

Monthly Weather Bulletin

No. 280
AUGUST 2009



Wading through floods on the 23rd at the Crinniú na mBad festival held in Kinvara, Co. Galway. (picture courtesy Andrew Downes)

VERY WET IN MOST PLACES; WARM AND DULL FOR MOST OF MONTH

After the wettest July for over 50 years in places, August was another month of very unsettled weather, with rainfall totals well above normal in western and southwestern areas. There was very little variation in the weather pattern throughout August: areas of low pressure passing close to Ireland's north coast brought a succession of

Atlantic frontal systems, giving some significant falls of rain and localised flooding at times. These conditions also gave a mild and cloudy month, but with daytime temperatures only rarely rising above 20°C. It was the wettest August since 1992 at both Malin Head and Belmullet and the wettest since 1985 at Valentia



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of rain from
typhoon
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**Wettest
summer on
record at
Valentia
Observatory**



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Glasnevin Hill, Dublin 9.
Annual subscription 80 euro



For more information-
tel: +353-1-8064260
fax: +353-1-8064216
climate.enquiries@met.ie
www.met.ie/climate

Notes on the tables and map
showing location of stations
appear in January issue

Observatory. Some rainfall was measured on each day of the month at a number of western stations. The number of wetdays recorded during the month (days with 1mm or more rainfall) was well above normal everywhere; there were between 15 and 22 wetdays at most stations compared with the August average number of between 10 and 14. Summer rainfall totals (June to August) were over twice the normal in parts of the southeast and southwest- *see back page*. The heaviest daily falls this month were measured during the second half, particularly on the 19th/20th, 23rd and 31st. Mean air temperatures for the month were a little

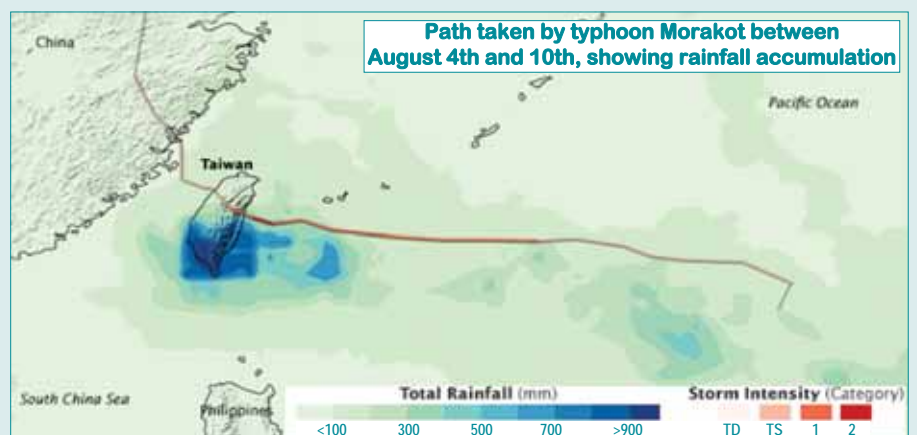
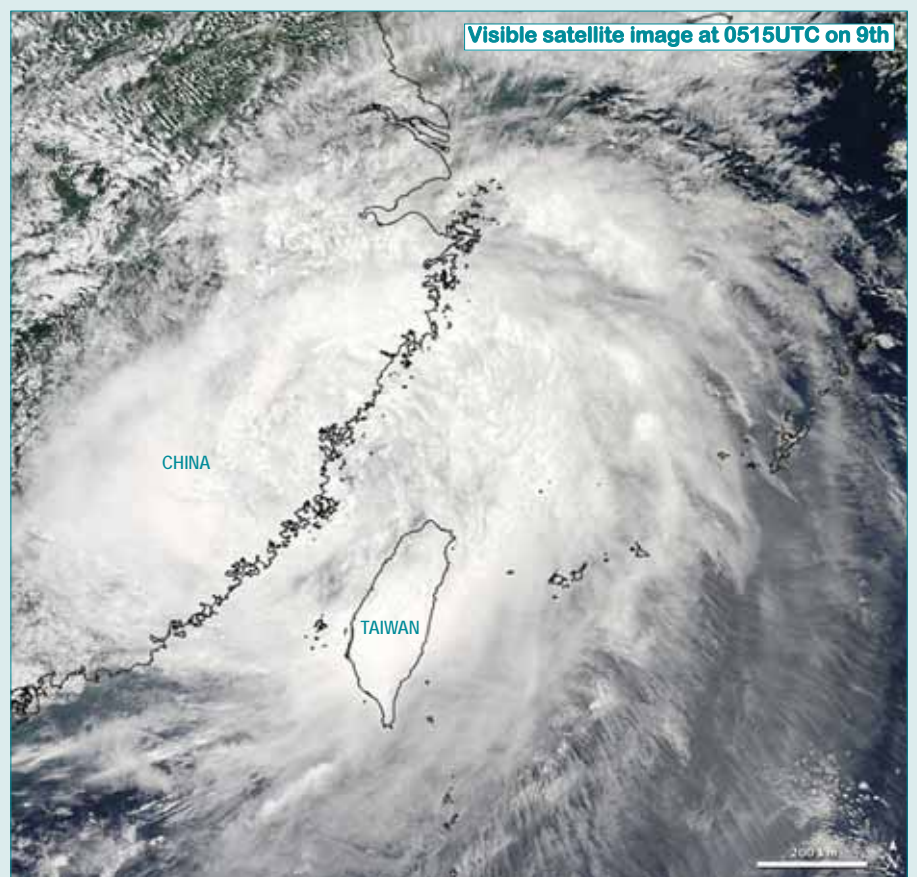
higher than normal generally, but it was a cooler than normal month in the south. While it was the warmest August at Dublin Airport since 2004, it was the coolest for between seven and 15 years at some stations in the west and south. Mean minimum temperatures were over a degree above normal in places, but mean maximum values were below normal generally. Over parts of the west and southwest of the country, the temperature did not rise above 20°C on any day during the month; here, mean maximum values were the lowest for August for between 15 and 17 years. Sunshine totals were below normal generally, with around 80% of normal

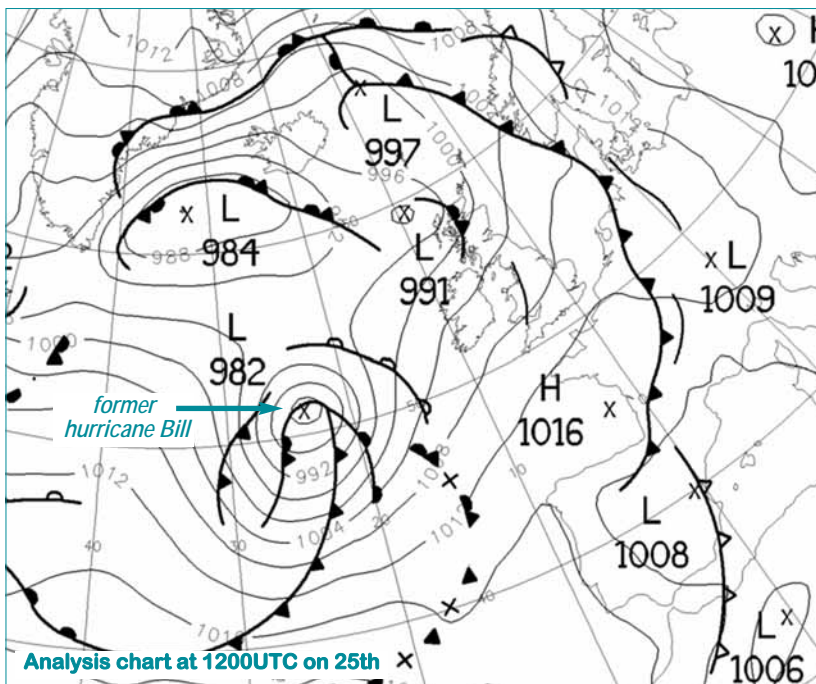
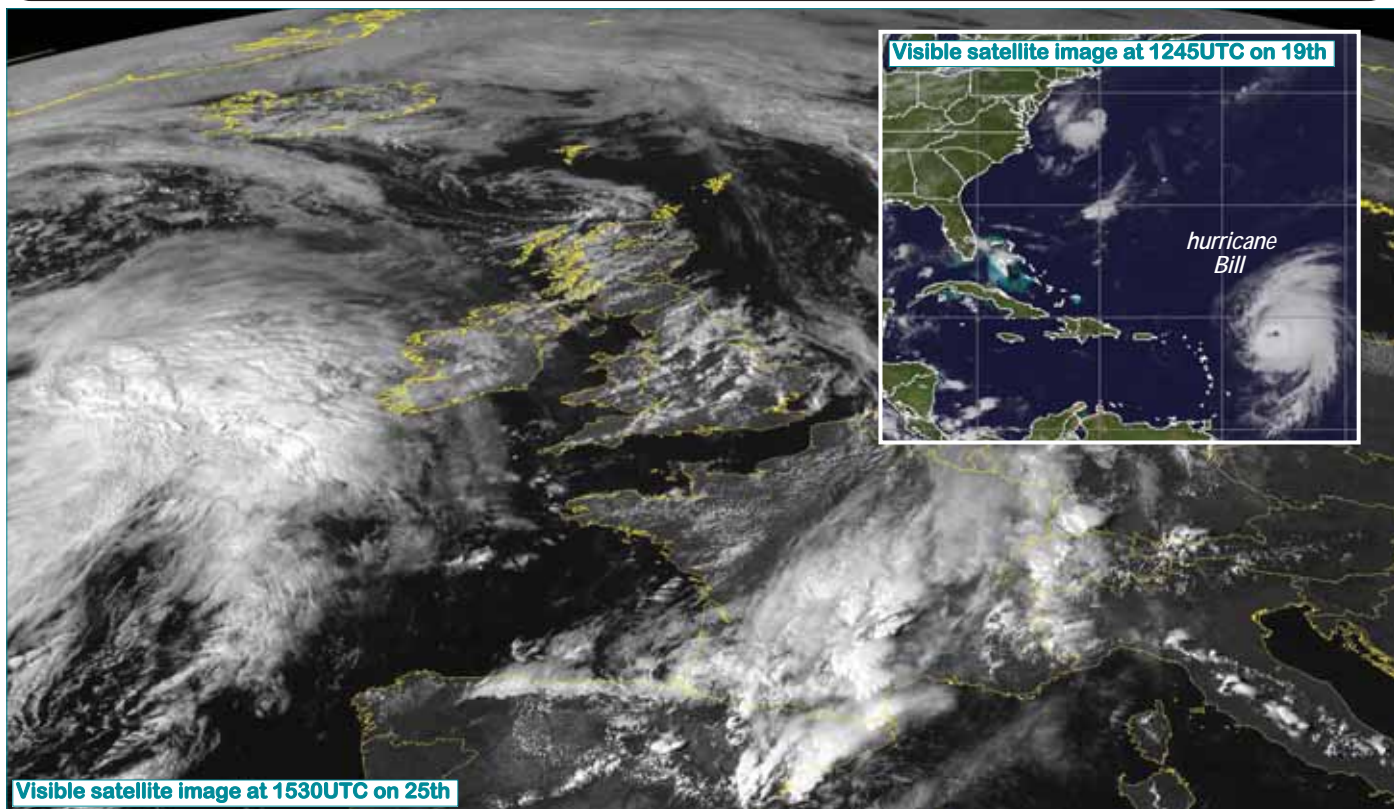
RECORD-BREAKING RAINFALL FROM TYPHOON MORAKOT

Typhoon *Morakot* formed on August 4th in the central Philippines Sea and made landfall in Taiwan on the 7th as a category 2 storm, bringing 144 km/h winds and torrential rain, leading to the island's worst flooding in 50 years. Alishan, in the mountains of southern Taiwan, recorded 2336mm of rain over a two-day period, close to the heaviest two-day rainfall in world history of 2500mm, measured at Reunion Island in March 1952. The highest one-day rainfall total ever recorded on Taiwan occurred at Weilliao Mountain in Pingtung County, where 1403mm of rain was measured on the 8th.

