

METEOROLOGICAL SERVICE



FEBRUARY 1987

AGROMETEOROLOGICAL BULLETIN

The Weather of February

The weather for the first two weeks of February was unsettled being influenced by a succession of troughs and ridges from the Atlantic. Ridges of high pressure dominated on the 3rd, 6th, 8th, 10th, 12th and 14th whereas troughs affected the country on 1st/2nd, 4th/5th (in a strong southwesterly airflow), 7th, 9th (the latter depression gave spells of heavy rain), and 11th. A wave depression skirted over southern areas on 13th inducing an easterly airflow over the country, and a trough on 15th affected western areas.

High pressure over Iceland began to drift southwards west of Ireland on 16th. As its centre remained in the vicinity of Ireland, this high (although renewed from the north on 21st) dominated conditions, effecting a settled spell to 23rd. As the high cell slipped in over the continent, troughs approached the country from the southeast effecting a freshening of southeast winds and outbreaks of rain in southern areas on 23rd/24th. Following the movement inland of the rainbelt, preceded by sleet, a southwest airflow set in on its wake on 25th and another trough affected the country on 26th. A clearance during 27th brought bright spells and a few showers to all areas but a broad rainbelt, approaching the country from the southwest, was affecting all areas by the end of the month.

Precipitation:

Monthly precipitation was below to well below normal except in southern areas. Amounts varied from 142% of normal at Roche's Point to 48% at Casement Aerodrome. Wettest spells were 7th-11th and 25th-27th. Southern areas were also wet on 1st. For the most part the period from 12th to 24th was mostly dry.

Temperature:

Mean air temperature was near normal varying from 0.5°C^o above at Malin Head to 0.4°C^o below at Belmullet. Lowest values occurred around 15th. While the mean daily maximum values were well above normal (0.3°C^o to 0.7°C^o for most areas) the mean daily minimum values were equally well below normal, the range being greatest during the cold spell about the middle of the month. Air frost principally occurred from 11th-23rd, with an absolute minimum of -9.4°C at Ballinrobe (Creagh) on 16th, and ground frost was widespread and sharp to severe over the same period. Soil temperatures (100mm) were over 2°C^o above normal during the first decade, 1.5°C^o below during the next two weeks and 2-3°C^o above at the end of the month.

Sunshine and Radiation:

Apart from the northwest and north midlands sunshine values were below normal. Amounts varied from 78% of normal at Claremorris to 128% at Malin Head. The dullest spell extended from 22nd to the end of the month. Global radiation was 94% of normal at Birr and 113% at Dublin Airport.

Wind:

Strong winds with gale gusts occurred on 1st, 4th-6th, 9th and on 26th.

Summary:

Dry (except southern areas), dull (except northern areas) and near normal temperature. Coldest about the middle of the month.

