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Monthly Weather Bulletin November 1998

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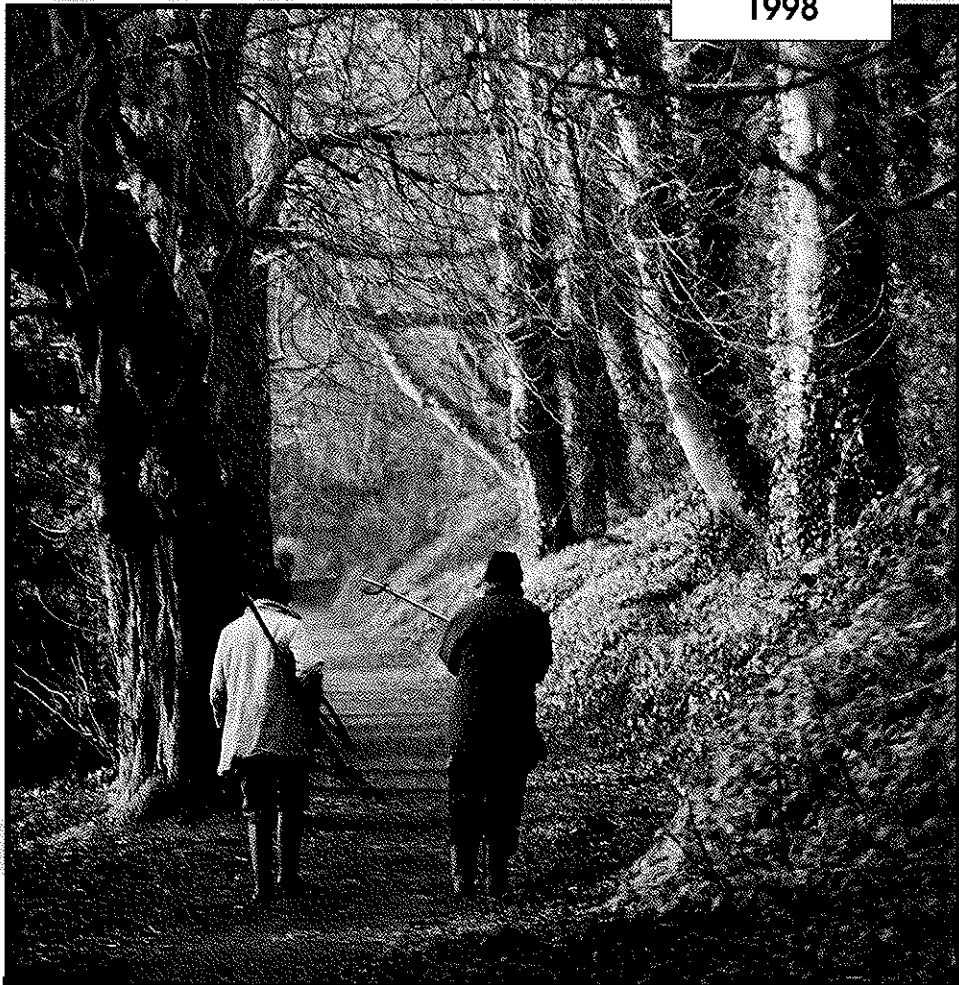
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Monthly Weather Bulletin

NOVEMBER
1998



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TEMPERATURE, SUNSHINE ABOVE NORMAL BUT WET EXCEPT IN EAST

Above
Very wet weather in the south early in the month led to flooding outside Pairc Ui Chaoimh in Cork (picture The Examiner)

The unsettled weather of much of early autumn continued into this month also, as Atlantic weather systems brought some heavy rain and strong winds, but there were also short settled interludes. As a result the month was wet but also fairly sunny in most places. Winds from between a southerly and westerly direction for most of the time made it a mild month everywhere with infrequent frost. Mean windspeeds were above normal in the northwest but below in the south (see page 3).

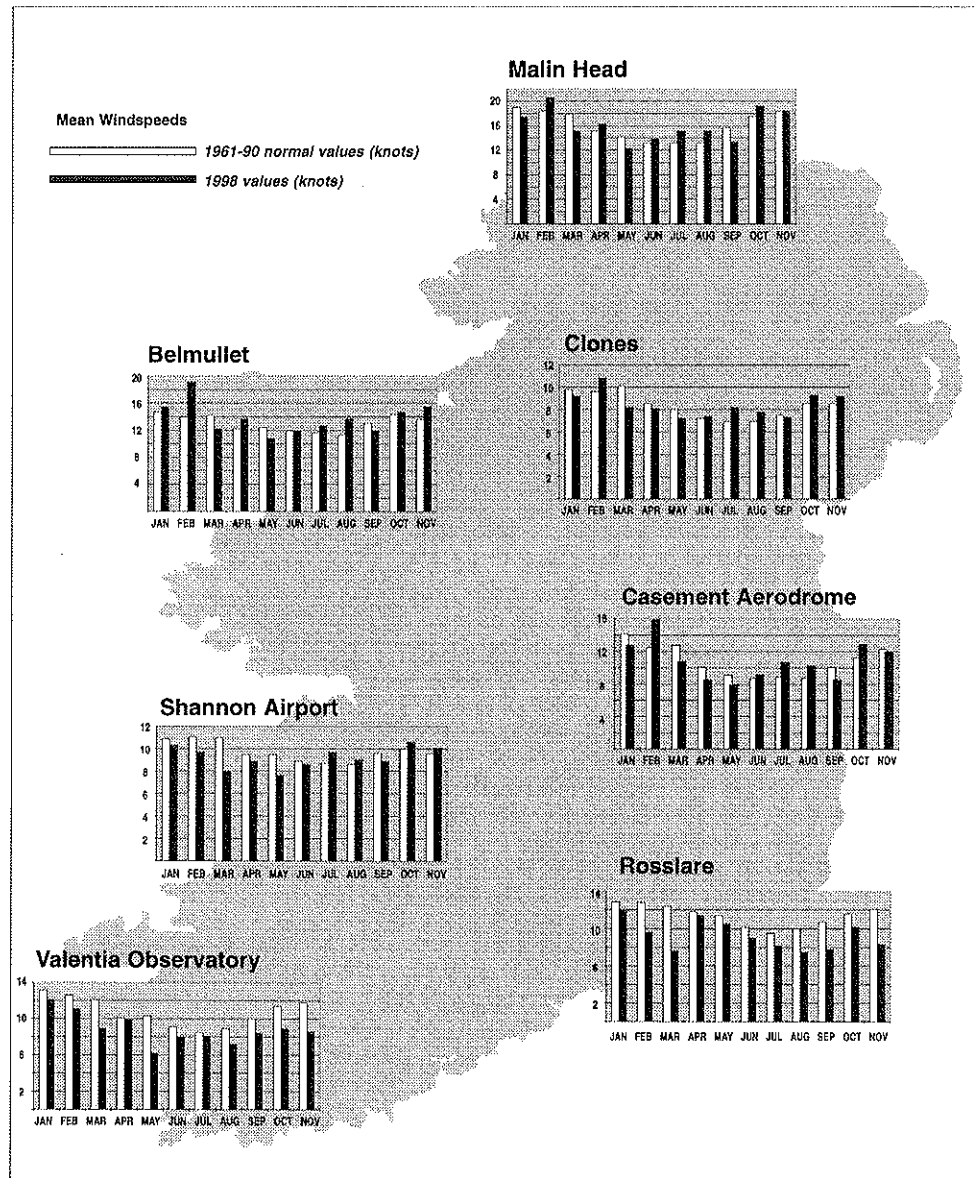
A weak ridge of high pressure on the 1st gave a dry, fairly calm start to the month but the weather quickly deteriorated as a deep depression crossed the north of the country on the 2nd, bringing gales and heavy rain, especially in the north. Winds veered northwesterly between the

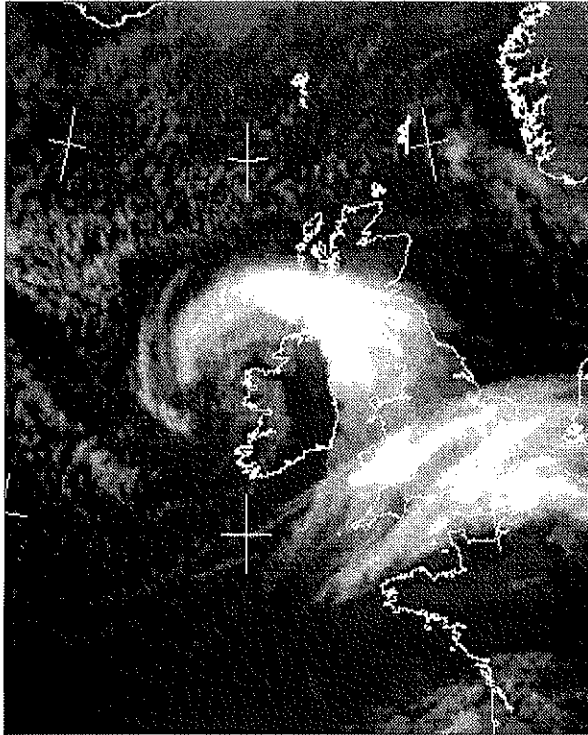
3rd and 6th, giving cooler but mostly sunny weather; showers in many places on the 3rd became confined to western and northern areas between the 4th and 6th. Winds backed to a very mild southerly direction on the 6th, strengthening on the 7th as an intense Atlantic depression- the former hurricane *Mitch*- brought a spell of very wet and windy weather until the 9th. The 10th was generally fair as a weak ridge covered the country, but there was a return to very disturbed weather on the 11th and 12th as another depression moved slowly eastwards over Ulster, bringing rain and strong winds to all parts. Ireland lay between slow-moving depressions on the 13th and 14th; there were showers or longer outbreaks of

(continued on page 4)

CONTRASTING MEAN WINDSPEEDS BETWEEN NORTH AND SOUTH

Mean windspeeds for this month followed the pattern of most of 1998, with higher than normal windspeeds in the northwestern half of the country, but below normal in the south. Belmullet, for example, has had higher than normal mean windspeeds for eight of the eleven months so far, while they have been below normal every month at both Valentia Observatory and Rosslare. A large number of Atlantic depressions during the year have tracked close to the northwest coast, bringing by far the strongest winds in these areas.

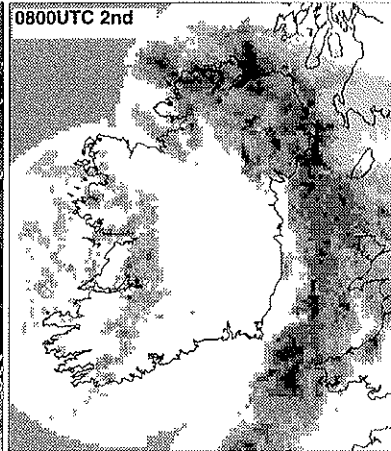




Above and right
A band of heavy rain associated with a depression of central pressure 984hPa lay over the north of the country early on the 2nd.

