

Minehead Directional Waverider Buoy

Location

OS: E 297318 N 148742
 WGS84: Latitude: 51° 13.72' N Longitude: 003° 28.32' W

Water Depth

Approx. 10m CD

Instrument Type

Datowell Directional Waverider Mk III

Data Quality

C1 (%)	Sample interval
99	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	0.54	6.5	3.7	226	5.8	31
February	0.50	6.7	3.8	236	5.8	28
March	0.45	6.7	3.9	252	6.6	31
April	0.39	6.4	3.9	238	8.9	29
May	0.38	5.5	3.6	236	11.6	31
June	0.36	6.4	3.8	259	15.5	28
July	0.49	6.5	4.2	301	18.0	31
August	0.57	5.5	3.7	281	18.2	30
September	0.52	6.7	3.8	280	17.0	30
October	0.56	5.9	3.8	228	14.7	31
November	0.68	6.1	4.0	217	11.6	30
December	0.44	6.2	3.4	213	6.4	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 2010									
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)
31-Mar-2010 10:00	2.68	9.1	7.0	300	-0.70	HW +3	9.62	0.01	0.25
12-Nov-2010 01:00	2.49	7.7	7.0	297	-0.43	HW +3	5.27	0.45	0.80
16-Dec-2010 12:30	2.07	6.7	4.5	302	1.99	HW -1	3.96	0.18	0.25

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Ilfracombe). 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	2.36	2.00	1.84	1.67	1.38	1.09	02-Dec-2007 21:00	2.55
2008	2.70	2.17	2.01	1.78	1.50	1.27	10-Mar-2008 23:00	2.77
2009	2.13	1.81	1.65	1.50	1.23	1.02	14-Nov-2009 16:30	2.53
2010	2.36	1.66	1.47	1.29	1.03	0.84	31-Mar-2010 10:00	2.68

* i.e. 5 % of the H_s values measured in 2007 exceeded 1.38m

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 2010
- Percentage wave height exceedance (all recorded years)
- Joint distribution of all parameters for 2010, given both as number of observations and as percentage of occurrence
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Wave roses (Direction vs. H_s and vs. T_p) for all measured data
- Incidence of storms in 2010 and for all previous years. Storm events are defined using the Peaks-over-Threshold method
- Annual time series of H_s (red line is storm threshold)

