

December 2017 Beaufort Weather Station Summary

Weather Summary

December, like the preceding month, saw few extremes in precipitation, wind or temperature. Overall the pattern of November continued, with temperatures continuing to lower, and the monthly average temperature of 7.5°C representing the lowest deviation to date of the Beaufort Weather Station's (BWS) recordings from the Met Éireann long term average (1961-1990), at just +0.3°C.

Apart from a couple of days of heavy rainfall, (Dec 26 and 29), when approximately a third of the month's precipitation occurred, rain levels were fairly even distributed over the rest of the month, with 11 days of no rain recorded.

Winds remained moderate throughout the month, with low averages, and the dominant wind direction was WNW, as we have come to expect from the BWS data.

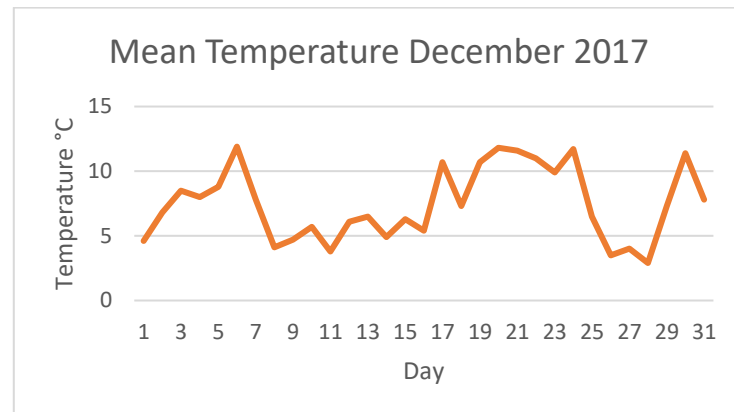
Temperature

Temperatures remained more consistently low this month, with just 8 out of 31 days having an average temperature in the double figures. The average temperature over the month was 7.5°C, which is 0.3°C above the Long Term Averages (1961-1990) recorded at Roches Point. This is the 9th consecutive month that the station has recorded temperatures above the LTA, but so far this is the lowest deviation from the LTA since the station began recording on the 11th of April.

The highest recorded temperature of the month was on the 29th, when the station measures 13.6°C and the lowest was a mere 0.4°C, recorded on the 28th. December saw a few icy days, with warnings in place for motorists, and some intense periods of snow in the first half of the month particularly for the midlands and north. Cork escaped the snow, but we still saw reduced temperatures and frosty mornings because of cold air masses affecting the country.

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
October	+1.6°C
November	+0.7°C
December	+0.3°C

* Beaufort weather station began recording April 11 2017



The above graph illustrates a significant drop in temperatures from December 6th onwards, and

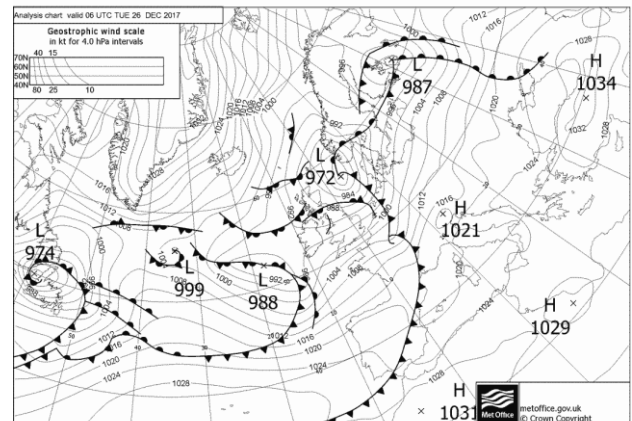
again another nosedive in temperatures around the Christmas period. Cold Arctic air is attributable to both of these events, and despite escaping the worst impact of storm Caroline; this too would have had an effect on our temperatures.