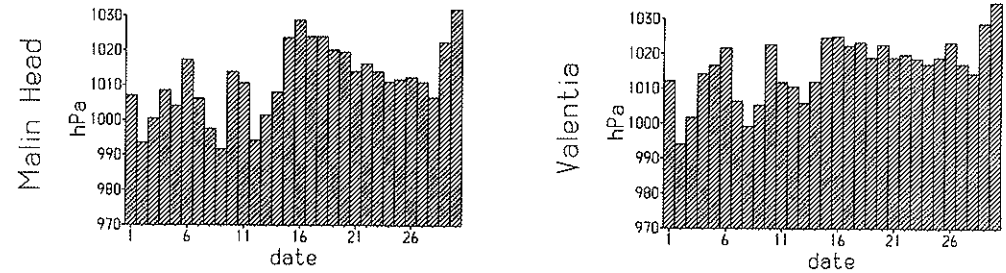
rain, especially in the west.

A ridge of high pressure covered the country on the 15th and early on the 16th, giving clear skies with light winds, allowing the first significant frosts of the season to develop. The weather remained cold on the 16th as bands of rain moved slowly eastwards, becoming almost stationary over the east of the country on the 17th, giving heavy falls in places, before dying out slowly on the 18th. Another band of rain crossed eastwards on the 19th as winds settled into a south to southwesterly direction over the following days. Dull, humid weather on the 20th was followed by a cold front bringing heavy rain in the west and north on the 21st, clearing the southeast on the 22nd. After a frosty start in places on the 23rd, more frontal rain pushed slowly eastwards late in the day, clearing to showers on the 24th as winds veered westerly. Showers were heaviest in

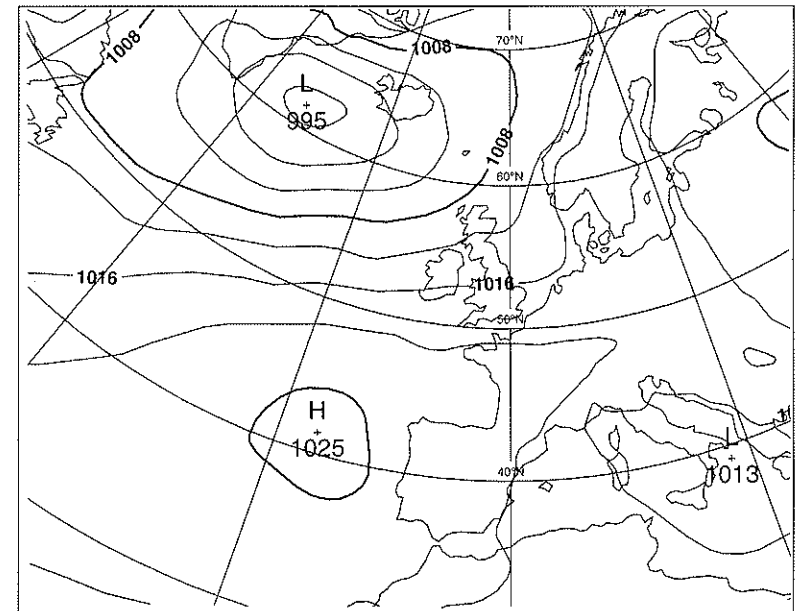


northern areas on the 25th; the same areas were again the wettest on the 26th as a frontal trough associated with a depression to the north cleared eastwards. Very mild southwesterly winds covered the country on the 27th as more frontal rain moved into western areas late in the day. As the front cleared the east early on the 28th, pressure rose over the country; showers in western areas at first became isolated on the 29th and 30th.

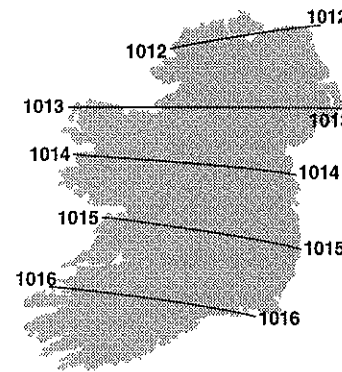
Mean windspeeds for the month were above normal in most places, varying between 8 and 12 knots (9 and 14 m.p.h.) at inland stations, but up to 18 knots (21 m.p.h.) at Malin Head. At many stations they were the highest for November for between 5 and 7 years. The strongest winds of the month were recorded in the period 8th to 9th; the highest gust, 80 knots (92 m.p.h.), was recorded at Malin Head on the 9th. Shannon Airport's gust of 66 knots (77 m.p.h.) on the same day was its highest for November since 1960. Thunder was reported on the 2nd and 29th, with isolated hail showers on the 1st, 4th, 10th and in the period 28th to 29th. Snow was observed at Connaught Airport on the 16th. Fog was most widespread in the period 18th to 23rd and on the 30th.



Mean daily M.S.L. pressure (hPa)



the above map is based on means of 1200 UTC values



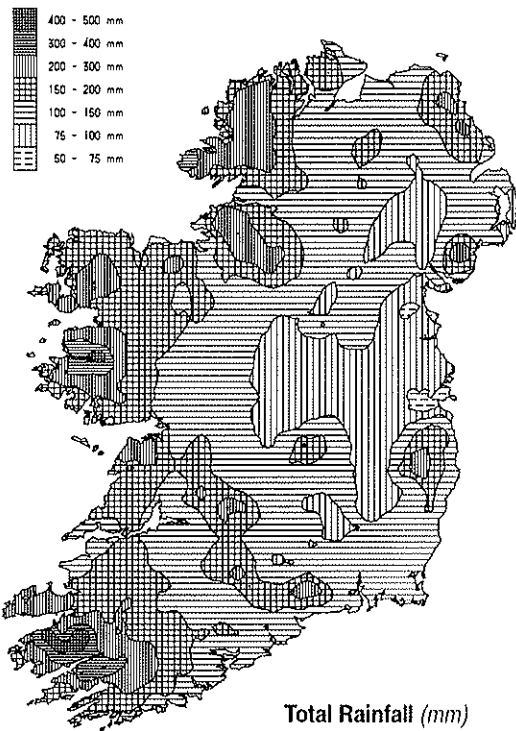
MEAN ATMOSPHERIC PRESSURE

Mean sea level pressure values of between 1011hPa and 1017hPa were a little above normal generally, by around 3hPa in most places. Pressure was below normal for most of the first half of the month, however, as a series of depressions passed close to the north of the country. One of these, the former hurricane *Mitch*, gave the lowest pressure of the month on the 9th, 974.8hPa recorded at Belmullet. Anticyclonic weather became established around the middle of the month, but the highest pressure values were recorded on the last day, when most stations measured over 1035hPa. Dublin Airport recorded the highest pressure of the month on this day, 1036.2hPa.

Wetter than normal almost everywhere

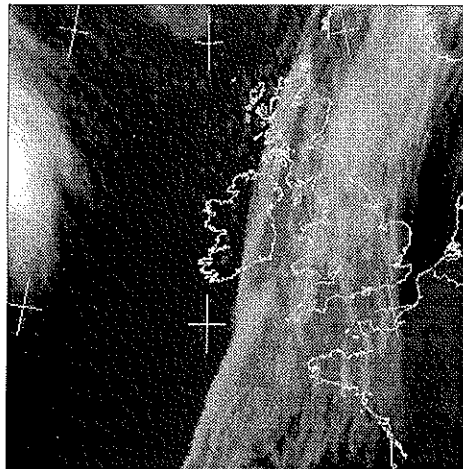
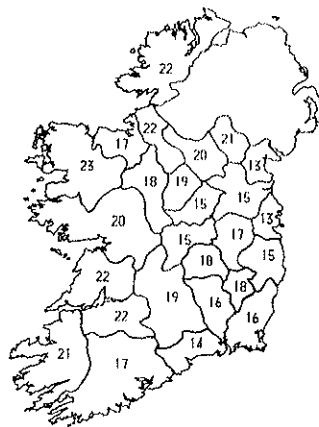
Rainfall totals for the month were between 62mm at Casement Aerodrome and 316mm at Maam Valley, Co. Galway. They were above normal almost everywhere, ranging fairly narrowly between 81% of normal at Ardee (Boharnamoe), Co. Louth and 149% at Galway (University College). Birr's total of 99mm made it the wettest November there since 1982.

In the eastern half of the country, most of the month's rainfall was recorded on relatively few days with fairly dry spells between, but further west there were very few dry days. As a result, there was wide variation in the number of wetdays during the month (*days with 1.0mm or more of rainfall*), with 12 or 13 measured in the east and southeast, but up to 24 in parts of the west. The wettest days were the 2nd, 7th, 11th, 16th/17th and 21st/22nd. Carron, Co. Clare, recorded 53.7mm on the 11th, the highest daily fall of the month and the highest November fall at the station since records began there in 1974.



Total Rainfall (mm)

Below
The number of wetdays - days with 1mm or more rainfall - in each county

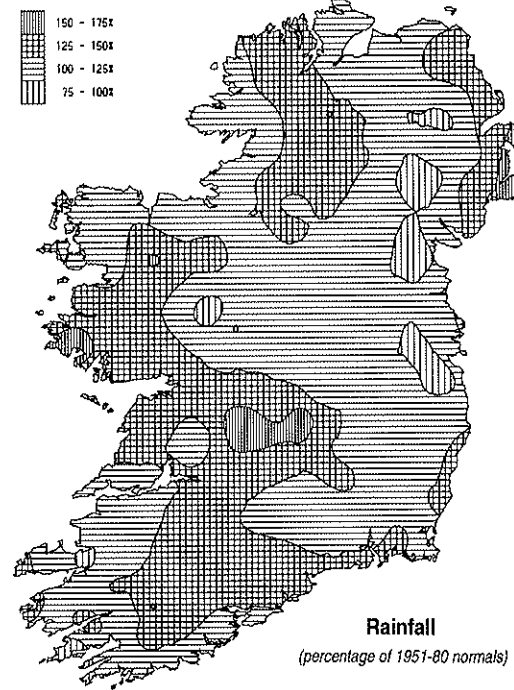


Left
As a cold front clears the country during the afternoon of the 22nd, another depression approaches from the Atlantic.

