

Rye Bay Directional Waverider Buoy

Location

OS: 596521E 109474N

WGS84: Latitude: 50° 51.083' N Longitude: 00° 47.433' E

Water Depth

~11 m CD

Instrument Type

Datawell Directional Waverider Mk III

Data Quality

Recovery rate (%)	Sample interval
95	30 minutes

Statistics - 2011

All times are GMT

Month	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	SST (°C)	No. of days
January	0.96	5.5	3.6	169	6.9	31
February	1.02	6.1	3.9	201	7.0	28
March	0.60	4.9	3.2	139	7.2	31
April	0.49	5.9	3.5	170	10.2	29
May	0.80	5.6	3.6	204	12.6	30
June	0.86	5.3	3.6	202	14.7	29
July	0.65	5.2	3.4	187	16.6	30
August	0.72	4.8	3.4	199	17.6	30
September	1.01	5.5	3.8	206	17.1	28
October	1.03	5.6	3.8	201	16.1	30
November	0.97	5.4	3.7	182	14.3	29
December	1.48	6.8	4.4	222	11.5	19

Storm Analysis

Date/Time	H _s (m)	T _p (s)	T _z (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
08-Dec-2011 20:00	3.72	8.3	5.7	221	1.08	HW -2	4.0	-0.26	-0.61
26-May-2011 17:30	3.48	8.3	6.0	219	1.63	HW -1	3.0	-0.02	0.12
06-Sep-2011 16:00	3.37	8.3	5.5	221	0.97	HW -2	2.9	-0.17	-0.25
01-Dec-2011 03:00	3.35	7.1	5.5	204	2.48	HW	4.7	-0.13	-0.15
11-Jan-2011 04:00	3.34	7.1	5.7	181	2.08	HW +1	4.2	0.02	0.17

* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Newhaven). The surge shown is the residual at the time of the highest H_s. The maximum tidal surge is the largest surge during the storm event.

Annual Statistics

Year	Annual H_s exceedance* (m)						Annual Maximum H_s	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max} (m)
2008	-	-	3.02	2.74	2.20	1.76	05-Oct-2008 00:00	3.71
2009	4.00	3.31	2.98	2.65	2.19	1.76	14-Nov-2009 18:00	4.37
2010	3.86	3.08	2.64	2.21	1.65	1.31	12-Nov-2010 01:00	4.35
2011	3.49	2.88	2.66	2.41	1.97	1.69	08-Dec-2011 20:00	3.72

* i.e. 5 % of the H_s values measured in 2008 exceeded 2.20 m

Distribution plots

The distribution of wave parameters are shown in the accompanying graphs of:

