

# MONTHLY WEATHER BULLETIN

NO. 344  
JANUARY 2015



The sun sets over the partially frozen water at Emo Lake, Emo Court, Co Laois. The photo was taken on 18th of January when daily maximum air temperatures in the Laois area were the lowest for the country and reported to be around 5°C. The lowest maximum in the county was 4.2°C at Slieve Bloom Mountains (Nealstown). Minimum temperatures were around -2.0°C in Laois with the lowest minimum reported at Athenry, Co Galway with -4.1°C. These low temperatures and others across the country were attributed to northerly winds. (Picture courtesy Kieran Commins)

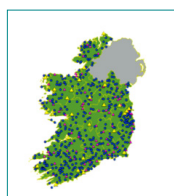
## VARIABLE RAINFALL, TEMPERATURES AND SUNSHINE; EXTREMELY WINDY AT TIMES

Monthly rainfall totals were variable with below Long-Term Average (LTA) rainfall reported in parts of the South, Southeast, East and east Midlands. Above LTA percentage values in parts of Donegal, Galway, Mayo, Clare and Kerry were

above 150%. Percentage of LTA values ranged from 41% at Tullow (Ardoyne Glebe), Co Carlow (monthly rainfall total 35.8 mm) to 189% at Letterkenny (Dromore), Co Donegal (monthly rainfall total 265.0 mm). The month's lowest



### INSIDE



NOTES ON STATIONS  
AND TABLES  
PAGE 3

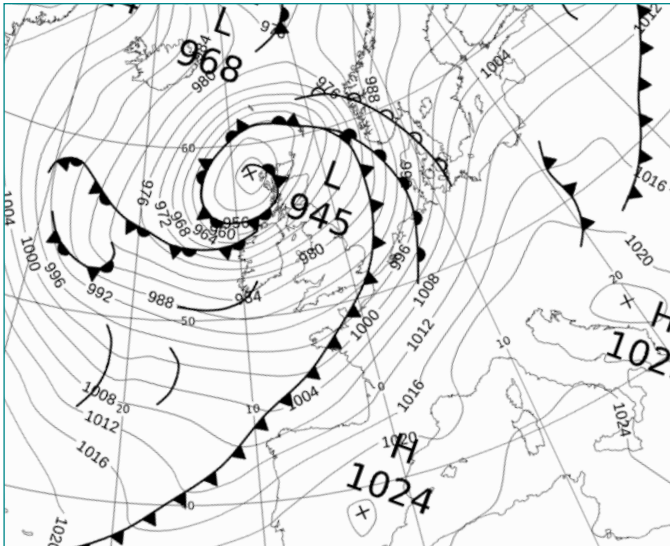
WIND & ELEMENTS.....	4
UPPER ATMOSPHERE.....	5
LABORATORY.....	6
AGMET.....	6/7
DAILY WEATHER.....	8
RAINFALL .....	10
TEMPERATURE.....	12
SUNSHINE .....	14
MARINE & PRESSURE .....	15
GLOBAL WEATHER.....	16

Produced by Met Éireann,  
Glasnevin Hill, Dublin 9.  
Annual subscription  
€80 (excluding VAT of 23%)



or free online at  
[www.met.ie](http://www.met.ie)  
Data analysis based on all  
available data and is correct at  
time of publication.  
For more information or for data  
enquires  
e-mail: [enq@met.ie](mailto:enq@met.ie)

Data and graphics  
© Met Éireann



The month's highest 10-minute mean wind speed of 52 knots (96 km/h) and the month's lowest pressure value of 958.2 hPa were both recorded at Malin Head, Co Donegal in the early hours of the 15th as a deep Atlantic depression of 945 hPa moved near to the northern coastline. (Analysis chart courtesy of Met Office UK)

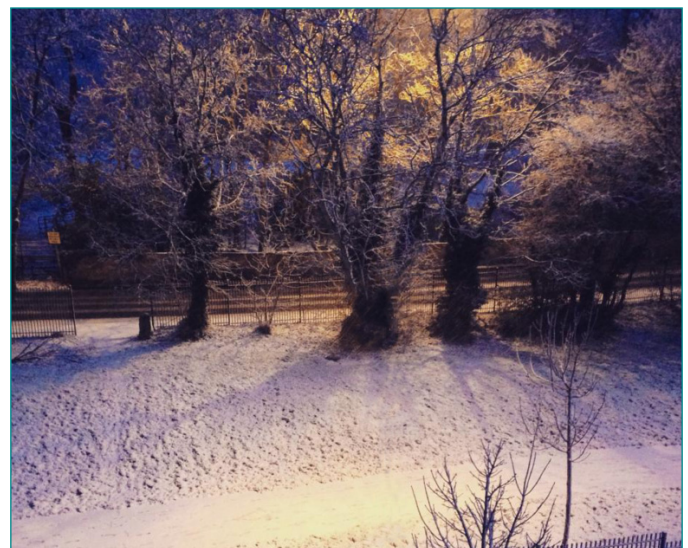
rainfall total was reported at Malahide Castle, Co Dublin with 31.9 mm, while the month's overall highest rainfall total was at a mountain gauge in the Beenreagh Mountains, Co Kerry with 540.1 mm. The month's wettest day was 99.3 mm on the 14th in Co Kerry at Cloone Lake (Caragh River Area), its second wettest day on record since the station opened in 1949.

Monthly mean air temperatures were mainly on or below their Long-Term Average (LTA) with differences from monthly LTA as much as  $-1.1^{\circ}\text{C}$  at both Dublin (Merrion Square) and Ballyhaise, Co Cavan with monthly means of  $5.2^{\circ}\text{C}$  and  $4.0^{\circ}\text{C}$ , respectively. Mean temperatures ranged from  $3.5^{\circ}\text{C}$  at Knock Airport, Co Mayo ( $-0.5^{\circ}\text{C}$  from LTA) to  $7.5^{\circ}\text{C}$  at Sherkin Island, Co Cork ( $0.1^{\circ}\text{C}$  from LTA). Nearly all stations reported colder conditions in 2011. The month's highest maximum was  $17.3^{\circ}\text{C}$  at Ashford (Cronykeery), Co Wicklow on the 9th, its highest January temperature since 2003. Nearly all lowest minima were recorded on the 19th with lowest air minimum of  $-6.2^{\circ}\text{C}$  at Dunsany, Co Meath on the 19th. The month's lowest grass minimum temperature was at Thomastown (Mt Juliet), Co Kilkenny with  $-12.7^{\circ}\text{C}$  on the 19th, its lowest grass minimum temperature since 2010. The number of days with air frost were up to 14 at Dundalk (Annaskeagh WW), Co Louth, while the number of days with ground frost were up to 29 at Horseleap, Co Offaly and Edenderry (Ballinla), Co Offaly.

The majority of sunshine totals were mainly above LTA with values ranging from 79% at Knock Airport, Co Mayo (monthly total of 38.5 hours) to 156% at Dublin Airport (month's highest sunshine total of 92.4 hours), its sunniest January since 1959. The month's sunniest day was 7.8 hours at Dungarvan (Carriglea), Co Waterford on the 31st.

**Wind & elements:** Monthly mean wind speeds ranged from 7.1 knots ( $13.1\text{ km/h}$ ) at Fermoy (Moore Park), Co Cork to 22.1 knots ( $40.9\text{ km/h}$ ) at Malin Head, Co Donegal, with most stations reporting their windiest January in six to 22 years. Gale force and strong gale force winds (10-minute mean wind speeds of over 34 knots ( $63\text{ km/h}$ ) and 41 knots ( $76\text{ km/h}$ )) respectively were reported on over half the days, with storm force winds (10-minute mean wind speed of over 48 knots ( $89\text{ km/h}$ )) reported in coastal areas in the North between the 8th and 10th and along Atlantic coasts on the 14th, 15th and 28th. The highest mean 10-minute wind speed was 52 knots ( $96\text{ km/h}$ ) at Malin Head on the 15th, as a low pressure centre of 945 hPa was situated off the Northwest coast. The month's highest gust was 71 knots ( $132\text{ km/h}$ ) on the 28th at Mace Head as a passing cold front brought squally showers.

Snow was reported on over half of the days in the month in various locations, with snow lying reported mainly in parts of the South, Southwest, Northwest and the Midlands between the 13th and 17th, on the 20th and between the 28th and 31st.



Snow on the ground at Stepside, Co Dublin on January 29th. Snow showers were widely reported on this day with nine days throughout the month reporting snow lying on the ground. (Picture courtesy of Lisa O'Brien)



**GENERAL**

- Met Éireann Synoptic weather stations are both manual and automatic. They report major meteorological elements on an hourly basis.
- Climate and rainfall stations have only one daily meteorological report taken at 0900 UTC.
- Each Climate station reports various meteorological elements of temperature, rainfall, grass temperature, soil temperature and sunshine.
- Rainfall stations report only rainfall. The term rainfall includes all forms of precipitation, such as snow and hail, and deposition from dew or frost.
- For the purposes of this publication a 'day' refers to the period from 0900 UTC on a particular day to 0900 UTC on the following day for all meteorological elements with the exception of sunshine which is based on a 24-hour period starting at 0000 UTC.
- Rainfall amounts are given in millimetres (mm), temperature in degrees Celsius (°C), sunshine duration in hours and wind speed in knots, unless otherwise stated (1knot=1.852 km/hour).
- 'Rain days' and 'wet days' are days during where the total daily rainfall greater or equal to 0.2 mm and 1.0 mm respectively. Very wet days are where rainfall is greater or equal to 10.0 mm.
- \*\* in the global radiation and sunshine tables denotes readings derived from Autosol (automatic radiation and sunshine duration) instruments. There are no LTA comparisons for monthly Autosol sunshine duration totals.
- 'Dull days' are days where the total daily sunshine measured in decimal hours is less than 0.5 (equivalent to 30 minutes).
- The mean air temperature over a period is taken as the mean of the daily maxima and daily minima (averaged separately over the period).
- Days with 'air frost' and 'ground frost' are where the minimum air temperature and grass minimum temperature, respectively, are less than 0.0°C.
- A gale is a mean wind speed over a 10-minute period of 34 knots or more.
- A short burst of high speed wind is a gust.
- Wind speeds refer to the wind at an effective height of 10 metres above ground, with the exception of Malin Head, where the height is 22 metres.
- \*\* in tables denotes that the value is calculated using one or more estimated reading.

**AGMET TABLE**

- Calculated Potential Evapotranspiration (P.E.) values are based on values of temperature, sunshine, wind speed and vapour pressure using the FAO Penman\_Monteith equation. Measured P.E. values are those measured by means of soil-filled tanks sunk into the ground with their upper grass-covered ends at surface level.
- Daily Soil Moisture Deficits (SMDs) are based on moderately drained soils and surpluses are computed from the differences between rainfall, actual evapotranspiration and drainage. Soil moisture surpluses are assumed to be removed by drainage and surface run-off and are therefore not carried forward from one period to the next.

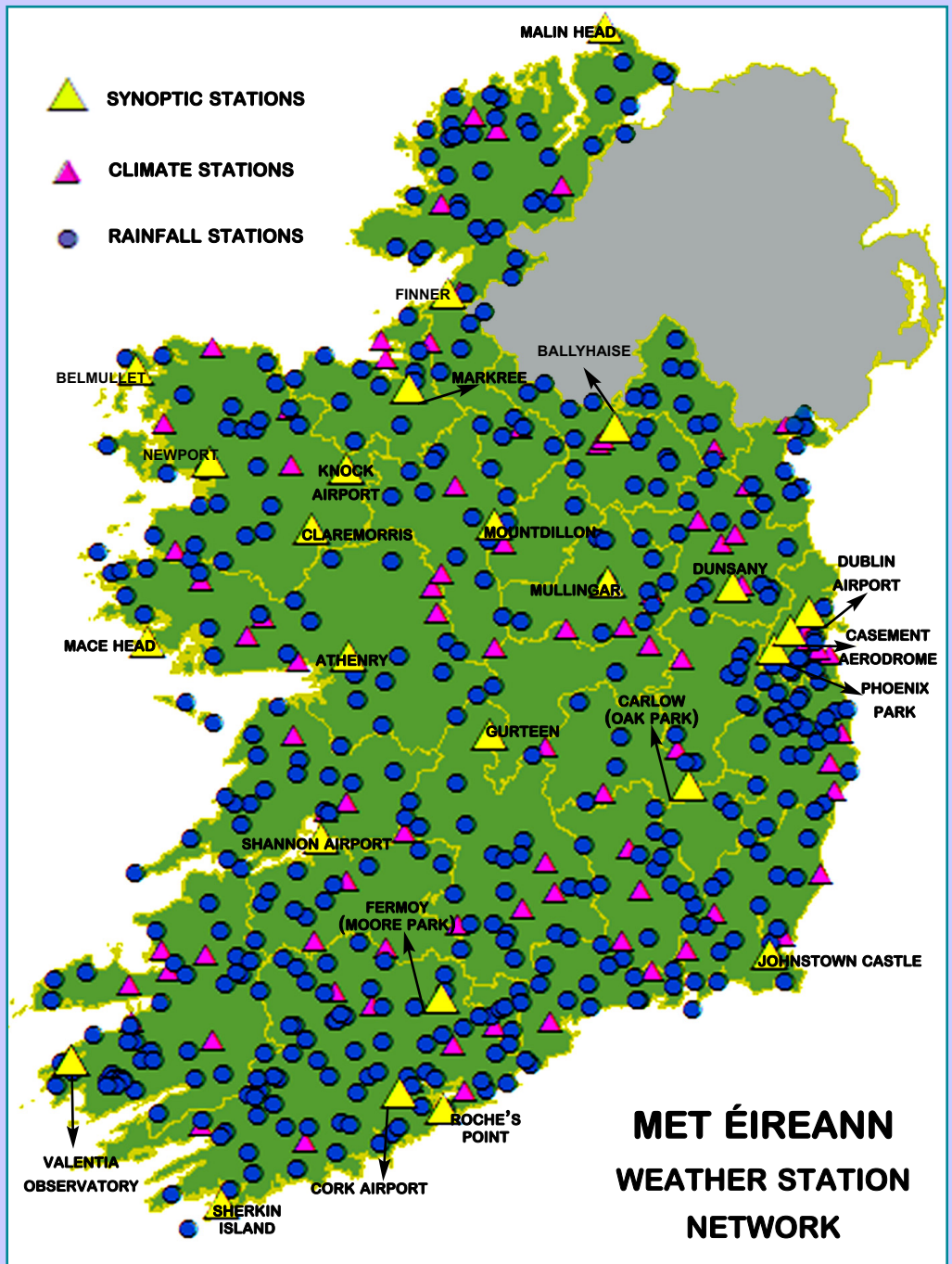
- Degree day totals are calculated using the method set out by McVicker in the Journal of the Institution of Heating and Ventilating Engineers (Vol. 14 No. 38, Nov-Dec 1946).
- Solar radiation values are given in MJ/sq.m. correct to two decimal places (3.60MJ=1kWh).