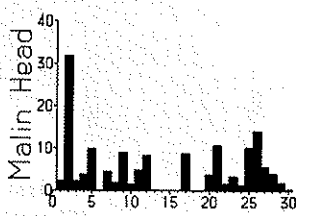
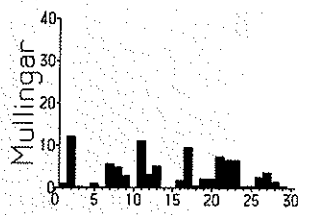
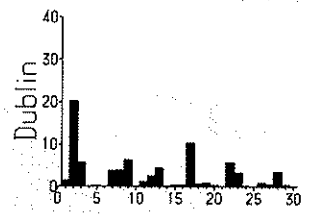
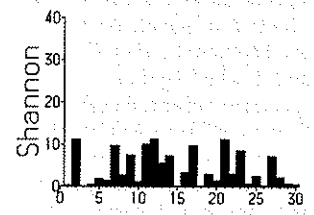
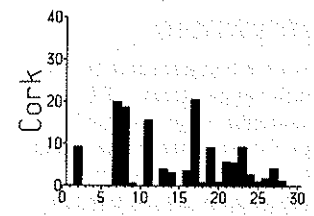
DAILY RAINFALL EXPRESSED AS % OF MONTHLY NORMAL

COUNTY	DAY																														TOTAL	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Carlow	9	6	-	-	-	-	11	8	-	-	9	-	6	-	-	1	11	3	4	1	16	1	6	-	-	3	7	-	2	-	...	105
Cavan	12	1	-	-	3	1	5	7	5	1	14	1	4	-	3	6	4	2	4	4	12	1	6	1	3	3	5	-	-	-	...	108
Clare	10	4	-	3	2	-	8	4	6	1	21	-	10	1	-	12	3	2	2	-	15	-	8	2	2	2	7	2	-	1	...	127
Cork	8	3	-	-	-	15	13	1	-	12	2	5	2	-	14	10	7	1	1	10	-	9	3	-	1	4	2	-	-	-	...	123
Donegal	11	14	3	6	3	6	-	6	8	5	1	8	3	2	-	3	2	-	3	2	10	1	4	5	11	2	4	3	1	-	...	121
Dublin	12	19	-	-	-	9	5	5	-	5	1	6	-	-	3	12	-	-	3	1	8	1	5	-	-	1	6	-	-	-	...	100
Galway	15	2	1	1	-	-	6	7	5	-	16	-	7	-	-	17	1	1	4	-	15	-	5	5	1	3	9	1	-	1	...	123
Kerry	8	4	1	2	1	-	13	10	2	-	11	2	5	2	-	12	-	5	1	3	14	1	8	3	1	3	4	3	1	1	...	122
Kildare	12	17	-	-	-	9	8	7	-	7	4	3	-	-	9	-	1	-	12	-	10	1	-	2	7	-	-	-	-	-	...	109
Kilkenny	12	15	-	1	1	-	16	8	2	-	10	-	5	-	9	8	4	2	-	14	-	8	-	1	4	-	-	-	-	-	...	120
Laois	12	21	1	1	-	-	12	9	7	-	15	2	4	-	-	13	12	1	4	1	11	-	6	1	-	1	5	-	-	-	...	139
Leitrim	17	2	-	5	3	1	6	8	5	1	13	4	5	-	-	8	7	3	2	1	16	-	7	2	6	3	4	3	1	-	...	133
Limerick	9	2	-	4	4	1	8	3	7	1	20	1	9	2	-	10	3	4	2	-	13	-	6	4	1	2	7	3	2	1	...	129
Longford	14	1	-	-	2	-	7	8	4	-	12	1	4	-	-	10	8	1	4	1	13	-	7	-	2	3	5	-	-	-	...	107
Louth	15	5	-	-	2	-	6	8	1	-	8	1	4	-	-	4	12	1	3	1	8	-	6	-	1	5	5	-	-	-	...	96
Mayo	13	6	4	2	3	1	9	10	3	-	12	1	10	1	-	9	2	1	4	2	10	-	8	4	3	3	4	-	1	-	...	129
Meath	14	11	-	-	1	-	10	11	2	1	10	2	7	-	-	2	13	-	2	1	9	-	6	-	2	7	-	-	-	-	...	111
Monaghan	19	1	-	1	4	-	6	8	3	1	10	1	5	-	-	5	8	1	4	2	15	-	8	1	3	2	6	-	-	1	...	114
Offaly	10	9	-	1	1	-	10	9	4	-	14	-	6	-	-	14	10	-	2	-	13	-	7	1	-	2	5	1	-	-	...	119
Roscommon	16	1	-	1	2	-	8	8	3	-	13	1	5	-	-	10	3	1	4	1	17	-	6	2	1	3	4	1	-	-	...	111
Sligo	11	2	2	3	8	-	7	6	3	-	16	3	6	-	6	6	-	2	3	1	18	-	7	4	3	5	1	2	-	-	...	113
Tipperary	9	4	1	2	2	-	14	10	4	1	22	-	3	1	-	15	10	2	1	1	13	-	7	3	1	1	3	1	-	-	...	131
Waterford	9	2	-	-	-	-	17	14	-	-	14	-	2	1	-	17	17	3	3	-	14	-	10	1	-	2	-	-	-	-	...	126
Westmeath	10	4	-	-	1	-	6	6	3	-	14	1	7	-	-	9	8	-	3	1	14	-	6	2	1	4	4	1	-	-	...	105
Wexford	9	4	1	-	-	-	19	18	1	-	14	-	1	-	-	6	9	5	6	1	11	3	10	-	-	5	-	-	-	-	...	120
Wicklow	10	11	5	1	-	-	22	11	1	-	10	2	4	-	-	4	10	3	6	2	8	1	7	-	-	3	4	-	1	-	...	116
MEAN	12	7	1	1	2	-	10	9	3	-	12	1	5	-	-	8	8	2	3	1	13	-	7	2	2	2	5	1	-	-	...	117

NOTE: In the above table, each value represents the percentage of the monthly normal that fell on each day. Stations within each county are averaged together. For example, 12% of the average monthly rainfall in Co. Carlow fell on the 1st.



Rainfall
(percentage of 1951-80 normals)



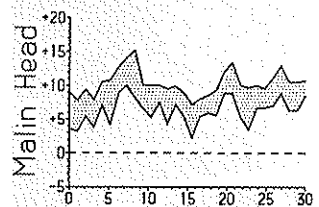
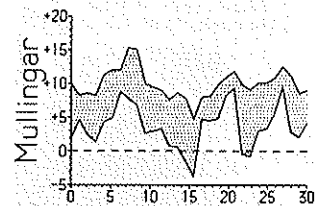
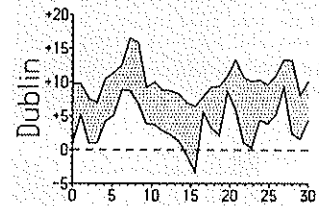
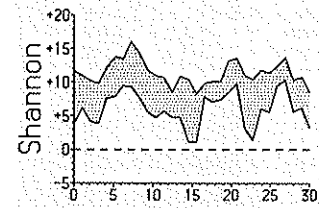
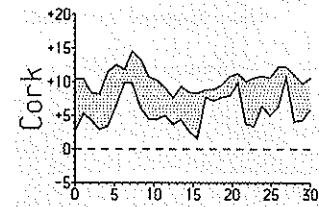
Daily rainfall amounts (millimetres)

Milder than normal everywhere

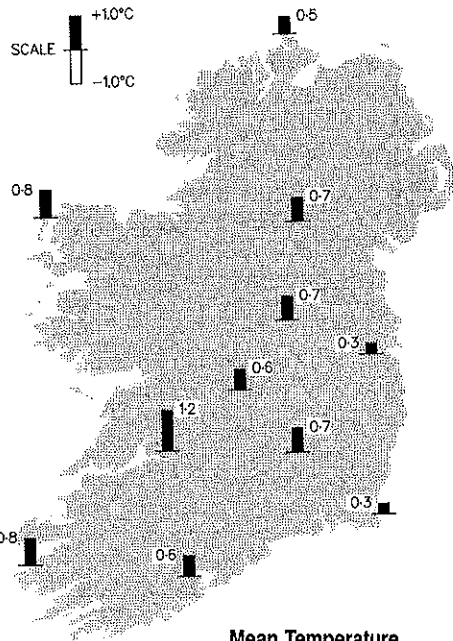
Mean air temperatures for the month ranged from 6.3°C at Connaught Airport to 9.6°C at both Valentia Observatory and Sherkin Island, Co. Cork, around half a degree warmer than normal generally.

Temperatures were above normal for most of the month, but the period between the 13th and 16th was cold, when daytime temperatures remained below 10°C in most places and ground frost became widespread at night. There was also air frost at inland stations; Ballinamore, Co. Leitrim, recorded the lowest air temperature of the month on the

16th, -4.8°C, while Clones measured the lowest grass minimum temperature on the same day, -10.3°C, the lowest for November at the station since 1988. The number of air frosts was well below normal for the month, however, with none recorded at most coastal stations, while inland there were between 3 and 5 air frosts compared with the normal range of 6 to 8. The warmest weather of the month was associated with the very strong southerly winds which covered the country between the 7th and 9th. The highest temperature, 17.6°C, was recorded at Dublin (Merrion Square) on the 8th.



Daily maximum and minimum temperatures (°C)



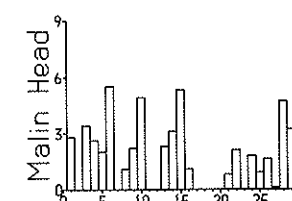
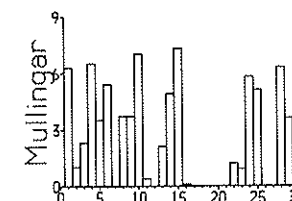
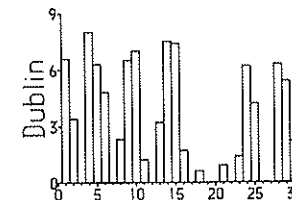
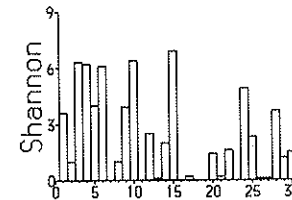
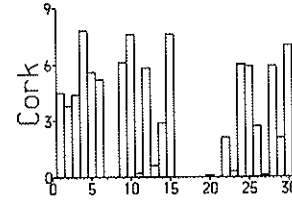
Mean Temperature
(difference from 1951-80 normals)

Well above normal in south and east, but below in west

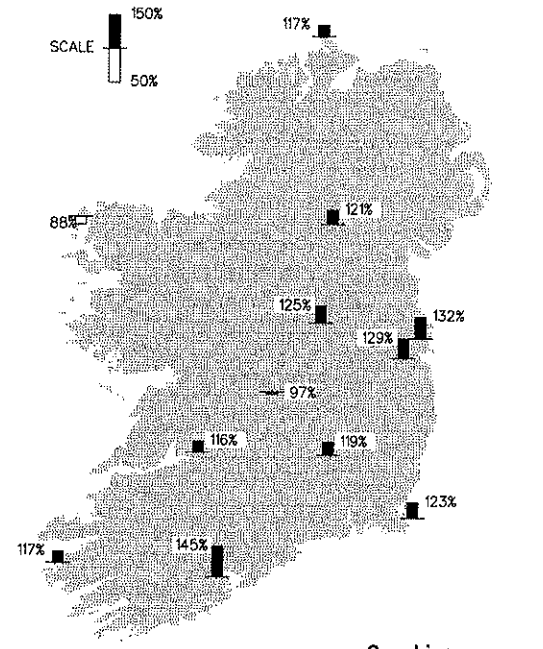
Although wetter than normal almost everywhere, November's sunshine totals were above normal generally, ranging from 46 hours at Belmullet to 94 hours at Cork Airport. Percentage of normal values were between 88% at Belmullet and 145% at Cork Airport. It was the sunniest November in the south and east for between 8 and 13 years.