Tens of thousands of people were trapped by floods and landslides. The heavy rain brought strong river currents, which damaged or destroyed roads and bridges in the mountainous regions over the following week, making rescue efforts extremely difficult. Having already killed 22 people in the Philippines, the death toll from the typhoon reached around 500 in Taiwan, with another six people killed in mainland China, where Fujian Province was hit by 119 km/h winds on the 9th. Direct economic losses due to *Morakot* were estimated by the U.N. to be around 3.6 billion euro.

(charts courtesy NASA Earth Observatory)





Above
Hurricane Bill reached category 4 status (mean windspeeds above 210km/h) in the western Atlantic on the 19th, before moving northwards and losing strength as it reached the coast of Newfoundland on the 23rd. The remnants of Bill crossed over Ireland on the 26th, bringing a spell of heavy rain, with gales on western and northern coasts on the 27th as it cleared northwards.

sunshine at many stations, but it was a sunny month in the southeast. The sunniest day of the month in most places was the 5th, when Casement Aerodrome recorded 13.9 hours, its sunniest August day for 14 years.

1st to 31st: Atlantic depressions passed close to the north of Ireland throughout the month, while anticyclones centred to the south or southeast of the country occasionally extended a weak ridge of high

pressure over the country. Rain or showers affected parts of the country each day, but amounts were fairly small during the first half of the month over the eastern half of the country. Heavy falls in all areas from the 14th onwards brought flooding in places, particularly in parts of the south, west and northwest in the period 19th/20th and on the 23rd. Daytime temperatures were near or below normal, but nights were very mild. Much of the month was overcast. Winds were between southerly and westerly throughout almost all of the month and were at their strongest during the final week. A deep depression close to Ireland on the 26th/27th- the former hurricane Bill- brought gales along western coasts.

Wind and elements: Mean windspeeds for the month of between 7 and 14 knots generally (13 and 26km/h) were above normal everywhere and were the highest for August for around 20 years generally. The month's highest gust, 58 knots (107km/h), was measured at Malin Head on the 27th, its highest August gust since 1997. Most thunderstorms during the month were recorded in the period 20th to 24th, while there were no reports of hail.

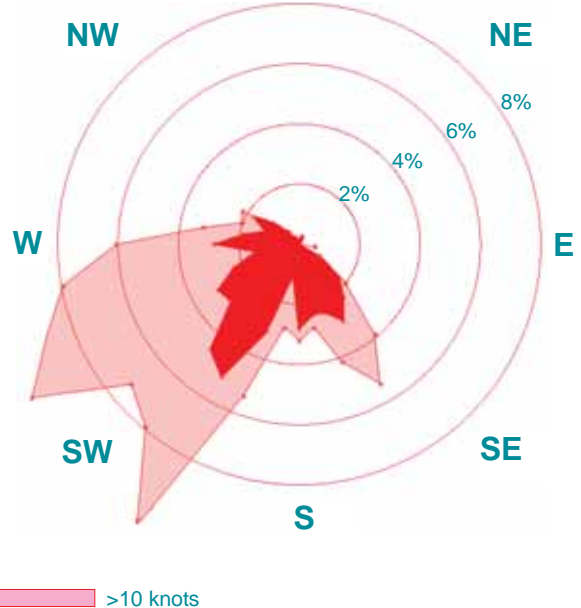
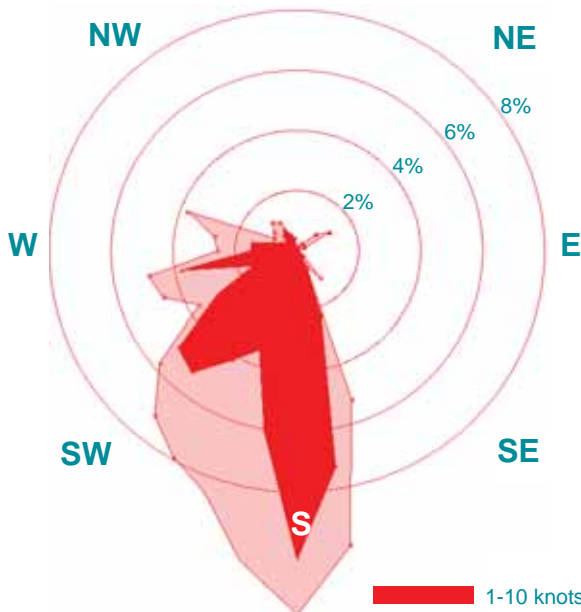
County / Station	WIND (KNOTS)										ELEMENTS				
	Mean speed	Max. dir.	10-min. speed	mean date/hour	Max. dir.	Gust speed	date/time	Days with gales	gale gusts	Hours with gale gusts	Snow	Snow Lying	Hail	Thunder	Fog
CO. CARLOW Carlow (Oak Park)	8.9	190°	21	23/14	150°	32	26/0307	0	0	0					
					190°	32	31/1132								
CO. CAVAN Ballyhaise	7.2	170°	18	23/12	240°	32	27/1805	0	0	0					
		240°	18	27/18											
CO. CLARE Shannon Airport	10.2	250°	27	27/15	290°	38	28/1604	0	3	15	0	0	0	0	0
CO. CORK Roche's Point	12.8	170°	31	26/02	270°	43	28/1224	0	7	33					
Cork Airport	9.5	290°	27	28/15	150°	37	25/2336	0	5	11	0	0	0	0	15
CO. DONEGAL Malin Head	12.3	230°	38	27/18	220°	58	27/1729	1	12	64	0	0	0	0	0
CO. DUBLIN Dublin Airport	11.1	280°	29	28/14	250°	40	27/1803	0	3	12	0	0	0	0	0
Casement Aerodrome	11.2	250°	27	27/19	200°	38	23/1417	0	6	18	0	0	0	0	0
		270°	27	28/12	250°	38	27/1824								
CO. KERRY Valentia Observatory	9.3	250°	28	28/03	140°	41	25/2146	0	3	13	0	0	0	1	2
					250°	41	28/0205								
CO. MAYO Belmullet	13.8	180°	31	4/24	270°	54	27/1623	0	16	100	0	0	0	0	0
		190°	31	5/01											
Knock Airport	10.4	250°	26	27/18	260°	40	27/1558	0	6	13	0	0	0	0	14
		290°	26	28/12											
CO. OFFALY Birr	7.5	160°	18	26/02	300°	31	28/1237	0	0	0	0	0	0	0	0
		310°	18	28/14											
CO. WESTMEATH Mullingar	6.6	170°	17	27/14	230°	28	27/1527	0	0	0					
CO. WEXFORD Johnstown Castle	7.8	160°	19	26/02	160°	33	20/0140	0	0	0					
					160°	33	26/0308								

Valentia Observatory

Dublin Airport

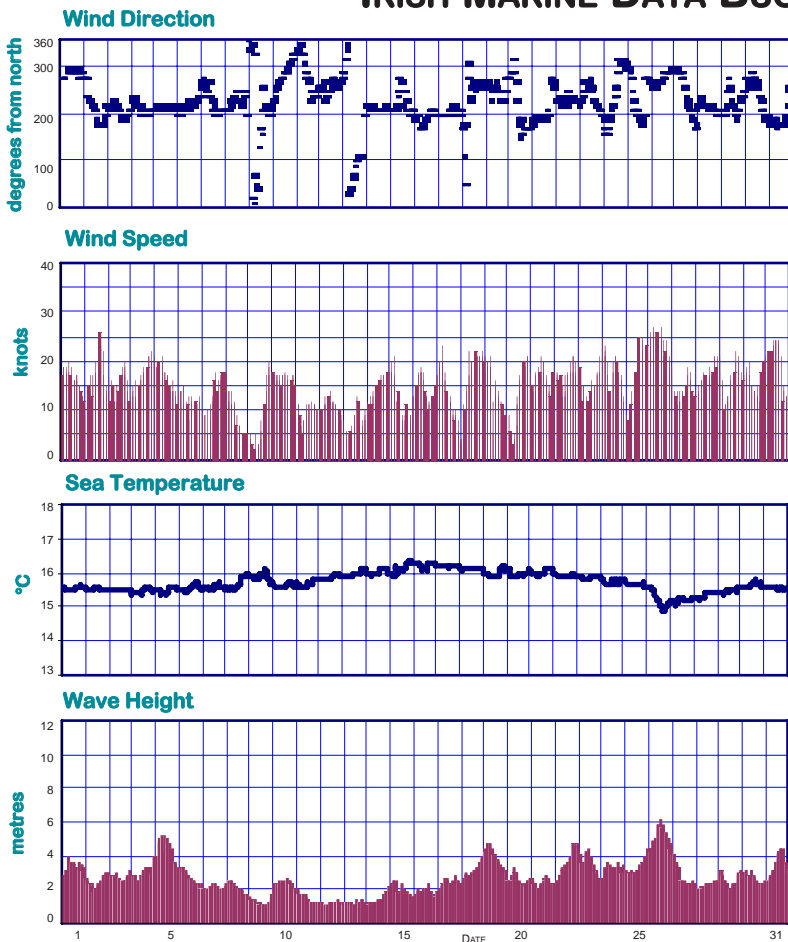
Calm: 0.8% N

Calm: 0.0% N



PERCENTAGE FREQUENCY OF WIND DIRECTION

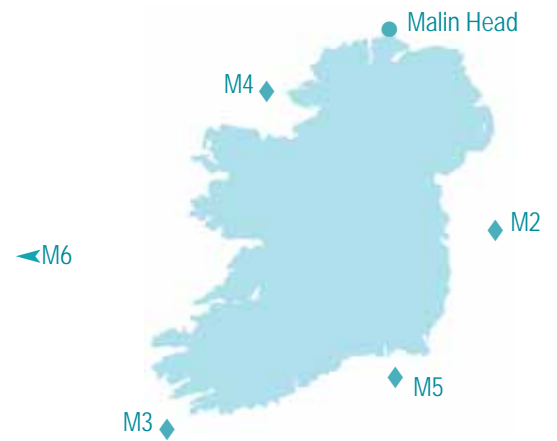
MARINE OBSERVATIONS FROM IRISH MARINE DATA BUOY NETWORK



Hourly wind and wave conditions at M3 (51.22°N, 10.55°W)

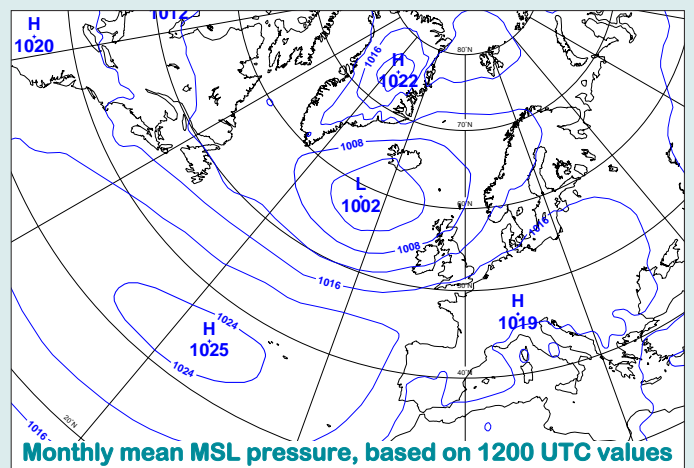
Buoy	Sea surface temp. (°C)	Mean wind speed (knots)	Max. 10-min wind (knots)	Mean wave height (m.)	Max. wave height (m.)
M2		not available			
M3	15.7	14.6	27	2.6	6.1
M4	14.5	14.5	28	2.5	5.1
M5	15.9	16.3	35	1.8	4.1
M6	14.9	15.5	30	n/a	n/a
Malin Head	15.3				

Summary of Mean Monthly Values

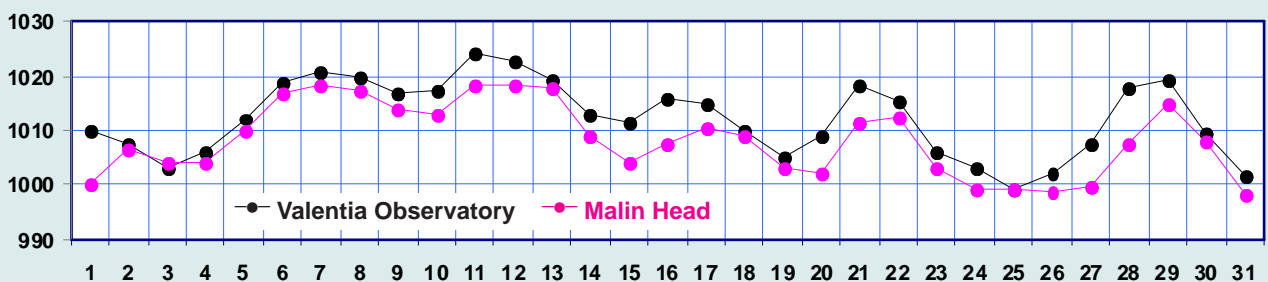


MEAN ATMOSPHERIC PRESSURE

Mean sea level pressure values for the month varied between 1009hPa in the north and 1013hPa in the south, between 2hPa and 4hPa below normal for August. There was little variation in pressure values during the month, but pressure was low at both the beginning and end of the month. The highest pressure of the month, 1025.3hPa, was measured at Valentia Observatory on the 11th, while the month's lowest value of 988.8hPa was recorded at Belmullet on the 26th.



