

AGMETBL (02)460

JANUARY 1986

## AGROMETEOROLOGICAL BULLETIN

### The Weather of January

The weather of January was unsettled but relatively mild at times in a west to southwest airflow. Nevertheless, developing depression centres passed by the south of the country into Europe during the first week with an attendant tendency for easterly winds to set in over Ireland. Such depression centres were off the south coast on 2nd, 5th, and 7th/8th. Considerable rain occurred on most days during this spell.

Subsequently, the depressions followed a northerly track, passing out of the North Atlantic between Iceland and Scotland. A strong westerly airflow mostly prevailed over Ireland with frequent rainbelts followed by showery periods. On the 9th, however, a strengthening southwest airflow backed southerly and increased to storm force on the 10th as the parent depression deepened rapidly some 500km off the northwest of Ireland. Veering westerly the airflow remained strong over the following days as a succeeding centre also intensified. Post-depression northwest winds dominated on 14th/15th but these had slackened by the 16th.

Further frontal rainbelts in a strong westerly airflow affected Ireland until the 22nd. This spell terminated in a strong northwest to north airflow on 23rd/26th which was accompanied by blustery showers of hail especially in the north and west. A slacker southwest airflow prevailed on the 27th. This was succeeded on the 28th by a trough from the west which later was absorbed southwards by a developing centre over Europe. The remainder of the month was influenced by this latter trough which induced a strong and cold easterly airflow over the country with the attendant rainbelts now moving westwards over Ireland.

#### Precipitation:

Monthly precipitation amounts were generally well above normal, especially in northern areas, but in the extreme south amounts were below normal. Values varied from 172% of normal at Malin Head to 71% at Cork Airport. Wettest days were the 1st, 4th, 7th, 9th/11th, 18th-20th, 22nd, 28th in the west and 30th in the east. Hail occurred frequently, especially at stations in the north and west. Snow or sleet was also reported but it was generally very slight.

#### Temperature:

Monthly mean air temperature was below normal except in parts of the southwest. Values varied from 0.5C° below normal at Belmullet to 0.2C° above at Shannon Airport and Kilkenny. Five-day mean soil temperatures (100mm) gradually recovered from being about 2.0C° below average during the first five days of the month to 1.0-1.5C° above in the middle ten-days and dropped back again to 2.0C° below during the last five days. Air frost occurred on most nights during the first week, on the 16th, and during the last week. Severe air frost was widespread on the 29th when ground temperatures dropped to below -11.0C°.

#### Sunshine and Radiation:

Mean duration of bright sunshine varied from being well below normal in northern and western areas to well above in the extreme southeast and south. The duration varied from as little as 48% of normal at Malin Head to 120% at Rosslare. Global radiation was 77% of average at Birr but 106% at Kilkenny.

#### Wind:

Gales were frequent during the month particularly in coastal areas. Strongest winds occurred in the period 9th-15th and 18th-23rd. Strong gales with storm force gusts occurred in western and northern areas on the 10th, and 13th/14th.

#### Summary:

Rather windy, cold, wet and dull over much of the country. Bright and dry in southern areas.