**LABORATORY DATA**

- Daily samples of air and precipitation are taken at Valentia Observatory at 1000 UTC.
- Air sample data are given in microgrammes per cubic metre, electrical conductivity in micro-Siemens per centimetre and pH in pH units.

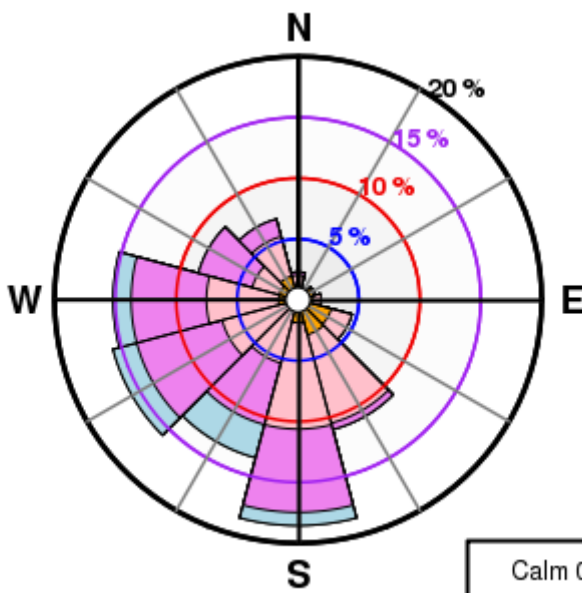
**MARINE TABLE**

- Two buoy types ODAS and FUGRO. ODAS buoys became operational in 2000 while FUGRO buoys have been implemented since 2009.
- Buoys are ODAS (M6) and FUGRO (M2, M3, M4, M5).
- Both buoy types measure air pressure, wind speed and direction, sea and air temperature and humidity.
- ODAS measure the total significant wave height and period (no direction).
- FUGRO buoys measure wave spectra from which several wave directions, heights and periods can be calculated and also measure an individual wave height.

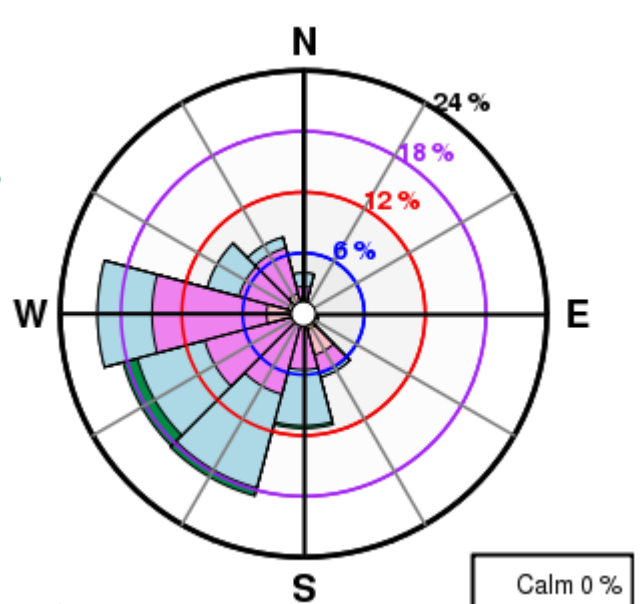


COUNTY / STATION	WIND (knots)										ELEMENTS (no.of days)					
	MEAN SPEED	MAX. 10-MIN. DIR.	MEAN SPEED	MEAN DATE/HOUR	MAX. GUST DIR.	MAX. GUST SPEED	MAX. GUST DATE/TIME	DAYS WITH		HOURS WITH		SNOW	SNOW LYING	HAIL	THUNDER	FOG
								GALES	GUST > 34KNOTS	GUST > 34KNOTS	GUST > 34KNOTS					
<b>CO CARLOW</b> OAK PARK	10.3	190°	32	14/20	180°	46	14/1630	0	12	58						
<b>CO CAVAN</b> BALLYHAISE	8.9	220°	27	15/11	220°	47	15/1113	0	11	59						
<b>CO CLARE</b> SHANNON AIRPORT	11.8	240°	41	9/15	240°	54	9/1452 240° 54 10/0258	4	14	111	2	0	8	3	1	
<b>CO CORK</b> FERMOY (MOORE PARK)	7.1	200°	27	14/19	190°	48	14/1919	0	7	19						
SHERKIN ISLAND	17.1	200°	47	14/13	210°	64	14/1402	11	16	231						
ROCHE'S POINT	16.1	190°	45	14/20	180°	57	14/1409	11	20	148						
CORK AIRPORT	11.9	200°	37	14/20	200°	57	14/1937	1	13	106	8	2	4	0	5	
<b>CO DONEGAL</b> MALIN HEAD	22.1	220°	52	15/06	220°	70	15/ 700	19	23	378						
FINNER	16.4	230°	43	15/01	230°	69	15/ 120	11	19	238						
		330°	43	29/21												
<b>CO DUBLIN</b> DUBLIN AIRPORT	15.1	250°	42	1/21	250°	58	1/2018	6	15	147	8	0	1	0	1	
CASEMENT AERODROME	14.2	200°	38	14/17	200°	59	14/1654	4	15	133	8	0	1	0	3	
<b>CO GALWAY</b> MACE HEAD	21.9	240°	51	14/23	270°	71	28/ 511	15	23	330						
ATHENRY	9.7	230°	31	15/09	240°	49	9/1253 240° 49 10/ 245	0	14	76						
<b>CO KERRY</b> VALENTIA OBSERVATORY	14.0	200°	34	14/17	200°	53	14/1734	2	16	182						
		250°	34	15/01												
<b>CO MAYO</b> CLAREMORRIS	10.7	250°	30	10/02	270°	52	28/ 554	0	14	99						
		210°	30	11/23												
BELMULLET	17.8	210°	49	14/23	230°	66	15/ 539	9	20	288						
NEWPORT	13.6	290°	42	29/20	290°	63	29/2023	3	21	216						
KNOCK AIRPORT	12.6	270°	35	28/05	270°	60	28/ 422	3	14	170	17					8
<b>CO MEATH</b> DUNSANY (GRANGE)	11.3	220°	30	15/13	250°	48	9/1449	0	10	68						
<b>CO ROSCOMMON</b> MOUNTDILLON	9.3	230°	28	15/11	240°	49	15/1117	0	9	58						
<b>CO TIPPERARY</b> GURTEEN (AG COLLEGE)	10.9	240°	32	9/14	240°	48	9/1415	0	12	53						
		230°	32	15/12	230°	48	15/1234									
<b>CO WESTMEATH</b> MULLINGAR	8.0	230°	23	10/02	230°	44	15/1231	0	9	33						
		230°	23	15/12												
<b>CO WEXFORD</b> JOHNSTOWN CASTLE	11.3	220°	29	12/01	190°	53	14/2102	0	13	94						
					190°	29	14/20									

CARLOW (OAK PARK)



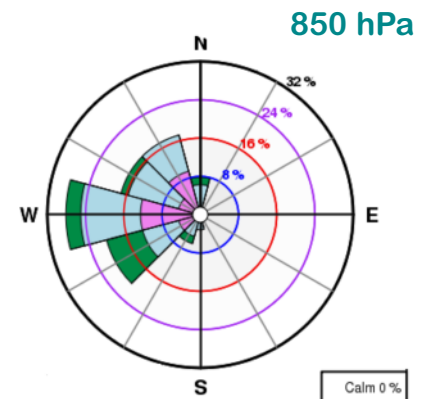
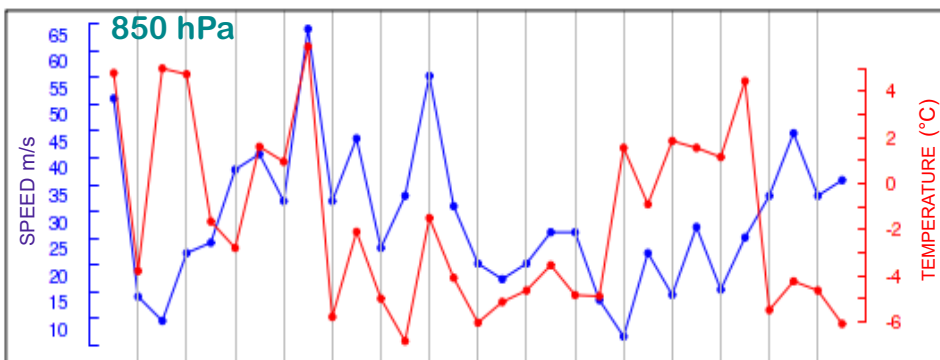
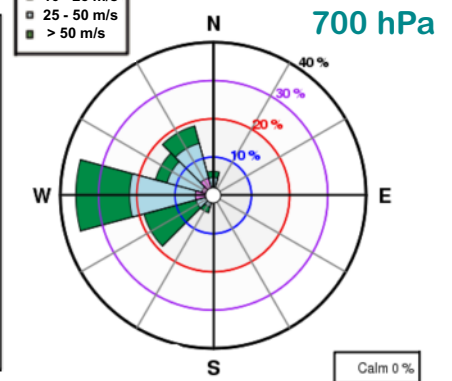
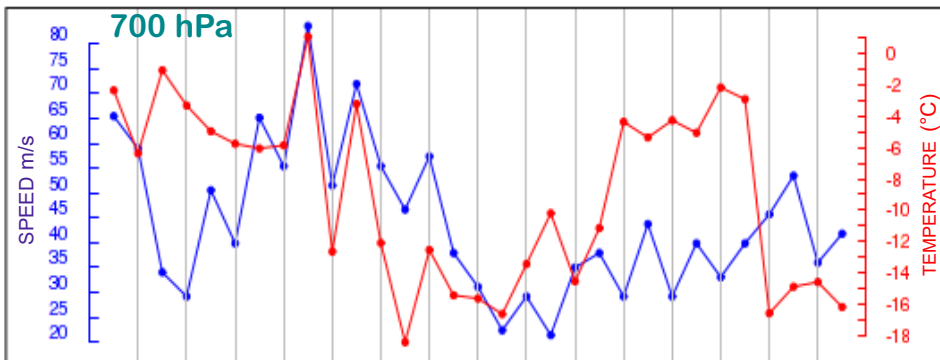
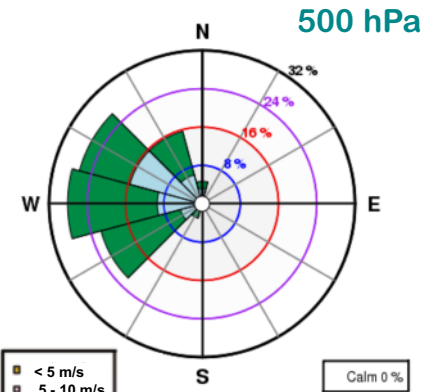
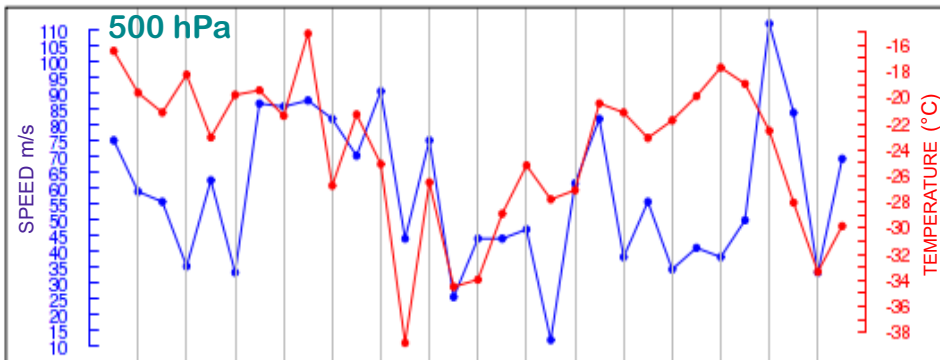
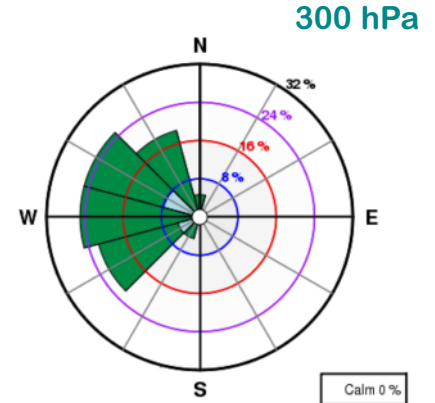
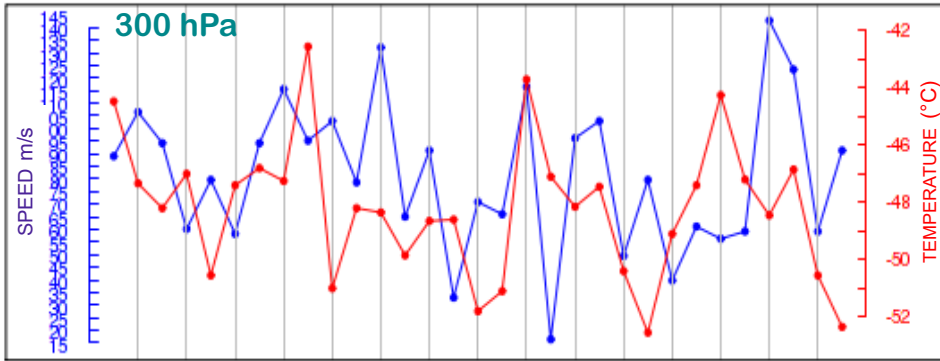
BELMULLET



PERCENTAGE FREQUENCY OF WIND DIRECTION

Upper Atmosphere wind and temperature readings are made at Valentia Observatory twice a day by a radiosonde (a balloon with instruments attached). Shown below are daily average wind speeds and temperatures at defined pressure levels, 850, 700, 500 and 300 hPa, corresponding approximately to heights of 1.5, 3, 6 and 10 km. Monthly wind roses are also shown for each pressure level.

