



# AGROMETEOROLOGICAL BULLETIN.

## The Weather of May 1990

### Summary

1st-4th : Settled conditions in easterly or light winds.  
5th-9th : Cool west to northwest airflow and troughs . 10th-16th : mild southerly (SE-SW) airflow/rainbelts  
17th-22nd : Light east-northeasterly, dry; some mist and fog, and thunder in south.  
23rd-27th : High pressure and settled conditions. 28th-31st : Active rainbelts, variable wind

### Meteorological Situation

High pressure tended to recur in the Atlantic-European seaboard from the Azores to the Norwegian Sea. Warm, sunny conditions during opening four days gave way to the increasing influence of troughs. A low moved down from the Icelandic region *via* Scotland and Britain on 5th/6th followed by an associated trough. Subsequent conditions to 9th included northwesterly winds and showers occasionally merging to rain in the northeast.. As the Azores high declined, an Atlantic low pressure system and southwesterly winds steered troughs to Ireland on 10th/11th. Later a more general decline of pressure enabled a series of troughs to affect the country from 13th to 16th.

Subsequently a high built down from northern latitudes and Atlantic troughs moved towards Biscay. Dry weather developed over the country in an east to northeast airflow; some mist and fog also occurred as well as a few thundery outbreaks of rain in southern areas. The high extended across Ireland to Azores on 21st but a decline from the north allowed a trough and northwest winds to affect the country on 22nd. The Atlantic high recovered again giving settled conditions to 27th. It finally receded into mainland Europe, and rainbelts became more active over the country, especially on 28th/29th and 31st.

### Precipitation

Precipitation was mostly below to well below normal. It varied from 29% of normal at Glenamoy to 91% at Kinsealy (but 110% at Ardee, Co Louth). Driest spells were 1st-6th, 11th-13th (1st-13th in south) and 17th-27th. Wettest days were 7th-9th, 14th-16th and 28th-31st. Soil moisture deficits at the end of the month varied from about 50 to 65 mm but was only 22 mm at Cahirciveen.

### Wind

Strong winds with gale gusts were infrequent. Some gale gusts occurred on 14th to 16th and 31st.

### Temperature

Mean air temperature was well above normal everywhere. It varied from 2.4°C above normal at Shannon Airport to 1.1°C above at Malin Head. Highest temperatures occurred in the opening four days when 25°C was exceeded a number of times. Lowest values were reached in the periods 7th to 11th and 24th to 26th. Soil temperature was generally 2°C to 3°C above average, and over 5°C above in the first 5-day spell.

### Sunshine and Radiation

Bright sunshine hours were above normal except at Belmullet. Totals varied from 123% of normal at Belmullet. Global radiation was 113% of average at Dublin Airport and 115% at Cahirciveen.

NOTE: The data contained in this bulletin are provisional . Some of the material in Table 1 will *Annual Sub.* be published in its final form in the monthly Weather Report; final values of Global Radiation at £ 20.00 stations in Table 2 will be published in the annual Solar Radiation Observations

