

Perranporth Directional Waverider Buoy

Location

OS: 174209E 55231N
 WGS84: Latitude: 50° 21.21' N Longitude: 005° 10.53' W

Water Depth

Approx. 10m CD

Instrument Type

Datawell Directional Waverider Mk III

Data Quality

C1 (%)	Sample interval
100	30 minutes

Monthly Means

All times GMT

Month	H _s	T _p	T _z	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	1.55	11.3	6.2	290	8.1	31
February	1.45	12.2	5.8	284	8.0	28
March	1.16	10.9	5.5	282	8.3	31
April	1.03	9.8	5.5	287	9.7	30
May	1.00	9.2	5.1	293	11.7	31
June	1.09	9.7	5.8	286	14.4	30
July	1.33	8.9	5.4	278	16.3	31
August	1.09	7.1	4.6	287	16.6	31
September	1.30	10.3	5.8	281	15.6	30
October	1.39	10.3	5.6	285	14.8	31
November	1.83	10.7	5.8	287	12.4	30
December	1.05	9.6	5.2	297	8.8	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)
11-Nov-2010 20:30	6.30	12.5	8.3	286	2.75	HW	4.30	-	-
31-Mar-2010 08:00	6.25	10.5	7.7	302	1.40	HW +2	7.10	-	-
29-Jan-2010 14:00	4.60	10.0	7.3	297	0.80	HW -2	5.60	-	-

* Tidal information is obtained from the nearest recording tide gauge (the step gauge at Port Isaac, from August 2010; prior to that there was no nearby measured tidal information so tidal stage and range are from predicted tides at Perranporth).

Year	Annual H_s exceedance* (m)						Annual Maximum H_s	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
2007	6.90	5.21	4.89	4.48	3.79	3.12	09-Dec-2007 18:00	8.14
2008	6.37	4.59	4.20	3.85	3.28	2.86	10-Mar-2008 16:30	7.78**
2009	5.48	4.74	4.45	4.09	3.57	3.02	22-Nov-2009 21:00	5.69
2010	5.91	4.01	3.52	3.05	2.57	2.16	11-Nov-2010 20:30	6.30

* i.e. 5 % of the H_s values measured in 2007 exceeded 3.79m

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
- 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. 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)

