

# UK Cable Route GT - Middlesborough - April

Latitude: 54.60 N Longitude: 0.81 E

## Weather Days

Wave Height > 6.0 ft Mean: 6.2 days Range: 3.5 - 8.9 days p50:7 days p75:4.5 days p90:2.5 days

Wave Height > 7.0 ft Mean: 4.1 days Range: 2.0 - 6.1 days p50:4.5 days p75:3 days p90:1.5 days

Wave Height > 8.0 ft Mean: 2.8 days Range: 1.0 - 4.5 days p50:2.5 days p75:1.5 days p90:0.5 days

Wind Speed > 15.0 knots Mean: 14.1 days Range: 11.6 - 16.6 days p50:14 days p75:13 days p90:11.5 days

Wind Speed > 20.0 knots Mean: 6.2 days Range: 3.7 - 8.7 days p50:6.5 days p75:5.5 days p90:3 days

Wind Speed > 25.0 knots Mean: 2.0 days Range: 0.8 - 3.3 days p50:2.5 days p75:1.5 days p90:0.5 days

## Working Window

Wave Height < 6.0 ft  
A 1 day or longer window will statistically occur 4.2 times per month  
A 2 day or longer window will statistically occur 3.2 times per month  
A 3 day or longer window will statistically occur 2.4 times per month

Wave Height < 7.0 ft  
A 1 day or longer window will statistically occur 3.6 times per month  
A 2 day or longer window will statistically occur 2.9 times per month  
A 3 day or longer window will statistically occur 2.3 times per month

Wave Height < 8.0 ft  
A 1 day or longer window will statistically occur 3.0 times per month  
A 2 day or longer window will statistically occur 2.5 times per month  
A 3 day or longer window will statistically occur 2.1 times per month

## Waves

Mean Height: 2 - 4 ft

The wave heights will occasionally reach 14 - 16 ft, but rarely higher.

Mean Period: 4 - 6 sec

The wave periods will occasionally reach 12 - 14 sec, but rarely longer.

Principle Direction, from: N

WindSea/Swell: 43% / 57%

## Winds

Mean Speed: 10 - 15 kts

The winds will occasionally reach 30 - 35 kts, but rarely greater.

Principle Direction, from: S

## Currents

Mean Speed: 0.01-0.25 kts

The currents will occasionally reach 1.00-1.25 kts, but rarely greater.

Principle Direction, to: NNE

## Weather Days

Current Speed > 1.0 knots Mean: 0.0 days Range: 0.0 - 0.0 days p50:1 days p75:1 days p90:1 days

Current Speed > 1.5 knots Mean: 0.0 days Range: 0.0 - 0.0 days p50:1 days p75:1 days p90:1 days

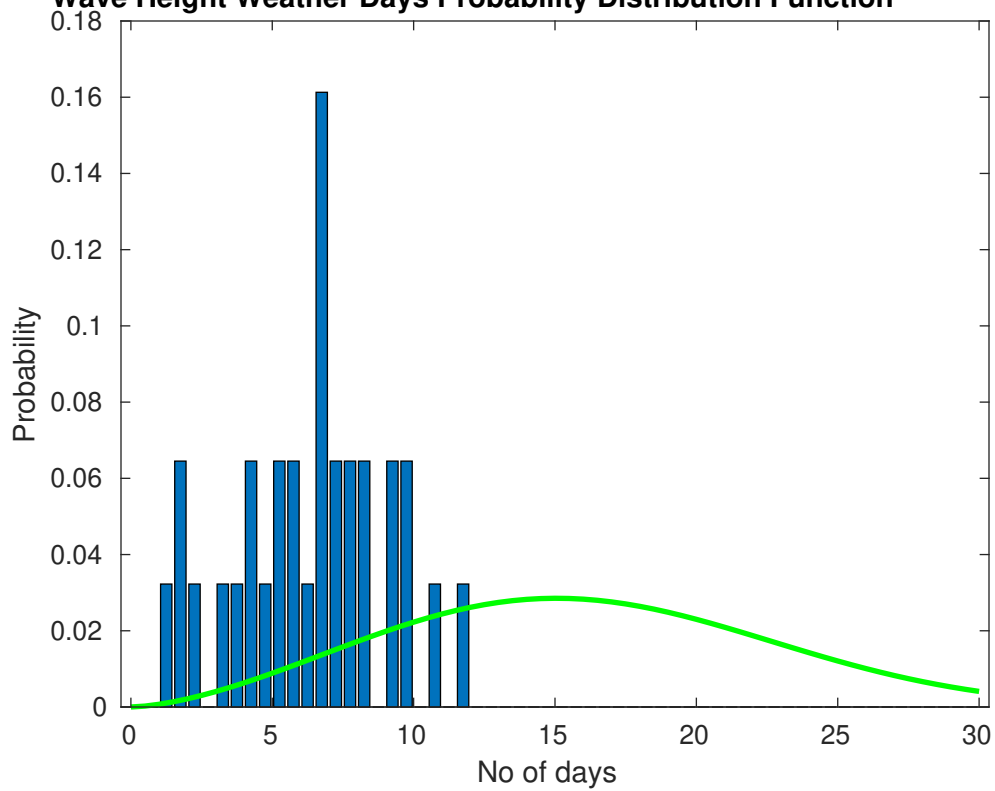
Current Speed > 2.0 knots Mean: 0.0 days Range: 0.0 - 0.0 days p50:1 days p75:1 days p90:1 days