TABLE 1

MAY

1990

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	5.1	-	3	3	18.5	7.2	12.8	-	4.0	7	0	84	-	37	-	-1.6	7	1	-	-	70.3	-	2.6	-	-
	11-20	9.4	-	2	2	16.8	6.0	11.4	-	2.3	13	0	71	-	24	-	-1.8	11	2	-	-	57.4	-	2.6	-	-
	21-END	16.2	-	2	2	17.6	6.1	11.8	-	1.5	25	0	84	-	33	-	-1.8	25	3	-	-	60.9	-	2.4	-	-
	MONTH	30.7	51	7	7	17.6	6.4	12.0	-	1.5	25	0	239	-	93	-	-1.8	25	6	-	-	188.6	-	2.6	-	74
Shannon Airport Co. Clare	1-10	0.8	-	1	0	18.6	9.6	14.1	-	6.8	7	0	97	-	44	-	2.3	10	0	15.9	-	80.4	-	2.8	0	-
	11-20	17.5	-	3	2	17.7	9.9	13.8	-	7.4	19	0	94	-	39	-	2.4	12	0	15.9	-	52.6	-	2.8	0	-
	21-END	3.9	-	3	2	18.3	9.4	13.8	-	6.0	24	0	104	-	46	-	0.4	25	0	16.7	-	77.5	-	3.2	0	-
	MONTH	22.2	38	7	4	18.2	9.6	13.9	+2.4	6.0	24	0	294	127	129	163	0.4	25	0	16.2	+3.0	210.5	113	2.9	0	94
Cork Airport Co. Cork	1-10	0.3	-	1	0	16.9	8.3	12.6	-	4.6	7	0	82	-	32	-	2.3	7	0	14.8	-	76.2	-	4.6	0	-
	11-20	20.2	-	4	2	15.3	8.7	12.0	-	6.6	13	0	76	-	24	-	3.2	12	0	14.5	-	56.1	-	5.6	2	-
	21-END	13.3	-	3	3	16.0	8.3	12.1	-	5.1	25	0	85	-	29	-	2.3	21	0	15.5	-	71.5	-	5.1	1	-
	MONTH	33.8	39	8	5	16.0	8.4	12.2	+1.8	4.6	7	0	243	127	85	163	2.3	21	0	15.0	+2.9	203.8	104	5.1	3	87
Fermoy (Coolnakilla) Co. Cork	1-10	3.1	-	2	1	22.6	7.8	15.2	-	3.6	7	0	108	-	61	-	N/A	N/A	-	-	76.6	-	N/A	-	-	-
	11-20	25.5	-	7	5	14.9	7.7	11.3	-	5.5	13	0	69	-	19	-	N/A	N/A	-	-	47.3	-	N/A	-	-	-
	21-END	8.4	-	3	2	15.4	7.1	11.3	-	5.3	25	0	76	-	23	-	N/A	N/A	-	-	73.7	-	N/A	-	-	-
	MONTH	37.0	-	12	8	17.6	7.5	12.6	-	3.6	7	0	253	-	102	-	N/A	N/A	-	-	197.6	-	N/A	-	N/A	-
Fermoy (Moore Park) Co. Cork	1-10	2.4	-	2	1	17.6	6.1	11.9	-	2.2	7	0	75	-	31	-	-4.5	7	4	-	-	79.9	-	2.2	-	-
	11-20	21.6	-	4	3	17.2	6.3	11.8	-	1.5	12	0	75	-	27	-	-8.3	12	6	-	-	79.9	-	2.1	-	-
	21-END	7.5	-	3	2	17.6	5.3	11.5	-	1.9	25	0	80	-	30	-	-5.0	25	6	-	-	84.7	-	2.4	-	-
	MONTH	31.5	46	9	6	17.5	5.9	11.7	-	1.5	12	0	230	-	88	-	-8.3	12	16	-	-	216.7	-	2.3	-	75
Roches Point Co. Cork	1-10	0.8	-	2	0	16.4	9.1	12.8	-	6.0	7	0	84	-	31	-	3.1	7	0	15.0	-	79.7	-	3.5	0	-
	11-20	23.7	-	4	3	14.8	9.5	12.1	-	7.4	13	0	77	-	24	-	2.3	13	0	14.9	-	60.1	-	4.5	1	-
	21-END	9.0	-	3	2	15.9	9.9	12.9	-	6.4	25	0	94	-	35	-	3.0	25	0	15.7	-	66.9	-	3.9	0	-
	MONTH	33.5	50	9	5	15.7	9.6	12.6	+1.5	6.0	7	0	255	119	89	162	2.3	13	0	15.2	+2.3	206.7	104	4.0	1	87
Glencolumbkille Co. Donegal	1-10	29.3	-	4	3	16.8	8.9	12.9	-	6.3	9	0	85	-	35	-	1.6	9	N/A	-	-	N/A	-	2.9	-	-
	11-20	10.8	-	3	2	16.2	7.9	12.0	-	4.0	11	0	76	-	27	-	0.0	12	N/A	-	-	N/A	-	2.5	-	-
	21-END	7.1	-	2	2	16.3	8.9	12.6	-	4.6	25	0	90	-	33	-	-0.5	21	1	-	-	N/A	-	2.7	-	-
	MONTH	47.2	-	9	7	16.4	8.6	12.5	-	4.0	11	0	251	-	94	-	-0.5	21	N/A	-	-	N/A	-	2.7	-	N/A

