

Chesil Directional Waverider Buoy

Location

OS: 363125E 78259N
 WGS84: Latitude: 50° 36.17'N Longitude: 002° 31.34'W

Water Depth

Approx. 10m CD

Instrument Type

Datawell Directional Waverider Buoy Mk III

Data Quality

C1(%)	Sample interval
97	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.73	8.5	5.1	223	9.4	31
February	1.05	8.9	5.1	212	9.1	29
March	1.31	7.5	4.7	227	9.0	31
April	0.76	7.4	4.4	224	9.9	30
May	0.47	8.8	5.0	208	12.0	30
June	0.70	7.6	4.2	226	14.3	28
July	0.93	6.8	4.1	222	16.1	30
August	1.13	6.5	4.2	224	17.1	30
September	0.88	7.1	4.6	204	16.4	29
October	1.18	7.1	4.6	223	14.6	31
November	0.98	7.2	4.4	216	11.7	26
December	0.86	8.1	5.0	215	9.0	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 13:00	5.37	12.5	7.8	228	-0.02	HW +4	2.56	0.69	1.00
31-Jan-2008 12:30	5.07	10.0	7.1	225	0.51	HW +1	0.64	0.03	-0.32
04-Oct-2008 22:00	4.37	8.3	6.9	225	0.82	HW +1	1.40	0.00	0.20
09-Nov-2008 19:30	4.23	8.3	6.5	226	0.32	HW +4	1.10	0.20	-0.32
03-Feb-2008 18:30	4.14	8.3	6.6	194	0.68	HW +2	0.60	0.45	0.46

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Weymouth). 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	4.48	3.55	3.3	3.04	2.47	1.91	02-Dec-2007 11:00	4.87
2008	4.84	3.76	3.43	3.03	2.57	2.06	10-Mar-2008 13:00	5.37

* i.e. 5 % of the H_s values measured in 2007 exceeded 2.47m

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)
- 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. 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).

