

Looe Bay Directional Waverider Buoy

Location

OS: 228542E 51530N
 WGS84: Latitude: 50° 20.319' N Longitude: 004° 24.649' W

Water Depth

Approx. 10m CD

Instrument Type

Datawell Directional Waverider 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	0.97	10.5	5.3	200	7.2	30
February	1.07	11.6	5.5	204	6.8	24
March	1.04	9.8	4.8	198	8.1	31
April	0.70	8.3	4.4	189	9.5	29
May	0.45	7.7	3.9	190	11.3	31
June	0.42	9.2	4.2	193	14.3	29
July	0.68	6.0	4.0	212	15.7	30
August	0.60	6.7	4.2	212	15.2	30
September	0.65	8.6	4.2	209	15.9	30
October	0.99	7.6	4.6	196	13.7	30
November	1.00	8.9	5.0	193	12.6	29
December	0.81	8.7	4.8	189	9.1	30

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)
16-Jan-2010 05:00	4.82	10.0	7.4	203	2.09	HW -1	4.05	0.38	0.45
12-Jan-2010 15:30	3.71	11.1	6.6	215	1.88	HW	2.98	0.41	0.41
17-Nov-2010 07:00	3.67	10.5	6.5	217	-0.57	HW +6	2.40	0.25	0.48
08-Nov-2010 03:30	3.44	7.7	5.8	197	0.93	HW -3	5.00	0.15	0.33

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Devonport). 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)
2009	-	4.16	3.34	3.00	2.43	1.96	14-Nov-2009 04:00	5.25
2010	4.06	3.04	2.75	2.4	1.94	1.57	16-Jan-2010 05:00	4.82

* i.e. 5 % of the H_s values measured in 2009 exceeded 2.43m

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
- Wave roses (Direction vs. H_s and vs. T_p) for all measured data
- Incidence of storms during 2010 and for all previous years. 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)