UPPER AIR WIND SPEED AND TEMPERATURE JANUARY 2015



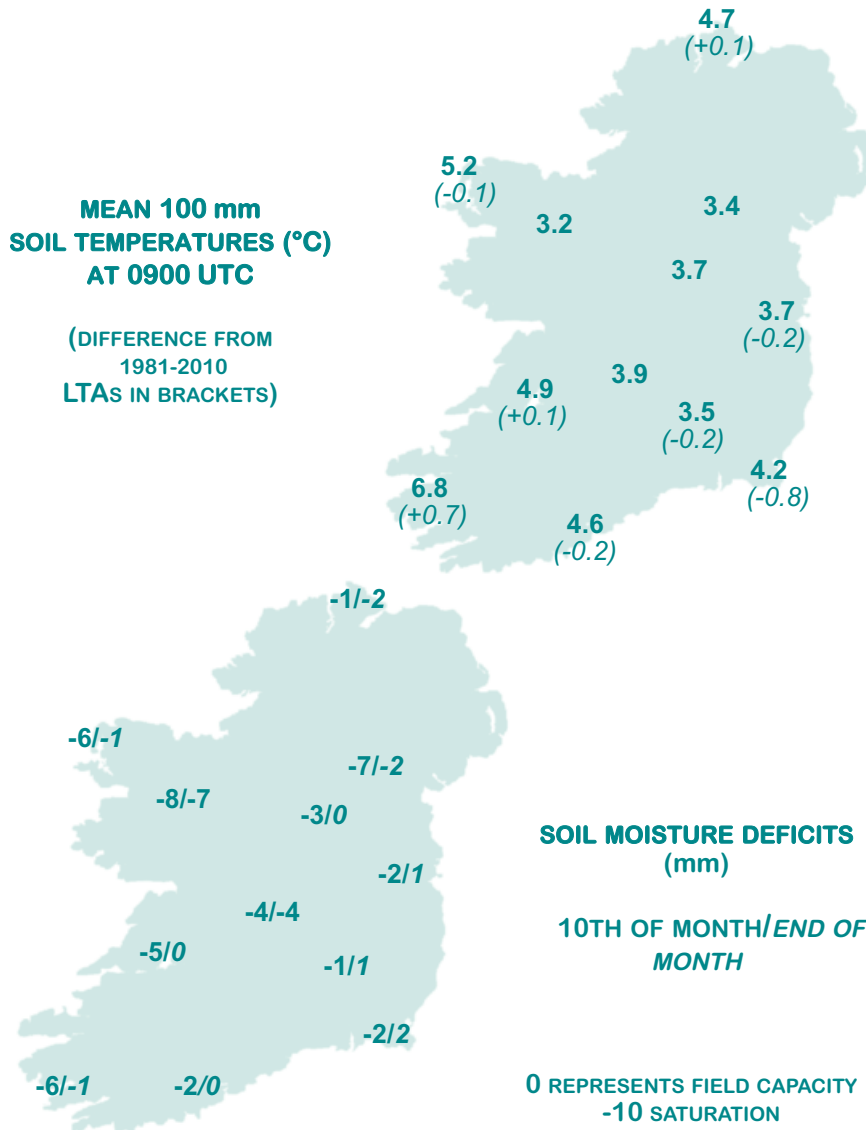
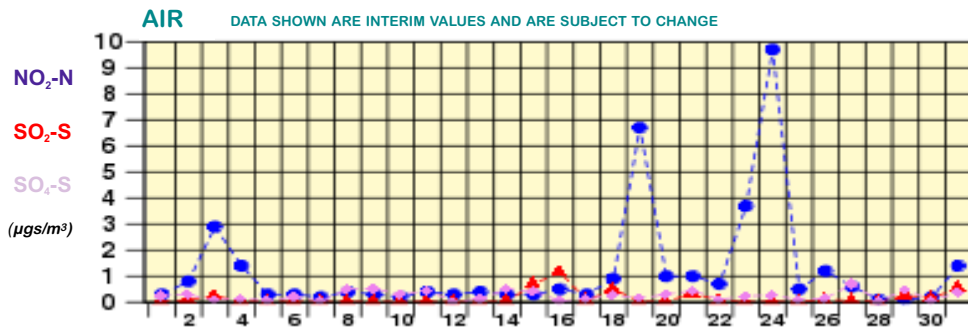
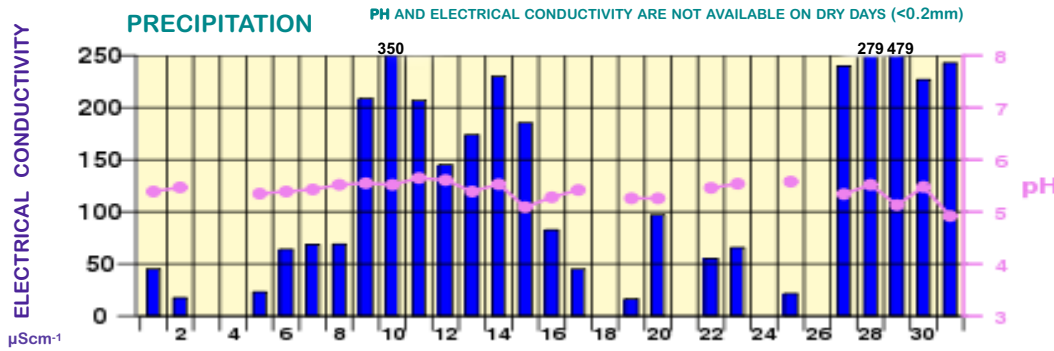
DAY OF MONTH

CHEMICAL ANALYSIS OF PRECIPITATION AND AIR SAMPLES AT VALENTIA OBSERVATORY

Acid rain occurs when pollutants combine with moisture in the air to form sulphuric or nitric acid. pH is the simplest way of measuring the acidity of precipitation. Usually pH of 7.00 is considered neutral but this is not the case in rainfall samples. Pure water in the atmosphere has an equilibrium pH value of 5.65 at 20°C owing to carbon dioxide in the air dissolving to form carbonic acid. Any value below pH 5.65 is considered acid while any value above is considered alkaline.

Conductivity measures the total ion activity in the rainfall, i.e. the higher the conductivity the greater the number of ions.

Sulphur dioxide and sulphate in air contribute to the formation of sulphuric acid; nitrate in air contributes to the formation of nitric acid.



MEAN SOIL TEMPERATURES (°C) AT 0900 UTC

COUNTY/STATION	100 mm	200 mm	300 mm
<b>CO CARLOW</b>			
CARLOW (OAK PARK)	3.5	4.4	4.6
<b>CO. CAVAN</b>			
BALLYHAISE	3.4	4.2	5.0
<b>CO CLARE</b>			
SHANNON AIRPORT	4.9	5.5	6.7
CARRON	4.2		5.2
<b>CO CORK</b>			
ROCHE'S POINT	5.0	6.0	6.3
FERMOY (MOORE PARK)	4.7	5.1	5.6
CORK AIRPORT	4.6	5.9	6.7
SHERKIN ISLAND	6.6	7.4	8.2
BALINCURRIG (PEAFIELD)	5.0	5.6	6.1
<b>CO DONEGAL</b>			
MALIN HEAD	4.7	5.4	6.2
<b>CO DUBLIN</b>			
PHOENIX PARK	3.2	4.2	4.6
DUBLIN AIRPORT	3.6	4.3	4.8
CASEMENT AERODROME	3.7	4.6	5.2
<b>CO KERRY</b>			
VALENTIA OBSERVATORY	6.8	7.4	7.9
<b>CO KILKENNY</b>			
THOMASTOWN (MT JULIET)	4.9	5.6	6.4
<b>CO LIMERICK</b>			
MOUNT RUSSELL	3.8	4.7	
<b>CO MAYO</b>			
BELMULLET	5.2	6.0	6.7
STRAIDE	4.1		
KNOCK AIRPORT	3.2	3.9	4.4
<b>CO MEATH</b>			
WARRENSTOWN	3.3	4.2	4.4
DUNSANY (GRANGE)	3.3	4.7	4.9
<b>CO TIPPERARY</b>			
GURTEEN (AG COLLEGE)	3.9	4.3	4.5
FETHARD (PARSONSHILL)	4.2	4.6	
<b>CO WATERFORD</b>			
DUNGARVAN (CARRIGLEA)	5.8	6.2	
<b>CO WESTMEATH</b>			
MULLINGAR	3.7	4.4	5.2
<b>CO. WEXFORD</b>			
JOHNSTOWN CASTLE	4.2	5.1	5.5
JFK PARK	4.2	5.1	6.7
<b>CO WICKLOW</b>			
ASHFORD (CRONYKEERY)	4.3	5.3	5.9



10-DAY VALUES FOR SELECTED AGROMETEOROLOGICAL STATIONS		RAINFALL (mm)				TEMPERATURE (°C)										SUNSHINE (hours)					
STATION	PERIOD	AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFF. FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS > 4.4°C	DEGREE DAYS > 10.0°C	LOWEST "GRASS-MIN." °C	DATE	DAYS WITH GROUND FROST	MEAN 10CM AT 0900H	MEAN 30CM AT 0900H	TOTAL NO. OF HOURS	% OF AVERAGE
BALLINCURRIG	11-20	48.8	8	6	5.7	-1.1	2.3	-3.7	19	8	5	0	-3.9	19	8	3.5	5.2	19.4			
(PEAFIELD)	21-END	14.5	7	6	7.5	0.7	4.1	-1.0	22	4	11	0	-1.6	22	5	4.4	5.3	39.1			
	<b>MONTH</b>	<b>104.7</b>	<b>76</b>	<b>24</b>	<b>20</b>	<b>7.7</b>	<b>1.0</b>	<b>4.4</b>	<b>-0.7</b>	<b>-3.7</b>	<b>19</b>	<b>12</b>	<b>43</b>	<b>2</b>	<b>-3.9</b>	<b>19</b>	<b>13</b>	<b>5.0</b>	<b>6.1</b>	<b>77.3</b>	<b>127</b>
<b>CO DONEGAL</b>	1-10	113.7	9	8	10.2	3.0	6.6	-1.4	4	1	26	2	-4.0	4	3	-	-	-	-		
GLENTIES HATCHERY	11-20	115.7	10	9	5.4	-0.1	2.7	-3.4	19	4	4	0	-5.9	19	8	-	-	-	-		
	21-END	62.4	11	11	7.8	2.0	4.9	-1.1	21	3	16	0	-3.6	22	5	-	-	-	-		
	<b>MONTH</b>	<b>291.8</b>	<b>158</b>	<b>30</b>	<b>28</b>	<b>7.8</b>	<b>1.6</b>	<b>4.7</b>	<b>-0.3</b>	<b>-3.4</b>	<b>19</b>	<b>8</b>	<b>47</b>	<b>2</b>	<b>-5.9</b>	<b>19</b>	<b>16</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CO KERRY</b>	1-10	43.6	8	8	11.4	5.2	8.3	3.0	4	0	39	5	0.1	4	0	-	-	-	-		
ARDFERT	11-20	68.2	9	9	7.2	1.7	4.5	-2.1	19	2	11	0	-4.3	19	3	-	-	-	-		
(LISCAHANE)	21-END	30.4	10	6	8.8	3.7	6.3	1.6	31	0	23	1	-0.2	31	1	-	-	-	-		
	<b>MONTH</b>	<b>142.2</b>	<b>108</b>	<b>27</b>	<b>23</b>	<b>9.1</b>	<b>3.5</b>	<b>6.3</b>	<b>0.0</b>	<b>-2.1</b>	<b>19</b>	<b>2</b>	<b>73</b>	<b>7</b>	<b>-4.3</b>	<b>19</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CO MONAGHAN</b>	1-10	29.1	9	9	9.6	2.6	6.1	-2.9	4	1	23	3	-3.6	4	3	-	-	-	-		
CARRICKMACROSS	11-20	27.9	8	5	5.5	-0.5	2.5	-5.1	19	5	6	0	-6.1	19	8	-	-	-	-		
	21-END	28.7	9	6	6.9	1.0	4.0	-1.9	23	2	9	0	-2.7	23	8	-	-	-	-		
	<b>MONTH</b>	<b>85.7</b>	<b>95</b>	<b>26</b>	<b>20</b>	<b>7.3</b>	<b>1.0</b>	<b>4.2</b>	<b>-0.6</b>	<b>-5.1</b>	<b>19</b>	<b>8</b>	<b>38</b>	<b>3</b>	<b>-6.1</b>	<b>19</b>	<b>19</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>CO WATERFORD</b>	1-10	44.6	10	8	11.2	4.4	7.8	1.2	6	0	36	5	-1.8	4	5	-	-	8.1	18.7		
DUNGARVAN	11-20	39.6	8	6	7.3	-0.2	3.6	-3.2	19	6	10	0	-7.8	19	9	-	-	5.2	18.4		
(CARRIGLEA)	21-END	9.6	5	4	8.9	1.5	5.2	-1.5	22	3	18	1	-5.0	24	7	-	-	5.3	34.7		
	<b>MONTH</b>	<b>93.8</b>	<b>72</b>	<b>23</b>	<b>18</b>	<b>9.1</b>	<b>1.9</b>	<b>5.5</b>	<b>-0.4</b>	<b>-3.2</b>	<b>19</b>	<b>9</b>	<b>64</b>	<b>7</b>	<b>-7.8</b>	<b>19</b>	<b>21</b>	<b>-</b>	<b>6.2</b>	<b>71.8</b>	<b>135</b>
<b>CO WEXFORD</b>	1-10	45.9	9	9	9.8	4.0	6.9	1.8	7	0	28	2	-1.0	6	5	6.3	8.0	17.0			
JFK PARK	11-20	31.8	6	6	7.1	0.0	3.6	-2.5	19	5	8	0	-7.0	14	9	2.9	6.5	16.2			
	21-END	10.4	7	5	7.9	1.0	4.5	-1.0	22	2	12	0	-4.8	22	9	3.4	5.8	35.0			
	<b>MONTH</b>	<b>88.1</b>	<b>83</b>	<b>22</b>	<b>20</b>	<b>8.2</b>	<b>1.6</b>	<b>4.9</b>	<b>-0.6</b>	<b>-2.5</b>	<b>19</b>	<b>7</b>	<b>48</b>	<b>2</b>	<b>-7.0</b>	<b>14</b>	<b>23</b>	<b>4.2</b>	<b>6.7</b>	<b>68.2</b>	<b>118</b>
<b>CO WICKLOW</b>	1-10	33.1	8	8	10.8	4.6	7.7	-0.7	4	1	35	6	-7.1	4	3	6.2	6.9	21.2			
ASHFORD	11-20	23.8	5	4	7.1	0.8	4.0	-2.3	18	5	10	0	-10.3	19	9	3.2	5.6	21.2			
(CRONYKEERY)	21-END	6.2	5	1	8.3	2.4	5.4	-1.4	23	2	16	1	-7.4	23	10	3.6	5.1	31.2			
	<b>MONTH</b>	<b>63.1</b>	<b>64</b>	<b>18</b>	<b>13</b>	<b>8.7</b>	<b>2.6</b>	<b>5.6</b>	<b>-0.3</b>	<b>-2.3</b>	<b>18</b>	<b>8</b>	<b>62</b>	<b>7</b>	<b>-10.3</b>	<b>19</b>	<b>22</b>	<b>4.3</b>	<b>5.9</b>	<b>73.6</b>	<b>120</b>

