

## Start Bay Directional Waverider Buoy

### Location

OS: E 284494 N 44824  
 WGS84: Latitude: 50° 17.486' N Longitude: 003° 37.000' W

### Water Depth

10m CD

### Instrument Type

Datowell Directional Waverider Mk III

### Data Quality

C1(%)	Sample interval
68	30 minutes

### Monthly Means

All times GMT

Month	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April	0.41	8.1	3.9	146	11.3	25
May	0.60	7.2	4.1	148	12.9	27
June	0.55	7.3	4.1	162	14.6	28
July	0.51	6.7	3.9	164	14.9	23
August	0.46	6.5	4.0	138	16.7	29
September	0.40	5.5	3.7	133	17.0	30
October	0.69	7.1	4.2	142	15.8	26
November	0.47	6.7	4.2	146	14.0	30
December	1.09	8.4	4.8	156	11.4	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 2007									
Date/Time	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Dir.	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
17-Dec-2007 23:30	3.41	8.3	6.2	100	1.11	HW	2.5	-0.20	-0.24
09-Dec-2007 08:30	2.65	10.0	6.0	186	0.38	HW + 2	3.5	0.23	0.25
05-Dec-2007 05:30	2.50	8.3	5.5	186	0.27	HW + 3	2.2	0.09	0.11
14-Aug-2007 09:00	2.38	7.7	5.4	184	1.14	HW + 2	4.1	0.16	0.38

\* 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<sub>s</sub>. 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	3.21	2.13	1.93	1.71	1.43	1.15	17-Dec-2007 23:30	3.41

\* i.e. 5 % of the  $H_s$  values measured in 2007 exceeded 1.43m

### 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 2007
- Percentage wave height exceedance
- Joint distribution of all parameters for 2007, given both as number of observations and as percentage of occurrence
- Incidence of storms during 2007 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)