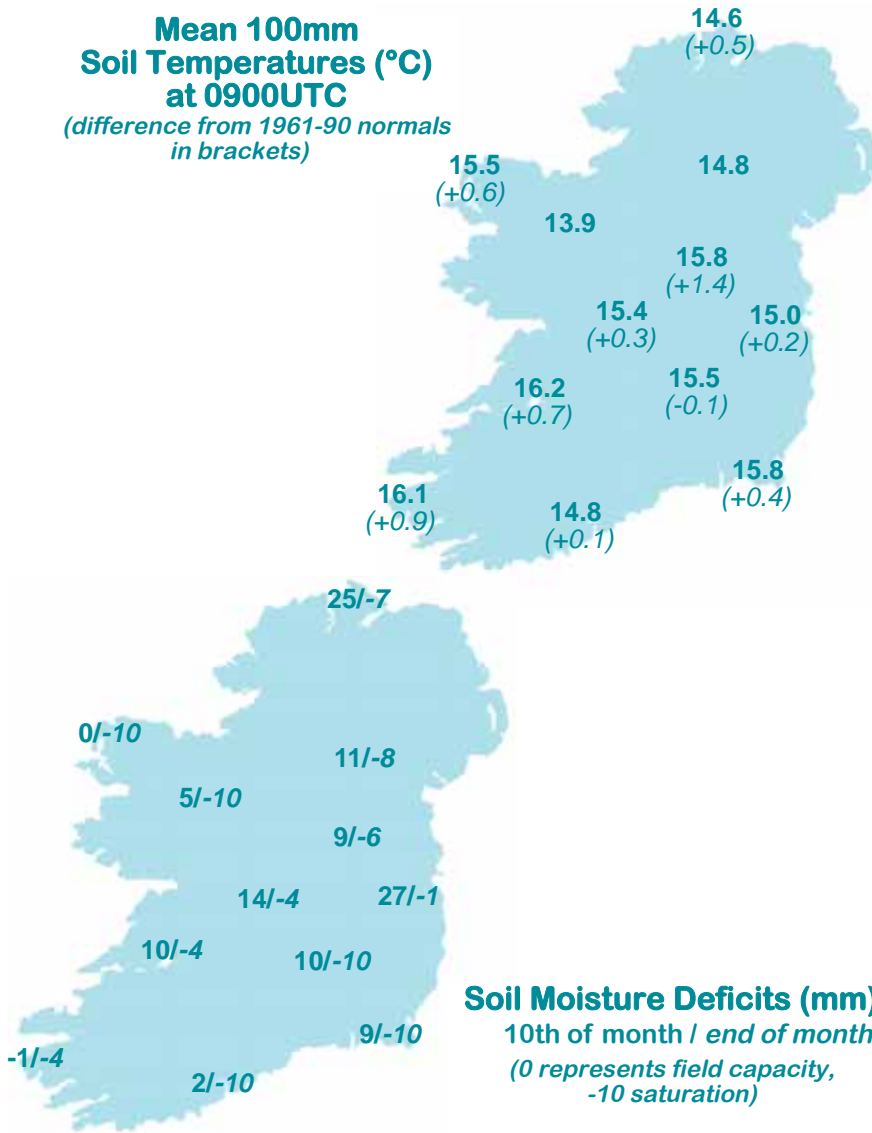
Monthly mean MSL pressure, based on 1200 UTC values



Mean daily Mean Sea Level pressure (hPa)

Mean 100mm Soil Temperatures (°C) at 0900UTC

(difference from 1961-90 normals in brackets)



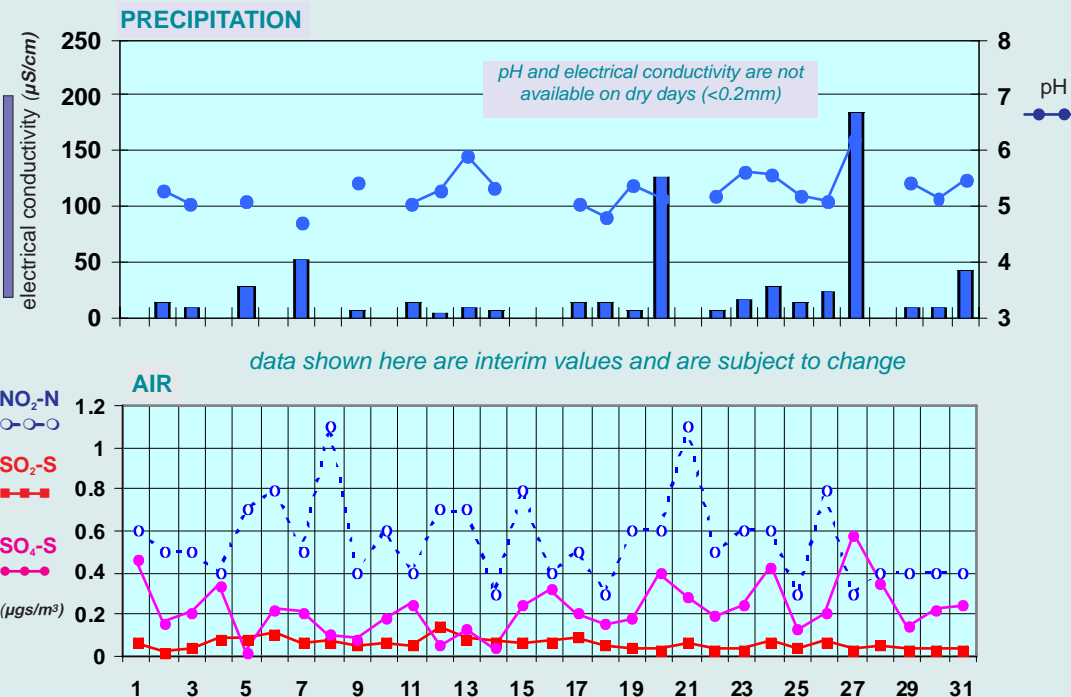
Soil Temperatures at 0900UTC

County/ Station	°C		
	100mm	200mm	300mm
CO. CARLOW			
CARLOW (OAK PARK)	15.5	15.5	15.7
CO. CAVAN			
BALLYHAISE	14.8	14.9	15.4
CO. CLARE			
SHANNON AIRPORT	16.2	16.3	16.5
CARRON	16.3		16.8
CO. CORK			
ROCHE'S POINT	15.3	15.0	15.8
FERMOY (MOOREPARK)	16.4	16.5	16.7
CORK AIRPORT	14.8	15.0	15.6
SHERKIN ISLAND	15.8	16.0	16.0
BALLINCURRIG (PEAFIELD)	14.5	14.2	15.1
CO. DONEGAL			
MALIN HEAD	14.6	15.2	15.6
CO. DUBLIN			
DUBLIN (PHOENIX PARK)	16.2	16.7	17.2
DUBLIN AIRPORT	15.0	15.2	16.0
CASEMENT AERODROME	15.0	15.3	15.7
CO. KERRY			
VALENTIA OBSERVATORY	16.1	16.5	17.0
CO. LIMERICK			
MOUNT RUSSELL	14.1	14.8	
CO. MAYO			
BELMULLET	15.5	16.0	17.1
STRAIDE	15.6		
CONNACHT AIRPORT	13.9	14.4	14.4
CO. MEATH			
WARRENSTOWN	16.0	16.7	17.3
DUNSANY (GRANGE)	15.4	15.8	15.8
CO. OFFALY			
BIRR	15.4	15.8	17.1
CO. TIPPERARY			
FETHARD (PARSONSHILL)	15.0	15.5	
CO. WATERFORD			
DUNGARVAN (CARRIGLEA)		16.5	16.9
CO. WESTMEATH			
MULLINGAR	15.8	16.3	17.1
CO. WEXFORD			
JOHNSTOWN CASTLE	15.8	15.9	16.2
JOHN F. KENNEDY PARK	16.3	16.2	17.8
CLONROCHE (KNOXTOWN)	16.0	16.3	16.6

Soil Moisture Deficits (mm)
10th of month / end of month
(0 represents field capacity, -10 saturation)



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.

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

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

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."	date	days with ground frost	mean 10cm at 0900h	mean 30cm at 0900h	total no. of hours	% of average
Co. Cavan Cavan (Loreto)	1-10	8.8	-	9	3	19.1	12.3	15.7	-	9.2	2	0	113	57	7.0	2	0	-	-	35.4	-
	11-20	74.0	-	7	7	18.4	13.1	15.8	-	9.1	11	0	113	57	6.0	11	0	-	-	23.4	-
	21-end	62.5	-	10	7	17.2	10.0	13.6	-	8.4	22	0	101	41	6.0	22	0	-	-	45.7	-
	month	145.3	-	26	17	18.2	11.7	15.0	-	8.4	22	0	327	156	6.0	11	0	-	-	104.5	-
Co. Cork Fermoy	1-10	16.8	-	5	3	18.9	11.4	15.2	-	6.1	7	0	107	53	4.4	7	0	16.5	16.6	50.5	-
	11-20	32.2	-	7	5	19.8	13.7	16.8	-	8.5	13	0	123	68	9.0	13	0	17.4	17.6	32.6	-
	21-end	72.2	-	11	9	17.5	9.6	13.6	-	5.5	22	0	101	43	2.2	22	0	15.4	16.1	45.8	-
	month	121.2	159	23	17	18.7	11.5	15.1	0.3	5.5	22	0	331	164	2.2	22	0	16.4	16.7	128.9	90
Co. Donegal Glenties	1-10	31.0	-	10	8	18.4	12.2	15.3	-	7.7	7	0	109	54	4.4	7	0	-	-	-	-
	11-20	67.0	-	10	9	17.5	12.3	14.9	-	9.4	11	0	105	49	6.1	11	0	-	-	-	-
	21-end	129.2	-	11	10	17.0	10.0	13.5	-	6.5	22	0	100	41	3.4	30	0	-	-	-	-
	month	227.2	186	31	27	17.6	11.5	14.6	0.6	6.5	22	0	314	144	3.4	30	0	-	-	-	-
Co. Kerry Ardfert	1-10	21.7	-	8	4	18.6	12.4	15.5	-	9.8	7	0	111	55	6.8	7	0	-	-	40.1	-
	11-20	43.0	-	8	7	19.6	13.7	16.7	-	10.7	20	0	122	66	7.6	20	0	-	-	26.3	-
	21-end	87.0	-	10	7	18.0	10.6	14.3	-	8.0	22	0	109	48	5.0	22	0	-	-	61.5	-
	month	151.7	-	26	18	18.7	12.2	15.5	0.6	8.0	22	0	342	169	5.0	22	0	-	-	127.9	-
Co. Monaghan Carrickmacross	1-10	9.0	-	8	4	19.6	11.2	15.4	-	8.1	6	0	110	55	-	-	-	-	-	-	-
	11-20	62.1	-	8	7	19.5	12.5	16.0	-	7.8	11	0	116	60	-	-	-	-	-	-	-
	21-end	41.4	-	9	7	17.9	9.1	13.5	-	5.2	24	0	100	43	-	-	-	-	-	-	-
	month	112.5	142	25	18	18.9	10.9	14.9	-	5.2	24	0	326	158	-	-	-	-	-	-	-
Co. Waterford Dungarvan	1-10	29.7	-	4	4	19.1	11.7	15.4	-	6.6	7	0	110	55	5.0	7	0	-	16.7	65.0	-
	11-20	41.7	-	10	5	20.5	14.2	17.4	-	10.3	13	0	129	73	7.5	13	0	-	18.0	60.6	-
	21-end	78.0	-	10	10	18.3	10.8	14.6	-	5.7	22	0	112	53	3.1	22	0	-	16.0	74.2	-
	month	149.4	-	24	19	19.3	12.2	15.8	0.5	5.7	22	0	351	182	3.1	22	0	-	16.9	199.8	130
Co. Wexford J.F.K. Park	1-10	21.6	-	3	3	18.3	11.6	15.0	-	7.6	2	0	106	51	2.2	2	0	16.5	17.5	52.9	-
	11-20	50.7	-	7	6	19.6	13.4	16.5	-	9.6	16	0	121	65	6.2	13	0	17.3	18.4	51.6	-
	21-end	73.8	-	10	8	17.7	10.3	14.0	-	6.8	22	0	105	46	2.0	29	0	15.1	17.4	60.5	-
	month	146.1	170	20	17	18.5	11.7	15.1	0.1	6.8	22	0	332	162	2.0	29	0	16.3	17.8	165.0	117

