

Monthly Weather Bulletin

No. 254
JUNE 2007



INSIDE



**Very heavy rain
on 13th- page 3**

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**Weather observing in
the classroom**

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



*One of many very showery days during the month was the 24th, when thunderstorms developed in the southwest and this funnel cloud was observed from Galtymore, Co. Tipperary- see page 2.
(picture courtesy Des Loughney)*

VERY WET IN EAST AND SOUTH; WARMEST AND SUNNIEST IN WEST

Despite a week of dry, warm and very sunny weather everywhere between the 4th and 11th, June overall was a very wet month in most places with sunshine totals below normal, while mean temperatures were highest in western areas. More than twice the normal June rainfall was recorded in the east and south, while at Kilkenny it was the wettest June since records began there in 1957, with more than three times its average total recorded. Heavy falls, some in association with thunder, led to localised flooding on a number of days. Kilkenny's 24-hour

fall of 31mm up to midnight on the 15th was its highest on record for June, while Dublin (Phoenix Park)'s daily fall of 53mm on the 22nd included a 90-minute fall of 26mm during a thunderstorm. Mullingar recorded a 60-minute fall of 29mm on the 13th; such an event would be expected only once every 50 years. There were 10 wetdays during the month at Malin Head (days with 1mm or more rainfall), but the majority of stations recorded between 13 and 19 wetdays, compared with the normal range for June of between 11 and 14.

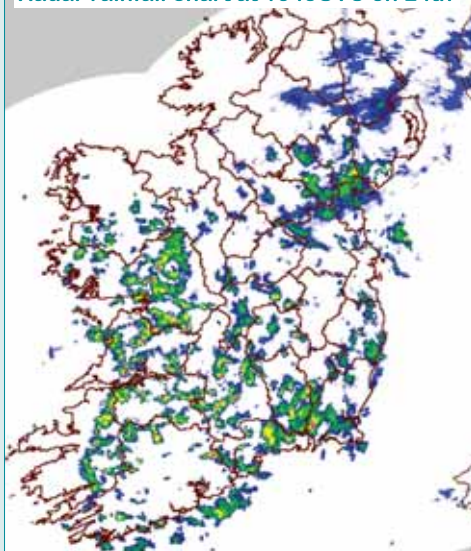
**Left**

A frontal system cleared eastwards early on the 4th, leaving virtually clear skies over western areas. This image, taken by the Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's Terra satellite, shows a recurrence of the phytoplankton bloom off the north and particularly the west coast of Ireland. Like previous years (see Monthly Weather Bulletin of June 2006), these microscopic marine plants- appearing bright blue on the satellite image- respond to bright sunlight at the ocean surface in late spring and early summer by forming extensive blooms, covering up to hundreds of square kilometres.

(picture courtesy MODIS Rapid Response Team, NASA)

Mean monthly air temperatures varied between 13°C and 15°C and were around a degree higher than normal generally. The first half of the month was warm, especially in the west, but temperatures were near or below normal throughout most of the second half. Daytime temperatures rose above 20°C each day in many midland and western areas during the period 5th to 12th; Belmullet's mean temperature for the month of 14.6°C was its highest for June since records began there in 1956. In contrast, cold nights near the end of the month allowed ground frost to develop at Mullingar. Sunshine totals were very variable across the country, with highest totals measured in the north and west; while it was the sunniest June at Malin Head since 1996, it was the dullest at several other stations for between 5 and 10 years.

An unstable northwesterly airstream developed over Ireland on the 24th, as a depression was centred over and to the east of the country.

Radar rainfall chart at 1345UTC on 24th

Heavy showers developed in many areas, some of which brought thunderstorms during the afternoon over the southern half of the country. Between 1330 and 1400UTC, a funnel cloud- a tornado with circulation not reaching the ground- was observed for over five minutes from Galtymore, Co. Tipperary. This image was taken just before the funnel cloud dissipated.

(picture courtesy Des Loughney)



1st to 3rd: Slow-moving bands of rain over Ireland brought very heavy falls in places, particularly to western areas on the 2nd and to the eastern half of the country on the 3rd. Temperatures were near or above normal, with long sunny spells in places on the 1st and 3rd. South to southwesterly winds were strong in western areas on the 2nd.

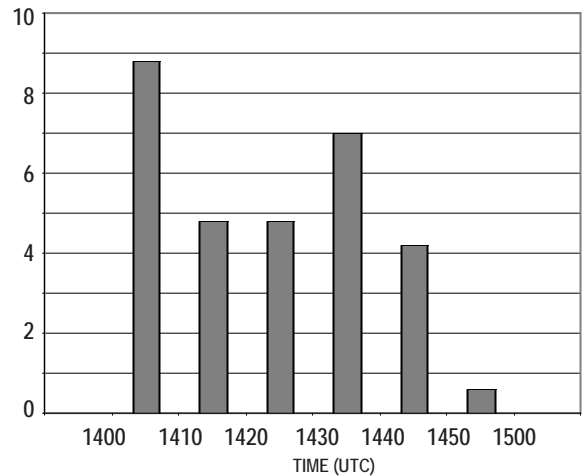
4th to 11th: High pressure centred north of Ireland was the dominant influence, bringing dry and clear weather to all areas. Temperatures rose well above normal in the western half of the country, but the prevailing easterly breeze kept daytime values closer to normal in eastern areas. Long sunny spells developed each day after early mist or fog had cleared, with more than 15 hours of daily sunshine in places between the 4th and 7th.

12th to 30th: A succession of slow-moving depressions moved eastwards across the south of the country. Associated frontal systems brought rain or showers each day, with some locally very heavy and thundery downpours- *see chart right*. A tornado was observed near Galtymore, Co. Tipperary, on the 24th, but no damage was recorded- *see page 2*. The heaviest rain was recorded in the periods 13th to 15th and 18th to 22nd and on the 24th and 30th,

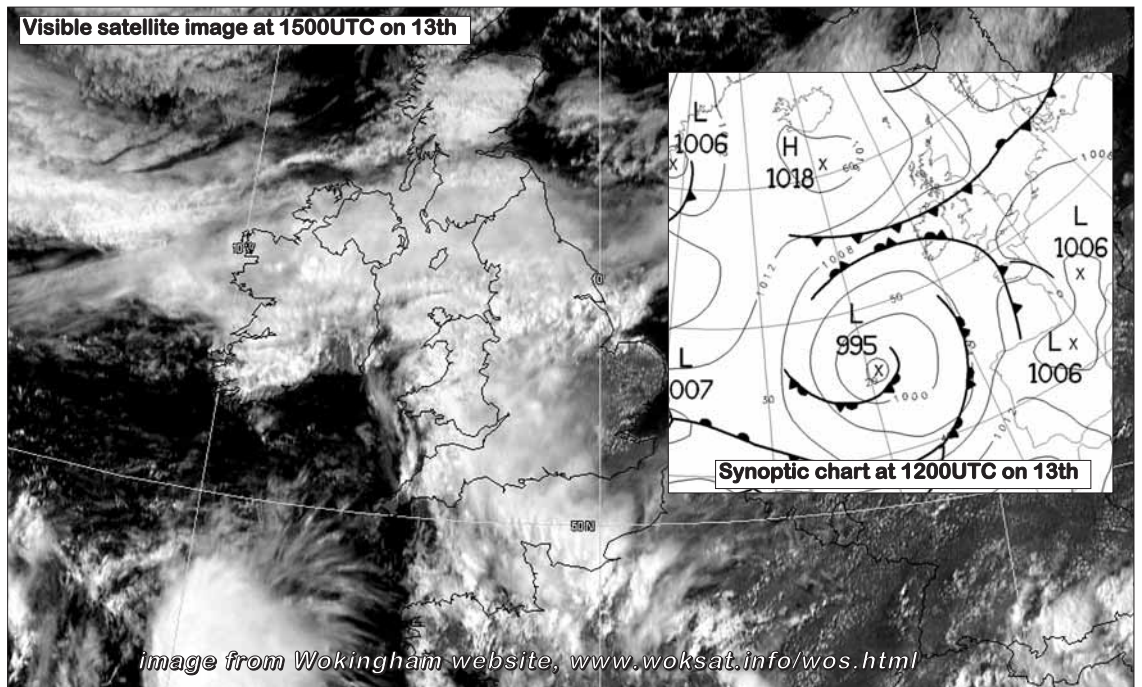
bringing localised flooding. Little sunshine was recorded and temperatures were near or below normal for most of the period. Mainly easterly winds at first later backed to a northerly direction, before very mild southerly winds became established at the end of the month.

Wind and elements: Mean windspeeds for the month were below normal, varying between 6 and 10 knots (*11 and 19km/hr*) generally. The highest gust, 42 knots (*78km/hr*), was measured at Malin Head on both the 14th and 15th. Thunderstorms were recorded in the period 11th to 15th and on the 19th, 20th, 22nd, 24th and 30th; they were most widespread on the 12th and 13th. There were no reports of hail. Fog was widespread during the first nine days of the month.

10-minute rainfall (mm) at Mullingar on 13th



Visible satellite image at 1500UTC on 13th



Synoptic chart at 1200UTC on 13th

Right

Active fronts over Ireland on the 13th separated warm and humid air of tropical origin to the south and a cool arctic airstream to the north. Very heavy rain fell over midland areas in particular, with Mullingar measuring a 60-minute fall of over 29mm between 1400 and 1500UTC; such a fall over this time period would be expected there only once every 50 years.

Image from Wokingham website, www.woksat.info/wos.html

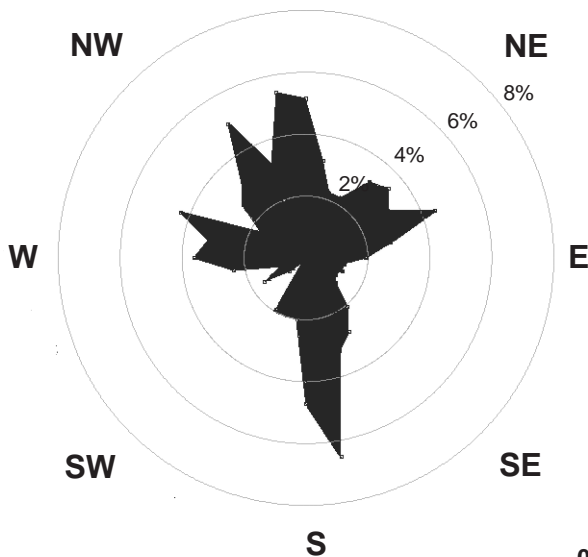
County / Station	WIND (KNOTS)										ELEMENTS				
	Mean speed	Max. 10-min. mean dir.	Max. 10-min. mean speed	Max. 10-min. mean date/hour	Max. Gust dir.	Max. Gust speed	Max. Gust date/time	Days with gales	Days with gale gusts	Hours with gale gusts	Snow	Snow Lying	Hail	Thunder	Fog
CO. CLARE SHANNON AIRPORT	7.9	240°	26	28/16	340°	35	25/1516	0	2	2	0	0	0	0	2
CO. CORK CORK AIRPORT	8.4	340°	24	25/12	330°	35	25/1125	0	3	4	0	0	0	0	10
CO. DONEGAL MALIN HEAD	11.8	090°	32	14/24	090°	42	14/2238	0	5	67	0	0	0	1	2
		090°	32	15/12	100°	42	15/0716								
CO. DUBLIN CASEMENT AERODROME	6.7	220°	23	28/14	220°	33	28/1353	0	0	0	0	0	0	3	4
DUBLIN AIRPORT	9.2	130°	26	20/15	130°	36	20/1424	0	2	8	0	0	0	1	6
CO. KERRY VALENTIA OBSERVATORY	6.3	350°	22	25/17	350°	33	25/1556	0	0	0	0	0	0	0	4
CO. KILKENNY KILKENNY	6.0	200°	20	30/15	340°	34	25/1912	0	1	1	n/a	0	---	n/a	---
CO. MAYO BELMULLET	9.0	020°	26	25/11	030°	39	24/2208	0	3	22	0	0	0	2	5
KNOCK AIRPORT	8.0	340°	23	25/15	350°	37	25/1435	0	1	6	0	0	0	2	9
CO. MONAGHAN CLONES	6.9	160°	19	2/14	240°	32	28/1539	0	0	0	n/a	0	---	n/a	---
		130°	19	20/14											
CO. OFFALY BIRR	6.1	140°	17	20/16	140°	28	20/1518	0	0	0	n/a	0	---	n/a	---
					340°	28	25/1637								
CO. WESTMEATH MULLINGAR II	5.9	150°	17	20/20	170°	27	2/1137	0	0	0	n/a	0	---	n/a	---
					140°	27	20/1411								
CO. WEXFORD ROSSLARE	9.0	340°	27	25/16	180°	41	20/1407	0	4	14	0	0	0	1	2