## Severe Storms

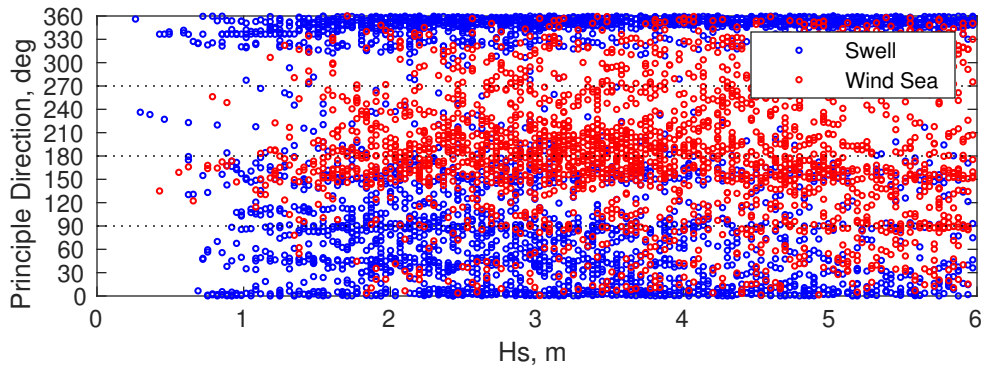
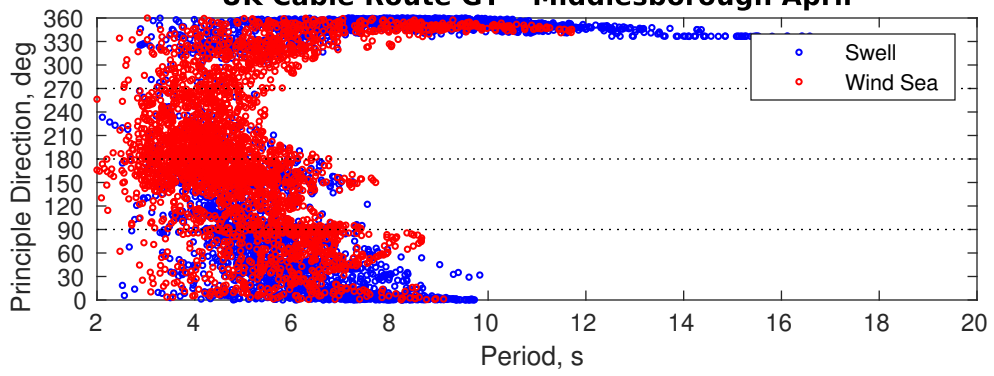
There is a 10 % chance of a storm occurring in the month with winds peaking above 34 kts.

There is a 16 % chance of a storm occurring in the month with waves exceeding 3 m (10 ft) above the mean wave height.

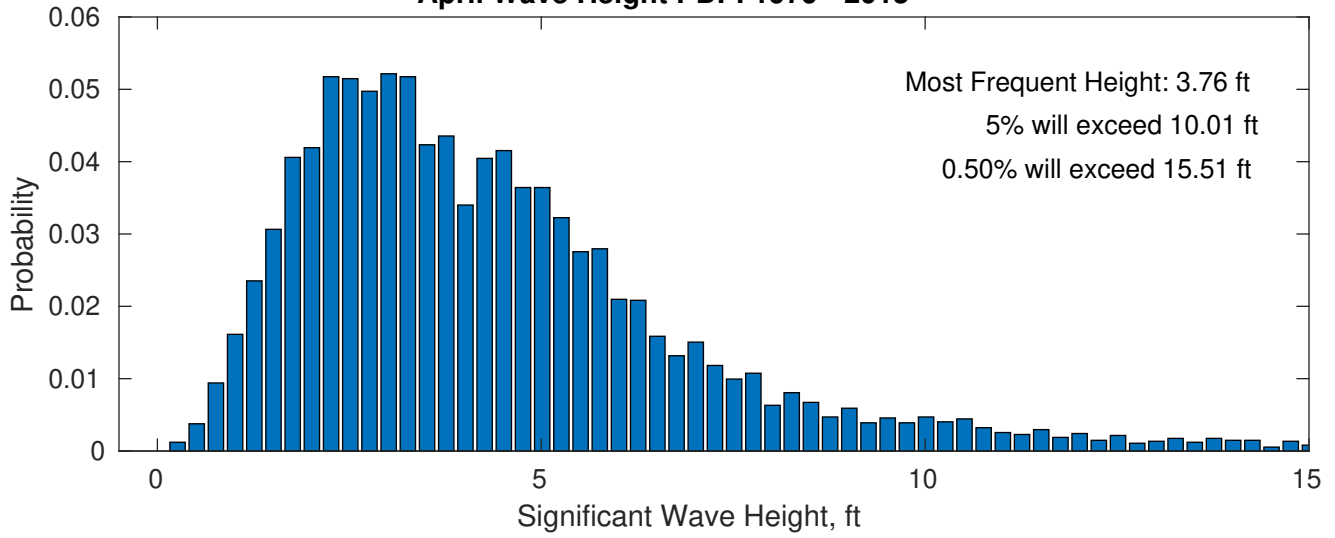
**Wave Height Weather Days Probability Distribution Function**



