The Weather of November 1986

METEOROLOGICAL SERVICE

NOVEMBER 1986

AGROMETEOROLOGICAL BULLETIN

The Weather of November

High pressure from 1st to 4th was replaced by frontal troughs in a southwesterly airflow from 5th to 10th. A ridge followed on 11th. A deepening centre of low pressure off the southwest of Ireland induced a strong southwesterly airflow over the country on 12th and this was followed by further weak troughs on 13th and 14th.

With continuing low pressure centred to the south of Ireland, a strong west to southwest airflow occurred from 15th to 17th. A broad warm sector on 18th was succeeded by a ridge on 19th and a further trough on 20th. As a rapidly deepening depression moved towards the north of Scotland further strong southwest winds developed on 21st and 22nd. Northwest winds with showers occurred on 23rd.

High pressure became dominant over Europe from 23rd and a mild but fairly strong southwest airflow with frontal troughs was established over the country. A ridge extending from the high over Ireland from 28th to 30th, gave improved conditions, although a trough was approaching the country at the end of the period.

Precipitation:

Rainfall amounts were above normal everywhere and varied from 195% of normal at Ballinrobe (Creagh) to 99% of normal at Ardee (Bohernamoe). Wettest days were 7th, 16th-18th, 22nd and 25th.

Temperature:

Mean air temperature was generally above normal mainly due to high maximum values. It varied from 0.8C° above at a number of stations to 0.2C° below at Belmullet. Soil temperatures (100mm) were below normal at the beginning of the month and for a spell after the middle, otherwise they were above normal.

Sunshine and Radiation:

Sunshine amounts were below normal in the northwest, west and southwest but above normal everywhere else especially in the east. Sunshine hours varied from 127% of normal at Clones and Dublin Airport to 75% at Belmullet. Global radiation was 105% of average at Dublin Airport to 96% at Valentia Observatory.

Wind:

Very strong winds with gales on a number of days occurred throughout the month. They were especially widespread from 7th-10th, 12th/13th, 15th-18th and 21st-25th. The 9th and 21st/22nd were particlarly noteworthy.

Summary:

Wet and very windy. Generally mild and dull in west but bright in eastern areas.

The data contained in this Bulletin are provisional. Some of the material in Table 1 will be published in its final form in the Monthly Weather Report; final values of Global Radiation at stations in Table 2 will be published in the annual Solar Radiation Observations.