P.E. (PENMAN)		GLOBAL SOLAR RADIATION (MJ/m²)				MONTHLY EVAPORATION (mm) FROM CLASS A PAN			
STATION /COUNTY	TOTAL (mm)	STATION /COUNTY	1ST-10TH	11TH-20TH	21ST-END	TOTAL	COUNTY/ STATION	MONTHLY RAINFALL (mm)	MONTHLY EVAPORATION (mm)
<b>CO CARLOW</b>		<b>CO CARLOW</b>							
CARLOW (OAK PARK)	15	CARLOW (OAK PARK)*	21.04	28.12	39.03	88.19			
<b>CO CAVAN</b>		<b>CO CAVAN</b>							
BALLYHAISE	10	BALLYHAISE*	18.51	24.45	32.36	75.32			
<b>CO CLARE</b>		<b>CO CORK</b>							
SHANNON AIRPORT	20	ROCHE'S POINT*	21.33	30.40	47.07	98.80	<b>CO KERRY</b>		
<b>CO CORK</b>		<b>CO DONEGAL</b>					VALENTIA OBSERVATORY	191.2	39.8
CORK AIRPORT	11	MALIN HEAD*	12.70	13.37	24.62	50.69	<b>CO KERRY</b>		
<b>CO DONEGAL</b>		<b>CO DUBLIN</b>					NORTH KERRY LANDFILL	N/A	N/A
MALIN HEAD	24	DUBLIN AIRPORT*	20.90	27.13	39.46	87.49	<b>CO MAYO</b>		
<b>CO DUBLIN</b>		<b>CO KERRY</b>					NEWPORT (FURNACE)	257.4	1.3
DUBLIN AIRPORT	20	VALENTIA OBS.*	19.61	22.93	33.11	75.65	<b>CO OFFALY</b>		
CASEMENT AERODROME	15	<b>CO MAYO</b>					DERRYGREENAGH	86.0	2.7
<b>CO KERRY</b>		BELMULLET*	14.73	16.87	25.66	57.26	<b>CO WATERFORD</b>		
VALENTIA OBS.	25	<b>CO TIPPERARY</b>					DUNGARVAN (CARRIGLEA)	93.8	14.3
<b>CO MAYO</b>		GURTEEN (AG.COLLEGE)*	19.97	24.26	36.52	80.75	<b>CO WEXFORD</b>		
BELMULLET	26	<b>CO WESTMEATH</b>					JFK PARK	88.1	6.8
KNOCK AIRPORT	11	MULLINGAR*	21.39	25.94	35.23	82.56			
<b>CO TIPPERARY</b>		<b>CO WEXFORD</b>							
GURTEEN (AG.COLLEGE)	10	JOHNSTOWN CASTLE*	18.87	28.07	45.59	92.53			
<b>CO WESTMEATH</b>									
MULLINGAR	10								
<b>CO WEXFORD</b>									
JOHNSTOWN CASTLE	14								

GLOBAL SOLAR RADIATION VALUES FOR STATIONS MARKED  
\* ARE PROVISIONAL  
\* ARE FROM NEW AUTOSOL INSTRUMENTS  
RAINFALL VALUES MARKED \* ARE ESTIMATED.

**Thursday 1st:** Mild, wet and windy. Heavy rain in Connacht and Ulster spread to all areas in the morning. The rain gradually cleared southeastwards in the evening and a night with showers followed. Winds were fresh to strong, southwesterly.

*Rainfall: 0.4 mm at Craughwell (Grenage) to 35.1 mm at Maam Valley*  
*Temperature: Lowest max. 11.6°C at Knock Apt, highest max. 15.2°C at Dun Laoghaire.*  
*Lowest min. 4.6°C at Craggaunowen, highest min. 10.5°C at Dooks*  
*Sunshine: Nil at numerous locations to 0.1 hours at Dublin (Glasnevin)*

**Friday 2nd:** Some showers in the West during the morning, but dry elsewhere. The afternoon continued dry. Some rain developed in the West and North during late evening, but remained dry elsewhere. Winds were fresh to strong, southwesterly.

*Rainfall: 0.8 mm at Kingscourt (Drummond) to 36.3 mm at Gap of Dunloe*  
*Temperature: Lowest max. 5.4°C at Dunmoe-Craigs Lane, highest max. 13.1°C at Carron.*  
*Lowest min. 1.4°C at Castleconnell, highest min. 8.2°C at Sherkin Island*  
*Sunshine: 2.2 hours at Sherkin Island to 6.0 hours at Ashford (Cronykeery)*

**Saturday 3rd:** Widespread rain, overnight, cleared eastwards in the morning. Dry for the remainder of the day, with frost setting in quickly after dark in the Midlands, East and North. Sunny in the West and South. Winds were light to moderate, variable in direction.

*Rainfall: Nil at numerous locations to 13.1 mm at Roscrea (New Road)*  
*Temperature: Lowest max. 4.7°C at Carron, highest max. 12.2°C at Roches Pt. Lowest min. -1.1°C at Ballymore, highest min. 7.0°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 5.9 hours at Valentia Obs*

**Sunday 4th:** A transient ridge extended over Ireland as a southerly airflow slowly freshened. Frost in the East cleared quickly, but fog patches lingered for a time in the Midlands. Mainly dry and bright for the day. Winds were light to moderate, south to southeast.

*Rainfall: Nil at numerous locations to 12.8 mm at Cloone Lake (Caragh River Area)*  
*Temperature: Lowest max. 8.4°C at Dun Laoghaire, highest max. 13.5°C at Dooks. Lowest min. -4.2°C at Lullymore Nature Centre, highest min. 6.9°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 5.8 hours at Shannon Apt*

**Monday 5th:** A day of showers, heaviest in the West and Southwest as a cold front passed. A breezy day with mainly southerly winds becoming calmer by midnight, temperatures mild for the time of year. Winds were moderate to fresh, southerly.

*Rainfall: Nil at numerous locations to 29.4 mm at Cloone Lake (Caragh River Area)*  
*Temperature: Lowest max. 8.3°C at Fethard (Parsonshill), highest max. 12.9°C at Dooks.*  
*Lowest min. -1.6°C at Phoenix Park, highest min. 8.4°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 2.3 hours at Sherkin Island*

**Tuesday 6th:** A wet start overnight but rain clearing from the East by morning. Sunny spells in the afternoon with scattered rain and hail showers, mainly in parts of the West and North. Winds were moderate to fresh, southwesterly.

*Rainfall: Nil at numerous locations to 51.3 mm at Maam Valley*  
*Temperature: Lowest max. 8.3°C at Dunsany, highest max. 13.1°C at Mallow (Spa Hse).*  
*Lowest min. 0.0°C at Castleconnell, highest min. 6.3°C at Sherkin Island*  
*Sunshine: Nil at Sherkin Island to 6.6 hours at Dublin Apt*

**Wednesday 7th:** A cloudy, wet and windy day with some heavy rain in parts. The rain turning to showers in the afternoon. Winds were fresh to strong, southwesterly.

*Rainfall: 0.0 mm at Ballyboden to 42.9 mm at Gap of Dunloe*  
*Temperature: Lowest max. 10.0°C at Belderrig, highest max. 13.1°C at Thomastown (Mt Juliet). Lowest min. 0.5°C at Moore Park, Castleconnell, highest min. 6.7°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 2.9 hours at Newport (Furnace)*

**Thursday 8th:** It was a cold start to the day. It was mainly dry in the afternoon, however wet and very windy weather spread eastwards in the evening. Winds were fresh to strong, southwesterly.

*Rainfall: Nil at numerous locations to 29.1 mm at Keenagh Beg*  
*Temperature: Lowest max. 8.9°C at Ballinamore, highest max. 13.0°C at Dooks. Lowest min. 1.5°C at Knock Apt 1.5°C at Straide, highest min. 7.1°C at Sherkin Island*  
*Sunshine: Nil at Edenderry (Ballinla) to 4.4 hours at Arklow (Ballyrichard Hse)*

**Friday 9th:** Heavy rain arrived on the northwest coast around dawn quickly crossing the country, clearing the east coast by late afternoon. Cloudy countrywide, exceptionally mild for January. Winds were fresh to strong, southwesterly.

*Rainfall: Nil at numerous locations to 74.2 mm at Maam Valley*  
*Temperature: Lowest max. 11.9°C at Newport, highest max. 17.3°C at Ashford (Cronykeery).*  
*Lowest min. 0.7°C at Dundalk (Annaskeagh WW), highest min. 8.6°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 2.7 hours at Edenderry (Ballinla)*

**Saturday 10th:** Widespread rain associated with a cold front crossed the country in the early hours of the morning. Heavy wintry showers followed, continuing through the day. A mostly cold day. Winds were strong to gale force, westerly.

*Rainfall: Nil at numerous locations to 18.9 mm at Newport (Ardagh Lodge)*  
*Temperature: Lowest max. 4.9°C at Ballyhaise, highest max. 12.0°C at Delphi Lodge. Lowest min. 2.0°C at Finner, highest min. 7.6°C at Sherkin Island*  
*Sunshine: 1.2 hours at Valentia Obs to 5.6 hours at Dungarvan (Carriglea), Dublin Apt*

**Sunday 11th:** Heavy showers in the western half of the country gradually died out during the early hours of the morning. The showers died out as a band of rain began to push into the Northwest in the evening. Mostly cloudy and mild for the day. Winds were strong, southwesterly.

*Rainfall: Nil at numerous locations to 31.2 mm at Newport (Ardagh Lodge)*  
*Temperature: Lowest max. 6.4°C at Craggaunowen, highest max. 14.4°C at Mallow (Hazelwood). Lowest min. 0.5°C at Knock Apt, Dungarvan (Carriglea), Slieve Bloom Mtns (Nealstown), highest min. 5.0°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 0.1 hours at Dungarvan (Carriglea), Dublin Apt*

**Monday 12th:** Showers developed during the morning but died out by mid-afternoon. A narrow band of showery rain crossed the country during the evening followed by frequent heavy showers. A mostly cold day. Winds were strong, southwesterly.

*Rainfall: Nil at numerous locations to 30.2 mm at Glenvickee (Caragh River Area)*  
*Temperature: Lowest max. 5.2°C at Knock Apt, highest max. 11.1°C at Maam Valley. Lowest min. 0.8°C at Arklow (Ballyrichard Hse), highest min. 8.0°C at Sherkin Island*  
*Sunshine: Nil at Edenderry (Ballinla) to 3.6 hours at Straide*

**Tuesday 13th:** Showers in the West turned wintry bringing thunder and falls of snow and thunderstorms to the North, West and Southwest during the day. Temperatures remained in single figures across the country throughout the day with the lowest in the West and North. Despite the snow showers and thunderstorms there were some good spells of sunshine in the East. Winds were fresh to strong, southwesterly.

*Rainfall: Nil at numerous locations to 50.0 mm at Glenvickee (Caragh River Area)*  
*Temperature: Lowest max. 0.2°C at Knock Apt, highest max. 7.9°C at Sherkin Island. Lowest min. -1.0°C at Belderrig, Ballina Golf Club, highest min. 3.1°C at Sherkin Island*  
*Sunshine: 0.1 hours at Belmullet, Knock Apt to 4.6 hours at Dublin Apt*

**Wednesday 14th:** There were some wintry showers in the North and West. The showers were heaviest in the West of the country with snow melt adding to surface water in places. Winds were strong to gale force, southwesterly.

