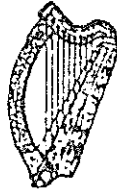


# METEOROLOGICAL SERVICE



## AGROMETEOROLOGICAL BULLETIN

MARCH 1984

### The Weather of March

Following some rain on March 1 and showers in a strong northwesterly airflow on 2nd, weather conditions from 3rd to 10th were dominated by high pressure near Ireland. Conditions were generally mild, cloudy and frost-free. With some decline in pressure, a cold frontal passage occurred on 11th and a strong north to northeast airflow set in. There were some showers or spells of rain, which turned to sleet and snow in many places on 13th and 14th, but as pressure rose again the spell from the 15th to 20th was largely dry. While conditions were cloudy, west and northwest areas had good sunny spells and with the clear skies at night frost became sharp in these regions.

Pressure declined about March 20th and frontal rainbelts moved inland from the west of Ireland. An extensive region of low pressure, having a number of depression centres, influenced the area. This development resulted in variable winds over Ireland, which were strong at times. In particular a south to southeast airflow became strong and gusty on 23rd as a deepening wave depression of the system crossed the country. This system later induced a west to northwest airflow in its wake with showers or outbreaks of snow.

Low pressure effected the country until the 28th, during which further troughs passed northwards through the country, preceded by periods of cold southeast to northeast winds and spells of rain, which turned to snow at times. As pressure slowly recovered on 29th, winds gradually veered during the following days from the northwest, through the northeast becoming moderate to fresh easterly on 31st. The period was dry with good sunny spells, except in southern areas.

Monthly Amounts of Precipitation were generally below normal except in parts of the south midlands. Values varied from 45% at Valentia Observatory to 131% at Oak Park, Co. Carlow and at Kilkenny. Wettest day was the 23rd; many areas received between 20 and 30mm precipitation. The wettest spells occurred on 1st/2nd, 11th to 14th, and from 21st to 25th (and up to 27th in some places).

Mean Monthly Air Temperature was below normal everywhere, varying from 0.5°C below at Clones to 1.4°C below at Valentia Observatory. Soil temperatures (100mm) were above average by up to 2.4°C to March 10th; subsequently they fell to about 1.5°C to 2.0°C below average and remained well below average for the rest of the month. Degree days (threshold 4.4°C) were also well below average, mostly in the range 60% to 70% of average. While air frost was not severe the occurrences of ground frost were widespread except in the period 4th to 10th. The most severe ground frost occurred at Claremorris on 19th where a grass minimum of -9.1°C was recorded.

Mean Duration of Bright Sunshine was well below normal almost everywhere and was as little as 54% of normal at Birr. The exception was Belmullet where the duration was 107% of normal. Global radiation was 73% of average at Valentia (sunshine was 83.3% of average for the same period; 1969-82), and 87.5% of average at Dublin Airport (sunshine was 69.9% of average for the period 1976-82).

Strong Winds with Gale Gusts occurred on 1st/2nd, 11th/12th, on 23rd when gales were widespread, and on 31st. Summary Below normal temperature, much below normal sunshine, except in the extreme west, and below normal rainfall except in parts of the midlands.

The data contained in this Bulletin are Provisional. Some of the material in Table 1 will be published in its final form later in the Monthly Weather Report; final values of Solar Radiation at stations in Table 2 will be published in the Annual Summary of Solar Radiation.