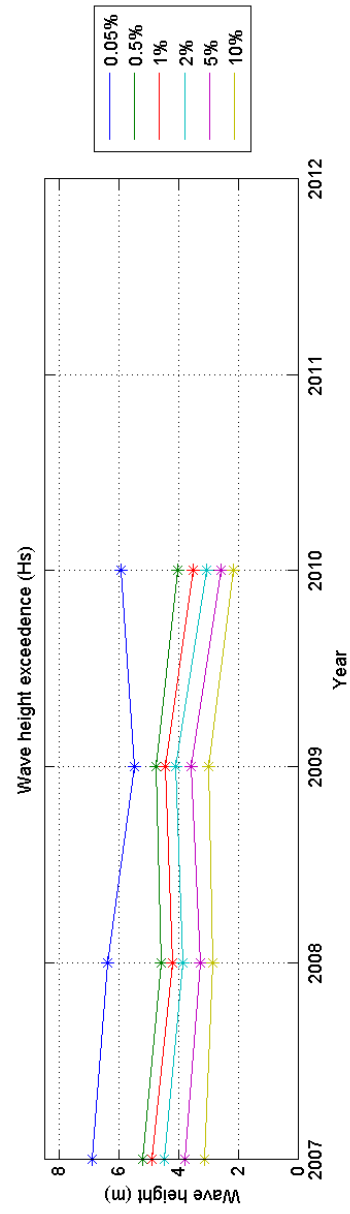
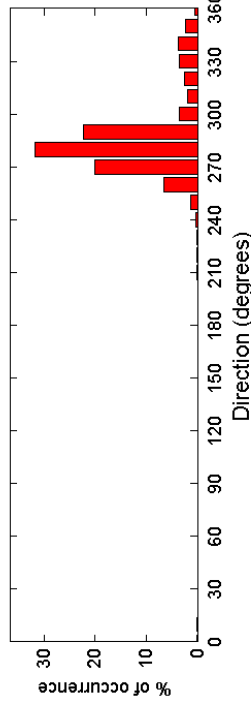
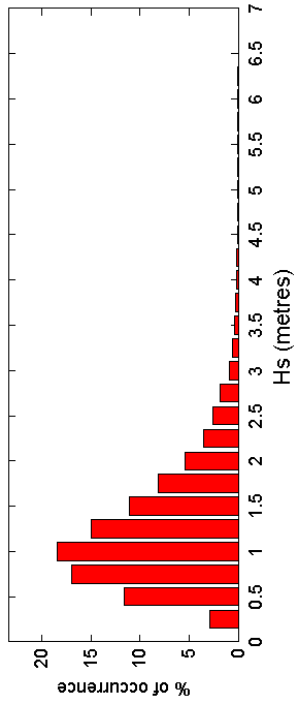
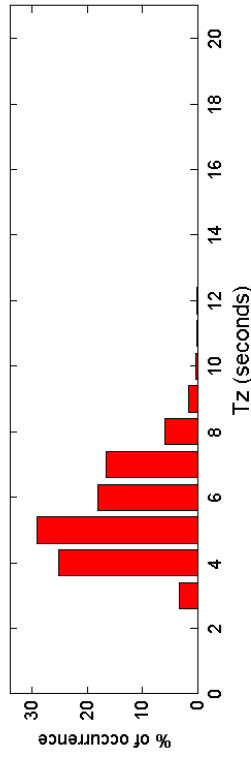
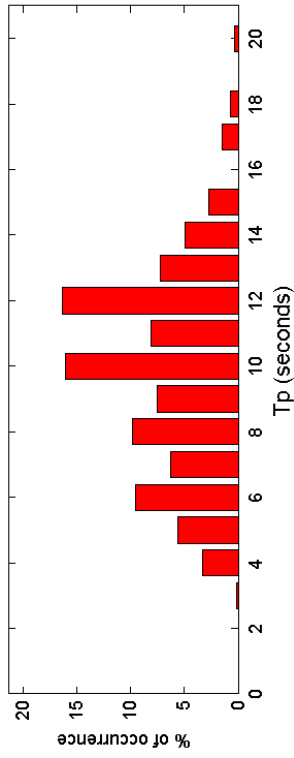
General

The Waverider was deployed on 18 December 2006.

