

## Seaford Directional Waverider Buoy

### Location

OS: 546444E 98367N

WGS84: Latitude: 50° 45.984' N Longitude: 00° 04.517' E

### Water Depth

~13 m CD

### Instrument Type

Datawell Directional Waverider Mk III

### Data Quality

Recovery rate (%)	Sample interval
98	30 minutes

### Statistics - 2011

All times are GMT

Month	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	SST (°C)	No. of days
January	0.81	7.4	4.1	194	6.4	31
February	1.01	8.8	4.4	211	7.0	28
March	0.43	7.2	3.6	188	7.3	31
April	0.40	8.3	3.9	202	10.2	30
May	0.74	5.9	3.7	221	13.7	31
June	0.83	5.4	3.7	218	15.5	30
July	0.61	5.6	3.7	222	17.3	30
August	0.67	5.2	3.6	225	18.2	31
September	1.01	6.0	3.9	220	17.0	30
October	1.05	6.1	4.0	214	15.6	31
November	0.92	6.9	4.0	195	13.6	29
December	1.49	6.5	4.5	231	9.7	29

### Storm Analysis

Date/Time	H <sub>s</sub> (m)	T <sub>p</sub> (s)	T <sub>z</sub> (s)	Dir. (°)	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
13-Dec-2011 03:00	5.21	10.0	7.4	207	1.17	HW +3	5.5	0.34	0.41
06-Sep-2011 13:00	3.85	8.3	6.2	225	-1.02	HW -5	2.9	0.04	0.15
08-Dec-2011 17:30	3.72	9.1	6.2	225	-1.44	HW -4	4.0	-0.04	-0.37
01-Dec-2011 03:00	3.56	7.7	5.9	205	2.48	HW	4.7	-0.13	-0.15
08-Jan-2011 09:00	3.51	7.7	6.1	217	-0.80	HW -4	4.7	0.31	0.33

\* 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<sub>s</sub>. 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	4.20	3.53	3.15	2.79	2.30	1.80	10-Mar-2008 10:30	4.48
2009	3.87	3.28	3.00	2.72	2.23	1.80	14-Nov-2009 14:00	4.53
2010	4.06	2.94	2.62	2.25	1.71	1.33	11-Nov-2010 13:00	4.82
2011	3.87	2.99	2.71	2.46	2.04	1.75	13-Dec-2011 03:00	5.21