Valentia Observatory

Dublin Airport

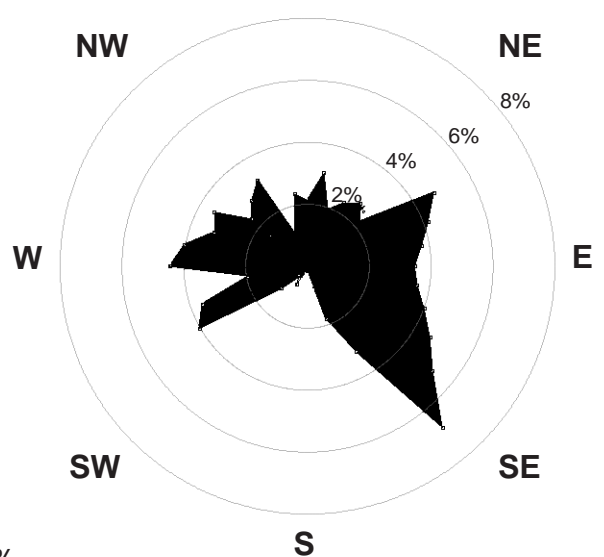
Calm: 1.7%

N



Calm: 1.0%

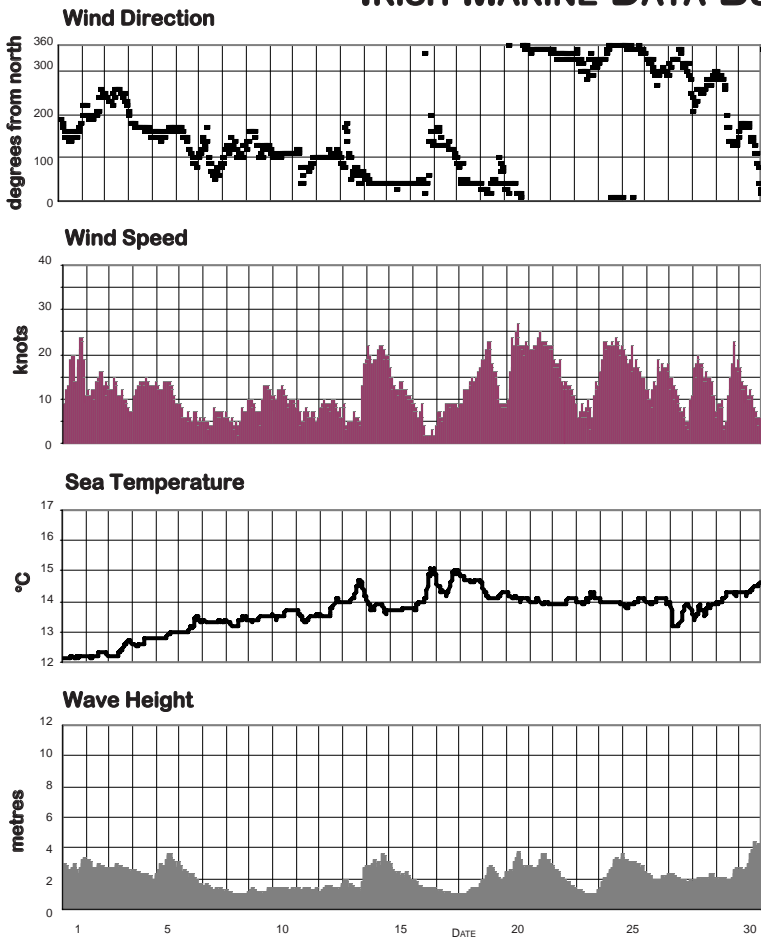
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0 1 2 3 4%

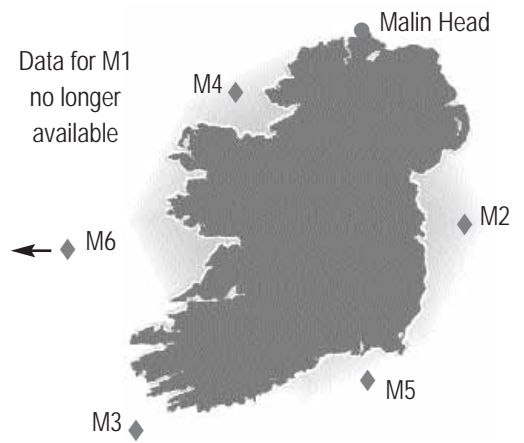
FREQUENCY OF WIND DIRECTION

MARINE OBSERVATIONS FROM IRISH MARINE DATA BUOY NETWORK



Buoy	Sea surface temp. (°C)	Mean wind speed (knots)	Max. 10-min wind (knots)	Mean wave height (m.)	Max. wave height (m.)
M2	12.4	12.3	31	0.9	2.8
M3	not available				
M4	14.3	13.6	28	1.7	3.6
M5	14.8	12.5	29	1.3	4.6
M6	13.7	11.9	27	2.1	4.4
Malin Head	13.4 (1.2°C above normal)				

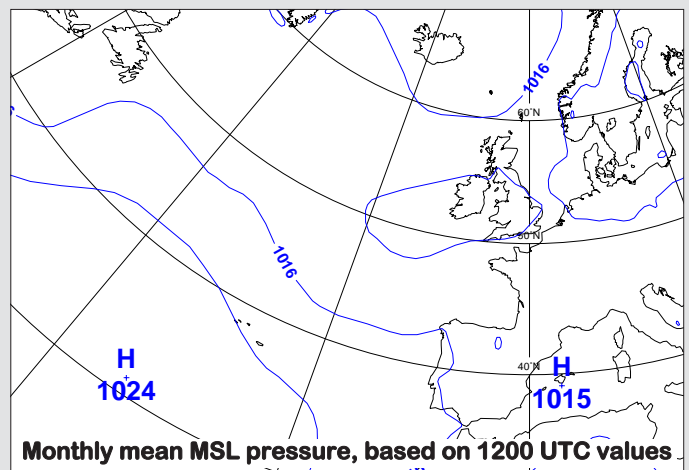
Summary of Mean Monthly Values



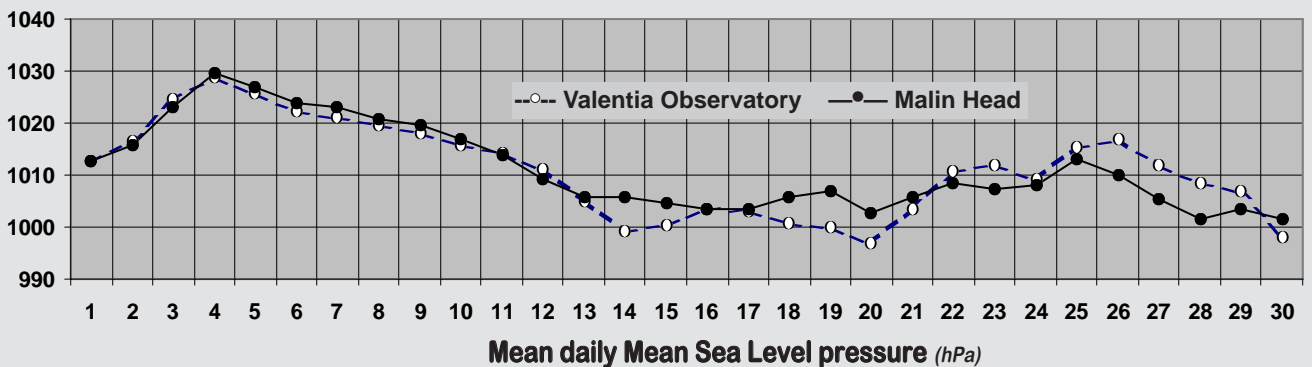
Hourly wind and wave conditions at M6 (53.1°N, 15.93°W)

MEAN ATMOSPHERIC PRESSURE

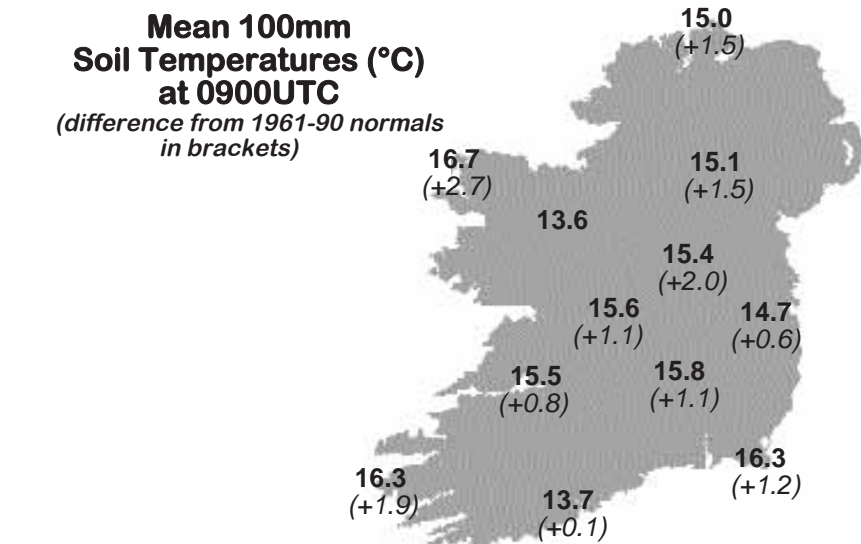
Mean sea level pressure values for the month were almost uniform over the country, varying between 1011hPa and 1012hPa everywhere, between 4 and 7hPa lower than normal for June. Pressure values were highest at the beginning of the month, when an anticyclone developed north of Ireland. The month's highest value, 1032.1hPa, was recorded at Belmullet on the 4th. Pressure was below normal after the 10th, with the lowest value of the month, 991.8hPa, at Valentia Observatory on the 30th.



