

September 2017 Beaufort Weather Station Summary

Still Standing after Ophelia

Thanks to the hard work of the Beaufort Staff securing the station (and indeed the whole building!) on Sunday night, the Beaufort Weather Station (BWS) managed to survive ex-Hurricane Ophelia, which passed over Ireland on October 16th 2017.

Next month we'll have an in depth look at the 5-minute data from BWS, for now, we can confirm that the peak wind recorded was 21ms⁻¹ (approx. 75 Km/h) during the 16th.

Given that Roches Point (on the opposite side of Cork Harbour) is reported to hold the record for the same day at approximately 150 Km/h, we can now estimate that the roughness length (Z₀) for BWS is in the region of 0.3-0.4m. Extrapolating upwards using these two speeds as a control, we can estimate the building would have experienced gusts in excess of 200 km/h!

Estimated maximum gust speed during Ophelia using BWS and Roches Point as controls for Log Wind Model

Height	ms-1	km/h
50 m	62.784	226.0224
40 m	59.742	215.0712
30 m	55.818	200.9448
20 m	50.292	181.0512
10 m	40.842	147.0312
2m	21	75.6
Logarithmic wind profile with Z ₀ = 0.35		

Weather Summary

Rather Cool (especially during the middle of the month)

September was a cool month, with maximum temperatures reaching above 20°C during the first week, and only on three days: the 1st, the 3rd and the 4th of September. The 3rd was the warmest day of the month overall, with a maximum daily temperature (MxDT) of 21.8°C a mean temperature of 17.4°C and a minimum daily temperature (MnDT) of 15.6°C.

The Mean temperature for the entire month was 14.0°C which is still slightly above the Long-Term Average (61-90) for nearby Roches Point.

Month	Departure from Normal Mean Temperature (1961-1990)
April*	+2.2°C
May	+2.4°C
June	+1.8°C
July	+1.3°C
August	+0.4°C
September	+0.5°C

* Beaufort weather station began recording April 11 2017

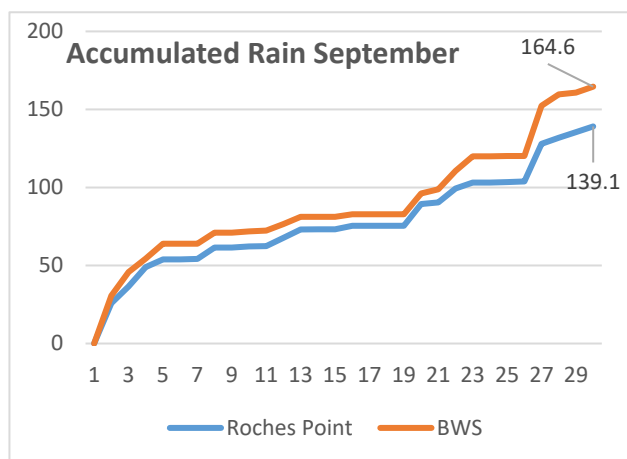
The Highest Diurnal Temperature Range (DTR) was 10.2°C on September 18th which started out as a cold day with a MnDT of 8.1°C at around 7am, rising to a MxDT of 18.3°C by 1pm. The lowest DTR was 2.4°C on September 26th with MxDT of 16.7°C and MnDT of 14.3°C. Mean DTR for the month of September was 6.3°C.

Wet Wet Wet

September was the wettest months since records began at BWS. In total, the weather station recorded 164.6mm of rain during the month of September; this represents 208% of the Long-Term Average of the nearest station operated by Met Éireann (Roches Point, 1961-1990) which is 78.8mm for September, Roches Point itself recorded 139.1mm of rain during the month.

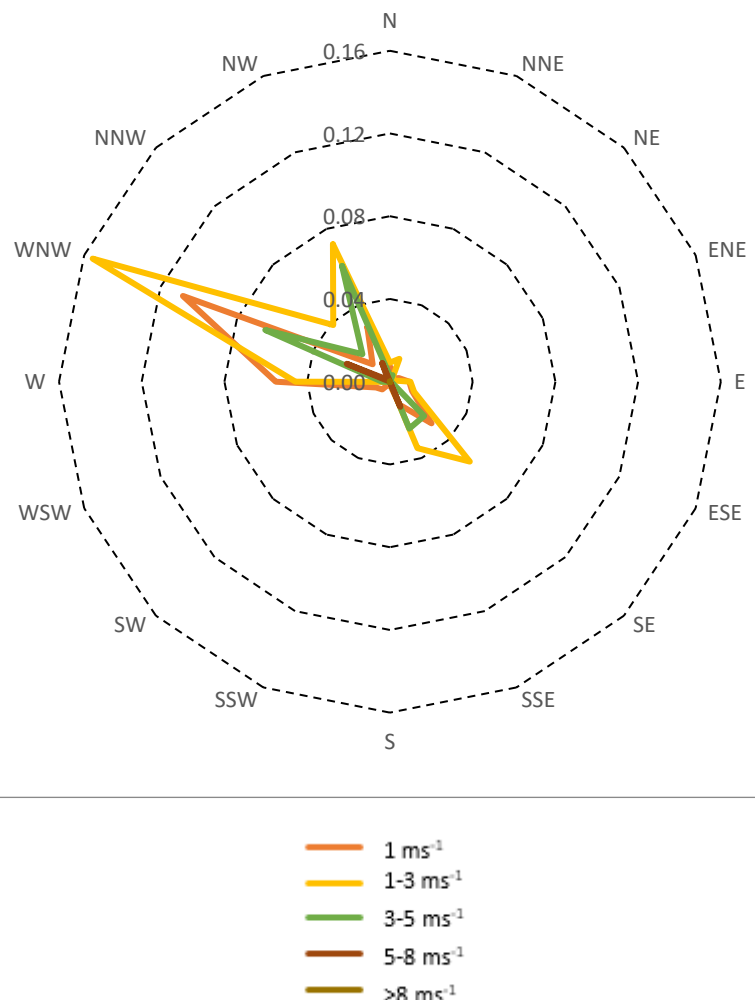
September Rainfall Amounts	Roches Point	BWS
No. of days with rain \geq 0.2mm	21	19
Mean no. of days with \geq 1.0mm	16	16
Mean no. of days with \geq 5.0mm	9	10
Greatest Daily Amount	26mm	32.2mm*