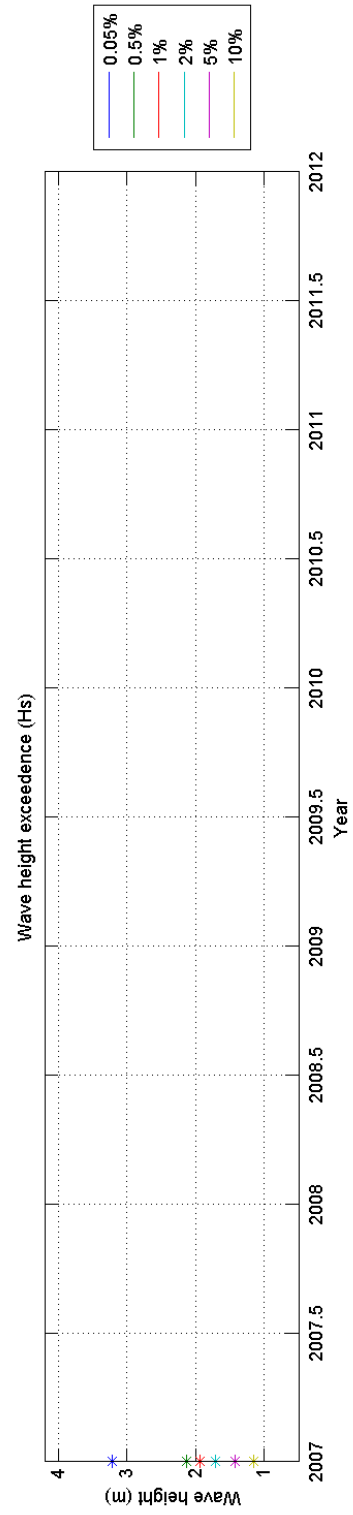
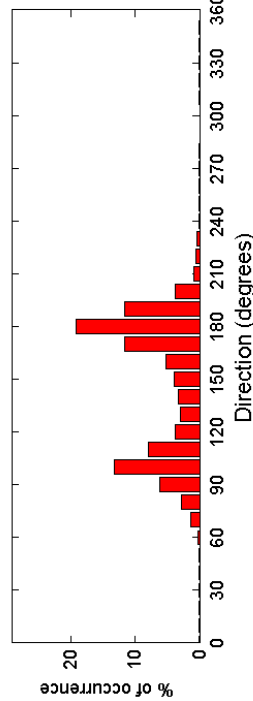
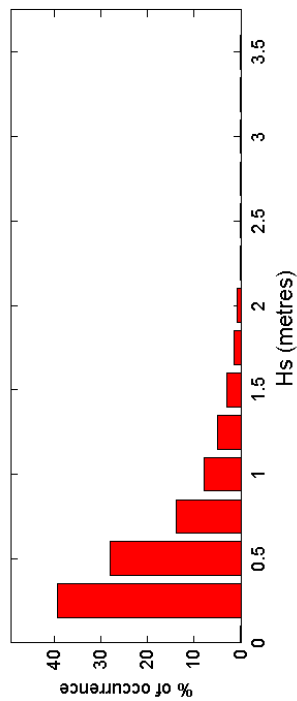
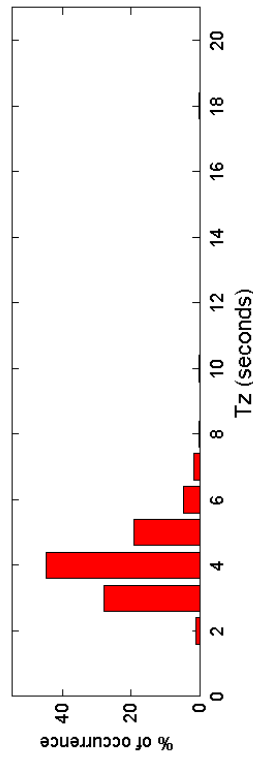
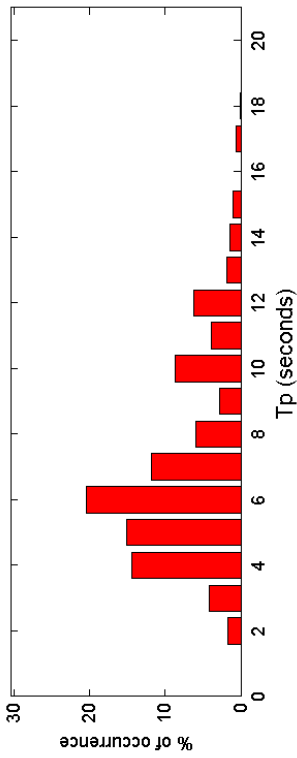
### General

The buoy was first deployed on 4 April 2007.

