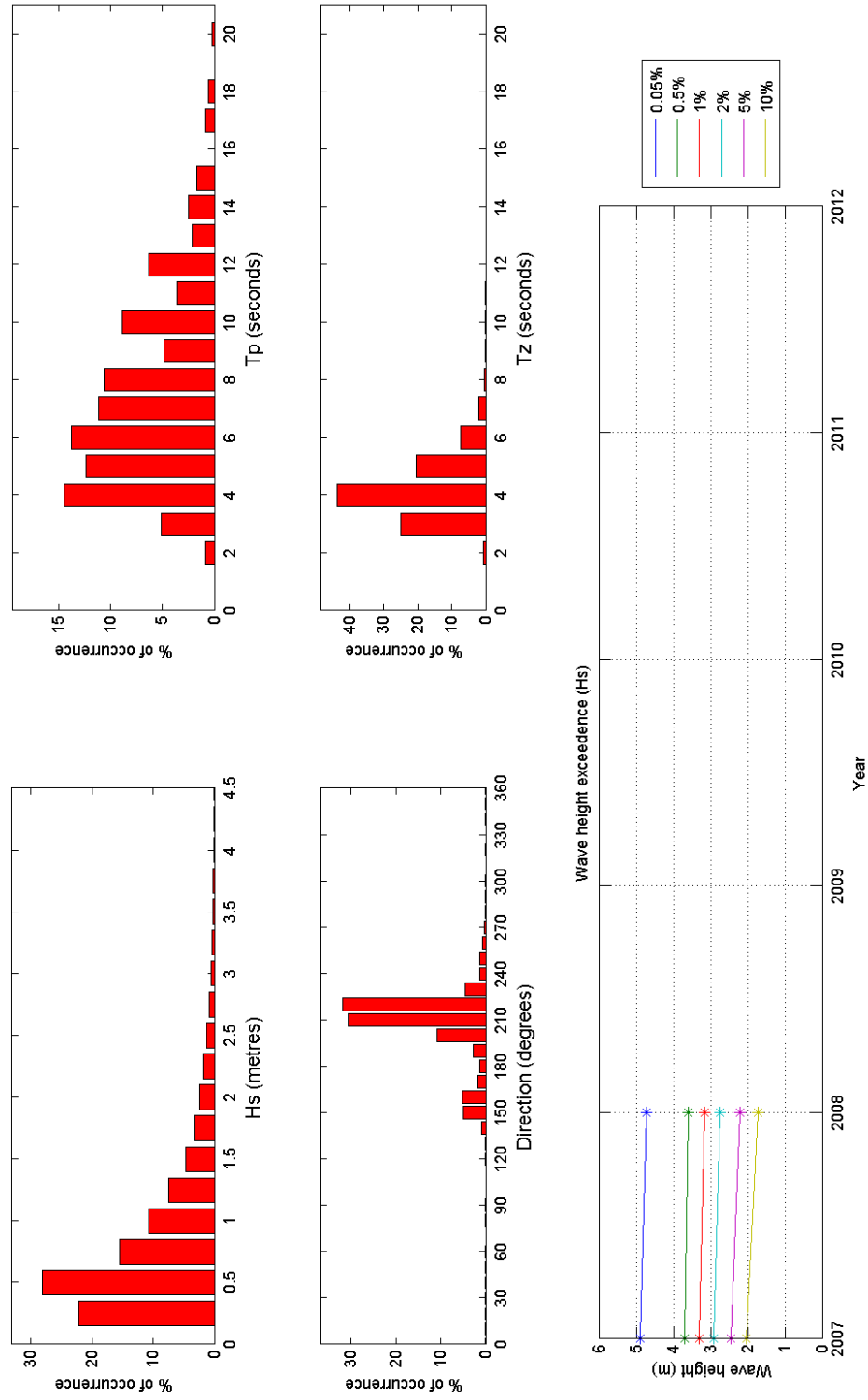
General

The Waverider was first deployed on 19 November 2006. The mooring was cut on 10 January 2008, and the buoy was re-deployed on 25 January 2008.