TABLE 1

JANUARY 1986

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% 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	40.7	-	9	8	7.0	-0.3	3.4	-	-4.0	3	6	10	-	1	-	-7.5	5	9	-	-	15.4	-	4.8	-	-
	11-20	15.3	-	7	6	9.1	3.0	6.0	-	-2.2	16	2	22	-	1	-	-5.2	16	3	-	-	19.7	-	6.8	-	-
	21-END	15.2	-	7	7	6.0	-0.2	2.9	-	-4.6	29	4	5	-	0	-	-9.8	29	8	-	-	26.7	-	5.2	-	-
	MONTH	71.2	88	23	21	7.3	0.8	4.1	-	-4.6	29	12	38	-	2	-	-9.8	29	20	-	-	61.8	-	5.6	-	3
Shannon Airport Co. Clare	1-10	55.6	-	9	7	7.6	1.5	4.6	-	-0.9	3	1	13	-	1	-	-4.6	3	9	3.5	-	8.2	-	4.3	3	-
	11-20	44.1	-	9	8	9.9	4.2	7.0	-	-0.8	16	1	29	-	1	-	-3.4	16	2	5.5	-	14.3	-	6.6	7	-
	21-END	38.2	-	8	7	6.9	1.8	4.4	-	-1.0	29	3	11	-	0	-	-6.0	29	6	3.7	-	18.2	-	4.7	5	-
	MONTH	137.9	148	26	22	8.1	2.5	5.3	+0.2	-1.0	29	5	53	71	2	-	-6.0	29	17	4.2	-0.5	40.7	77	5.2	15	6
Cork Airport Co. Cork	1-10	62.6	-	8	7	7.6	1.8	4.7	-	-0.9	3	4	14	-	0	-	-6.5	6	8	4.1	-	18.3	-	6.6	5	-
	11-20	18.3	-	8	5	9.2	3.7	6.4	-	0.8	16	0	24	-	1	-	-3.0	16	2	5.3	-	21.3	-	8.8	8	-
	21-END	24.8	-	8	7	6.4	0.8	3.6	-	-2.5	29	3	9	-	0	-	-5.2	29	8	3.4	-	22.4	-	6.9	7	-
	MONTH	105.7	71	24	19	7.7	2.1	4.9	-0.1	-2.5	29	7	47	70	1	-	-6.5	6	18	4.2	-0.1	62.0	108	7.4	20	7
Fermoy (Coolnackilla) Co. Cork	1-10	64.8	-	9	8	7.2	0.8	4.0	-	-1.7	7	6	11	-	0	-	-5.7	6	8	-	-	17.1	-	5.2	-	-
	11-20	22.0	-	10	7	8.3	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	N/A	N/A	N/A	-	-	18.0	-	7.2	-	-
	21-END	42.5	-	9	7	5.2	-0.4	2.4	-	-3.0	29	6	5	-	0	-	-5.4	29	8	-	-	18.4	-	5.5	-	-
	MONTH	129.3	-	28	22	6.9	N/A	N/A	-	N/A	N/A	N/A	-	N/A	-	N/A	-	N/A	N/A	-	-	53.5	-	6.0	-	N/A
Fermoy (Moore Park) Co. Cork	1-10	55.3	-	8	8	8.6	-0.0	4.3	-	-3.5	6	6	15	-	1	-	-7.6	6	8	-	-	13.9	-	3.2	-	-
	11-20	15.5	-	8	5	10.1	1.8	6.0	-	-2.2	19	3	23	-	2	-	-5.3	16	6	-	-	12.7	-	5.0	-	-
	21-END	28.1	-	10	9	6.5	-0.1	3.2	-	-4.4	29	5	8	-	0	-	-8.3	29	8	-	-	18.8	-	3.9	-	-
	MONTH	98.9	87	26	22	8.3	0.5	4.4	-	-4.4	29	14	46	-	3	-	-8.3	29	22	-	-	45.4	-	4.0	-	0
Roches Point Co. Cork	1-10	62.1	-	7	6	8.6	3.3	6.0	-	0.8	6	0	21	-	1	-	-5.4	4	7	5.3	-	19.6	-	6.6	6	-
	11-20	10.6	-	7	2	9.9	4.9	7.4	-	1.9	16	0	31	-	1	-	-2.0	16	2	6.3	-	24.3	-	9.2	8	-
	21-END	17.1	-	8	6	7.4	2.3	4.8	-	-0.3	29	1	13	-	0	-	-3.7	29	6	4.8	-	27.7	-	7.4	6	-
	MONTH	89.8	88	22	14	8.6	3.5	6.0	-0.2	-0.3	29	1	65	75	2	-	-5.4	4	15	5.4	-0.5	71.6	115	7.7	20	10
Glencolumbkille Co. Donegal	1-10	120.1	-	10	9	6.8	2.2	4.5	-	0.0	3	0	11	-	0	-	-7.4	3	9	-	-	N/A	-	5.8	-	-
	11-20	74.1	-	10	10	8.9	3.8	6.4	-	1.0	16	0	22	-	0	-	-5.5	16	5	-	-	N/A	-	7.3	-	-
	21-END	39.3	-	11	7	6.4	1.6	4.0	-	-1.5	29	2	8	-	0	-	-7.0	29	11	-	-	N/A	-	5.1	-	-
	MONTH	233.5	-	31	26	7.4	2.5	4.9	-	-1.5	29	2	41	-	1	-	-7.4	3	25	-	-	N/A	-	6.1	-	N/A

NOTES ON THE TABLES IN JANUARY ISSUE



TABLE 1 (CONTINUED)