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MAY 1990

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									
Glenties Co. Donegal	1-10	26.0	-	3	3	16.7	7.9	12.3	-	2.5	10	0	79	-	32	-	-3.6	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	24.8	-	3	3	16.6	7.0	11.8	-	1.0	11	0	75	-	27	-	-5.5	11	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	21-END	9.1	-	6	3	16.6	8.4	12.5	-	3.0	21	0	90	-	33	-	-2.6	21	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	MONTH	59.9	70	12	9	16.6	7.8	12.2	-	1.0	11	0	244	-	93	-	-5.5	11	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Malin Head Co. Donegal	1-10	13.2	-	5	3	14.0	8.9	11.5	-	6.0	10	0	71	-	21	-	2.3	10	0	15.0	-	83.0	-	5.3	1	-	-	-	-	-	-	-	-		
	11-20	10.1	-	3	3	12.8	8.0	10.4	-	5.3	19	0	60	-	11	-	2.9	19	0	15.3	-	82.3	-	6.4	1	-	-	-	-	-	-	-	-	-	
	21-END	2.9	-	3	1	14.3	9.2	11.7	-	6.0	26	0	81	-	23	-	1.0	26	0	17.2	-	80.0	-	5.9	3	-	-	-	-	-	-	-	-	-	
	MONTH	26.2	45	11	7	13.7	8.7	11.2	+1.1	5.3	19	0	211	112	54	126	1.0	26	0	15.9	+3.8	245.3	123	5.8	5	91	-	-	-	-	-	-	-		
Casement Aerodrome Co. Dublin	1-10	13.0	-	3	3	17.5	7.1	12.3	-	3.7	7	0	79	-	31	-	2.2	7	0	14.6	-	66.4	-	3.6	0	-	-	-	-	-	-	-	-	-	
	11-20	4.3	-	3	2	15.6	7.7	11.7	-	3.0	11	0	73	-	23	-	1.2	11	0	14.6	-	62.2	-	4.7	2	-	-	-	-	-	-	-	-	-	-
	21-END	26.9	-	2	2	17.2	6.9	12.1	-	3.6	24	0	85	-	33	-	1.3	25	0	16.4	-	70.5	-	3.9	1	-	-	-	-	-	-	-	-	-	
	MONTH	44.2	76	8	7	16.8	7.2	12.0	+1.5	3.0	11	0	237	118	87	132	1.2	11	0	15.2	-	199.1	105	4.0	3	86	-	-	-	-	-	-	-	-	
Dublin Airport Co. Dublin	1-10	18.4	-	4	4	17.2	8.1	12.6	-	4.4	7	0	83	-	33	-	2.6	7	0	15.4	-	72.9	-	2.3	0	-	-	-	-	-	-	-	-	-	
	11-20	7.8	-	3	3	15.3	8.7	12.0	-	4.7	11	0	76	-	24	-	0.4	12	0	14.5	-	60.4	-	3.4	0	-	-	-	-	-	-	-	-	-	-
	21-END	21.2	-	2	2	16.9	9.1	13.0	-	5.1	24	0	95	-	37	-	-1.2	25	3	16.9	-	79.2	-	2.3	0	-	-	-	-	-	-	-	-	-	
	MONTH	47.4	82	9	9	16.5	8.6	12.6	+2.0	4.4	7	0	253	123	93	158	-1.2	25	3	15.6	+2.7	212.5	109	2.7	0	87	-	-	-	-	-	-	-		
Kinsealy Co. Dublin	1-10	19.5	-	4	4	16.2	6.5	11.4	-	4.2	7	0	70	-	23	-	0.5	10	N/A	-	-	72.9	-	2.5	-	-	-	-	-	-	-	-	-	-	
	11-20	8.5	-	3	3	14.8	8.0	11.4	-	4.9	11	0	70	-	20	-	-0.9	13	2	-	-	65.3	-	3.3	-	-	-	-	-	-	-	-	-	-	
	21-END	22.7	-	3	2	16.3	7.4	11.8	-	4.2	27	0	82	-	29	-	-3.3	27	6	-	-	87.6	-	2.6	-	-	-	-	-	-	-	-	-	-	
	MONTH	50.7	91	10	9	15.8	7.3	11.5	-	4.2	27	0	222	-	72	-	-3.3	27	N/A	-	-	138.2	-	2.8	-	65	-	-	-	-	-	-	-	-	
Galway Co. Galway	1-10																																		
	11-20																																		
	21-END																																		
	MONTH																																		
Killarney (Muckross House) Co. Kerry	1-10	2.2	-	3	1	17.7	8.3	13.0	-	4.4	6	0	86	-	37	-	-1.6	7	1	-	-	66.6	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	29.4	-	3	3	16.8	9.0	12.9	-	4.8	12	0	85	-	32	-	-0.9	12	1	-	-	37.7	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	11.0	-	2	2	16.9	8.3	12.6	-	4.3	24	0	90	-	35	-	-0.1	24	1	-	-	60.5	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	42.6	43	8	6	17.1	8.5	12.8	-	4.3	24	0	261	-	104	-	-1.6	7	3	-	-	164.8	-	-	-	-	-	-	-	-	-	-	-	-	