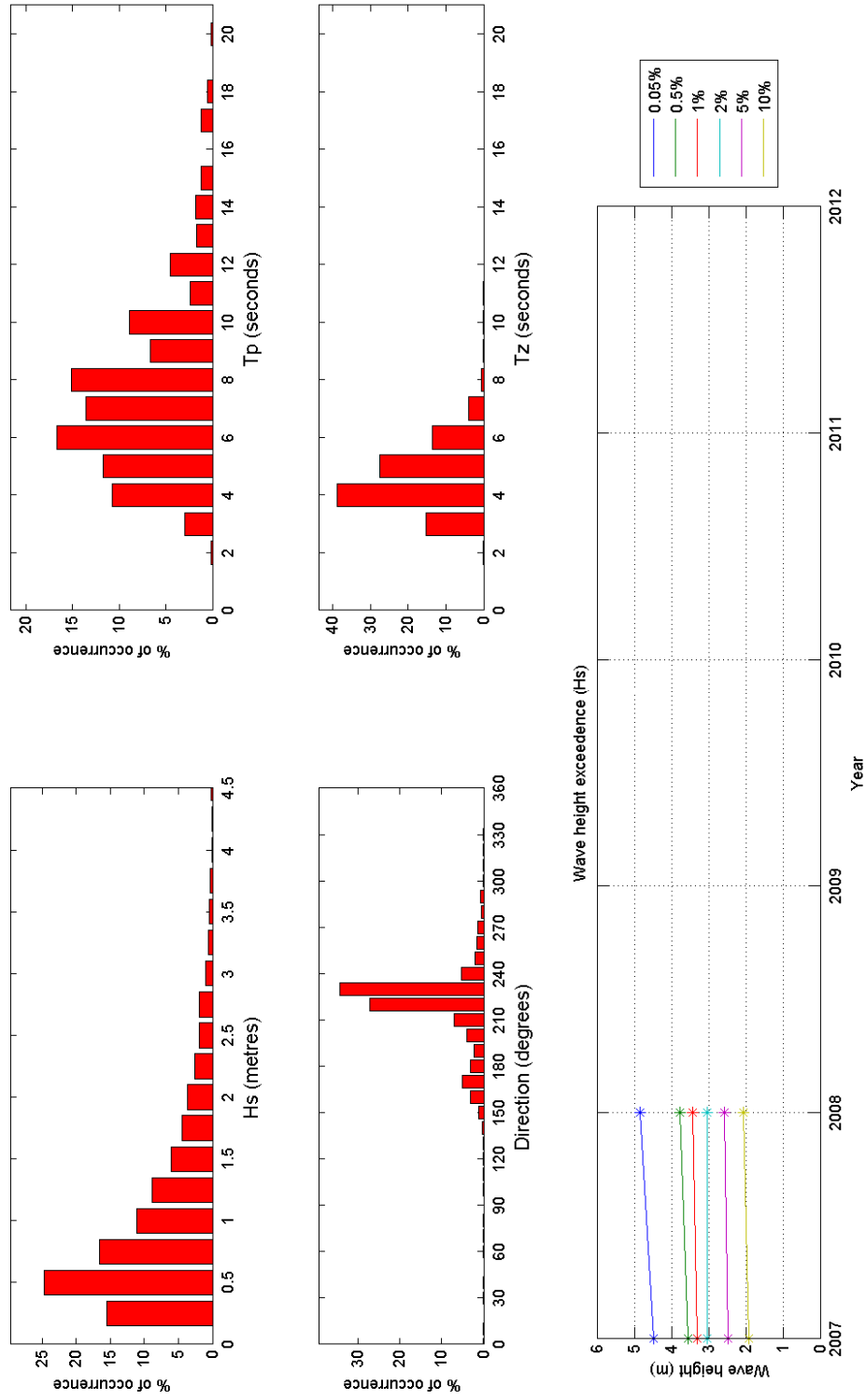
General

The wave buoy at Chesil was deployed on 22 December 2006.

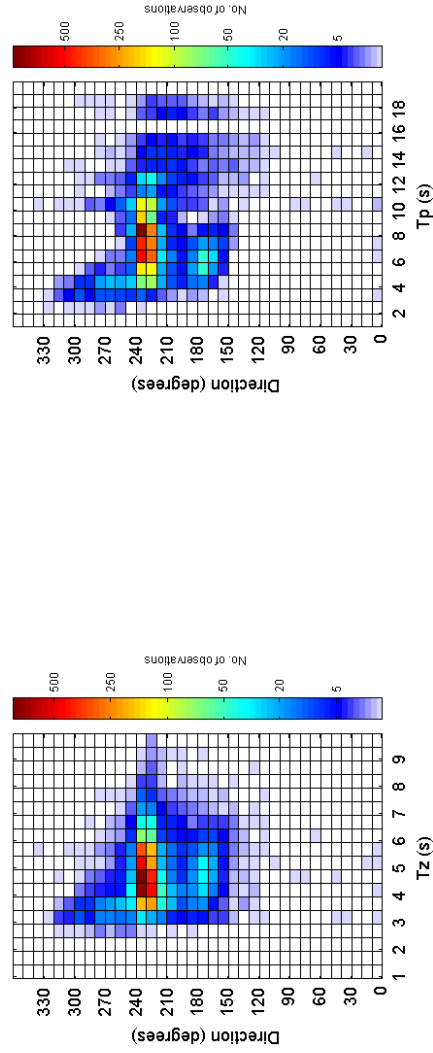
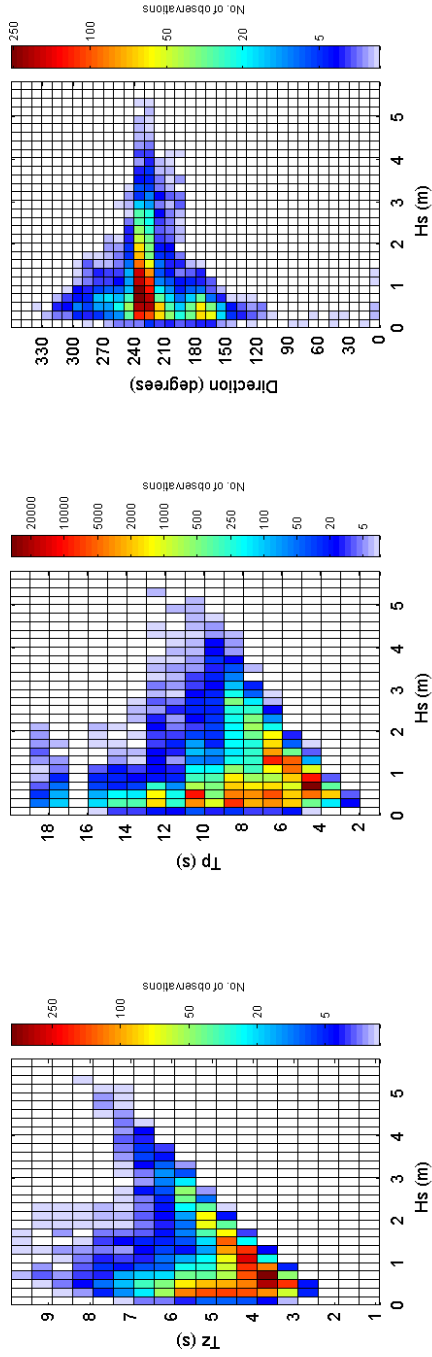
Acknowledgements