TABLE 1

NOVEMBER 1986

STATION	PERIOD	RAINFALL (mm) AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	TEMPERATURE (°C) AIR 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	GROUND LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST	SOIL (10cm) MEAN DAILY	DIFFERENCE FROM AVERAGE	BRIGHT SUNSHINE TOTAL NO. OF HOURS	% OF AVERAGE	WIND MEAN SPEED (ms^{-1})	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)
Carlow (Oak Park) Co. Carlow	1-10	30.9	-	7	5	11.7	2.5	7.1	-	-2.0	2	1	32	-	4	-	-5.0	2	4	-	-	34.5	-	4.9	-	-
	11-20	46.6	-	8	8	10.1	3.4	6.8	-	1.4	17	0	28	-	2	-	-1.5	17	5	-	-	24.7	-	4.7	-	-
	21-END	21.4	-	7	5	11.0	4.7	7.8	-	0.0	21	0	38	-	5	-	-1.3	21	1	-	-	10.5	-	6.3	-	-
	MONTH	98.9	134	22	18	10.9	3.5	7.2	-	-2.0	2	1	98	-	12	-	-5.0	2	10	-	-	69.7	-	5.3	-	6
Shannon Airport e Co. Clare	1-10	28.0	-	7	6	12.3	5.3	8.8	-	1.2	2	0	46	-	7	-	-3.2	2	4	8.3	-	25.0	-	5.5	4	-
	11-20	49.4	-	8	8	10.8	4.8	7.8	-	3.0	20	0	35	-	3	-	-1.9	15	2	6.9	-	22.0	-	5.5	6	-
	21-END	31.6	-	6	6	11.0	5.7	8.4	-	0.0	21	0	41	-	3	-	-5.2	21	1	7.2	-	4.3	-	7.0	6	-
	MONTH	109.0	111	21	20	11.4	5.3	8.3	+0.8	0.0	21	0	121	101	13	65	-5.2	21	7	7.5	+0.1	51.3	88	6.0	16	18
Cork Airport e Co. Cork	1-10	44.2	-	7	6	11.3	4.9	8.1	-	1.7	2	0	39	-	4	-	-2.4	2	3	8.2	-	30.3	-	8.1	6	-
	11-20	75.3	-	7	7	10.5	4.0	7.2	-	2.3	17	0	30	-	2	-	-1.4	12	4	6.9	-	24.0	-	7.4	7	-
	21-END	28.4	-	8	5	10.1	5.1	7.6	-	0.8	21	0	34	-	2	-	-1.2	21	1	7.2	-	9.5	-	8.2	7	-
	MONTH	147.9	129	22	18	10.6	4.7	7.7	+0.4	0.8	21	0	104	96	7	-	-2.4	2	8	7.4	+0.4	63.8	99	7.9	20	13
Fermoy (Coolnakilla) Co. Cork	1-10	46.5	-	9	6	10.5	3.9	7.2	-	1.2	8	0	31	-	2	-	-1.8	2	2	-	-	26.3	-	5.0	-	-
	11-20	65.3	-	9	7	9.3	3.6	6.4	-	1.5	17	0	23	-	1	-	-0.9	20	3	-	-	24.1	-	5.1	-	-
	21-END	26.6	-	9	5	9.8	4.7	7.2	-	1.0	21	0	32	-	2	-	-1.0	21	2	-	-	N/A	-	5.9	-	-
	MONTH	138.4	-	27	18	9.9	4.0	7.0	-	1.0	21	0	86	-	5	-	-1.8	2	7	-	-	N/A	-	5.3	-	5
Fermoy (Moore Park) Co. Cork	1-10	32.3	-	7	5	12.2	2.9	7.5	-	-2.0	2	3	37	-	6	-	-7.9	2	5	-	-	27.2	-	3.7	-	-
	11-20	50.5	-	8	7	10.7	2.5	6.6	-	-2.1	15	2	28	-	3	-	-6.6	15	9	-	-	22.9	-	3.2	-	-
	21-END	17.6	-	8	6	11.5	5.5	8.5	-	0.3	21	0	43	-	5	-	-3.3	26	3	-	-	9.9	-	4.7	-	-
	MONTH	100.4	106	23	18	11.5	3.6	7.5	-	-2.1	15	5	109	-	14	-	-7.9	2	17	-	-	60.0	-	3.8	-	8
Roches Point e Co. Cork	1-10	24.8	-	7	6	11.9	6.1	9.0	-	2.9	2	0	47	-	6	-	-1.4	6	3	9.1	-	34.3	-	8.3	5	-
	11-20	56.7	-	7	7	11.3	5.9	8.6	-	4.0	17	0	42	-	4	-	-1.6	20	3	8.2	-	27.1	-	8.0	8	-
	21-END	16.0	-	6	3	10.7	6.3	8.5	-	2.6	21	0	42	-	3	-	-1.0	21	1	8.0	-	12.1	-	8.7	7	-
	MONTH	97.5	111	20	16	11.3	6.1	8.7	+0.2	2.6	21	0	131	97	13	62	-1.6	20	7	8.4	+0.1	73.5	105	8.3	20	17
Glencolumbkille Co. Donegal	1-10	77.0	-	10	7	11.4	5.8	8.6	-	1.0	2	0	43	-	4	-	-5.5	2	5	-	-	N/A	-	5.0	-	-
	11-20	75.2	-	10	9	8.9	4.7	6.8	-	2.3	19	0	25	-	1	-	-4.5	19	8	-	-	N/A	-	4.8	-	-
	21-END	67.4	-	9	7	10.6	5.6	8.1	-	0.5	21	0	39	-	2	-	-7.0	21	4	-	-	N/A	-	6.3	-	-
	MONTH	219.6	-	29	23	10.3	5.3	7.8	-	0.5	21	0	107	-	7	-	-7.0	21	17	-	-	N/A	-	5.3	-	N/A