*Rainfall: 0.0 mm at Ashford (Glanmore Gdns) to 99.3 mm at Cloone Lake (Caragh River Area)*  
*Temperature: Lowest max. 5.0°C at Raphoe (Tops), highest max. 11.6°C at Killarney (Muckross Hse). Lowest min. -3.5°C at Ballincurrig (Peafield), highest min. 2.4°C at Sherkin Island*  
*Sunshine: Nil at numerous locations to 2.4 hours at Edenderry (Ballinla)*

**Thursday 15th:** The day started off with widespread showers, followed by bands of rain which passed rapidly across the country. It was a cold day with temperatures in the mid-single figures dropping lower as the winds abated. Winds were strong to gale force, southwesterly.

*Rainfall: Nil at numerous locations to 55.8 mm at Glenvickee (Caragh River Area)*  
*Temperature: Lowest max. 4.2°C at Cork Apt, highest max. 10.6°C at Sherkin Island. Lowest min. -1.3°C at Mallow (Spa Hse), highest min. 4.9°C at Mace Head*  
*Sunshine: Nil at numerous locations to 3.9 hours at Dublin Apt*

**Friday 16th:** Showers were mainly confined to the West, before becoming more widespread in the evening. Plenty of clear skies and sunshine during the day for many places. Becoming very cold after dark. Winds were moderate to fresh, southwest to northwest.

*Rainfall: Nil at numerous locations to 20.6 mm at Glenvickee (Caragh River Area)*  
*Temperature: Lowest max. 2.0°C at Raphoe (Tops), highest max. 8.5°C at Dooks. Lowest min. -2.5°C at Arklow (Ballyrichard Hse), highest min. 3.6°C at Sherkin Island*  
*Sunshine: 1.5 hours at Edenderry (Ballinla) to 7.1 hours at Dublin Apt*

**Saturday 17th:** A cold day with showers, some thundery and wintry in the West and Northwest. By evening showers spread to all parts, turning more isolated towards nightfall. There were some good spells of sunshine. Winds were light to moderate, southwesterly.

*Rainfall: Nil at numerous locations to 15.0 mm at Ballyhahill (Glenbawn)*  
*Temperature: Lowest max. 2.5°C at Knock Apt, Genealey (Kilmacurragh Park), Slieve Bloom Mtns (Nealstown), highest max. 7.1°C at Valentia Obs. Lowest min. -2.7°C at Moore Park, highest min. 4.2°C at Sherkin Island*  
*Sunshine: Nil at JFK Park to 6.2 hours at Dublin Apt*



**Sunday 18th:** Scattered wintry showers in the early hours with some affecting the East later on. The day overall was quite sunny and dry, but still cold in the northerly winds. Temperatures fell sharply after dark bringing frost and icy patches to roads and some patches of freezing fog. Winds were moderate to fresh, variable in direction.

*Rainfall: Nil at numerous locations to 8.6 mm at Killarney (Muckross Hse)*

*Temperature: Lowest max. 4.2°C at Slieve Bloom Mtns (Nealstown), highest max. 9.1°C at Dooks. Lowest min. -4.1°C at Athenry, Thomastown (Mt Juliet), highest min. 3.0°C at Valentia Obs*

*Sunshine: 1.0 hours at Dublin (Glasnevin) to 7.2 hours at Shannon Apt*

**Monday 19th:** A band of rain or sleet spread into the West during the morning, slowly pushing eastwards through the afternoon and evening. Cold across most of the country with somewhat milder temperatures near southern and western coasts. Mostly cloudy, with some sunshine in the North. Winds were light to moderate, variable in direction.

*Rainfall: Nil at numerous locations to 54.4 mm at Waterville*

*Temperature: Lowest max. 0.0°C at Knock Apt, highest max. 7.4°C at Sherkin Island,*

*Waterford (Tycor). Lowest min. -6.2°C at Dunsany, highest min. 0.8°C at Dooks*

*Sunshine: Nil at numerous locations to 2.8 hours at Dublin Apt*

**Tuesday 20th:** A cold day with rain, sleet and snow. Snow mainly in the Midlands and North. Rain and sleet in the East became more widespread by evening with some thundery outbreaks. Clearing from the West towards nightfall. Low temperatures in a mainly southerly breeze. Winds were moderate to fresh, southeasterly.

*Rainfall: Nil at numerous locations to 24.9 mm at Ballydesmond*

*Temperature: Lowest max. 2.0°C at Raphoe (Tops), highest max. 8.5°C at Dooks. Lowest min. -5.7°C at Dunsany, highest min. 4.2°C at Sherkin Island*

*Sunshine: Nil at numerous locations to 5.5 hours at Sherkin Island*

**Wednesday 21st:** Frost and icy conditions prevailed in many places in the morning, otherwise it was a cold, bright day with scattered heavy showers. Winds were light to moderate, southeast to northeast.

*Rainfall: Nil at numerous locations to 15.1 mm at Eskeragh*

*Temperature: Lowest max. 4.0°C at Oak Park, Cavan (Drumconnick), highest max. 8.4°C at Dooks. Lowest min. -2.6°C at Thomastown (Mt Juliet), highest min. 4.8°C at Valentia Obs,*

*Sherkin Island*

*Sunshine: Nil at Edenderry (Ballinla) to 6.9 hours at Wexford Wildfowl Reserve*

**Thursday 22nd:** Light breezes led to early morning fog in parts of the Midlands and East which lingered for most of the day in some places keeping temperatures in the low single figures. Rain in some western parts with patchy drizzle on Atlantic coasts. Winds were light, west to northwest.

*Rainfall: Nil at numerous locations to 18.4 mm at Tralee (Lisaboula)*

*Temperature: Lowest max. 5.9°C at Mullingar, Ardee (Boharnamoe), highest max. 11.4°C at Killarney (Muckross Hse). Lowest min. -3.7°C at Mullingar, highest min. 3.1°C at Sherkin Island*

*Sunshine: 0.4 hours at Sherkin Island to 6.1 hours at JFK Park*

**Friday 23rd:** It was a cloudy day with further rain crossing the country from the West during the afternoon. A short clearance followed with some scattered showers affecting the North and West during the late evening and night. Winds were moderate to fresh, southwesterly.

*Rainfall: Nil at numerous locations to 11.5 mm at Quigley's Point (Three Trees)*

*Temperature: Lowest max. 8.6°C at Knock Apt, highest max. 12.4°C at Mallow (Spa Hse).*

*Lowest min. -3.4°C at Thomastown (Mt Juliet), highest min. 5.6°C at Mace Head*

*Sunshine: Nil at numerous locations to 1.5 hours at Belmullet*

**Saturday 24th:** There was showers in Connacht and Ulster, which gradually died out overnight, while it was cold and frosty further east. The rest of the day was dry apart from a few isolated showers in Ulster. Winds were moderate to fresh, southwesterly.

*Rainfall: Nil at numerous locations to 11.3 mm at Maam Valley*

*Temperature: Lowest max. 6.6°C at Dunsany, highest max. 11.9°C at Mallow (Spa Hse).*

*Lowest min. -2.5°C at Thomastown (Mt Juliet), highest min. 6.2°C at Valentia Obs*

*Sunshine: Nil at Edenderry (Ballinla) to 5.7 hours at Wexford Wildfowl Reserve*

**Sunday 25th:** Dry overnight and through the early part of the day. A band of rain spread into the Northwest in the late afternoon, progressing southeastwards, across the country through the evening. Winds were moderate to fresh, southwesterly.

*Rainfall: Nil at numerous locations to 12.9 mm at Maam Valley*

*Temperature: Lowest max. 9.3°C at Clonroche (Knoxtown), highest max. 13.9°C at Dooks.*

*Lowest min. -1.5°C at Kilkenny (Greenshill), highest min. 7.1°C at Mace Head, Delphi Lodge*

*Sunshine: Nil at numerous locations to 1.5 hours at Edenderry (Ballinla)*

**Monday 26th:** There were scattered showers in the North and West overnight. Elsewhere, throughout the day it was dry. Cloudy in the Southwest, occasional sunny breaks elsewhere. Winds were moderate, southwesterly.

*Rainfall: Nil at numerous locations to 10.0 mm at Kilcar (Cronasillagh)*

*Temperature: Lowest max. 6.3°C at Knock Apt, highest max. 11.8°C at Ardtarmon. Lowest*

*min. 0.5°C at Cavan (Drumconnick), highest min. 7.8°C at Sherkin Island*

*Sunshine: Nil at Valentia Obs to 4.7 hours at Ballincurragh (Peafield)*

**Tuesday 27th:** Dry for most of the day, a band of rain pushed into the Northwest during the late evening. Mostly cloudy, just the odd sunny break. Winds were moderate to fresh, southwesterly.

*Rainfall: Nil at numerous locations to 14.0 mm at Falcarragh (Lough Altan)*

*Temperature: Lowest max. 8.0°C at Clonroche (Knoxtown), highest max. 11.5°C at Dooks.*

*Lowest min. 1.4°C at Ballymore, highest min. 6.8°C at Sherkin Island*

*Sunshine: Nil at numerous locations to 1.6 hours at Dungarvan (Carriglea), Dublin (Glasnevin)*

**Wednesday 28th:** Cold overnight with rain turning into heavy showers. Some wintry, with heaviest in the North and West. Hail, sleet, snow and thunder increasing in the evening. Accumulations of snow also in some parts as temperatures dropped. Good sunny spells elsewhere, but felt cold in strong winds particularly in the West and North. Winds were strong to gale force, southwesterly.

*Rainfall: Nil at numerous locations to 33.3 mm at Riverstown (Glenmore Upper)*

*Temperature: Lowest max. 3.2°C at Ballincurragh (Peafield), highest max. 9.0°C at Newport*

*(Furnace). Lowest min. -0.3°C at Ballymore, highest min. 6.2°C at Sherkin Island*

*Sunshine: Nil at numerous locations to 6.3 hours at Arklow (Ballyrichard Hse)*

**Thursday 29th:** Widespread showers throughout the day, many wintry, thundery and heavy. Low ground temperatures, led to accumulations of snow particularly on high ground. The day continued cold and quite windy with temperatures rising towards night fall. Winds were strong to gale force, west to southwest.

*Rainfall: Nil at numerous locations to 20.2 mm at Cuilcagh Mtns.*

*Temperature: Lowest max. 3.0°C at Slieve Bloom Mtns (Nealstown), highest max. 8.4°C at*

*Newport (Furnace). Lowest min. -0.5°C at Glenties Hatchery, highest min. 4.1°C at Valentia*

*Obs, Sherkin Island*

*Sunshine: 0.1 hours at Knock Apt to 3.1 hours at Dungarvan (Carriglea)*

**Friday 30th:** Some frost and ice in parts overnight cleared as more widespread showers, some wintry, heavy and thundery, affected mainly the Northwest and West, with little or no precipitation in the East. Temperatures were low. Winds were fresh to strong, northwesterly.

*Rainfall: Nil at numerous locations to 13.2 mm at Illies (Pollan Dam WW)*

*Temperature: Lowest max. 4.8°C at Slieve Bloom Mtns (Nealstown), Ballinamore, highest*

*max. 9.0°C at Sherkin Island. Lowest min. -1.0°C at Knock Apt, highest min. 4.3°C at Listowel*

*(Bunaghara)*

*Sunshine: 2.2 hours at Knock Apt to 7.1 hours at Cork Apt*

**Saturday 31st:** Heavy showers in the western half of the country and across Ulster persisted overnight and through the day. Strong northerly winds combined with low temperatures made it feel even colder. Sunniest in the South and East, somewhat cloudier elsewhere. Winds were strong to gale force, northwesterly.

*Rainfall: Nil at numerous locations to 12.2 mm at Glenivkee (Caragh River Area)*

*Temperature: Lowest max. 3.8°C at Knock Apt, highest max. 8.0°C at Cahore (Kilmichael*

*Hse). Lowest min. -1.0°C at Ballymore, highest min. 3.5°C at Mace Head, Belderrig*

*Sunshine: 2.6 hours at Valentia Obs to 7.8 hours at Dungarvan (Carriglea)*

### VARIABLE RAINFALL ACROSS THE COUNTRY

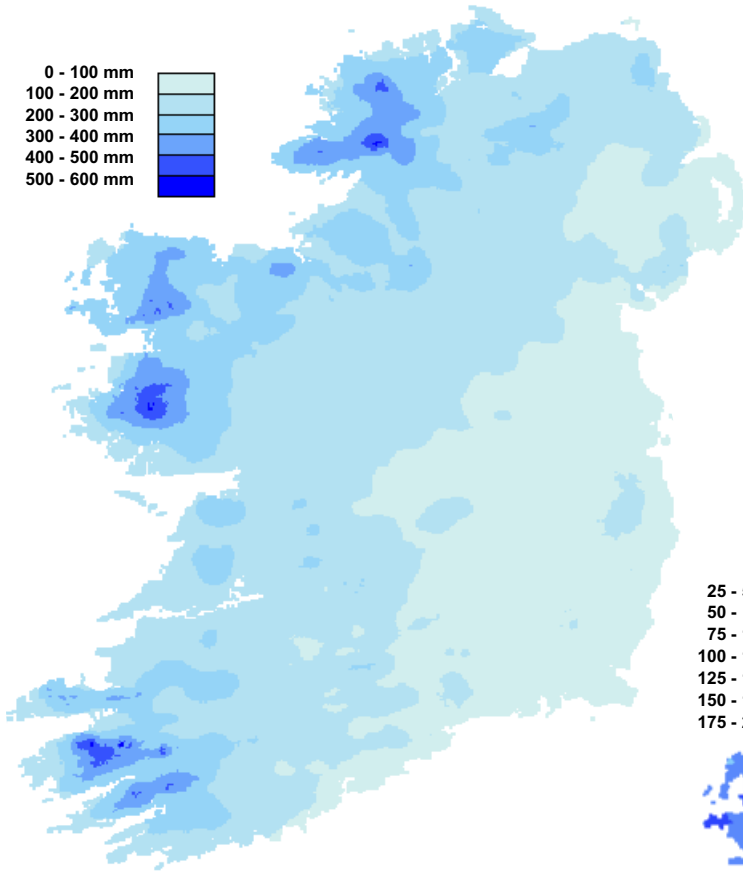
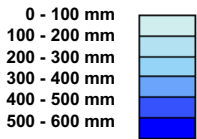
The majority of percentage of Long-Term Average (LTA) values were above average, with below LTA values reported in parts of the South, Southeast, East and east Midlands. LTA values were above 150% in parts of Donegal, Mayo, Galway Clare and Kerry. Percentage of LTA values ranged from 41% at Tullow (Ardoyne Glebe), Co Carlow with 35.8 mm, its third driest January on available record since it opened in 1985 to 189% at Letterkenny (Dromore), Co Donegal with 265.0 mm, its wettest January since the station opened in 1970. Ballyshannon (Cathleen's Fall), Co Donegal had its wettest January with 198.4 mm (163% of its LTA) with over 70 years of January rainfall observations exceeded. A majority of others Donegal stations reported their wettest on record with observation periods of between 10 and 68 years. Monthly rainfall totals in low-lying areas (region below 200 m) ranged from 31.9 mm at Malahide Castle, Co Dublin to 482.2 mm at Maam Valley, Co Galway, with the overall highest accumulation reported at a mountain gauge in the Beenreagh Mountains Co Kerry with 540.1 mm. The majority of stations reported the 2nd or the 14th as their wettest day, with the month's wettest day reported at Cloone Lake (Caragh River Area), Co Kerry on the 14th with 99.3 mm, its highest at the site since 1958 and its second wettest day on available record since the station opened in 1949.