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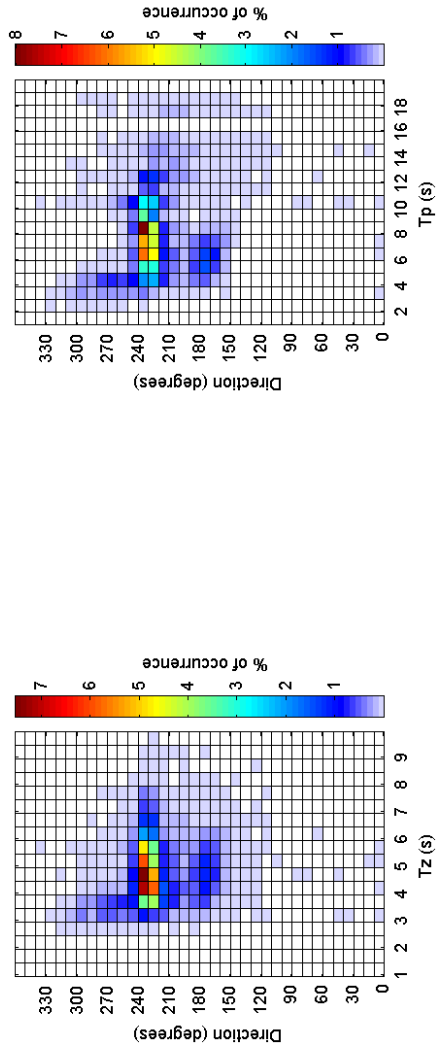
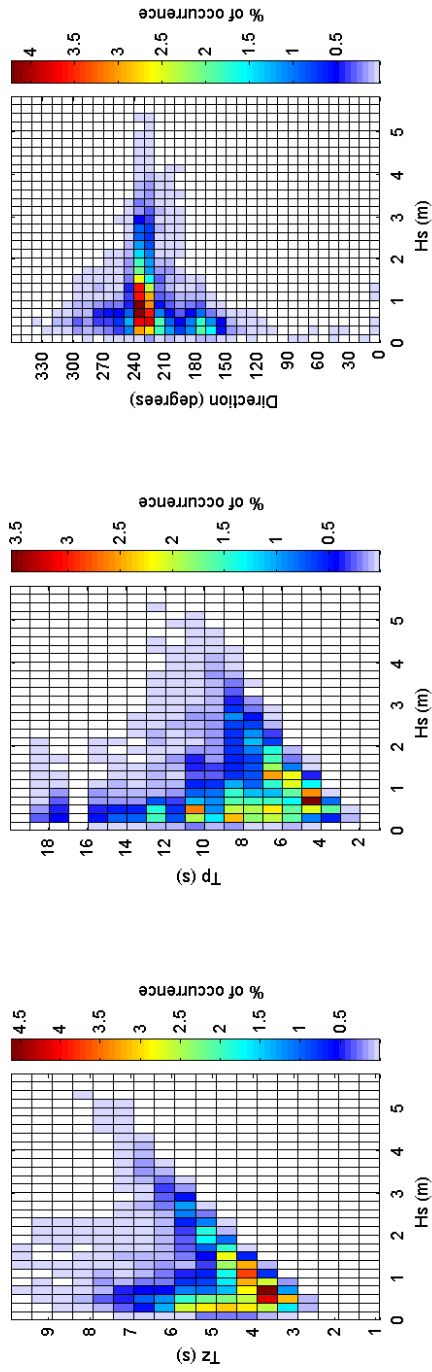
Chesil 2008



Chesil 2008 - Joint distribution



Chesil 2008 - Joint distribution (% of occurrence)



Chesil 2006 to 2008 - Joint distribution (% of occurrence)