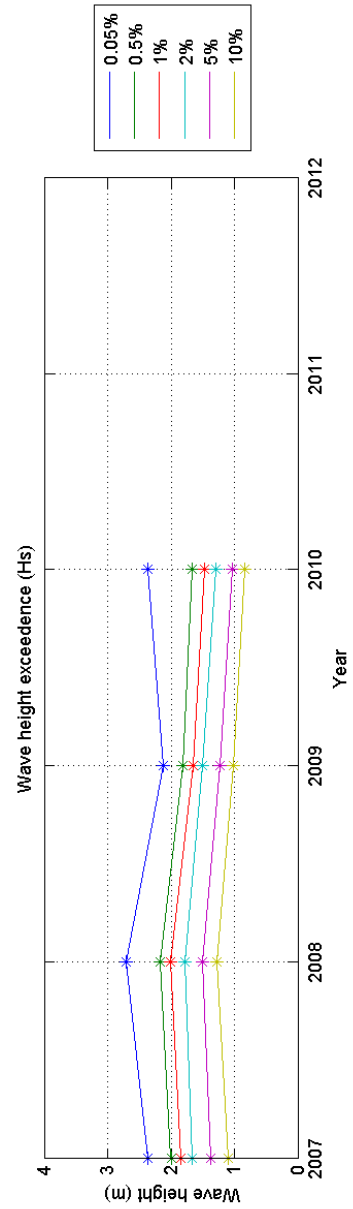
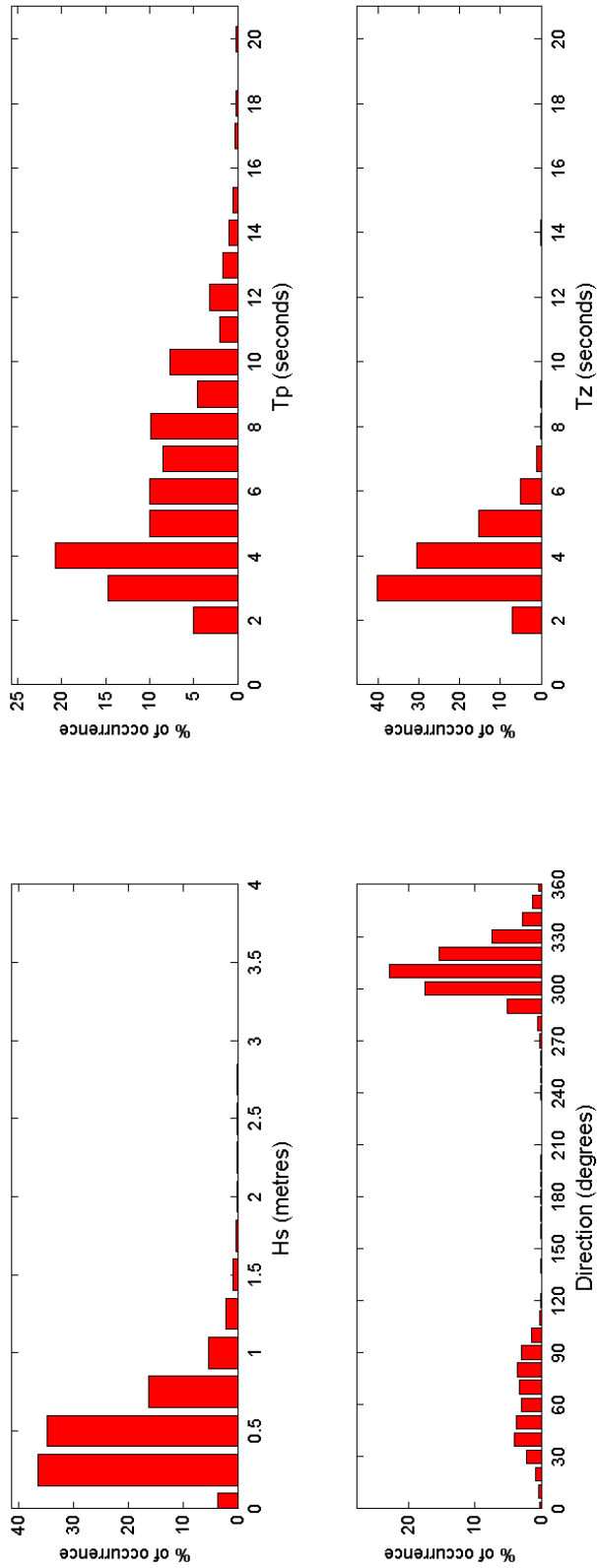
General

The Waverider buoy was first deployed on 19 December 2006.