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED) NOVEMBER 1986

STATION	PERIOD	RAINFALL (mm): AMOUNT	RAINFALL: % OF AVERAGE	RAINFALL: RAIN DAYS	RAINFALL: WET DAYS	TEMPERATURE (°C) AIR: MEAN MAX.	AIR: MEAN MIN.	AIR: MEAN DAILY	AIR: DIFFERENCE FROM AVERAGE	AIR: LOWEST MIN.	AIR: DATE	AIR: DAYS WITH AIR FROST	AIR: DEGREE DAYS ABOVE 4.4°C	AIR: % OF AVERAGE	AIR: DEGREE DAYS ABOVE 10.0°C	AIR: % OF AVERAGE	GROUND: LOWEST "GRASS-MIN"	GROUND: DATE	GROUND: DAYS WITH GROUND FROST	SOIL (10cm): MEAN DAILY	SOIL (10cm): DIFFERENCE FROM AVERAGE	BRIGHT SUNSHINE: TOTAL NO. OF HOURS	BRIGHT SUNSHINE: % OF AVERAGE	WIND: MEAN SPEED (ms^{-1})	WIND: DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)
	1-10	77.9	-	10	8	11.1	4.1	7.6	-	-1.1	2	1	36	-	3	-	-3.6	2	4	-	-	-	-	-	-	-
Glenties	11-20	97.8	-	10	9	8.6	3.2	5.9	-	0.2	19	0	20	-	1	-	-2.0	19	4	-	-	-	-	-	-	-
Co. Donegal	21-END	81.3	-	9	9	10.5	4.6	7.6	-	-2.9	21	2	36	-	2	-	-6.0	21	3	-	-	-	-	-	-	-
	MONTH	257.0	155	29	26	10.1	4.0	7.0	-	-2.9	21	3	92	-	6	-	-6.0	21	11	-	-	-	-	-	-	-
	1-10	38.9	-	9	6	10.7	6.2	8.5	-	0.6	2	0	42	-	3	-	-2.9	2	1	7.4	-	15.7	-	11.8	10	-
Malin Head e	11-20	38.2	-	9	9	9.0	4.3	6.7	-	1.9	20	0	25	-	1	-	-1.0	19	1	6.1	-	19.5	-	9.6	9	-
Co. Donegal	21-END	60.7	-	8	7	10.1	5.8	7.9	-	1.0	21	0	37	-	2	-	-1.7	21	2	7.0	-	7.0	-	12.0	9	-
	MONTH	137.8	116	26	22	9.9	5.5	7.7	0.0	0.6	2	0	104	93	5	-	-2.9	2	4	6.9	0.0	42.2	91	11.1	28	23
	1-10	30.1	-	7	4	11.1	3.8	7.4	-	-1.7	2	1	34	-	4	-	-5.0	2	4	7.3	-	32.6	-	9.1	9	-
Casement Aerodrome e	11-20	41.1	-	9	8	10.4	3.8	7.1	-	1.4	20	0	30	-	3	-	-0.9	20	1	6.4	-	29.2	-	8.2	6	-
Co. Dublin	21-END	19.6	-	5	5	10.7	4.7	7.7	-	-2.6	21	1	35	-	3	-	-6.4	21	2	6.7	-	16.3	-	10.6	9	-
	MONTH	90.8	130	21	17	10.7	4.1	7.4	+0.7	-2.6	21	2	99	98	9	-	-6.4	21	7	6.8	-	78.1	122	9.3	24	21
	1-10	29.5	-	7	3	11.5	4.4	8.0	-	-0.4	2	1	39	-	5	-	-3.0	2	3	7.6	-	37.3	-	6.7	6	-
Dublin Airport e	11-20	52.1	-	8	7	10.6	4.1	7.3	-	1.1	20	0	31	-	3	-	-1.6	12	3	6.4	-	29.9	-	5.5	5	-
Co. Dublin	21-END	15.4	-	6	5	11.1	5.1	8.1	-	-1.0	21	1	38	-	4	-	-2.1	21	3	6.6	-	20.0	-	7.7	6	-
	MONTH	97.0	141	21	15	11.1	4.5	7.8	+0.8	-1.0	21	2	109	104	12	75	-3.0	2	9	6.9	+0.4	87.2	127	6.6	17	15
	1-10	26.6	-	6	3	12.5	4.7	8.6	-	-1.7	2	1	44	-	7	-	N/A		N/A	-	-	37.7	-	4.7	-	-
Kinsealy	11-20	45.0	-	8	6	10.1	4.7	7.4	-	1.7	20	0	32	-	3	-	N/A		N/A	-	-	30.4	-	4.5	-	-
Co. Dublin	21-END	14.7	-	5	5	11.8	5.0	8.4	-	-0.5	21	1	43	-	8	-	-3.3	30	3	-	-	21.0	-	6.0	-	-
	MONTH	86.3	129	19	14	11.5	4.8	8.1	-	-1.7	2	2	119	-	18	-	N/A		N/A	-	-	89.1	-	5.0	-	13
	1-10	36.2	-	8	8	11.5	4.7	8.1	-	0.2	2	0	39	-	4	-	-2.5	2	2	8.1	-	27.0	-	6.1	7	-
Galway e	11-20	68.8	-	9	7	9.8	3.9	6.9	-	1.6	15	0	27	-	2	-	-2.0	20	5	6.6	-	22.0	-	5.5	5	-
Co. Galway	21-END	44.4	-	8	5	10.6	5.8	8.2	-	-0.2	21	1	39	-	2	-	-1.5	21	2	7.2	-	10.6	-	8.1	7	-
	MONTH	149.4	129	25	20	10.6	4.8	7.7	+0.6	-0.2	21	1	105	-	8	-	-2.5	2	9	7.3	-	59.6	92	6.6	19	14
	1-10	62.0	-	8	7	13.0	4.7	8.8	-	-0.1	2	1	47	-	8	-	-7.6	2	9	-	-	19.0	-	-	-	-
Killarney	11-20	153.4	-	10	9	11.0	5.1	8.1	-	3.0	17	0	37	-	3	-	-6.1	17	9	-	-	15.9	-	-	-	-
(Muckross House)	21-END	50.1	-	8	7	12.3	5.4	8.9	-	1.0	21	0	47	-	7	-	-7.2	21	7	-	-	11.0	-	-	-	-
Co. Kerry	MONTH	265.5	153	26	23	12.1	5.1	8.6	-	-0.1	2	1	131	-	18	-	-7.6	2	25	-	-	45.9	-	-	-	-