TABLE 1

FEBRUARY 1987

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 ⁻¹)	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	19.6	-	5	5	10.0	3.2	6.6	-	-3.4	1	1	26	-	1	-	-3.6	1	4	-	-	16.3	-	4.0	-	-
	11-20	2.1	-	3	1	4.9	-2.6	1.2	-	-5.0	17	10	2	-	0	-	-7.0	17	10	-	-	26.5	-	2.2	-	-
	21-END	20.0	-	3	3	8.6	1.7	5.2	-	-4.8	21	2	18	-	3	-	-8.8	21	3	-	-	12.5	-	3.5	-	-
	MONTH	41.7	72	11	9	7.8	0.7	4.2	-	-5.0	17	13	46	-	5	-	-8.6	21	17	-	-	57.3	-	3.2	-	8
Shannon Airport Co. Clare	1-10	30.2	-	7	5	11.0	4.9	7.9	-	1.8	7	0	37	-	3	-	-3.1	4	3	6.7	-	18.6	-	4.6	4	-
	11-20	4.1	-	4	1	6.2	-0.6	2.8	-	-5.0	17	6	5	-	0	-	-9.2	17	10	2.8	-	29.9	-	2.9	0	-
	21-END	20.9	-	4	4	9.3	3.4	6.4	-	-3.3	21	2	22	-	3	-	-8.2	21	2	5.0	-	10.9	-	4.7	1	-
	MONTH	55.2	88	15	10	8.8	2.5	5.6	+0.3	-5.0	17	8	64	89	7	-	-9.2	17	15	4.8	-0.2	59.4	81	4.0	5	16
Cork Airport Co. Cork	1-10	60.9	-	6	6	9.5	4.7	7.1	-	0.9	10	0	30	-	1	-	-3.5	4	3	7.0	-	16.5	-	6.4	4	-
	11-20	17.2	-	4	3	5.5	-0.7	2.4	-	-4.5	17	6	3	-	0	-	-6.8	19	10	3.4	-	41.0	-	5.2	2	-
	21-END	54.5	-	6	6	8.4	3.7	6.0	-	-2.5	21	2	20	-	2	-	-6.0	22	2	5.2	-	9.5	-	7.2	3	-
	MONTH	132.6	125	16	15	7.8	2.5	5.1	+0.2	-4.5	17	8	52	93	2	-	-6.8	19	15	5.2	+0.5	67.0	96	6.2	9	13
Fermoy (Coolnakilla) Co. Cork	1-10	45.8	-	10	8	9.3	3.3	6.3	-	-1.6	1	1	24	-	1	-	-1.8	1	3	-	-	19.0	-	4.4	-	-
	11-20	16.0	-	6	5	4.4	-1.4	1.5	-	-4.0	17	8	1	-	0	-	-6.0	17	10	-	-	34.7	-	2.9	-	-
	21-END	39.7	-	5	5	8.3	2.3	5.3	-	-3.6	21	2	18	-	2	-	-5.2	21	3	-	-	12.4	-	4.9	-	-
	MONTH	101.5	-	21	18	7.3	1.3	4.3	-	-4.0	17	11	43	-	3	-	-6.0	17	16	-	-	66.1	-	4.0	-	8
Fermoy (Moore Park) Co. Cork	1-10	43.2	-	9	5	10.8	3.6	7.2	-	-2.1	1	3	34	-	3	-	-6.3	10	4	-	-	18.3	-	2.9	-	-
	11-20	8.6	-	4	3	6.1	-1.9	2.1	-	-4.9	17	8	4	-	0	-	-11.4	17	10	-	-	36.7	-	2.5	-	-
	21-END	27.4	-	6	4	9.8	2.5	6.2	-	-5.0	21	2	23	-	4	-	-11.4	21	3	-	-	10.8	-	3.3	-	-
	MONTH	79.2	100	19	12	8.8	1.3	5.1	-	-5.0	21	13	61	-	7	-	-11.4	21	17	-	-	65.8	-	2.9	-	4
Roches Point Co. Cork	1-10	42.4	-	6	5	9.8	5.7	7.8	-	2.4	10	0	35	-	1	-	-2.6	4	3	7.6	-	14.8	-	5.8	4	-
	11-20	17.4	-	6	4	6.6	1.4	4.0	-	-1.5	17	1	7	-	0	-	-4.4	17	8	4.3	-	41.8	-	5.2	1	-
	21-END	53.9	-	6	4	8.8	4.6	6.7	-	-0.5	21	1	21	-	1	-	-4.0	21	2	6.0	-	9.7	-	6.8	5	-
	MONTH	113.7	142	18	13	8.4	3.9	6.1	+0.0	-1.5	17	2	63	81	2	-	-4.4	17	13	6.0	+0.1	66.3	69	5.9	10	17
Glencolumbkille Co. Donegal	1-10	76.9	-	10	9	9.2	3.9	6.6	-	0.2	1	0	24	-	1	-	-4.5	1	5	-	-	N/A	-	4.5	-	-
	11-20	4.8	-	4	2	7.2	0.0	3.6	-	-1.6	14	4	8	-	0	-	-7.5	17	10	-	-	N/A	-	1.8	-	-
	21-END	43.8	-	4	4	8.8	2.2	5.5	-	-2.0	21	1	16	-	1	-	-7.3	21	4	-	-	N/A	-	4.1	-	-
	MONTH	125.5	-	18	15	8.4	2.0	5.2	-	-2.0	21	5	47	-	2	-	-7.5	17	19	-	-	N/A	-	3.4	-	NZB

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TABLE 1 (CONTINUED)