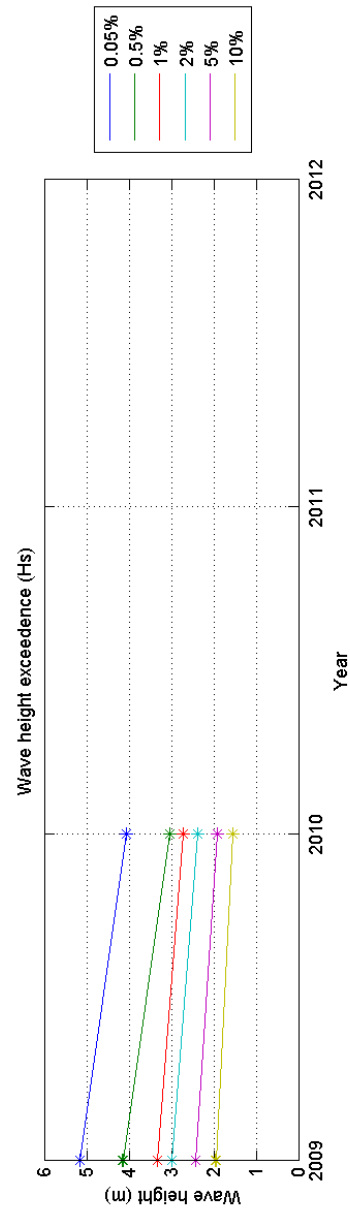
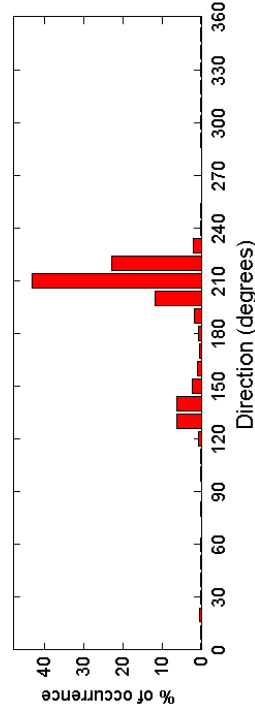
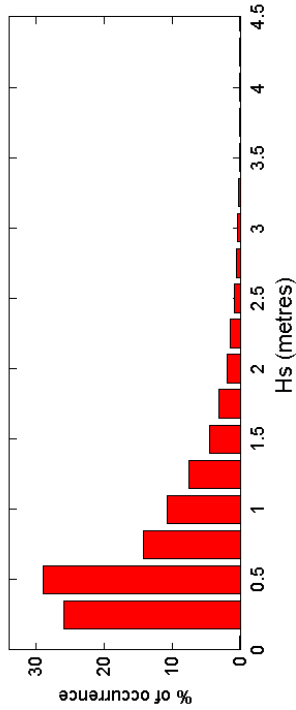
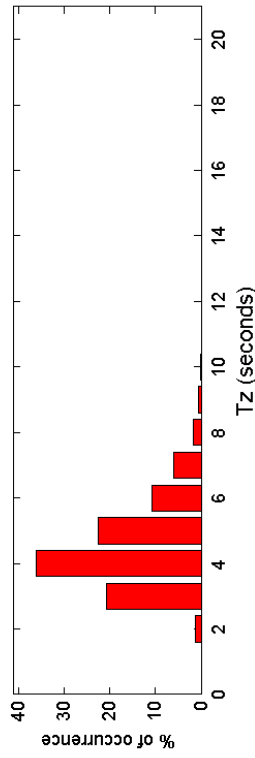
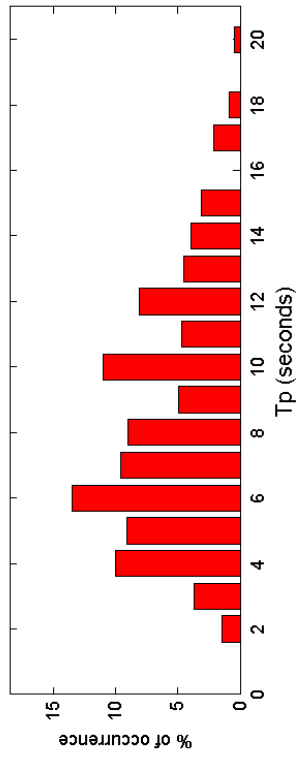
General

The buoy, owned by the Environment Agency (Southwest Region), was deployed on 22 June 2009.