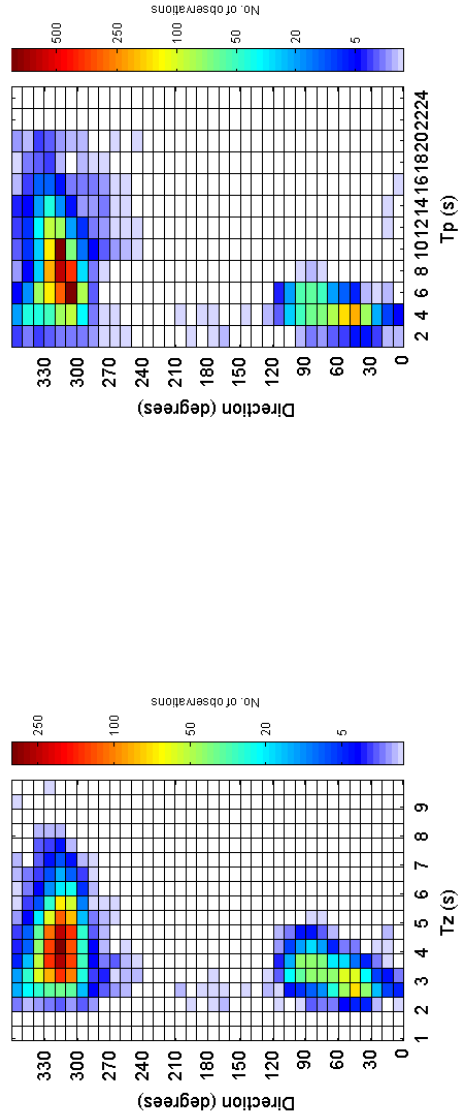
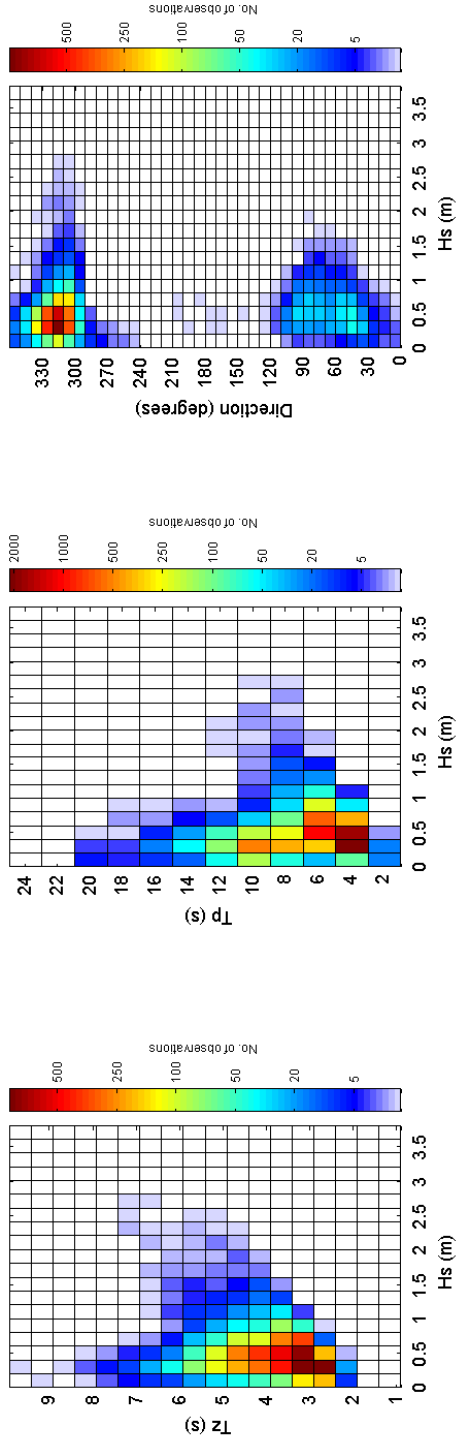
Acknowledgements

The shore station is kindly hosted by Minehead Harbourmaster. 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.