FEBRUARY 1987

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 ⁻¹)	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			
Glenties Co. Donegal	1-10	48.8	-	8	7	8.9	3.2	6.0	-	0.2	7	0	21	-	0	-	-1.5	7	4	-	-	-	-	-	-	-	-	-	-
	11-20	2.3	-	4	1	6.8	-2.7	2.0	-	-4.8	17	10	6	-	0	-	-6.4	17	10	-	-	-	-	-	-	-	-	-	-
	21-END	29.3	-	4	4	8.7	1.7	5.2	-	-3.2	21	3	16	-	1	-	-5.6	21	3	-	-	-	-	-	-	-	-	-	-
	MONTH	80.4	74	16	12	8.1	0.7	4.4	-	-4.8	17	13	42	-	1	-	-6.4	17	17	-	-	-	-	-	-	-	-	-	-
Malin Head Co. Donegal	1-10	45.6	-	8	6	9.2	4.8	7.0	-	1.5	1	0	27	-	1	-	-5.6	1	3	5.4	-	19.8	-	9.4	10	-	-	-	-
	11-20	10.7	-	6	1	6.5	1.5	4.0	-	-2.0	15	3	8	-	0	-	-7.5	15	8	3.3	-	51.9	-	4.8	0	-	-	-	-
	21-END	17.4	-	5	3	8.0	3.6	5.8	-	0.4	21	0	17	-	1	-	-3.4	21	4	5.3	-	9.6	-	6.8	4	-	-	-	-
	MONTH	73.7	98	19	10	7.9	3.2	5.6	+0.5	-2.0	15	3	52	95	2	-	-7.5	15	15	4.6	+0.2	81.3	128	7.0	14	20	-	-	-
Casement Aerodrome Co. Dublin	1-10	10.5	-	6	3	10.7	2.8	6.7	-	-1.4	1	2	29	-	3	-	-7.8	1	3	5.2	-	21.2	-	7.5	7	-	-	-	-
	11-20	7.5	-	1	1	4.8	-3.2	0.8	-	-7.3	15	8	2	-	0	-	-9.3	15	9	1.8	-	25.8	-	3.6	0	-	-	-	-
	21-END	6.5	-	4	2	8.6	2.1	5.3	-	-2.8	23	3	18	-	3	-	-7.5	23	6	4.0	-	17.3	-	5.9	2	-	-	-	-
	MONTH	24.5	48	11	6	8.0	0.5	4.2	-0.2	-7.3	15	13	48	91	6	-	-9.3	15	18	3.6	-	64.3	88	5.7	9	16	-	-	-
Dublin Airport Co. Dublin	1-10	14.5	-	5	3	10.1	4.1	7.1	-	-0.5	1	1	31	-	2	-	-7.2	1	3	5.7	-	17.4	-	5.8	6	-	-	-	-
	11-20	10.4	-	2	1	5.8	-1.7	2.0	-	-4.2	18	8	4	-	0	-	-6.3	16	9	2.6	-	33.8	-	3.3	0	-	-	-	-
	21-END	9.8	-	4	2	8.7	3.3	6.0	-	-0.5	23	2	19	-	3	-	-5.9	23	3	4.6	-	17.2	-	4.6	1	-	-	-	-
	MONTH	34.7	68	11	6	8.1	1.8	5.0	+0.2	-4.2	18	11	53	93	6	-	-7.2	1	15	4.3	-0.0	68.4	92	4.6	7	15	-	-	-
Kinsealy Co. Dublin	1-10	14.1	-	4	3	10.1	3.2	6.7	-	-5.2	1	1	29	-	2	-	-7.0	1	5	-	-	16.2	-	4.4	-	-	-	-	-
	11-20	8.3	-	2	1	6.0	-1.8	2.1	-	-4.9	15	9	4	-	0	-	-7.2	15	9	-	-	31.1	-	2.4	-	-	-	-	-
	21-END	11.5	-	4	3	9.1	1.9	5.5	-	-3.7	23	2	18	-	3	-	-7.9	23	5	-	-	18.5	-	4.0	-	-	-	-	-
	MONTH	33.9	68	10	7	8.4	1.0	4.7	-	-5.2	1	12	51	-	5	-	-7.9	23	19	-	-	65.8	-	3.6	-	13	-	-	-
Galway Co. Galway	1-10	49.5	-	6	6	10.1	4.6	7.3	-	1.4	7	0	31	-	2	-	-5.2	1	4	6.1	-	18.0	-	5.0	5	-	-	-	-
	11-20	0.5	-	2	0	6.2	-1.0	2.6	-	-4.0	17	8	5	-	0	-	-6.8	14	9	2.8	-	32.7	-	3.0	0	-	-	-	-
	21-END	24.4	-	4	4	8.1	2.8	5.4	-	-3.6	21	2	17	-	2	-	-7.5	21	2	4.6	-	10.8	-	4.8	1	-	-	-	-
	MONTH	74.4	99	12	10	8.1	2.0	5.1	+0.1	-4.0	17	10	53	-	4	-	-7.5	21	15	4.6	-	61.5	84	4.2	6	13	-	-	-
Killerney (Muckross House) Co. Kerry	1-10	65.9	-	9	8	11.0	5.1	8.1	-	1.6	4	0	38	-	4	-	-5.4	3	3	-	-	15.3	-	-	-	-	-	-	-
	11-20	14.4	-	4	4	6.4	-1.3	2.6	-	-5.4	17	8	6	-	0	-	-10.5	17	10	-	-	27.9	-	-	-	-	-	-	-
	21-END	56.0	-	6	5	9.8	2.8	6.3	-	-3.5	21	3	25	-	5	-	-10.3	21	3	-	-	8.8	-	-	-	-	-	-	-
	MONTH	136.3	99	19	17	9.8	2.2	5.6	-	-5.4	17	11	69	-	9	-	-10.5	17	16	-	-	52.0	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