TABLE 1

MARCH 1984

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				MEAN DAILY (HRS.)	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Carlow (Oak Park) Co. Carlow	1-10	1.8	-	3	1	9.9	3.9	6.9	-	-0.3	3	1	29	-	2	-	-1.6	3	3	-	-	1.31	-	3.1	-	-
	11-20	4.8	-	5	2	6.1	1.3	3.7	-	-1.8	15	1	6	-	0	-	-7.0	15	4	-	-	1.20	-	2.8	-	-
	21-END	62.9	-	8	5	9.3	0.7	5.0	-	-1.0	31	5	18	-	1	-	-5.8	21	10	-	-	3.82	-	3.1	-	-
	MONTH	69.5	131	16	8	8.5	1.9	5.2	-	-1.8	15	7	53	-	3	-	-7.0	15	17	-	-	2.16	-	3.0	-	22
Shannon Airport Co. Clare	1-10	1.6	-	2	0	10.6	5.8	8.2	-	1.9	3	0	39	-	3	-	-1.5	3	1	7.3	-	0.95	-	3.2	2	-
	11-20	2.6	-	3	1	7.3	2.4	4.8	-	0.1	15	0	10	-	0	-	-3.0	15	2	5.2	-	1.46	-	4.0	1	-
	21-END	30.3	-	8	4	9.4	1.0	5.2	-	-2.0	27	1	19	-	1	-	-5.9	30	8	5.8	-	4.83	-	4.1	2	-
	MONTH	34.5	56	13	5	9.1	3.0	6.1	-0.9	-2.0	27	1	69	70	4	-	-5.9	30	11	6.1	-0.9	2.49	72	3.8	5	30
Fermoy (Coolnakilla) Co. Cork	1-10	2.8	-	1	1	8.6	3.8	6.2	-	-1.6	3	1	23	-	1	-	-5.0	9	2	-	-	1.31	-	4.0	-	-
	11-20	7.5	-	6	4	5.4	0.3	2.9	-	-1.0	15	2	4	-	0	-	-4.0	15	5	-	-	0.87	-	3.6	-	-
	21-END	58.6	-	9	7	7.5	0.8	4.2	-	-1.6	24	4	11	-	0	-	-5.8	24	8	-	-	4.19	-	4.1	-	-
	MONTH	68.9	-	16	12	7.2	1.6	4.4	-	-1.6	24	7	37	-	1	-	-5.8	24	15	-	-	2.19	-	3.9	-	22
Fermoy (Moore Park) Co. Cork	1-10	1.5	-	1	1	9.8	3.4	6.6	-	-1.6	9	2	27	-	2	-	-7.8	9	4	-	-	1.11	-	1.5	-	-
	11-20	4.1	-	5	2	6.7	1.3	4.0	-	-3.5	15	1	7	-	0	-	-7.3	15	6	-	-	1.15	-	3.2	-	-
	21-END	53.7	-	8	6	9.1	0.2	4.6	-	-3.2	28	6	17	-	1	-	-9.9	24	9	-	-	3.67	-	2.4	-	-
	MONTH	59.3	76	14	9	8.5	1.6	5.1	-	-3.5	15	9	51	-	3	-	-9.9	24	19	-	-	2.03	-	2.4	-	22
Mallow Co. Cork	1-10	2.6	-	3	1	9.9	3.5	6.7	-	1.0	4	0	26	-	2	-	N/A	N/A	-	-	-	1.01	-	-	-	-
	11-20	5.5	-	5	3	5.9	1.6	3.8	-	-1.0	15	1	6	-	0	-	N/A	N/A	-	-	-	0.34	-	-	-	-
	21-END	33.4	-	8	5	9.0	-0.4	4.3	-	-2.5	29	7	16	-	2	-	N/A	N/A	-	-	-	3.07	-	-	-	-
	MONTH	41.5	50	16	9	8.3	1.5	4.9	-	-2.5	29	8	48	-	4	-	N/A	N/A	-	-	-	1.53	-	-	-	-
Roches Point Co. Cork	1-10	1.2	-	2	0	10.2	5.2	7.7	-	2.0	3	0	35	-	2	-	-0.4	3	2	7.3	-	1.47	-	4.4	2	-
	11-20	6.3	-	4	2	7.0	2.7	4.9	-	1.4	15	0	9	-	0	-	0.0	15	0	5.6	-	0.69	-	5.4	3	-
	21-END	60.1	-	8	5	8.8	3.0	5.9	-	1.7	25	0	21	-	1	-	-3.0	22	4	6.6	-	4.86	-	6.0	3	-
	MONTH	67.6	90	14	7	8.7	3.6	6.2	-1.0	1.4	15	0	65	69	3	-	-3.0	22	6	6.5	-0.9	2.42	68	5.3	8	34
Glencolumbkille Co. Donegal	1-10	24.1	-	7	5	9.4	4.4	6.9	-	-0.2	2	1	28	-	1	-	-2.0	7	3	-	-	N/A	-	2.7	-	-
	11-20	30.5	-	4	4	8.0	0.8	4.4	-	-2.0	18	3	12	-	1	-	-8.0	18	9	-	-	N/A	-	2.6	-	-
	21-END	57.2	-	6	5	8.3	1.3	4.8	-	-0.3	25	1	14	-	0	-	-5.5	25	8	-	-	N/A	-	2.9	-	-
	MONTH	111.8	-	17	14	8.5	2.2	5.4	-	-2.0	18	5	54	-	1	-	-8.0	18	20	-	-	N/A	-	2.7	-	N/A