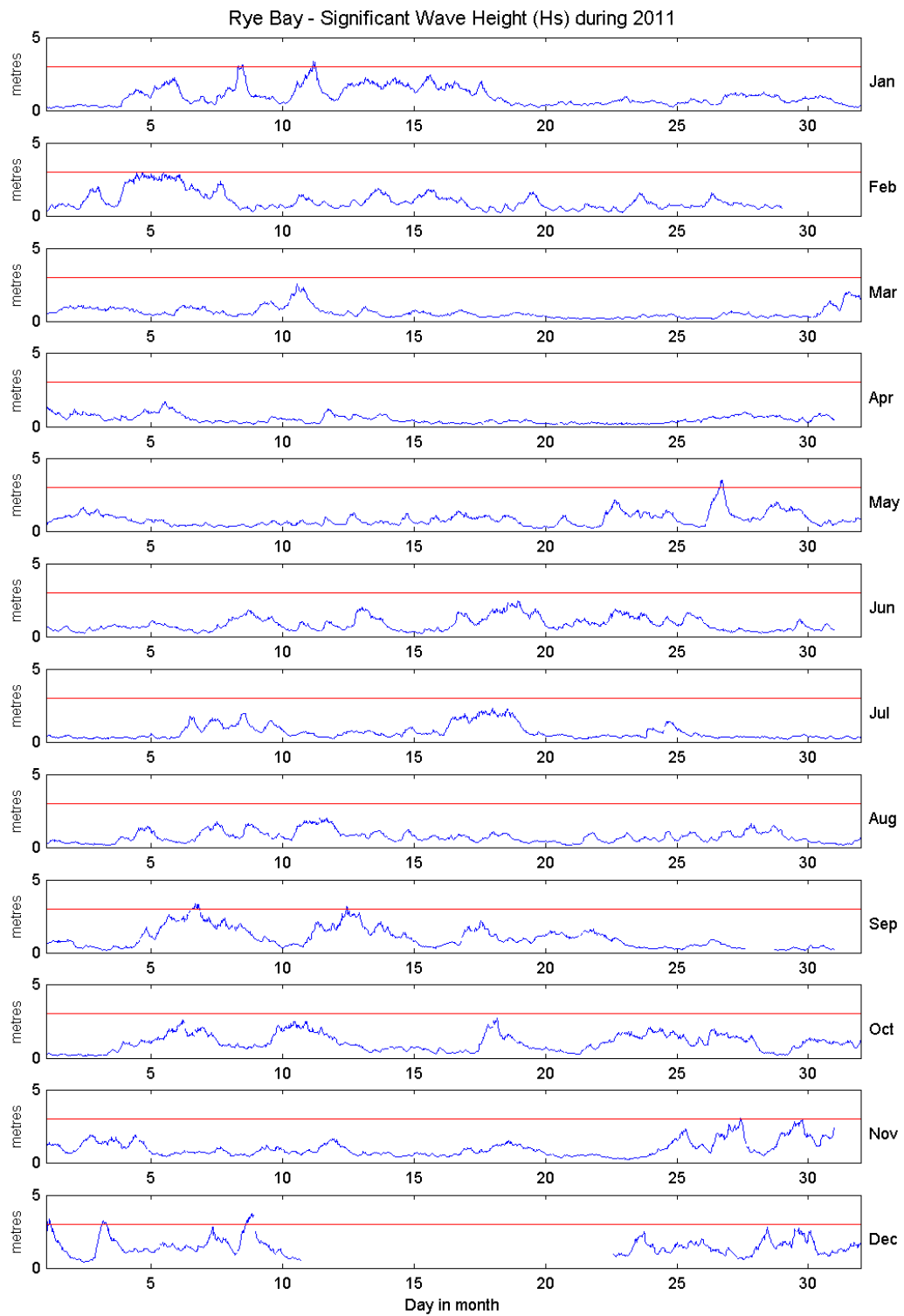
- Annual time series of H_s (red line is 3.0 m storm threshold)
- Wave roses (Direction vs. H_s and vs. T_p) for all measured data
- Percentage of occurrence of H_s , T_p , T_z and Direction for 2011
- Incidence of storm waves for 2011. Storm events are defined using the Peaks-over-Threshold method. The highest H_s of each storm event is shown
- Joint distribution of all parameters for all measured data, given as percentage of occurrence