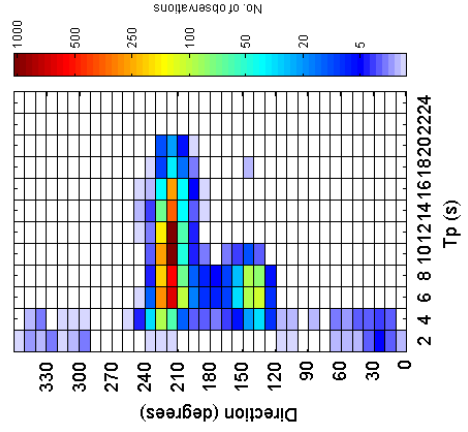
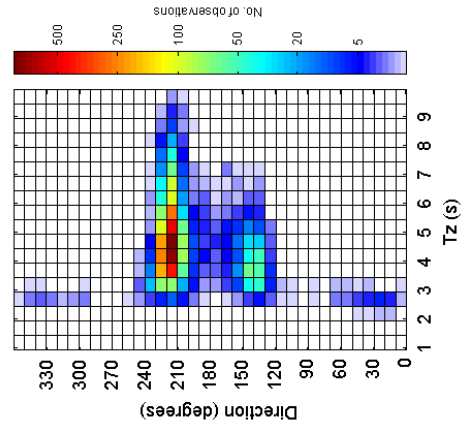
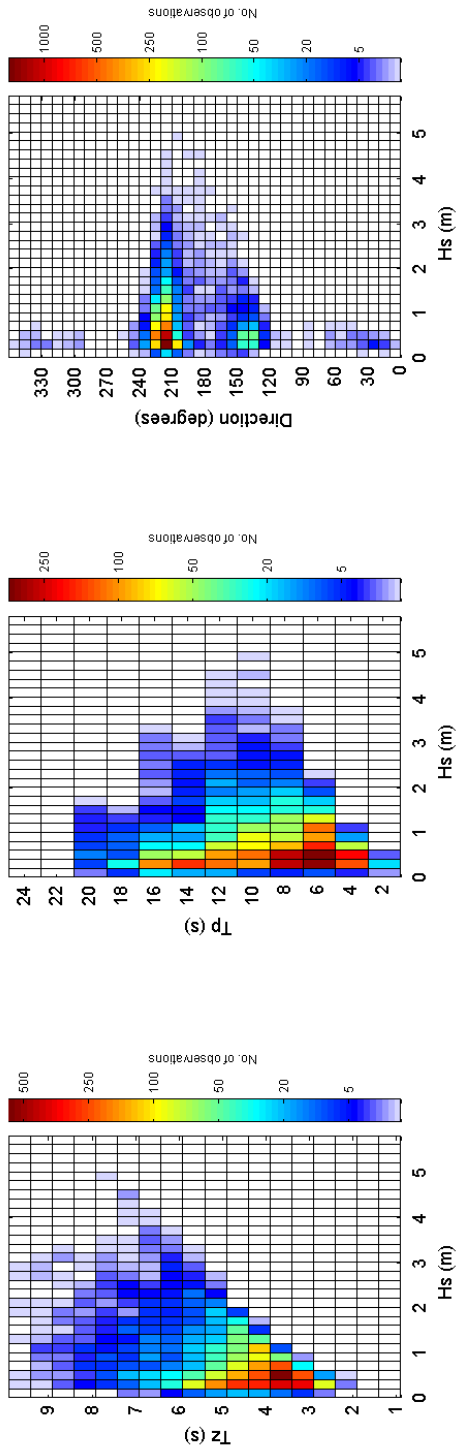
Acknowledgements