JANUARY 1986

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND				
		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)		TOTAL NO. OF HOURS	% 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 (Valentia Obsy.) Co. Kerry	1-10	79.6	-	10	9	9.3	3.7	6.5	-	0.7	1	0	26	-	1	-	-2.3	4	6	5.5	-	13.7	-	6.0	7	-
	11-20	32.4	-	9	7	10.6	5.9	8.2	-	1.5	16	0	39	-	2	-	-0.7	16	1	7.2	-	9.6	-	8.4	8	-
	21-END	49.2	-	9	8	8.0	3.2	5.6	-	0.1	29	0	19	-	1	-	-1.4	29	3	5.3	-	12.2	-	7.5	9	-
	MONTH	161.2	100	28	24	9.2	4.2	6.7	+0.1	0.1	29	0	84	82	4	-	-2.3	4	10	5.9	+0.0	35.5	73	7.3	24	13
Ardfert (Liscahane) Co. Kerry	1-10	41.5	-	8	7	8.7	1.4	5.0	-	-2.7	3	3	18	-	1	-	-7.4	3	8	-	-	7.3	-	-	-	-
	11-20	41.4	-	10	8	10.3	4.6	7.4	-	-0.1	16	1	32	-	2	-	-3.3	16	2	-	-	11.6	-	-	-	-
	21-END	57.2	-	9	9	7.2	1.7	4.4	-	-3.2	30	2	13	-	0	-	-9.0	30	4	-	-	12.9	-	-	-	-
	MONTH	140.1	-	27	24	8.7	2.5	5.6	-	-3.2	30	6	63	-	3	-	-9.0	30	14	-	-	31.8	-	-	-	-
Lullymore Co. Kildare	1-10	37.8	-	8	8	6.1	-1.0	2.6	-	-3.0	6	8	6	-	0	-	-7.6	5	8	-	-	9.6	-	4.5	-	-
	11-20	33.1	-	8	7	8.3	2.0	5.2	-	-2.3	16	2	16	-	1	-	-7.0	16	6	-	-	16.5	-	6.7	-	-
	21-END	27.3	-	6	6	5.5	-0.9	2.3	-	-5.8	29	8	4	-	0	-	-12.4	29	9	-	-	27.4	-	5.2	-	-
	MONTH	98.2	123	22	21	6.6	-0.0	3.3	-	-5.8	29	18	26	-	1	-	-12.4	29	23	-	-	53.5	-	5.5	-	0
Kilkenny Co. Kilkenny	1-10	46.2	-	7	7	7.3	-0.5	3.4	-	-3.0	4	7	10	-	1	-	-8.9	4	9	2.6	-	13.5	-	3.6	4	-
	11-20	20.4	-	8	8	9.4	3.7	6.5	-	-2.4	16	1	26	-	1	-	-6.8	16	2	4.6	-	19.2	-	6.1	7	-
	21-END	20.6	-	9	6	6.3	0.5	3.4	-	-5.0	29	4	8	-	0	-	-11.3	29	9	3.2	-	26.0	-	4.4	5	-
	MONTH	87.2	99	24	21	7.6	1.2	4.4	+0.2	-5.0	29	12	44	68	2	-	-11.3	29	20	3.5	-0.4	58.7	106	4.7	16	5
Mooncoin (Silverspring) Co. Kilkenny	1-10	66.1	-	9	6	8.3	-0.4	3.9	-	-4.2	4	6	13	-	1	-	-8.7	5	9	-	-	13.1	-	-	-	-
	11-20	8.8	-	7	2	9.8	2.8	6.3	-	-1.5	16	2	24	-	2	-	-6.4	16	4	-	-	24.9	-	-	-	-
	21-END	17.6	-	8	7	6.8	-0.6	3.1	-	-3.9	28	6	8	-	0	-	-8.9	28	10	-	-	28.1	-	-	-	-
	MONTH	92.5	83	24	15	8.2	0.6	4.4	-	-4.2	4	14	45	-	3	-	-8.9	28	23	-	-	66.1	-	-	-	-
Ballinamore Co. Leitrim	1-10	11.1	-	4	3	6.2	-0.5	2.8	-	-4.0	4	7	8	-	1	-	-9.7	4	9	-	-	8.4	-	2.9	-	-
	11-20	54.1	-	8	8	8.5	1.4	5.0	-	-2.6	15	3	15	-	0	-	-5.9	16	4	-	-	11.9	-	5.2	-	-
	21-END	23.4	-	10	6	5.4	-0.7	2.4	-	-4.9	29	5	4	-	0	-	-10.2	29	9	-	-	19.7	-	3.5	-	-
	MONTH	88.6	75	22	17	6.7	0.0	3.3	-	-4.9	29	15	26	-	1	-	-10.2	29	22	-	-	40.0	-	3.9	-	0
Ardee (Bohernamoe) Co. Louth	1-10	52.2	-	10	8	6.5	-0.9	2.8	-	-4.2	4	8	8	-	0	-	-9.9	4	8	-	-	-	-	-	-	-
	11-20	36.0	-	10	8	8.6	2.3	5.5	-	-1.5	16	1	17	-	1	-	-6.1	16	2	-	-	-	-	-	-	-
	21-END	16.0	-	8	6	5.9	-0.7	2.6	-	-4.9	29	7	5	-	0	-	-8.9	29	9	-	-	-	-	-	-	-
	MONTH	104.2	120	28	22	6.9	0.2	3.6	-	-4.9	29	16	29	-	1	-	-9.9	4	19	-	-	-	-	-	-	-