Monthly mean MSL pressure, based on 1200 UTC values

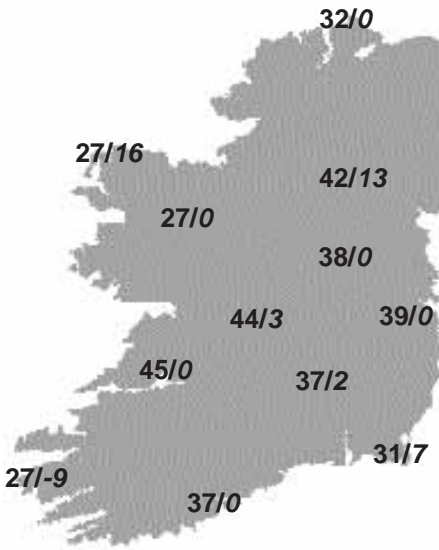


Mean 100mm Soil Temperatures (°C) at 0900UTC
(difference from 1961-90 normals in brackets)



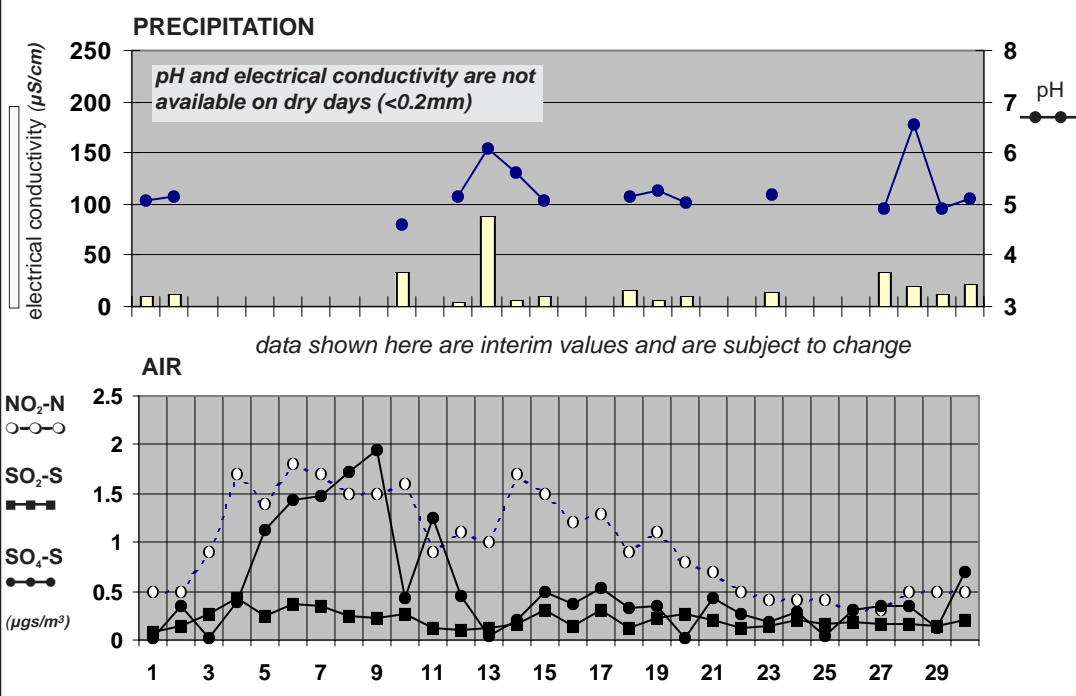
Soil Temperatures at 0900UTC

County/ Station	°C		
	100mm	200mm	300mm
CO. CLARE			
SHANNON AIRPORT	15.5	15.4	15.9
CARRON	15.8		15.9
CO. CORK			
FERMOY (MOORE PARK)	15.4	15.1	15.4
CORK AIRPORT	13.7	14.4	15.3
SHERKIN ISLAND	16.0		16.1
BALLINCURRIG (PEAFIELD)	15.6	14.9	15.9
CO. DONEGAL			
MALIN HEAD	15.0	15.4	14.8
CO. DUBLIN			
DUBLIN AIRPORT	14.7	14.9	15.5
CASEMENT AERODROME	14.7	14.6	15.1
CO. KERRY			
VALENTIA OBSERVATORY	16.3	16.6	17.0
CO. KILKENNY			
KILKENNY	15.8	15.8	16.2
CO. LIMERICK			
MOUNT RUSSELL	14.2	15.0	
CO. LOUTH			
ARDEE (BOHARNAMOE)	14.1	14.3	14.6
CO. MAYO			
BELMULLET	16.7	17.4	18.5
STRAIDE	14.7		
KNOCK AIRPORT	13.6	13.7	14.6
CO. MEATH			
WARRENTOWN	14.9	15.2	16.0
CO. MONAGHAN			
CLONES	15.1	15.2	15.6
CO. OFFALY			
BIRR	15.6	15.8	16.2
CO. TIPPERARY			
FETHARD (PARSONSHILL)	14.4	15.2	
CO. WATERFORD			
DUNGARVAN (CARRIGLEA)		16.2	16.3
CO. WESTMEATH			
MULLINGAR II	15.4	15.4	16.1
CO. WEXFORD			
JOHNSTOWN CASTLE	15.8	15.3	15.7
ROSSLARE	16.3	16.2	16.2
JOHN F. KENNEDY PARK	16.3	15.8	16.5
CLONROCHE (KNOXTOWN)	15.2	15.4	15.6



Soil Moisture Deficits (mm) for moderately-drained soils
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°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	19.0	-	3	3	20.3	8.1	14.2	-	5.6	7	0	98	48	3.7	4	0	-	-	81.7	-
	11-20	37.3	-	7	6	17.9	10.8	14.4	-	7.9	18	0	99	44	6.4	18	0	-	-	19.0	-
	21-end	41.2	-	9	7	16.7	9.3	13.0	-	5.8	28	0	86	33	5.2	28	0	-	-	24.7	-
	month	97.5	-	19	13	18.3	9.4	13.9	-	5.6	7	0	284	124	3.7	4	0	-	-	125.4	-
Co. Cork Fermoy	1-10	12.1	-	2	2	20.4	8.8	14.6	-	6.5	9	0	102	50	3.2	10	0	15.4	15.1	84.3	-
	11-20	68.5	-	8	5	17.5	11.7	14.6	-	5.0	17	0	102	47	1.3	17	0	15.7	16.1	22.7	-
	21-end	25.5	-	7	5	17.5	11.0	14.3	-	7.5	28	0	99	44	3.8	28	0	15.0	15.1	40.8	-
	month	106.1	171	17	12	18.5	10.5	14.5	1.1	5.0	17	0	303	141	1.3	17	0	15.4	15.4	147.8	89
Co. Donegal Glenties	1-10	32.6	-	2	2	22.0	9.7	15.9	-	4.4	4	0	115	61	3.1	4	0	-	-	-	-
	11-20	28.8	-	9	5	18.2	10.9	14.6	-	7.9	15	0	101	47	6.0	17	0	-	-	-	-
	21-end	53.4	-	7	7	16.3	9.4	12.9	-	7.2	26	0	85	31	4.4	26	0	-	-	-	-
	month	114.8	130	18	14	18.8	10.0	14.4	1.8	4.4	4	0	301	139	3.1	4	0	-	-	-	-
Co. Kerry Ardfert	1-10	11.4	-	2	2	21.9	10.0	16.0	-	5.7	4	0	115	61	-0.1	4	1	-	-	93.3	-
	11-20	34.2	-	8	6	18.1	11.1	14.6	-	7.4	17	0	102	47	1.9	17	0	-	-	18.3	-
	21-end	37.0	-	9	7	18.2	11.2	14.7	-	9.2	26	0	103	47	4.1	26	0	-	-	39.3	-
	month	82.6	-	19	15	19.4	10.8	15.1	1.9	5.7	4	0	321	156	-0.1	4	1	-	-	150.9	-
Co. Louth Ardee	1-10	27.7	-	3	2	20.2	8.8	14.5	-	5.0	1	0	101	50	4.5	10	0	13.6	14.2	-	-
	11-20	60.1	-	7	7	18.0	11.1	14.6	-	8.2	18	0	102	47	5.7	15	0	14.9	15.3	-	-
	21-end	45.0	-	8	7	17.3	10.7	14.0	-	5.0	28	0	96	42	3.4	28	0	13.9	14.4	-	-
	month	132.8	229	18	16	18.5	10.2	14.4	1.4	5.0	28	0	299	138	3.4	28	0	14.1	14.6	-	-
Co. Waterford Dungarvan	1-10	31.0	-	3	2	19.4	9.2	14.3	-	6.8	1	0	99	46	5.5	6	0	-	16.0	91.3	-
	11-20	103.7	-	9	7	18.2	11.9	15.1	-	7.2	17	0	106	51	5.3	17	0	-	17.0	27.8	-
	21-end	64.7	-	6	6	18.7	10.9	14.8	-	7.7	28	0	104	49	6.3	28	0	-	15.8	40.7	-
	month	199.4	-	18	15	18.8	10.6	14.7	0.9	6.8	1	0	309	147	5.3	17	0	-	16.3	159.8	94
Co. Wexford Johnstown Castle	1-10	44.4	-	4	2	17.3	10.6	14.0	-	8.2	1	0	96	40	3.9	1	0	16.2	15.6	89.2	-
	11-20	70.7	-	9	6	17.3	12.4	14.9	-	10.5	16	0	104	48	8.0	14	0	16.5	16.5	27.2	-
	21-end	52.1	-	8	6	16.5	10.8	13.7	-	8.2	28	0	93	38	5.7	28	0	14.7	15.1	27.4	-
	month	167.2	274	21	14	17.0	11.3	14.2	1.1	8.2	28	0	292	126	3.9	1	0	15.8	15.7	143.8	86

MEASURED POTENTIAL EVAPOTRANSPIRATION (P.E.) AND SOIL MOISTURE

County/ Station	Period	P.E. (mm)		Soil Moisture (mm)	
		Amount	Deficit	Accum'td	Surplus
Co. Kerry Valentia Obs.	1-10	24.1	-	0	28
	11-20	31.3	-	0	7
	21-end	28.6	-	0	13
	month	84.0			
Co. Wexford Johnstown Castle	1-10	40.3	-	44	19
	11-20	36.6	-	14	30
	21-end	20.3	-	0	31
	month	97.2			

MONTHLY EVAPORATION (MM) FROM CLASS A PAN

County	Station	Monthly Rainfall (mm)	Monthly Evaporation (mm)
Clare	Kilmaley	128.7	94.2
Cork	Fermoy (Moorepark)	106.1	98.9
Kerry	Valentia Observatory	153.6	76.1
Kildare	Poulaphuca	136.2	64.1
Mayo	Newport (Furnace)	121.1	79.8
Offaly	Derrygreenagh	89.7	63.3
Waterford	Dungarvan (Carriglea)	199.4	81.7
Wexford	Johnstown Castle	167.2	97.1

P.E. (Penman)

County/ Station	total for month(mm)		GLOBAL SOLAR RADIATION (MJ/sq. m.)			
			10-day totals			Total for month
			1-10	11-20	21-end	
Co. Clare Shannon Airport	95					
Co. Cork Cork Airport	81					
Co. Donegal Malin Head	94	234.44	158.79	174.78		568.01
Co. Dublin Dublin Airport	74	211.48	110.04	136.48		459.00
Casement Aerodrome	74					
Co. Kerry Valentia Obs.	84	232.63	117.63	178.66		528.92
Co. Kilkenny Kilkenny	76	192.15	119.71	147.89		459.75
Co. Mayo Belmullet	94	244.27	144.35	193.28		581.90
Knock Airport	81					
Co. Monaghan Clones	76	211.73	109.95	137.29		458.97
Co. Offaly Birr	77	213.52	106.47	146.21		466.20
Co. Westmeath Mullingar	74					
Co. Wexford Rosslare	89					

SEE BACK PAGE OF JANUARY ISSUE FOR NOTES ON THE DATA

Friday 1st: Mist and fog lifted during the morning and it was a mostly dry, warm day with sunny spells. Mild, humid weather with rain and drizzle and some fog patches moved into the southwest in the late afternoon and spread northeastwards in the evening. The rain was heavy at times in the southwest. Light variable winds, increasing to moderate southerly with occasional gusts.