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TABLE 1 (CONTINUED)

MAY 1990

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	2.4	-	2	1	17.5	9.3	13.4	-	6.0	6	0	90	-	38	-	2.3	6	0	15.5	-	71.4	-	3.4	1	-
	11-20	31.2	-	4	2	16.9	9.5	13.2	-	4.5	12	0	88	-	35	-	0.7	12	0	15.2	-	45.2	-	4.0	2	-
	21-END	16.1	-	3	2	17.2	9.2	13.2	-	5.8	24	0	97	-	39	-	0.9	24	0	16.4	-	79.6	-	4.0	2	-
	MONTH	49.7	58	9	5	17.2	9.3	13.3	+2.1	4.5	12	0	275	124	112	172	0.7	12	0	15.7	+2.5	196.2	105	3.8	5	86
Ardfert (Lis cahane) Co. Kerry	1-10	2.9	-	3	1	17.7	8.2	12.9	-	4.3	6	0	85	-	36	-	0.4	7	N/A	-	-	59.0	-	-	-	-
	11-20	16.1	-	3	3	17.4	8.3	12.9	-	4.5	12	0	85	-	34	-	0.0	12	N/A	-	-	51.1	-	-	-	-
	21-END	4.6	-	2	2	17.7	7.8	12.7	-	2.7	24	0	92	-	37	-	-0.8	24	1	-	-	62.9	-	-	-	-
	MONTH	23.6	-	8	6	17.6	8.1	12.8	-	2.7	24	0	262	-	107	-	-0.8	24	N/A	-	-	173.0	-	-	-	-
Lullymore Co. Kildare	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	N/A	N/A	-	-	N/A	-	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	N/A	N/A	-	-	N/A	-	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	N/A	N/A	-	-	N/A	-	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	N/A	N/A	-	-	N/A	-	N/A	-	N/A
Kilkenny Co. Kilkenny	1-10	0.9	-	3	0	18.2	6.8	12.5	-	2.9	7	0	81	-	34	-	-2.2	7	2	15.4	-	70.3	-	2.3	0	-
	11-20	9.6	-	3	2	16.7	6.8	11.7	-	2.0	13	0	75	-	26	-	-1.5	13	3	14.8	-	51.0	-	2.4	0	-
	21-END	15.5	-	2	2	17.5	5.5	11.5	-	1.7	26	0	80	-	31	-	-2.4	27	5	15.4	-	65.9	-	2.4	0	-
	MONTH	26.0	41	8	4	17.5	6.3	11.9	+1.2	1.7	26	0	236	113	91	125	-2.4	27	10	15.2	+2.2	187.2	104	2.4	0	76
Mooncoin (Silverspring) Co. Kilkenny	1-10	4.7	-	2	1	18.3	5.3	11.8	-	3.0	7	0	74	-	31	-	-2.5	7	3	-	-	69.1	-	-	-	-
	11-20	13.0	-	3	2	17.0	6.3	11.7	-	1.9	13	0	75	-	26	-	-3.1	13	5	-	-	50.3	-	-	-	-
	21-END	12.5	-	3	3	17.2	5.0	11.1	-	0.8	26	0	77	-	29	-	-3.7	27	7	-	-	71.6	-	-	-	-
	MONTH	30.2	43	8	6	17.5	5.5	11.5	-	0.8	26	0	226	-	86	-	-3.7	27	15	-	-	191.0	-	-	-	-
Ballinamore Co. Leitrim	1-10	10.3	-	5	3	18.1	6.7	12.4	-	3.1	10	0	80	-	34	-	-1.6	10	2	-	-	73.9	-	2.1	-	-
	11-20	15.0	-	3	3	16.2	6.8	11.5	-	0.7	11	0	72	-	24	-	-3.1	11	2	-	-	30.4	-	1.2	-	-
	21-END	10.5	-	4	3	17.6	7.2	12.4	-	1.5	27	0	89	-	35	-	-3.6	27	5	-	-	53.2	-	1.4	-	-
	MONTH	35.8	49	12	9	17.3	6.9	12.1	-	0.7	11	0	241	-	92	-	-3.6	27	9	-	-	157.5	-	1.6	-	64
Ardee (Boharnamoe) Co. Louth	1-10	20.7	-	4	3	17.2	5.7	11.5	-	3.2	7	0	71	-	27	-	-2.5	10	4	-	-	-	-	-	-	-
	11-20	10.8	-	5	3	15.6	5.7	10.6	-	1.3	13	0	64	-	19	-	-3.9	11	6	-	-	-	-	-	-	-
	21-END	34.5	-	3	3	17.6	5.9	11.7	-	1.0	27	0	83	-	32	-	-3.1	24	6	-	-	-	-	-	-	-
	MONTH	66.0	110	12	9	16.8	5.7	11.3	-	1.0	27	0	219	-	78	-	-3.9	11	16	-	-	-	-	-	-	-