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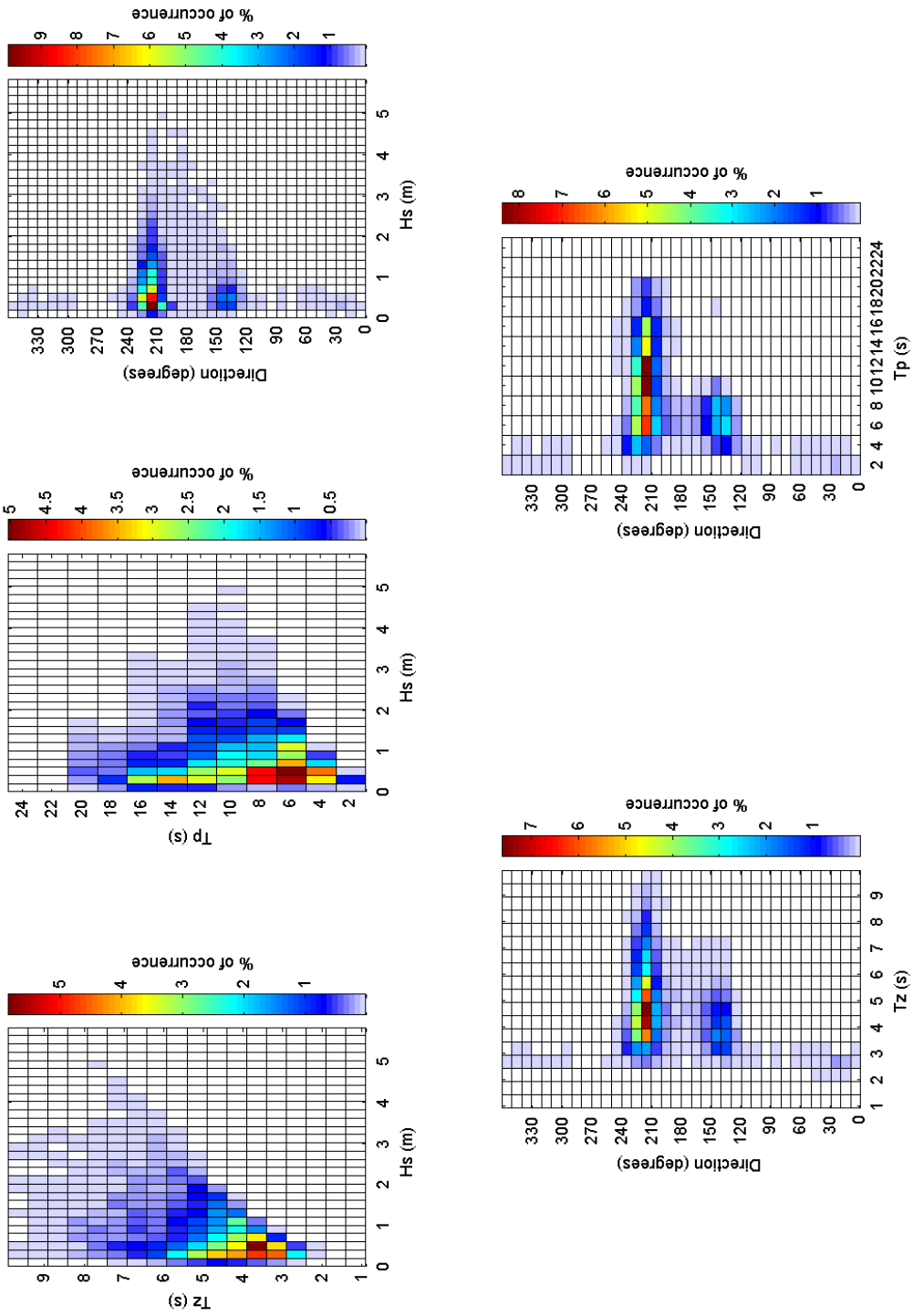
Looe Bay 2010