Despite the relatively high totals for the month, there were

several very dull days. In particular, the period between the 16th and 21st produced very little sunshine, with most stations recording less than an hour in total for this 6-day period. Daily sunshine values of over 5 hours were recorded in many places on the 1st and 28th and in the periods 4th to 6th and 14th to 15th. Kilkenny had its sunniest November day since 1985 when it measured 8.2 hours on the 4th, while Rosslare measured the highest daily sunshine of the month, 8.5 hours on the same day.



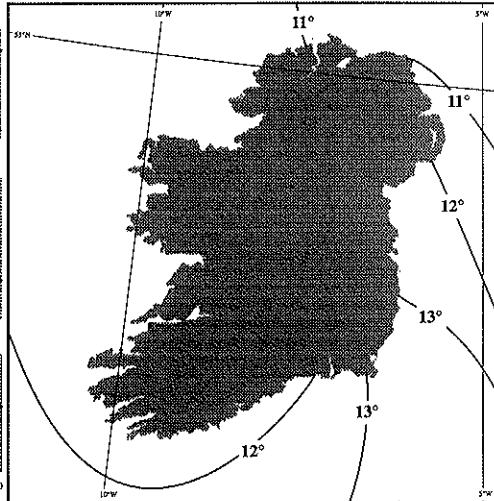
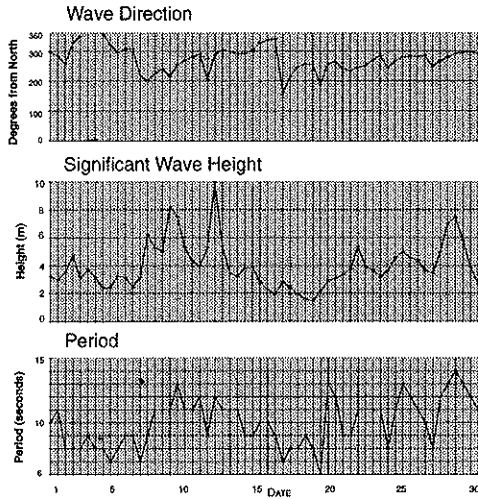
Daily sunshine amounts (hours)



Sunshine
(percentage of 1951-80 normals)

SEA TEMPERATURES

Sea temperatures were marginally higher than normal during November. They fell by just over a degree during the month, ranging between 11°C near the north coast and 13°C in the south Irish Sea for most of the month. At Malin Head, the mean sea temperature was 10.5°C, compared with the normal for November of 10.2°C.

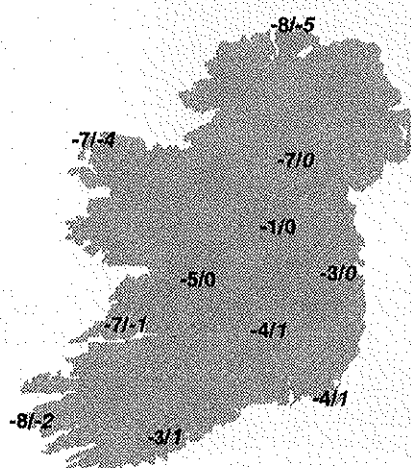
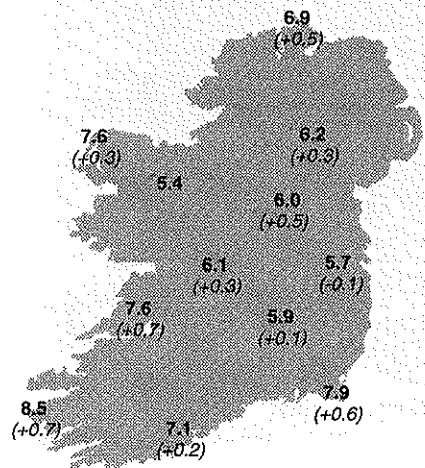


Wave conditions at 52.5°N, 12°W based on WAM model

Sea Temperatures (°C) around mid-month

Mean 10cm Soil Temperatures (°C) at 0900Z (difference from 1961-90 normals in brackets)

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



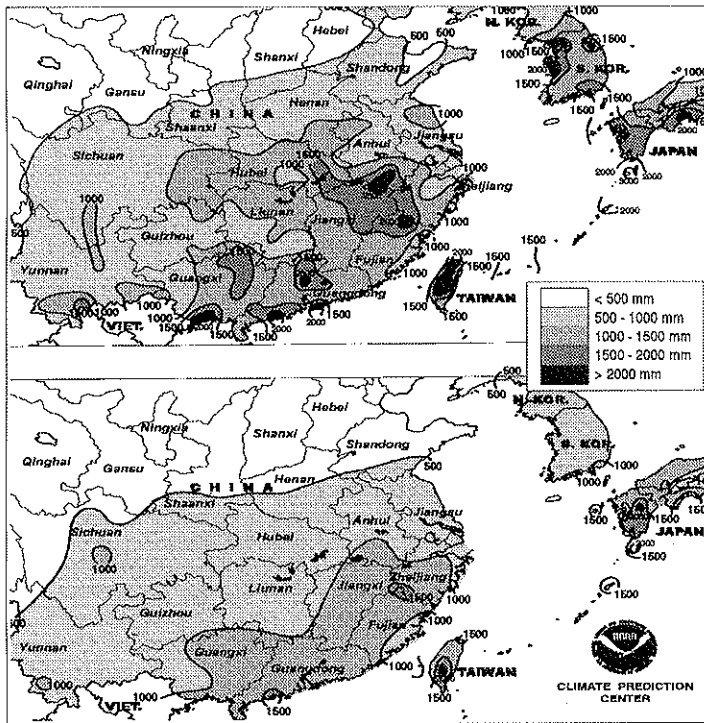
Station	period	RAINFALL				TEMPERATURE										SUNSHINE		mean wind speed (m/s) (kn)	P.E. (Penman) (mm)				
		amount	% of average	rain days	wet days	mean max.	mean min.	mean daily	diff. from average	lowest min.	date	days with air frost	degree days > 4°C	degree days > 10°C	lowest 'grass-min.'	date	days with ground frost			mean 10cm at 0900h	mean 30cm at 0900h	total no. of hours	% of average
Co. Cork Fermoy	1-10	51.0	-	5	4	11.4	5.0	8.2	-	0.7	1	0	40	6	-1.9	1	4	9.0	10.3	-	-	3.8	-
	11-20	52.1	-	8	7	9.7	3.1	6.4	-	-3.5	16	1	26	1	-5.4	16	5	7.6	8.9	-	-	2.6	-
	21-end	27.6	-	8	5	10.8	4.3	7.6	-	-1.6	23	1	35	4	-2.1	23	4	8.1	9.1	-	-	2.7	-
	month	130.7	138	21	16	10.6	4.1	7.4	0.4	-3.5	16	2	102	11	-5.4	16	13	8.2	9.4	-	-	3.0	-
Co. Donegal Letterkenny	1-10	n/a	-	na	na	n/a	n/a	n/a	-	n/a	na	n/a	n/a	-	-	-	-	-	-	-	-	-	-
	11-20	n/a	-	na	na	n/a	n/a	n/a	-	n/a	na	n/a	n/a	-	-	-	-	-	-	-	-	-	-
	21-end	n/a	-	na	na	n/a	n/a	n/a	-	n/a	na	n/a	n/a	-	-	-	-	-	-	-	-	-	-
month	n/a	-	na	na	n/a	n/a	n/a	-	n/a	na	n/a	n/a	-	-	-	-	-	-	-	-	-	-	-
Co. Kerry Ardfert	1-10	50.5	-	8	7	11.5	5.8	8.7	-	1.5	1	0	44	7	-1.1	4	2	-	-	30.3	-	-	-
	11-20	40.8	-	8	6	10.1	4.8	7.5	-	0.3	15	0	33	2	-2.8	15	2	-	-	14.6	-	-	-
	21-end	56.8	-	10	8	11.1	6.3	8.7	-	2.7	23	0	43	5	-1.4	23	1	-	-	16.2	-	-	-
	month	148.1	-	26	21	10.9	5.6	8.3	-	0.3	15	0	120	14	-2.8	15	5	-	-	61.1	-	-	-
Co. Leitrim Ballinamore	1-10	49.8	-	10	8	10.4	4.2	7.3	-	1.0	4	0	32	4	-4.7	1	6	8.0	8.6	27.7	-	3.7	-
	11-20	59.8	-	9	8	8.7	1.4	5.1	-	-4.8	16	4	18	0	-8.0	16	6	6.8	7.4	14.0	-	2.5	-
	21-end	50.8	-	10	8	10.1	4.0	7.1	-	-1.1	23	1	30	2	-3.1	23	7	7.7	7.9	19.2	-	2.5	-
	month	160.4	135	29	24	9.7	3.2	6.5	0.4	-4.8	16	5	80	7	-8.0	16	19	7.5	8.0	60.9	112	2.9	0
Co. Louth Ardee	1-10	26.6	-	9	4	11.1	4.6	7.9	-	0.3	4	0	37	5	-5.3	1	6	7.1	8.4	-	-	-	-
	11-20	20.4	-	7	4	9.5	1.8	5.7	-	-2.9	16	4	22	1	-9.5	16	8	5.7	7.1	-	-	-	-
	21-end	17.9	-	6	4	10.7	4.1	7.4	-	-0.9	23	1	33	3	-5.1	23	7	6.6	7.5	-	-	-	-
	month	64.9	81	22	12	10.4	3.5	7.0	-	-2.9	16	5	93	9	-9.5	16	21	6.5	7.7	-	-	-	-
Co. Waterford Dungarvan	1-10	40.7	-	7	5	12.1	5.5	8.8	-	0.4	1	0	46	9	-3.5	4	5	-	10.1	31.6	-	2.9	-
	11-20	50.1	-	8	6	10.3	3.6	7.0	-	-3.0	16	1	31	2	-5.6	16	6	-	8.6	14.8	-	2.0	-
	21-end	32.7	-	6	3	11.3	4.9	8.1	-	-0.4	23	1	40	5	-2.2	23	4	-	9.1	20.3	-	1.9	-
	month	123.5	-	21	14	11.2	4.7	8.0	-	-3.0	16	2	116	15	-5.6	16	15	-	9.3	66.7	-	2.3	1
Co. Wexford Johnstown Castle	1-10	59.9	-	8	5	11.8	5.5	8.7	-	2.3	5	0	44	7	-3.0	5	3	7.3	9.1	38.1	-	2.0	-
	11-20	37.9	-	8	6	10.2	4.2	7.2	-	1.3	16	0	31	1	-3.2	11	4	5.9	7.6	13.5	-	1.6	-
	21-end	36.1	-	6	5	11.2	5.5	8.4	-	1.6	29	0	41	4	-2.4	29	2	7.3	8.4	24.3	-	1.3	-
	month	133.9	122	22	16	11.1	5.1	8.1	0.4	1.3	16	0	116	13	-3.2	11	9	6.8	8.4	75.9	107	1.6	0