FEBRUARY 1987

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 (m/s)	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
Cahirclveen (Valentia Obsy.) Co. Kerry	1-10	67.5	-	8	8	11.2	5.6	6.4	-	2.4	3	0	42	-	5	-	0.5	4	0	8.1	-	10.7	-	6.0	5	-
	11-20	21.9	-	6	4	7.9	0.9	4.4	-	-1.1	19	4	11	-	0	-	-4.2	17	9	4.7	-	37.4	-	4.5	2	-
	21-END	53.1	-	6	5	10.6	4.5	7.6	-	-3.3	22	2	20	-	5	-	-6.0	22	3	6.4	-	15.7	-	6.4	5	-
	MONTH	142.5	121	20	17	9.8	3.6	6.7	+0.2	-3.3	22	6	83	90	9	-	-6.0	22	12	6.4	+0.3	63.8	91	5.6	12	19
Ardfert (Liscahane) Co. Kerry	1-10	48.0	-	9	8	11.4	4.8	8.1	-	1.0	4	0	40	-	5	-	-1.9	7	3	-	-	18.2	-	-	-	-
	11-20	11.9	-	4	4	6.8	-1.6	2.6	-	-7.0	17	7	6	-	0	-	-10.0	17	7	-	-	35.6	-	-	-	-
	21-END	31.6	-	6	3	10.1	2.5	6.3	-	-4.2	21	3	25	-	5	-	-8.6	21	3	-	-	17.3	-	-	-	-
	MONTH	91.5	-	19	15	9.4	1.8	5.6	-	-7.0	17	10	71	-	10	-	-10.0	17	13	-	-	71.1	-	-	-	-
Lullymore Co. Kildare	1-10	15.8	-	7	3	9.9	2.0	5.9	-	-3.2	1	3	23	-	1	-	-7.5	7	6	-	-	15.9	-	4.3	-	-
	11-20	4.9	-	2	2	4.5	-3.6	0.5	-	-6.4	15	9	2	-	0	-	-12.0	17	9	-	-	24.8	-	1.9	-	-
	21-END	16.6	-	4	3	8.7	1.2	4.9	-	-4.4	21	3	17	-	3	-	-10.8	21	5	-	-	12.9	-	3.0	-	-
	MONTH	37.3	68	13	8	7.6	-0.2	3.7	-	-6.4	15	15	41	-	4	-	-12.0	17	20	-	-	53.6	-	3.1	-	6
Kilkenny Co. Kilkenny	1-10	23.3	-	6	3	10.3	4.2	7.2	-	0.2	4	0	32	-	3	-	-8.5	1	4	5.0	-	16.3	-	3.3	3	-
	11-20	3.9	-	3	2	5.3	-2.3	1.5	-	-4.1	17	9	3	-	0	-	-8.9	17	9	2.8	-	29.3	-	2.0	0	-
	21-END	19.8	-	4	3	8.8	3.0	5.9	-	-4.1	21	1	20	-	4	-	-10.4	21	3	4.3	-	12.4	-	3.1	1	-
	MONTH	47.0	78	13	8	8.1	1.5	4.8	+0.1	-4.1	21	10	55	87	6	-	-10.4	21	16	4.4	-0.0	58.0	81	2.8	4	10
Mooncoin (Silverspring) Co. Kilkenny	1-10	48.1	-	7	5	10.5	3.4	7.0	-	-4.6	1	1	32	-	2	-	-10.6	1	6	-	-	19.9	-	-	-	-
	11-20	3.9	-	6	1	5.8	-2.3	1.8	-	-5.0	16	8	4	-	0	-	-10.9	16	10	-	-	33.3	-	-	-	-
	21-END	34.1	-	4	3	9.5	2.6	6.1	-	-2.8	21	2	21	-	4	-	-11.6	21	7	-	-	12.6	-	-	-	-
	MONTH	86.1	100	17	9	8.6	1.2	4.9	-	-5.0	16	11	56	-	6	-	-11.6	21	23	-	-	65.8	-	-	-	-
Bellinamore Co. Leitrim	1-10	36.7	-	7	7	9.8	1.7	5.8	-	-1.4	7	3	21	-	1	-	-8.1	1	6	-	-	15.4	-	2.9	-	-
	11-20	0.0	-	0	0	5.9	-3.2	1.4	-	-6.1	15	8	4	-	0	-	-12.4	17	10	-	-	39.5	-	1.4	-	-
	21-END	29.5	-	4	4	8.9	0.7	4.8	-	-3.0	21	5	16	-	2	-	-8.5	21	5	-	-	11.3	-	2.2	-	-
	MONTH	66.2	79	11	11	8.2	-0.3	3.9	-	-6.1	15	16	42	-	3	-	-12.4	17	21	-	-	66.2	-	2.2	-	7
Ardee (Bohernemoë) Co. Louth	1-10	23.7	-	6	4	10.2	2.9	6.6	-	-0.9	7	2	27	-	2	-	-9.2	1	7	-	-	-	-	-	-	-
	11-20	0.0	-	0	0	5.6	-3.6	1.0	-	-7.3	17	9	4	-	0	-	-13.9	17	10	-	-	-	-	-	-	-
	21-END	22.0	-	4	4	9.0	-0.2	4.4	-	-6.1	21	4	17	-	3	-	-12.7	21	6	-	-	-	-	-	-	-
	MONTH	45.7	77	10	8	8.2	-0.3	4.0	-	-7.3	17	15	47	-	5	-	-13.9	17	23	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