The number of wet days (*days with 1 mm or more rainfall*) ranged from 12 at Celbridge (Ardrass House), Co Kildare and Malahide Castle, Co Dublin to 31 days at Cloone Lake (Caragh River Area), Co Kerry.

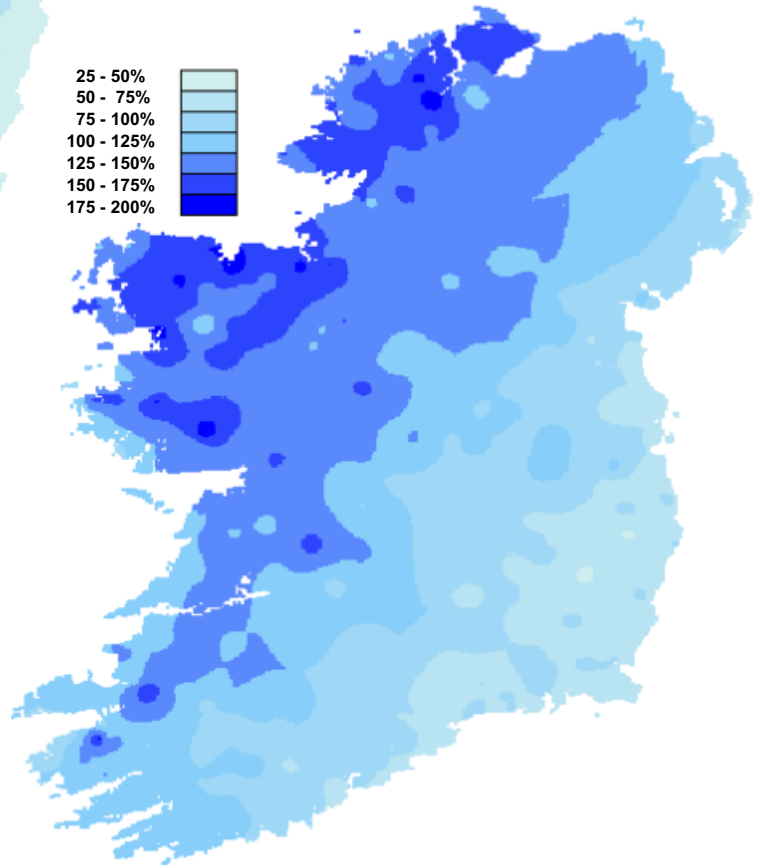
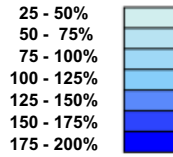
COUNTY/ STATION	TOTAL AMOUNT (mm)	% OF 1981-2010 AVERAGE	MOST IN A DAY / DATE		NUMBER OF RAINDAYS (>0.2mm)	NUMBER OF WETDAYS (>1mm)
<b>CO CARLOW</b>						
CARLOW (OAK PARK)	64.9	81	14.9	14	22	18
<b>CO CAVAN</b>						
BALLYHAISE	133.4	133	16.9	14	25	21
<b>CO CLARE</b>						
CARRON	227.4	132	28.7	9	28	25
SHANNON AIRPORT	126.2	123	12.1	19	24	22
<b>CO CORK</b>						
BALLINCURRIG (PEAFIELD)	104.7	76	23.0	14	24	20
CORK AIRPORT	114.9	87	28.9	14	24	18
FERMOY (MOORE PARK)	105.2	95	17.9	14	27	21
ROCHE'S POINT	78.3	78	12.8	2	21	15
SHERKIN ISLAND	105.6	80	20.2	2	28	22
<b>CO DONEGAL</b>						
BALLYSHANNON (CATHLEEN'S FALL)	198.4	163	19.3	15	29	25
GLENTIES HATCHERY	291.8	158	27.4	14	30	28
MALIN HEAD	175.3	146	17.8	12	26	24
<b>CO DUBLIN</b>						
CASEMENT AERODROME	62.9	99	8.5	14	20	15
DUBLIN (MERRION SQUARE)	50.3	81	6.0	14	17	16
DUBLIN AIRPORT	47.4	76	6.9	9	18	13
DUBLIN (PHOENIX PARK)	58.7	90	8.4	2	17	14
<b>CO GALWAY</b>						
MAAM VALLEY	482.2	165	74.2	9	30	28
<b>CO KERRY</b>						
ARDFERT (LISCAHANE)	142.2	108	15.9	14	27	23
VALENTIA OBSERVATORY	191.2	110	25.6	19	29	27
<b>CO KILKENNY</b>						
THOMASTOWN (MT. JULIET)	69.5	73	12.6	14	23	17
<b>CO LIMERICK</b>						
MOUNT RUSSELL	126.0	99	16.9	19	26	23
<b>CO MAYO</b>						
BELMULLET	171.7	128	24.7	14	30	26
DELPHI LODGE	373.1		50.8	14	30	29
KNOCK AIRPORT	221.7	164	32.3	14	27	26
STRAIDE	219.7	156	35.1	14	29	26
<b>CO MEATH</b>						
WARRENTOWN	66.3	80	8.0	2,14	23	14
<b>CO MONAGHAN</b>						
CARRICKMACROSS (DUNOGE)	85.7	95	14.0	28	26	20
<b>CO OFFALY</b>						
DERRYGREENAGH	86.0	97	11.3	2	24	18
<b>CO ROSCOMMON</b>						
MOUNTDILLON	121.4	116	13.9*	9,14	25*	21*
<b>CO SLIGO</b>						
ARDTARMON	177.8	170	16.7	14	27	26
<b>CO TIPPERARY</b>						
FETHARD (PARSONSHILL)	78.8	86	10.5	2	26	18
GURTEEN (AG.COLLEGE)	106.8	111	11.2	2	25	22
<b>CO WATERFORD</b>						
DUNGARVAN (CARRIGLEA)	93.8	72	19.0	14	23	18
WATERFORD (TYCOR)	79.3	74	11.9	2	21	14
<b>CO WESTMEATH</b>						
MULLINGAR	88.8	96	12.3	14	24	18
<b>CO WEXFORD</b>						
CLONROCHE (KNOXTOWN)	71.5		11.4*	5	20*	15*
JOHNSTOWN CASTLE	77.5	75	11.2	1	21	20
<b>CO WICKLOW</b>						
ASHFORD (CRONYKEERY)	63.1	64	10.6	20	18	13

\* ESTIMATED DATA USED IN CALCULATION. TABLE REPRESENTS DATA FROM A SMALL SELECTION OF RAINFALL STATIONS. ALL DATA IS 09-09 HR

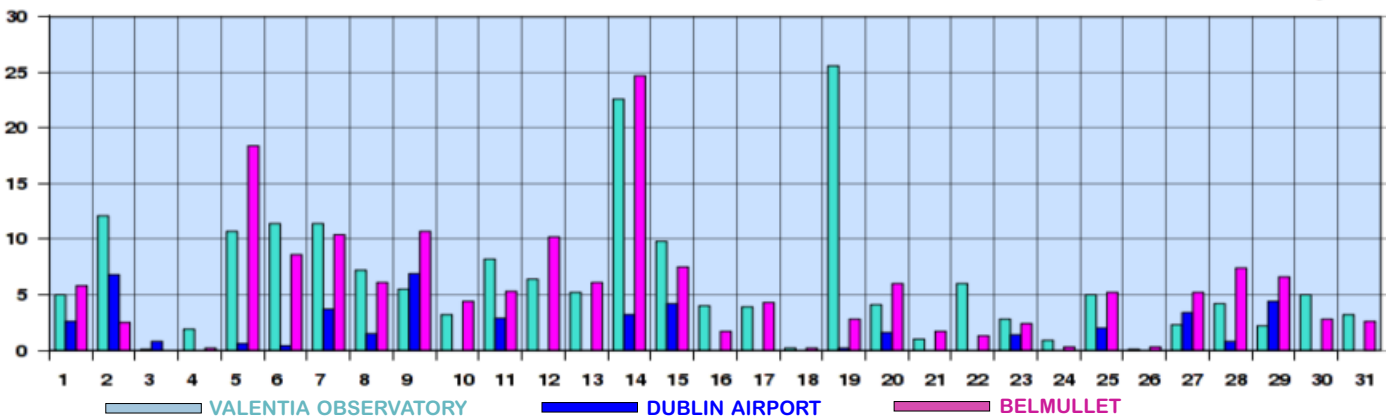
TOTAL RAINFALL (mm)



PERCENTAGE OF NORMAL RAINFALL  
(1981-2010 NORMALS)



DAILY 0901-0900hr RAINFALL VALUES (mm)

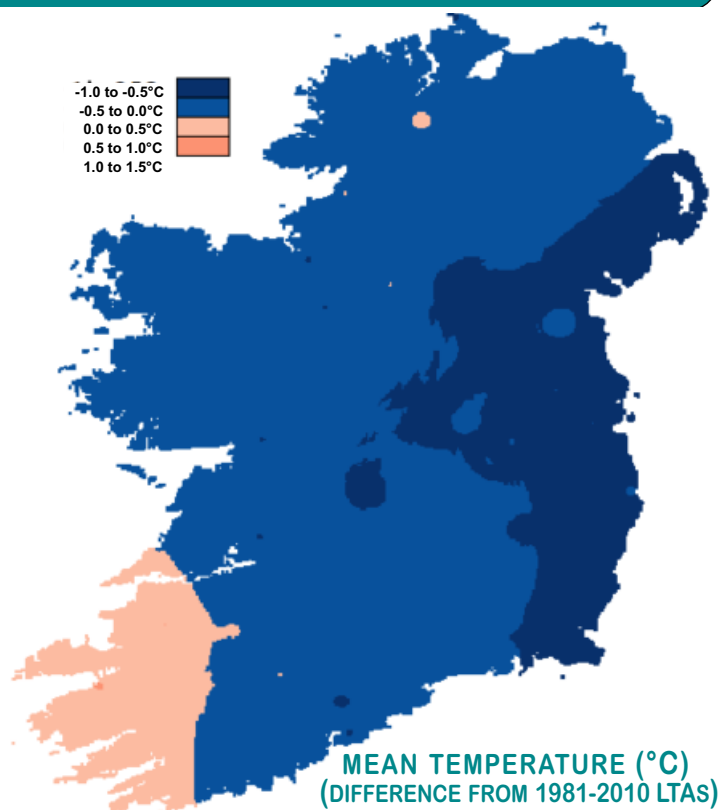




## MEAN TEMPERATURES ON OR BELOW AVERAGE NEARLY EVERYWHERE

Monthly mean air temperatures were mainly on or below their Long-Term Average (LTA). Differences from monthly LTA were as much as  $-1.1^{\circ}\text{C}$  at both Dublin (Merrion Square) and Ballyhaise, Co Cavan with monthly means of  $5.2^{\circ}\text{C}$  and  $4.0^{\circ}\text{C}$ , respectively. Differences were slightly above average at four stations located in Donegal, Limerick and Cork with deviations of  $0.1^{\circ}\text{C}$ . Mean temperatures ranged from  $3.5^{\circ}\text{C}$  at Knock Airport, Co Mayo ( $-0.5^{\circ}\text{C}$  from LTA) to  $7.5^{\circ}\text{C}$  at Sherkin Island, Co Cork ( $0.1^{\circ}\text{C}$  from LTA). Nearly all stations reported colder conditions in 2011.