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

County/Station	Period	P.E. (mm)		Soil Moisture (mm)	
		Amount	Deficit	Accumulated Deficit	Surplus
Co. Dublin Kinsealy	1-10	-	-	not available	-
	11-20	0.0	-	0	19
	21-end	0.0	-	0	14
	month	0.0	-	0	14
Co. Kerry Valentia Obs.	1-10	11.7	-	0	66
	11-20	3.2	-	0	64
	21-end	0.2	-	0	59
	month	15.1	-	0	59
Co. Leitrim Ballinamore	1-10	3.0	-	0	47
	11-20	3.5	-	0	56
	21-end	5.1	-	0	47
	month	11.6	-	0	47
Co. Wexford Johnstown Castle	1-10	18.6	-	0	41
	11-20	6.0	-	0	32
	21-end	0.0	-	0	37
	month	24.6	-	0	37

SEE BACK PAGE FOR NOTES ON THE DATA

County/Station	GLOBAL SOLAR RADIATION (MJ/sq. m.)			P.E. (Penman) total for month (mm)
	10-day totals 1-10	10-day totals 11-20	10-day totals 21-end	
Co. Donegal Malin Head	32.47	20.61	19.34	72.42
	21			
Co. Dublin Dublin Airport	45.15	27.45	26.09	98.69
	2			
Co. Kerry Valentia Obs.	41.56	29.80	25.55	96.91
	13			
Co. Kilkenny Kilkenny	46.54	24.87	25.01	96.42
	5			
Co. Mayo Belmullet	34.77	20.11	17.94	72.82
	18			
Co. Monaghan Clones	38.16	22.70	21.08	81.94
	5			
Co. Offaly Birr	43.72	21.45	23.01	88.18
	4			



The spring and summer months were exceptionally wet in many parts of eastern Asia, particularly over eastern China, Taiwan and South Korea.

Rainfall totals for the 7-month period between February and August are shown on left (top), with normal values for the same period shown below.

THE WEATHER OF SEPTEMBER, OCTOBER AND NOVEMBER

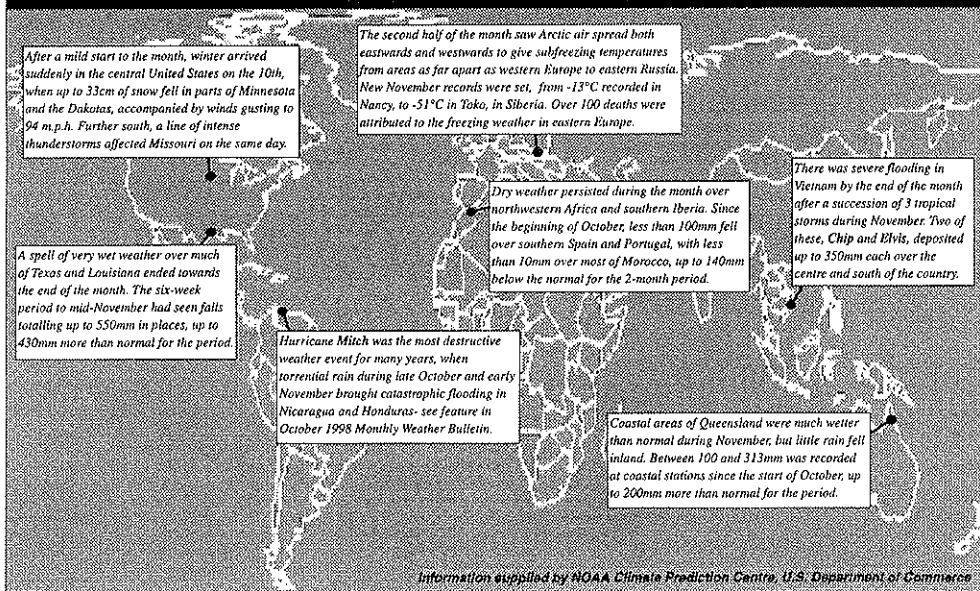
Wet but sunny, temperatures above normal

Autumn was unusual in the fact that all the major weather features of rainfall, sunshine and mean temperature were above normal for the season. Mean air temperatures for the season of between 9.5°C at Connaught Airport and 12.4°C at Valentia Observatory were around a degree higher than normal. Mean minima of between 7°C and 9°C generally were particularly high, the highest for 20 years in some places. Air frost was recorded at only half the stations and even at inland stations there were between 3 and 6 air frosts during the season compared with the normal 7 to 11. The lowest air temperature, -4.2°C, was recorded at Birr on November 16th, while Clones measured the lowest grass minimum temperature, -10.3°C on the same day. The warmest weather of the season almost everywhere was in the period September 20th to 21st; Belmullet recorded the highest temperature, 25.4°C on September 21st, its highest autumn value since records began there in 1956. Rainfall totals for the season of between 241mm at Casement Aerodrome and 542mm at Valentia Observatory were above normal everywhere, with percentage of normal values varying between 108% at Belmullet and 142% at Clones. It was the wettest autumn at many stations for between 11 and 18 years, and the wettest at Shannon Airport since records began there in 1945. Rainfall was distributed fairly evenly throughout the season, with short spells of drier weather only in late September and early October. Casement Aerodrome measured the highest daily fall, 47.8mm on September 30th. Percentage of normal sunshine for the season ranged from 103% at Valentia Observatory to 125% at Cork Airport and it was the sunniest autumn in many places for between 7 and 12 years. October was the sunniest month relative to normal. The highest daily sunshine, 11.4 hours, was recorded at both Rosslare on September 3rd and Casement Aerodrome on September 20th. Mean windspeeds for the season were above normal in most places, the highest for between 14 and 18 years at several stations. Malin Head recorded the highest gust, 80 knots (92 m.p.h.), on November 9th.

Note: This summary is based on midnight to midnight readings from the synoptic stations operated by Met Éireann.

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. CLARE SHANNON AIRPORT	363.5	134	27.7 25 Sep	12.0	+1.2	24.5 1.1	3.23	115	10.8 20 Sep	73	0	0	1	1	10	24
CO. CORK CORK AIRPORT	399.3	114	28.9 20 Oct	11.2	+1.0	20.3 1.6	3.82	125	10.8 20 Sep	68	0	0	1	1	24	27
CO. DONEGAL MALIN HEAD	369.7	114	31.8 2 Nov	10.9	+0.4	23.4 2.3	3.03	119	10.9 21 Sep	66	0	0	12	1	0	56
CO. DUBLIN DUBLIN AIRPORT	247.6	32.8	30 Sep	10.4		21.4 -3.2	3.65	112	10.6 20 Sep	76	0	3	0	2	13	28
CASEMENT AERODROME	241.4	117	47.8 30 Sep	10.4	+0.4	23.9 -4.1	3.35	107	11.4 20 Sep	56	0	5	0	3	10	31
CO. KERRY VALENTIA OBSERVATORY	541.7	129	38.2 20 Oct	12.4	+0.9	23.8 2.8	2.76	103	10.8 20 Sep	80	0	0	1	1	0	28
CO. KILKENNY KILKENNY	295.7	122	21.8 2 Nov	10.8	+0.9	23.3 -3.8	3.32	114	10.8 20 Sep	71	n/a	6	---	n/a	---	18
CO. MAYO BELMULLET	369.6	107	30.7 20 Oct	11.8	+0.9	25.4 0.1	2.94	106	11.1 21 Sep	72	0	0	3	0	3	47
CONNAUGHT AIRPORT	409.0		36.6 20 Oct	9.5		21.8 -0.5	3.04		10.7 21 Sep	86	0	1	2	1	36	25
CO. OFFALY BIRR	291.4	123	16.4 20 Oct	10.6	+0.6	23.6 -4.2	2.96	104	10.5 20 Sep	69	n/a	3	---	n/a	---	8
CO. MONAGHAN CLONES	367.3	142	29.5 24 Oct	10.4	+1.0	23.9 -3.1	3.01	121	10.7 21 Sep	79	n/a	3	---	n/a	---	19
CO. WESTMEATH MULLINGAR II	329.9	122	27.9 24 Oct	10.3	+0.9	23.1 -3.6	3.38	118	10.2 21 Sep	76	n/a	4	---	n/a	---	10
CO. WEXFORD ROSSLARE	290.1	108	22.2 8 Nov	11.9	+0.7	19.8 2.2	3.98	110	11.4 3 Sep	57	0	0	0	1	5	24

SUMMARY OF SIGNIFICANT WEATHER WORLDWIDE DURING NOVEMBER



Sunday 1st: Widespread ground frost overnight and a bit cool today with sunny periods and occasional showers in a moderate westerly airflow. Winds backed southwesterly in the evening and there was some light rain on the west and southwest coasts late.

Rainfall: nil to 3mm

Temperature: max. 9°C to 12°C, min. 1°C to 4°C inland; up to 6°C coastal; ground temperatures down to -3° in the midlands

Sunshine: 2 to 7 hours

Monday 2nd: A depression moving southeastwards across the country gave showers or longer spells rain today, some heavy with thunder in places this evening. Some sunny intervals mainly in the south and east. Wind cyclonic becoming moderate or fresh northerly or northwesterly during the afternoon and evening and strong at times on exposed coasts. Temperatures a little below normal.

Rainfall: 9mm to 24mm generally, 32mm in Malin Head

Temperature: max. 7°C to 12°C min. 3°C to 7°C; ground temperatures down to zero in Clones

Sunshine: nil to 5 hours

Tuesday 3rd: Cool north to northwesterly winds today. There were bright spells and scattered showers generally but parts of the northeast and east had longer spells of rain this morning. Western areas had the best of the sun. Ground frost developing in places during the evening as skies cleared.

Rainfall: nil to 6mm

Temperature: max. 8°C to 11°C, min. -1°C to 4°C inland; up to 7°C coastal; ground temperatures down to -3°C in the east midlands

Sunshine: nil in the east, 1 to 7 hours elsewhere

Wednesday 4th: Ground frost in many areas overnight. The cool north to northwesterly windflow backed westerly this evening. There were scattered showers, mostly in the north and west and also some sunny spells. Temperatures below normal. Moderate wind strengths.

Rainfall: nil to 4mm

Temperature: max. 7°C to 10°C, min. -1°C to 4°C inland, up to 6°C coastal; ground temperatures down to -5°C in Kilkenny

Sunshine: 2 to 4 hours in the west, 6 to 9 hours elsewhere

Thursday 5th: Westerly winds increased moderate to fresh but strong near the north coast and also became rather blustery. There were scattered showers, again mostly in the north and west, and also some bright intervals. Normal temperatures.

Rainfall: nil to 5mm generally, 10mm in Malin Head

Temperature: max. 10°C to 12°C, min. 3°C to 9°C; ground temperatures down to zero in Clones

Sunshine: 1 to 2 hours in the west, 3 to 6 hours generally

Friday 6th: A cool westerly airflow overnight gave slight ground frost in places. While there were well-scattered showers mainly in Connaught and west Munster, there was a good deal of dry weather with sunny spells today. Afternoon temperatures were above or about normal. Winds backed gradually southerly and near the northwest coast became strong late in the day with little rain.