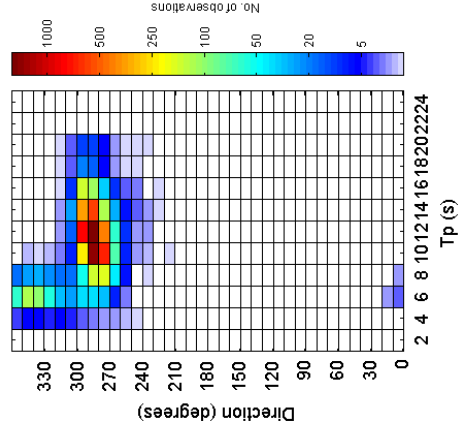
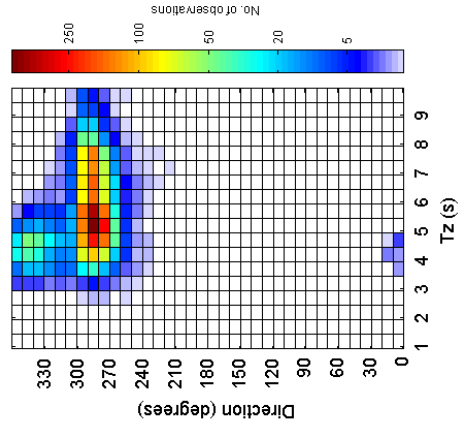
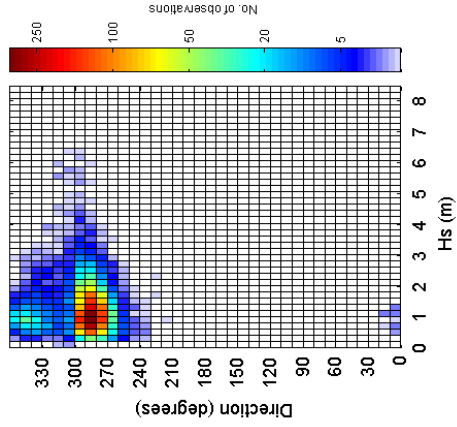
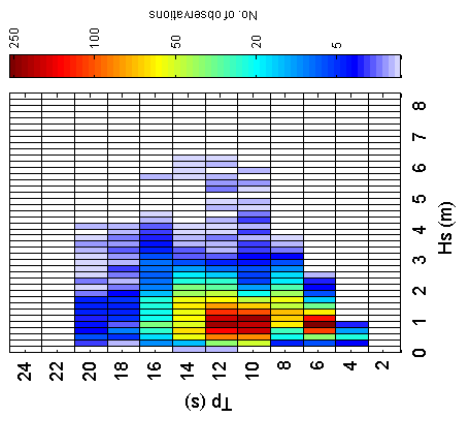
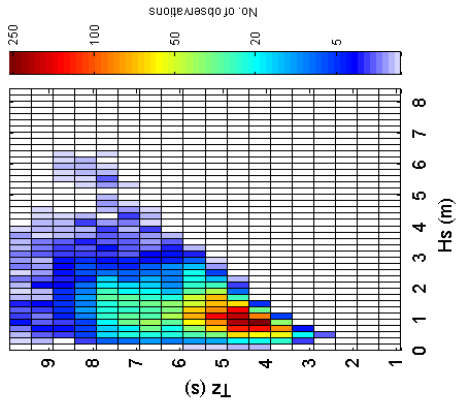