The station at Ardee (Boharnamoe) has been replaced in the tables by Carrickmacross (Dunoge), Co. Monaghan

MEASURED POTENTIAL EVAPOTRANSPIRATION (P.E.) AND SOIL MOISTURE						P.E. (Penman)		GLOBAL SOLAR RADIATION (MJ/sq.m.)			
County/Station	Period	P.E. (mm)		Soil Moisture (mm)		Station	total(mm)	1st-10th	11th-20th	21st-end	Total
		Amount	Deficit	Accum'ltd	Deficit						
Co. Kerry Valentia Obs.	1-10	17.4	-	0	63	Co. Carlow Carlow (Oak Park)*	68	144.99	120.96	127.89	393.84
	11-20	19.3	-	0	51	Co. Cavan Ballyhaise*	60	142.84	100.42	123.25	366.51
	21-end	28.9	-	0	93	Co. Clare Shannon Airport	64	global solar radiation values for stations marked * are provisional			
	month	65.6				Co. Cork Cork Airport	57				
Co. Wexford Johnstown Castle	1-10	16.5	-	0	23	Roche's Point*		161.10	130.42	144.28	435.80
	11-20	34.8	-	0	13	Co. Donegal Malin Head	60	138.35	106.13	117.62	362.01
	21-end	25.4	-	0	33	Co. Dublin Dublin Airport	70	153.76	118.20	135.11	407.07
	month	76.7				Casement Aerodrome	68				

MONTHLY EVAPORATION (MM) FROM CLASS A PAN			
County	Station	Monthly Rainfall (mm)	Monthly Evaporation (mm)
Clare	Kilmaley	219.9	n/a
Cork	Fermoy (Moorepark)	121.2	75.0
Kerry	Valentia Observatory	274.0	75.8
Kildare	Poulaphuca	101.6	n/a
Mayo	Newport (Furnace)	254.7	43.9
Offaly	Derrygreenagh	121.1	48.0
Waterford	Dungarvan (Carriglea)	149.4	70.8
Wexford	J.F.K. Park	146.1	58.0

Saturday 1st: Generally dry during the night, with isolated showers in the west. Showers became widespread during the late morning, although rainfall amounts were small except in the northwest and west. Becoming dry in all areas by late evening, with sunshine in the south and east. Winds were southwesterly, moderate to strong, gusty in the northwest and west.

Rainfall: trace to 7mm, heaviest at Belmullet, trace at Casement Aerodrome

Temperature: max. 14°C to 19°C, min. 9°C to 14°C

Sunshine: 1 to 9 hours, sunniest Cork Airport, 1 hour at Knock Airport

Sunday 2nd: After a dry start, cloudy conditions with patchy rain and drizzle moved into the southwest during the morning and spread northeastwards. More persistent and sometimes heavy rain followed into the southwest in the afternoon, again spreading northeastwards. Mainly overcast, but with some sunshine in the north and east. Winds were southwest to westerly, light to moderate, backing southeasterly and increasing moderate to fresh and gusty during the afternoon.

Rainfall: nil to 15mm, heaviest at Valentia, nil at Malin Head

Temperature: max. 15°C to 19°C, min. 8°C to 13°C

Sunshine: trace to 5 hours, sunniest at Malin Head, trace at Valentia

Monday 3rd: Light rain or drizzle in the north and east cleared eastwards overnight and during the morning. Rain spread into the southwest in the afternoon, crossing the country and clearing the east coast around dusk. The rain was heaviest in the south. Cloudy generally, but with a few hours of sunshine in the north and east. Winds were moderate, south or southeasterly in direction.

Rainfall: 1 to 18mm, heaviest at Valentia, 1mm at Malin Head

Temperature: max. 15°C to 21°C, min. 12°C to 15°C

Sunshine: nil to 5 hours, sunniest at Dublin Airport

Tuesday 4th: A few showery outbreaks of light rain or drizzle during the night, otherwise dry. Well-scattered light showers continued during the morning and afternoon, but they died back to western coasts by evening. Sunny spells in all areas. Winds were moderate, south or southwesterly.

Rainfall: nil to 5mm, heaviest at Johnstown Castle, nil at Dublin Airport

Temperature: max. 17°C to 21°C, min. 12°C to 15°C

Sunshine: 4 to 7 hours, sunniest at Knock Airport and Casement Aerodrome

Wednesday 5th: Showers in the west overnight, remaining dry over the rest of the country with clear periods. The showers continued through most of the day in the west, where some were heavy. Over the remainder of the country there was a mixture of cloud and sunny periods, but with fresh winds. Showers became isolated by nightfall. Winds were south to southwesterly, fresh and gusty, becoming light by evening.

Rainfall: nil to 5mm generally, 14mm at Belmullet

Temperature: max. 17°C to 21°C, min. 11°C to 13°C

Sunshine: 2 to 14 hours, sunniest at Casement Aerodrome, 2 hours at Belmullet

Thursday 6th: Showers during the night in the west and southwest, remaining dry elsewhere. The showers spread countrywide during the morning and afternoon, when some were quite heavy, becoming well-scattered after dark. Breaks in cloud produced moderate amounts of sunshine everywhere. Winds were light, southeasterly to southwesterly in direction.

Rainfall: nil to 1mm generally, 5mm at Valentia

Temperature: max. 17°C to 21°C, min. 8°C to 12°C

Sunshine: 3 to 8 hours, sunniest at Dublin Airport, 3 hours at Birr

Friday 7th: Mostly dry overnight and during the morning with just a few isolated light showers. Rain and drizzle moved into western parts during the afternoon, moving very slowly eastwards. Sunny for a part of the day in the east, progressively cloudier further west. Winds were very light and variable in direction at first, later becoming moderate south or southwesterly.

Rainfall: nil to 4mm, heaviest at Belmullet, nil in the north and east

Temperature: max. 17°C to 20°C, min. 8°C to 12°C

Sunshine: 1 to 10 hours, sunniest at Casement Aerodrome, 1 hour at Valentia

Saturday 8th: Some patchy rain and drizzle in the west early in the period, dry in the east with some clear spells. During the morning, the rain and drizzle spread eastwards, but was patchy and light in most places. The afternoon was mostly dry with some sunny breaks, however some showers continued in northern areas. Mostly dry during the evening and night apart from isolated

showers. Winds were light and variable in direction.

Rainfall: nil to 5mm, heaviest at Carlow (Oak Park)

Temperature: max. 17°C to 22°C, min. 11°C to 14°C

Sunshine: 2 to 9 hours, sunniest at Malin Head, 2 hours at Knock Airport

Sunday 9th: Apart from some patchy drizzle, the day started mostly dry with sunny spells in places. Dull, wet weather moved in from the Atlantic in the afternoon and spread eastwards over the rest of the country. This rain was heavy at times in the west, south and southwest. Light, south to southwesterly winds were moderate at times on Atlantic coasts.

Rainfall: nil to 18mm, heaviest at Valentia, nil at Casement Aerodrome

Temperature: max. 15°C to 20°C, min. 11°C to 14°C

Sunshine: nil to 1 hour, sunniest at Casement Aerodrome

Monday 10th: Mild and humid overnight with outbreaks of rain and drizzle, persistent in places. The rain and drizzle became more patchy during the forenoon and most areas were dry by afternoon, with some sunny spells developing. Light to moderate southwesterly winds overnight veered slowly northwesterly during the morning.

Rainfall: trace to 4mm, heaviest at Mullingar, trace at Cork Airport

Temperature: max. 17°C to 21°C, min. 12°C to 14°C

Sunshine: trace to 9 hours, sunniest at Malin Head, trace at Birr

Tuesday 11th: Rain and drizzle affected the north and northwest during the morning, mostly dry elsewhere with some sunny spells in the east and south. The rain and drizzle persisted during the afternoon in the northwest and north, again remaining dry in other areas with some sunny breaks. During the evening, some mist and fog developed along western coasts, with patchy rain and drizzle over the rest of the country. Winds were light, southwesterly.

Rainfall: nil to 6mm, heaviest at Malin Head

Temperature: max. 16°C to 24°C, min. 9°C to 14°C

Sunshine: nil to 10 hours, sunniest at Cork Airport, nil at Valentia and Belmullet

Wednesday 12th: Overnight rain and drizzle in Connacht and north Leinster spread southwards during the morning. Drier weather with short sunny spells followed from the north in the afternoon, but southern counties remained dull and damp for the rest of the day, with some heavy rain in the southwest. Light to moderate southwesterly winds were northwesterly for a time in the afternoon.

Rainfall: trace to 6mm, heaviest at Valentia, trace at Belmullet

Temperature: max. 16°C to 22°C, min. 12°C to 15°C

Sunshine: nil to 5 hours, sunniest at Malin Head, nil at Valentia

Thursday 13th: Dry everywhere overnight and during the morning. Patchy light rain moved into the southwest in the afternoon and evening, later spreading into western areas. Mostly cloudy, but there were sunny spells in parts of the midlands. Winds were light and variable in direction.

Rainfall: nil to <1 mm, heaviest at Belmullet

Temperature: max. 16°C to 20°C, min. 11°C to 13°C

Sunshine: nil to 7 hours, sunniest at Shannon Airport

Friday 14th: There were outbreaks of light rain in the western half of the country overnight. More persistent rain in the northwest around dawn, crossing the northern half of the country during the morning. The rain was heavy at times in Connacht and Ulster, before clearing the northeast by mid-afternoon. Scattered showers followed. Rain and drizzle in the southwest after dark, some of it heavy. Winds were light southeasterly at first, veering southwesterly as the rain cleared and increased to moderate.

Rainfall: trace to 24mm, heaviest at Malin Head, trace at Carlow (Oak Park)

Temperature: max. 17°C to 22°C, min. 12°C to 16°C

Sunshine: nil to trace generally, 1 hour at Casement Aerodrome

Saturday 15th: Rain in the west crossed the country overnight, clearing the east coast by mid-morning. The heaviest of the rain was in the south and the midlands. The rest of the day was dry, with prolonged sunshine after the rain cleared. Winds were fresh, southwesterly in direction, occasionally strong in the north.