FEBRUARY 1987

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 ⁻¹)	DAYS WITH GALE GUSTS	P.E. (PENMET) (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	58.0	-	9	8	10.1	2.2	6.2	-	-6.1	1	1	26	-	2	-	-10.6	1	6	-	-	13.7	-	3.8	-	-	-
	11-20	0.9	-	1	0	6.2	-2.8	1.7	-	-9.4	16	9	5	-	0	-	-13.2	17	10	-	-	22.6	-	1.6	-	-	-
	21-END	35.9	-	4	4	8.3	1.7	5.0	-	-3.3	22	2	17	-	2	-	-11.6	21	6	-	-	9.1	-	3.8	-	-	-
	MONTH	94.8	99	14	12	8.2	0.3	4.2	-	-9.4	16	12	47	-	4	-	-13.2	17	22	-	-	52.4	-	3.0	-	-	7
Belmullet Co. Mayo	1-10	45.2	-	9	8	9.5	4.1	6.8	-	-0.1	7	1	27	-	1	-	-7.5	1	4	6.0	-	9.8	-	6.6	4	-	-
	11-20	8.0	-	5	3	7.7	-0.5	3.6	-	-3.2	14	5	9	-	0	-	-8.6	14	10	4.7	-	39.0	-	2.9	0	-	-
	21-END	18.1	-	4	4	8.6	2.7	5.6	-	-2.1	21	2	17	-	1	-	-6.6	22	3	5.4	-	15.6	-	6.1	2	-	-
	MONTH	71.3	94	18	15	8.6	2.0	5.3	-0.4	-3.2	14	8	53	77	2	-	-8.6	14	17	5.4	+0.1	64.4	89	5.1	6	15	-
Claremorris Co. Mayo	1-10	39.4	-	8	7	9.6	2.8	6.2	-	-0.5	3	1	24	-	1	-	-7.3	1	6	5.4	-	13.2	-	4.9	4	-	-
	11-20	6.2	-	2	1	6.0	-2.1	2.0	-	-4.9	17	10	4	-	0	-	-10.3	17	10	2.5	-	30.4	-	2.3	0	-	-
	21-END	27.8	-	4	4	7.8	2.1	4.9	-	-3.5	21	2	15	-	2	-	-8.2	21	2	4.2	-	9.1	-	4.1	2	-	-
	MONTH	73.4	95	14	12	7.8	0.8	4.3	+0.0	-4.9	17	13	44	80	3	-	-10.3	17	18	4.1	+0.1	52.7	78	3.7	6	10	-
Glenamoy Co. Mayo	1-10	51.6	-	8	8	9.4	3.5	6.4	-	-1.0	7	1	25	-	1	-	-3.0	7	5	-	-	N/A	-	4.4	-	-	-
	11-20	4.9	-	2	2	7.6	-1.7	2.9	-	-4.6	14	8	9	-	1	-	-7.4	14	9	-	-	34.4	-	1.0	-	-	-
	21-END	19.8	-	4	4	9.2	1.5	5.4	-	-3.0	22	3	18	-	2	-	-7.0	22	5	-	-	12.8	-	5.7	-	-	-
	MONTH	76.3	80	14	14	8.7	1.0	4.9	-	-4.6	14	12	52	-	4	-	-7.4	14	19	-	-	N/A	-	3.5	-	N/A	-
Dunsany (Grange) Co. Meath	1-10	16.4	-	6	3	10.0	2.0	6.0	-	-6.3	1	2	24	-	1	-	-8.2	1	6	-	-	18.3	-	-	-	-	-
	11-20	0.5	-	2	0	5.0	-4.3	0.3	-	-8.5	15	9	3	-	0	-	-12.0	17	9	-	-	26.1	-	-	-	-	-
	21-END	14.1	-	4	3	8.7	1.3	5.0	-	-4.6	21	3	17	-	3	-	-10.0	21	4	-	-	13.3	-	-	-	-	-
	MONTH	31.0	54	12	6	7.8	-0.5	3.7	-	-8.5	15	14	44	-	4	-	-12.0	17	19	-	-	57.7	-	-	-	-	-
Clones Co. Monaghan	1-10	22.5	-	8	5	9.6	3.0	6.3	-	-0.8	7	2	25	-	2	-	-6.9	1	7	5.1	-	15.9	-	4.1	3	-	-
	11-20	0.4	-	1	0	5.5	-2.8	1.3	-	-6.1	17	8	4	-	0	-	-12.6	17	9	2.3	-	37.6	-	1.6	0	-	-
	21-END	20.1	-	4	2	8.4	2.4	5.4	-	-2.6	21	2	17	-	3	-	-7.6	21	5	4.7	-	10.9	-	3.1	1	-	-
	MONTH	43.0	65	13	7	7.8	0.8	4.3	+0.3	-6.1	17	12	46	94	4	-	-12.6	17	21	4.0	+0.3	64.4	104	2.9	4	10	-
Birr Co. Offaly	1-10	27.9	-	7	4	10.5	3.7	7.1	-	-0.2	7	1	31	-	3	-	-4.4	4	4	6.2	-	13.4	-	3.6	3	-	-
	11-20	2.0	-	3	0	5.4	-2.8	1.3	-	-7.1	17	9	4	-	0	-	-12.4	17	10	3.0	-	33.6	-	1.2	0	-	-
	21-END	17.2	-	4	3	8.8	2.4	5.6	-	-6.2	21	2	20	-	4	-	-11.6	21	3	4.9	-	13.1	-	3.4	1	-	-
	MONTH	47.1	91	14	7	8.2	1.0	4.6	-0.0	-7.1	17	12	55	93	7	-	-12.4	17	17	4.7	+0.4	68.1	84	2.7	4	9	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