Rainfall: nil to 3mm

Temperature: max. 10°C to 14°C, min. 3°C to 8°C; ground temperatures down to -2°C in the midlands

Sunshine: 3 to 6 hours

Saturday 7th: Most areas had a mainly dry start but there was a little light rain from time to time. More general and locally heavy rain affected the southwest and west this afternoon and spread to all parts this evening. Southerly winds became generally fresh or strong and gusty ahead of the rain. A clearance reached the west and southwest late in the day. Temperatures normal or above.

Rainfall: 4mm to 7mm in the midlands and east, 8mm to 14mm in the west, 15mm to 24mm in the south

Temperature: max. 11°C to 14°C, min. 7°C to 11°C

Sunshine: nil

Sunday 8th: Rain cleared quickly from eastern areas and strong winds near the north and northwest coasts eased. A dry start today but rain reaching the southwest coast towards noon spread gradually to all parts. Southwesterly winds backed southerly today and gradually increased fresh to strong and gusty with gales developing near the southwest, west and north coasts late in the day. Temperatures above normal.

Rainfall: 2mm to 7mm in the midlands and east, 9mm to 12mm in the west,

19mm to 22mm in the south

Temperature: max. 14°C to 17°C, min. 7°C to 10°C inland, up to 12°C coastal

Sunshine: nil to 4 hours

Monday 9th: Southwesterly winds were strong to gale at first with some severe gusts (over 80 m.p.h.) in parts of the west and north. Winds eased in southern areas this morning and in northern areas this afternoon. There were bright spells and scattered showers, mainly in the north and west early but affecting all areas as a trough moved eastwards during the late afternoon and evening. Temperatures a bit above normal.

Rainfall: 1mm to 3mm in the south, 5mm to 9mm elsewhere

Temperature: max. 12°C to 16°C, min. 5°C to 9°C

Sunshine: 2 to 7 hours

Tuesday 10th: Good bright spells and well-scattered showers, heavy in a few places. Moderate westerly winds backing southwesterly light to moderate in the evening. Temperatures normal or a little below. Ground frost in places this evening.

Rainfall: nil to 3mm

Temperature: max. 8°C to 12°C, min. 2°C to 7°C; ground temperatures down to -3°C in the midlands

Sunshine: 5 to 8 hours

Wednesday 11th: Cool start with ground frost in places but it cleared early. Dry start but rain in the southwest and west early in the afternoon spread to all parts. A clearance followed from the west after dark. Winds backed south to southeasterly and increased to fresh and blustery; with the clearance winds veered southwesterly and increased strong to gale force in west Munster and parts of Connaught. Normal temperatures this afternoon.

Rainfall: 1mm to 2mm in the west, 5mm to 11mm generally, 16mm to 21mm in extreme south

Temperature: max. 8°C to 12°C, min. 1°C to 5°C inland, up to 8°C coastal; ground temperatures down to -3°C in Kilkenny

Sunshine: nil to 1 hour generally, 4 hours in Mullingar

Thursday 12th: Windy, showery conditions at first. As a depression moved slowly eastwards across Ulster overnight and this morning a strong and gusty westerly airflow developed. Winds eased steadily during the late afternoon and evening and backed southwesterly; shower activity also decreased. Cool.

Rainfall: nil to 4mm generally, 5mm to 8mm in the west, 11mm at Shannon Airport

Temperature: max. 9°C to 11°C, min. 3°C to 6°C inland, up to 8°C coastal; ground temperatures down to -1°C in Clones

Sunshine: nil to 3 hours generally, 6 hours in the southeast

Friday 13th: Cool overnight with ground frost in places and a few mist patches. Dry start in most areas but outbreaks of rain near the south and southwest coast became widespread for a time as a trough moved eastwards during the afternoon, to clear the east coast after dark; some northern areas escaped lightly but there were bursts of heavy rain. Light variable winds became southwesterly and then westerly to northwesterly during the evening and increased to moderate and fresh on exposed coasts. Cool.

Rainfall: trace to 6mm generally, 8mm to 15mm in the west

Temperature: max. 5°C to 10°C, min. 1°C to 6°C; ground temperatures down to -6°C in Clones

Sunshine: nil to 3 hours

Saturday 14th: Troughs in a northwesterly windflow gave some heavy showers in parts of Munster but most areas escaped lightly and there were good sunny spells. Winds turned more northerly during the evening and shower activity died out. Ground frost early and late but temperatures near normal this afternoon.

Rainfall: nil to 3mm generally, 6mm to 7mm in the west

Temperature: max. 8°C to 11°C, min. 1°C to 5°C inland, up to 8°C coastal; ground temperatures down to -4°C in Clones

Sunshine: 1 to 5 hours generally, 6 to 8 hours in the east

Sunday 15th: While there were a few showers, it was generally a dry, bright day with light northwesterly winds becoming variable in the evening. Frost early and late and temperatures a little below normal in the afternoon.

Rainfall: nil to 3mm

Temperature: max. 7°C to 11°C, min. -3°C to 3°C inland, up to 5°C coastal; ground temperatures down to -9°C in Kilkenny

Sunshine: 4 to 8 hours

Monday 16th: Very frosty at first with only a few mist and fog patches, mainly in the north. Dry start but outbreaks of rain, preceded by sleet in places, spread into the west and south during the course of the afternoon but spread only slowly into the east and then the northeast after dark. Light variable winds becoming southeasterly and increasing slowly. Cold today except in parts of the southwest.

Rainfall: nil to 2mm in the west and north, 3mm to 7mm generally, 8mm to 12mm in the west

Temperature: max. 4°C to 10°C, min. -4°C to 2°C inland; up to 5°C coastal; ground temperatures down to -10°C in Clones

Sunshine: nil to 2 hours

Tuesday 17th: A dull day with spells of rain. Light southeasterly winds becoming variable. Temperatures a little below normal except in the extreme southwest, where there were some bright intervals.

Rainfall: 1mm in Belmullet, 4mm at Casement Aerodrome, 7mm to 15 generally, 21mm at Cork Airport

Temperature: max. 8°C to 12°C, min. 4°C to 8°C

Sunshine: nil to 1 hour

Wednesday 18th: Dull, misty conditions but dry apart from a few showers here and there. After dark there was rain in the southwest. Light variable winds becoming southeasterly. Normal temperatures.

Rainfall: nil to 2mm

Temperature: max. 7°C to 12°C, min. 3°C to 8°C; ground temperatures down to -3°C in Kilkenny

Sunshine: nil to 1 hour

Thursday 19th: Misty, dull, close conditions with rain or drizzle at times but amounts small except in parts of south Munster and the southeast of Leinster. Light southeasterly winds. Normal temperatures.

Rainfall: nil to 4mm generally, 9mm to 13mm in the extreme south

Temperature: max. 8°C to 12°C, min. 2°C to 9°C; ground temperatures down to zero at Dublin Airport

Sunshine: nil or trace

Friday 20th: A generally dull start with mist and fog patches and also some light rain in places. Conditions brightened somewhat in the southwest in the morning and in many areas during the afternoon but it remained cloudy if mostly dry. Some rain in the southwest late in the day. Light southerly winds increasing moderate to fresh and strong at times near the west and northwest coasts. Above normal temperatures.

Rainfall: nil to 6mm

Temperature: max. 10°C to 14°C, min. 7°C to 10°C

Sunshine: nil to 1 hour

Saturday 21st: In a fresh to strong, south to southwesterly windflow there were a few spots of rain but generally dry, cloudy conditions for much of the day. However, an active rainbelt affected the west and southwest towards evening and pushed slowly eastwards after dark; the east remained mostly dry. Above normal temperatures.

Rainfall: nil or trace in the east and southeast, 7mm to 8mm in the midlands, 10mm to 24mm in the west

Temperature: max. 11°C to 14°C, min. 6°C to 10°C

Sunshine: nil to 2 hours

Sunday 22nd: The rainbelt weakened over eastern areas today. Overnight rain cleared from the west but the clearance did not reach eastern areas until afternoon. In the west there were bright spells and just a few showers. With the clearance winds became light westerly. Frost and fog developed after dark. Afternoon temperatures normal in the west but below normal in the east.

Rainfall: nil to 3mm in the west and southwest, 4mm to 12mm in the east and southeast

Temperature: max. 9°C to 12°C, min. zero to 4°C inland, up to 7°C coastal; ground temperatures down to -5°C in the midlands

Sunshine: nil to 2 hours generally, 5 to 6 hours in the west

Monday 23rd: Frosty at first with fog in places, persisting in parts of the southeast until noon. Ridge conditions were followed by a southwesterly windflow which gradually increased and became fresh or strong ahead of a rainbelt which affected the west coast towards dark and moved eastwards to affect all parts; rain was heavy in places but some eastern areas remained dry until very late. Temperatures rising to normal or above during the afternoon and evening.

Rainfall: 3mm to 6mm in the east and southeast, 7mm to 13mm elsewhere

Temperature: max. 8°C to 12°C, min. -2°C to 3°C inland; up to 5°C coastal; ground temperatures down to -7°C in Clones

Sunshine: nil to 4 hours

Tuesday 24th: The rainbelt cleared the east and south overnight and clear spells developed allowing ground frost to affect some areas. In a light occasionally moderate westerly to southwesterly windflow it was a day of bright spells and scattered showers, with the south and east escaping lightly. Afternoon temperatures above or about normal.

Rainfall: nil to 3mm generally, 10mm in Rosslare

Temperature: max. 8°C to 12°C, min. 3°C to 6°C inland, up to 9°C coastal; ground temperatures down to -2°C in the south midlands

Sunshine: 2 to 6 hours

Wednesday 25th: Ground frost in parts of the southeast early. There were bright spells and scattered showers especially in the north and west. Westerly or southwesterly winds were light to moderate but freshened near northwestern coasts during the evening. Temperatures normal or a little above today.

Rainfall: nil to 5mm generally, up to 10mm in Malin Head

Temperature: max. 8°C to 12°C, min. 1°C to 6°C inland, up to 8°C coastal; ground temperatures down to -3°C in Kilkenny

Sunshine: 1 to 6 hours

Thursday 26th: Mostly cloudy with light rain at times as weak rainbelt moved slowly southwards; amounts were small in the east and the south was dry until evening. Light to moderate southwesterly or westerly winds. Temperatures a little above normal.

Rainfall: nil to 4mm generally, 14mm in Malin Head

Temperature: max. 10°C to 12°C, min. 5°C to 11°C

Sunshine: nil to 3 hours

Friday 27th: Mild today and, apart from some spots of drizzle, a dry start. Rain near the west coast towards dark spread slowly eastwards but the southeast and east remained largely dry. Moderate southwesterly winds. Very little sun.

Rainfall: trace to 1mm in the east and southeast, 2mm to 7mm elsewhere

Temperature: max. 11°C to 14°C, min. 8°C to 11°C

Sunshine: nil to 1 hour

Saturday 28th: The rainbelt cleared the east coast overnight. In a westerly airflow today we had sunshine and scattered showers, these mostly in the southwest, west and north. Cool start but temperatures only a little below normal this afternoon. Ground frost in places early and late.