Acknowledgements

The shore station is kindly hosted by Perranporth Youth Hostel.

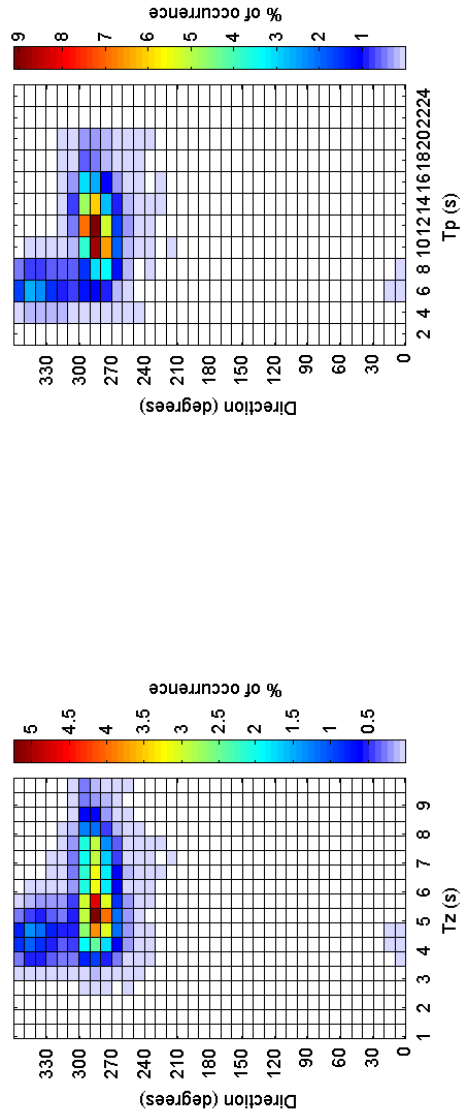
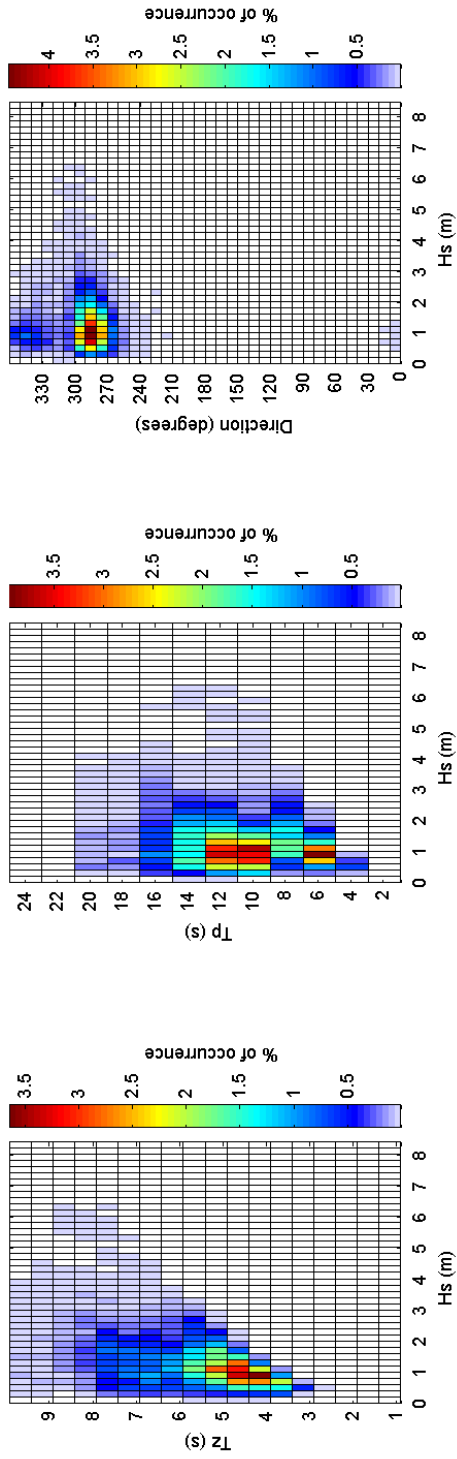
Perranporth 2010