\* i.e. 5 % of the  $H_s$  values measured in 2008 exceeded 2.30 m

## Distribution plots

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

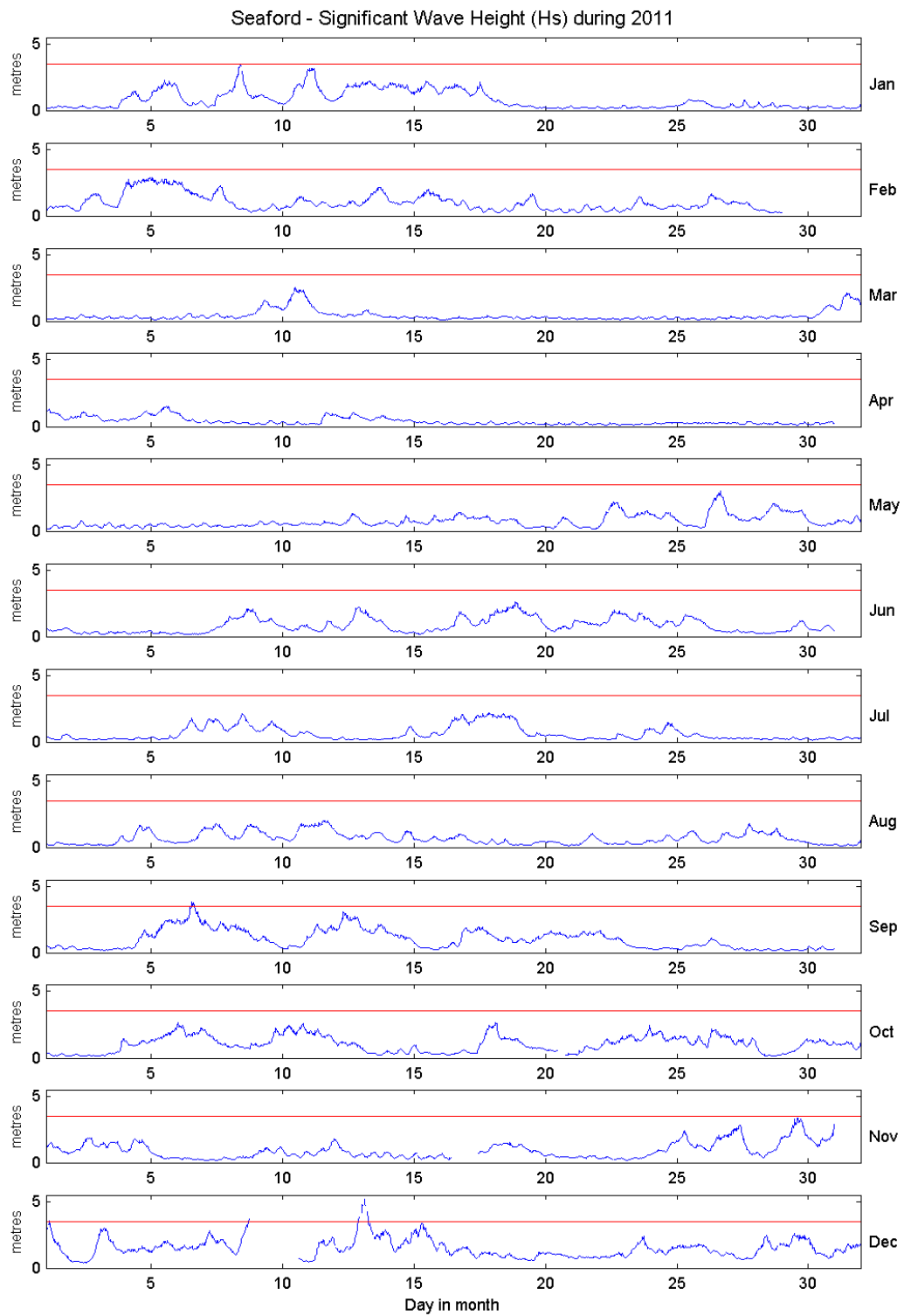
- Annual time series of  $H_s$  (red line is 3.5 m storm threshold)
- Wave roses (Direction vs.  $H_s$  and vs.  $T_p$ ) for all measured data
- Percentage of occurrence of  $H_s$ ,  $T_p$ ,  $T_z$  and Direction for 2011
- Incidence of storm waves for 2011. Storm events are defined using the Peaks-over-Threshold 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