The average diurnal temperature range (DTR) was around 4.9°C. The highest DTR was on December 29th, with a temperature difference of 9.3°C between the highest and lowest temperatures of the day. The lowest DTR was 1.5°C on Christmas Eve, which remained mild all day, with temperatures reaching a high of 12.4°C and a low of 10.9°C. Temperatures dropped significantly for the remainder of the Christmas period.

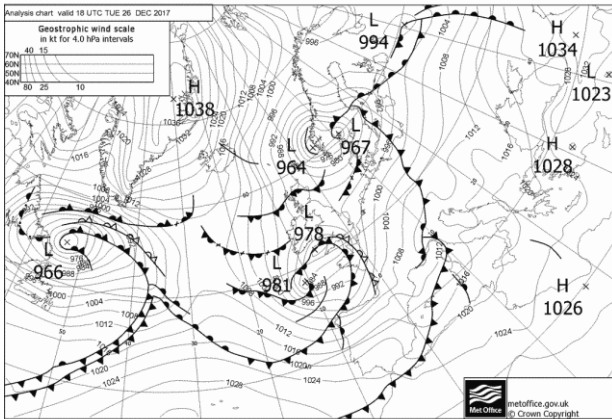
Rainfall

This month saw significantly more rainfall than November, despite more days of 0mm rainfall, with a total of 131mm of rain (130% of the LTA) recorded by the BWS over the course of the month (November recorded 58.4mm. This is significantly higher than the LTA (1961-1990) for Roches Point, which is 100.4mm (BWS recording a +30.6mm departure from LTA). However, one-third of this rain fell over just two days in December (26th and 29th), during two significantly wet and unsettled days.

The highest consecutive period with recorded rain was 6 days between December 5 and 10, with a total of 41.2mm precipitation (or 31% of the monthly total) recorded by BWS in this time period. The longest period of no rainfall was between the 1st and 4th of December, with the rest of the month very wet barring a few short spells of no rainfall. The greatest quantity of rain to fall in a single day was on St. Stephen's Day, with 24mm of rain falling in a 24-hour period. This represented 18% of the month's total precipitation in just one day. St. Stephen's Day was also the coldest day of the month, with an average temperature of just 4°C recorded for the entire day.

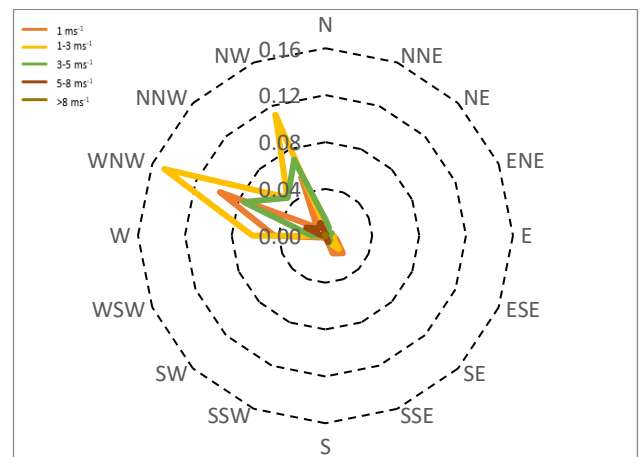
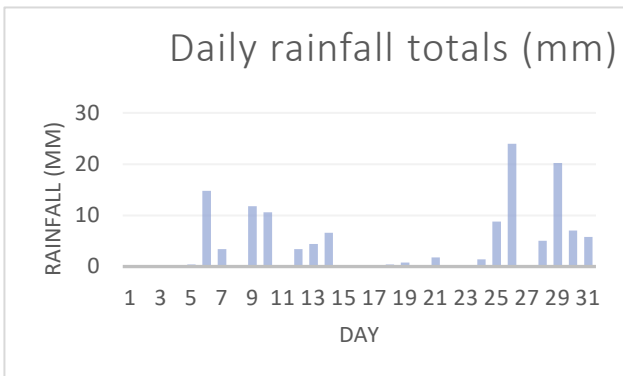
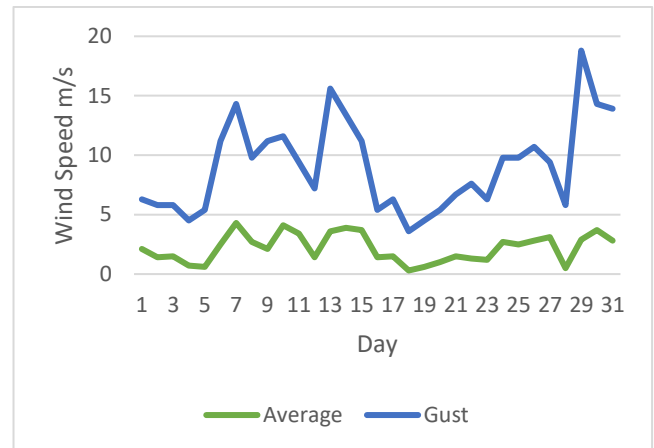