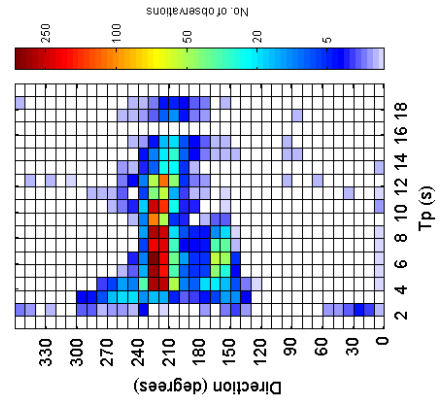
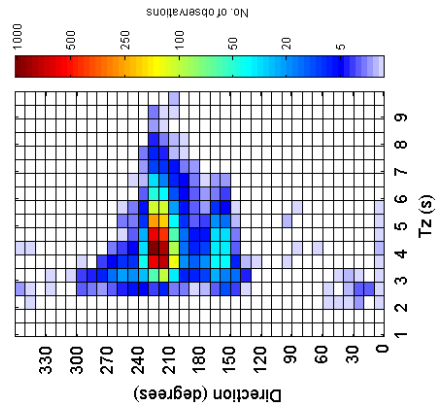
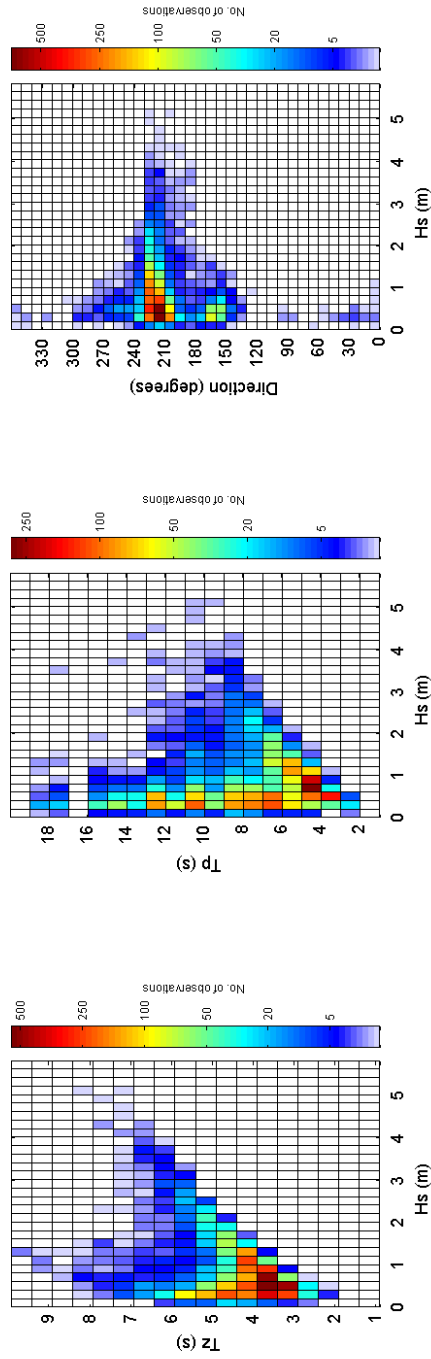
Acknowledgements

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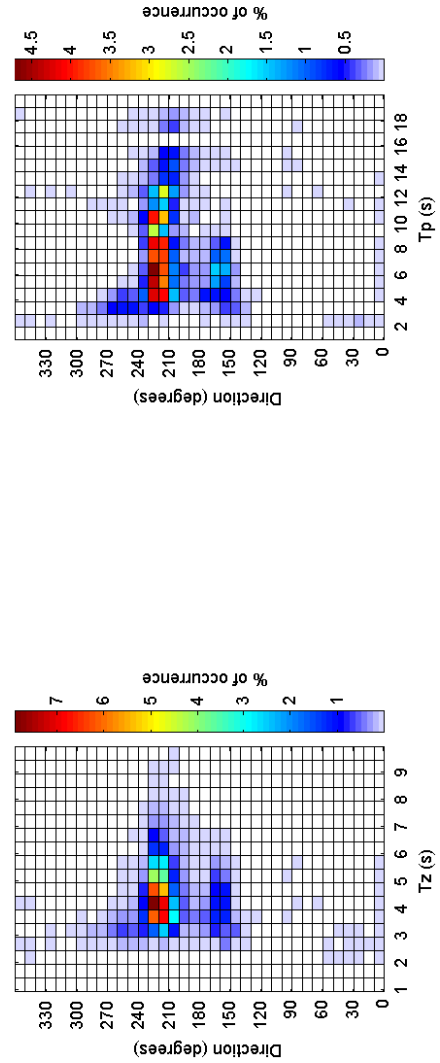
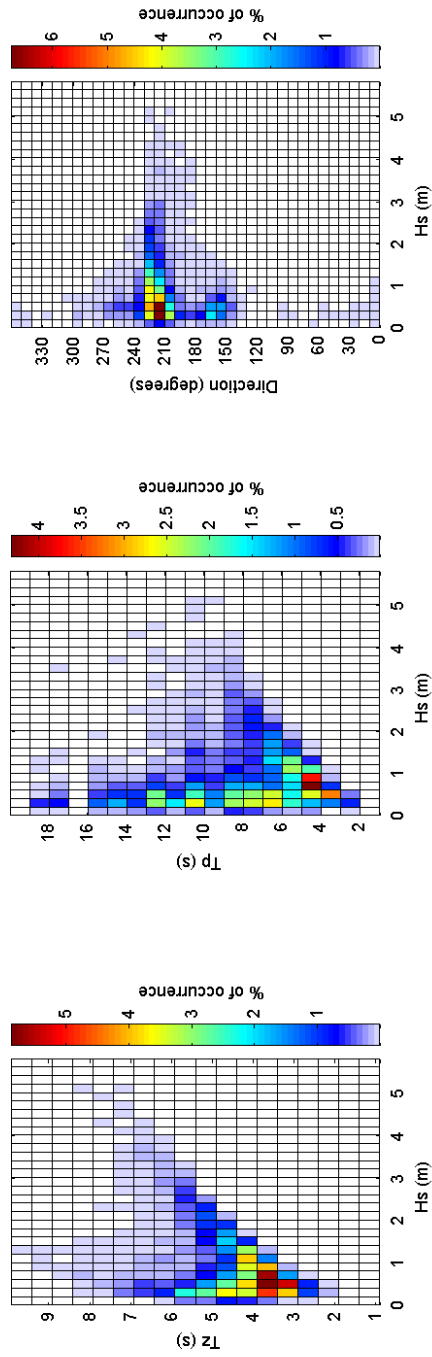
West Bay 2008



West Bay 2008 - Joint distribution



West Bay 2008 - Joint distribution (% of occurrence)



West Bay 2007 to 2008 - Joint distribution (% of occurrence)