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STATION	PERIOD	RAINFALL (mm): AMOUNT	RAINFALL: % OF AVERAGE	RAINFALL: RAIN DAYS	RAINFALL: WET DAYS	TEMPERATURE (°C) AIR: MEAN MAX.	AIR: MEAN MIN.	AIR: MEAN DAILY	AIR: DIFFERENCE FROM AVERAGE	AIR: LOWEST MIN.	AIR: DATE	AIR: DAYS WITH AIR FROST	AIR: DEGREE DAYS ABOVE 4.4°C	AIR: % OF AVERAGE	AIR: DEGREE DAYS ABOVE 10.0°C	AIR: % OF AVERAGE	GROUND: LOWEST "GRASS-MIN"	GROUND: DATE	GROUND: DAYS WITH GROUND FROST	SOIL (10cm): MEAN DAILY	SOIL (10cm): DIFFERENCE FROM AVERAGE	BRIGHT SUNSHINE: TOTAL NO. OF HOURS	BRIGHT SUNSHINE: % OF AVERAGE	WIND: MEAN SPEED (ms^{-1})	WIND: DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)
	1-10	38.0	-	7	7	12.5	6.3	9.4	-	1.2	2	0	52	-	8	-	-1.6	2	2	9.4	-	17.3	-	7.7	8	-
Cahirciveen e	11-20	125.9	-	10	10	11.6	5.6	8.6	-	3.8	15	0	42	-	4	-	1.4	15	0	8.1	-	17.8	-	7.3	8	-
(Valentia Obsy.)	21-END	33.1	-	8	6	12.0	7.4	9.7	-	2.0	21	0	53	-	8	-	0.0	21	0	8.5	-	4.0	-	9.1	8	-
Co. Kerry	MONTH	197.0	130	25	23	12.0	6.4	9.2	+0.4	1.2	2	0	147	101	20	77	-1.6	2	2	8.6	+0.3	39.1	76	8.1	24	21
	1-10	46.1	-	7	6	12.9	5.2	9.1	-	0.7	2	0	48	-	8	-	-3.0	2	2	-	-	25.6	-	-	-	-
Ardfert	11-20	80.4	-	10	10	11.2	5.1	8.2	-	3.4	17	0	38	-	4	-	-0.9	15	1	-	-	22.5	-	-	-	-
(Liscahane)	21-END	33.4	-	7	5	11.7	5.5	8.6	-	1.1	21	0	43	-	5	-	-1.6	21	2	-	-	5.4	-	-	-	-
Co. Kerry	MONTH	159.9	-	24	21	12.0	5.3	8.6	-	0.7	2	0	129	-	17	-	-3.0	2	5	-	-	53.5	-	-	-	-
	1-10	30.8	-	8	6	11.3	1.5	6.4	-	-3.6	2	2	29	-	4	-	-9.5	2	7	-	-	30.8	-	4.7	-	-
Lullymore	11-20	52.8	-	8	8	9.5	2.9	6.2	-	-0.5	20	1	24	-	2	-	-4.0	20	8	-	-	26.0	-	4.3	-	-
Co. Kildare	21-END	25.7	-	7	5	10.6	3.8	7.2	-	-2.5	21	2	33	-	3	-	-7.5	21	4	-	-	10.4	-	6.2	-	-
	MONTH	109.3	137	23	19	10.5	2.7	6.6	-	-3.6	2	5	86	-	9	-	-9.5	2	19	-	-	67.2	-	5.0	-	4
	1-10	26.9	-	7	4	11.9	3.0	7.4	-	-2.4	2	2	37	-	5	-	-6.6	2	6	7.9	-	33.3	-	4.9	3	-
Kilkenny e	11-20	53.3	-	9	6	10.7	1.7	6.2	-	-1.5	15	4	26	-	3	-	-6.3	17	6	6.6	-	26.2	-	4.0	6	-
Co. Kilkenny	21-END	18.3	-	7	5	10.9	4.2	7.6	-	-0.5	21	1	35	-	3	-	-4.0	26	4	6.9	-	7.9	-	5.0	6	-
	MONTH	98.5	128	23	15	11.2	3.0	7.1	+0.6	-2.4	2	7	98	94	12	67	-6.6	2	16	7.1	+0.8	67.4	104	4.6	15	8
	1-10	44.7	-	9	6	12.3	2.6	7.4	-	-1.9	2	3	37	-	7	-	-9.4	6	6	-	-	31.5	-	-	-	-
Mooncoin	11-20	68.9	-	9	8	10.9	2.5	6.7	-	-2.1	15	3	30	-	4	-	-8.7	20	9	-	-	27.0	-	-	-	-
(Silverspring)	21-END	20.1	-	6	4	11.7	4.7	8.2	-	-0.8	21	1	41	-	6	-	-7.5	21	6	-	-	13.4	-	-	-	-
Co. Kilkenny	MONTH	133.7	144	24	18	11.6	3.3	7.4	-	-2.1	15	7	109	-	17	-	-9.4	6	21	-	-	71.9	-	-	-	-
	1-10	46.7	-	8	6	11.5	1.9	6.7	-	-3.9	2	2	31	-	4	-	-9.9	2	6	-	-	28.6	-	3.5	-	-
Ballinamore	11-20	54.5	-	7	6	8.5	1.0	4.7	-	-1.2	20	4	16	-	1	-	-5.5	12	9	-	-	22.0	-	2.8	-	-
Co. Leitrim	21-END	77.6	-	8	5	10.4	3.2	6.8	-	-4.3	21	2	31	-	2	-	-8.9	21	4	-	-	15.2	-	4.9	-	-
	MONTH	178.8	150	23	17	10.1	2.0	6.1	-	-4.3	21	8	78	-	7	-	-9.9	2	19	-	-	65.8	-	3.7	-	0
	1-10	18.1	-	8	4	11.7	2.7	7.2	-	-3.5	2	1	34	-	5	-	-10.1	2	6	-	-	-	-	-	-	-
Ardee	11-20	40.6	-	7	7	9.3	3.1	6.2	-	-1.0	20	1	25	-	2	-	-6.8	20	7	-	-	-	-	-	-	-
(Boharnamoe)	21-END	20.5	-	6	5	10.4	3.1	6.8	-	-3.5	21	3	32	-	3	-	-9.9	21	4	-	-	-	-	-	-	-
Co. Louth	MONTH	79.2	99	21	16	10.5	3.0	6.7	-	-3.5	2	5	91	-	10	-	-10.1	2	17	-	-	-	-	-	-	-