September Rainfall Amounts	BWS
No. of days with rain $\geq 0.2\text{mm}$	5
Mean no. of days with $\geq 1.0\text{mm}$	6
Mean no. of days with $\geq 5.0\text{mm}$	9
No. of days with no rain	11
Greatest Daily Amount	24mm



The above images show the progression of a low-pressure, complex weather system that affected the south of Ireland on December 26th, attributable to these wet and cold conditions.

usual, dominant wind direction is from the WNW, with two days of a different dominant wind direction, December 6 (SE) and 20 (SSE).



Wind

Wind speeds were generally very low in December, with average wind speeds of 2.2ms⁻¹, or 7.92km/h. The highest gust was recorded on 29 December with speeds of 18.8ms⁻¹ logged by the BWS (68kph/Beaufort Force 8). Despite this significant gust, average wind speeds on that day were just 2.9ms⁻¹. As

Variable	Recording for December	Timing
Highest Temperature	13.6°C	December 29
Lowest Temperature	0.4°C	December 28
+/- Climate Normal (1961-1990)	+0.3°C	Ninth consecutive above average record since BMS started recording (April 2017) Lowest deviation to date
Highest DTR	9.3°C (MxDT 13.6°C MnDT 4.3°C)	November 22
Lowest DTR	1.5°C (MxDT 11.7°C MnDT 10.9°C)	November 3
Mean DTR	4.9°C	
Rainfall	131mm	Total July
Rainfall Roches Pt.	100.4mm	BWS represents 130%
No. of days recorded rainfall	20	
No. of dry days	11	
Wettest day	24mm	December 26
Departure from normal rainfall (1961-1990)	+30.6mm	
Longest period no rain	4 days	December 1-4
Dominant wind direction	NNW/NW/WNW	
Mean Wind Speed	2.2ms ⁻¹	
Highest gust	18.8ms ⁻¹	December 29th
Longest period of wind from alternative direction	SE/SSE	December 6 and December 9

MONTHLY CLIMATOLOGICAL SUMMARY for NOV.



NAME: Beaufort Weather Station CITY: STATE:
ELEV: 0 m LAT: 51- 50' 04" N LONG: 8- 18' 08" W