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MAY 1990

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								
Ballinrobe (Creagh) Co. Mayo	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	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	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	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	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	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	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	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-
Belmullet Co. Mayo	1-10	4.8	-	4	1	16.1	9.0	12.5	-	4.4	10	0	81	-	30	-	2.0	10	0	15.0	-	66.3	-	4.3	0	-	-	-	-	-	-	-	-	-
	11-20	4.5	-	3	1	17.0	9.2	13.1	-	6.2	13	0	87	-	34	-	3.1	13	0	15.4	-	49.4	-	4.0	0	-	-	-	-	-	-	-	-	-
	21-END	10.6	-	3	3	16.6	9.7	13.1	-	6.6	25	0	96	-	37	-	2.8	25	0	16.2	-	70.3	-	5.6	2	-	-	-	-	-	-	-	-	-
	MONTH	19.9	30	10	5	16.6	9.3	12.9	+2.2	4.4	10	0	264	129	100	179	2.0	10	0	15.6	+3.0	186.0	93	4.7	2	89	-	-	-	-	-	-	-	-
Claremorris Co. Mayo	1-10	7.2	-	3	3	18.3	7.4	12.9	-	3.5	10	0	85	-	36	-	-1.0	10	1	14.8	-	80.4	-	3.3	0	-	-	-	-	-	-	-	-	-
	11-20	9.0	-	3	2	16.6	7.5	12.0	-	3.7	13	0	77	-	28	-	0.7	11	0	15.0	-	42.5	-	3.3	1	-	-	-	-	-	-	-	-	-
	21-END	7.4	-	5	3	17.6	7.2	12.4	-	3.0	27	0	89	-	35	-	1.0	27	0	16.3	-	57.5	-	3.4	1	-	-	-	-	-	-	-	-	-
	MONTH	23.6	33	11	8	17.5	7.4	12.4	+2.0	3.0	27	0	250	127	98	153	-1.0	10	1	15.4	+3.4	180.4	105	3.3	2	78	-	-	-	-	-	-	-	-
Glenamoy Co. Mayo	1-10	8.7	-	2	2	16.0	7.9	11.9	-	2.8	10	0	76	-	27	-	0.1	10	0	-	-	69.2	-	0.1	-	-	-	-	-	-	-	-	-	-