The majority of highest maxima were reported on the 1st or the 9th. Highest maximum temperatures ranged from  $12.0^{\circ}\text{C}$  at both Johnstown Castle, Co Wexford (on the 1st, its highest since 2003) and Belderrig, Co Mayo (on the 9th its highest on record since the station opened in 1998) to  $17.3^{\circ}\text{C}$  at Ashford (Cronykeery), Co Wickow (on the 9th), its highest since 2003. Nearly all lowest minima were recorded on the 19th with lowest minimum temperatures ranging from  $-6.2^{\circ}\text{C}$  at Dunsany, Co Meath to  $0.8^{\circ}\text{C}$  at Dooks, Co Kerry. The month's lowest grass minimum temperature was at Thomastown (Mt Juliet), Co Kilkenny with  $-12.7^{\circ}\text{C}$  on



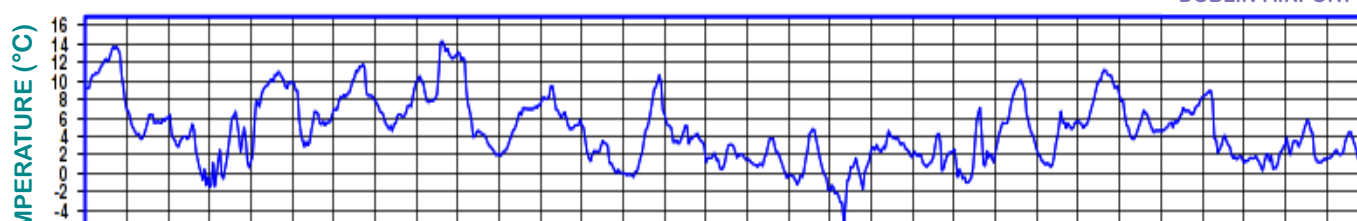
the 19th, its lowest grass minimum temperature since 2010. The number of days with air frost ranged from zero at some locations in the South to 14 at Dundalk (Annaskeagh WW), Co Louth. The number of days with ground frost ranged from three at Sherkin Island, Co Cork to 29 days in county Offaly at both Horseleap and Edenderry (Ballinla).

### HOURLY TEMPERATURES JANUARY 2015

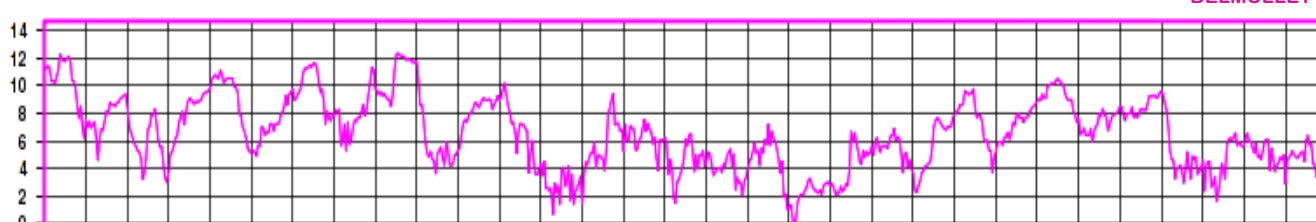
VALENTIA OBSERVATORY



DUBLIN AIRPORT



BELMULLET



DAY OF MONTH

COUNTY/ STATION	MEAN MAX.	MEAN MIN.	DIFFERENCE FROM 1981-2010		HIGHEST MAX./DATE	LOWEST MIN./DATE	LOWEST GRASS MIN./DATE	DAYS WITH FROST	
			MEAN	AVERAGE				AIR	GROUND
<b>CO CARLOW</b>									
CARLOW (OAK PARK)	7.9	1.7	4.8	-0.7	16.2 9	-4.8 19	-9.6 19	8	13
<b>CO CAVAN</b>									
BALLYHAISE	7.1	0.9	4.0	-1.1	13.6 1	-5.2 19	-9.3 19	9	19
<b>CO CLARE</b>									
CARRON	7.8	2.0	4.9	0.0	13.1 2	-1.4 19	-6.5 19	5	17
SHANNON AIRPORT	8.8	2.8	5.8	-0.2	14.7 9	-3.3 19	-5.9 19	4	15
<b>CO CORK</b>									
BALLINCURRIG (PEAFIELD)	7.7	1.0	4.4	-0.7	13.5 9	-3.7 19	-3.9 19	12	13
CORK AIRPORT	8.1	2.3	5.2	-0.4	13.8 9	-2.5 19	-8.2 19	3	19
FERMOY (MOORE PARK)	8.6	1.6	5.1	-0.3	15.5 9	-3.3 19	-5.5 17,19	11	20
ROCHE'S POINT	8.8	3.9	6.3	-0.5	13.5 9	0.2 19	-2.7 19	0	8
SHERKIN ISLAND	9.6	5.4	7.5	0.1	12.9 1	0.0 19	-5.4 19	0	3
<b>CO DONEGAL</b>									
BALLYSHANNON (CATHLEEN'S FALL)	8.2	2.5	5.3	0.1	14.5 9	-2.4 19		3	
GLENTIES HATCHERY	7.8	1.6	4.7	-0.3	12.2 1	-3.4 19	-5.9 19	8	16
MALIN HEAD	8.0	2.6	5.3	-0.6	13.1 9	-1.0 19	-3.5 19	3	14
<b>CO DUBLIN</b>									
CASEMENT AERODROME	7.4	1.2	4.3	-0.8	14.8 9	-6.1 19	-10.5 19	7	19
DUBLIN (MERRION SQUARE)	8.0	2.4	5.2	-1.1	15.1 9	-1.3 19		5	
DUBLIN AIRPORT	7.5	1.2	4.4	-0.9	14.4 9	-6.0 19	-9.3 19	7	16
DUBLIN (PHOENIX PARK)	7.8	1.5	4.6	-0.4	15.0 9	-4.3 19	-10.3 19	8	26
<b>CO GALWAY</b>									
MAAM VALLEY	9.4	2.7	6.1	-0.1	14.3 9	-2.2 19	-5.9 19	3	14
<b>CO KERRY</b>									
ARDFERT (LISCAHANE)	9.1	3.5	6.3	0.0	14.0 9	-2.1 19	-4.3 19	2	4
VALENTIA OBSERVATORY	9.8	4.8	7.3	0.0	14.0 9	-0.5 19	-5.5 19	1	6
<b>CO KILKENNY</b>									
THOMASTOWN (MT. JULIET)	8.7	1.2	5.0	0.0	17.0 9	-6.1 19	-12.7 19	10	23
<b>CO LIMERICK</b>									
MOUNT RUSSELL	8.0	2.2	5.1	-0.4	15.8 9	-2.1 19	-7.8 19	8	19
<b>CO MAYO</b>									
BELMULLET	8.8	3.6	6.2	-0.1	12.4 9	-0.6 19	-5.0 19	1	10
DELPHI LODGE	9.3	3.3	6.3	-0.3	13.9 1	-1.9 19	-7.0 19	2	11
KNOCK AIRPORT	6.4	0.6	3.5	-0.5	12.7 9	-2.3 19	-7.3 19	13	22
STRAIDE	8.5	1.8	5.1	-0.1	14.4 9	-2.5 19	-8.2 19	6	18
<b>CO MEATH</b>									
WARRENTOWN	7.5	1.2	4.4	-0.4	14.4 9	-5.4 19	-9.9 19	7	21
<b>CO MONAGHAN</b>									
CARRICKMACROSS (DUNOGE)	7.3	1.0	4.2	-0.6	13.9 1	-5.1 19	-6.1 19	8	19
<b>CO OFFALY</b>									
DERRYGREENAGH	7.5	0.9	4.2	-0.3	14.0 1	-6.1 19	-6.6 19	10	19
<b>CO ROSCOMMON</b>									
MOUNTDILLON	7.7	1.4	4.6	-0.2	13.8 1	-3.9 19	-6.9 19	6	18
<b>CO SLIGO</b>									
ARDTARMON	8.3	2.5	5.4	-0.2	12.9 1	-0.9 19	-6.0 19	2	14
<b>CO TIPPERARY</b>									
FETHARD (PARSONSHILL)	7.4	1.2	4.3	-0.3	16.0 9	-3.7 19	-4.2 14	10	15
GURTEEN (AG.COLLEGE)	7.7	1.3	4.5	-0.9	14.1 9	-3.9 19	-9.2 19	8	19
<b>CO WATERFORD</b>									
DUNGARVAN (CARRIGLEA)	9.1	1.9	5.5	-0.4	15.0 9	-3.2 19	-7.8 19	9	21
WATERFORD (TYCOR)	8.8	2.7	5.8	-0.1	14.4 9	-2.9 19		3	
<b>CO WESTMEATH</b>									
MULLINGAR	7.1	0.7	3.9	-0.6	13.5 9	-5.8 19	-9.1 19	11	23
<b>CO WEXFORD</b>									
CLONROCHE (KNOXTOWN)	7.6	1.4	4.5	-0.6	16.0 9	-4.6 19	-8.9 19	10	22
JOHNSTOWN CASTLE	7.8	2.5	5.2	-0.8	12.0 1	-1.8 19	-5.6 19	6	16
<b>CO WICKLOW</b>									
ASHFORD (CRONYKEERY)	8.7	2.6	5.6	-0.3	17.3 9	-2.3 18	-10.3 19	8	22

\* PARTIAL DATA USED IN CALCULATION. TABLE REPRESENTS DATA FROM A SMALL SELECTION OF STATIONS. ALL DATA IS 09-09 HR

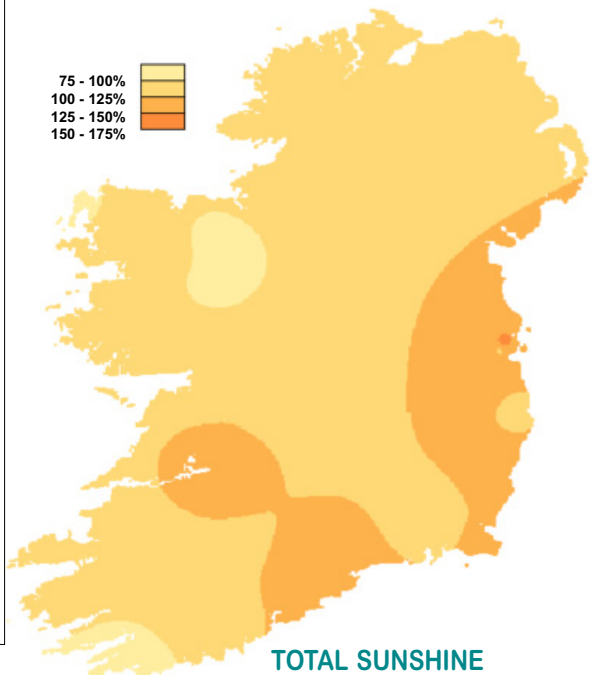
HIGHEST SUNSHINE RECORDED IN THE EAST

Sunshine totals were mainly above LTA with a few isolated areas in the Southwest and West reporting below average values. Percentage of LTA values ranged from 79% at Knock Airport, Co Mayo with the month's lowest sunshine total of 38.5 hours (daily mean of 1.24 hours per day) to 156% at Dublin Airport with the highest monthly total of 92.4 hours (daily mean of 2.98 hours per day), its sunniest January since 1959. The month's sunniest day was 7.8 hours at Dungarvan (Carriglea), Co Waterford on the 31st. The number of dull days (*days with less than 0.5 hours of sunshine*) ranged from nine days at both Dublin Airport and Casement Aerodrome, Co Dublin to 17 days at Knock Airport.

Global solar radiation LTA values ranged from 95% at Belmullet, Co Mayo to 121% at Dublin Airport.

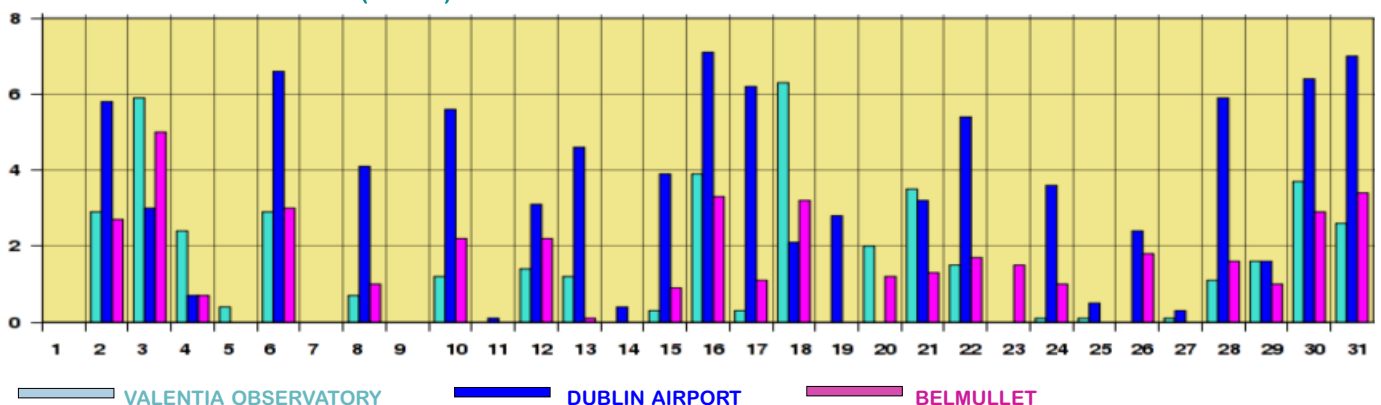
COUNTY/ STATION	DAILY MEAN (HOURS/DAY)	% OF 1981-2010 LTA	DULL DAYS (<0.5 HRS)	MOST IN A DAY/DATE
<b>CO CLARE</b>				
SHANNON AIRPORT	2.22	135	11	7.2 18
<b>CO CORK</b>				
BALLINCURRIG (PEAFIELD)	2.49	127	12	7.2 31
CORK AIRPORT	2.27	123	12	7.3 31
SHERKIN ISLAND	1.53	85	16	6.9 31
<b>CO DONEGAL</b>				
BALLYSHANNON (CATHLEEN'S FALL)	1.53	113	13	5.2 6
<b>CO DUBLIN</b>				
CASEMENT AERODROME	2.21	127	9	6.1 31
DUBLIN (GLASNEVIN)	2.08	122	11	5.7 31
DUBLIN AIRPORT	2.98	156	9	7.1 16
<b>CO KERRY</b>				
ARDFERT (LISCAHANE)	-----	not available	-----	-----
VALENTIA OBSERVATORY*	1.49		14	6.3 18
<b>CO MAYO</b>				
BELMULLET	1.38	98	10	5.0 3
KNOCK AIRPORT	1.24	79	17	5.8 18
NEWPORT (FURNACE)	1.60	118	12	5.7 3
STRAIDE	1.64	107	11	5.9 18
<b>CO WATERFORD</b>				
DUNGARVAN (CARRIGLEA)	2.32	135	11	7.8 31
<b>CO WEXFORD</b>				
CLONROCHE (KNOXTOWN)	-----	not available	-----	-----
JFK PARK	2.20	118	12	7.2 31
WEXFORD WILDFOWL RESERVE	2.30	126	14	7.7 31
<b>CO WICKLOW</b>				
ARKLOW (BALLYRICHARD HSE.)	2.40		11	7.0 16
ASHFORD (CRONYKEERY)	2.37	120	11	6.5 31

\* PARTIAL DATA USED IN CALCULATION  
 \* SUNSHINE DURATION DERIVED FROM AUTOSOL INSTRUMENTS. LONG-TERM AVERAGE COMPARISONS ARE NOT USED WITH AUTOSOL READINGS.



