

Chesil Directional WaveRider Buoy

Location

OS: E 363149.7 N 78203.25

WGS84: Latitude: 50° 36.142' N° Longitude: 002° 31.324' W

Water Depth

10m CD

Instrument Type

Datawell Directional WaveRider Buoy Mk III

Data Quality

C1(%)	Sample interval
62	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	2.23	8.6	5.3	227	10.3	9
February	-	-	-	-	9.2	0
March	-	-	-	-	9.8	0
April	-	-	-	-	-	0
May	0.71	5.4	3.7	235	13.2	7
June	0.81	8.2	4.8	225	15.1	30
July	1.00	6.2	4.2	225	16.3	30
August	0.63	6.6	3.9	221	17.2	31
September	0.62	6.2	3.8	219	17.2	30
October	0.68	8.5	5.0	216	15.4	31
November	0.77	6.6	4.1	221	12.9	30
December	1.45	8.7	5.3	216	10.4	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)
02-Dec-2007 11:00	4.87	9.1	7.1	229	-	HW - 2	1.6	-	-
09-Dec-2007 10:30	4.51	10.0	6.9	226	-	HW + 4	3.0	-	-
01-Jan-2007 05:30	4.42	10.0	6.7	225	0.81	HW + 1	3.3	-0.03	0.19
11-Jan-2007 06:00	4.20	10.0	6.7	228	0.53	HW - 5	1.8	0.35	0.39
03-Jan-2007 21:00	4.06	8.3	6.7	226	0.74	HW + 3	2.7	0.08	0.17

* 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	02/12/2007 11:00	4.87

* 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 2007
- Percentage wave height exceedance (all recorded years)
- 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 storm waves for 2007. 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).

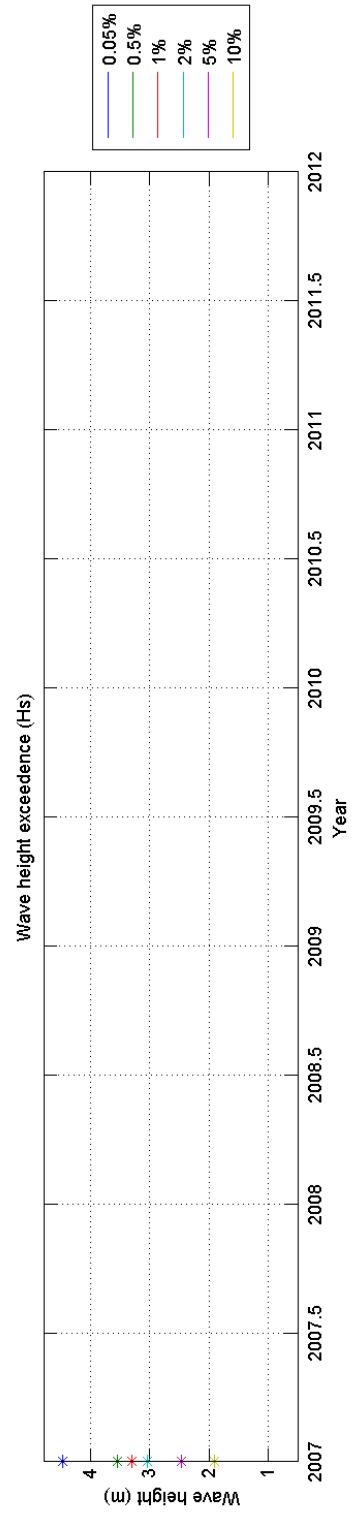
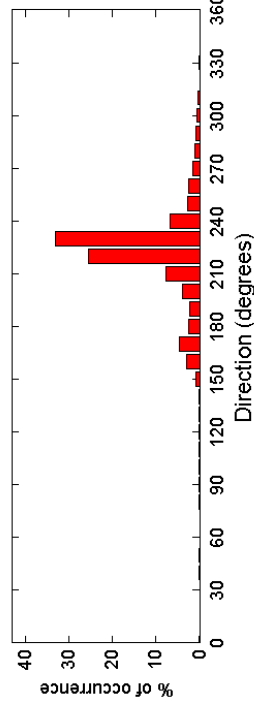
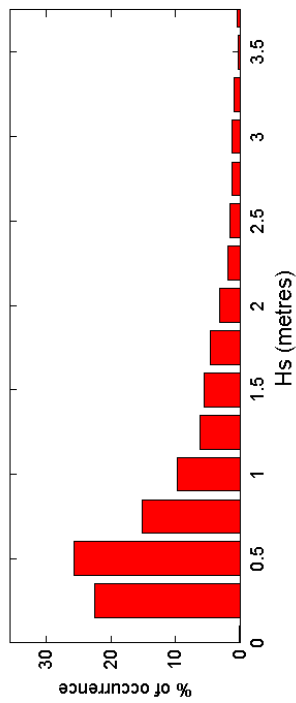
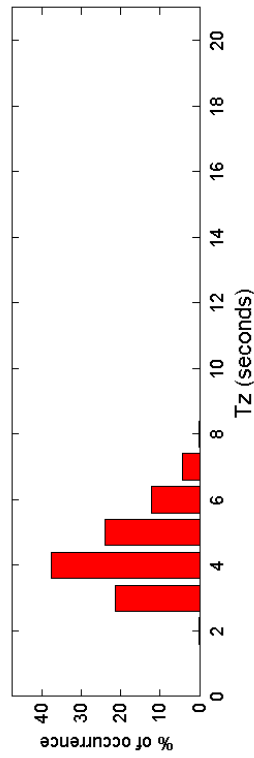
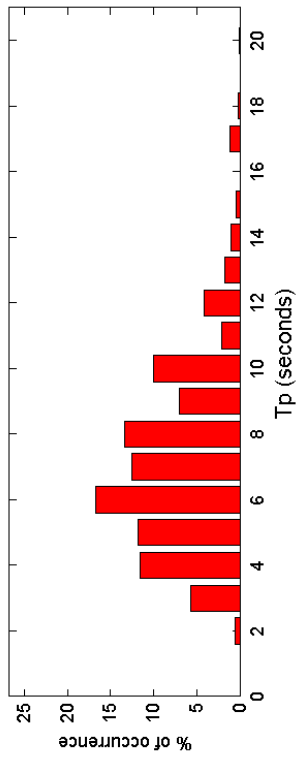
General