	11-20	11.2	-	2	2	17.3	8.5	12.9	-	2.2	12	0	85	-	34	-	0.4	12	0	-	-	49.5	-	0.0	-	-	-	-	-	-	-	-	-	-
	21-END	4.2	-	3	2	16.9	7.5	12.2	-	4.8	24	0	86	-	32	-	1.4	25	0	-	-	70.0	-	0.1	-	-	-	-	-	-	-	-	-	-
	MONTH	24.1	29	7	6	16.7	7.9	12.3	-	2.2	12	0	247	-	92	-	0.1	10	0	-	-	188.7	-	0.1	-	63	-	-	-	-	-	-	-	-
Dunsany (Grange) Co. Meath	1-10	11.5	-	3	2	17.4	5.7	11.6	-	1.9	10	0	73	-	30	-	-3.2	7	2	-	-	80.4	-	-	-	-	-	-	-	-	-	-	-	-
	11-20	17.8	-	3	3	15.1	6.6	10.9	-	1.0	11	0	67	-	19	-	-2.8	11	3	-	-	54.0	-	-	-	-	-	-	-	-	-	-	-	-
	21-END	13.0	-	3	3	16.9	6.6	11.8	-	0.5	25	0	83	-	32	-	-4.7	25	4	-	-	63.8	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	42.3	68	9	8	16.5	6.3	11.4	-	0.5	25	0	223	-	80	-	-4.7	25	9	-	-	198.2	-	-	-	-	-	-	-	-	-	-	-	-
Clones Co. Monaghan	1-10	18.8	-	4	4	17.7	7.4	12.6	-	4.0	10	0	82	-	33	-	-1.4	10	1	13.3	-	80.6	-	2.3	0	-	-	-	-	-	-	-	-	-
	11-20	22.2	-	3	3	15.5	6.7	11.1	-	1.7	11	0	68	-	20	-	-2.4	11	2	12.9	-	34.1	-	1.8	0	-	-	-	-	-	-	-	-	-
	21-END	10.5	-	3	2	17.4	8.1	12.8	-	3.5	25	0	92	-	37	-	-3.0	25	1	14.1	-	56.2	-	1.9	0	-	-	-	-	-	-	-	-	-
	MONTH	51.5	79	10	9	16.9	7.4	12.2	+1.8	1.7	11	0	241	122	91	142	-3.0	25	4	13.4	+1.1	170.9	101	2.0	0	72	-	-	-	-	-	-	-	-
Birr Co. Offaly	1-10	5.1	-	3	2	18.5	7.5	13.0	-	4.2	10	0	86	-	38	-	-0.3	7	1	15.0	-	72.6	-	1.5	0	-	-	-	-	-	-	-	-	-
	11-20	13.1	-	4	4	16.9	6.8	11.9	-	1.8	11	0	76	-	27	-	-2.1	11	3	15.0	-	53.9	-	1.9	0	-	-	-	-	-	-	-	-	-
	21-END	5.9	-	3	3	17.9	7.1	12.5	-	2.2	24	0	90	-	37	-	-2.1	24	4	16.1	-	65.4	-	1.7	0	-	-	-	-	-	-	-	-	-
	MONTH	24.1	39	10	9	17.8	7.1	12.5	+1.8	1.8	11	0	252	121	102	144	-2.1	24	8	15.4	+2.4	191.9	107	1.7	0	77	-	-	-	-	-	-	-	