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STATION	PERIOD	RAINFALL (mm) AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	AIR 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	GROUND LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST	SOIL (10cm) MEAN DAILY	DIFFERENCE FROM AVERAGE	BRIGHT SUNSHINE TOTAL NO. OF HOURS	% OF AVERAGE	WIND MEAN SPEED (ms⁻¹)	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)
Ballinrobe (Creagh) Co. Mayo	1-10	85.7	-	9	6	12.1	4.7	8.4	-	-1.7	2	1	42	-	5	-	-7.6	2	5	-	-	21.4	-	4.7	-	-
	11-20	87.0	-	9	9	9.3	3.3	6.3	-	1.1	20	0	23	-	1	-	-4.6	15	9	-	-	22.3	-	3.5	-	-
	21-END	98.7	-	9	8	11.4	5.3	8.3	-	-1.3	21	1	42	-	4	-	-7.7	21	3	-	-	8.5	-	6.6	-	-
	MONTH	271.4	195	27	23	10.9	4.4	7.7	-	-1.7	2	2	107	-	10	-	-7.7	21	17	-	-	52.2	-	4.9	-	12
Belmullet e Co. Mayo	1-10	54.8	-	9	8	11.5	5.5	8.5	-	1.5	1	0	42	-	4	-	-3.4	2	1	9.0	-	16.5	-	9.6	9	-
	11-20	76.9	-	10	10	9.5	3.9	6.7	-	2.0	20	0	25	-	1	-	-2.0	15	2	7.7	-	14.2	-	7.4	7	-
	21-END	48.7	-	9	8	10.9	6.0	8.4	-	0.3	21	0	41	-	3	-	-4.0	21	1	8.0	-	8.0	-	10.6	9	-
	MONTH	180.4	142	28	26	10.6	5.1	7.9	-0.2	0.3	21	0	109	90	8	-	-4.0	21	4	8.2	+0.6	38.7	75	9.2	25	19
Claremorris e Co. Mayo	1-10	67.4	-	9	8	11.2	3.3	7.2	-	-1.8	2	2	33	-	3	-	-4.4	2	4	7.6	-	20.9	-	6.0	6	-
	11-20	64.8	-	9	9	8.8	2.3	5.6	-	0.4	15	0	18	-	1	-	-3.6	15	6	5.9	-	19.8	-	4.8	5	-
	21-END	48.1	-	7	7	10.2	4.4	7.3	-	-2.3	21	1	32	-	2	-	-5.3	21	1	6.8	-	9.1	-	7.4	8	-
	MONTH	180.3	154	25	24	10.1	3.3	6.7	+0.3	-2.3	21	3	83	89	6	-	-5.3	21	11	6.8	+0.5	49.8	91	6.1	19	6
Glenamoy Co. Mayo	1-10	92.9	-	8	8	11.6	5.4	8.5	-	1.7	2	0	42	-	4	-	-2.4	2	1	-	-	16.6	-	4.8	-	-
	11-20	70.5	-	9	9	9.2	2.8	6.0	-	0.7	20	0	21	-	1	-	-1.5	19	6	-	-	16.8	-	4.4	-	-
	21-END	81.6	-	9	8	10.8	5.3	8.1	-	-1.6	21	1	39	-	3	-	-5.1	21	1	-	-	10.0	-	7.9	-	-
	MONTH	245.0	154	26	25	10.5	4.5	7.5	-	-1.6	21	1	102	-	8	-	-5.1	21	8	-	-	43.4	-	5.6	-	5
Dunsany (Grange) Co. Meath	1-10	28.9	-	7	5	11.3	4.0	7.6	-	1.0	6	0	35	-	4	-	-3.5	6	5	-	-	33.8	-	-	-	-
	11-20	40.8	-	8	5	9.2	3.1	6.1	-	-0.4	20	1	23	-	1	-	-4.1	20	5	-	-	26.9	-	-	-	-
	21-END	21.0	-	6	5	10.4	3.7	7.1	-	-3.4	21	2	33	-	3	-	-7.6	21	2	-	-	11.5	-	-	-	-
	MONTH	90.7	116	21	15	10.3	3.6	7.0	-	-3.4	21	3	91	-	8	-	-7.6	21	12	-	-	72.2	-	-	-	-
Clones e Co. Monaghan	1-10	40.1	-	8	5	10.5	3.3	6.9	-	-2.2	2	1	30	-	2	-	-7.0	2	3	7.3	-	28.2	-	4.8	3	-
	11-20	38.2	-	9	6	8.6	2.6	5.6	-	-0.6	20	1	19	-	1	-	-3.0	20	6	6.2	-	26.2	-	4.1	4	-
	21-END	34.2	-	8	6	10.2	4.3	7.2	-	-2.2	21	1	31	-	2	-	-9.3	21	2	6.6	-	13.2	-	6.0	3	-
	MONTH	112.5	128	25	17	9.8	3.4	6.6	+0.6	-2.2	2	3	80	94	5	-	-9.3	21	11	6.7	+0.7	67.6	127	5.0	10	5
Birr e Co. Offaly	1-10	28.0	-	7	5	11.7	3.3	7.5	-	-2.0	2	2	36	-	5	-	-6.4	2	5	7.9	-	28.6	-	3.7	2	-
	11-20	41.0	-	8	5	10.2	3.2	6.7	-	1.0	20	0	27	-	2	-	-1.1	20	5	6.7	-	25.1	-	3.2	3	-
	21-END	25.1	-	6	5	10.7	4.7	7.7	-	-0.8	21	1	35	-	3	-	-5.6	21	2	7.0	-	8.5	-	4.6	5	-
	MONTH	94.1	122	21	15	10.9	3.7	7.3	+0.8	-2.0	2	3	98	97	10	63	-6.4	2	12	7.2	+0.8	62.2	101	3.8	10	7