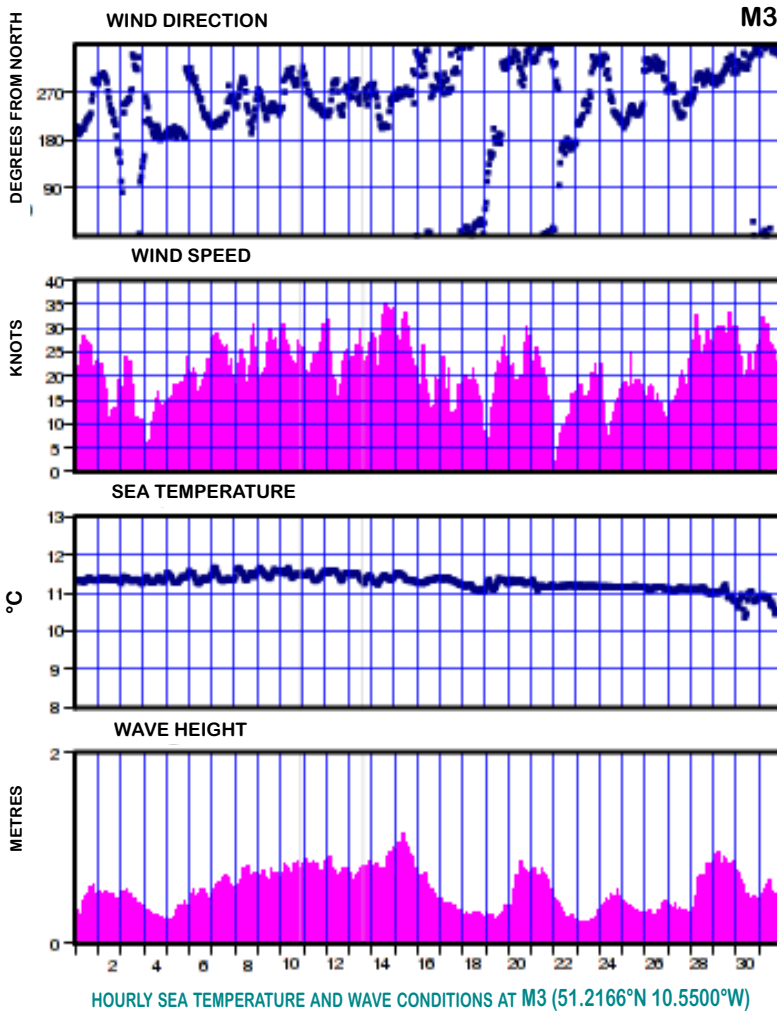
DAILY SUNSHINE VALUES (HOURS)

TOTAL SUNSHINE (PERCENTAGE OF 1981-2010 NORMALS)



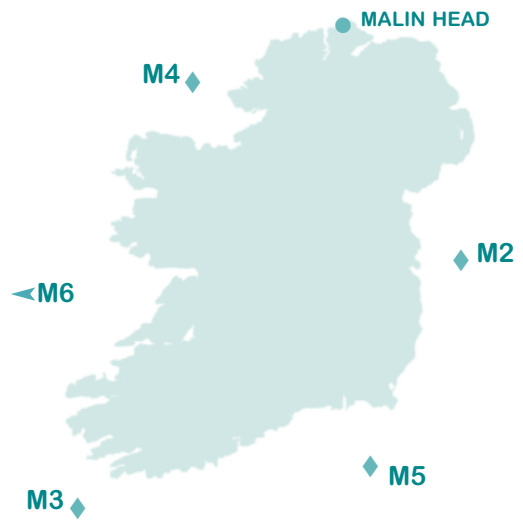


### MARINE OBSERVATIONS FROM IRISH MARINE DATA BUOY NETWORK

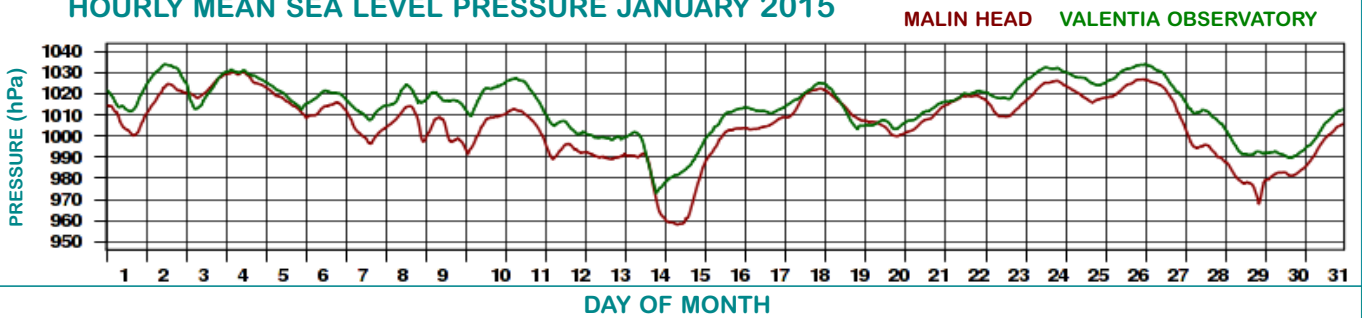


BUOY	SEA SURFACE TEMP. (°C)	MEAN WIND SPEED (knots)	MAX 10-MIN WIND (knots)	MEAN SIGNIFICANT WAVE HEIGHT (m)	MAX SIGNIFICANT WAVE HEIGHT (m)
M2	10.0	20.5	36.9	1.8	5.4
M3	11.3	19.8	35.2	5.4	11.4
M4	10.2	22.3	41.0	n/a	n/a
M5*	10.6	20.2	31.3	3.9	11.1
M6	-----not available-----				
MALIN HEAD	8.1*	* PARTIAL DATA			

#### SUMMARY OF MEAN MONTHLY VALUES

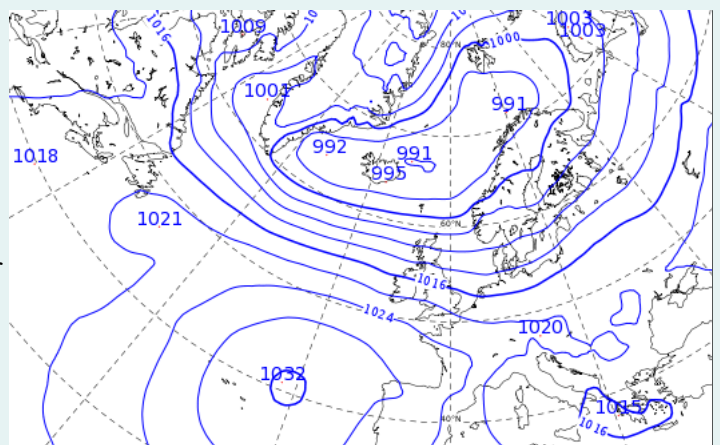


### HOURLY MEAN SEA LEVEL PRESSURE JANUARY 2015



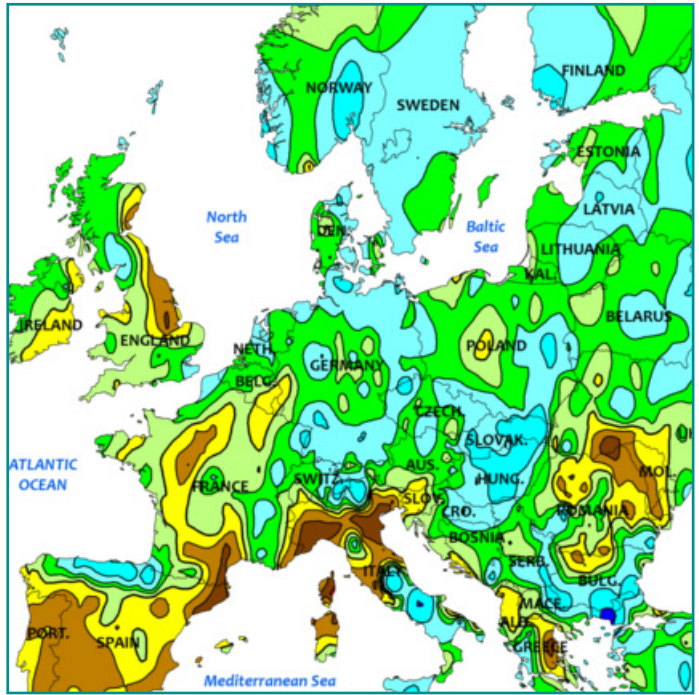
### ATMOSPHERIC PRESSURE

Monthly mean sea level pressure values ranged from just above 1008 hPa in the Northwest to nearly 1014 hPa in the South. The month's lowest pressure value of 958.2 hPa was recorded at Malin Head, Co Donegal on the 15th at 0700 UTC as a depression of 945 hPa was situated off northwest Scotland. The month's highest pressure value of 1034.5 hPa was recorded at 1200 and 1300 UTC on the 2nd at Sherkin Island, Co Cork as a high pressure system of 1042 hPa centred over northern Spain affected the country.

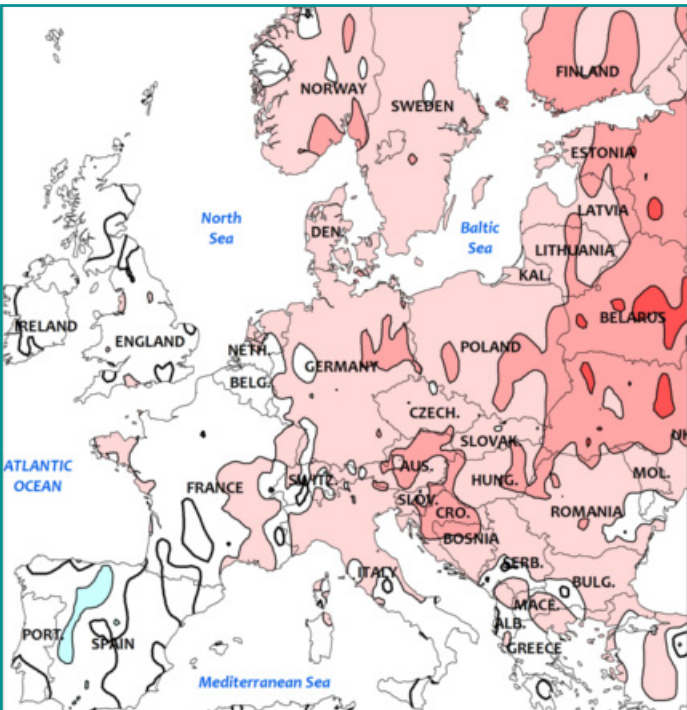


MONTHLY MEAN MSL PRESSURE, BASED ON 1200 UTC VALUES

**JANUARY RAINFALL**  
(PERCENTAGE OF 1961-1990 NORMAL)



**JANUARY MEAN TEMPERATURE**  
(DIFFERENCE FROM 1961-1990 NORMAL)



MAPS SUPPLIED BY NOAA  
CLIMATE PREDICTION CENTRE,  
US DEPARTMENT OF COMMERCE.  
GLOBAL WEATHER HIGHLIGHTS SUPPLIED  
BY AON BENFIELD

**GLOBAL WEATHER SUMMARY**

An Arctic air outbreak and an "Alberta Clipper" impacted central and eastern parts of the U.S. Strong winds, freezing temperatures and significant lake effect snowfall led to some deaths. Wind chill temperatures plummeted to  $-34^{\circ}\text{C}$  across large portions of the country. A powerful storm brought record snowfalls to some areas (91 cm) of snow in Massachusetts and prompted a virtual shutdown of transport systems. States of emergency were declared in numerous locations. Strong winds caused power cuts, while the storm surge caused damage to many coastal towns.

Four windstorms tracked into northwestern Europe leaving at least two people dead in the UK and causing tens of thousands of power outages in Ireland, the UK, Norway, Germany, and Poland. Travel and transport was severely affected across the region. Powerful wind gusts, and uprooted trees caused major disruption to road, rail and ferry services. Tornadoes, large hail, heavy snow, thundersnow, hurricane-force winds, and floods were all reported.

Malawi was worst affected by seasonal floods as 176 incidents were reported with more than 520,000 houses being destroyed. The agricultural sector was seriously impacted, with huge economic losses in the area.

Typhoon Mekkhala, the first typhoon of the season made landfall in Philippines on the 17th. Peaks winds reached 70 knots (130 km/hr). Two people died as a result of torrential rain which triggered flooding and numerous landslides. Widespread extensive damage and huge economic losses.

Some parts of Brazil suffered their worst drought in 84 years (since records began). Low rainfall totals from November 2014 till January 2015 led to a major shortfall in water supply with the main reservoir supplying the metropolitan area of Sao Paulo reporting only 6% of its capacity.