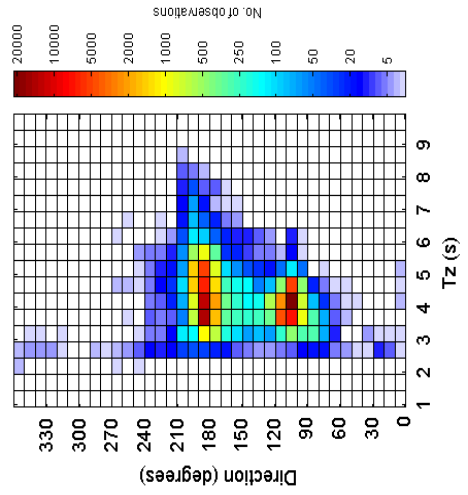
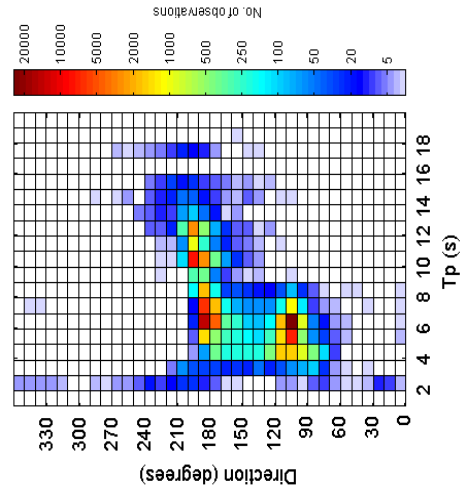
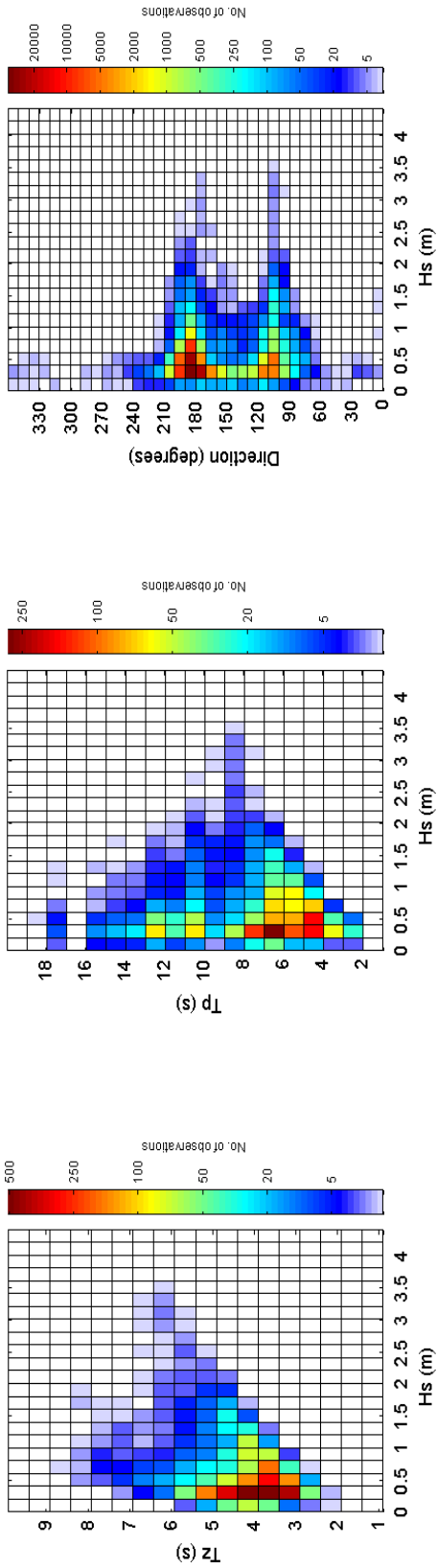
### Acknowledgements

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.