Rainfall: nil to 5mm, heaviest at Valentia, nil in the east

Temperature: max. 15°C to 21°C, min. 5°C to 10°C

Sunshine: 2 to 12 hours, sunniest at Malin Head, 2 hours at Valentia

Saturday 2nd: Outbreaks of rain or drizzle in most places overnight, with heavy falls in the southwest. The rain spread eastwards during the morning and afternoon to affect most areas. Heavy falls of rain in the afternoon, particularly in the southwest. Dull everywhere except for the northwest. Winds were southerly, light to moderate, with stronger gusts in the northwest.

Rainfall: trace to 47mm, heaviest at Valentia, trace at Casement Aerodrome

Temperature: max. 14°C to 19°C, min. 11°C to 14°C

Sunshine: nil to trace generally, 2 hours at Belmullet

Sunday 3rd: A day of contrasting weather in the east and west of the country. In the west, after some mist and fog cleared it was a relatively dry day with long spells of sunshine, particularly along the western seaboard. The east remained generally overcast until the evening, with some heavy falls of rain. Winds were light and variable in direction.

Rainfall: nil to 35mm, heaviest at Casement Aerodrome, nil at Belmullet and Valentia

Temperature: max. 13°C to 17°C, min. 8°C to 13°C

Sunshine: nil to 13 hours, sunniest at Belmullet, nil in the east

Monday 4th: Dull and damp along eastern coasts for much of the day, but dry and sunny elsewhere. The rain and drizzle in the east died out in the afternoon and it was dry everywhere in the evening. Warm in the sunny areas, with temperatures above average in many places. Light northerly winds were moderate at times on coasts.

Rainfall: nil to trace generally, <1mm at Casement Aerodrome and Dublin Airport

Temperature: max. 14°C to 21°C, min. 6°C to 11°C, ground temperatures down to zero at Birr

Sunshine: 1 to 16 hours, sunniest at Knock Airport, 1 hour at Casement Aerodrome

Tuesday 5th: A mild, dry night, followed by a dry, warm and sunny day, the only exception being isolated light showers on the Galway and Mayo coasts during the evening. Winds were light, variable or easterly in direction.

Rainfall: nil

Temperature: max. 15°C to 22°C, min. 6°C to 13°C

Sunshine: 3 to 15 hours, sunniest at Mullingar, 3 hours at Birr

Wednesday 6th: Dry during the night with mist or fog, becoming dense in places. This cleared during the morning to give a dry, fine day with periods of sunshine in all areas. Dry during the evening with fog returning, mainly to western areas. Winds were light northeasterly or variable.

Rainfall: nil

Temperature: max. 15°C to 23°C, min. 5°C to 13°C

Sunshine: 9 to 16 hours, sunniest at Malin Head, 9 hours at Kilkenny

Thursday 7th: Clear and dry overnight with mist and fog patches in some areas. A clear, sunny morning in most places, but cloudier in some eastern coastal areas. The afternoon and evening were sunny everywhere and warm also, especially away from east and north coasts. Mist and haze developed in places late in the evening. Winds were light and variable.

Rainfall: nil

Temperature: max. 15°C to 24°C, min. 5°C to 13°C

Sunshine: 12 to 15 hours, sunniest at Belmullet, 12 hours at Malin Head

Friday 8th: Mild overnight, with fog forming in some places, but this cleared quickly after sunrise. A warm, dry and sunny day everywhere. Winds were light and variable in direction throughout.

Rainfall: nil

Temperature: max. 17°C to 24°C, min. 6°C to 12°C

Sunshine: 10 to 15 hours, sunniest at Knock Airport and Belmullet, 10 hours at Mullingar

Saturday 9th: Mild overnight, with fog forming in a few places, but again clearing quickly after sunrise. A very warm, dry day everywhere with unbroken sunshine almost countrywide, but cloudier at times in the southwest. Winds

were light, generally from an easterly direction, but variable at times.

Rainfall: nil to trace

Temperature: max. 16°C to 25°C, min. 7°C to 13°C

Sunshine: 7 to 15 hours, sunniest at Malin Head, 7 hours at Valentia

Sunday 10th: Mist and fog in places overnight with clear periods also. Dry and sunny for most of the day, but cloudier in the extreme southwest of the country. A warm day with light variable winds.

Rainfall: nil generally, trace at Valentia

Temperature: max. 18°C to 26°C, min. 8°C to 15°C

Sunshine: 6 to 15 hours, sunniest at Knock Airport, 6 hours at Valentia

Monday 11th: Dull, damp weather moved into the southwest overnight. Remaining generally dull with outbreaks of rain or drizzle at times in the south and southwest, but warm elsewhere with sunny spells and scattered thundery showers, some of which were heavy. Remaining very mild after dark with clear spells in the northern half of the country and one or two showers, mainly along Atlantic coasts. Winds were generally light east or southeasterly, but were stronger near showers.

Rainfall: nil to 7mm, heaviest at Birr

Temperature: max. 18°C to 26°C, min. 10°C to 15°C

Sunshine: 1 to 12 hours, sunniest at Malin Head, 1 hour at Shannon Airport

Tuesday 12th: Mist and fog lifted slowly in the morning and it was a warm, humid day with scattered showers and sunny spells. Many areas stayed dry but some of the showers were prolonged and thundery in the northern half of the country, while the eastern half received most sunshine. Winds were light southerly, becoming southwesterly during the day, stronger near showers.

Rainfall: nil to 6mm, heaviest at Valentia

Temperature: max. 18°C to 23°C, min. 12°C to 15°C

Sunshine: 2 to 8 hours, sunniest at Rosslare, 2 hours at Valentia

Wednesday 13th: Mist or fog cleared during the morning. Showers and rain became frequent during the day, some heavy and thundery in places with almost 30mm of rain falling in Mullingar in one hour during the afternoon. Continuing very humid. Rain or showers continued during the afternoon, mainly in the western half of the country. Some sunny spells, mainly in coastal areas. Winds were light and variable in direction.

Rainfall: nil to 29mm, heaviest at Mullingar, nil at Malin Head

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

Sunshine: nil to 6 hours, sunniest at Rosslare, nil at Birr

Thursday 14th: Rain in Munster moved northwards to all areas during the morning and it was a dull, wet and breezy day in most places. The rain was heavy and thundery at times. Clearer, drier weather moved into the south later in the afternoon and spread over Munster and south Leinster in the evening. Winds were light, east or northeasterly, increasing moderate and gusty during the day, strongest on northern coasts.

Rainfall: nil to 19mm, heaviest at Cork Airport, nil at Malin Head

Temperature: max. 12°C to 17°C, min. 9°C to 13°C

Sunshine: nil to <2 hours generally, 4 hours at Rosslare

Friday 15th: Heavy rain in Ulster and also near the south coast overnight and into the morning, with lighter rain or drizzle developing in Leinster and Connacht at the same time. The heavier rain generally died out by afternoon but it remained damp everywhere into the evening and there were still some very heavy isolated showers. Overcast except in both the southwest and the southeast, where there was some sunshine. Winds were moderate northeasterly, strongest in the north, decreasing light inland by evening.

Rainfall: trace to 31mm, heaviest at Kilkenny, trace at Malin Head

Temperature: max. 10°C to 17°C, min. 8°C to 13°C

Sunshine: nil generally, 5 hours at Rosslare, 2 hours at Valentia

Saturday 16th: Rain and drizzle became persistent during the day, though amounts were mainly small except in the north. Little or no sunshine over most of the country, but sunny spells developed in the southwest and particularly in the northwest. Winds were light, mostly from a northerly direction although variable at times.

Rainfall: nil to 8mm, heaviest at Malin Head, nil at Kilkenny and Valentia

Temperature: max. 13°C to 17°C, min. 8°C to 12°C

Sunshine: nil to 1 hour generally, 12 hours at Belmullet, 3 hours at Valentia

Sunday 17th: Some clear spells in the south during the morning, but cloudier in the north with some scattered showers. It continued cloudy during the afternoon in the north with some patchy rain, but there were some sunny spells in the south. Showers or patchy rain developed in places during the evening and night. Winds were light, easterly or variable in direction.

Rainfall: nil generally, <1mm at Cork Airport

Temperature: max. 14°C to 19°C, min. 6°C to 11°C

Sunshine: nil to 10 hours, sunniest at Shannon Airport and Rosslare

Monday 18th: A band of heavy, showery rain moved northwards into Munster and south Leinster during the morning and continued into the afternoon. This showery rain moved slowly northwards but died out towards evening. Generally cloudy, however there were some spells of sunshine in the southeast and north. Winds were light, from a northeasterly direction at first, gradually backing southeasterly through the day.

Rainfall: nil to 13mm, heaviest at Cork Airport, 6mm at Valentia

Temperature: max. 16°C to 19°C, min 7°C to 13°C

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

Tuesday 19th: Rain in the south and east spread quickly northwards and as this band of rain cleared the north coast, another band of rain crossed the south coast bringing some extremely heavy bursts. This rain moved into north Leinster and Ulster towards the end of the day. It was dull everywhere except in the extreme north, where there were some sunny spells during the afternoon. Winds were light to moderate, southeasterly.

Rainfall: trace to 29mm, heaviest at Cork Airport, trace at Malin Head

Temperature: max. 14°C to 18°C, min. 10°C to 13°C

Sunshine: nil to trace generally, 4 hours at Malin head

Wednesday 20th: Some heavy showers in the north and northwest early in the period. Showers developed countrywide early in the morning, with some heavy outbreaks in places, some accompanied by thunder also. The showery weather continued through the afternoon with some sunny periods developing. During the evening and night showers became less frequent and confined to the northern half of the country. Winds were light southeasterly.

Rainfall: 1 to 24mm, heaviest at Knock Airport, 1mm at Rosslare

Temperature: max. 15°C to 20°C, min. 11°C to 13°C

Sunshine: 1 to 6 hours, sunniest at Rosslare, 1 hour at Cork Airport

Thursday 21st: Outbreaks of rain overnight in many areas, some of which was heavy. Ulster and parts of Connacht had a mostly dry day with scattered showers and sunny spells. In Munster and Leinster it was a more overcast day, with some heavy and thundery showers and only short sunny spells. Showers died out in the evening and it was mild again after dark. Winds were light to moderate easterly, backing northerly, fresh and gusty at times.