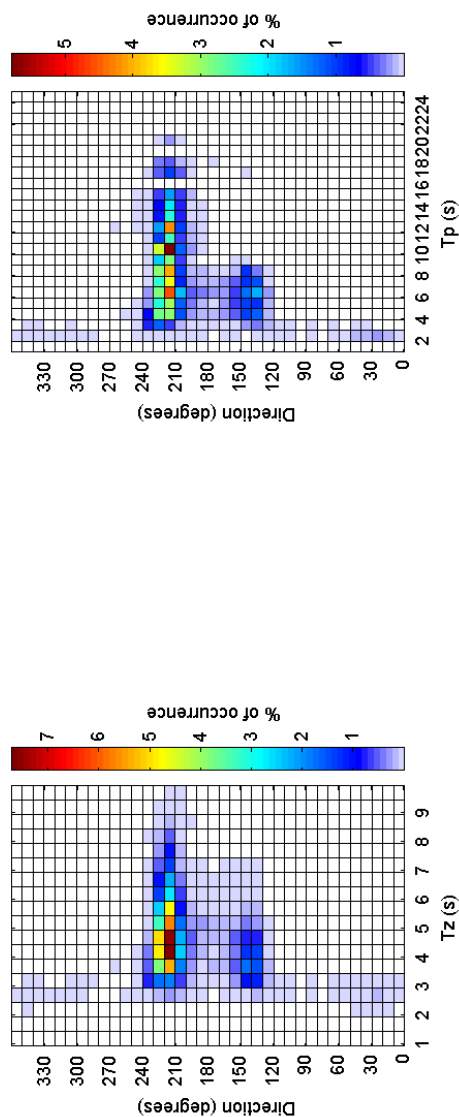
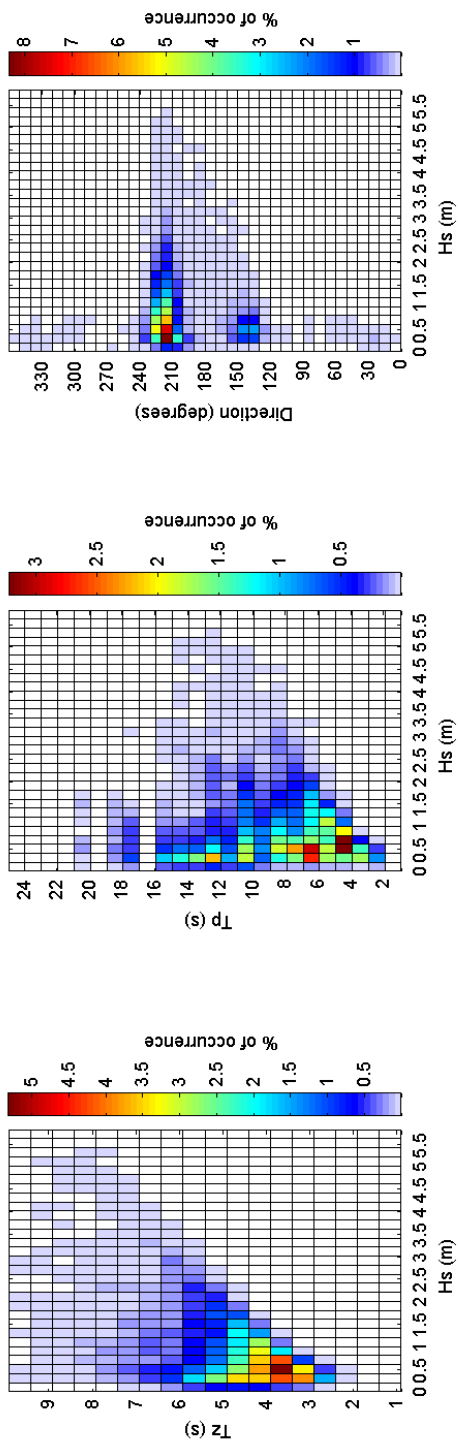
Looe Bay 2010 - Joint distribution