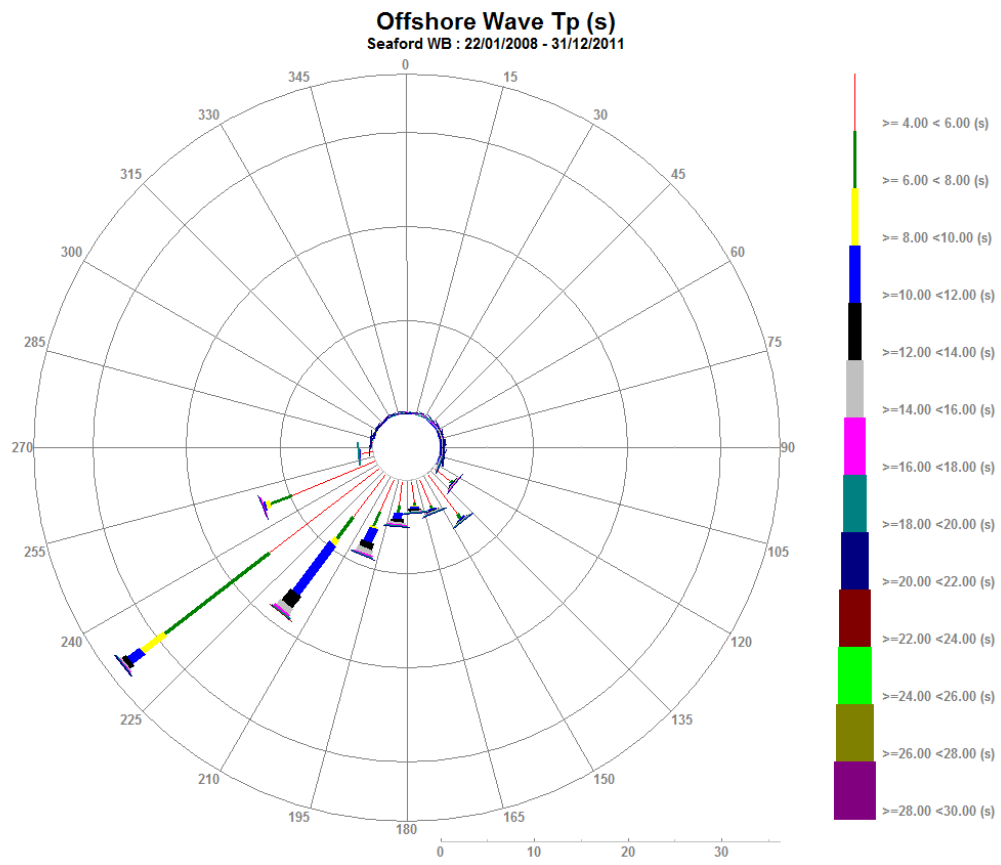
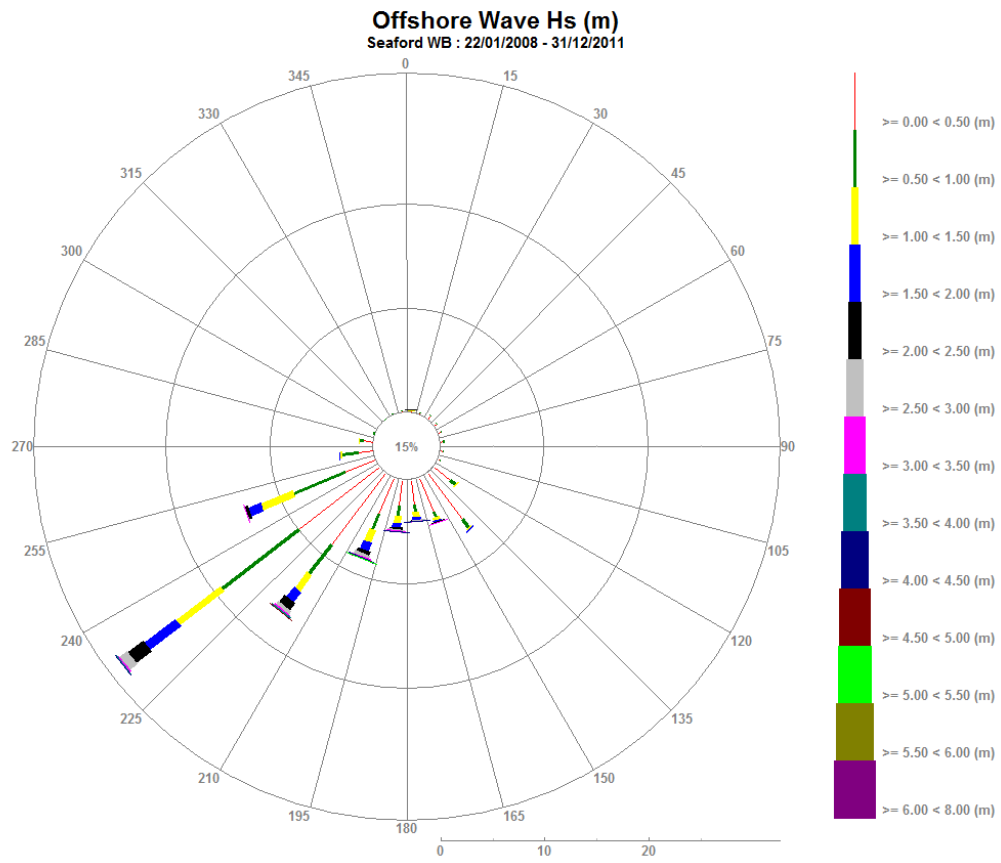
## General

The buoy was first deployed on 22 January 2008. The buoy was adrift from 8 to 10 December 2011.