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TABLE 1 (CONTINUED)

JANUARY 1986

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		AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms <sup>-1</sup> )	DAYS WITH GALE GUSTS			
						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
Ballinrobe (Creagh) Co. Mayo	1-10	79.6	-	9	8	7.3	0.8	4.0	-	-1.7	1	4	12	-	1	-	-9.0	1	9	-	-	10.9	-	4.5	-	-
	11-20	81.6	-	10	9	9.6	2.9	6.2	-	-0.4	16	1	23	-	1	-	-5.9	16	3	-	-	11.3	-	5.6	-	-
	21-END	50.9	-	10	8	6.8	0.5	3.7	-	-4.7	29	3	10	-	0	-	-10.4	29	7	-	-	19.6	-	3.7	-	-
	MONTH	212.1	149	29	25	7.8	1.4	4.6	-	-4.7	29	8	45	-	1	-	-10.4	29	19	-	-	41.8	-	4.6	-	7
Belmullet Co. Mayo	1-10	37.5	-	9	8	7.6	1.7	4.7	-	-1.8	3	3	14	-	1	-	-6.1	3	6	4.7	-	11.2	-	6.3	5	-
	11-20	48.3	-	10	9	9.4	3.9	6.7	-	0.5	16	0	25	-	1	-	-4.5	16	1	6.0	-	8.1	-	9.5	8	-
	21-END	37.1	-	10	9	6.7	1.8	4.3	-	-1.9	29	1	10	-	0	-	-6.0	29	5	4.7	-	15.5	-	7.7	7	-
	MONTH	122.9	103	29	26	7.9	2.5	5.2	-0.5	-1.9	29	4	49	65	1	-	-6.1	3	12	5.1	+0.1	34.8	72	7.8	20	12
Claremorris Co. Mayo	1-10	52.3	-	9	9	6.1	0.3	3.2	-	-2.9	6	6	9	-	0	-	-8.0	6	8	2.7	-	11.0	-	5.4	4	-
	11-20	54.8	-	9	9	8.6	2.7	5.6	-	-1.5	16	1	18	-	0	-	-5.3	16	2	4.7	-	7.8	-	7.6	7	-
	21-END	38.4	-	9	8	5.4	-0.1	2.6	-	-7.1	29	6	5	-	0	-	-11.5	29	8	3.0	-	19.6	-	5.4	4	-
	MONTH	145.5	125	27	26	6.7	0.9	3.8	-0.2	-7.1	29	13	32	58	1	-	-11.5	29	18	3.4	-0.4	38.4	77	6.1	15	2
Glenamoy Co. Mayo	1-10	56.4	-	10	9	7.6	0.6	4.1	-	-1.9	6	5	11	-	1	-	-5.4	6	9	-	-	9.5	-	5.3	-	-
	11-20	54.0	-	10	9	9.2	3.5	6.3	-	-0.9	16	1	23	-	0	-	-2.9	16	1	-	-	7.4	-	6.2	-	-
	21-END	42.7	-	9	9	6.6	0.9	3.8	-	-3.4	29	3	9	-	0	-	-7.6	29	6	-	-	13.8	-	4.2	-	-
	MONTH	153.1	101	29	27	7.7	1.7	4.7	-	-3.4	29	9	43	-	1	-	-7.6	29	16	-	-	30.7	-	5.3	-	1
Dunsany (Grange) Co. Meath	1-10	43.2	-	10	8	6.1	-0.7	2.7	-	-3.0	4	6	7	-	0	-	-8.2	4	9	-	-	11.2	-	-	-	-
	11-20	29.4	-	7	6	8.0	2.2	5.1	-	-2.6	16	2	15	-	0	-	-6.2	16	2	-	-	15.0	-	-	-	-
	21-END	22.0	-	8	6	5.7	-0.8	2.5	-	-5.9	29	6	5	-	0	-	-10.0	29	7	-	-	N/A	-	-	-	-
	MONTH	94.6	118	25	20	6.6	0.2	3.4	-	-5.9	29	14	26	-	1	-	-10.0	29	18	-	-	N/A	-	-	-	-
Clones Co. Monaghan	1-10	29.5	-	8	6	5.8	-0.1	2.9	-	-2.9	4	6	6	-	0	-	-10.6	4	8	2.8	-	8.9	-	5.2	6	-
	11-20	53.7	-	10	9	7.7	2.4	5.0	-	-1.2	16	1	14	-	0	-	-5.3	16	2	4.4	-	7.3	-	6.9	7	-
	21-END	24.3	-	9	5	5.1	0.0	2.6	-	-4.3	29	4	4	-	0	-	-10.4	29	9	2.9	-	22.3	-	5.4	6	-
	MONTH	107.5	122	27	20	6.2	0.8	3.5	-0.3	-4.3	29	11	24	49	1	-	-10.6	4	19	3.4	-0.1	38.5	80	5.8	19	2
Birr Co. Offaly	1-10	32.0	-	9	6	7.1	0.2	3.7	-	-2.6	3	5	11	-	1	-	-9.1	3	9	2.7	-	10.2	-	3.7	3	-
	11-20	26.7	-	9	7	9.3	3.3	6.3	-	-1.9	16	1	23	-	1	-	-6.6	16	2	4.9	-	10.5	-	5.3	2	-
	21-END	21.6	-	10	7	5.9	0.5	3.2	-	-4.9	29	5	7	-	0	-	-11.1	29	8	3.3	-	21.3	-	3.8	1	-
	MONTH	80.3	106	28	20	7.4	1.3	4.4	-0.0	-4.9	29	11	41	65	2	-	-11.1	29	19	3.6	-0.4	42.0	77	4.3	6	2