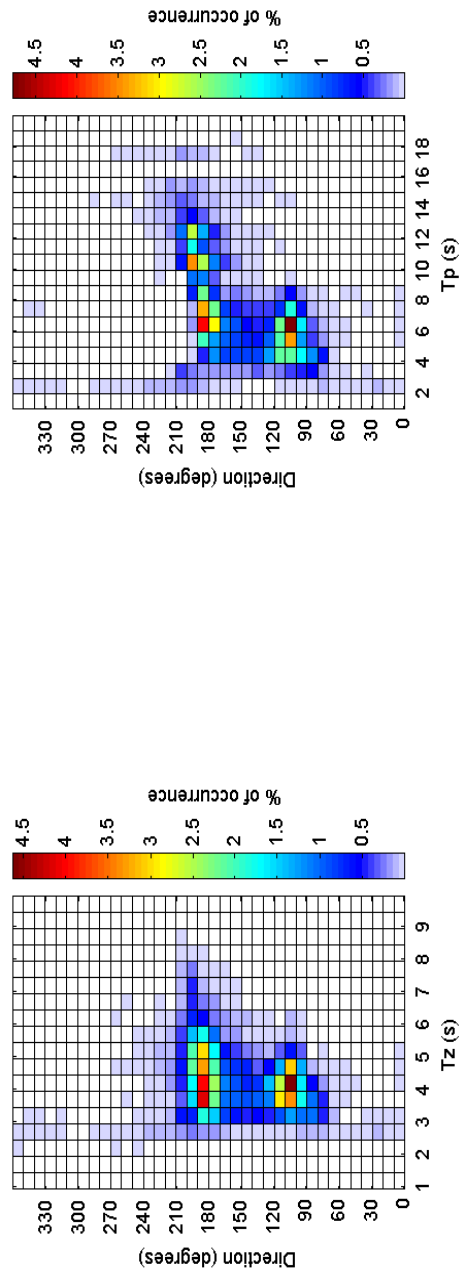
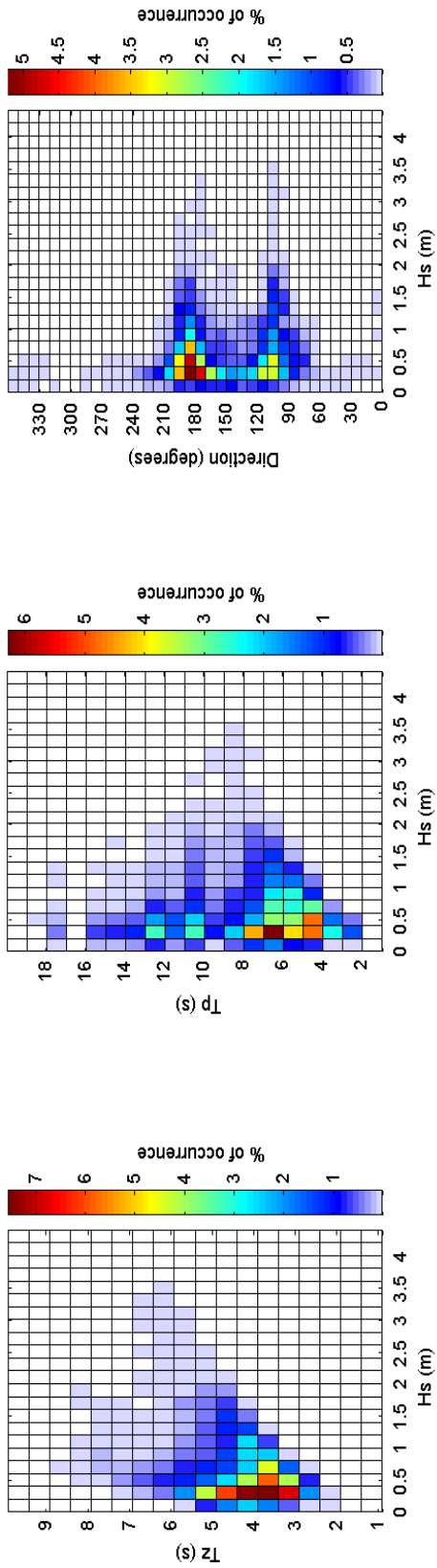
Start Bay 2007