Rainfall: 1mm to 5mm

Temperature: max. 8°C to 13°C, min. 2°C to 7°C; ground temperatures down to -1°C inland

Sunshine: 2 to 7 hours

Sunday 29th: Ground frost early, cleared quickly this morning. In a westerly airflow there were bright spells at first and just a few showers, mostly in the southwest and west. More cloud during the late afternoon and evening with a little drizzle in places. Light or moderate westerly winds. Near normal temperatures.

Rainfall: nil to 3mm

Temperature: max. 8°C to 11°C, min. 2°C to 7°C; ground temperatures down to -5°C in Kilkenny

Sunshine: trace to 5 hours

Monday 30th: Anticyclonic conditions today. Slight ground frost here and there cleared early. There was patchy fog in places and also some mist and drizzle at times today; fog more widespread this evening. Temperatures well up to normal this afternoon with some sun in the east and south.

Rainfall: nil to 1mm

Temperature: max. 9°C to 12°C, min. 1°C to 6°C inland, up to 9°C coastal; ground temperatures down to -2°C in the midlands

Sunshine: nil to 3 hours generally, 6 to 7 hours in the south

TABLES

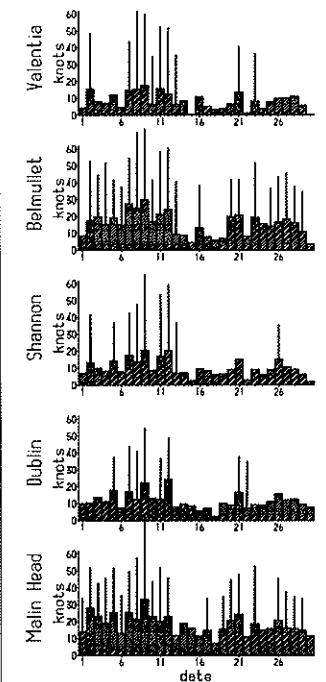
County / Station	TEMPERATURE (°C)						
	Mean max.	Mean min.	Mean/ deviation from average		Highest max./date	Lowest min./date	Lowest grass min./date
CO. CLARE							
SHANNON AIRPORT	11.3	6.0	8.7	1.2	16.0 8	1.1 16	-4.0 15
CARRON	10.1	4.9	7.5		15.1 8	0.3 16	-6.1 16
CO. CORK							
FERMOY (MOORE PARK)	10.6	4.1	7.4	0.4	15.9 8	-3.5 16	-5.4 16
CORK AIRPORT	10.3	5.5	7.9	0.6	14.5 8	1.6 16	-5.2 16
SHERKIN ISLAND	11.6	7.5	9.6	0.8	14.6 8	1.9 23	-0.3 15
BALLINCURRIG (PEAFIELD)	10.1	4.2	7.2		14.2 8	-1.1 16	-4.5 16
CO. DONEGAL							
MALIN HEAD	10.4	5.9	8.2	0.5	15.2 8	2.3 17	0.7 16
BALLYSHANNON(CATHLEEN'S FALL)	10.3	5.2	7.8	0.7	15.1 8	-1.4 16	
CO. DUBLIN							
DUBLIN (PHOENIX PARK)	10.4	3.6	7.0	0.4	16.5 8	-4.0 16	-9.0 16
DUBLIN AIRPORT	9.9	3.8	6.9		16.5 8	-3.2 16	-3.9 16
CASEMENT AERODROME	9.9	4.1	7.0	0.3	16.1 8	-4.1 16	-7.3 16
DUBLIN (MERRION SQUARE)	10.6	5.8	8.2	0.1	17.6 8	0.2 16	
CO. GALWAY							
GALWAY (UNIV.COLL.)	11.3	5.2	8.3	1.0	16.2 8	-1.5 16	-7.1 16
MAAM VALLEY	11.3	6.1	8.7		15.8 8	-0.1 16	-4.2 16
CONNEMARA NATIONAL PARK	10.7	6.2	8.5		15.0 8	2.8 15	
BALLYGAR	10.2	4.0	7.1		15.0 8	-3.0 16	-6.0 16
CO. KERRY							
VALENTIA OBSERVATORY	11.9	7.2	9.6	0.8	16.1 8	2.8 23	-0.5 23
ARDFERT (LISCAHANE)	10.9	5.6	8.3		16.2 8	0.3 15	-2.8 15
CO. KILKENNY							
KILKENNY	10.6	3.7	7.2	0.7	16.0 8	-3.8 16	-9.5 16
CO. LETTRIM							
BALLINAMORE	9.7	3.2	6.5	0.4	15.1 8	-4.8 16	-8.0 16
CO. LIMERICK							
MOUNT RUSSELL	9.9	5.3	7.6		15.3 8	1.2 16	-3.2 15
CO. LOUTH							
ARDEE (BOHARNAMOE)	10.4	3.5	7.0		14.9 8	-2.9 16	-9.5 16
CO. MAYO							
BELMULLET	11.2	6.5	8.9	0.8	14.9 8	0.1 16	-3.5 16
STRAIDE	10.8	4.3	7.6		15.4 8	-3.6 16	-8.5 16
CONNAUGHT AIRPORT	8.8	3.8	6.3		14.1 8	-0.5 16	-4.6 16
CO. MEATH							
WARRENTOWN	9.6	4.1	6.9	0.6	15.4 8	-2.9 16	-7.2 16
CO. MONAGHAN							
CLONES	9.7	3.6	6.7	0.7	15.6 8	-3.1 16	-10.3 16
CO. OFFALY							
BIRR	10.3	3.9	7.1	0.6	16.0 8	-4.2 16	-9.0 16
DERRYGREENAGH	9.5	3.1	6.3	0.4	15.1 8	-3.2 16	-9.2 16
CO. SLIGO							
ARDTARMON	10.5	5.5	8.0		15.1 8	-0.1 16	-4.3 16
CO. TIPPERARY							
FETHARD (PARSONSHILL)	9.4	4.1	6.8		14.6 8	-0.8 16	-3.9 16
CO. WATERFORD							
WATERFORD (TYCOR)	10.9	4.8	7.9	0.4	14.7 8	-1.0 16	
DUNGARVAN (CARRIGLEA)	11.2	4.7	8.0		14.9 8	-3.0 16	-5.6 16
CO. WESTMEATH							
MULLINGAR II	9.7	3.7	6.7	0.7	15.3 8	-3.6 16	-8.7 16
CO. WEXFORD							
JOHNSTOWN CASTLE	11.1	5.1	8.1	0.4	14.9 8	1.3 16	-3.2 11 16
ROSSLARE	11.0	6.2	8.6	0.3	15.0 8	2.2 16	-1.8 16
CLONROCHE	10.1	4.2	7.2	0.5	14.6 8	-1.8 16	-7.2 16
JOHN F. KENNEDY PARK	10.5	4.4	7.5	0.3	14.6 8	-1.5 16	-7.0 16

TABLES

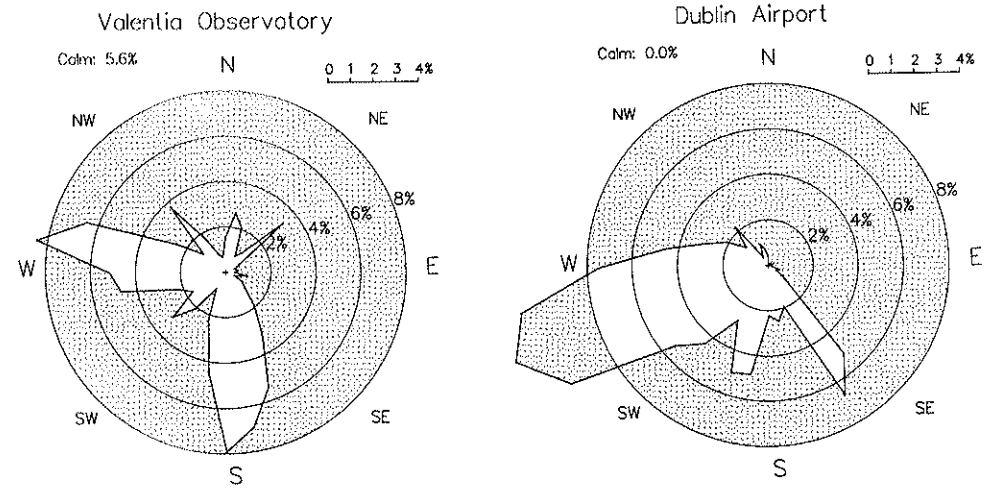
County / Station	RAINFALL (MM)			SUNSHINE (HOURS)			
	Total amount	% of average	Most in a day/date	Daily mean (hrs./day)	% of average	% of possible	Most in a day/date
CO. CLARE							
SHANNON AIRPORT	124.0	127	21.1 11	2.24	115	25	6.9 15
CARRON	221.6	138	53.7 11				
CO. CORK							
FERMOY (MOORE PARK)	130.7	138	20.6 7				
CORK AIRPORT	137.6	120	20.0 7	3.14	146	35	7.8 4
SHERKIN ISLAND	127.4	117	18.2 16	2.82	128	32	7.1 10
BALLINCURRIG (PEAFIELD)	146.2		22.0 16	2.74		22	8.2 4
CO. DONEGAL							
MALIN HEAD	142.9	120	26.0 2	1.72	111	20	5.5 6
BALLYSHANNON(CATHLEEN'S FALL)	122.1	104	14.6 21	1.93	121	23	5.8 6
CO. DUBLIN							
DUBLIN (PHOENIX PARK)	77.0	104	13.0 17	2.95	138	34	7.6 4
DUBLIN AIRPORT	76.1		16.6 2	3.10	136	36	8.0 4
CASEMENT AERODROME	61.5	88	10.0 1	2.82	132	32	7.6 15
DUBLIN (MERRION SQUARE)	73.4	108	15.3 2				
CO. GALWAY							
GALWAY (UNIV.COLL.)	172.8	149	27.0 16	2.38	118	27	7.3 15
MAAM VALLEY	315.7		47.4 11				
CONNEMARA NATIONAL PARK	198.9		33.5 1				
BALLYGAR	129.1	127	19.7 16				
CO. KERRY							
VALENTIA OBSERVATORY	193.1	128	23.7 16	2.02	117	23	6.2 4
ARDFERT (LISCAHANE)	148.1		22.4 21	2.04		18	5.6 10 15
CO. KILKENNY							
KILKENNY	99.7	129	14.5 7	2.65	122	30	8.2 4
CO. LETTRIM							
BALLINAMORE	160.4	135	20.3 1	2.03	112	24	6.5 15
CO. LIMERICK							
MOUNT RUSSELL	144.0		18.8 16				
CO. LOUTH							
ARDEE (BOHARNAMOE)	64.9	81	11.6 1				
CO. MAYO							
BELMULLET	161.1	127	18.8 1	1.52	88	18	5.7 22
STRAIDE	181.7		19.5 16	1.81			7.2 3
CONNAUGHT AIRPORT	148.8		22.7 21	1.94		22	6.5 3 10
CO. MEATH							
WARRENTOWN	81.4	99	10.5 1				
CO. MONAGHAN							
CLONES	107.0	122	15.5 1	2.17	122	25	7.7 15
CO. OFFALY							
BIRR	98.6	128	16.0 16	1.97	96	23	7.4 10
DERRYGREENAGH	94.0	112	12.8 11				
CO. SLIGO							
ARDTARMON	127.4		18.9 1				
CO. TIPPERARY							
FETHARD (PARSONSHILL)	107.1		16.0 7				
CO. WATERFORD							
WATERFORD (TYCOR)	120.2	124	17.7 7				
DUNGARVAN (CARRIGLEA)	123.5		18.0 21	2.22		18	7.7 15
CO. WESTMEATH							
MULLINGAR II	92.5	102	13.6 21	2.61	123	30	7.3 15
CO. WEXFORD							
JOHNSTOWN CASTLE	133.9	122	21.6 8	2.53	107	29	7.8 4
ROSSLARE	120.3	122	20.8 7	3.07	123	35	8.5 4
CLONROCHE	142.1	124	22.7 7	2.57	116	29	7.6 4
JOHN F. KENNEDY PARK	125.9	125	17.6 7	2.68	121	30	8.1 4