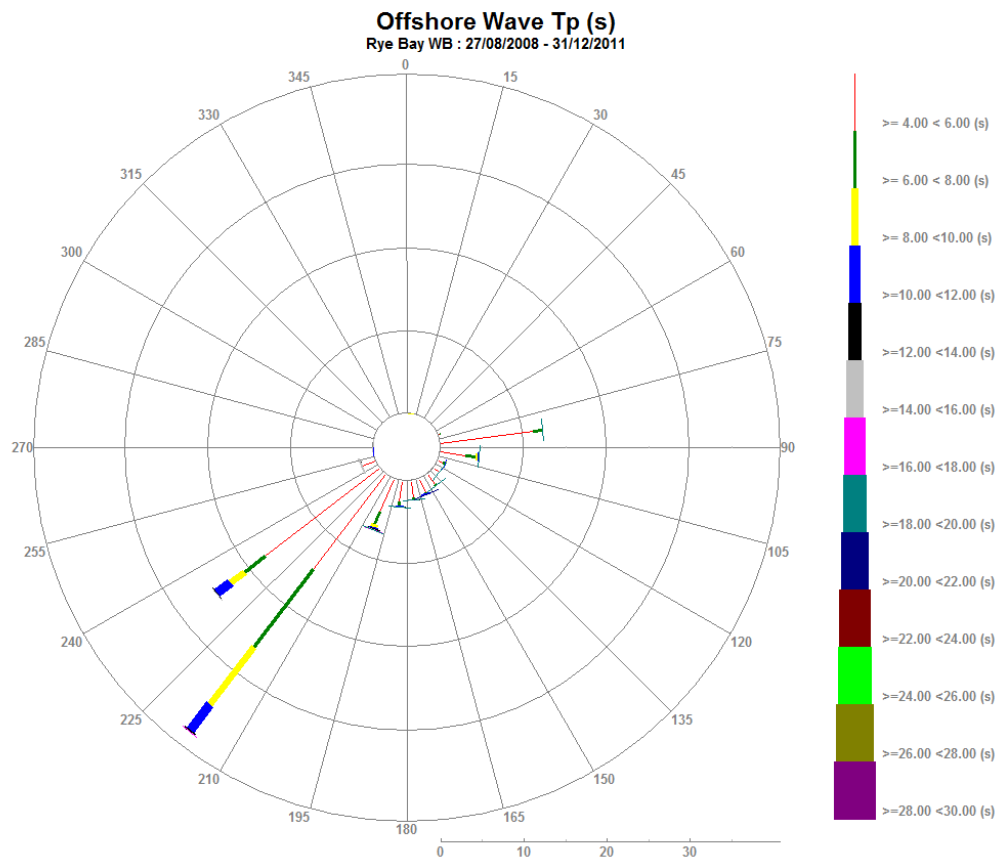
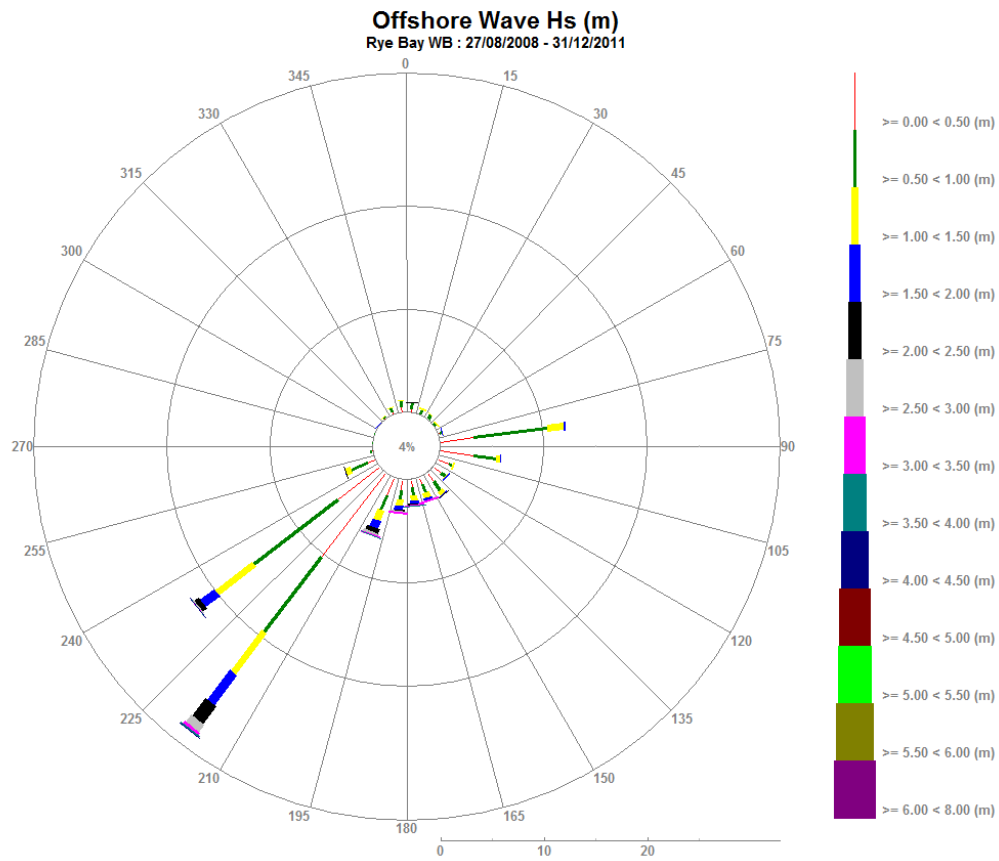
General

The buoy was first deployed on 27 August 2008. The buoy came adrift on 10 December and was re-deployed on 22 December 2011.