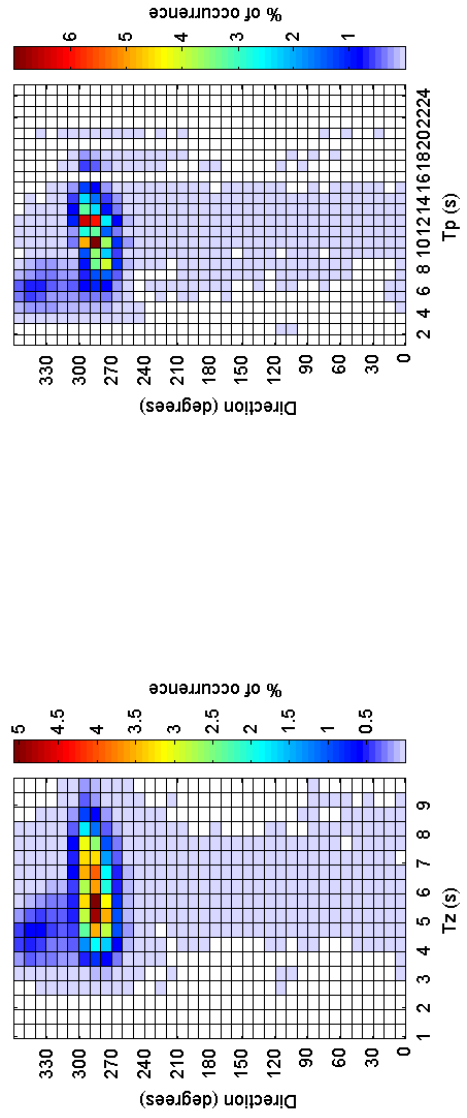
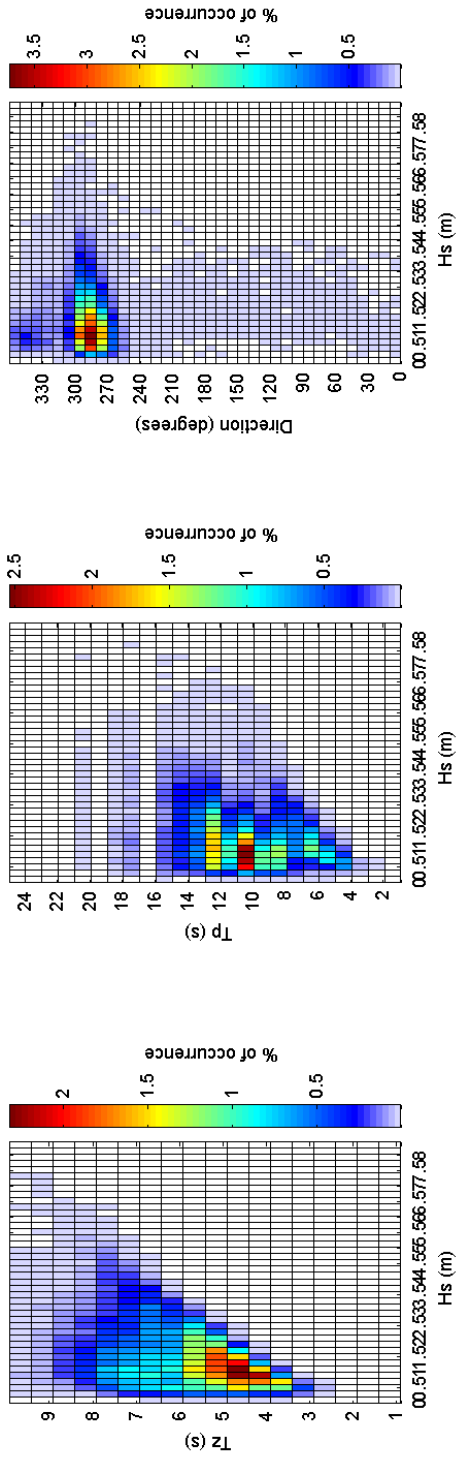
Perranporth 2010 - Joint distribution