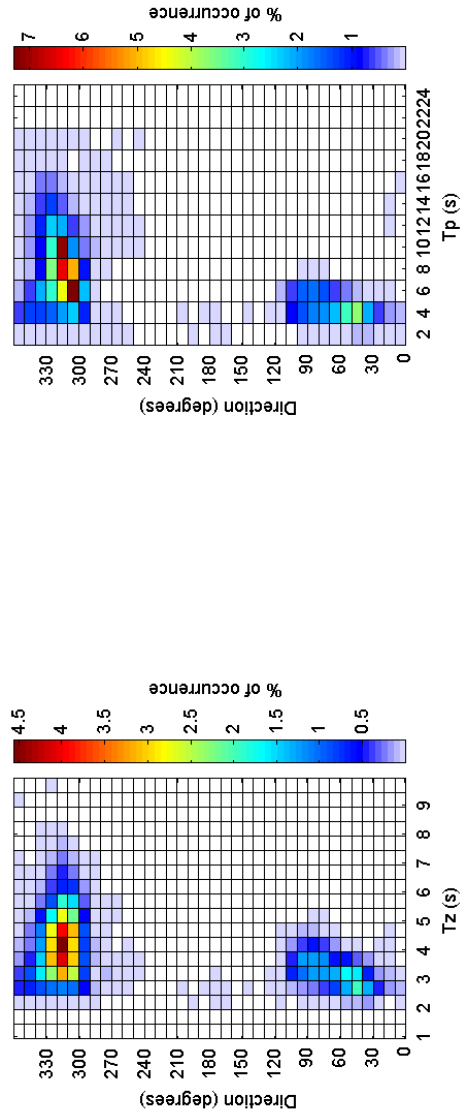
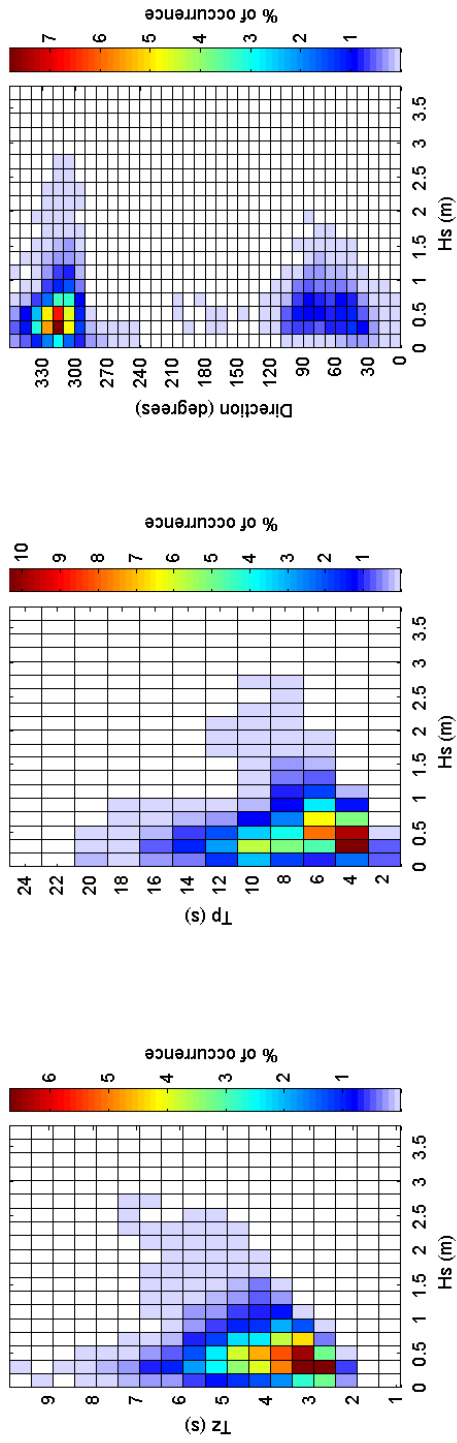
Minehead 2010