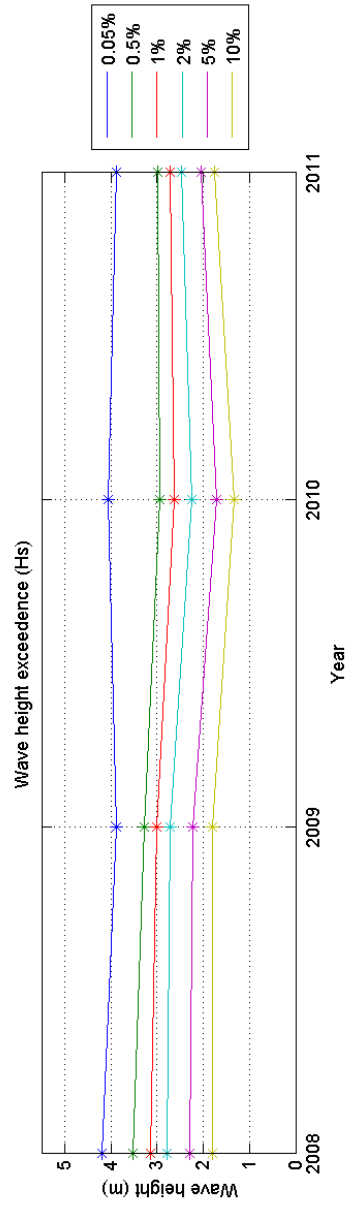
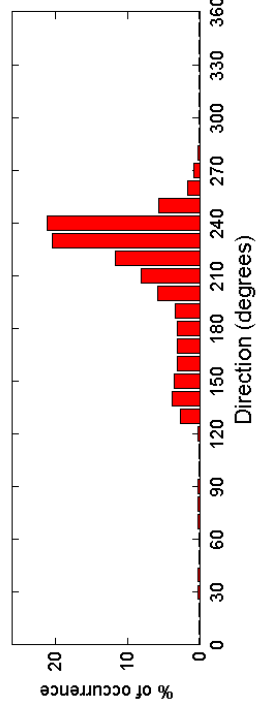
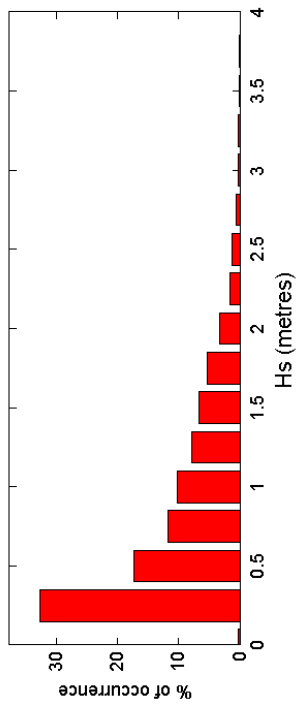
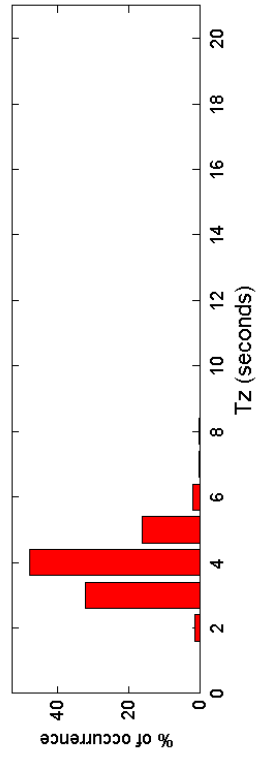
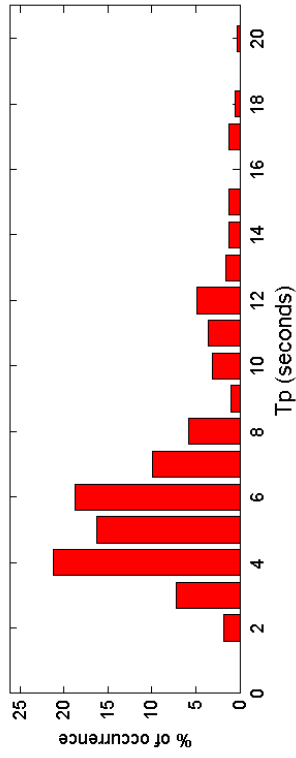
## Acknowledgements