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1984

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND										
		AMOUNT	% OF AVERAGE	RAIN DAYS		AIR							GROUND		SOIL (10cm)		MEAN DAILY (HRS.)	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)											
				WET DAYS	MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"						DATE	DAYS WITH GROUND FROST	MEAN DAILY	DIFFERENCE FROM AVERAGE							
																										MEAN DAILY	DIFFERENCE FROM AVERAGE	MEAN DAILY	DIFFERENCE FROM AVERAGE			
Glenties Co. Donegal	1-10	19.9	-	6	5	9.5	3.8	6.7	-	0.4	3	0	26	-	1	-	-0.5	7	3	-	-	1.16	-	-	-	-	-	-	-	-		
	11-20	9.0	-	4	4	7.8	-0.6	3.6	-	-5.5	18	4	10	-	0	-	-9.2	18	9	-	-	2.91	-	-	-	-	-	-	-	-		
	21-END	49.2	-	7	6	8.2	0.1	4.1	-	-2.9	28	6	12	-	0	-	-6.2	25	9	-	-	3.90	-	-	-	-	-	-	-	-		
	MONTH	78.1	73	17	15	8.5	1.1	4.8	-	-5.5	18	10	48	-	1	-	-9.2	18	21	-	-	2.70	-	-	-	-	-	-	-	-		
Malin Head Co. Donegal	1-10	12.3	-	4	3	8.6	4.8	6.7	-	0.0	2	0	26	-	0	-	-1.1	8	3	7.0	-	0.92	-	7.1	3	-	-	-	-	-		
	11-20	10.2	-	3	2	6.7	1.5	4.1	-	-2.1	17	2	7	-	0	-	-5.6	17	6	4.9	-	3.55	-	7.2	4	-	-	-	-	-	-	
	21-END	17.6	-	5	2	7.4	2.6	5.0	-	0.6	25	0	12	-	0	-	-4.1	25	6	5.6	-	4.19	-	8.3	4	-	-	-	-	-	-	
	MONTH	40.1	56	12	7	7.6	2.9	5.3	-1.1	-2.1	17	2	45	64	0	-	-5.6	17	15	5.8	-0.3	2.93	86	7.6	11	34	-	-	-	-	-	
Casement Aerodrome Co. Dublin	1-10	3.5	-	2	1	10.0	4.1	7.0	-	-0.3	3	1	29	-	2	-	-3.5	3	3	6.4	-	1.44	-	4.3	2	-	-	-	-	-	-	
	11-20	14.7	-	6	5	5.5	1.5	3.5	-	0.5	19	0	3	-	0	-	-2.6	17	5	4.4	-	0.29	-	4.1	2	-	-	-	-	-	-	
	21-END	26.2	-	5	4	9.2	0.8	5.0	-	-1.1	21	4	16	-	0	-	-6.7	21	11	5.2	-	3.72	-	5.1	3	-	-	-	-	-	-	-
	MONTH	44.4	91	13	10	8.2	2.1	5.2	-0.8	-1.1	21	5	48	66	2	-	-6.7	21	19	5.3	-	1.88	55	4.5	7	28	-	-	-	-	-	-
Dublin Airport Co. Dublin	1-10	2.4	-	2	1	10.2	4.5	7.4	-	0.8	2	0	32	-	2	-	-1.7	3	3	6.7	-	2.31	-	4.4	2	-	-	-	-	-	-	-
	11-20	15.2	-	6	5	5.5	2.1	3.8	-	0.9	19	0	3	-	0	-	-2.1	17	2	4.9	-	0.45	-	4.3	2	-	-	-	-	-	-	-
	21-END	35.6	-	6	4	8.8	2.0	5.4	-	0.0	21	0	18	-	0	-	-5.8	21	9	6.0	-	4.58	-	4.8	3	-	-	-	-	-	-	-
	MONTH	53.2	106	14	10	8.2	2.8	5.5	-0.7	0.0	21	0	53	70	2	-	-5.8	21	14	5.9	-0.3	2.52	70	4.5	7	32	-	-	-	-	-	-
Kinsealy Co. Dublin	1-10	6.9	-	2	2	10.5	4.0	7.3	-	0.5	2	0	31	-	2	-	-2.5	3	3	-	-	0.24	-	3.3	-	-	-	-	-	-	-	-
	11-20	10.2	-	7	4	5.9	2.4	4.2	-	0.5	19	0	5	-	0	-	-1.6	17	2	-	-	0.29	-	3.6	-	-	-	-	-	-	-	-
	21-END	42.0	-	5	4	9.2	0.6	4.9	-	-2.6	21	3	17	-	1	-	-5.0	22	9	-	-	4.70	-	4.2	-	-	-	-	-	-	-	-
	MONTH	59.1	126	14	10	8.5	2.3	5.4	-	-2.6	21	3	54	-	3	-	-5.0	22	14	-	-	2.55	-	3.7	-	27	-	-	-	-	-	-
Galway Co. Galway	1-10	5.0	-	4	1	10.6	5.5	8.1	-	0.7	2	0	38	-	3	-	-1.8	3	1	7.2	-	0.93	-	3.6	2	-	-	-	-	-	-	-
	11-20	6.3	-	4	3	7.5	1.5	4.5	-	-0.7	19	1	10	-	0	-	-3.9	19	3	5.8	-	2.64	-	4.4	2	-	-	-	-	-	-	-
	21-END	37.5	-	6	5	9.1	1.1	5.1	-	-0.4	27	1	18	-	0	-	-3.6	30	8	6.2	-	4.64	-	4.3	3	-	-	-	-	-	-	-
	MONTH	48.8	64	14	9	9.1	2.6	5.8	-0.8	-0.7	19	2	65	-	3	-	-3.9	19	12	6.4	-	2.80	79	4.1	7	30	-	-	-	-	-	-
Killarney (Muckross House) Co. Kerry	1-10	6.6	-	6	3	9.7	4.3	7.0	-	1.0	3	0	28	-	1	-	-2.2	3	3	-	-	0.53	-	-	-	-	-	-	-	-	-	-
	11-20	6.7	-	5	3	6.9	1.6	4.2	-	-0.8	20	1	8	-	0	-	-4.6	15	4	-	-	0.76	-	-	-	-	-	-	-	-	-	-
	21-END	59.1	-	7	6	9.5	1.5	5.5	-	-1.8	28	3	21	-	1	-	-4.5	28	8	-	-	3.51	-	-	-	-	-	-	-	-	-	-
	MONTH	72.4	54	18	12	8.7	2.4	5.6	-	-1.8	28	4	57	-	2	-	-4.6	15	15	-	-	1.66	-	-	-	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1984