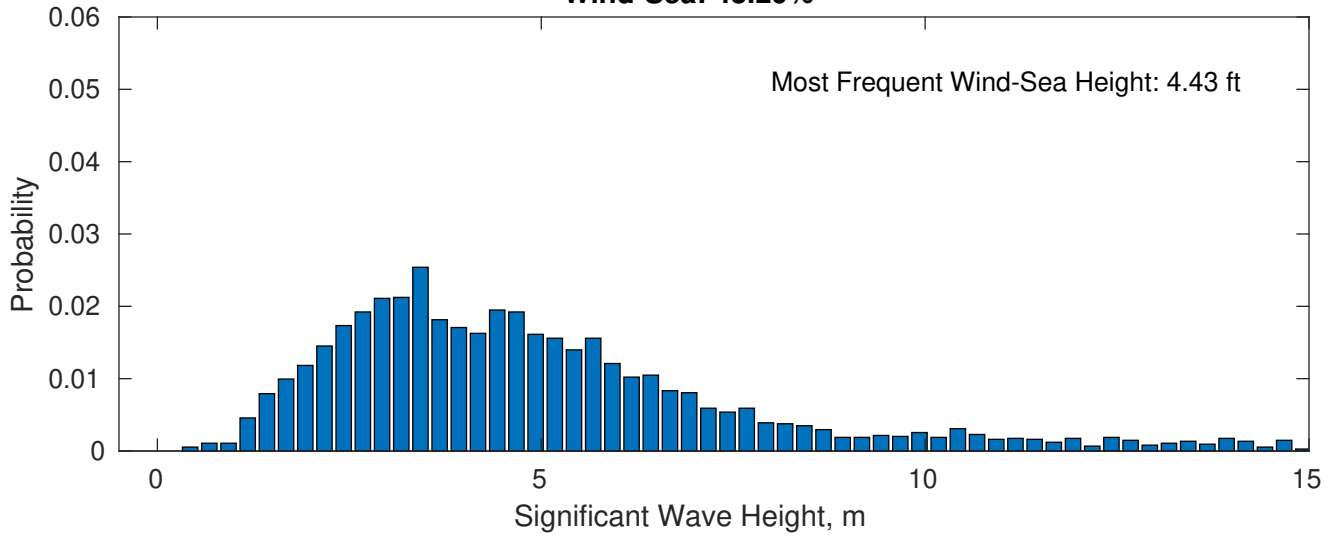
### UK Cable Route GT - Middlesborough April