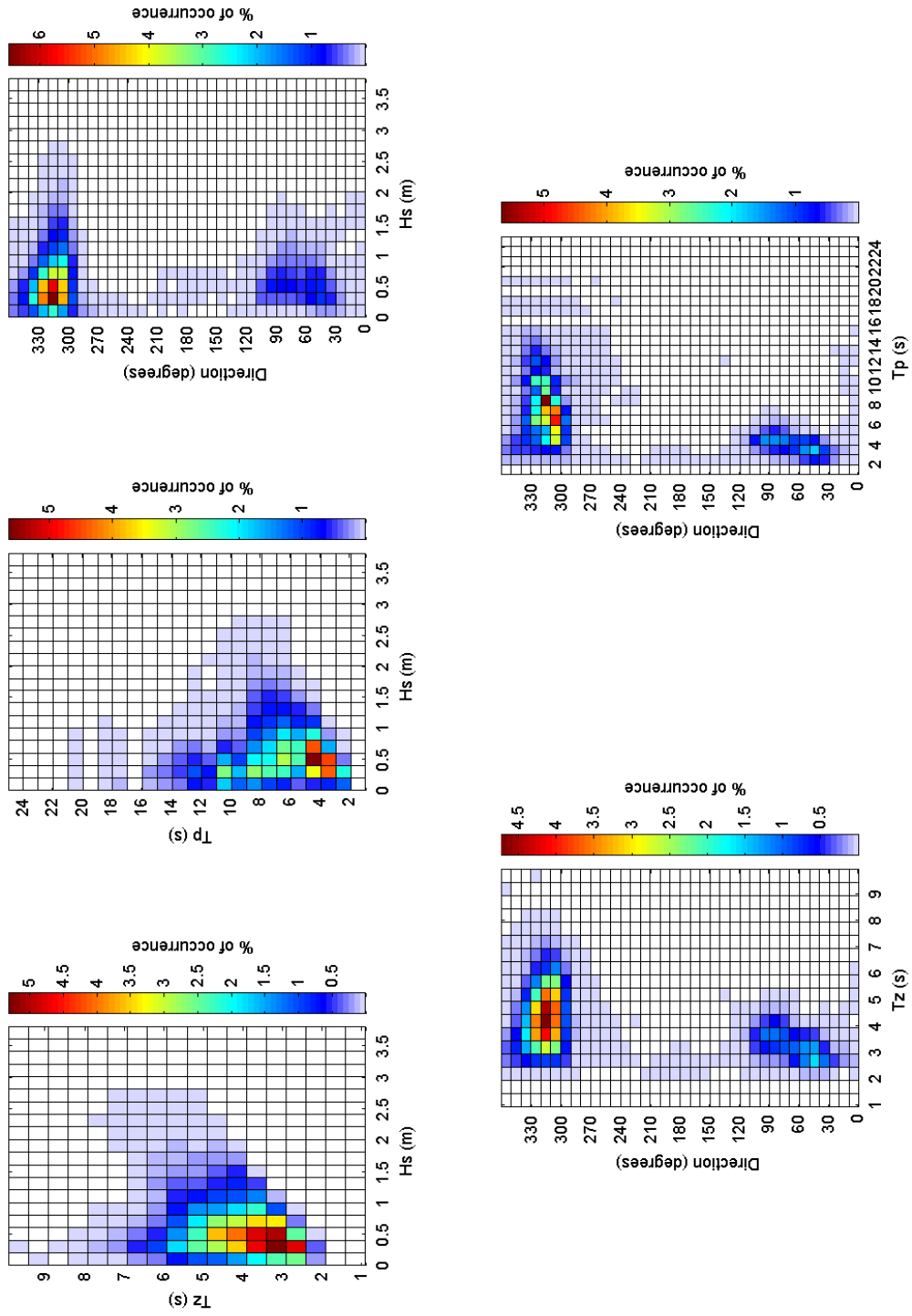
Minehead 2010 - Joint distribution

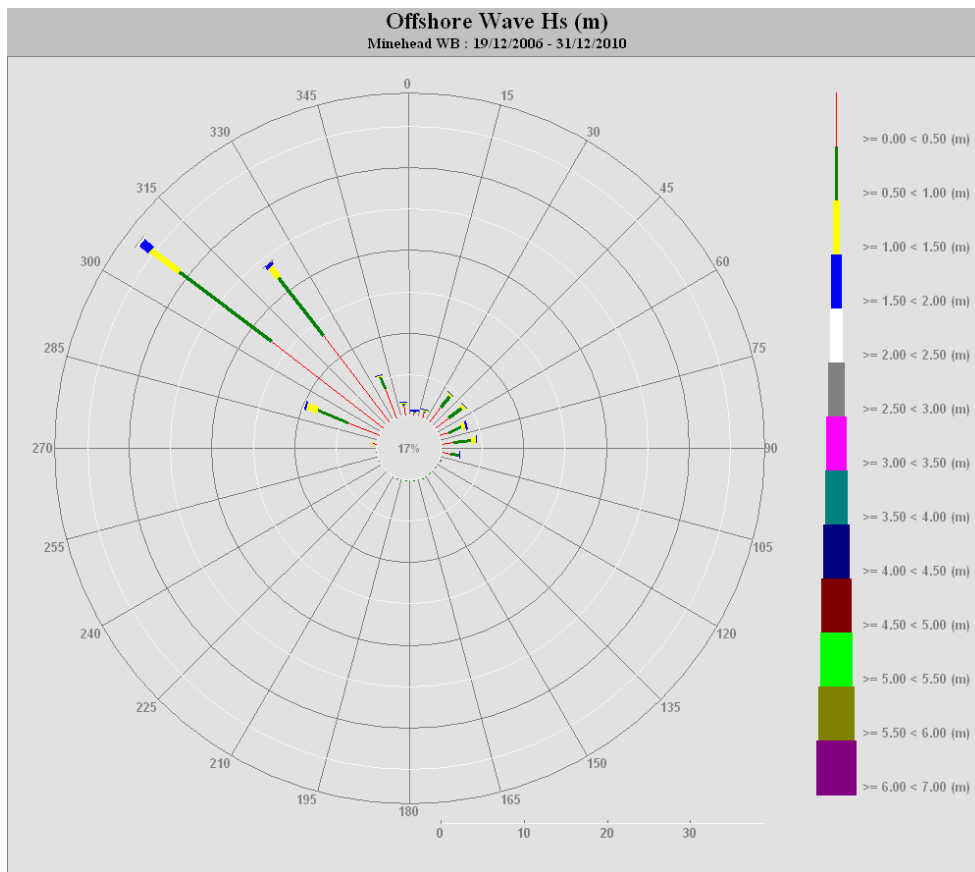


Minehead 2010 - Joint distribution (% of occurrence)