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND				SOIL (10cm)			MEAN DAILY (HRS.)	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4 °C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0 °C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Cahirciveen <sup>e</sup> (Valentia Obsy.) Co. Kerry	1-10	1.4	-	2	0	10.8	-5.1	8.0	-	0.7	9	0	37	-	3	-	-0.1	9	1	7.8	-	0.86	-	3.1	2	-
	11-20	9.3	-	4	3	8.0	2.3	5.2	-	-0.7	15	1	13	-	0	-	-2.3	15	1	6.0	-	2.08	-	4.9	2	-
	21-END	40.5	-	8	6	9.9	2.4	6.1	-	-0.5	28	1	25	-	1	-	-2.3	28	6	7.0	-	4.86	-	4.3	4	-
	MONTH	51.2	45	14	9	9.6	3.2	6.4	-1.4	-0.7	15	2	75	68	4	-	-2.3	15	8	6.9	-1.0	2.67	79	4.1	8	32
Ardfert (Liscahane) Co. Kerry	1-10	6.2	-	4	3	10.0	5.3	7.6	-	1.7	3	0	33	-	2	-	-4.2	3	2	-	-	0.73	-	-	-	-
	11-20	5.7	-	4	3	7.4	1.5	4.4	-	-2.5	15	1	10	-	0	-	-6.5	15	6	-	-	1.52	-	-	-	-
	21-END	41.9	-	5	4	9.3	1.0	5.1	-	-1.2	30	4	18	-	1	-	-5.7	30	8	-	-	5.02	-	-	-	-
	MONTH	53.8	-	13	10	8.9	2.5	5.7	-	-2.5	15	5	61	-	2	-	-6.5	15	16	-	-	2.51	-	-	-	-
Lullymore Co. Kildare	1-10	4.6	-	2	2	9.7	2.7	6.2	-	-0.7	3	2	25	-	2	-	-3.0	3	4	-	-	0.89	-	3.1	-	-
	11-20	14.2	-	5	4	5.9	0.6	3.2	-	-1.0	15	2	5	-	0	-	-4.0	15	6	-	-	0.70	-	3.6	-	-
	21-END	44.9	-	6	3	8.8	-0.4	4.2	-	-4.5	22	8	14	-	0	-	-8.0	22	9	-	-	3.88	-	3.1	-	-
	MONTH	63.7	116	13	9	8.1	0.9	4.5	-	-4.5	22	12	43	-	2	-	-8.0	22	19	-	-	1.89	-	3.3	-	20
Kilkenny <sup>e</sup> Co. Kilkenny	1-10	1.2	-	2	0	10.5	4.8	7.7	-	1.4	3	0	34	-	3	-	-1.6	1	2	6.8	-	1.79	-	2.6	2	-
	11-20	4.0	-	4	3	6.3	1.5	3.9	-	0.4	17	0	6	-	0	-	-4.8	15	5	5.0	-	1.00	-	3.0	2	-
	21-END	69.3	-	8	8	9.3	0.4	4.9	-	-2.5	28	4	18	-	1	-	-8.4	24	9	5.7	-	4.25	-	2.7	2	-
	MONTH	74.5	131	14	11	8.7	2.2	5.5	-0.7	-2.5	28	4	58	73	4	-	-8.4	24	16	5.8	-0.2	2.41	72	2.8	6	27
Mooncoin (Silverspring) Co. Kilkenny	1-10	2.2	-	2	1	10.2	4.1	7.1	-	0.0	9	0	31	-	3	-	-2.2	3	2	-	-	2.38	-	-	-	-
	11-20	8.4	-	5	3	6.8	2.1	4.5	-	0.0	15	0	9	-	0	-	-2.9	17	3	-	-	0.89	-	-	-	-
	21-END	67.6	-	7	5	9.3	0.2	4.8	-	-3.0	22	5	17	-	1	-	N/A	N/A	-	-	-	3.77	-	-	-	-
	MONTH	78.2	99	14	9	8.8	2.1	5.4	-	-3.0	22	5	57	-	4	-	N/A	N/A	-	-	-	2.39	-	-	-	-
Ballinamore Co. Leitrim	1-10	14.9	-	5	3	9.9	4.1	7.0	-	0.1	3	0	30	-	2	-	-2.8	3	2	-	-	0.81	-	2.6	-	-
	11-20	10.1	-	5	3	6.8	1.1	4.0	-	-1.3	17	2	7	-	0	-	-7.0	17	8	-	-	2.39	-	2.4	-	-
	21-END	51.9	-	7	6	9.1	-0.1	4.5	-	-2.3	22	6	15	-	1	-	-7.1	22	N/A	-	-	3.50	-	2.0	-	-
	MONTH	76.9	92	17	12	8.6	1.6	5.1	-	-2.3	22	8	52	-	2	-	-7.1	22	N/A	-	-	2.27	-	2.3	-	23
Ardee (Boharnamoe) Co. Louth	1-10	9.9	-	3	2	11.0	3.0	7.0	-	0.1	2	0	30	-	4	-	-2.7	8	3	-	-	-	-	-	-	-
	11-20	16.5	-	4	3	6.5	1.0	3.8	-	-1.7	16	2	6	-	0	-	-2.6	16	3	-	-	-	-	-	-	-
	21-END	31.7	-	6	5	9.3	0.5	4.9	-	-2.9	22	5	17	-	0	-	-5.0	30	9	-	-	-	-	-	-	-
	MONTH	58.1	102	13	10	8.9	1.5	5.2	-	-2.9	22	7	54	-	4	-	-5.0	30	15	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1984