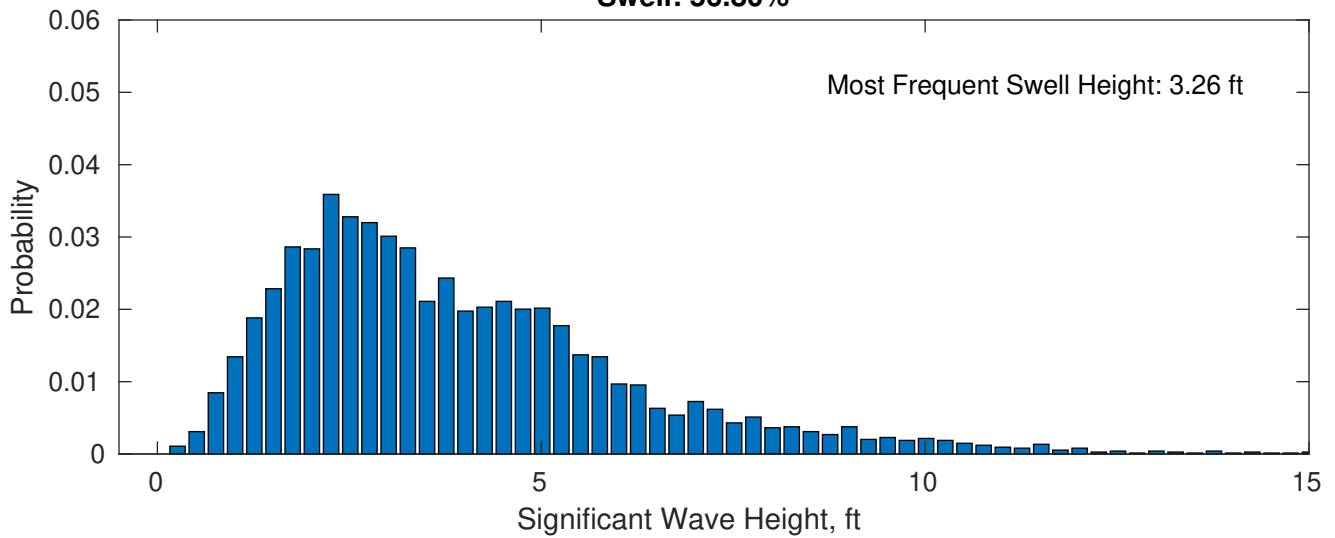
**April Wave Height PDF: 1979 - 2015**



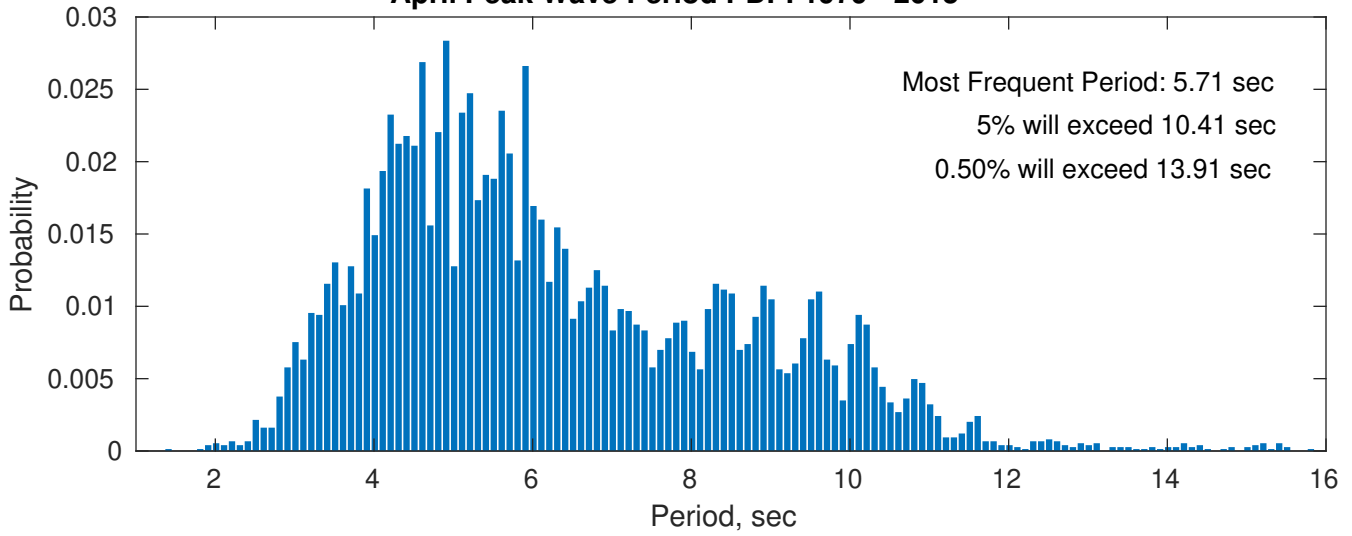
**Wind-Sea: 43.20%**