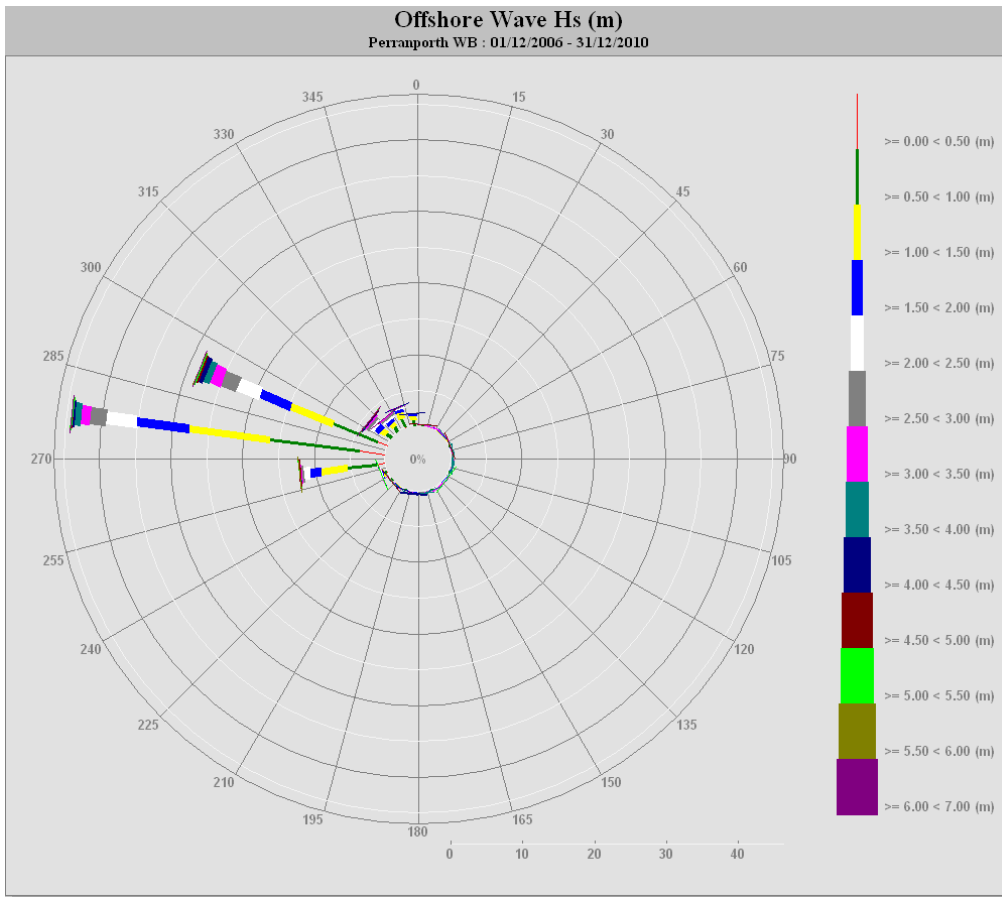


Perranporth 2010 - Joint distribution (% of occurrence)

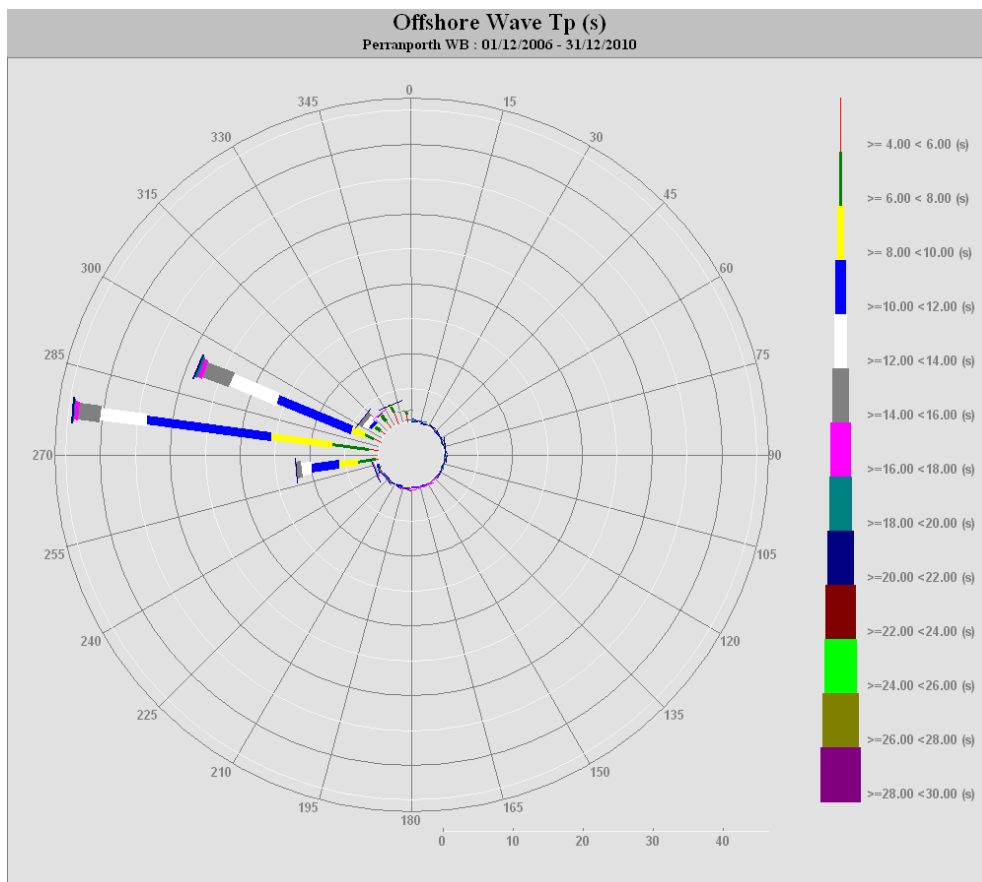


Perranporth 2006 to 2010 - Joint distribution (% of occurrence)





Direction vs. H_s (all measured data)



Direction vs. T_p (all measured data)