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				MEAN DAILY (HRS.)	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)		
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE
Bellinrobe (Creagh) Co. Mayo	1-10	9.2	-	4	3	10.4	4.8	7.6	-	0.6	3	0	34	-	2	-	-2.4	3	2	-	-	0.83	-	2.1	-	-
	11-20	11.5	-	3	2	7.9	0.4	4.1	-	-4.6	19	4	11	-	0	-	-10.7	19	8	-	-	2.41	-	2.8	-	-
	21-END	24.2	-	8	4	9.7	-0.1	4.8	-	-2.3	29	6	18	-	1	-	-7.2	29	10	-	-	4.35	-	2.8	-	-
	MONTH	44.9	47	15	9	9.3	1.6	5.5	-	-4.6	19	10	63	-	3	-	-10.7	19	20	-	-	2.59	-	2.6	-	19
Belmullet Co. Mayo	1-10	12.3	-	5	3	10.3	5.9	8.1	-	1.4	2	0	38	-	2	-	0.4	2	0	8.1	-	0.77	-	3.8	2	-
	11-20	19.9	-	4	3	8.2	0.4	4.3	-	-2.5	17	3	11	-	0	-	-7.5	17	5	6.1	-	4.72	-	5.2	2	-
	21-END	15.3	-	7	4	9.7	1.5	5.6	-	-1.0	25	2	22	-	1	-	-5.3	25	7	7.3	-	5.95	-	4.7	4	-
	MONTH	47.5	57	16	10	9.4	2.6	6.0	-1.0	-2.5	17	5	71	81	3	-	-7.5	17	12	7.2	+0.3	3.88	107	4.6	8	32
Claremorris Co. Mayo	1-10	7.3	-	4	2	10.2	4.7	7.5	-	0.5	2	0	33	-	2	-	-1.0	2	2	7.0	-	0.67	-	4.1	2	-
	11-20	6.8	-	4	1	6.9	-0.3	3.3	-	-3.4	19	5	6	-	0	-	-9.1	19	9	4.7	-	1.74	-	4.6	2	-
	21-END	37.4	-	7	5	9.2	-0.2	4.5	-	-2.2	27	6	15	-	1	-	-6.2	30	9	5.6	-	3.49	-	4.2	2	-
	MONTH	51.5	64	15	8	8.7	1.4	5.1	-0.9	-3.4	19	11	54	74	2	-	-9.1	19	20	5.7	-0.3	2.02	64	4.3	6	25
Glenamoy Co. Mayo	1-10	13.7	-	4	3	10.4	4.7	7.5	-	0.4	3	0	33	-	2	-	-0.4	3	2	-	-	0.51	-	2.2	-	-
	11-20	15.1	-	4	3	7.9	-0.4	3.8	-	-4.5	18	4	10	-	0	-	-7.4	17	6	-	-	4.35	-	3.0	-	-
	21-END	32.3	-	7	5	9.4	-0.1	4.6	-	-3.2	26	5	16	-	0	-	-5.4	26	9	-	-	5.00	-	2.2	-	-
	MONTH	61.1	59	15	11	9.2	1.3	5.3	-	-4.5	18	9	60	-	3	-	-7.4	17	17	-	-	3.34	-	2.5	-	23
Dunsany (Grange) Co. Meath	1-10	4.6	-	4	2	9.7	3.2	6.5	-	-0.2	3	1	25	-	2	-	-2.8	5	4	-	-	1.64	-	-	-	-
	11-20	14.9	-	7	4	5.1	0.9	3.0	-	-1.0	17	1	3	-	0	-	-5.0	17	6	-	-	0.54	-	-	-	-
	21-END	33.9	-	7	4	8.6	-0.4	4.1	-	-2.9	30	7	13	-	0	-	-7.9	30	10	-	-	4.36	-	-	-	-
	MONTH	53.4	92	18	10	7.8	1.2	4.5	-	-2.9	30	9	41	-	2	-	-7.9	30	20	-	-	2.25	-	-	-	-
Clones Co. Monaghan	1-10	9.4	-	1	1	9.7	4.3	7.0	-	0.0	2	0	29	-	2	-	-2.3	3	1	6.3	-	1.06	-	2.4	2	-
	11-20	9.4	-	4	3	6.5	0.6	3.6	-	-1.6	17	2	5	-	0	-	-5.8	17	5	4.9	-	2.17	-	3.4	1	-
	21-END	57.3	-	6	4	8.8	0.8	4.8	-	-0.9	25	3	16	-	1	-	-4.8	29	8	5.4	-	4.34	-	3.6	3	-
	MONTH	76.1	123	11	8	8.3	1.9	5.1	-0.5	-1.6	17	5	50	75	2	-	-5.8	17	14	5.5	-0.1	2.59	82	3.2	6	26
Birr Co. Offaly	1-10	6.8	-	3	2	10.5	4.6	7.6	-	0.9	2	0	33	-	3	-	-0.8	3	2	7.2	-	0.85	-	2.4	2	-
	11-20	10.7	-	4	3	6.1	1.2	3.6	-	-0.8	15	1	5	-	0	-	-5.4	15	5	4.8	-	0.79	-	3.1	2	-
	21-END	41.4	-	9	6	9.1	-0.1	4.5	-	-1.7	30	6	15	-	1	-	-6.9	22	10	5.8	-	3.74	-	3.1	2	-
	MONTH	58.9	111	16	11	8.6	1.8	5.2	-1.1	-1.7	30	7	54	68	3	-	-6.9	22	17	5.9	-0.5	1.85	54	2.9	6	24