Rainfall: nil to 10mm, heaviest at Knock Airport, nil at Malin Head

Temperature: max. 15°C to 20°C, min. 11°C to 13°C

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

Friday 22nd: After an initial dry start in all areas, showers developed in Connacht and Ulster around mid-morning. These showers continued throughout the day in many parts and were heavy at times, particularly in the east. Generally overcast, although the extreme south was relatively sunny. Winds were light to moderate, northerly in direction.

Rainfall: nil to 22mm, heaviest at Casement Aerodrome and Dublin Airport

Temperature: max. 15°C to 20°C, min. 9°C to 13°C

Sunshine: nil to 9 hours, sunniest at Cork Airport, nil at Clones

Saturday 23rd: Mainly dry during the night with just a few showers, mainly in western areas. During the morning, rain or showers became more widespread and persistent. As the day progressed, these showers became heavier and thundery in places with flooding in places. During the evening, showers persisted in some areas but they became less frequent. A few sunny spells also, but generally cool for the time of year. Mainly west to northwesterly winds, light to moderate.

Rainfall: nil to 9mm, heaviest at Clones and Knock Airport

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

Sunshine: nil to 4 hours, sunniest at Rosslare, nil at Knock Airport

Sunday 24th: Mild and humid overnight with outbreaks of rain or showers. The rain was persistent in the eastern half of the country. It was a cool, breezy and showery day. The showers were heavy and thundery in places with localised

flooding; Kilkenny reported a hail shower. The showers continued during the evening. Light northwesterly winds overnight turned northerly during the morning and increased moderate during the day. Winds were fresh to strong and gusty at times on north and northwest coasts.

Rainfall: <1 to 16mm, heaviest at Kilkenny, <1mm at Malin Head

Temperature: max. 15°C to 17°C, min. 7°C to 10°C

Sunshine: 1 to 10 hours, sunniest at Belmullet, 1 hour at Clones

Monday 25th: Scattered rain or showers overnight. Light showers continued in the western half of the country through the day, but it was dry further east. Sunny in the north, mostly cloudy with sunny breaks further south. Cool for late June. Winds were northerly, strong near northern and western coasts, moderate generally.

Rainfall: nil to 3mm, heaviest at Rosslare, nil at Malin Head

Temperature: max. 13°C to 17°C, min. 8°C to 12°C

Sunshine: trace to 10 hours, sunniest at Malin Head, trace at Casement Aerodrome

Tuesday 26th: Mainly dry and cool during the night. A few showers during the day in generally overcast conditions. Showers continued into the afternoon and evening with light rain or drizzle in some western areas. Temperatures below normal. A few sunny spells, mainly in the southeast. Winds were northwesterly in direction, backing westerly by evening.

Rainfall: nil to <1 mm generally, 3mm at Malin Head

Temperature: max. 15°C to 17°C, min. 7°C to 11°C

Sunshine: <1 to 7 hours, sunniest at Kilkenny, <1 hour at Malin Head

Wednesday 27th: Some light showers or patches of rain or drizzle in places during the night and becoming very cool with some slight ground frost inland. Sunny spells during the day with showers in some areas, but remaining cool in the northwesterly winds. Winds were northwesterly, light to moderate, occasionally fresh but falling light by evening.

Rainfall: nil to 6mm, heaviest at Malin Head, nil at Rosslare

Temperature: max. 13°C to 17°C, min. 4°C to 12°C, ground temperatures down to -1°C at Mullingar

Sunshine: 3 to 11 hours, sunniest at Belmullet, 3 hours at Kilkenny

Thursday 28th: Showery rain in the north and later in the west overnight, mostly light but with spells of heavy rain at times. More widespread rain moved eastwards across the country during the morning, turning heavy for a while in the afternoon, particularly in Ulster. Another spell of rain moved across south Munster in the late evening. Some brief sunny spells at times, but generally overcast. Winds were moderate south or southwesterly, becoming northwesterly in the northern half of the country later, before backing light westerly everywhere by evening.

Rainfall: 2 to 19mm, heaviest at Malin Head, 2mm at Cork Airport

Temperature: max. 12°C to 18°C, min. 4°C to 11°C, ground temperatures down to -1°C at Mullingar

Sunshine: nil to 3 hours, sunniest at Belmullet, nil at Mullingar

Friday 29th: Early showers in the north and in central parts of Leinster moved gradually eastwards into the Irish Sea and during the late morning the country became mainly dry. There were sunny spells also in most areas. A band of rain moved into the southwest during the late afternoon and spread gradually northeastwards, bringing rain to most parts except Ulster by the end of the day. Winds were light northerly, becoming southeasterly later.

Rainfall: nil to 8mm, heaviest at Birr, nil at Clones

Temperature: max. 15°C to 20°C, min. 8°C to 13°C

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

Saturday 30th: Showers overnight in all areas, some of which were heavy. These showers continued to affect all areas during the day and were particularly heavy in the southwest and west of the country. Some short sunny breaks also between the showers in all parts. Temperatures were around normal. Winds were light to moderate, variable in direction, with occasional stronger gusts near southeastern coasts.

Rainfall: 2 to 17mm, heaviest at Valentia, 2mm at Birr

Temperature: max. 17°C to 21°C, min. 9°C to 14°C

Sunshine: 2 to 6 hours, sunniest at Shannon Airport, 2 hours at Clones

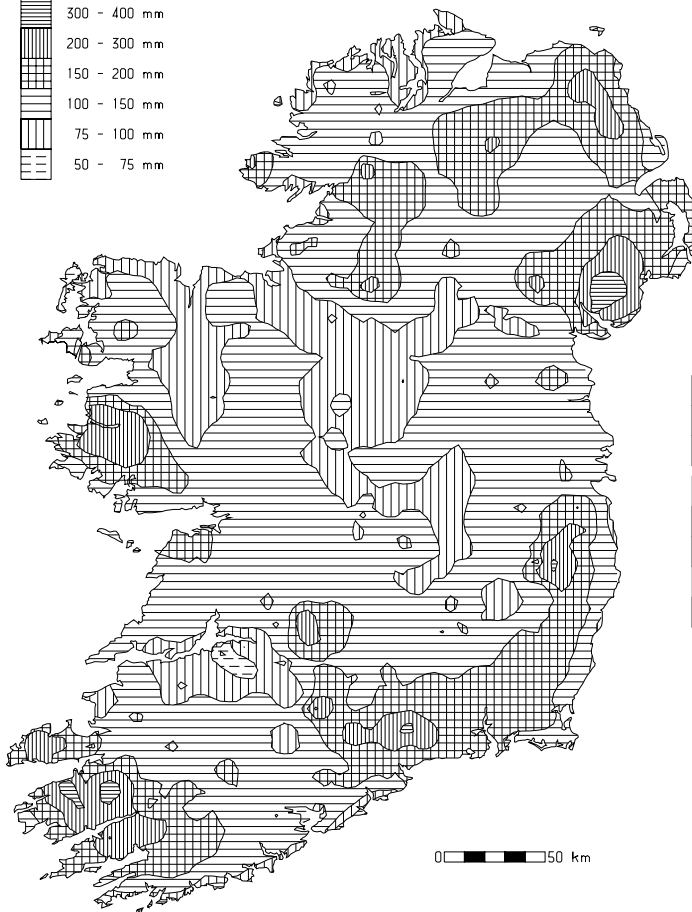
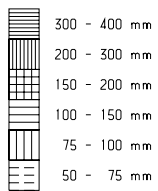
Wetter than normal almost everywhere, very wet in east and southeast

Apart from a few places in the northwest, June rainfall totals were above normal everywhere and were well above normal over the eastern half of the country. It was a particularly wet month in parts of the east and southeast, with totals above 200% of normal generally and over 300% of normal in places. They ranged from 70mm at Ardtarmon, Co. Sligo to 237mm at Maam Valley, Co. Galway. Percentage of normal values were between 107% at Belmullet and 316% at Kilkenny. It was the wettest June for between 10 and 25 years at eastern and southern stations and the wettest at Kilkenny since records began there in 1957.

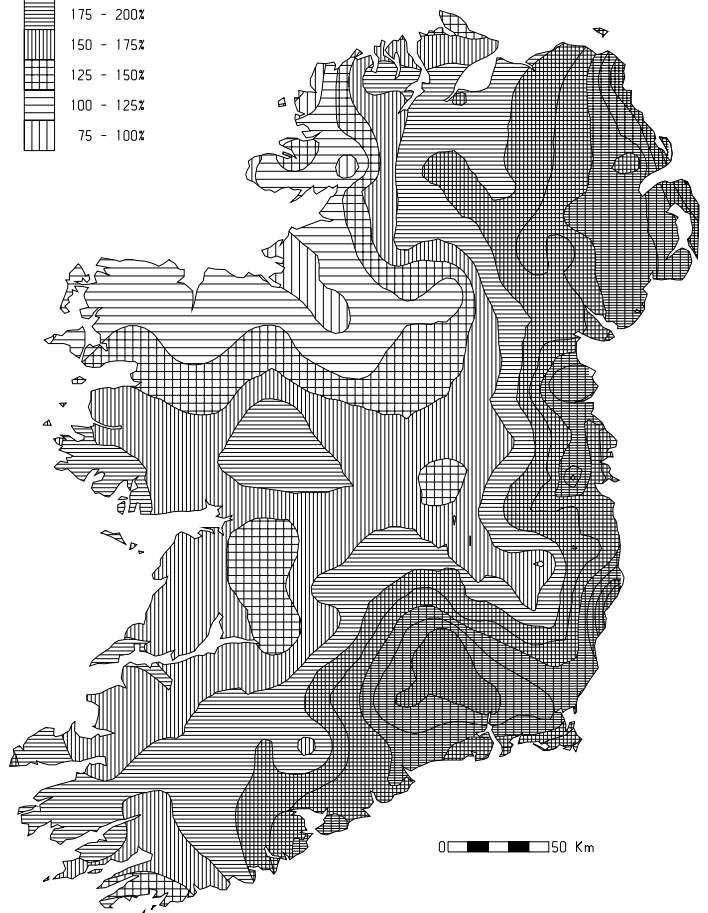
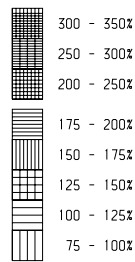
Rainfall was unevenly distributed throughout the month. There was a spell of dry weather between the 4th and 11th, but also some very heavy falls at other times, some of which were associated with thunderstorms. The highest daily fall of the month, 53.3mm, was recorded at Dublin (Phoenix Park) on the 22nd, its highest June daily fall since 1993; Kilkenny's fall of 31mm up to midnight on the 15th was the highest daily value on record for June at the station. There were between 13 and 18 wetdays (*days with 1mm or more rainfall*) at the majority of stations, compared with the normal June range of 10 to 14.