*24 hour period used instead of midnight



Only one windy period during September

Overall wind speeds were light during September with one notable exception between the 10th and 13th of September wind speeds were close to 5 ms⁻¹ for most of this period and peaked at 15.2 ms⁻¹ on the 12th. The mean wind speed was 2.1 ms⁻¹. The average gust speed was 9.1 ms⁻¹ for the month. Wind direction was predominantly from the WNW.



Summary Table

NOAA Report

MONTHLY CLIMATOLOGICAL SUMMARY for SEP. 2017

NAME: Beaufort Building CITY: Cork STATE: Munster, IRE
ELEV: 5 m LAT: 51° 50' 04" N LONG: 8° 18' 07" E

TEMPERATURE (°C), RAIN (mm), WIND SPEED (m/s)



1	15.0	20.1	15:15	10.3	6:05	3.3	0.3	0.0	1.3	5.4	17:50	NNW
2	13.8	16.8	11:45	8.9	6:35	4.2	0.0	30.6	1.8	12.1	20:45	SE
3	17.4	21.8	17:25	15.6	20:50	0.9	0.3	15.2	1.2	6.3	1:00	SSE
4	17.1	20.4	14:45	14.1	23:50	1.2	0.3	8.6	1.1	4.9	10:15	WNW
5	15.3	18.9	16:00	12.7	6:20	2.7	0.1	9.6	2.5	11.2	18:00	WNW
6	15.0	18.8	15:20	11.2	4:10	3.1	0.1	0.0	1.6	6.3	12:10	WNW
7	15.9	18.5	14:55	13.4	3:10	2.1	0.0	0.0	2.3	9.8	15:00	WNW
8	14.6	17.4	15:20	12.1	00:00	3.4	0.0	7.0	2.5	10.3	19:50	WNW
9	14.3	17.8	15:00	10.8	3:40	3.7	0.0	0.0	3.8	10.3	11:55	NW
10	14.2	17.4	14:00	11.8	20:55	3.8	0.0	0.8	4.1	14.8	18:15	WNW
11	14.0	16.4	15:25	12.0	00:00	4.0	0.0	0.6	4.7	13.0	4:55	NW
12	12.7	16.7	17:35	9.3	3:45	5.3	0.0	4.2	2.9	15.2	21:50	WNW
13	11.8	15.8	13:25	9.1	23:10	6.2	0.0	4.6	3.0	13.0	13:55	WNW
14	13.0	17.0	16:00	7.8	1:00	5.0	0.0	0.0	2.7	10.3	11:30	NW
15	12.9	16.3	14:50	10.9	4:20	5.1	0.0	0.0	2.8	8.9	11:50	NNW
16	11.7	13.5	15:30	10.2	23:55	6.3	0.0	1.6	2.1	7.2	10:20	NNW
17	12.1	16.8	14:00	8.0	7:10	5.9	0.0	0.0	1.3	6.3	14:55	NNE
18	12.6	18.3	13:25	8.1	7:15	5.5	0.0	0.0	1.0	5.4	19:40	WNW
19	13.7	16.6	11:35	10.2	5:05	4.3	0.0	0.0	0.7	5.8	15:55	WNW
20	14.3	15.9	11:25	11.5	23:40	3.7	0.0	13.4	1.6	6.3	7:05	NW
21	12.2	16.2	16:35	8.2	7:35	5.8	0.0	2.6	1.4	7.2	17:15	WNW
22	15.1	19.5	15:35	12.6	0:05	3.1	0.1	11.8	2.0	12.1	5:25	WNW
23	15.5	16.8	13:00	14.2	0:05	2.5	0.0	9.4	2.7	11.2	8:15	SE
24	14.8	19.6	15:25	11.5	23:50	3.2	0.1	0.0	0.5	3.6	12:45	WNW
25	12.8	16.9	15:20	8.4	7:55	5.2	0.0	0.2	0.9	5.8	14:50	WNW
26	15.2	16.7	12:05	14.3	2:50	2.8	0.0	0.0	2.7	12.1	23:20	SSE
27	14.6	16.6	18:30	11.3	23:35	3.4	0.0	32.2	3.6	13.4	6:10	WNW
28	13.4	16.4	13:50	8.8	3:45	4.6	0.0	7.2	1.7	11.2	19:40	SE
29	13.1	15.7	14:20	10.5	20:20	4.9	0.0	1.2	2.0	8.9	12:45	WNW
30	11.8	13.2	16:50	9.8	5:55	6.2	0.0	3.8	0.8	4.5	1:05	E

	14.0	21.8	3	7.8	14	121.5	1.3	164.6	2.1	15.2	12	WNW

Max >= 32.0: 0

Max <= 0.0: 0

Min <= 0.0: 0

Min <= -18.0: 0

Max Rain: 32.21 ON 27/09/17

Days of Rain: 19 (> .2 mm) 14 (> 2 mm) 2 (> 20 mm)

Heat Base: 18.0 Cool Base: 18.0 Method: Integration

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This report was undertaken voluntarily please contact either of the authors directly for more information