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MARCH 1984

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND									
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				MEAN DAILY (HRS.)	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)							
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.4°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE					
																											MEAN DAILY	DIFFERENCE FROM AVERAGE	MEAN DAILY	DIFFERENCE FROM AVERAGE	
Dundrum (Knockavilla) Co. Tipperary	1-10	2.6	-	1	1	9.4	4.2	6.8	-	0.0	3	0	27	-	1	-	-3.0	3	1	-	-	-	-	-	-	-	-	-	-	-	-
	11-20	3.9	-	3	2	6.2	1.1	3.6	-	-1.2	15	1	6	-	0	-	-3.9	17	7	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	57.3	-	7	7	9.0	-0.1	4.5	-	-3.6	22	6	17	-	0	-	-7.9	22	10	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	63.8	-	11	10	8.2	1.7	5.0	-	-3.6	22	7	50	-	2	-	-7.9	22	18	-	-	-	-	-	-	-	-	-	-	-	-
Dungarvan (Carriglea) Co. Waterford	1-10	1.9	-	2	1	10.3	3.7	7.0	-	-1.8	9	1	30	-	2	-	-1.9	9	2	-	-	1.70	-	1.9	-	-	-	-	-	-	
	11-20	8.0	-	4	3	7.5	2.2	4.8	-	-0.5	15	1	11	-	0	-	-0.8	15	1	-	-	1.04	-	2.2	-	-	-	-	-	-	
	21-END	70.0	-	9	7	9.5	0.4	5.0	-	-3.6	22	4	19	-	2	-	-3.9	22	7	-	-	4.01	-	2.1	-	-	-	-	-	-	
	MONTH	79.9	87	15	11	9.1	2.0	5.6	-	-3.6	22	6	61	-	4	-	-3.9	22	10	-	-	2.31	-	2.1	-	-	-	-	19	-	
Mullinger Co. Westmeath	1-10	5.3	-	4	1	10.0	4.2	7.1	-	-0.7	2	1	30	-	2	-	-2.0	3	2	6.8	-	0.81	-	3.4	2	-	-	-	-	-	
	11-20	18.8	-	4	4	5.6	0.9	3.2	-	0.2	13	0	3	-	0	-	-2.1	15	5	4.5	-	1.10	-	4.1	2	-	-	-	-	-	
	21-END	48.9	-	6	4	8.9	0.0	4.5	-	-3.3	22	6	15	-	0	-	-5.7	22	10	5.3	-	4.61	-	3.9	3	-	-	-	-	-	
	MONTH	73.0	118	14	9	8.2	1.7	4.9	-0.7	-3.3	22	7	48	69	2	-	-5.7	22	17	5.5	-0.3	2.25	66	3.8	7	24	-	-	-	-	
J.F.K. Park Co. Wexford	1-10	0.7	-	1	0	10.0	4.5	7.2	-	1.0	3	0	31	-	2	-	-6.9	3	5	-	-	2.37	-	N/A	-	-	-	-	-	-	
	11-20	8.5	-	4	3	6.5	2.3	4.4	-	0.7	12	0	7	-	0	-	-2.8	17	10	-	-	1.47	-	N/A	-	-	-	-	-	-	