Rainfall: 1 to 17mm, heaviest at Valentia, 1mm at Belmullet

Temperature: max. 17°C to 20°C, min. 11°C to 14°C

Sunshine: 5 to 10 hours, sunniest at Belmullet, 5 hours at Casement Aerodrome

Sunday 16th: Patchy light rain and drizzle overnight in the north and west spread eastwards during the morning, although amounts were small. Some sunny spells, mainly in the northwest and north. A spell of heavy rain moved into the west during the evening and quickly crossed the northern half of the country, becoming lighter. Winds were fresh southwesterly, slowly decreasing through the evening.

Rainfall: nil to 10mm, heaviest at Belmullet

Temperature: max. 16°C to 19°C, min. 10°C to 14°C

Sunshine: trace to 5 hours, sunniest at Belmullet

Monday 17th: Some rain in the north overnight. Apart from patches of mostly light rain or drizzle, it was a largely dry day with sunny spells in most areas. Mild and humid throughout. Light to moderate and sometimes gusty southwesterly winds backed southeasterly in the evening.

Rainfall: trace to 4mm, heaviest at Mullingar

Temperature: max. 17°C to 22°C, min. 12°C to 15°C

Sunshine: 1 to 10 hours, sunniest at Malin Head, 1 hour at Valentia

Tuesday 18th: Rain in western areas overnight, moving gradually northeastwards, cleared the northeast coast around noon. Scattered showers followed during the afternoon, mostly light, with a few sunny spells in places. Mild and humid throughout. Winds were southerly, light to moderate.

Rainfall: trace to 11mm, heaviest at Valentia, trace at Casement Aerodrome

Temperature: max. 17°C to 22°C, min. 12°C to 15°C

Sunshine: nil to 2 hours, sunniest at Casement Aerodrome

Wednesday 19th: Rain spread from the Atlantic overnight and moved eastwards across the country, giving some very heavy falls in places. After a brief clearance, further rain and showers followed during the afternoon and evening. Again the rain was heavy at times, leading to local flooding. Winds were southeasterly, moderate to fresh and gusty, veering southwesterly and easing.

Rainfall: 5 to 30mm, heaviest at Johnstown Castle, 5mm at Dublin Airport

Temperature: max. 16°C to 22°C, min. 13°C to 16°C

Sunshine: nil to 3 hours, sunniest in the east

Thursday 20th: Very wet overnight in most areas, particularly over the eastern half of the country, leading to local flooding. Clearer weather with scattered showers moved into the west and southwest towards dawn and moved eastwards across the country during the morning. The showers became more widespread during the day and some were heavy and thundery. Sunny spells between the showers. Winds were light variable overnight, becoming southwesterly during the morning and increasing moderate to fresh and gusty.

Rainfall: 4 to 31mm, heaviest at Carlow (Oak Park), 4mm at Belmullet

Temperature: max. 16°C to 19°C, min. 10°C to 12°C

Sunshine: 6 to 10 hours, sunniest at Belmullet, 6 hours at Dublin Airport

Friday 21st: Scattered heavy showers continued through the night and morning in the west and south. The showers became more widespread during the afternoon, eventually dying out by evening. Long spells of sunshine generally. Winds were moderate, southwest or westerly in direction.

Rainfall: trace to 11mm, heaviest at Malin Head, trace at Dublin Airport

Temperature: max. 15°C to 19°C, min. 8°C to 12°C

Sunshine: 7 to 12 hours, sunniest at Cork Airport, 7 hours at Malin Head

Saturday 22nd: Dry at first apart from isolated light showers in the north. Sunny during the morning, however, cloud spread from the west around noon, bringing some heavy rain. The rain reached the east coast by late evening. Winds were westerly, backing southerly, light to moderate.

Rainfall: <1 to 15mm, heaviest at Knock Airport, <1mm at Johnstown Castle

Temperature: max. 16°C to 20°C, min. 7°C to 12°C

Sunshine: <1 to 9 hours, sunniest at Dublin Airport, <1 hour at Belmullet

Sunday 23rd: Rain in Ulster cleared eastwards overnight. Meanwhile, another band of heavy rain moved into the southwest and spread northwards. After a brief lull, further heavy rain moved over the western half of the country and continued there for much of the morning. A clearance in the west by early afternoon spread eastwards, reaching all parts by evening. A few sunny spells also. Winds were moderate southeasterly, veering southwesterly and becoming light.

Rainfall: <1 to 45mm, heaviest at Valentia, <1mm at Casement Aerodrome

Temperature: max. 16°C to 20°C, min. 8°C to 12°C

Sunshine: nil to 4 hours, sunniest at Valentia, nil at Malin Head

Monday 24th: Overnight showers in the southwest spread to all areas during the morning and afternoon. Some of the showers were heavy and there was some thunder in the north during the afternoon. Sunny spells in all areas between the showers. Winds were southerly at first, veering southwesterly, moderate to strong and gusty at times.

Rainfall: trace to 7mm, heaviest at Valentia, trace at Birr

Temperature: max. 15°C to 18°C, min. 6°C to 12°C

Sunshine: 6 to 10 hours, sunniest at Malin Head, 6 hours at Knock Airport

Tuesday 25th: Dry at first, apart from a few well-scattered showers. Sunny spells throughout, especially in the east. Heavy rain moved in over the southwest during the early evening and spread northeastwards, affecting most parts by midnight. Winds were light to moderate with occasional gale gusts around coasts, variable in direction.

Rainfall: nil to 22mm, heaviest at Valentia, nil at Casement Aerodrome

Temperature: max. 16°C to 20°C, min. 8°C to 12°C

Sunshine: 5 to 11 hours, sunniest in the east, 5 hours at Shannon Airport

Wednesday 26th: Rain overnight, with some heavy falls in a few places. A clearance in the southwest crossed the country by mid-morning. Mostly dry from mid-morning on, but with some patchy drizzle in the east. Sunny in the west, cloudier elsewhere. Winds were moderate, becoming light by evening, variable in direction.

Rainfall: 2 to 18mm, heaviest at Johnstown Castle, 2mm at Shannon Airport

Temperature: max. 15°C to 21°C, min. 10°C to 13°C

Sunshine: nil to 8 hours, sunniest at Belmullet, nil at Knock Airport

Thursday 27th: Showers in western areas around dawn. The showers moved eastwards during the day, giving some heavy falls, particularly in the west. Some sunny spells also, although mainly overcast. Further showers during the evening, mainly in the west. Winds were variable, moderate to strong and gusty throughout.

Rainfall: trace to 14mm, heaviest at Belmullet, trace at Dublin Airport

Temperature: max. 15°C to 18°C, min. 8°C to 11°C

Sunshine: 1 to 5 hours, 5 hours at Casement Aerodrome, 1 hour at Knock Airport

Friday 28th: Showers overnight, heaviest in the west. These became widespread during the morning and afternoon, eventually dying out by evening. Sunny spells also in all areas. Winds were strong and gusty, west to northwesterly, easing by evening.

Rainfall: trace to 11mm, heaviest at Shannon Airport, trace at Roches Point

Temperature: max. 14°C to 17°C, min. 8°C to 12°C

Sunshine: 7 to 11 hours, sunniest at Cork Airport, 7 hours at Knock Airport

Saturday 29th: It was a breezy day with well-scattered showers and sunny spells. The showers largely died out by late afternoon. Cloudy, damp weather with outbreaks of rain and drizzle moved into the southwest in the evening. Winds were moderate to fresh and gusty, west to southwesterly, becoming light in most parts by evening.

Rainfall: nil to 1mm, heaviest at Valentia

Temperature: max. 15°C to 17°C, min. 7°C to 12°C

Sunshine: 2 to 7 hours, sunniest at Belmullet, 2 hours at Valentia

Sunday 30th: Some drizzle in the southwest early in the period. Showers reached the west coast by mid-morning and moved quickly across the country. A few sunny spells in the east. During the afternoon, heavy rain moved into the west, later spreading eastwards. Winds were moderate southwesterly.

Rainfall: 1 to 19mm, heaviest at Valentia, 1mm at Dublin Airport

Temperature: max. 16°C to 20°C, min. 7°C to 15°C

Sunshine: nil to <1 hour generally, 2 hours at Casement Aerodrome

Monday 31st: Heavy overnight rain moved eastwards across the country. This pattern continued during the day, with the southeast and east receiving some very heavy falls. Clearer weather with scattered showers and some sunny spells followed from the west during the afternoon. Moderate to fresh and gusty south to southwesterly winds eased slightly in the afternoon and evening.

Rainfall: 6 to 35mm, heaviest at Johnstown Castle, 6mm at Birr

Temperature: max. 15°C to 18°C, min. 10°C to 13°C

Sunshine: 1 to 3 hours, sunniest at Belmullet, 1 hour at Malin Head

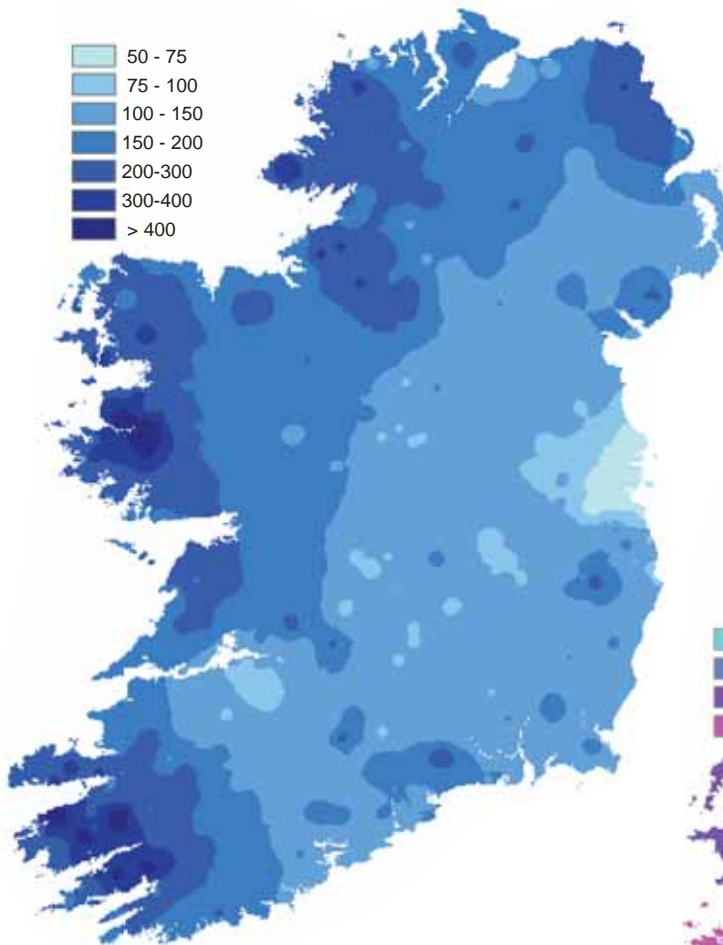
Wetter than normal almost everywhere, very wet in west

August rainfall totals were above normal except at some Dublin stations and they were well above normal in parts of the west and southwest. Totals ranged from 49mm at Dublin (Merrion Square) to 424mm at Maam Valley, Co. Galway, with percentage of normal values between 77% at Merrion Square and 247% at Valentia Observatory. At a number of stations in the west and southwest it was the wettest August since 1985.