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED) NOVEMBER 1986

STATION	PERIOD	RAINFALL (mm) AMOUNT	% OF AVERAGE	RAIN DAYS	WET DAYS	TEMPERATURE (°C) AIR 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	GROUND LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST	SOIL (10cm) MEAN DAILY	DIFFERENCE FROM AVERAGE	BRIGHT SUNSHINE TOTAL NO. OF HOURS	% OF AVERAGE	WIND MEAN SPEED (ms^{-1})	DAYS WITH GALE GUSTS	P.E. (PENMAN) (mm)
Dundrum (Knockavilla) Co. Tipperary	1-10	27.5	-	8	5	12.0	3.2	7.6	-	-2.0	2	2	37	-	5	-	-5.4	2	6	-	-	-	-	-	-	-
	11-20	41.5	-	9	7	10.0	2.3	6.2	-	-1.9	16	1	25	-	2	-	-6.2	15	8	-	-	-	-	-	-	-
	21-END	30.5	-	7	6	10.9	4.7	7.8	-	-1.0	21	1	37	-	4	-	-4.4	21	4	-	-	-	-	-	-	-
	MONTH	99.5	-	24	18	11.0	3.4	7.2	-	-2.0	2	4	99	-	11	-	-6.2	15	18	-	-	-	-	-	-	-
Dungarvan (Carriglea) Co. Waterford	1-10	38.5	-	7	6	12.9	3.4	8.1	-	-1.0	2	1	42	-	8	-	-2.2	6	2	-	-	28.9	-	3.5	-	-
	11-20	63.1	-	8	8	11.0	3.6	7.3	-	-0.8	15	1	33	-	4	-	-1.6	15	4	-	-	28.6	-	3.1	-	-
	21-END	24.0	-	7	5	12.0	5.4	8.7	-	0.9	21	0	45	-	6	-	-0.6	21	3	-	-	13.0	-	4.1	-	-
	MONTH	125.6	118	22	19	12.0	4.1	8.1	-	-1.0	2	2	120	-	18	-	-2.2	6	9	-	-	70.5	-	3.6	-	0
Mullingar e Co. Westmeath	1-10	25.2	-	7	6	10.8	2.8	6.8	-	-3.4	2	1	30	-	3	-	-6.0	2	5	7.1	-	31.0	-	5.5	4	-
	11-20	49.3	-	8	7	8.9	2.0	5.4	-	-0.3	20	1	18	-	1	-	-3.5	15	6	5.9	-	27.3	-	4.9	5	-
	21-END	36.3	-	7	6	10.1	3.7	6.9	-	-3.9	21	1	29	-	2	-	-6.7	21	4	6.4	-	13.4	-	6.5	4	-
	MONTH	110.8	122	22	19	9.9	2.8	6.4	+0.3	-3.9	21	3	78	90	6	-	-6.7	21	15	6.5	+0.5	71.7	113	5.6	13	6
J.F.K. Park Co. Wexford	1-10	37.4	-	8	5	11.7	4.1	7.9	-	0.1	2	0	38	-	5	-	-7.0	2	6	-	-	29.2	-	7.0	-	-
	11-20	53.0	-	8	8	10.5	4.5	7.5	-	1.2	20	0	33	-	3	-	-6.1	20	6	-	-	27.8	-	5.9	-	-
	21-END	12.8	-	6	5	11.0	5.2	8.1	-	0.5	21	0	40	-	4	-	-5.4	21	6	-	-	12.4	-	8.1	-	-
	MONTH	103.2	102	22	18	11.1	4.6	7.9	-	0.1	2	0	112	-	12	-	-7.0	2	18	-	-	69.4	-	7.0	-	11