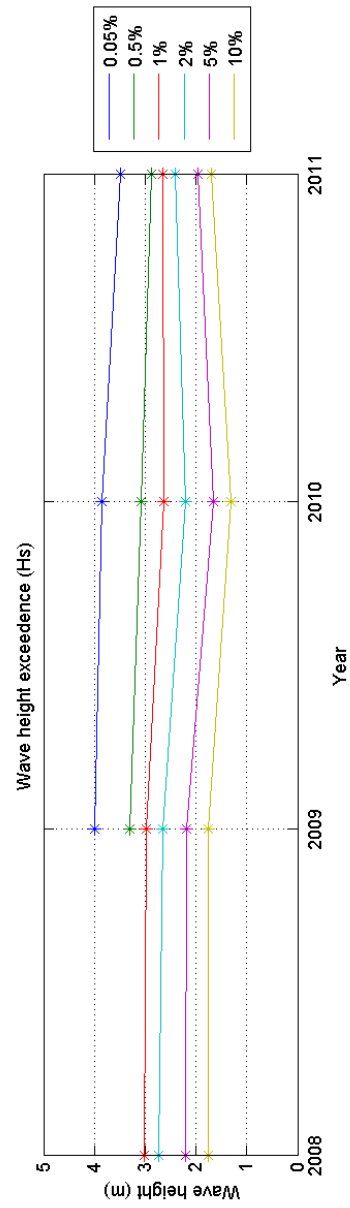
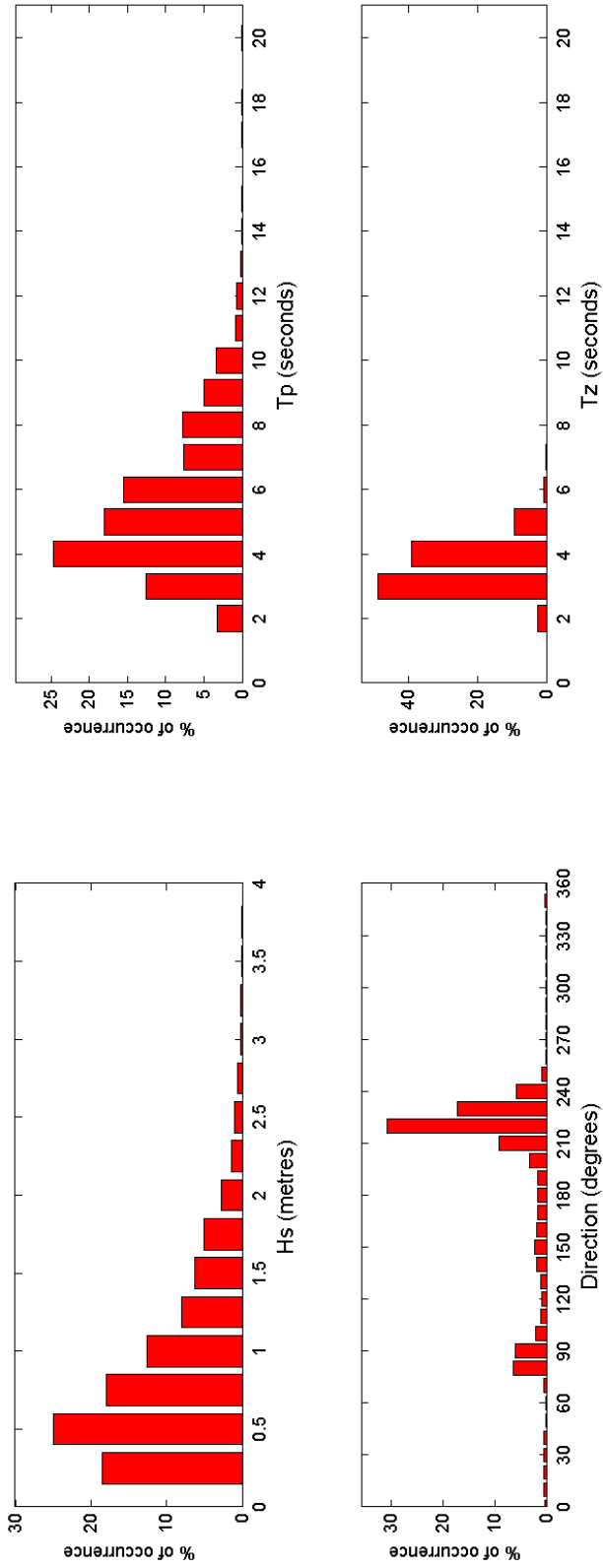
Acknowledgements