	21-END	63.8	-	7	6	9.3	1.2	5.2	-	-1.8	24	3	19	-	1	-	-7.1	22	9	-	-	4.16	-	N/A	-	-	-	-	-	-	
	MONTH	63.0	82	12	9	8.6	2.6	5.6	-	-1.8	24	3	57	-	3	-	-7.1	22	24	-	-	2.72	-	N/A	-	N/A	-	-	-	-	
Clonroche Co. Wexford	1-10	0.5	-	1	0	9.8	3.8	6.8	-	-0.4	3	1	28	-	2	-	-4.9	9	5	-	-	2.67	-	1.9	-	-	-	-	-	-	
	11-20	7.8	-	5	3	5.9	1.8	3.8	-	0.5	17	0	5	-	0	-	-3.4	17	6	-	-	1.31	-	1.6	-	-	-	-	-	-	
	21-END	54.4	-	5	4	N/A	0.3	N/A	-	-2.1	24	5	N/A	-	N/A	-	-9.0	24	11	-	-	4.09	-	2.3	-	-	-	-	-	-	
	MONTH	62.7	72	11	7	N/A	1.9	N/A	-	-2.1	24	6	N/A	-	N/A	-	-9.0	24	22	-	-	2.74	-	1.9	-	N/A	-	-	-	-	
Johnstown Castle Co. Wexford	1-10	0.6	-	1	0	9.6	4.4	7.0	-	0.6	3	0	28	-	2	-	-5.0	3	5	-	-	2.50	-	3.1	-	-	-	-	-	-	
	11-20	17.5	-	5	3	6.0	2.4	4.2	-	1.0	12	0	6	-	0	-	-3.2	17	5	-	-	1.22	-	3.4	-	-	-	-	-	-	
	21-END	39.1	-	7	6	9.4	2.1	5.7	-	-0.9	24	2	22	-	1	-	-5.3	21	9	-	-	4.15	-	4.0	-	-	-	-	-	-	
	MONTH	57.2	76	13	9	8.4	2.9	5.6	-	-0.9	24	2	56	-	2	-	-5.3	21	19	-	-	2.67	-	3.5	-	-	-	26	-	-	
Rosslare Co. Wexford	1-10	0.4	-	1	0	9.8	5.0	7.4	-	1.4	2	0	32	-	2	-	-1.8	3	1	7.0	-	2.83	-	4.1	3	-	-	-	-	-	
	11-20	7.6	-	5	3	6.3	3.5	4.9	-	1.7	12	0	7	-	0	-	1.0	12	0	5.2	-	0.88	-	6.6	4	-	-	-	-	-	
	21-END	45.3	-	7	6	9.6	3.2	6.4	-	1.8	21	0	25	-	1	-	-5.6	21	6	6.8	-	4.69	-	5.3	2	-	-	-	-	-	
	MONTH	53.3	85	13	9	8.6	3.9	6.2	-0.6	1.4	2	0	64	74	3	-	-5.6	21	7	6.4	-0.7	2.86	73	5.4	9	38	-	-	-	-	

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL SOLAR RADIATION

STATION	PERIOD	AMOUNT
		Joule/cm <sup>2</sup>
Malin Head Co. Donegal	1-10	5368
	11-20	8265
	21-end	10769
	Month	24402
Dublin Airport Co. Dublin	1-10	6818
	11-20	4082
	21-end	11023
	Month	21923
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	5042
	11-20	5080
	21-end	9461
	Month	19582
Kilkenny Co. Kilkenny	1-10	6149
	11-20	5489
	21-end	10880
	Month	22518
Belmullet Co. Mayo	1-10	5428
	11-20	9699
	21-end	15656
	Month	30783
Clones Co. Monaghan	1-10	5511
	11-20	7401
	21-end	11221
	Month	24133
Birr Co. Offaly	1-10	5396
	11-20	5598
	21-end	10190
	Month	21184

