

Milford WaveRider Buoy

Location

OS: 427297E 90361N
 WGS84: Latitude: 50°42'73" N Longitude: 001°36'93" W

Water Depth

Approx. 10m CD

Instrument Type

Datawell WaveRider Buoy Mk III (from 17 November 2005)
 Datawell WaveRider Buoy Mk II

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	0.57	10.6	4.8	206	7.0	31
February	0.56	10.1	4.4	199	6.0	28
March	0.72	9.3	4.2	202	5.9	31
April	0.48	6.2	3.7	215	9.1	30
May	0.70	7.2	4.1	215	12.4	31
June	0.30	5.6	3.5	211	16.0	30
July	0.37	5.8	3.6	213	19.3	31
August	0.50	5.0	3.3	224	19.4	30
September	0.60	9.1	4.1	212	18.4	29
October	0.81	7.2	4.0	212	16.5	31
November	0.94	7.6	4.1	214	13.2	30
December	1.13	10.0	4.9	213	10.9	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 2006									
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)
03-Dec-2006 06:30	3.51	10.0	6.5	218	1.00	HW - 2	2.1	-	-
07-Dec-2006 13:30	3.03	9.1	6.3	217	0.83	HW + 2	2.1	-	-
20-Nov-2006 05:00	2.89	10.0	5.9	219	-0.30	HW - 5	1.9	-	-

* Tidal information is obtained from the nearest recording tide gauge (the gauge on Royal Lympington Yacht Club starting platform). 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 (m)	
	0.05%	0.5%	1%	2%	5%	10%	Date	A_{max}
1996	-	-	-	-	-	-	28-Oct-1996 21:00	4.05
1997	3.08	2.39	2.15	1.97	1.59	1.20	24-Feb-1997 23:00	3.32
1998	2.89	2.47	2.28	2.00	1.66	1.37	27-Oct-1998 13:00	3.21
1999	3.01	2.32	2.11	1.85	1.56	1.29	24-Dec-1999 22:00	3.23
2000	3.90	2.85	2.50	2.19	1.74	1.41	31-Dec-2000 19:00	4.09
2001	3.71	2.63	2.24	1.91	1.52	1.20	01-Jan-2001 00:00	4.07
2002	3.54	2.92	2.61	2.35	1.96	1.62	15-Oct-2002 18:00	4.06
2003	2.82	2.20	2.02	1.76	1.37	1.12	14-Nov-2003 15:00	2.92
2004	3.21	2.49	2.29	2.05	1.69	1.42	31-Jan-2004 17:00	3.44
2005	3.09	1.86	1.72	1.56	1.28	1.05	02-Dec-2005 18:30	3.53
2006	2.89	2.46	2.31	2.10	1.73	1.41	03-Dec-2006 06:30	3.51

* i.e. 5 % of the H_s values measured in 2004 exceeded 1.69m

Distribution plots

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

- Percentage of occurrence of H_s , and T_z for 2006
- Percentage wave height exceedance (all recorded years) – note that the statistics for 1996 were based on measurements from May to December only
- Joint distribution of all parameters for 2006, given both as number of observations and as percentage of occurrence – note that measurement of T_p began in December 2004
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Incidence of storms above a given threshold, for 2006 and for all years. Storms are defined by 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 waves threshold)