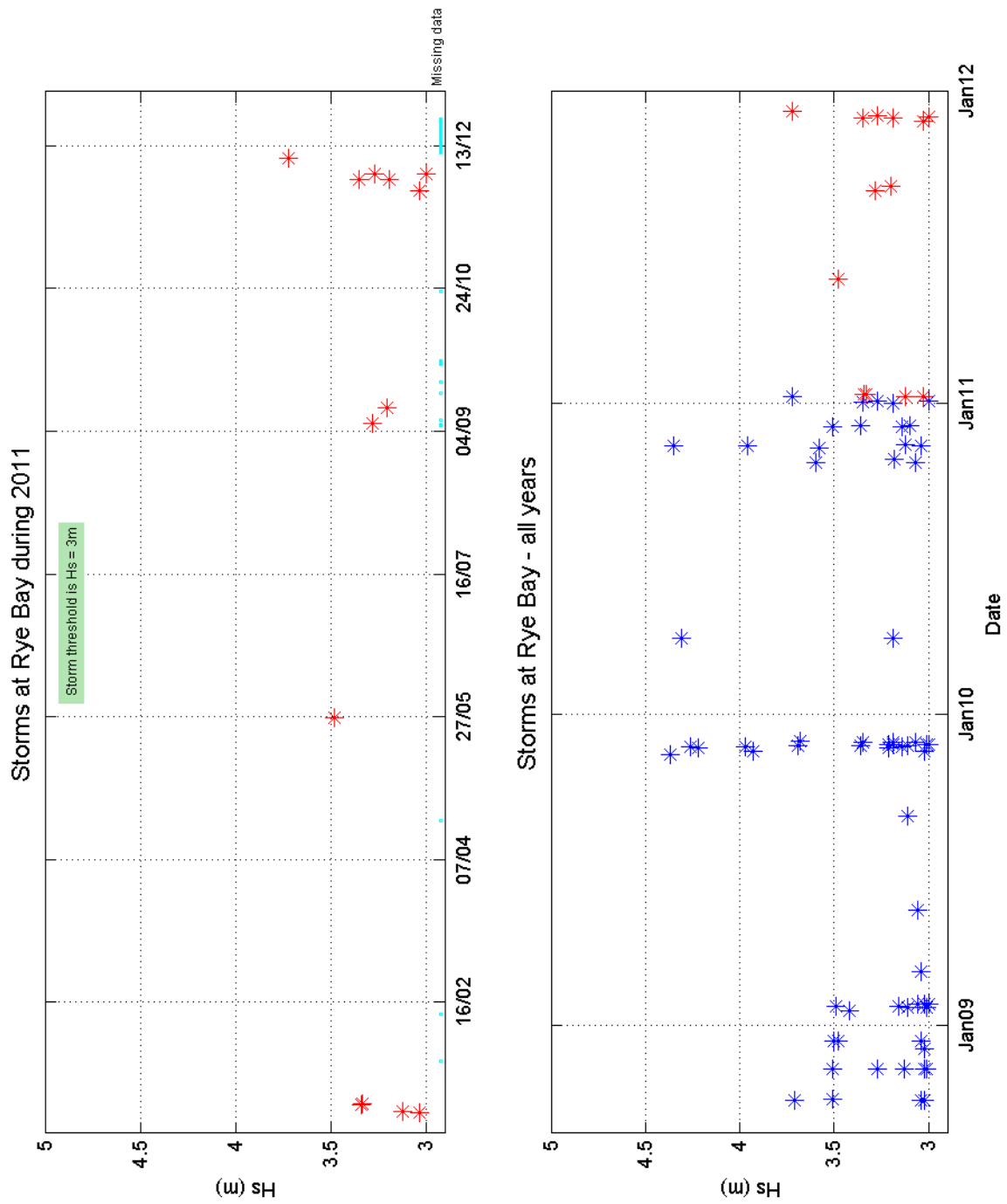
Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council.





Rye Bay 2011





Rye Bay 2008 to 2011 - Joint distribution (% of occurrence)