The wave buoy at Chesil was deployed on 22 December 2006. A fault was discovered with the buoy which required it to be returned to Datawell. The repaired buoy was re-deployed on 24 May 2007.

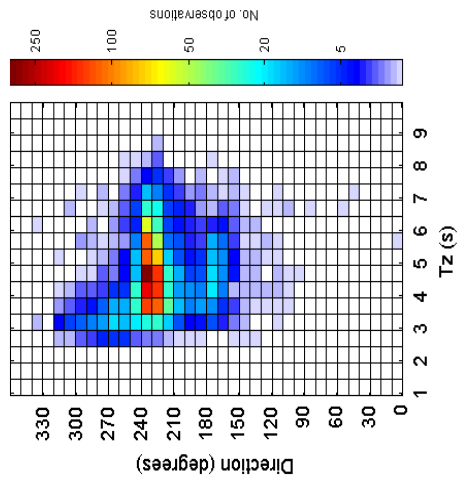
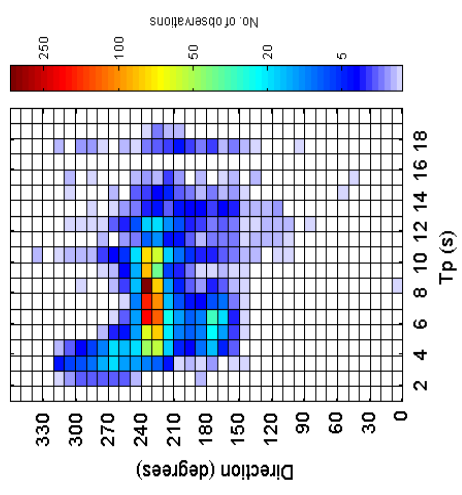
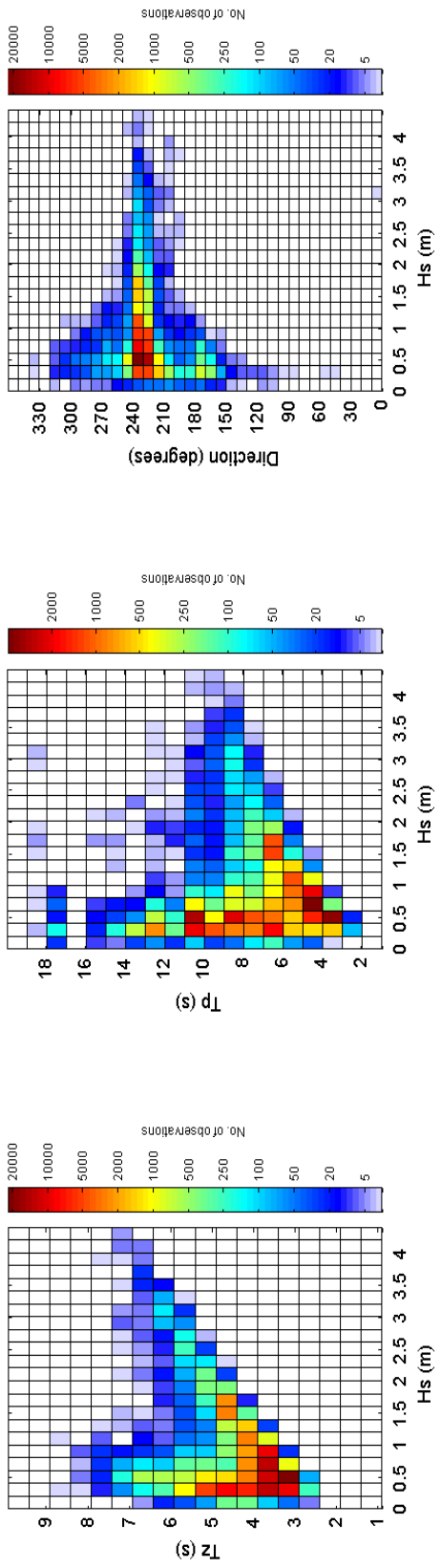
Acknowledgements