Clonroche Co. Wexford	1-10	39.8	-	7	6	11.3	3.9	7.6	-	-0.4	2	2	36	-	4	-	-6.6	6	6	-	-	29.5	-	3.2	-	-
	11-20	71.6	-	9	8	10.0	3.6	6.8	-	0.5	15	0	28	-	2	-	-5.3	20	7	-	-	27.3	-	2.3	-	-
	21-END	21.1	-	6	5	10.7	4.4	7.6	-	-1.4	21	1	36	-	3	-	-6.5	21	5	-	-	11.8	-	3.4	-	-
	MONTH	132.5	115	22	19	10.7	4.0	7.3	-	-1.4	21	3	100	-	9	-	-6.6	6	18	-	-	68.6	-	3.0	-	1
Johnstown Castle Co. wexford	1-10	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A		N/A	N/A	-	N/A	-	N/A		N/A	-	-	34.3	-	N/A	-	-
	11-20	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A		N/A	N/A	-	N/A	-	N/A		N/A	-	-	28.1	-	N/A	-	-
	21-END	N/A	-	N/A	N/A	N/A	N/A	N/A	-	N/A		N/A	N/A	-	N/A	-	N/A		N/A	-	-	14.4	-	N/A	-	-
	MONTH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A		N/A	N/A	-	N/A	-	N/A		N/A	-	-	76.8	-	N/A	-	N/A
Rosslare e Co. Wexford	1-10	52.0	-	6	5	12.0	6.1	9.0	-	2.7	6	0	47	-	7	-	-1.5	2	2	8.8	-	35.8	-	7.6	7	-
	11-20	49.3	-	9	8	11.4	5.4	8.4	-	2.7	20	0	40	-	4	-	-0.4	20	1	7.9	-	27.2	-	6.8	8	-
	21-END	10.9	-	4	3	10.9	5.9	8.4	-	1.5	21	0	41	-	3	-	-1.3	21	1	7.6	-	14.0	-	7.2	6	-
	MONTH	112.2	113	19	16	11.4	5.8	8.6	+0.3	1.5	21	0	128	96	13	62	-1.5	2	4	8.1	+0.3	77.0	103	7.2	21	16

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL RADIATION

STATION	PERIOD	AMOUNT MJ/m²
Malin Head Co. Donegal	1-10	29.24
	11-20	25.82
	21-end	16.29
	Month	71.35
Dublin Airport Co. Dublin	1-10	42.25
	11-20	31.52
	21-end	23.39
	Month	97.16
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	35.46
	11-20	27.88
	21-end	17.88
	Month	81.22
Kilkenny Co. Kilkenny	1-10	45.89
	11-20	33.88
	21-end	21.68
	Month	101.45
Belmullet Co. Mayo	1-10	28.95
	11-20	23.28
	21-end	17.65
	Month	69.88
Clones Co. Monaghan	1-10	37.95
	11-20	30.81
	21-end	19.01
	Month	87.77
Birr Co. Offaly	1-10	42.73
	11-20	32.36
	21-end	19.65
	Month	94.74