FEBRUARY 1987

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)														BRIGHT SUNSHINE		WIND		P.E.L. (PENNY) (mm.)					
		AMOUNT	% OF AVERAGE	RAIN DAYS	MET. DAYS	AIR							GROUND			SOIL (10cm)				TOTAL NO. OF HOURS	% OF AVERAGE	MEAN SPEED (ms ⁻¹)	DAYS WITH GALE GUSTS						
						MEAN MAX.	MEAN MIN.	MEAN DAILY	DIFFERENCE FROM AVERAGE	LOWEST MIN.	DATE	DAYS WITH AIR FROST	DEGREE DAYS ABOVE 4.1°C	% OF AVERAGE	DEGREE DAYS ABOVE 10.0°C	% OF AVERAGE	LOWEST "GRASS-MIN"	DATE	DAYS WITH GROUND FROST						MEAN DAILY	DIFFERENCE FROM AVERAGE			
Dundrum (Knockavilla) Co. Tipperary	1-10	33.4	-	8	4	10.3	3.4	6.8	-	-4.1	1	2	30	-	2	-	-8.6	1	5	-	-	-	-	-	-	-	-	-	-
	11-20	2.0	-	2	1	5.5	-2.9	1.3	-	-6.6	17	10	3	-	0	-	-11.7	17	10	-	-	-	-	-	-	-	-	-	-
	21-END	22.2	-	6	4	9.0	2.4	5.7	-	-4.3	21	2	21	-	4	-	-10.5	21	4	-	-	-	-	-	-	-	-	-	-
	MONTH	57.6	-	16	9	8.2	0.8	4.5	-	-6.6	17	14	54	-	6	-	-11.7	17	19	-	-	-	-	-	-	-	-	-	-
Dungarvan (Carriglee) Co. Waterford	1-10	46.6	-	6	4	11.1	4.7	7.9	-	-0.2	7	1	38	-	5	-	-1.4	7	3	-	-	20.2	-	2.7	-	-	-	-	-
	11-20	6.8	-	4	2	6.4	-1.8	2.3	-	-3.9	16	8	5	-	0	-	-6.1	18	10	-	-	42.7	-	2.0	-	-	-	-	-
	21-END	46.3	-	5	4	10.0	3.6	6.8	-	-0.4	22	2	23	-	5	-	-4.1	21	2	-	-	14.2	-	3.8	-	-	-	-	-
	MONTH	99.7	103	15	10	9.1	2.1	5.6	-	-3.9	16	11	66	-	7	-	-6.1	18	15	-	-	77.1	-	2.8	-	-	-	5	-
Mullingar Co. Westmeath	1-10	26.2	-	7	4	9.5	2.8	6.2	-	-1.9	7	3	25	-	2	-	-6.8	1	5	5.5	-	18.6	-	4.5	2	-	-	-	-
	11-20	2.0	-	3	1	5.2	-3.5	0.8	-	-6.3	15	10	3	-	0	-	-10.7	19	10	2.0	-	40.9	-	1.6	0	-	-	-	-
	21-END	20.7	-	4	3	8.2	1.9	5.0	-	-2.7	21	5	16	-	2	-	-8.0	21	4	4.1	-	12.7	-	3.2	1	-	-	-	-
	MONTH	48.9	82	14	8	7.6	0.3	4.0	-0.0	-6.3	15	16	44	85	4	-	-10.7	19	19	3.8	-0.1	72.2	103	3.1	3	9	-	-	-
J.F.K. Park Co. Wexford	1-10	39.8	-	7	5	9.8	4.2	7.0	-	-1.0	1	1	29	-	1	-	-6.1	10	5	-	-	14.4	-	5.3	-	-	-	-	-
	11-20	3.0	-	3	2	5.7	-0.8	2.4	-	-2.5	17	7	3	-	0	-	-9.2	17	10	-	-	45.1	-	3.1	-	-	-	-	-