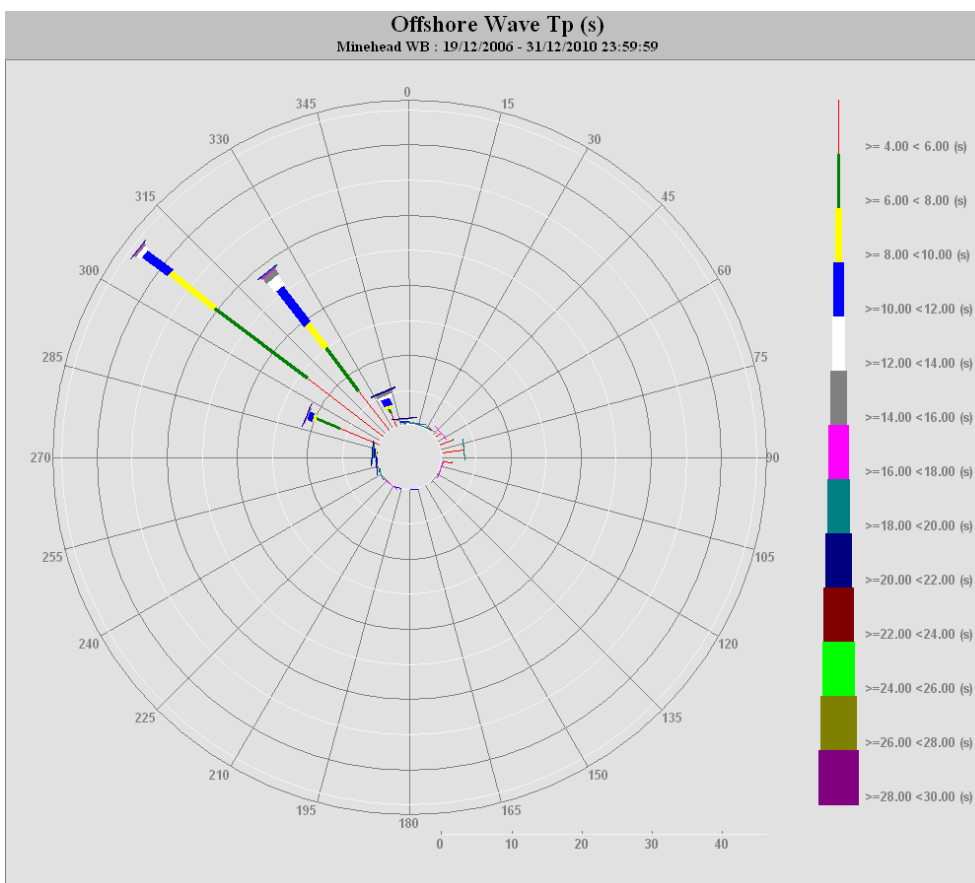


Minehead 2006 to 2010 - Joint distribution (% of occurrence)





Direction vs. H_s (all measured data)



Direction vs. T_p (all measured data)