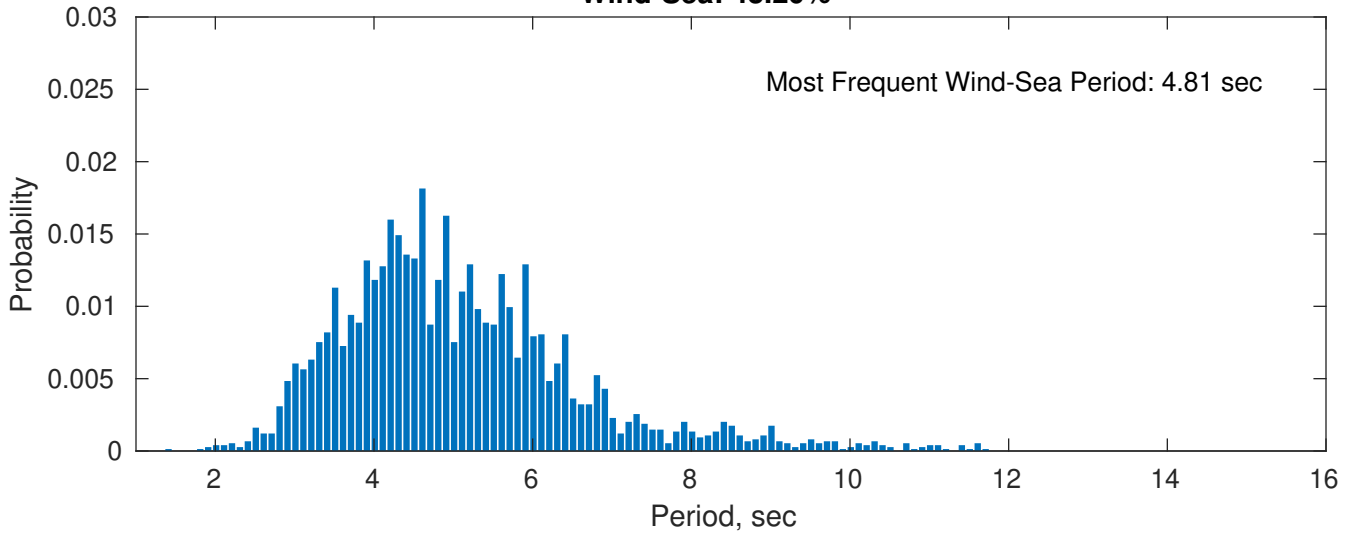
**Swell: 56.80%**



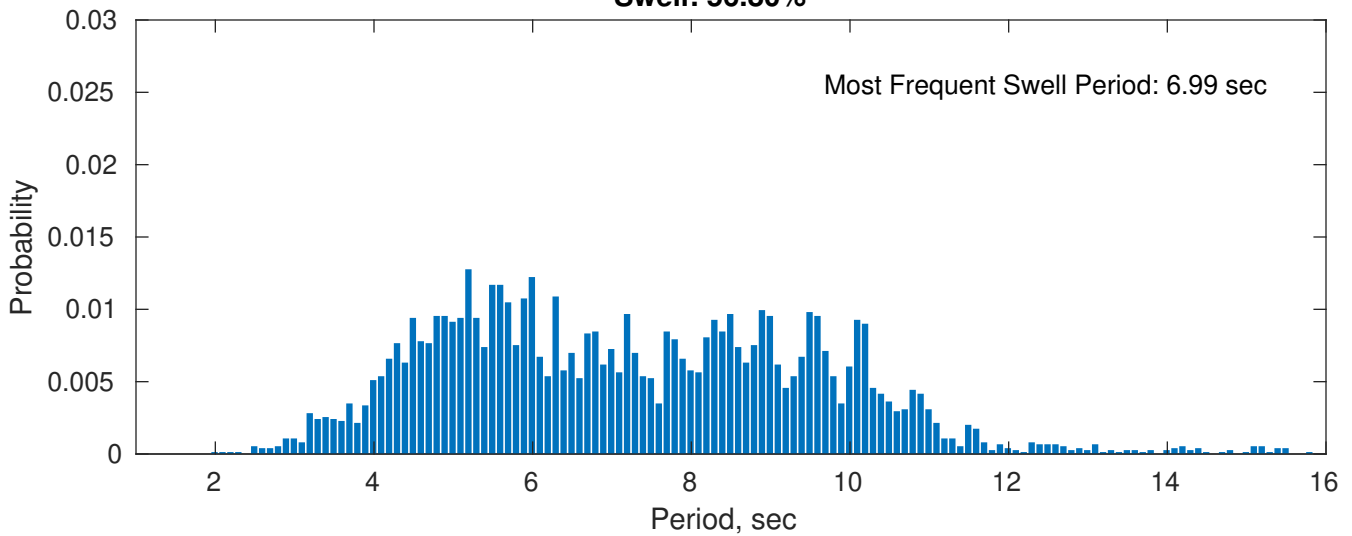
**April Peak Wave Period PDF: 1979 - 2015**