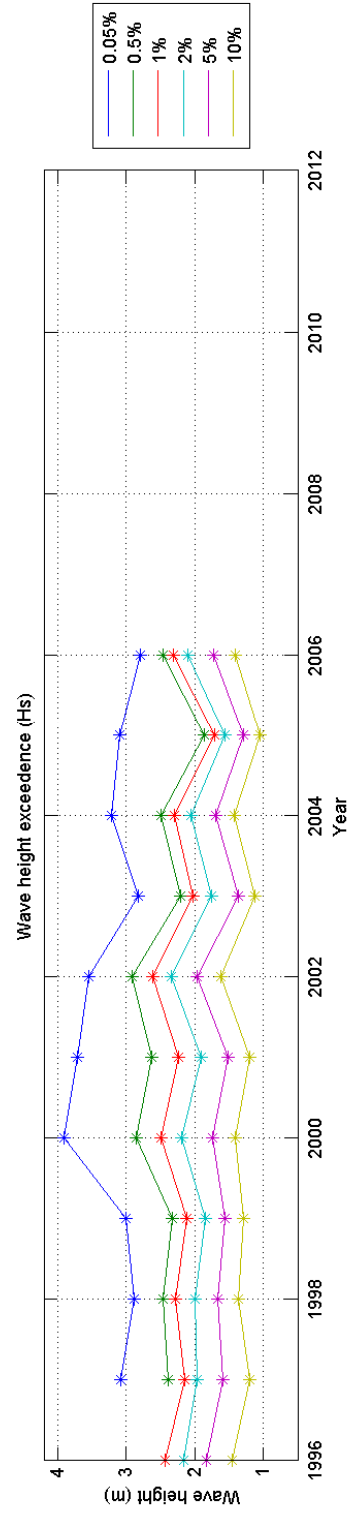
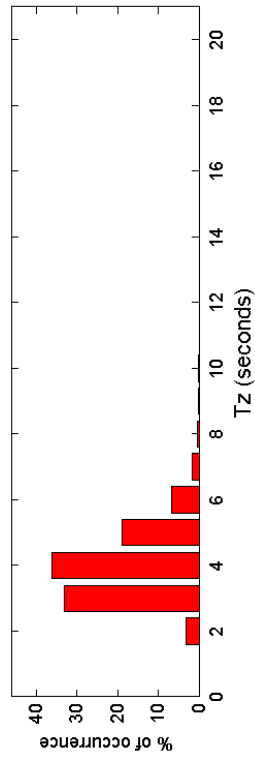
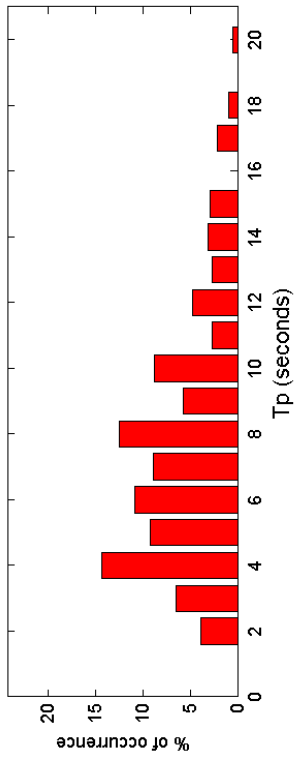
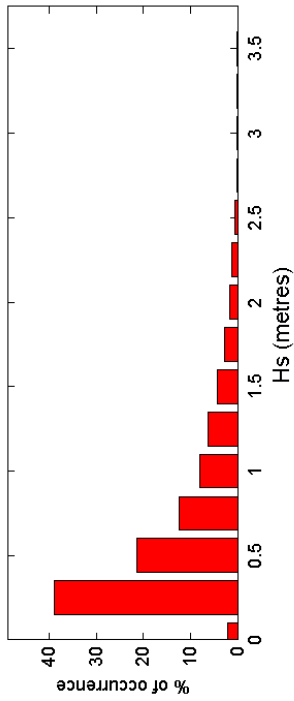
General

The buoy was first deployed in May 1996. It was replaced by a Directional Waverider in December 2005. The buoy was badly damaged in early October 2005 and was replaced with a directional wave buoy on 17 November 2005, but missed the early November storms.