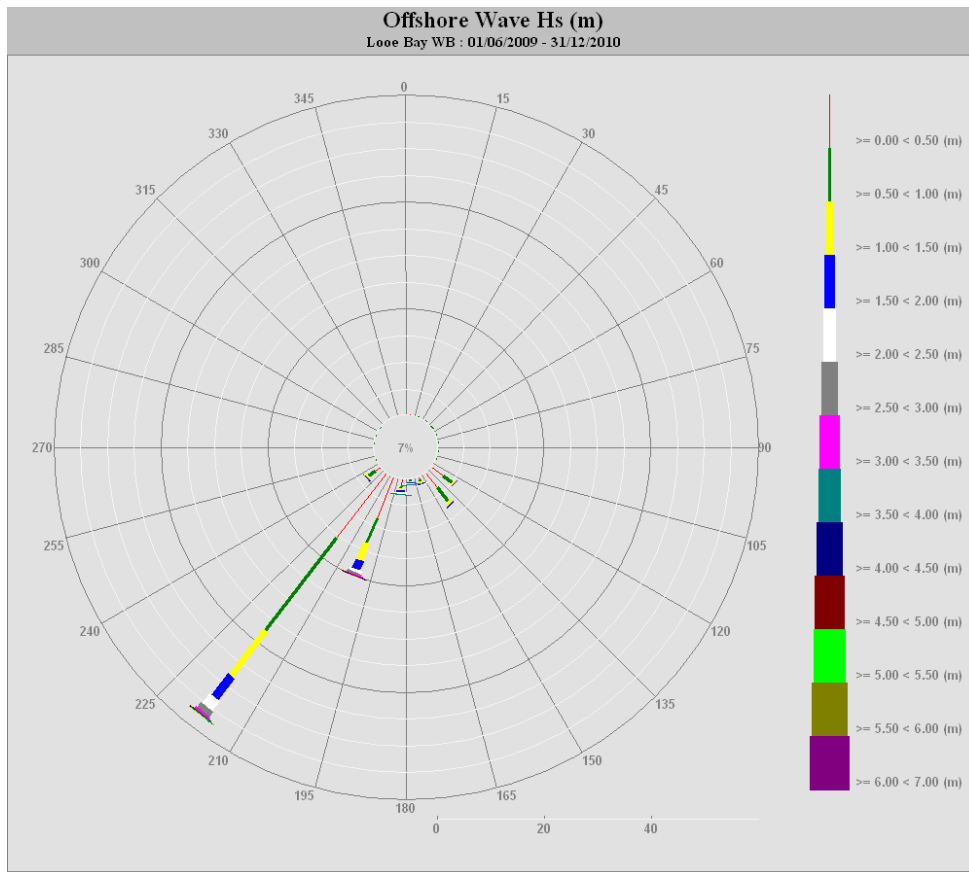


Looe Bay 2010 - Joint distribution (% of occurrence)

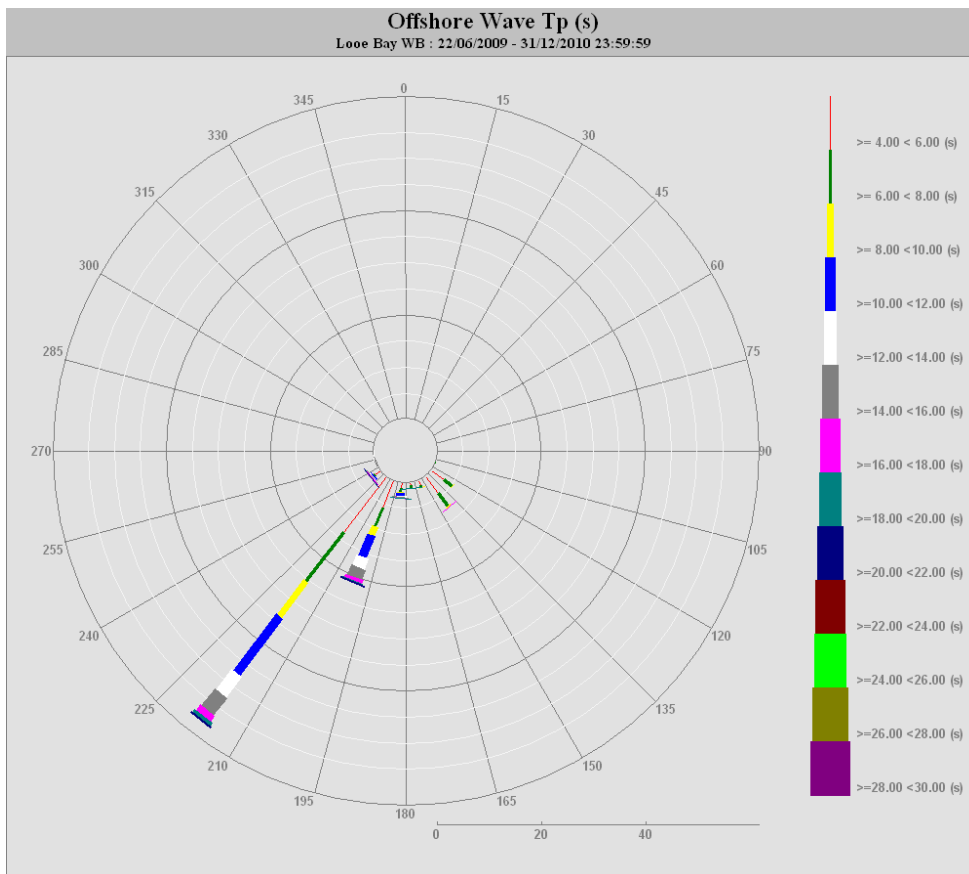


Looe Bay 2009 to 2010 - Joint distribution (% of occurrence)





Direction vs. H_s (all measured data)



Direction vs. T_p (all measured data)