	21-END	38.5	-	4	3	8.6	3.3	6.0	-	0.0	21	0	17	-	2	-	-7.8	21	7	-	-	11.8	-	5.7	-	-	-	-	-
	MONTH	81.3	99	14	10	8.0	2.2	5.1	-	-2.5	17	8	50	-	3	-	-9.2	17	22	-	-	71.3	-	4.6	-	13	-	-	-
Clonroche Co. Wexford	1-10	57.8	-	7	5	9.5	4.0	6.7	-	0.5	7	0	27	-	1	-	-5.2	7	4	-	-	15.5	-	2.4	-	-	-	-	-
	11-20	5.7	-	5	3	5.7	-1.7	2.0	-	-3.3	18	9	3	-	0	-	-10.6	19	9	-	-	43.8	-	1.4	-	-	-	-	-
	21-END	42.8	-	3	3	8.4	2.8	5.6	-	-1.3	21	1	17	-	2	-	-6.4	21	5	-	-	9.5	-	2.7	-	-	-	-	-
	MONTH	106.3	113	15	11	7.8	1.6	4.7	-	-3.3	18	10	46	-	3	-	-10.6	19	18	-	-	68.6	-	2.1	-	7	-	-	-
Johnstown Castle Co. Wexford	1-10	46.5	-	7	5	9.3	4.4	6.8	-	0.6	1	0	27	-	0	-	-3.0	7	4	-	-	10.4	-	4.6	-	-	-	-	-
	11-20	8.5	-	4	4	5.8	-0.7	2.6	-	-2.4	17	8	4	-	0	-	-7.7	13	9	-	-	47.5	-	3.2	-	-	-	-	-
	21-END	36.1	-	3	3	7.9	3.2	5.5	-	-0.6	21	1	14	-	1	-	-6.3	21	2	-	-	10.5	-	5.0	-	-	-	-	-
	MONTH	91.1	115	14	12	7.6	2.2	4.9	-	-2.4	17	9	45	-	1	-	-7.7	13	15	-	-	68.4	-	4.2	-	2	-	-	-
Rosslere Co. Wexford	1-10	41.1	-	6	5	9.4	5.5	7.4	-	2.5	7	0	32	-	1	-	-1.5	4	2	7.1	-	9.5	-	4.8	4	-	-	-	-
	11-20	5.7	-	3	3	6.0	1.1	3.6	-	0.1	17	0	5	-	0	-	-5.8	13	9	3.8	-	45.8	-	3.7	0	-	-	-	-
	21-END	29.6	-	4	4	8.0	5.2	6.5	-	3.8	25	0	19	-	1	-	1.1	21	0	5.5	-	10.4	-	5.4	1	-	-	-	-
	MONTH	76.4	111	13	12	7.8	3.8	5.8	+0.0	0.1	17	0	56	88	2	-	-5.8	13	11	5.5	-0.0	65.7	86	4.6	5	15	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL RADIATION

STATION	PERIOD	AMOUNT MJ/m ²
Malin Head Co. Donegal	1-10	31.83
	11-20	60.59
	21-end	34.13
	Month	126.55
Dublin Airport Co. Dublin	1-10	32.81
	11-20	54.78
	21-end	39.26
	Month	126.85
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	31.43
	11-20	60.85
	21-end	41.34
	Month	133.62
Kilkenny Co. Kilkenny	1-10	36.86
	11-20	53.34
	21-end	34.14
	Month	124.34
Belmullet Co. Mayo	1-10	24.40
	11-20	55.17
	21-end	39.97
	Month	119.54
Clones Co. Monaghan	1-10	29.93
	11-20	57.26
	21-end	38.97
	Month	126.16
Birr Co. Offaly	1-10	32.51
	11-20	55.09
	21-end	38.42
	Month	126.02