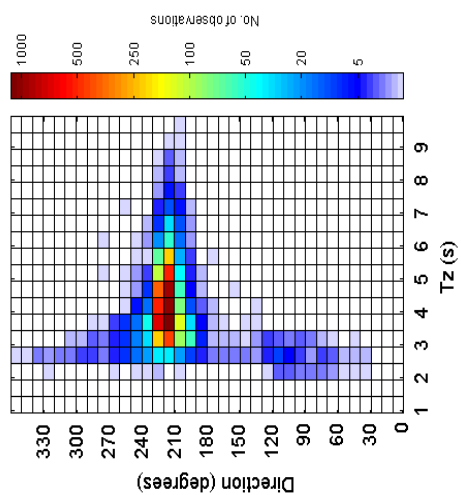
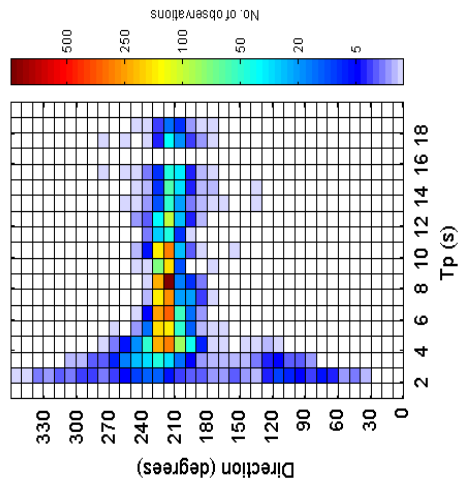
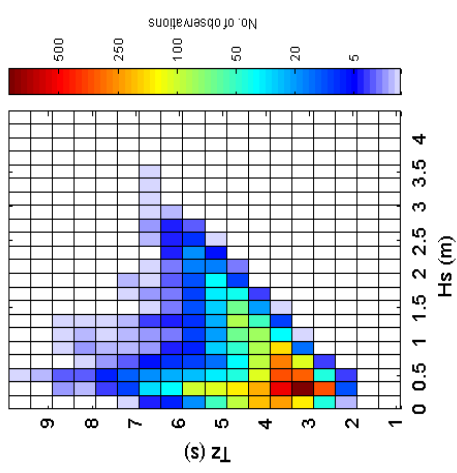
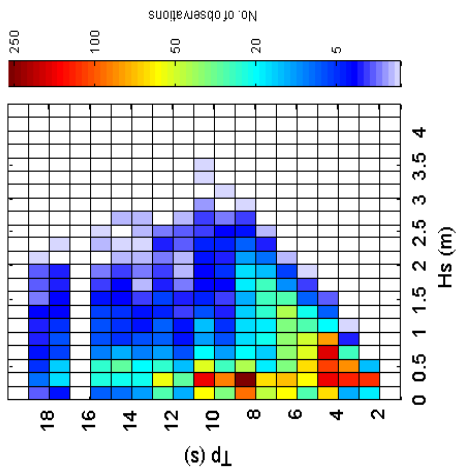
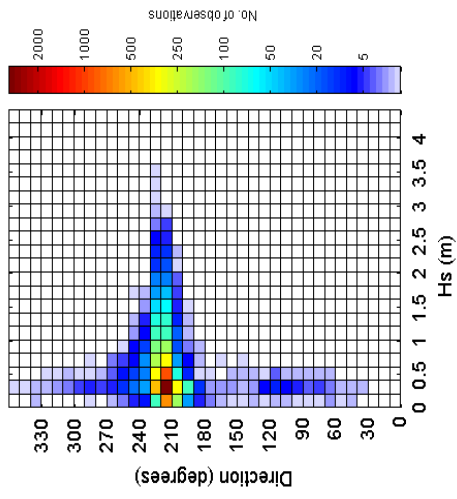
Acknowledgements

TASK2000 tidal prediction software was kindly provided by Proudman Oceanographic Laboratory.