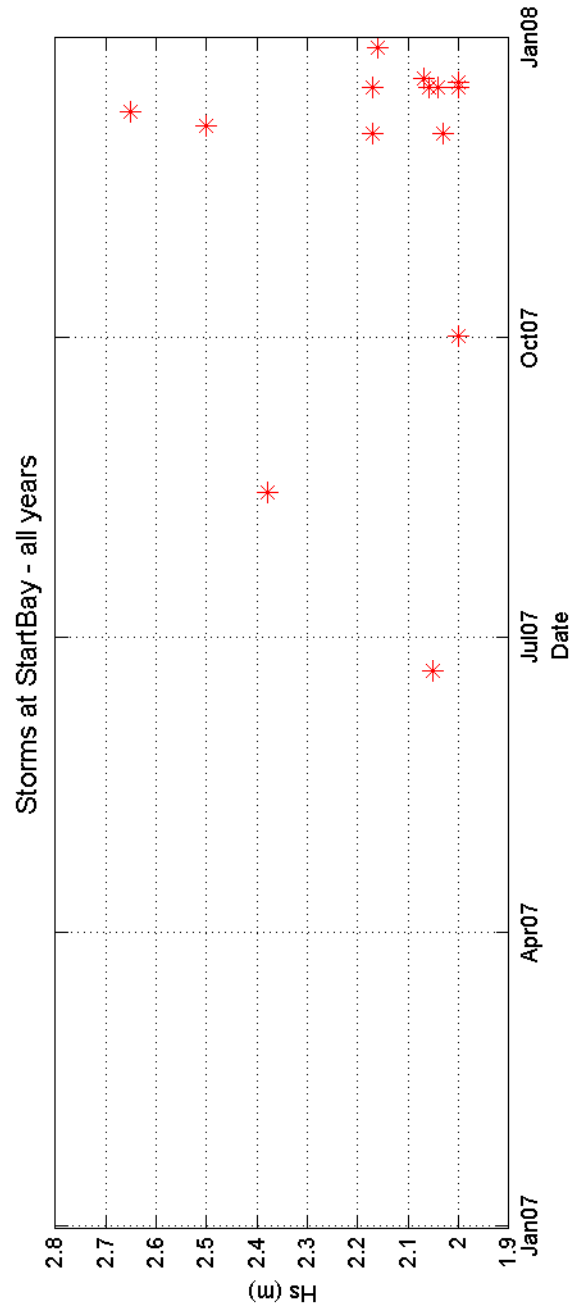
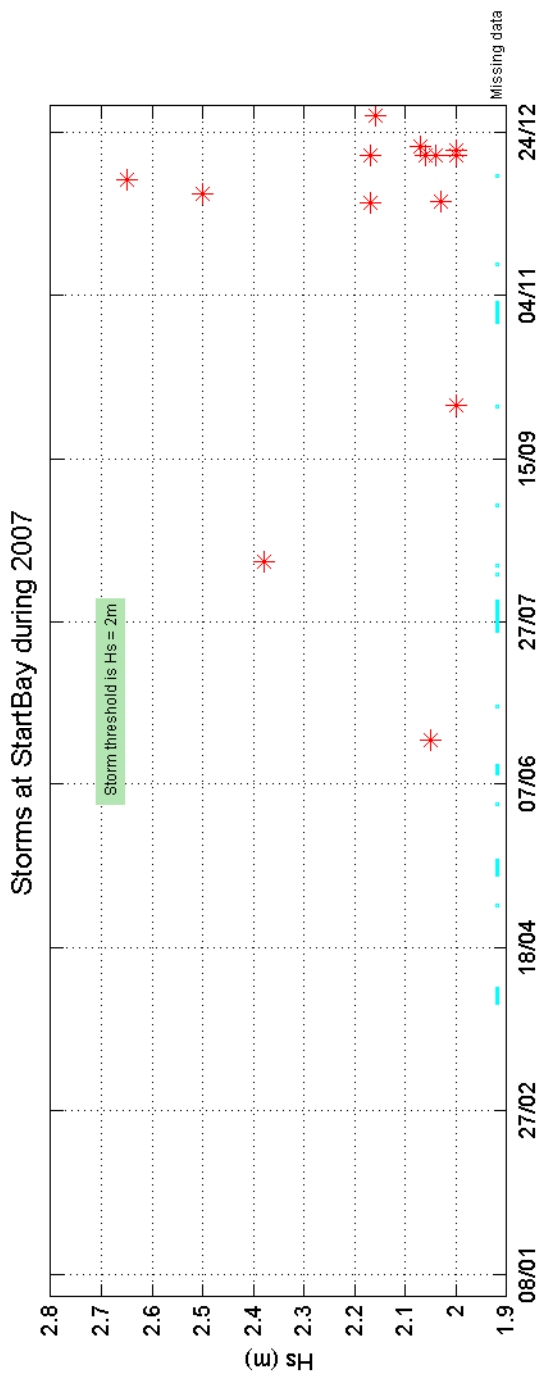


StartBay 2007 - Joint distribution



StartBay 2007 - Joint distribution (% of occurrence)





### Start Bay- Significant Wave Height ( $H_s$ ) 2007