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	2.7	-	0	17
	11-20	4.1	2	2	-
	21-end	2.5	-	0	18
	Month	9.3	-	-	-
Kinsealy Co. Dublin	1-10	4.9	-	0	9
	11-20	0.2	-	0	8
	21-end	6.4	-	0	5
	Month	11.5	-	-	-
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	0.2	-	0	71
	11-20	-4.1	-	0	29
	21-end	9.3	-	0	34
	Month	5.4	-	-	-
Ballinamore Co. Leitrim	1-10	5.0	-	0	32
	11-20	1.8	2	2	-
	21-end	10.7	-	0	19
	Month	17.5	-	-	-
Glenamoy Co. Mayo	1-10	-2.8	-	0	54
	11-20	6.3	1	1	-
	21-end	5.2	-	0	15
	Month	8.7	-	-	-
Johnstown Castle Co. Wexford	1-10	1.9	-	0	45
	11-20	1.9	-	0	7
	21-end	7.5	-	0	29
	Month	11.3	-	-	-

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	5.8	4.8	3.4	-0.4
	11-20	2.5	1.6	1.2	+0.9	N/A	N/A
	21-end	4.9	3.9	2.5	-0.5	N/A	N/A
Mineral	1-10	6.7	5.3	3.2	-0.3	50	63
	11-20	3.9	2.3	1.1	+0.4	N/A	N/A
	21-end	5.6	4.4	2.6	-0.2	64	54

SOIL - WATER - CLIMATE

"The parade of civilisations through time has often marched to the cadence of the natural resource trinity - SOIL, WATER, CLIMATE. History is replete with attempts to march to different drummers ..." (Miller et al. 1986). Chief among the tragic parades alluded to by Miller and co-workers are the early civilisations of the Middle East, the ancient Chinese and Egyptian dynasties and the empires of Greece and Rome. They go on to state that "the US Dust Bowl, the Sahel and other ecological disasters reveal the flaw in humankind's ability to assess the carrying capacity of the resource trinity and to manage its components."

Despite a complacent attitude, based on an unquestioned belief in the versatility of our Irish resources it is opportune in 1987, European Year of the Environment, to highlight some of the important inter-relationships between soil, water and climate and to take stock. Since we are more familiar with, are more dependent on and have more control over our soil resources it behoves us not to ignore what is happening under our feet. The term "soil degradation", long believed to apply only to distant lands, has found a disquieting currency in recent years in Irish and Western European circles. It is disconcerting, to say the least, to learn that, over large areas of the surface of the earth soil should now be regarded as a non-renewable resource because soil losses are outstripping gains from soil formation by factors ranging from 20 to 100. Physical loss of soil is not the only problem. Equally detrimental are declines in organic matter content, chemical overloading with effluents, accumulation of salts, deepseated compaction and surface sealing.

Water erosion of soil involves particle detachment, transport and deposition. Detachment, in turn, depends on cohesiveness between particles, with clay and organic matter foremost in providing strong bonding forces. Transport ranges from raindrop splashes to inter-rill dislodgement, rill and ultimately gully formation. Deposition occurs where transport capacity is reduced as a result of change of gradient or surface roughness.

While water erosion is becoming common in intensively-tilled soils in Ireland, the more immediate problem is crusting or sealing at the surface. With declining organic matter levels raindrop impact breaks soil aggregates into constituent particles of sand, silt and clay. The finer particles concentrate in local microdepressions, which when dried by the sun form a strong seal or crust on the surface. For some years emergence of sugar beet seedlings has been curtailed by the development of crusts. Wind erosion is more a problem on arid and semi-arid areas, especially when the soil is dry, loose and finely granular. Declining organic matter levels and poorer structural stability, especially in large exposed fields, make some Irish land prone to loss in the spring. However reports of damage due to accumulation of transported soil have been of a local nature (bare, dried lake beds; very dry peat soils, etc.).

Subsurface compaction (at or below plough depth) arises mainly from the weight of tyred and trailed vehicles and implements and soil manipulation (ploughing, discing, etc.) when soil is in a plastic state. It is aggravated when downward moving water is restricted by poor porosity, thereby facilitating internal slaking. Compact layers lead to reduced root penetration, poor air exchange, lower reserves of available water, as well as distorted roots (e.g. sugar beet).

Reference:

Miller, F. P., Rasmussen, W. D. and Meyer, L. D. 1986. "Historical Perspective of Soil Erosion in the United States", In: Follet, R. F. and Steward, B. A. (eds.), Soil Erosion and Crop Productivity, American Society of Agronomy, Madison, Wisconsin.

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