

Penzance Directional Waverider Buoy

Location

OS: 149662E 29688N
 WGS84: Latitude: 50° 06.86' N Longitude: 005° 30.18' W

Water Depth

Approx. 10m CD

Instrument Type

Datwell 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	1.14	10.7	5.2	184	9.2	31
February	0.52	11.5	5.4	181	8.5	28
March	0.49	8.9	4.1	185	9.2	31
April	0.60	8.5	4.5	183	10.9	30
May	0.57	9.0	4.0	181	11.8	31
June	0.39	8.5	4.1	180	15.0	30
July	0.67	6.8	4.0	190	15.3	31
August	0.52	6.8	4.0	185	15.6	27
September	0.36	8.0	4.4	170	15.0	30
October	0.68	8.0	4.4	184	14.9	31
November	1.30	9.7	4.8	187	13.0	30
December	0.87	9.6	4.9	182	10.2	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 2009									
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)
13-Nov-2009 18:30	4.64	10.5	7.5	187	-1.10	HW +6	3.75	0.40	0.52
29-Nov-2009 00:00	3.33	10.0	6.6	196	1.60	HW -2	3.25	0.50	0.62
20-Nov-2009 00:00	3.23	8.3	6.3	187	-1.30	HW +5	3.80	0.32	0.32
15-Jan-2009 12:00	3.23	8.3	6.5	181	-1.43	HW +5	4.86	0.27	0.30

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Newlyn). 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	-	2.05	1.84	1.63	1.34	1.10	20-Jun-2007 09:00	2.96
2008	3.91	2.60	2.28	1.93	1.54	1.22	13-Jan-2008 11:30	4.54
2009	4.25	2.83	2.52	2.15	1.75	1.43	13-Nov-2009 18:30	4.64

* i.e. 5 % of the H_s values measured in 2007 exceeded 1.34m

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 2009
- Percentage wave height exceedance
- Joint distribution of all parameters for 2009, 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 storms in 2009. 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).