Notes on the tables in January issue

TABLE 3 POTENTIAL EVAPOTRANSPIRATION (P.E.) AND SOIL MOISTURE

STATION	PERIOD	P.E. (mm)		SOIL MOISTURE (mm)	
		Amount	Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-10	7.7	6	6	-
	11-20	6.0	1	7	-
	21-end	4.5	-	0	58
	Month	18.2	-	-	-
Kinsealy Co. Dublin	1-9	0.5	-	0	2
	10-20	12.0	-	0	2
	21-end	24.0	-	0	18
	Month	36.5	-	-	-
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	7.0	6	6	-
	11-18	9.0	4	10	-
	19-end	2.9	-	0	43
	Month	18.9	-	-	-
Ballinamore Co. Leitrim	1-9	3.7	-	0	7
	10-20	2.5	-	0	10
	21-end	15.2	-	0	39
	Month	21.4	-	-	-
Glenamoy Co. Mayo	1-9	6.2	-	0	2
	10-20	5.7	-	0	12
	21-end	9.3	-	0	26
	Month	21.2	-	-	-
Johnstown Castle Co. Wexford	29-10	10.4	10	10	-
	11-20	11.5	-	4	6
	21-end	11.1	-	0	28
	Month	33.0	-	-	-

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TABLE 4 SOIL CLIMATE (MULLINGAR)

BARE SOIL TYPE	PERIOD	MEAN (at 100mm)			TEMPERATURE GRADIENT (to 200mm)	SOIL WATER POTENTIAL (hPa) (at depths)	
		Max.	Daily	Min.		75mm	200mm
		Peat	1-10	6.9	6.4	5.5	0.0
	11-20	5.6	4.7	4.2	+1.0	70	68
	21-end	6.1	5.1	4.1	+0.4	71	68
Mineral	1-10	8.6	7.0	5.4	0.0	124	80
	11-20	6.7	5.0	3.9	+0.7	107	67
	21-end	7.2	5.1	3.2	+0.4	115	66

## special topic

### CLIMATE AND HORTICULTURE

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The good grower knows his climate because growth and development of his crops are dependent to a very large extent on climatic factors. These factors and their effects on plant growth are extremely complex because the plant is never subjected to just a single factor at any given time but to a continuous interaction with innumerable combinations of factors. While the grower may not be able to change the climate he is able to adjust his cropping practices to fit the climate.

At best the application of the grower's knowledge of his climate is limited when that knowledge is based on general climatic patterns. Of much more relevance to his needs is a knowledge of the local climate which represents small scale local departures from the general climatic pattern. Several factors affect this local climate - altitude, aspect, local topography and proximity to the sea to mention but a few.

Height above sea level may have the effect of shortening the growing season by as much as six to ten days per 30m in altitude while temperature may be reduced by 1°C for every 150m rise in altitude. Sunshine is reduced with increase in altitude while rainfall and wind are increased. Regarding aspect the main effect of a south, south-east or south-west facing field is to increase the warmth of the sunshine falling on the soil and on the crops. The growing season on a south facing slope may be 20 days longer than on a north facing one. Favourable aspect tends to create earliness but this advantage may be negatived if the slope is exposed to strong winds. The topography or shape of the surrounding land can have a major effect on local weather, an effect which may not be obvious from general climatic data. As already mentioned mean temperatures decrease with height but on cold, cloudless and windless nights the lowest temperatures are found in lowlying areas, not on hillsides. Therefore this factor must be considered when siting any crop which is susceptible to frost. Proximity to the coast produces a rapid change of climate but not all changes are beneficial to crop production. The major advantage of closeness to the sea lies in increased sunshine and decreased risk of frost occurrence. The major disadvantage is the increased liability to strong winds and with them the distinct possibility of damage due to salt sprays.

When we think of climate and horticulture we tend to think primarily of temperature, light and moisture. This is justifiably so as these are the primary requirements for crop growth. Indeed plants may be classified according to their response to any one of these climatic factors. There are many examples of where these factors interact with each other. For instance the influence of daylength on plant development is often modified, and sometimes even inhibited, by other environmental factors, particularly temperature. Many plants do not respond to light duration unless their thermal requirements are met, as is seen in the case of biennial plants which fail to flower until they have passed through a period of low temperature.

Through a better understanding of the effects of climate on crop production the grower becomes more aware of the value of keeping accurate weather records. The result is that the data in this Bulletin become much more meaningful.