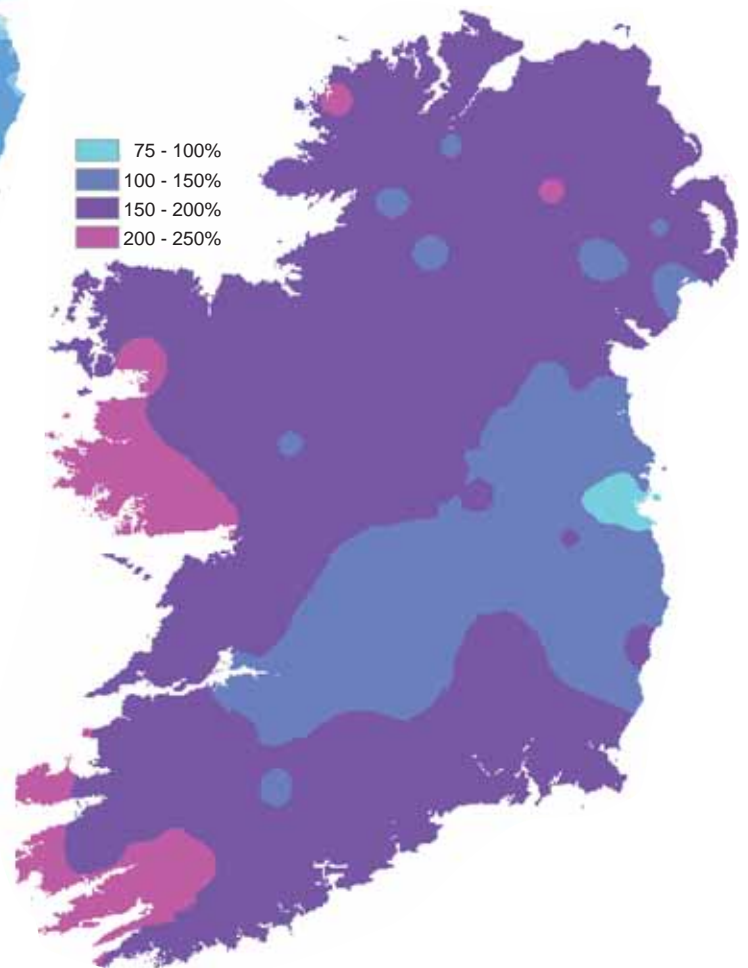
Rain was recorded on every day of the month, with a number of stations near the Atlantic coast measuring 31 raindays (*days with 0.2mm or more of rainfall*). Most other stations recorded a total of between 22 and 26 raindays, compared with the normal number for August of between 14 and 20 raindays. There was very heavy rain on a number of days, particularly in the period between the 19th and 25th. The highest daily fall of the month, 57.6mm, was measured at Mountrussell, Co. Tipperary, on the 23rd, the highest August fall at the station since 1997. Other stations recorded their highest daily falls for August for between 11 and 23 years.

County/ Station	Total Amount (mm)	% of 1961-90 average	Most in a day / date		Number of Raindays (>0.2mm)	Wetdays (>1mm)
CO. CARLOW						
CARLOW (OAK PARK)	101.0	151	33.0	19	24	15
CO. CAVAN						
BALLYHAISE	143.0	172	36.2	19	26	18
CAVAN LORETO COLLEGE	145.3		39.2	19	26	17
CO. CLARE						
SHANNON AIRPORT	119.3	145	23.8	19	24	19
CARRON	248.3	179	36.6	30	29	24
CO. CORK						
ROCHE'S POINT	118.6	154	20.0	30	22	18
FERMOY (MOOREPARK)	121.2	159	23.2	25	23	17
CORK AIRPORT	155.5	173	24.1	30	23	20
SHERKIN ISLAND	170.4	191	22.7	3	24	19
BALLINCURRIG (PEAFIELD)	155.8		21.4	30	26	21
CO. DONEGAL						
MALIN HEAD	165.9	180	20.3	23	26	22
GLENTIES HATCHERY	227.2	186	28.0	27	31	27
BALLYSHANNON (CATHLEEN'S FALL)	183.7	186	28.6	30	26	22
CO. DUBLIN						
DUBLIN (PHOENIX PARK)	65.3	89	22.4	19	22	14
DUBLIN AIRPORT	69.1		22.2	19	20	14
CASEMENT AERODROME	67.8	98	26.7	19	23	15
DUBLIN (MERRION SQUARE)	49.0	77	14.9	19	23	13
CO. GALWAY						
GALWAY (UNIV. COLL.)	215.7	214	28.9	30	27	26
MAAM VALLEY	423.7		49.9	14	30	24
BALLYGAR	178.2	194	23.7	19	30	22
CO. KERRY						
VALENTIA OBSERVATORY	274.0	247	44.5	22	26	21
ARDFERT (LISCAHANE)	151.7		24.8	22	26	18
CO. LIMERICK						
MOUNT RUSSELL	124.5		57.6	23	21	13
CO. MAYO						
BELMULLET	180.8	192	20.9	30	26	24
STRAIDE	182.4	181	26.3	22	30	26
CONNACHT AIRPORT	181.2		20.5	30	31	22
DELPHI LODGE II	377.5		43.2	22	31	27
CO. MEATH						
WARRENTOWN	98.1	126	26.4	19	24	19
CO. MONAGHAN						
CARRICKMACROSS (DUNOGE)	112.5	142	35.0	19	25	18
<i>The station at Ardee (Boharnamoe) has been replaced in the tables by Carrickmacross (Dunoge), Co. Monaghan</i>						
CO. OFFALY						
BIRR	98.1	126	24.1	19	24	17
DERRYGREENAGH	121.1	153	30.4	19	24	17
CO. SLIGO						
ARDTARMON	163.7		28.5	30	26	24
CO. TIPPERARY						
FETHARD (PARSONSHILL)	103.1		19.4	19	25	19
CO. WATERFORD						
WATERFORD (TYCOR)	128.3	162	32.5	19	23	15
DUNGARVAN (CARRIGLEA)	149.4		31.0	25	24	19
CO. WESTMEATH						
MULLINGAR	135.1	162	31.5	19	28	20
CO. WEXFORD						
JOHNSTOWN CASTLE	167.8	196	35.1	19	24	16
JOHN F. KENNEDY PARK	146.1	178	32.6	19	20	17
CLONROCHE (KNOXTOWN)	170.2		32.7	19	20	17

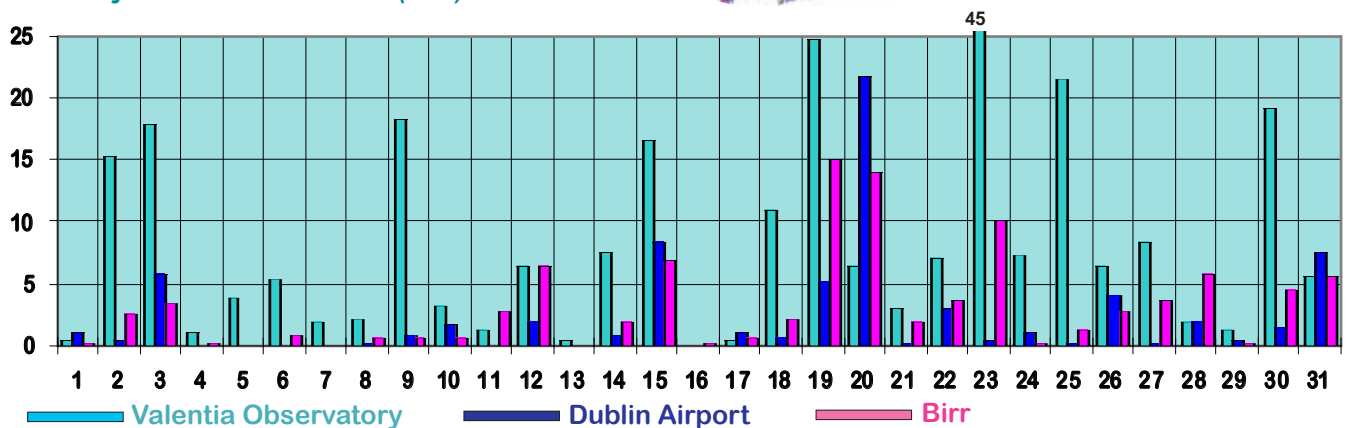
Total rainfall (mm)



Percentage of normal rainfall



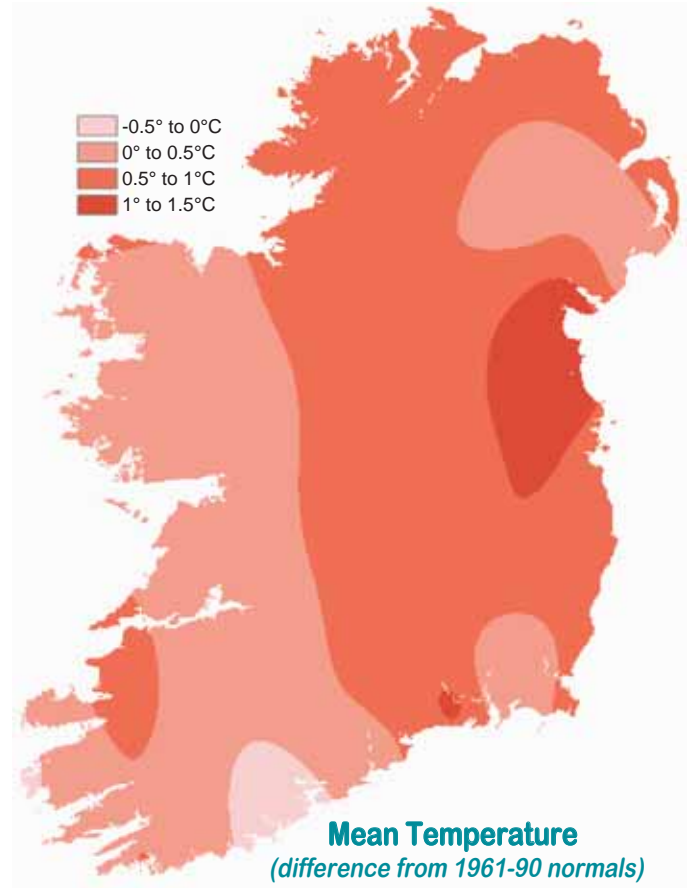
Daily 0-24h rainfall values (mm)



Warmer than normal except in extreme south

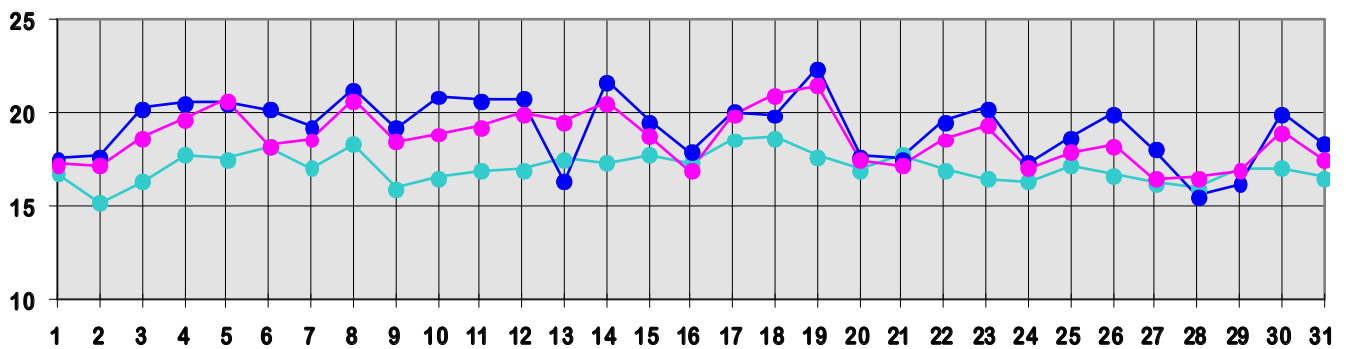
Mean air temperatures for the month were above normal except in the extreme south and southwest. Mean values varied between 13.5°C at Knock Airport and 16.8°C at Dublin (Merrion Square); they were around a degree above the August normal in eastern areas.