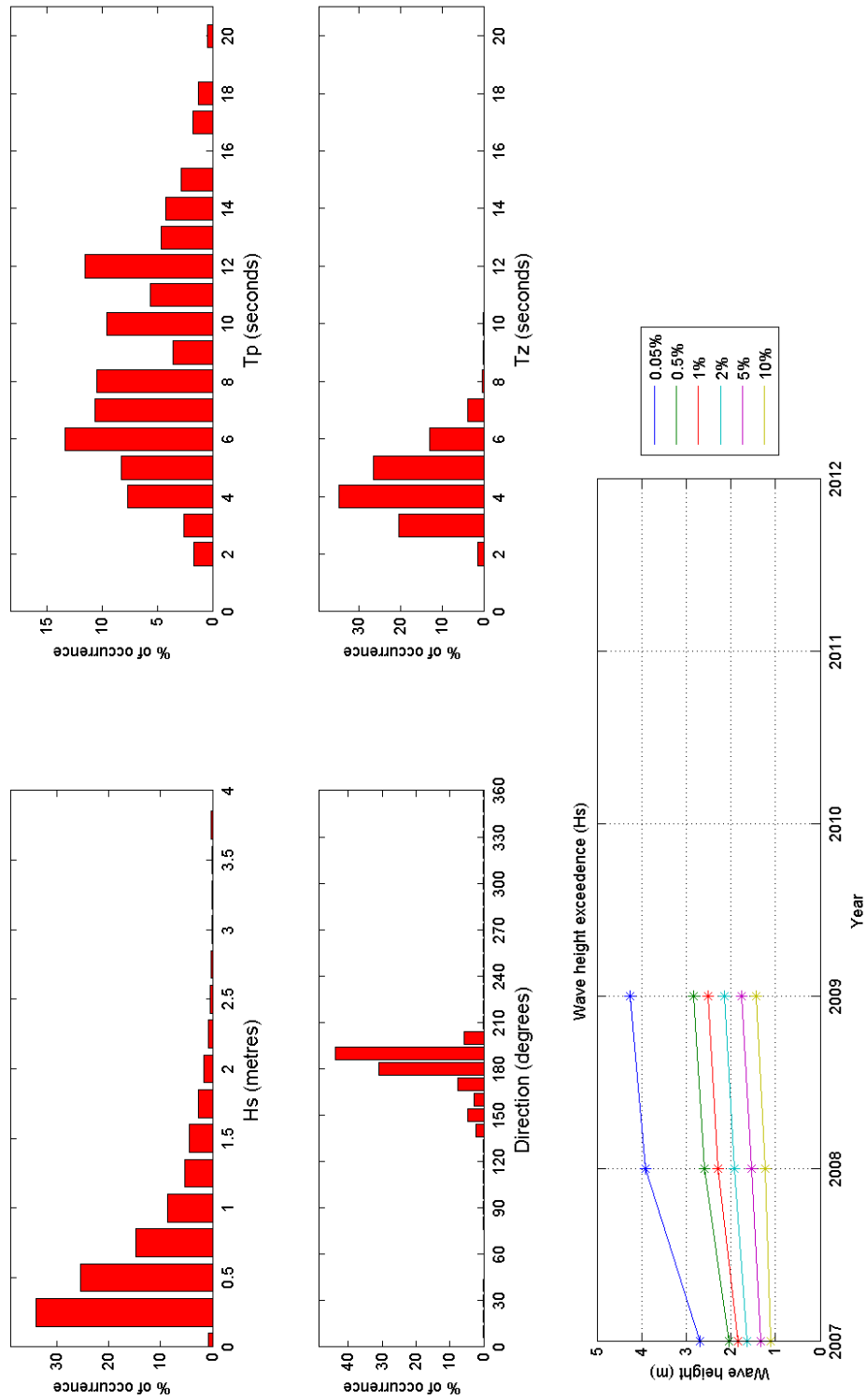
General

The Directional Waverider buoy was first deployed on 5 April 2007.

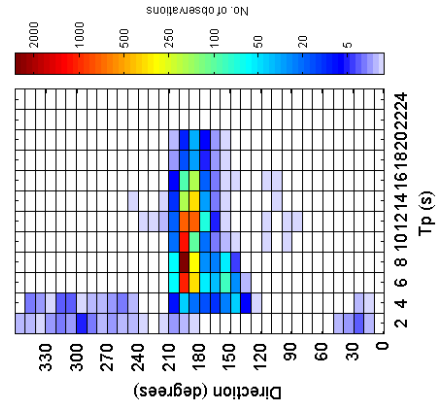
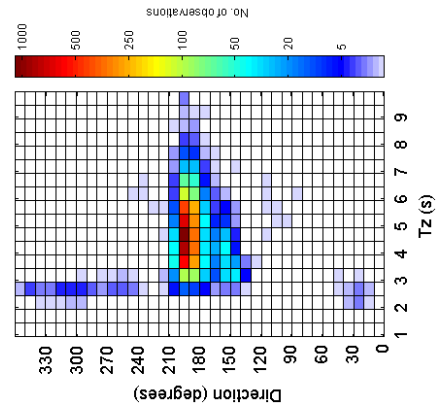
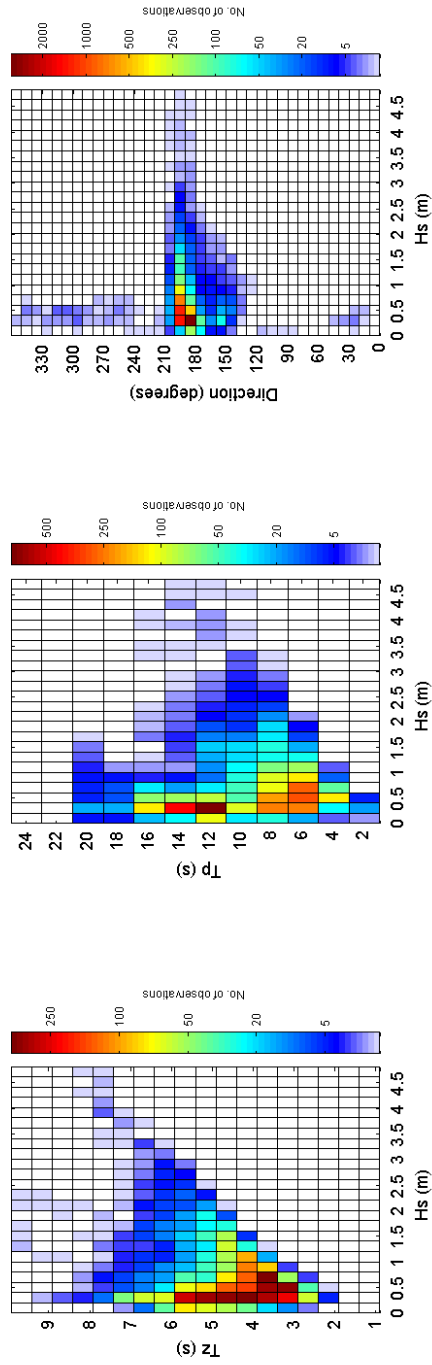
Acknowledgements