County / Station	WEATHER — NO. OF DAYS WITH									MEAN 0900 SOIL TEMPERATURES (°C)		
	Rain days	Wet days	Air frost	Ground frost	Snow lying	Snow	Hail	Thunder	Fog	10cm	20cm	30cm
CO. CLARE												
SHANNON AIRPORT	26	22	0	6	0	0	0	0	3	7.6	8.8	9.1
CARRON	28	22	0	11						7.5		8.7
CO. CORK												
FERMOY (MOORE PARK)	24	16	2	13						8.2	8.7	9.4
CORK AIRPORT	19	16	0	7	0	0	0	0	6	7.1	8.1	9.4
SHERKIN ISLAND	25	18	0	2						9.3		10.4
BALLINCURRIG (PEAFIELD)	22	14	1	6						6.6	7.7	
CO. DONEGAL												
MALIN HEAD	26	23	0	0	0	0	5	0	0	6.9	7.6	9.0
BALLYSHANNON (CATHLEEN'S FALL)	29	21	1									
CO. DUBLIN												
DUBLIN (PHOENIX PARK)	27	14	3	18								
DUBLIN AIRPORT	22	15	2	10	0	0	0	1	3	5.9	6.3	7.6
CASEMENT AERODROME	19	11	4	8	0	0	0	0	2	5.7	6.7	7.8
DUBLIN (MERRION SQUARE)	23	11	0									
CO. GALWAY												
GALWAY (UNIV. COLL.)	21	19	1	14								
MAAM VALLEY	29	23	1	5								
CONNEMARA NATIONAL PARK	29	21	0									
BALLYGAR	30	16	3	11								
CO. KERRY												
VALENTIA OBSERVATORY	27	22	0	1	0	0	1	0	0	8.5	9.4	11.0
ARDFERT (LISSAHANE)	27	21	0	5								
CO. KILKENNY												
KILKENNY	23	15	4	18	0					5.9	7.2	8.5
CO. LEITRIM												
BALLINAMORE	29	24	5	19						7.5	8.1	8.0
CO. LIMERICK												
MOUNT RUSSELL	25	23	0	7						6.5	7.3	
CO. LOUTH												
ARDEE (BOHARNAMOE)	22	12	5	21						6.5	7.2	7.7
CO. MAYO												
BELMULLET	27	24	0	4	0	0	1	0	1	7.6	8.3	9.4
STRAIDE	29	21	4	19						7.0		
CONNAUGHT AIRPORT	29	24	2	10	1	0	0	0	16	5.4	6.4	6.7
CO. MEATH												
WARRENSTOWN	22	15	2	13						6.2	7.0	7.6
CO. MONAGHAN												
CLONES	26	21	4	17	0					6.2	7.3	8.3
CO. OFFALY												
BIRR	24	15	3	11	0					6.1	7.4	8.6
DERRYGREENAGH	21	14	4	17								
CO. SLIGO												
ARDTARMON	27	17	1	7								
CO. TIPPERARY												
FETHARD (PARSONSHILL)	25	18	1	13						7.0	7.8	
CO. WATERFORD												
WATERFORD (TYCOR)	22	12	1									
DUNGARVAN (CARRIGLEA)	23	14	2	15							8.5	9.3
CO. WESTMEATH												
MULLINGAR II	24	15	3	17	0					6.0	6.9	8.3
CO. WEXFORD												
JOHNSTOWN CASTLE	25	16	0	9						6.8	7.6	8.4
ROSSLARE	19	14	0	4	0	0	0	0	1	7.9	8.5	10.1
CLONROCHE	21	17	2	18						6.8	7.9	8.9
JOHN F. KENNEDY PARK	23	15	2	17						6.9	8.0	9.8

County / Station	WIND (KNOTS)									
	Mean speed	Max. 10-min. dir.	mean date/hour	Max. Gust dir.	speed date/time	Days with gales	gale gusts	Hours with gale gusts		
CO. CLARE										
SHANNON AIRPORT	10.1	240°	41 9/04	240°	66 9/0230	3	9	49		
CO. CORK										
CORK AIRPORT	10.1	220°	35 9/01	210°	57 9/0040	1	9	57		
CO. DONEGAL										
MALIN HEAD	18.4	230°	53 9/06	230°	80 9/0616	12	21	224		
CO. DUBLIN										
CASEMENT AERODROME	12.1	220°	38 9/03	230°	57 9/0440	2	11	96		
DUBLIN AIRPORT	11.5	230°	37 9/06	230°	55 9/0353	2	8	60		
CO. KERRY										
VALENTIA OBSERVATORY	8.6	210°	38 8/24	210°	62 8/2351	2	10	82		
CO. KILKENNY										
KILKENNY	8.0	220°	34 9/03	220°	50 9/0158	1	8	48		
CO. MAYO										
BELMULLEY	15.5	190°	46 8/23	240°	72 9/0445	7	21	226		
CO. MONAGHAN										
CLONES	9.2	190°	33 9/03	200°	54 9/0315	0	8	46		
CO. OFFALY										
BIRR	8.0	230°	30 9/04	200°	49 9/0043	0	5	26		
CO. WESTMEATH										
MULLINGAR II	8.0	230°	29 9/05	240°	47 9/0454	0	4	33		
CO. WEXFORD										
ROSSLARE	8.3	170°	26 7/21	170°	49 7/2016	0	9	65		
		180°	26 8/22	210°	49 9/0255					

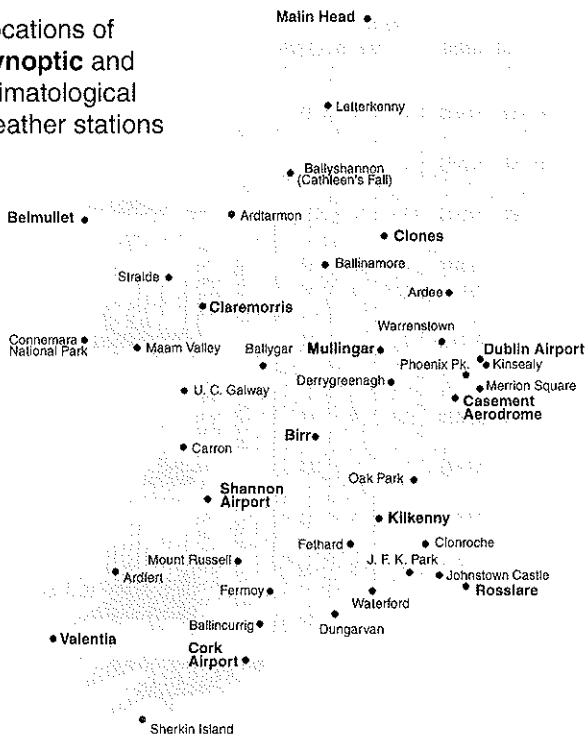


Daily mean wind speeds and maximum significant gusts (34 knots or more)



FREQUENCY OF WIND DIRECTION

Locations of Synoptic and Climatological weather stations



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NOTES ON THE TABLES

A. General

- Rainfall amounts are given in millimetres, temperature in degrees Celsius, sunshine duration in hours and wind speed in knots. (1 knot=1.15 m.p.h.)
- At all stations daily rainfall totals refer to the 24-hour period ending at 0900UTC the following day. The term rainfall includes all forms of precipitation, such as snow and hail, and deposition from dew or frost, measured as equivalent rain.
- 'Raindays' and 'wetdays' are days during which the total rainfall is not less than 0.2mm and 1.0mm respectively.
- A 'day' for the purposes of this publication refers to the period from 0900UTC on a particular day to 0900UTC on the following day. (This is because climatological stations make their daily observations at 0900UTC.)
- The mean daily air temperature over a period is taken as the mean of the daily maxima and daily minima (averaged separately over the period).
- Days with air frost are those during which the minimum air temperature was below 0°C. Similarly days with ground frost indicate days when the grass minimum temperature was below 0°C. (Grass minimum temperatures are measured by a thermometer placed horizontally on pegs just above the tips of short grass.)
- Mean soil and earth temperatures are based on readings taken at 0900UTC.
- A gale is a mean wind over a 10 minute period of 34 knots or more. A gale gust is a gust of 34 knots or more. All wind speeds refer to the wind at an effective height of 10 metres above the ground.
- 'e' denotes that the value is calculated using one or more estimated readings.
- Data from Northern Ireland is kindly provided by the Belfast Weather Centre.

B. Agmet

- Calculated Potential Evapotranspiration (P.E.) values are based on values of temperature, sunshine, wind speed and vapour pressure using the Penman formula. Because of formula limitations, negative values can occur in winter; these are replaced in the table by zero. Measured P.E. values are those measured by means of soil-filled tanks sunk into the ground with their upper grass-covered ends at surface level.
- Soil moisture deficits and surpluses are computed from the differences between rainfall and actual evapotranspiration (A.E.). Estimates of A.E. are derived from measured values of P.E. (See Agmet Memo No. 1, 1968). Soil moisture surpluses are assumed to be removed by drainage and surface runoff and are not therefore carried forward from one period to the next. Soil moisture deficits are regarded as being cumulative. Where heavy rain occurs near the end of the fixed period, the date of cut-off may be adjusted to avoid error due to insufficient run-off time.
- Degree day totals are calculated using the method set out by McVicker in the Journal of the Institution of Heating and Ventilating Engineers (Vol. 14 No. 38, Nov-Dec 1945).
- Global solar radiation values are given in MJ/sq.m. correct to two decimal places (3.6MJ=1kWh).

C. Laboratory

- Daily samples of air and precipitation are taken at Valentia Observatory at 1000UTC each day. Monthly precipitation samples at other stations are taken at 1200UTC on the 1st of each month.
- Air sample data are given in microgrammes per cubic metre, electrical conductivity in micro-Siemens per centimetre and pH in pH units.