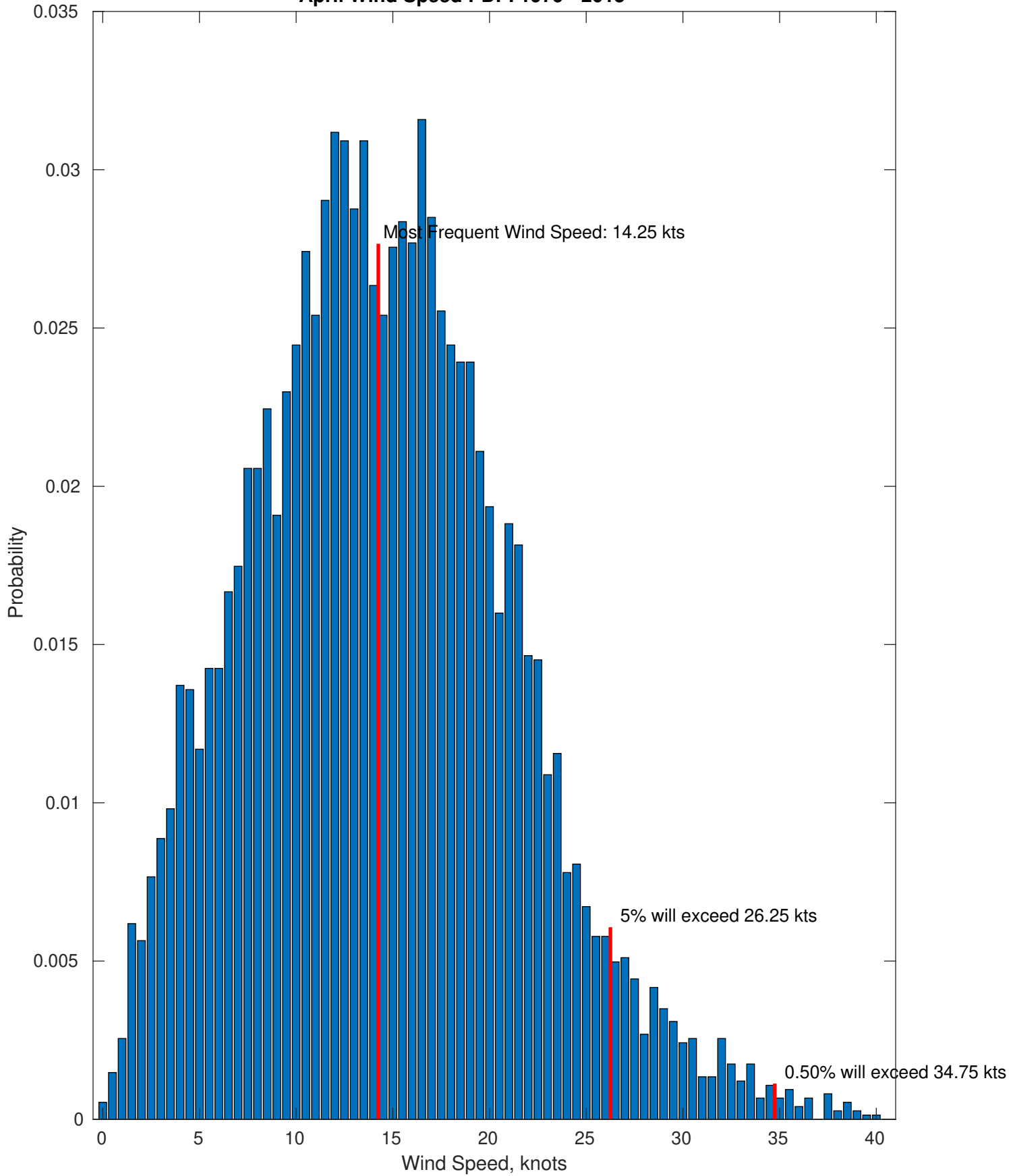
**Wind-Sea: 43.20%**



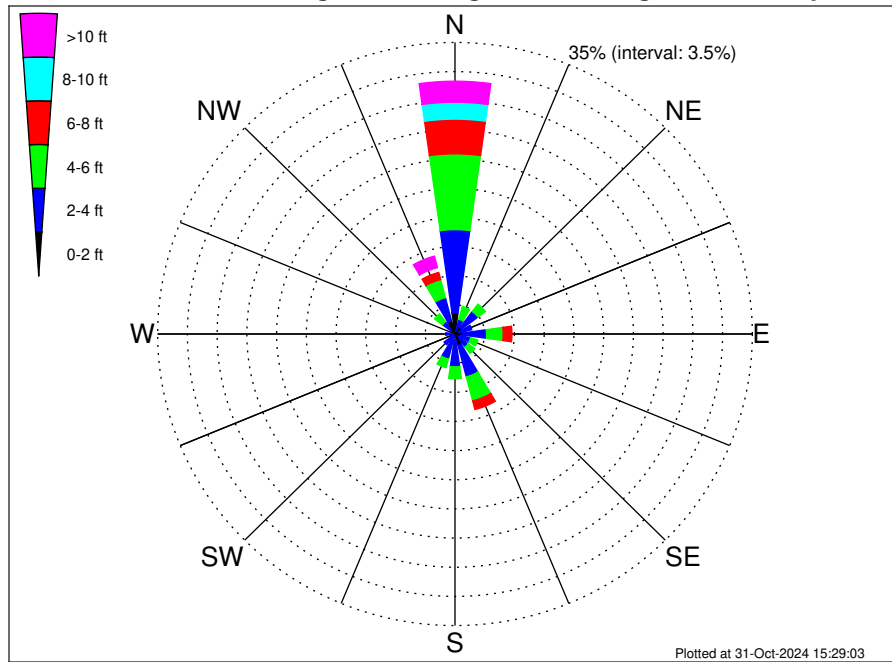
**Swell: 56.80%**



April Wind Speed PDF: 1979 - 2015



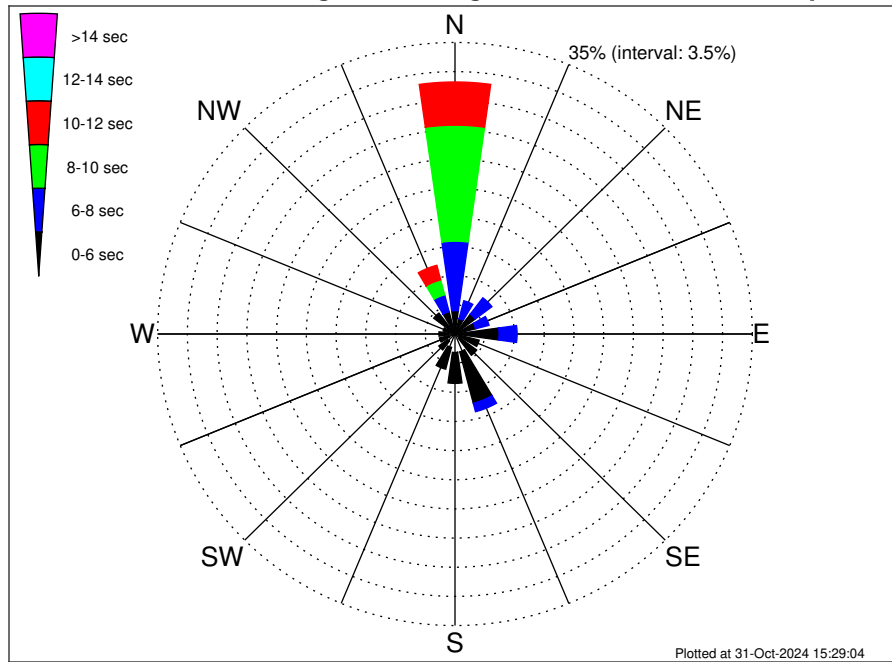
**UK Cable Route GT - Middlesborough Climatological WaveHeight Rose for April: 1979 - 2015**



**Joint Frequency Distribution Table**

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
calm	0.40	•	0.08	0.05	0.03	0.07	0.07	0.19	0.09	•	0.05	0.04	•	•	0.08	0.28	1.44
1 - 2 ft	2.14	0.31	0.91	0.42	0.90	0.65	0.43	1.22	0.66	0.32	0.26	0.28	0.17	0.08	0.51	1.33	10.59
2 - 4 ft	9.99	1.51	2.39	1.57	2.80	1.18	1.45	3.90	3.19	2.78	1.30	0.67	0.91	0.66	1.25	2.89	38.44
4 - 6 ft	9.10	1.60	1.10	0.81	1.95	0.89	0.98	2.98	1.42	1.06	0.66	0.73	0.67	0.54	1.18	2.24	27.92
6 - 8 ft	4.17	0.70	0.47	0.70	1.03	0.30	0.62	1.08	0.63	0.19	0.12	0.17	0.13	0.20	0.58	0.89	11.98
8 - 10 ft	2.03	0.23	0.35	0.40	0.43	0.08	0.03	0.13	0.15	0.01	•	•	•	0.01	0.08	0.59	4.53
10 - 12 ft	1.29	0.07	0.16	0.13	0.13	0.01	0.04	0.08	0.03	•	•	•	•	•	0.07	0.58	2.59
12 - 14 ft	0.69	•	0.07	0.13	0.05	•	•	0.05	•	•	•	•	•	•	•	0.32	1.32
14 - 16 ft	0.42	•	•	0.03	0.09	•	•	•	•	•	•	•	•	•	•	0.23	0.77
16 - 18 ft	0.13	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.12	0.26
> 18 ft	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.17	0.17
Total	30.35	4.41	5.54	4.25	7.42	3.17	3.62	9.64	6.17	4.37	2.39	1.90	1.90	1.49	3.75	9.65	100.00