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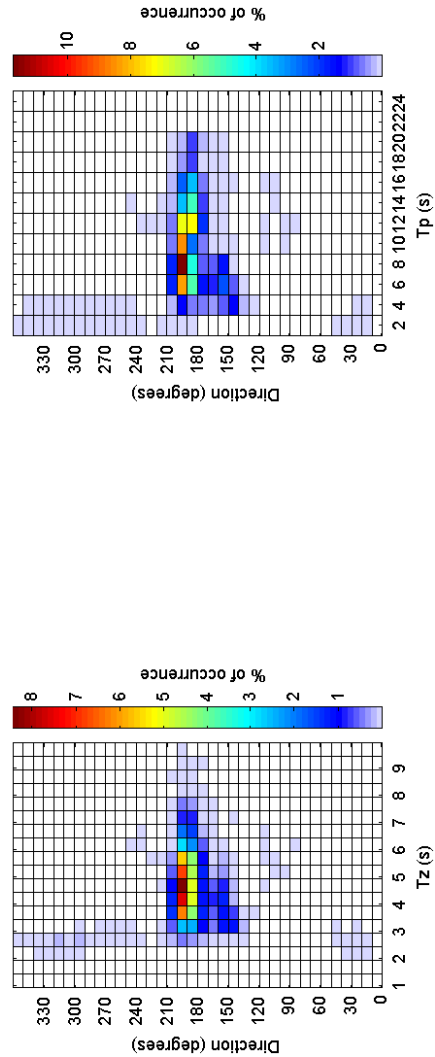
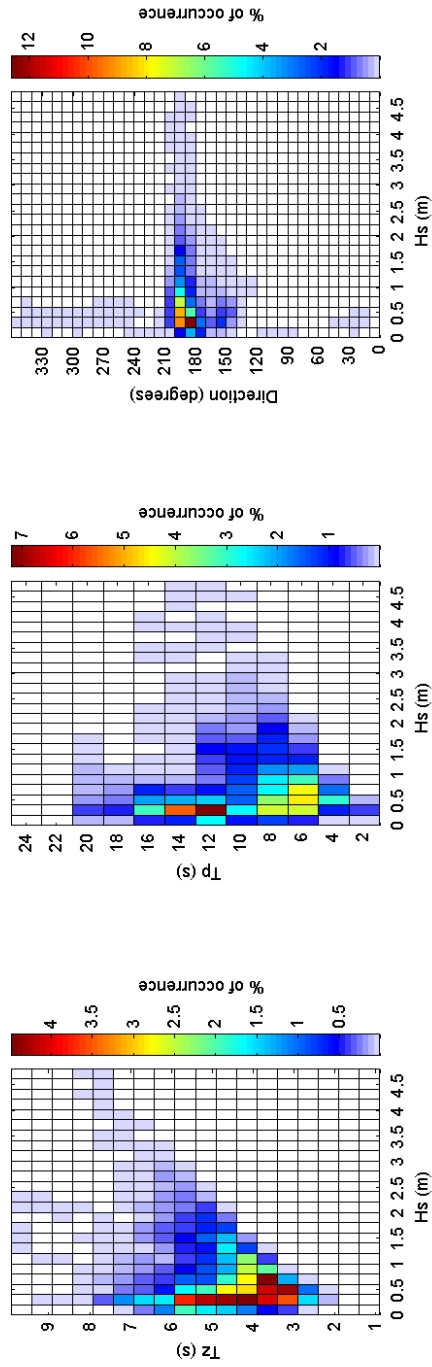
Penzance 2009



Penzance 2009 - Joint distribution



Penzance 2009 - Joint distribution (% of occurrence)



Penzance 2007 to 2009 - Joint distribution (% of occurrence)