Like much of the summer this year, there were few very warm days, but most nights were warmer than normal. While mean minimum temperatures were over a degree above normal in places, mean maximum values were below normal almost everywhere and were the lowest for August for between 15 and 17 years at stations in the west and south. The month's highest temperature, 25.0°C, was recorded at Dungarvan (Carriglea), Co. Waterford, on the 11th, but at several coastal stations in the west and southwest there were no values higher than 20°C during the month- Valentia Observatory's highest value of 18.7°C was its lowest August maximum since 1985. The lowest air temperature of the month, 5.0°C, was recorded at Clonroche (Knoxtown), Co. Wexford, on the 22th, while the

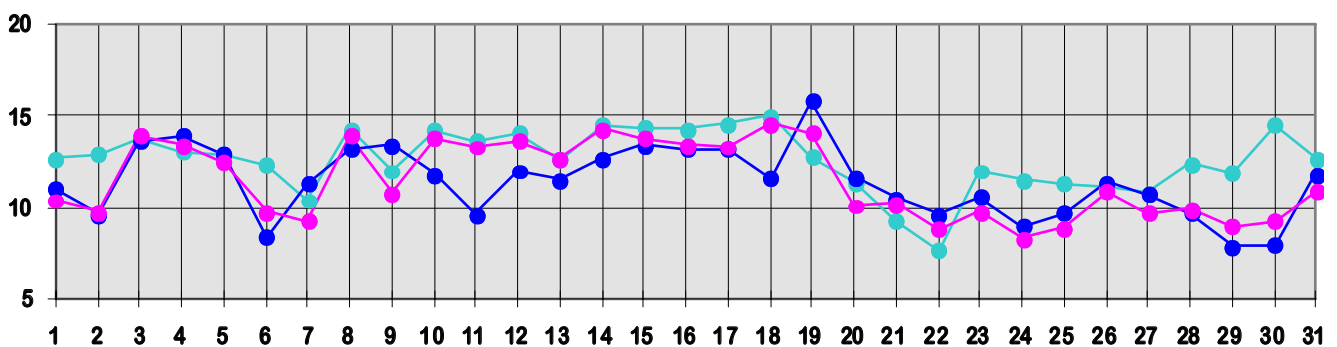


lowest grass minimum value of 0.0°C was measured at the same station on both the 22nd and 24th.

Daily 0-24h maximum temperatures (°C)



Daily 0-24h minimum temperatures (°C)



● Valentia Observatory ● Dublin Airport ● Birr

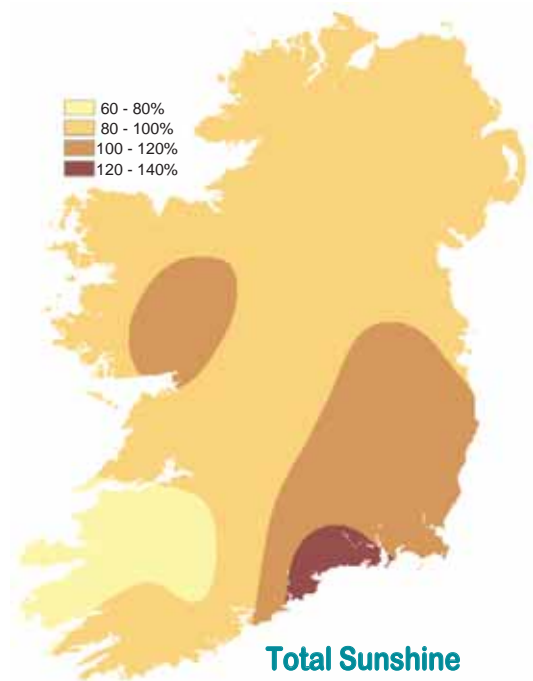
County/ Station	°C										
	Mean max.	Mean min.	Mean/ deviation from 1961-90 average		Highest max./date	Lowest min./date	Lowest grass min./date		Days with air frost ground frost		
CO. CARLOW											
CARLOW (OAK PARK)	19.7	12.0	15.9	0.9	22.2 8	7.6 24	3.5 2	0	0		
CO. CAVAN											
BALLYHAISE	17.9	11.6	14.8		20.5 10	8.1 24	4.7 11	0	0		
CAVAN LORETO COLLEGE	18.2	11.7	15.0		21.2 10	8.4 22	6.0 11 22	0	0		
CO. CLARE											
SHANNON AIRPORT	18.5	13.1	15.8	0.2	21.6 18	9.6 22	4.7 22	0	0		
CARRON	17.3	11.5	14.4	0.3	19.6 4 18	6.9 30	4.0 23	0	0		
CO. CORK											
ROCHE'S POINT	17.3	12.8	15.1	-0.1	23.2 11	8.6 22	2.0 22	0	0		
FERMOY (MOOREPARK)	18.7	11.5	15.1	0.3	23.4 11	5.5 22	2.2 22	0	0		
CORK AIRPORT	17.4	11.4	14.4	-0.2	23.8 11	7.5 21	2.0 22	0	0		
SHERKIN ISLAND	18.0	12.9	15.5	0.5	19.8 6 22	6.8 22	5.7 22	0	0		
BALLINCURRIG (PEAFIELD)	18.3	11.1	14.7		24.8 11	6.0 22	5.8 22 29	0	0		
CO. DONEGAL											
MALIN HEAD	17.4	12.5	15.0	0.9	21.0 3	9.3 24	6.2 30	0	0		
GLENTIES HATCHERY	17.6	11.5	14.6	0.6	20.6 4	6.5 22	3.4 30	0	0		
BALLYSHANNON (CATHLEEN'S FALL)	18.0	12.2	15.1	0.6	22.1 18	9.2 21		0			
CO. DUBLIN											
DUBLIN (PHOENIX PARK)	20.1	12.1	16.1	1.3	22.2 14	7.9 24	3.7 24	0	0		
DUBLIN AIRPORT	19.3	12.0	15.7		22.4 19	7.9 30	3.7 24 30	0	0		
CASEMENT AERODROME	19.3	12.2	15.8	1.0	22.2 19	8.5 22	4.4 6	0	0		
DUBLIN (MERRION SQUARE)	19.8	13.7	16.8	0.9	22.5 19	10.4 29		0			
CO. GALWAY											
GALWAY (UNIV. COLL.)	18.3	12.5	15.4	0.2	21.0 10	6.7 22	4.6 22	0	0		
MAAM VALLEY	17.9	11.7	14.8		20.1 15	7.0 22	5.1 22	0	0		
BALLYGAR	18.4	11.8	15.1		21.1 18	7.3 22	5.5 29	0	0		
CO. KERRY											
VALENTIA OBSERVATORY	17.1	12.8	15.0	0.0	18.7 18	7.7 22	1.6 22	0	0		
ARDFERT (LISCAHANE)	18.7	12.2	15.5	0.6	23.2 18	8.0 22	5.0 22	0	0		
CO. LIMERICK											
MOUNT RUSSELL	18.0	12.0	15.0		21.3 11	6.5 22	5.1 22	0	0		
CO. MAYO											
BELMULLET	16.9	12.6	14.8	0.5	18.9 2	7.8 22	2.9 22	0	0		
STRAIDE	18.0	11.6	14.8	0.4	21.0 18	6.0 22	0.2 22	0	0		
CONNACHT AIRPORT	16.1	10.8	13.5		18.3 18	7.7 21	5.1 22	0	0		
DELPHI LODGE II	16.7	13.0	14.9		18.6 10	10.9 2	8.4 2	0	0		
CO. MEATH											
WARRENSTOWN	19.4	12.1	15.8	1.2	22.8 19	7.6 30	4.6 24	0	0		
CO. MONAGHAN											
CARRICKMACROSS (DUNOGE)	18.9	10.9	14.9		22.7 19	5.2 24		0			
<i>The station at Ardee (Boharnamoe) has been replaced in the tables by Carrickmacross (Dunoge), Co. Monaghan</i>											
CO. OFFALY											
BIRR	18.7	12.1	15.4	0.7	21.5 19	8.3 24	3.6 7	0	0		
DERRYGREENAGH	19.3	10.6	15.0	0.7	22.3 19	5.9 24	3.3 22	0	0		
CO. SLIGO											
ARDTARMON	18.5	12.2	15.4		21.0 18	9.4 24	6.0 22	0	0		
CO. TIPPERARY											
FETHARD (PARSONSHILL)	18.4	11.4	14.9		21.7 8	7.5 22	4.4 22	0	0		
CO. WATERFORD											
WATERFORD (TYCOR)	19.5	12.6	16.1	0.9	21.7 12	7.9 22		0			
DUNGARVAN (CARRIGLEA)	19.3	12.2	15.8	0.5	25.0 11	5.7 22	3.1 22	0	0		
CO. WESTMEATH											
MULLINGAR	18.5	11.3	14.9	0.7	21.6 19	6.3 24	1.3 24	0	0		
CO. WEXFORD											
JOHNSTOWN CASTLE	18.1	12.4	15.3	0.5	21.8 12	8.4 24	6.3 22	0	0		
JOHN F. KENNEDY PARK	18.5	11.7	15.1	0.1	22.5 11	6.8 22	2.0 29	0	0		
CLONROCHE (KNOXTOWN)	18.7	11.0	14.9		23.0 11	5.0 22	0.0 22 24	0	0		

County/ Station	Daily mean (hours/day)	% of average	% of possible	Most in a day/date	
CO. CAVAN					
CAVAN LORETO COLLEGE	3.37		23	10.4	5
CO. CLARE					
SHANNON AIRPORT	3.65	82	25	11.3	21
CO. CORK					
FERMOY (MOOREPARK)	4.16	90	28	12.4	5
CORK AIRPORT	4.37	85	30	11.7	21
SHERKIN ISLAND	4.98	92	34	12.6	21
BALLINCURRIG (PEAFIELD)	4.58			10.7	28
CO. DONEGAL					
MALIN HEAD	4.30	100	29	10.6	5
BALLYSHANNON (CATHLEEN'S FALL)	3.82	94	26	10.8	21
CO. DUBLIN					
DUBLIN AIRPORT	4.78	95	32	13.0	5
CASEMENT AERODROME	5.01	105	34	13.9	5
CO. GALWAY					
GALWAY (UNIV. COLL.)	4.67	103	32	10.8	28
CO. KERRY					
VALENTIA OBSERVATORY	3.23	72	22	10.1	21
ARDFERT (LISCAHANE)	4.13		28	10.6	5
CO. MAYO					
BELMULLET	3.85	83	26	9.9	15 21
STRAIDE	4.04			11.0	21
CONNACHT AIRPORT	3.24			9.9	21
CO. OFFALY					
BIRR	3.81	92	26	11.7	5
CO. WATERFORD					
DUNGARVAN (CARRIGLEA)	6.45	130	44	13.8	5
CO. WEXFORD					
JOHN F. KENNEDY PARK	5.32	117	36	11.6	5
CLONROCHE (KNOXTOWN)	5.72			11.7	5 24

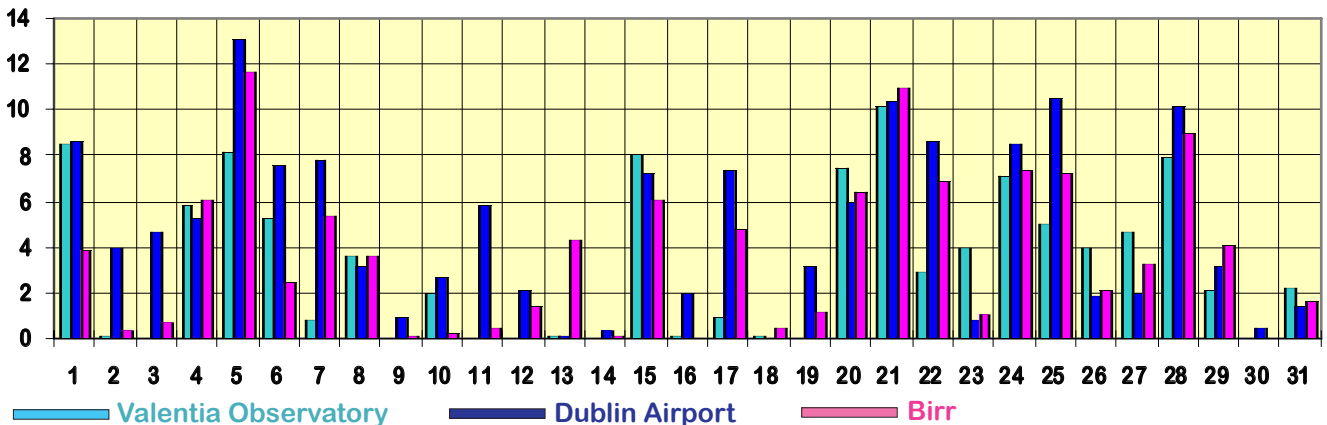
Below normal generally, sunny in southeast

There was a wide range in sunshine totals across the country. They ranged from 100 hours, or 72% of normal, at Valentia Observatory, to twice that amount, 200 hours, or 130% of normal, at Dungarvan (Carriglea), Co. Waterford.