**UK Cable Route GT - Middlesborough Climatological WavePeriod Rose for April: 1979 - 2015**

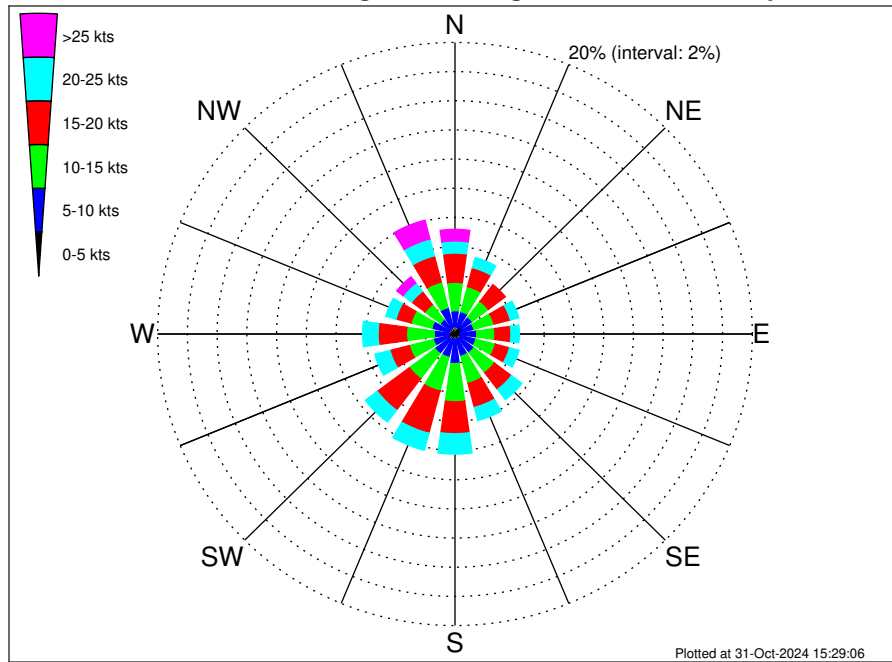


**Joint Frequency Distribution Table**

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
calm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 - 2 sec	•	•	•	•	•	•	0.01	0.03	•	•	•	0.03	•	•	•	•	0.07
2 - 4 sec	0.30	0.26	0.32	0.16	0.35	0.47	0.65	2.18	2.22	1.67	1.09	0.77	0.74	0.40	0.51	0.42	12.49
4 - 6 sec	2.51	1.65	2.66	2.34	4.84	2.47	2.54	6.38	3.71	2.70	1.30	1.10	1.16	1.05	2.63	2.35	41.41
6 - 8 sec	8.33	2.22	2.46	1.64	2.12	0.23	0.42	1.05	0.24	•	•	•	•	0.04	0.56	2.08	21.40
8 - 10 sec	13.92	0.28	0.09	0.11	0.11	•	•	•	•	•	•	•	•	•	0.04	1.85	16.41
10 - 12 sec	5.19	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1.81	7.00
12 - 14 sec	0.09	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.63	0.73
14 - 16 sec	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.46	0.46
18 - 20 sec	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.04	0.04
22 - 24 sec	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Total	30.35	4.41	5.54	4.25	7.42	3.17	3.62	9.64	6.17	4.37	2.39	1.90	1.90	1.49	3.75	9.65	100.00



**UK Cable Route GT - Middlesborough Climatological Wind Rose for April: 1979 - 2015**



**Joint Frequency Distribution Table**

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
calm	0.01	•	0.04	0.01	•	•	0.01	0.03	•	•	0.04	0.04	0.01	•	•	•	0.20
0 - 5 kts	0.50	0.47	0.52	0.39	0.40	0.42	0.38	0.35	0.42	0.34	0.43	0.44	0.39	0.46	0.42	0.48	6.80
5 - 10 kts	1.09	1.12	0.87	0.91	1.06	1.03	1.20	1.20	1.61	1.32	1.21	1.02	0.99	1.16	0.82	1.38	18.00
10 - 15 kts	1.95	1.77	1.37	1.40	1.22	1.36	1.73	1.92	2.62	2.39	2.16	1.67	1.87	1.44	1.29	1.81	27.98
15 - 20 kts	2.00	1.34	1.42	1.13	1.08	0.98	1.44	1.71	2.19	2.98	2.70	1.34	1.91	1.05	1.13	1.85	26.26
20 - 25 kts	0.83	0.71	0.48	0.59	0.56	0.66	0.87	0.93	1.40	1.21	1.01	1.05	1.03	0.71	0.73	1.20	13.98
25 - 30 kts	0.48	0.16	0.13	0.23	0.19	0.13	0.13	0.24	0.36	0.27	0.35	0.24	0.23	0.30	0.42	0.75	4.62
30 - 35 kts	0.30	0.07	0.19	0.12	0.15	0.01	0.03	0.07	0.11	0.08	0.01	•	0.04	•	0.09	0.40	1.67
35 - 40 kts	0.01	0.12	0.01	0.01	•	•	0.01	0.07	0.01	0.03	•	•	•	0.01	0.01	0.16	0.47
40 - 45 kts	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0.01	0.01
45 - 50 kts	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Total	7.18	5.77	5.05	4.80	4.66	4.60	5.81	6.51	8.72	8.62	7.92	5.81	6.48	5.12	4.91	8.06	100.00