County/ Station	Total Amount (mm)	% of 1961-90 average	Most in a day / date		Number of Raindays (≥0.2mm)	Wetdays (≥1mm)
CO. CAVAN						
CAVAN (LORETO COLLEGE)	97.5		9.1	18	19	15
CO. CLARE						
SHANNON AIRPORT	107.0	170	17.5	20	18	16
CARRON	151.7	161	41.6	19	21	17
CO. CORK						
FERMOY (MOORE PARK)	106.1	171	21.9	19	17	12
CORK AIRPORT	156.9	231	33.9	19	18	17
SHERKIN ISLAND	80.7	132	11.2	13	18	14
BALLINCURRIG (PEAFIELD)	159.5		32.2	19	18	14
CO. DONEGAL						
MALIN HEAD	83.3	128	16.4	19	12	10
BALLYSHANNON (CATHLEEN'S FALL)	82.4	111	21.5	28	19	18
GLENTIES	114.8	130	17.3	1	18	14
CO. DUBLIN						
DUBLIN (PHOENIX PARK)	177.7	312	53.3	22	22	18
DUBLIN AIRPORT	134.4		23.8	2	20	16
CASEMENT AERODROME	137.5	259	24.0	2	23	17
DUBLIN (MERRION SQUARE)	129.5	254	24.8	2	20	16
CO. GALWAY						
GALWAY (UNIV. COLL.)	128.3	171	35.6	19	18	14
MAAM VALLEY	237.0		43.5	13	18	16
CONNEMARA NATIONAL PARK	182.2	190	35.4	19	21	18
BALLYGAR	119.4	178	32.3	13	22	15
CO. KERRY						
VALENTIA OBSERVATORY	153.6	192	41.0	1	21	13
ARDFERT (LISCAHANE)	82.6		20.2	30	19	15
CO. KILKENNY						
KILKENNY	161.1	316	28.2	15	17	16
CO. LIMERICK						
MOUNT RUSSELL	134.4		26.7	19	21	18
CO. LOUTH						
ARDEE (BOHARNAMOE)	132.8	229	17.5	2	18	16
CO. MAYO						
BELMULLET	71.9	107	16.8	19	18	16
STRAIDE	80.9	117	21.0	20	20	15
KNOCK AIRPORT	122.4		25.8	20	19	17
CO. MEATH						
WARRENTOWN	129.7	206	22.9	2	20	18
CO. MONAGHAN						
CLONES	75.7	111	12.3	14	17	16
CO. OFFALY						
BIRR	98.5	176	13.0	19	19	18
DERRYGREENAGH	89.7	145	19.6	2	20	17
CO. SLIGO						
ARDTARMON	70.1		14.5	11	20	17
CO. TIPPERARY						
FETHARD (PARSONSHILL)	157.9		46.6	19	18	16
CO. WATERFORD						
WATERFORD (TYCOR)	157.8	263	33.6	2	22	17
DUNGARVAN (CARRIGLEA)	199.4		44.0	19	18	15
CO. WESTMEATH						
MULLINGAR II	108.2	161	28.5	13	19	15
CO. WEXFORD						
JOHNSTOWN CASTLE	167.2	274	37.4	2	21	14
ROSSLARE	114.6	225	28.3	2	17	13
JOHN F. KENNEDY PARK	178.8	303	38.4	2	18	15
CLONROCHE (KNOXTOWN)	170.9		36.0	2	18	15

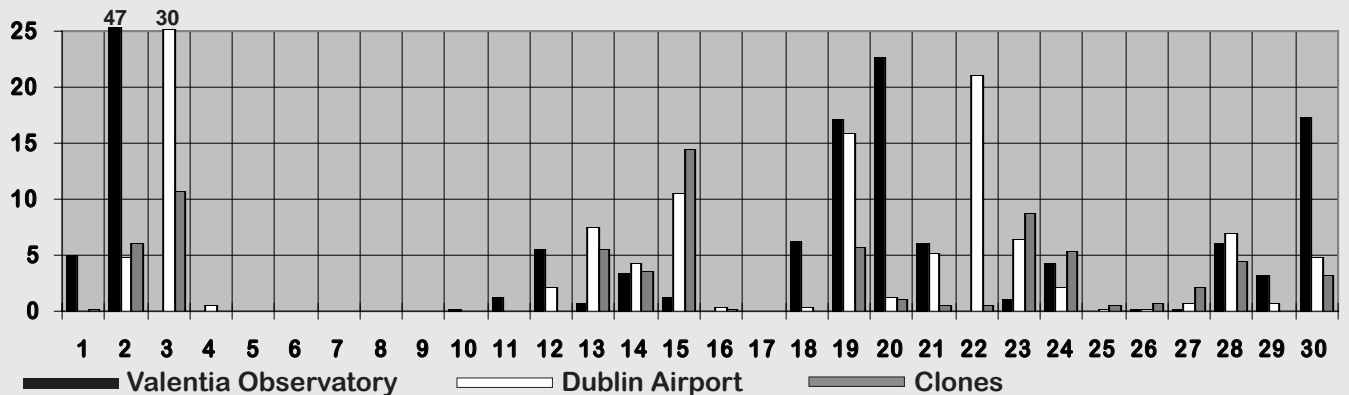
Total rainfall (mm)



Percentage of normal rainfall



Daily 0-24h rainfall values (mm)

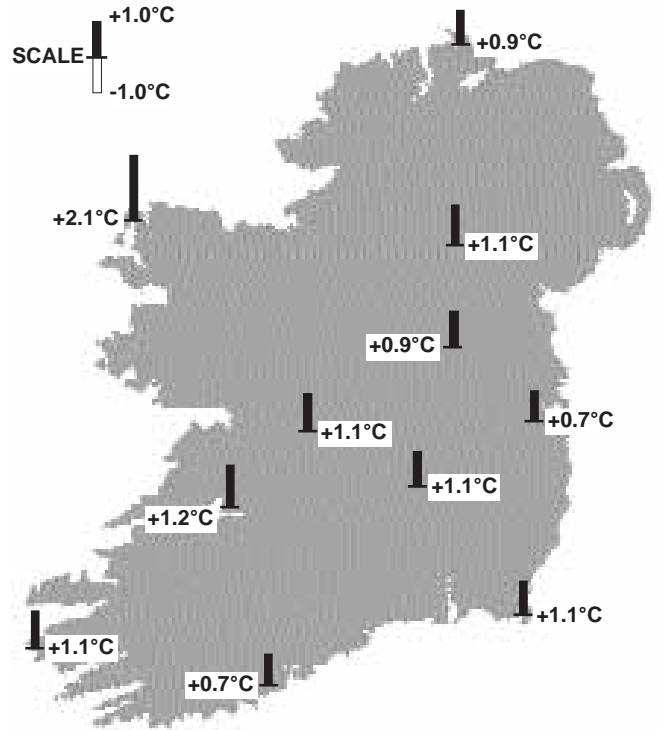


Warmer than normal, especially in northwest

Mean air temperatures for June were close to one degree above normal generally, but were more than two degrees higher than normal in parts of the northwest. They ranged from 13.3°C at Dublin Airport to 15.3°C at both Shannon Airport and Waterford (Tycor). Belmullet's mean value of 14.9°C was its highest for June since records began there in 1956; in contrast, it was the coolest June for five years at a number of other stations.

The highest temperatures of the month coincided with the spell of very sunny weather between the 5th and 11th, particularly between the 9th and 11th, when daily maxima reached over 25°C in the western half of the country. The highest temperature of the month, 26.9°C, was recorded at Ballyshannon (Cathaleen's Fall), Co. Donegal, on the 9th, the highest June value at the station since 1995.

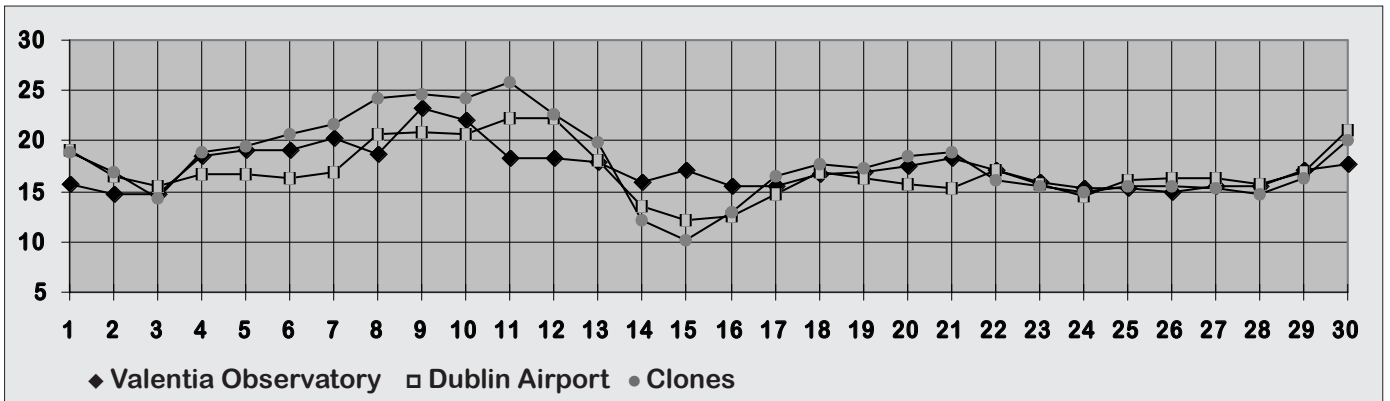
Minimum temperatures were below normal at the start of the month and again during the final week; slight ground frost was recorded on both the 4th and in the period 27th to 29th. The lowest air temperature of the month, 3.8°C, was measured at



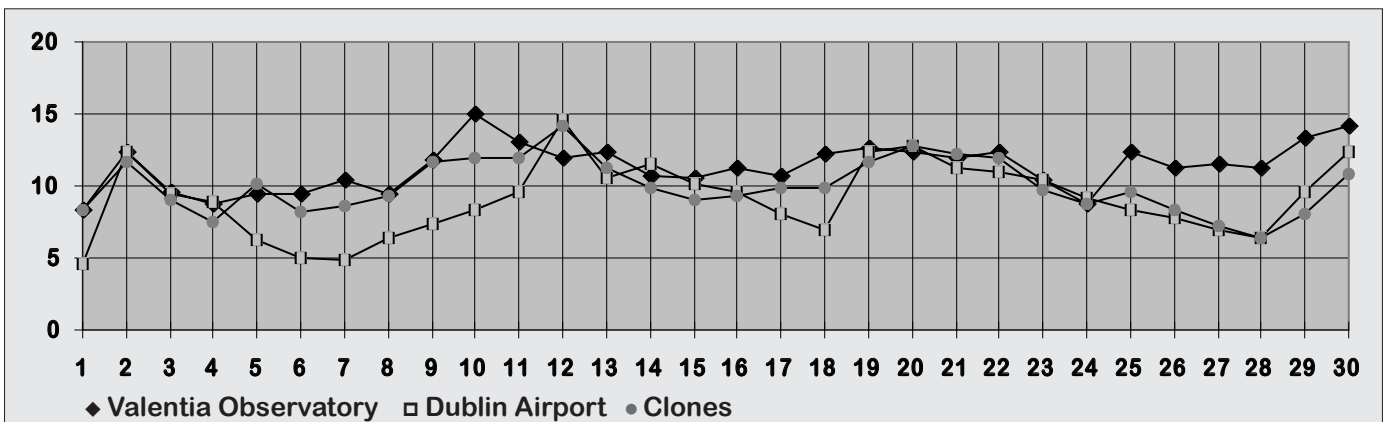
Mean Temperature
(difference from 1961-90 normals)

Mullingar on the 28th, while the lowest grass minimum temperature, -0.7°C, was recorded at the same station, also on the 28th.