TABLE 2 GLOBAL RADIATION

STATION	PERIOD	AMOUNT MJ/m <sup>2</sup>
Malin Head Co. Donegal	1-10	10.69
	11-20	12.26
	21-end	19.82
	Month	42.77
Dublin Airport Co. Dublin	1-10	15.80
	11-20	24.77
	21-end	33.31
	Month	73.88
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	20.24
	11-20	20.10
	21-end	28.44
	Month	68.96
Kilkenny Co. Kilkenny	1-10	17.02
	11-20	27.05
	21-end	40.04
	Month	84.11
Belmullet Co. Mayo	1-10	16.21
	11-20	16.69
	21-end	25.84
	Month	58.74
Clones Co. Monaghan	1-10	11.07
	11-20	14.83
	21-end	28.11
	Month	54.01
Birr Co. Offaly	1-10	15.38
	11-20	18.60
	21-end	28.15
	Month	62.13

Notes on the tables in January issue

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

STATION	PERIOD	SOIL MOISTURE (mm)			
		P.E. (mm) Amount	Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-10	-3.2	-	0	44
	11-20	1.6	-	0	14
	21-end	-0.4	-	0	16
	Month	-2.0	-	-	-
Kinsealy Co. Dublin	1- <del>11</del>	3.2	-	0	60
	<del>12-21</del>	7.2	-	0	18
	<del>22</del> -end	2.5	-	0	12
	Month	12.9	-	-	-
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	-2.8	-	0	80
	11- <del>19</del>	-1.2	-	0	22
	<del>20</del> -end	-6.5	-	0	68
	Month	-10.5	-	-	-
Ballinamore Co. Leitrim	<del>3</del> -10	2.7	-	0	36
	11- <del>17</del>	4.7	-	0	32
	21-end	-2.7	-	0	26
	Month	4.7	-	-	-
Glenamoy Co. Mayo	1-10	2.6	-	0	54
	11-20	7.3	-	0	47
	21-end	7.0	-	0	36
	Month	16.9	-	-	-
Johnstown Castle Co. Wexford	1-10	9.2	-	0	55
	11-20	7.1	-	0	9
	21-end	-3.9	-	0	28
	Month	12.4	-	-	-