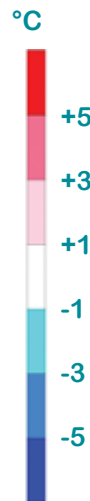
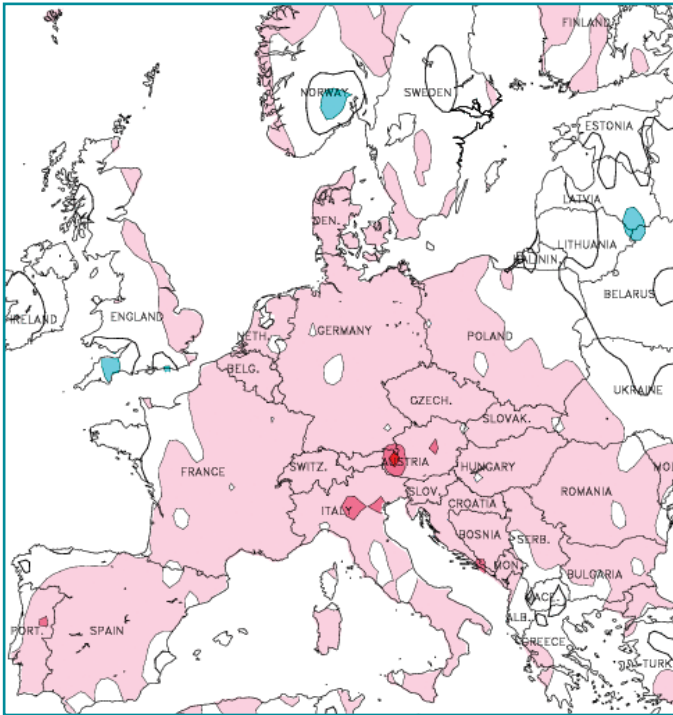
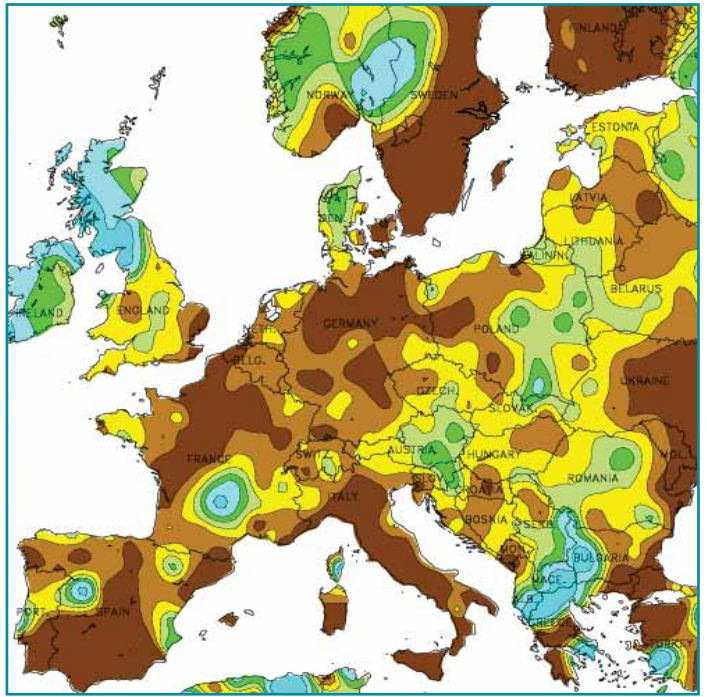
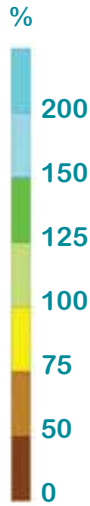
The first week of the month was relatively sunny, as was the period between the 20th and 28th, but much of the remainder of the month was dull. The sunniest days at most stations were the 5th and 21st. Casement Aerodrome measured the highest daily value of the month, 13.9 hours on the 5th; this was the sunniest August day at the station since 1995. Global solar radiation totals were below normal everywhere, ranging from 82% of normal at Valentia Observatory to 99% at Belmullet.



Daily sunshine values (hours)



AUGUST RAINFALL
(percentage of 1961-1990 normal)



AUGUST MEAN TEMPERATURE
(difference from 1961-1990 normal)

Data supplied by NOAA
Climate Prediction Centre,
US Department of Commerce

Global weather highlights of the month

A world map with several text boxes highlighting global weather events:

- USA:** A severe thunderstorm on the 19th, with winds reaching 129 km/h, tore down hundreds of 100-year old trees in New York City's Central Park. Several cars parked nearby were crushed by fallen trees and limbs. The damage was described as the worst in the park for 30 years.
- Mexico:** Much of Mexico suffered its worst drought for 70 years during August, especially the northwest of the country and the central region surrounding Mexico City. Drought affected about 3.5 million farmers; more than 50,000 cattle died and there was the potential for crop loss over seven million hectares.
- Kenya:** With the failure of its annual rainy season—the period from April to June—the number of Kenyans affected by the ongoing drought and associated rising food prices is estimated at 3.8 million. The last three or four rainy seasons have failed in an area extending into parts of Ethiopia, Somalia, Djibouti and Syria, with maize crops in the region reduced to only 70% of average. It is estimated that between 40,000 and 60,000 families have migrated from their villages in search of food.
- Iraq:** Iraq is suffering its fourth consecutive year of drought, according to the UN Food and Agricultural Organisation. Wheat crops were expected to produce harvests about 60% below normal, due in large part to rainfall levels at only half of their normal amount.
- Australia:** Australia recorded its warmest August on record, with average temperatures of 2.5°C above normal and mean maximum temperatures of 3.2°C above the average. Some parts of Queensland had mean temperatures more than six degrees above normal. It was also the warmest August on record in New Zealand, where records extend back to the late 1860s.

The Weather of June, July and August

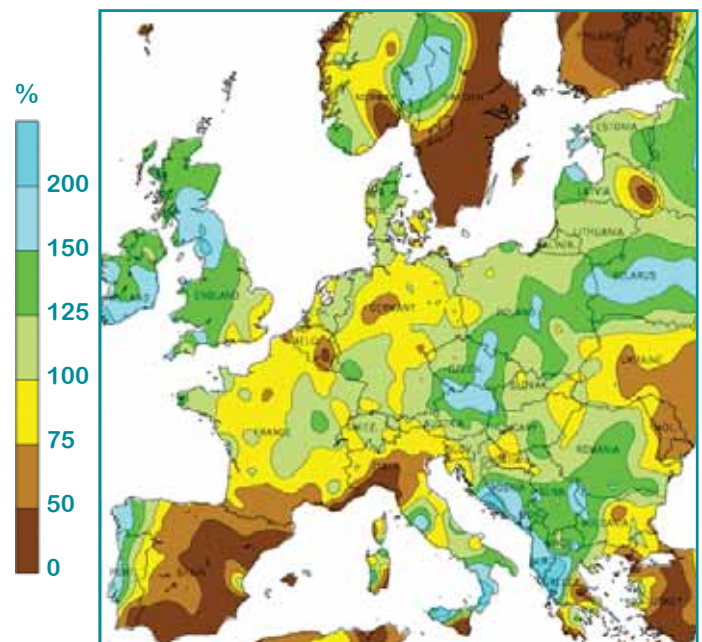
ANOTHER VERY WET SUMMER EVERYWHERE

Rainfall totals were above normal everywhere for the third successive summer, with around twice the average rainfall at some stations. Valentia Observatory's total of 620mm for the season was its highest since records began in the area in 1866, considerably higher than the previous record of 455mm recorded in 1950. It was also the wettest summer on record at Mullingar, but at the majority of stations totals were not as high as the summer of either 2007 or 2008. There were spells of fine weather during June, but some rainfall was recorded on almost every day during July and August. A total of between 60 and 75 wetdays (days with 0.2mm or more rainfall) was widely recorded for the 3-month period, compared with the normal range for summer of between 42 and 55 raindays. There were some heavy daily falls throughout the season, often associated with thunderstorms. Daily falls of around 50mm were measured in both the east and west of the country on July 2nd, while there was severe flooding locally in some parts of the north and west following heavy rain on both June 23rd and August 23rd.

Mean air temperatures for the season were a little higher than normal for the 1961-90 period generally, but Cork Airport had its coolest summer since 2002. Almost all stations recorded their highest daily values of the season during early June; temperatures rose above 25°C in many areas on June 2nd, with Galway (University College)

measuring 28.6°C on this day, the highest summer value in the country since July 2006. Temperatures rose above 20°C on relatively few days during July and August, but minimum temperatures were above normal throughout almost all of the summer. Despite the wet conditions for much of the season, summer sunshine totals were above normal everywhere. It was the sunniest summer since 1968 at both Malin Head and Belmullet. By far the sunniest month of the season was June, which was the sunniest for 50 or more years in the west and north.

SUMMER PERCENTAGE OF NORMAL RAINFALL



Parts of western and eastern Europe recorded around twice their normal summer rainfall, due mainly to some very heavy daily falls, while less than half the normal amount was measured over much of Spain and eastern Scandinavia.

County/ Station	RAINFALL (mm)			TEMPERATURE (°C)				SUNSHINE (HOURS)			NO. OF DAYS WITH:					
	Total	% of average	Most in a day amount date(s)	Mean	diff. from average	Extremes Highest Lowest	Daily mean	% of average	Most in a day amount date(s)	Rain	Snow	Air frost	Hail	Thunder	Fog	Gale gusts
CO. CARLOW Carlow (Oak Park)	318.3	200	30.8 20 Aug	15.3	+0.7	26.8 4.6				60	0					0
CO. CAVAN Ballyhaise	303.9	145	23.3 20 Aug	14.7		26.5 3.6				65	0					1
CO. CLARE Shannon Airport	294.7	142	20.2 17 Jun	15.9	+0.9	26.9 5.2	5.59	112	15.3 4 Jun	65	0	0	0	1	1	0
CO. CORK Cork Airport	445.4	196	36.8 11 Jul	14.2	0.0	23.8 5.4	6.04	108	15.5 2 Jun	67	0	0	2	1	27	7
Roche's Point	340.0	182	26.8 11 Jul	14.9	+0.3	23.2 6.8				58	0					14
CO. DONEGAL Malin Head	290.8	122	26.0 23 Aug	14.5	+1.1	24.4 4.8	6.53	129	15.2 24 Jun	61	0	0	0	5	3	20
CO. DUBLIN Dublin Airport	299.2		42.4 2 Jul	14.7		24.5 3.5	5.86	104	15.7 24 Jun	53	0	0	0	2	6	7
Casement Aerodrome	252.0	146	44.7 6 Jun	15.1	+0.8	24.9 4.3	5.62	105	16.0 24 Jun	57	0	0	0	2	3	12
CO. KERRY Valentia Observatory	619.7	238	45.3 23 Aug	15.1	+0.8	26.1 6.9	5.13	103	15.4 2 Jun	75	0	0	0	2	4	6
CO. MAYO Belmullet	351.5	153	18.8 14 Aug	14.9	+1.3	23.9 6.1	6.06	117	15.0 4 Jun	74	0	0	0	2	3	28
Knock Airport	416.8		19.6 4 Jul	13.8		25.2 4.9	4.99	104	15.7 3 Jun	75	0	0	0	4	33	10
CO. OFFALY Birr	300.6	153	24.6 17 Jun	15.2	+0.9	27.5 3.4	5.15	108	15.2 3 Jun	63	0	0	0	1	2	0
CO. WESTMEATH Mullingar	413.1	199	32.4 23 Jul	14.8	+0.8	26.6 4.4				70	0					0
CO. WEXFORD Johnstown Castle	462.4	230	34.6 31 Aug	15.0	+0.8	24.2 6.1				61	0					0