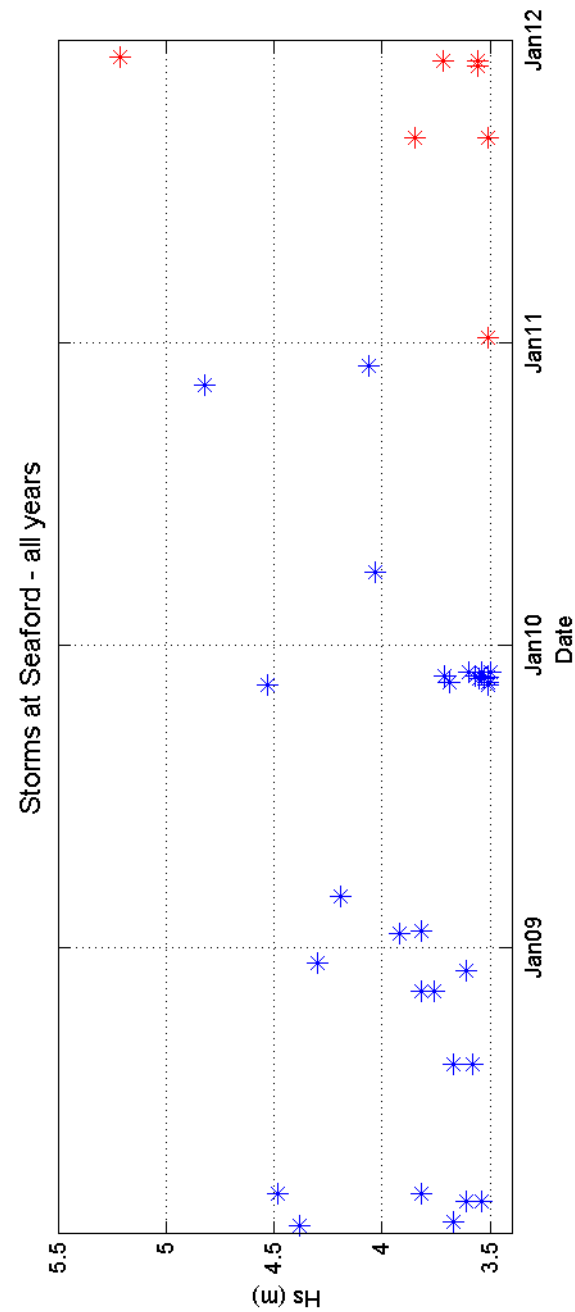
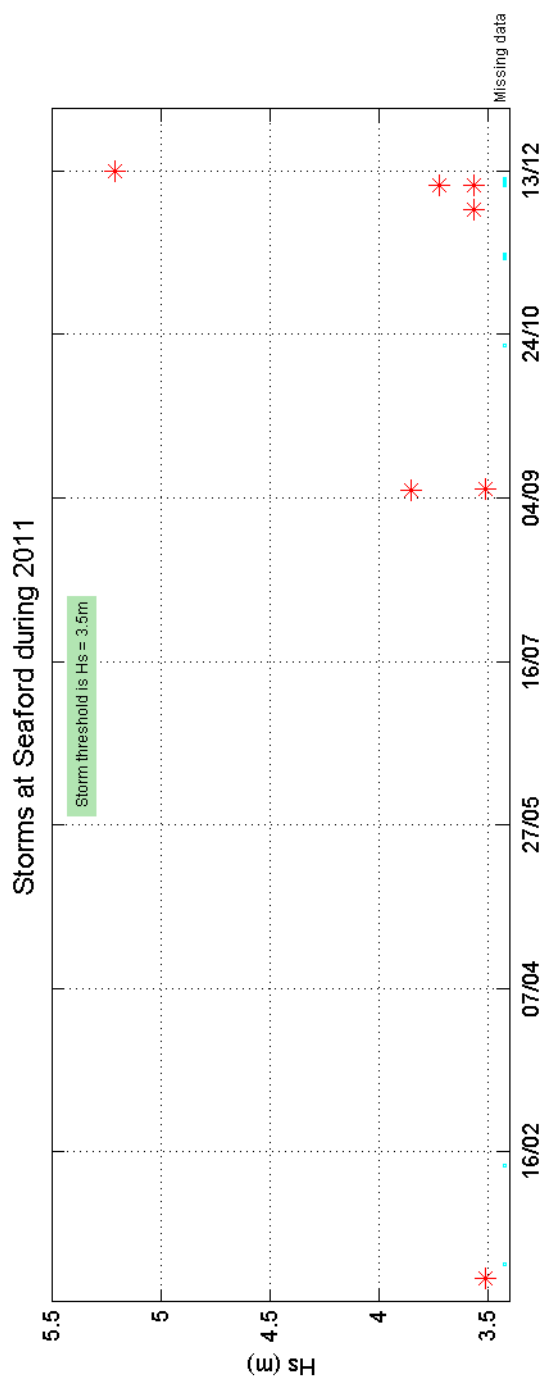
Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council. The shore station is kindly hosted by Newhaven Fort.





Seaford 2011





Seaford 2008 to 2011 - Joint distribution (% of occurrence)