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

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	10.6	13.8	13:55	7.4	3:05	24.1	0.0	0.6	0.5	4.0	1:10	SE
2	10.9	13.3	13:10	7.4	3:05	7.4	0.0	0.2	0.4	2.7	0:10	WNW
3	9.8	10.6	0:05	8.3	7:45	8.6	0.0	0.6	0.4	3.6	23:50	WNW
4	7.9	10.7	12:15	4.7	21:45	10.4	0.0	1.4	3.2	13.9	12:20	WNW
5	7.5	10.8	14:05	5.2	22:45	10.8	0.0	0.2	2.3	9.4	1:45	NW
6	11.3	13.1	11:40	5.8	0:05	7.1	0.0	7.4	1.7	11.6	21:20	WNW
7	7.6	12.4	0:05	4.0	21:20	10.8	0.0	6.8	2.3	13.9	0:10	WNW
8	8.3	12.2	14:00	3.7	7:35	10.1	0.0	0.0	1.0	4.9	1:05	WNW
9	11.7	13.4	15:15	9.7	1:45	6.7	0.0	0.4	2.0	6.3	12:10	WNW
10	12.0	13.2	22:30	10.6	8:15	6.3	0.0	1.2	3.0	9.8	23:15	WNW
11	13.3	15.2	13:50	8.9	00:00	5.0	0.0	3.4	3.1	8.5	14:30	WNW
12	7.8	9.9	15:20	5.7	22:30	10.6	0.0	0.0	2.7	11.2	13:25	NNW
13	7.3	11.1	16:00	2.2	7:15	11.0	0.0	0.0	0.9	4.9	22:05	WNW
14	12.2	14.7	15:05	10.7	23:55	6.2	0.0	0.0	1.1	4.9	15:10	WNW
15	11.1	13.2	13:15	9.8	6:35	7.2	0.0	0.2	0.5	4.5	17:05	WNW
16	9.1	11.8	2:15	3.4	23:45	9.2	0.0	0.4	1.7	7.2	3:25	WNW
17	6.3	9.4	14:45	2.3	6:45	12.0	0.0	0.2	0.4	2.2	8:30	WNW
18	11.7	14.7	13:35	8.8	23:55	6.6	0.0	0.4	1.4	5.8	13:50	WNW
19	10.6	12.4	13:30	8.4	1:00	7.8	0.0	1.2	1.2	8.0	00:00	SE
20	13.6	15.0	13:50	12.1	0:05	4.8	0.0	1.0	2.5	8.0	1:00	W
21	13.1	14.6	13:35	11.9	4:35	5.3	0.0	8.4	1.6	7.6	11:00	W
22	11.1	14.1	7:35	4.8	00:00	7.2	0.0	22.0	2.5	11.2	6:45	WNW
23	6.9	9.9	12:35	3.7	2:25	11.4	0.0	0.0	2.3	11.2	7:10	WNW
24	3.8	7.2	13:55	1.2	8:45	14.6	0.0	0.6	1.8	8.9	16:10	NW
25	4.2	6.6	15:20	1.8	7:55	14.2	0.0	0.0	2.8	8.5	10:05	NW
26	7.1	11.2	23:40	2.4	0:35	11.3	0.0	0.2	2.1	10.3	23:30	WNW
27	8.5	11.6	1:05	5.6	20:55	9.8	0.0	1.6	3.5	10.3	1:00	NW
28	5.6	7.6	15:15	4.2	22:40	12.7	0.0	0.0	2.8	10.3	14:25	NNW
29	4.4	6.5	15:25	3.2	20:20	13.9	0.0	0.0	2.9	9.4	13:50	NNW
30	5.4	8.5	15:20	3.7	0:05	12.9	0.0	0.0	2.6	8.5	17:20	NNW
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	9.0	15.2	11	1.2	24	295.8	0.0	58.4	1.9	13.9	4	WNW

Max >= 32.0: 0
 Max <= 0.0: 0
 Min <= 0.0: 0
 Min <= -18.0: 0
 Max Rain: 22.00 ON 22/11/17
 Days of Rain: 21 (> .2 mm) 5 (> 2 mm) 1 (> 20 mm)
 Heat Base: 18.3 Cool Base: 18.3 Method: Integration

The Beaufort WOS was funded internally by



Paul J. Alexander
paul.alexander@cs0.ie

Title: Statistician
Role: Statistical Systems and Coordination Unit, CSO
Location: Dublin (Ardee Road)
Phone: +353 (0)1 498 4043

Sophie Power
sophie.power@ucc.ie

Title: Research Assistant
Role: Researcher
Location: University College Cork (Beaufort
Building)
Phone: +353 (0)21 486 4344



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