Daily 0-24h maximum temperatures (°C)



Daily 0-24h minimum temperatures (°C)



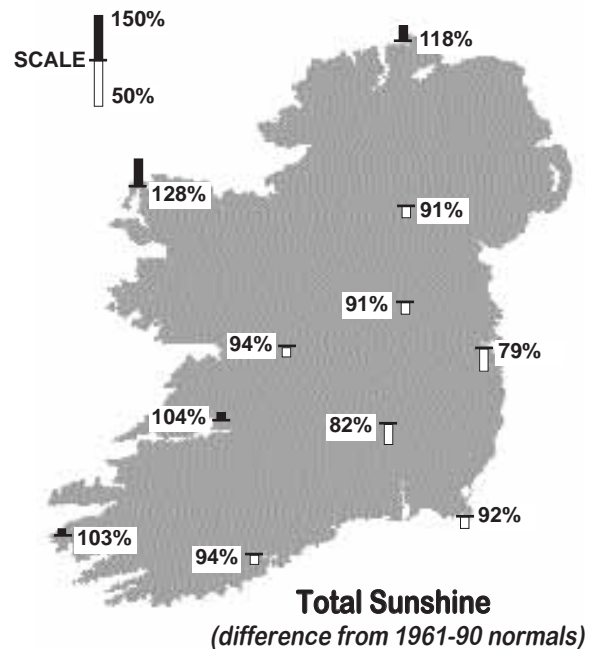
County/ Station	°C									
	Mean max.	Mean min.	Mean/ deviation from 1961-90 average		Highest max./date	Lowest min./date	Lowest grass min./date		Days with air frost ground frost	
CO. CAVAN										
CAVAN (LORETO COLLEGE)	18.3	9.4	13.9		24.5 11	5.6 7	3.7 4			
CO. CLARE										
SHANNON AIRPORT	18.9	11.6	15.3	1.2	25.0 10	6.8 4	3.8 4	0	0	
CARRON	18.1	10.5	14.3	1.7	24.1 10	6.5 28	1.6 28	0	0	
CO. CORK										
FERMOY (MOORE PARK)	18.5	10.5	14.5	1.1	24.2 10	5.0 17	1.3 17	0	0	
CORK AIRPORT	16.9	10.7	13.8	0.7	21.1 10	6.6 4	0.6 17	0	0	
SHERKIN ISLAND	18.3	12.0	15.2	1.8	21.8 10	8.8 4	6.2 4	0	0	
BALLINCURRIG (PEAFIELD)	18.0	9.5	13.8		23.5 10	5.9 4 28	3.4 17	0	0	
CO. DONEGAL										
MALIN HEAD	15.7	11.1	13.4	0.9	20.4 30	7.9 30	5.1 30	0	0	
BALLYSHANNON (CATHLEEN'S FALL)	18.6	11.2	14.9	1.8	26.9 9	6.4 4		0		
GLENTIES	18.8	10.0	14.4	1.8	26.6 11	4.4 4	3.1 4	0	0	
CO. DUBLIN										
DUBLIN (PHOENIX PARK)	17.9	10.2	14.1	0.7	23.5 11	5.1 28	1.7 1	0	0	
DUBLIN AIRPORT	17.0	9.6	13.3		22.3 11	4.6 1	2.1 1	0	0	
CASEMENT AERODROME	17.7	10.2	14.0	0.7	23.0 11	5.2 28	0.4 1	0	0	
DUBLIN (MERRION SQUARE)	16.9	12.2	14.6	0.0	23.1 12	8.9 28		0		
CO. GALWAY										
GALWAY (UNIV. COLL.)	19.3	10.8	15.1	1.4	26.0 10	6.0 4	2.6 4 17	0	0	
MAAM VALLEY	18.7	11.1	14.9		24.9 9	6.1 4	2.7 4	0	0	
CONNEMARA NATIONAL PARK	18.2	11.5	14.9		24.2 9	6.3 4		0		
BALLYGAR	18.8	10.2	14.5		25.1 9	5.5 4	2.6 4	0	0	
CO. KERRY										
VALENTIA OBSERVATORY	17.4	11.6	14.5	1.1	23.3 9	8.4 1	2.4 4	0	0	
ARDFERT (LISCAHANE)	19.4	10.8	15.1	1.9	26.5 9	5.7 4	-0.1 4	0	1	
CO. KILKENNY										
KILKENNY	18.9	10.2	14.6	1.1	25.2 10	6.6 1 4	1.5 1	0	0	
CO. LIMERICK										
MOUNT RUSSELL	17.8	10.1	14.0		24.1 10	6.4 4	3.6 28	0	0	
CO. LOUTH										
ARDEE (BOHARNAMOE)	18.5	10.2	14.4	1.4	25.3 11	5.0 1 28	3.4 28	0	0	
CO. MAYO										
BELMULLET	18.5	11.3	14.9	2.1	25.1 10	5.9 17	2.4 4	0	0	
STRAIDE	19.4	9.8	14.6	1.5	26.0 9	4.0 4	-0.5 4 28	0	2	
KNOCK AIRPORT	16.9	10.0	13.5		23.5 10	5.6 28	4.5 28	0	0	
CO. MEATH										
WARRENTOWN	18.3	9.9	14.1	0.8	24.4 11	5.8 7	1.2 1	0	0	
CO. MONAGHAN										
CLONES	18.0	10.3	14.2	1.1	25.9 11	6.4 28	1.5 4	0	0	
CO. OFFALY										
BIRR	18.6	10.3	14.5	1.1	25.6 10	5.6 4	0.0 4	0	0	
DERRYGREENAGH	18.7	9.9	14.3	1.3	25.5 11	4.3 28	0.4 28	0	0	
CO. SLIGO										
ARDTARMON	18.9	11.3	15.1		25.2 9 11	7.9 4	4.2 4	0	0	
CO. TIPPERARY										
FETHARD (PARSONSHILL)	18.3	10.0	14.2		25.5 10	6.3 4	1.3 28	0	0	
CO. WATERFORD										
WATERFORD (TYCOR)	18.8	11.8	15.3	1.5	24.5 10	8.5 4		0		
DUNGARVAN (CARRIGLEA)	18.8	10.6	14.7	0.9	22.0 9	6.8 1	5.3 17	0	0	
CO. WESTMEATH										
MULLINGAR II	17.7	10.0	13.9	0.9	24.0 11	3.8 28	-0.7 28	0	1	
CO. WEXFORD										
JOHNSTOWN CASTLE	17.0	11.3	14.2	1.1	20.5 10	8.2 1 28	3.9 1	0	0	
ROSSLARE	16.7	12.0	14.4	1.1	19.9 29	8.0 28	4.9 1	0	0	
JOHN F. KENNEDY PARK	17.8	10.7	14.3	1.0	23.4 10	5.9 28	4.1 28	0	0	
CLONROCHE (KNOXTOWN)	18.0	9.9	14.0		24.1 10	5.9 1	2.1 7	0	0	

County/ Station	Daily mean (hours/day)	% of average	% of possible	Most in a day/date	
CO. CAVAN					
CAVAN (LORETO COLLEGE)	4.18		24	14.8	6 10
CO. CLARE					
SHANNON AIRPORT	5.31	104	32	14.8	7
CO. CORK					
FERMOY (MOORE PARK)	4.99	89	30	13.2	9
CORK AIRPORT	5.40	94	33	14.5	7
SHERKIN ISLAND	5.83	97	35	14.6	5 6
BALLINCURRIG (PEAFIELD)	5.93			14.4	9
CO. DONEGAL					
MALIN HEAD	6.72	118	39	15.6	6
BALLYSHANNON (CATHLEEN'S FALL)	5.53	113	32	15.0	5
CO. DUBLIN					
DUBLIN AIRPORT	4.82	80	29	14.6	9
CASEMENT AERODROME	4.50	79	27	15.0	9
CO. GALWAY					
GALWAY (UNIV.COLL.)	6.10	121	36	14.9	8
CO. KERRY					
VALENTIA OBSERVATORY	5.29	103	32	15.4	4
ARDFERT (LISCAHANE)	5.03		30	13.0	4
CO. KILKENNY					
KILKENNY	4.20	82	25	14.7	7
CO. MAYO					
BELMULLET	6.86	128	40	15.2	4
STRAIDE	not available				
KNOCK AIRPORT	5.10			15.6	4
CO. MONAGHAN					
CLONES	4.49	91	26	13.2	7
CO. OFFALY					
BIRR	4.51	94	27	14.8	7
CO. WATERFORD					
DUNGARVAN (CARRIGLEA)	5.33	94	32	13.8	9
CO. WESTMEATH					
MULLINGAR II	4.67	91	27	15.1	7
CO. WEXFORD					
JOHNSTOWN CASTLE	4.79	86	29	14.9	7
ROSSLARE	6.06	92	36	15.2	6
JOHN F. KENNEDY PARK	4.88		29	13.6	7
CLONROCHE (KNOXTOWN)	4.91	97		14.4	7

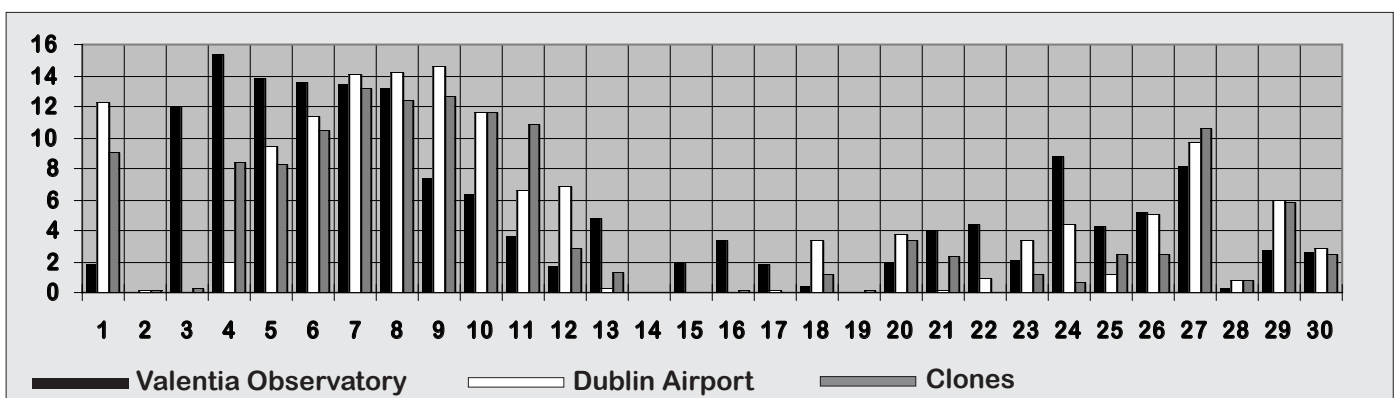
Dull after very sunny start

June was a sunny month in coastal counties of the north and west, but it was dull elsewhere. Monthly totals ranged from 125 hours at Cavan (Loreto College) to 206 hours at Belmullet, with percentage of normal values between 79% of normal at Casement Aerodrome, where it was the dullest June since 1998, and 128% at Belmullet. Malin Head had its sunniest June since 1996.