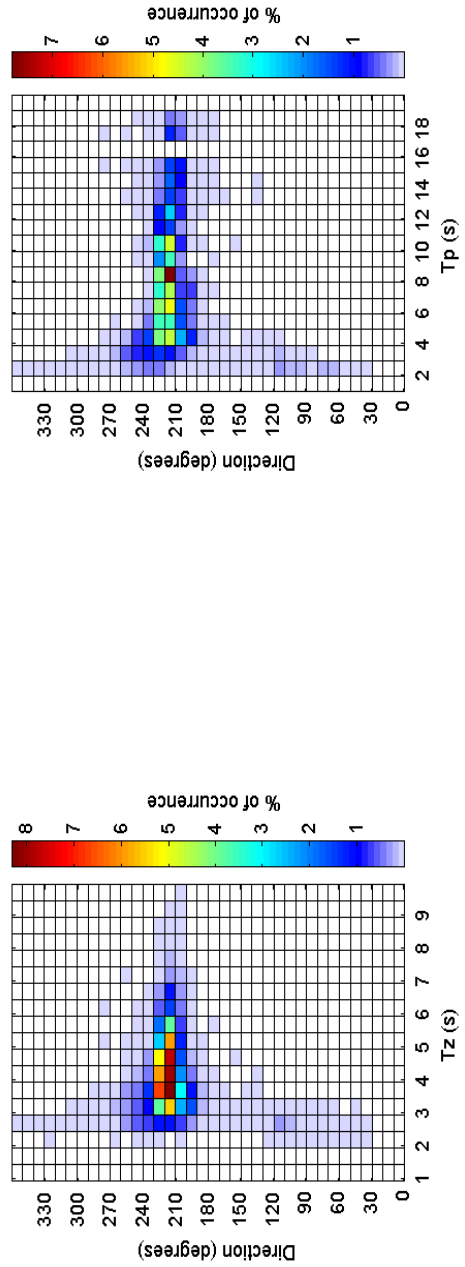
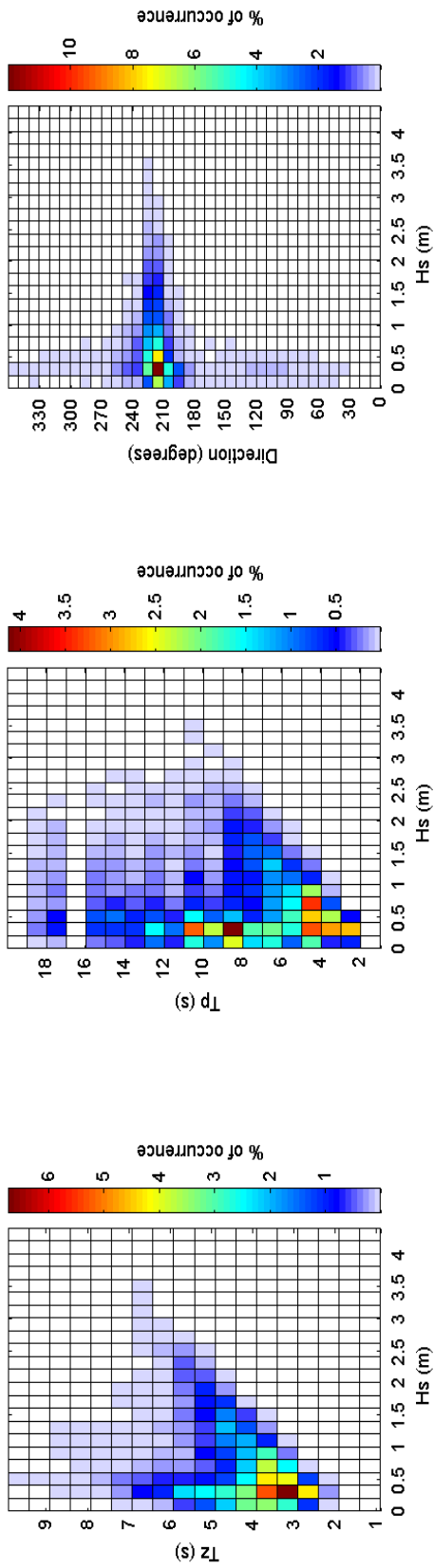
Milford 2006



Milford 2006 - Joint distribution



Milford 2006 - Joint distribution (% of occurrence)



Milford 1996 to 2006 - Joint distribution (% of occurrence)