Notes on the tables in January issue

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

STATION	PERIOD	P.E.(mm) Amount	SOIL MOISTURE (mm) Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-11	2.9	–	0	28
	12-20	0.2	–	0	46
	21-end	-1.5	–	0	23
	Month	1.6	–	–	–
Kinsealy Co. Dublin	31-9	8.5	–	12	30
	10-19	4.9	–	0	47
	20-end	2.8	–	0	23
	Month	16.2	–	–	–
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	-4.4	–	0	41
	11-20	17.2	–	0	112
	21-end	-8.2	–	0	40
	Month	4.6	–	–	–
Ballinamore Co. Leitrim	1-10	0.7	–	0	46
	*11-20	0.0	–	0	27
	*21-end	-3.2	–	0	46
	Month	-2.5	–	–	–
Glenamoy Co. Mayo	31-10	20.5	–	0	100
	11-20	10.1	–	0	61
	21-end	9.3	–	0	72
	Month	39.9	–	–	–
Johnstown Castle Co. Wexford	1-10	N/A	N/A	N/A	N/A
	11-20				
	21-end				
	Month				

* Days missing due to overflow

TABLE 4 SOIL CLIMATE (MULLINGAR)

BARE SOIL TYPE	PERIOD	MEAN TEMPERATURE (°C at 100mm) Max.	Daily	Min.	TEMPERATURE GRADIENT (to 200mm)	SOIL WATER POTENTIAL (hPa) (at depths) 75mm	200mm
Peat	1-10	8.2	6.7	5.0	+0.5	54	62
	11-20	7.2	5.6	4.5	+0.9	52	56
	21-end	7.3	6.1	4.7	0.0	54	55
Mineral	1-10	8.9	7.1	4.9	+0.4	50	48
	11-20	7.7	5.9	4.2	+0.5	43	40
	21-end	7.5	6.3	4.7	+0.1	42	43

COMMISSION FOR AGRICULTURAL METEOROLOGY

The ninth session of the Commission for Agricultural Meteorology of the World Meteorological Organization (WMO) was held in Madrid during November 1986. 51 countries participated sending 84 delegates as well as 11 observers from international organisations. The theme for the session was "Practical application of agrometeorology to demonstrate its economic importance in agricultural production".

Operational Meteorology: Meteorological aspects should be included in training courses in operational crop protection schemes. Such schemes should also make the fullest use of 'information technology'. This can best be achieved by centralised crop protection schemes. As well as using conventional meteorological data such centrally-organised crop protection schemes can also use operational radar rainfall data to provide local estimates of rainfall and (by inference) leaf surface wetness, and rainfall obtained directly from satellite imagery. The Commission concluded that the transfer of information to farmers in different regions could often best be achieved through demonstration of the effects by volunteer farmers.

Economic Benefits: This issue has increased considerably in importance in the intervening four years since the last meeting. The task will not be resolved easily and ongoing efforts must be undertaken to improve the estimates. The use of surveys, experimental projects and case studies are complementary in an ongoing programme towards obtaining creditable economic benefit/cost ratios. Topics to be included in future symposia and seminars will relate to the economic benefits of the use of meteorological information in agriculture and treat of the methodology of analysing the economic benefits derived from agrometeorological services.

Effects of Weather of Crop and Animal Production: The Commission urged meteorologists to work hand-in-hand with veterinary and livestock scientists and livestock husbandry specialists to identify economically important problems in weather-related animal health, performance and production and to participate in research, development and application of meteorological information to improve the efficiency of livestock production. Rapporteurs were appointed on crops important to different regions.

Fisheries: The application of meteorology to fisheries development and management strengthens efforts to increase global food production. The Commission agreed that agrometeorology can contribute to fish production and management techniques. A rapporteur (from Norway) was appointed on inland and coastal fisheries and another on marine fisheries.

Forest Meteorology: It is now known that acid rain is not the main and single cause of the dying of trees and the shift has been to look at "Forest Decline", a combination of the adverse effects of air pollution and plant diseases. Forest decline has been observed to be associated with poor forest health resultant to management measures, ground water table movement, frost, strong winds, drought and soil stored polluting agents.

Remote Sensing: This is a developing area to be exploited for agriculture. Considerable use is being made of remote sensing of meteorological data for such agricultural applications as the estimation of vegetation stage and vigour. The Commission is to focus its activities more on agrometeeorological information, e.g. soil moisture and canopy temperature. Despite advances, however, there is a stong need to continue ground based observations of all the parameters.

Future Plans: The major objective for the more advanced countries is the provision of information that is practical to the extent that its customers are willing to pay for it while the major problems for developing countries are the absence of such formulated products, the absence of trained personnel and a lack of awareness of the economic benefits that the information can provide. The specific agrometeorological objectives and plans are to:- develop meteorological and agronomic databases for operational meteorology; formulate relationships between climate/weather and agricultural production; provide agrometeorological information to users for planning and operations in agriculture; promote agrometeorology in drought and desert-prone areas; transfer of knowledge of practical agrometeorological techniques; and promote inter-disciplinary agrometeorological research.

Five inter-sessionary Working Groups were formed and rapporteurs were appointed in nineteen subject areas including an expert from Ireland on grass and grassland of middle latitudes.

T Keane, Meteorological Service