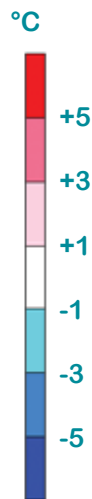
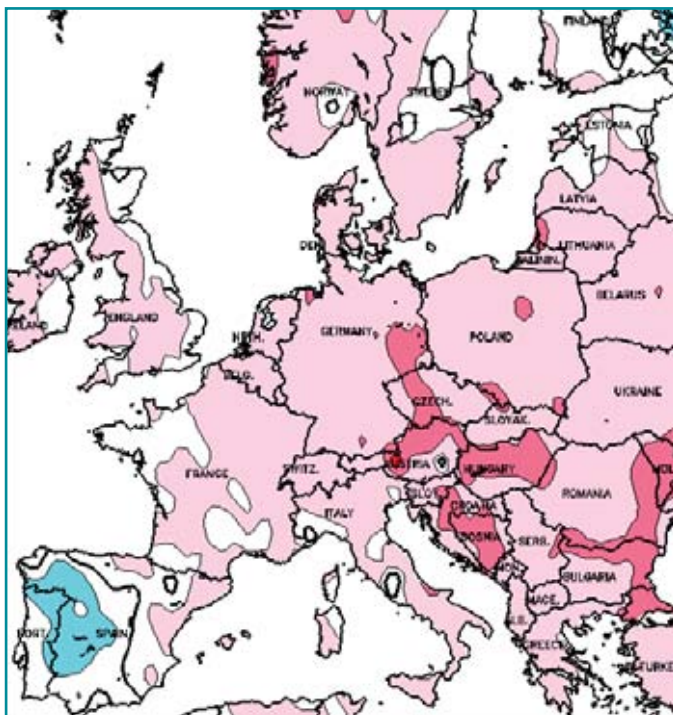
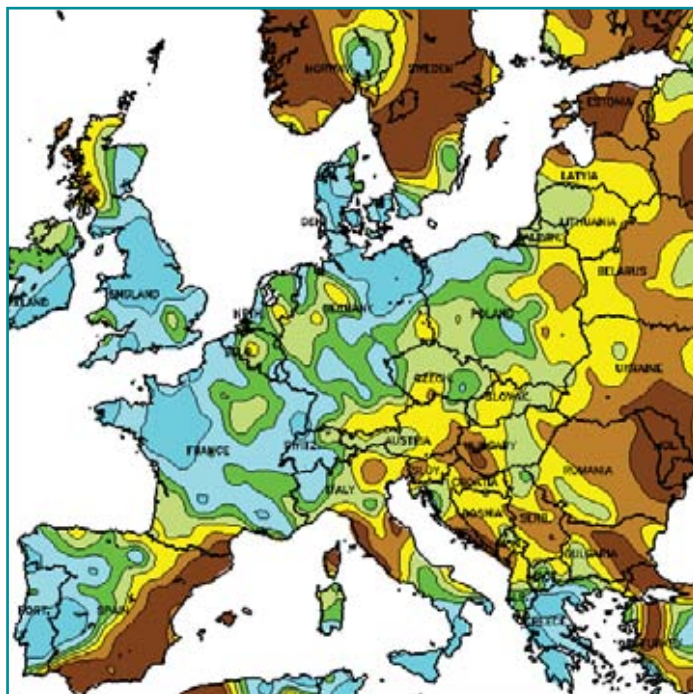
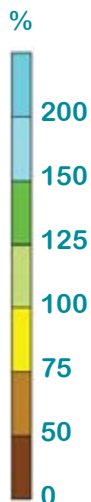
By far the sunniest weather of the month was during the first twelve days; all stations had their sunniest days during this period, with the month's highest daily value, 15.6 hours, recorded at both Knock Airport on the 4th and at Malin Head on the 6th. Global solar radiation totals ranged from 91% of normal at both Birr and Dublin Airport to 120% at Belmullet.



Daily sunshine values (hours)



JUNE RAINFALL
(percentage of 1961-1990 normal)



JUNE MEAN TEMPERATURE
(difference from 1961-1990 normal)

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

Heavy rainfall in northern and western parts of the UK on the 25th brought severe flooding, forcing the evacuation of hundreds of people and resulting in at least 3 deaths. Parts of north Yorkshire recorded 24-hour falls of over 100mm, while monthly rainfall totals were more than three times the average in places, with some areas having their wettest June on record.

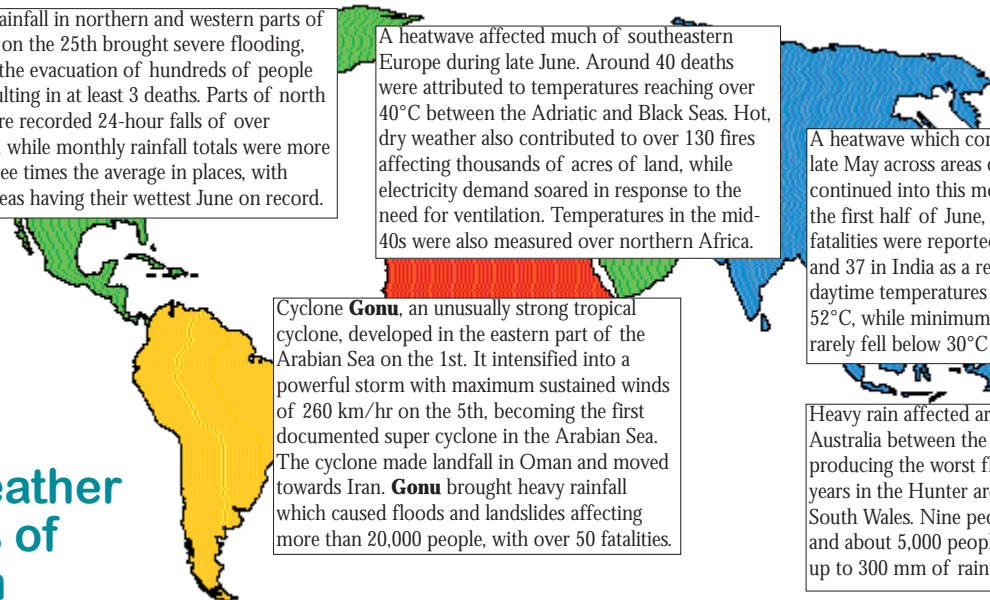
A heatwave affected much of southeastern Europe during late June. Around 40 deaths were attributed to temperatures reaching over 40°C between the Adriatic and Black Seas. Hot, dry weather also contributed to over 130 fires affecting thousands of acres of land, while electricity demand soared in response to the need for ventilation. Temperatures in the mid-40s were also measured over northern Africa.

A heatwave which commenced in late May across areas of south Asia continued into this month. During the first half of June, a total of 110 fatalities were reported in Pakistan and 37 in India as a result of daytime temperatures of 45°C to 52°C, while minimum temperatures rarely fell below 30°C in India.

Cyclone **Gonu**, an unusually strong tropical cyclone, developed in the eastern part of the Arabian Sea on the 1st. It intensified into a powerful storm with maximum sustained winds of 260 km/hr on the 5th, becoming the first documented super cyclone in the Arabian Sea. The cyclone made landfall in Oman and moved towards Iran. **Gonu** brought heavy rainfall which caused floods and landslides affecting more than 20,000 people, with over 50 fatalities.

Heavy rain affected areas of eastern Australia between the 7th and 10th, producing the worst flooding in 30 years in the Hunter area of New South Wales. Nine people were killed and about 5,000 people evacuated as up to 300 mm of rain was measured.

Global weather highlights of the month



Weather observing in the classroom

Meteorological studies form part of the geography curriculum in secondary schools, but an interest in local and global weather begins for many pupils in primary school. With simple equipment and encouragement to make regular observations, young students can develop an interest in weather and, more generally, in the effects of changing weather patterns on the natural world. One such example is the primary school at Scoil Iosaef Naofa in Cobh, Co. Cork, where weather recording began in 1991 under the supervision of teacher Willie McSweeney. At first, casual weather observations were only part of a nest box survey at Cuskinny Lake, organised by Birdwatch Ireland's Jim Wilson. From these beginnings, it was decided to start taking rainfall measurements to see how it affected the level of the lake water; the children plotted both measurements on a trend graph which made the observations more meaningful for them.

Rainfall measurements have carried on since then for the duration of each school year- September to June. The gauge used is a simple plastic type that can take up to 50mm of rain; one pupil takes the rain gauge home for a month, which then involves his family as well. The rainfall is read every morning and reported to the class- this is plotted on a trend graph and is traced throughout the month. Statistics are drawn up of the total amount of rainfall for the month, the

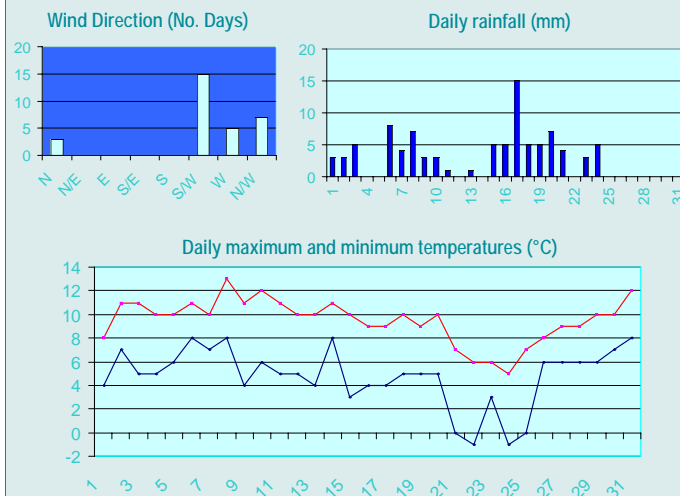


Primary school pupils at Scoil Iosaef Naofa in Cobh, Co. Cork, displaying their weather observations and, below, with the recorder for measuring rainfall



wettest day and the tally of wet and dry days, which can then be compared with the same month of other years going back to 1991. Other weather elements observed at the school include temperature and wind. Thermometer readings on a daily basis are supplemented by records of maximum and minimum values extracted from newspaper, internet and TV reports, while Beaufort force of wind speed and wind direction are estimated by direct observation. The 15-year old weather record at the school means that the pupils can find out for themselves what conditions were like locally on the day that they were born.

CHARTS OF DAILY WEATHER DATA FROM COBH PRIMARY SCHOOL FOR JANUARY 2007



WEBSITES WITH METEOROLOGICAL INFORMATION FOR SCHOOLS

Websites for students and teachers:

www.education.noaa.gov
www.metoffice.gov.uk/education
www.bom.gov.au/lam/Students_Teachers/learnact.htm
www.eo.ucar.edu/webweather

Sharing school weather observations:

www.metlink.org

Current and historical weather data for Ireland:

www.met.ie