TABLE 4 SOIL CLIMATE (MULLINGAR)

BARE SOIL TYPE	PERIOD	Mean Temperature (°C at 100mm)			TEMPERATURE GRADIENT (to 200mm)	SOIL WATER POTENTIAL (hPa) (at depths)	
		Max.	Daily	Min.		75mm	200mm
		Peat	1-10	2.9	2.1	1.1	+0.4
	11-20	5.4	4.3	3.0	+0.1	47	50
	21-end	4.0	2.6	1.9	+0.9	38	43
Mineral	1-10	3.1	2.2	1.0	+0.4	36	40
	11-20	5.7	4.3	2.8	+0.2	35	36
	21-end	4.1	2.6	1.4	+0.5	41	36

AGROMETEOROLOGICAL BULLETIN - NOTES ON TABLES

1. The term rainfall includes all forms of precipitation (snow, hail, dew) measured as equivalent rain.
2. "Rain days" and "wet days" are days during which the total rainfall is not less than 0.2mm and 1.0mm respectively.
3. 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).
4. Degree day totals are calculated using the method set out in an article by I.F.C. Mc Vicker in the Journal of Heating and Ventilating Engineers (Vol. 14 No. 18, Nov-Dec 1946).
5. Monthly averages of degree days at stations marked "e" refer to the 25-year period 1958-1982 except at Casement Aerodrome (1964-1982) and Cork Airport (1962-1982). Percentages are not calculated for degree day totals less than 10.
6. Days with air frost are those during which the minimum air temperature was below 0.0°C.
7. "Ground" temperatures refer to temperatures measured with a thermometer placed horizontally on pegs just above the tips of short grass.
8. Days with ground frost are those during which the minimum "ground" temperature was below 0.0°C.
9. The mean daily soil temperature (at 10cm depth under a bare soil surface) over a period is taken as the average of the mean of four daily readings (at 0300, 0900, 1500 and 2100 GMT) over the period.
10. Mean daily wind speed over a period ( $\text{ms}^{-1}$ ) is taken as the average of hourly values during the period at stations marked "e". Days with gale-gusts are those during which the wind speed exceeded  $17.4 \text{ ms}^{-1}$  at any time during the day. At other stations, mean daily wind speed is computed from once-daily readings of run-of-the-wind.
11. All wind speeds refer to the wind at an effective height of 10 metres above the ground. Where measurements are made at other heights, the wind speed readings are corrected to a height of 10 metres.
12. Deviations of monthly values of rainfall, soil temperature and bright sunshine from long-term averages are shown in Table 1 in the case of stations for which those averages are known. Averages of air temperature, bright sunshine and rainfall refer to the period 1951-1980. Averages of soil temperature refer to the period 1958-1982.
13. Potential Evapotranspiration (P.E.) values given in Table 1 are calculated from 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 Table 1 by zero. P.E. values given in Table 3 are those measured by means of soil-filled tanks sunk into the ground with their upper grass-covered ends at surface level.
14. Soil moisture deficits and surpluses (in Table 3) 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 run-off and are not, therefore, carried forward from one period to the next. Soil moisture deficits are, however, 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; dates of the end/beginning of such adjusted periods are encircled.
15. In cases where elements are not normally measured or where long-term averages are not available, a dash (-) is inserted in the appropriate space in the tables. If, in a particular month, some data which are normally given are not included in the Bulletin, this omission will be indicated by the letters N/A in the appropriate space in the tables.
16. Data on the soil climate of Mullingar is included in Table 4. Temperature (°C) and soil water potential (hPa) are measured daily in peat and mineral bare soil patches to depths of up to 200mm. The mean daily temperature is derived from the average of the mean of four daily readings (0300, 0900, 1500, and 2100 GMT) taken at 100mm depth. The temperature gradient is given in °C/100mm, positive values increasing with depth.
18. Global Radiation is given in  $\text{MJ/m}^2$  correct to two decimal places (the value in  $\text{J/cm}^2$  can be recovered by multiplying by 100).