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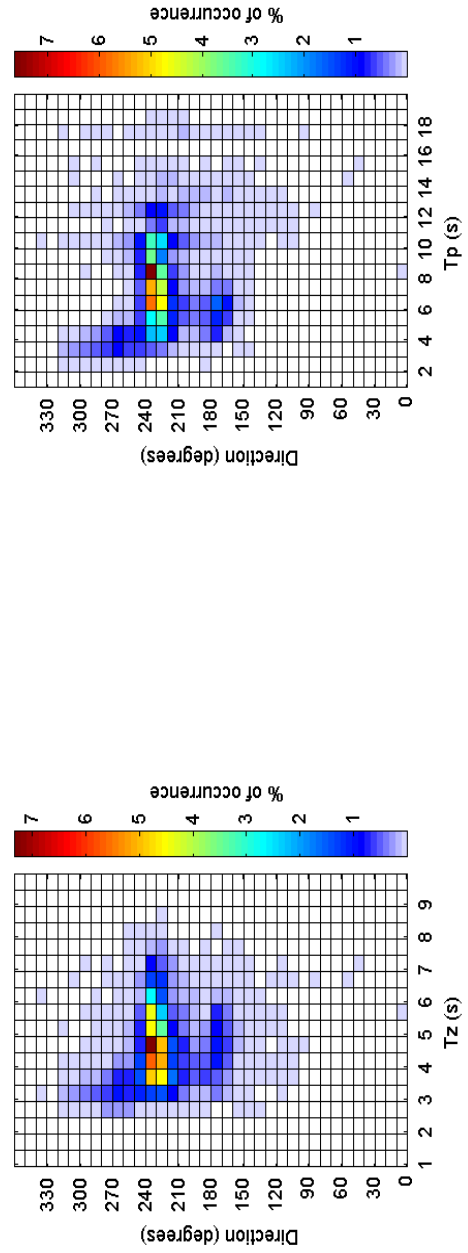
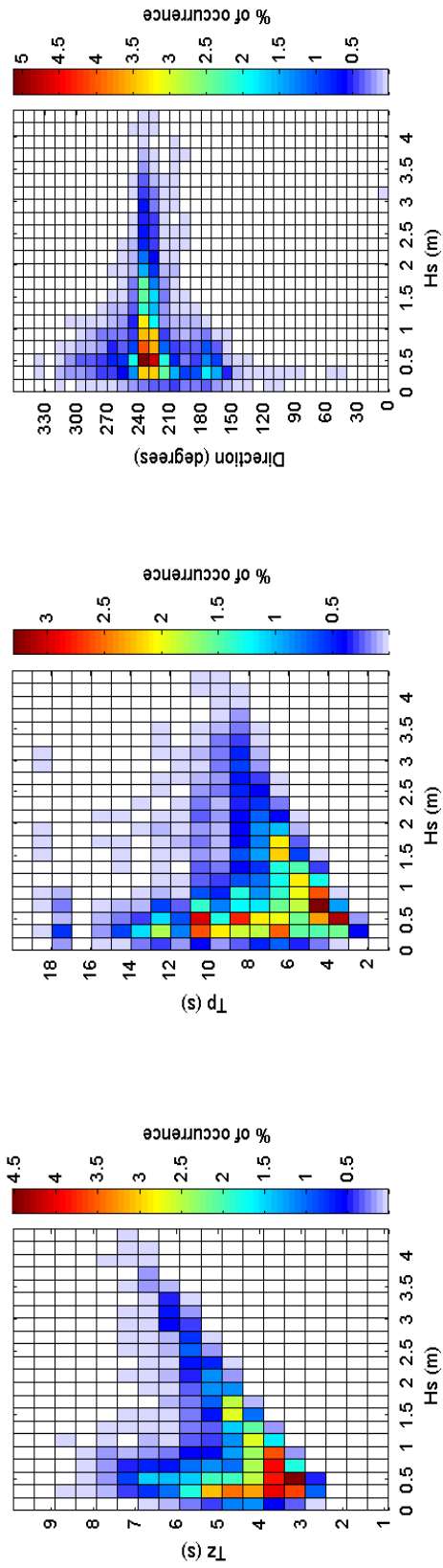
Chesil 2007



Chesil 2007 - Joint distribution



Chesil 2007 - Joint distribution (% of occurrence)



Chesil 2006 to 2007 - Joint distribution (% of occurrence)