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 1 (CONTINUED)

MAY 1990

STATION	PERIOD	RAINFALL (mm)				TEMPERATURE (°C)																BRIGHT SUNSHINE		WIND																
		AMOUNT	% OF AVERAGE	RAIN 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)																	
				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														
																											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"
Dundrum (Knockavilla) Co. Tipperary	1-10	2.1	-	2	1	18.4	6.8	12.6	-	4.2	7	0	82	-	35	-	-0.6	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11-20	12.5	-	3	2	17.0	6.3	11.6	-	2.5	12	0	74	-	26	-	-1.0	12	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	21-END	11.1	-	3	2	17.7	5.7	11.7	-	2.2	24	0	83	-	32	-	-2.7	25	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	MONTH	25.7	-	8	5	17.7	6.2	12.0	-	2.2	24	0	239	-	93	-	-2.7	25	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dungarvan (Carriglea) Co. Waterford	1-10	6.2	-	1	1	18.1	6.4	12.2	-	2.7	7	0	79	-	32	-	-4.9	4	9	-	-	-	-	72.8	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-		
	11-20	15.6	-	4	3	17.3	7.3	12.3	-	2.0	12	0	79	-	30	-	-8.4	12	5	-	-	-	-	60.6	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	9.5	-	3	2	18.3	6.0	12.2	-	1.0	25	0	87	-	37	-	-8.5	25	9	-	-	-	-	69.4	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	31.3	40	8	6	17.9	6.6	12.2	-	1.0	25	0	246	-	99	-	-8.5	25	23	-	-	-	-	202.8	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mullingar Co. Westmeath	1-10	24.5	-	3	3	17.9	7.3	12.6	-	4.3	10	0	82	-	34	-	1.8	7	0	14.2	-	-	-	88.5	-	2.5	0	-	-	-	-	-	-	-	-	-	-	-	-	
	11-20	12.2	-	3	3	15.5	7.0	11.2	-	1.7	11	0	69	-	21	-	-0.4	11	1	13.6	-	-	-	52.7	-	2.7	0	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	7.4	-	3	3	17.2	7.2	12.2	-	3.5	27	0	86	-	33	-	0.8	27	0	15.1	-	-	-	67.6	-	2.3	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	MONTH	44.1	66	9	9	16.9	7.2	12.0	+1.7	1.7	11	0	238	118	87	128	-0.4	11	1	14.3	+1.9	-	-	-	208.8	116	2.5	0	78	-	-	-	-	-	-	-	-	-	-	
J.F.K. Park Co. Wexford	1-10	0.0	-	0	0	19.5	8.4	13.9	-	4.5	8	0	95	-	46	-	-1.4	8	3	-	-	-	N/A	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11-20	6.8	-	1	1	16.2	8.2	12.2	-	3.9	12	0	78	-	27	-	-2.2	12	3	-	-	-	N/A	-	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	25.5	-	3	3	16.1	8.6	12.3	-	6.9	28	0	87	-	30	-	-1.3	28	2	-	-	-	N/A	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	32.3	44	4	4	17.2	8.4	12.8	-	3.9	12	0	260	-	103	-	-2.2	12	8	-	-	-	N/A	-	3.5	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	
Clonroche Co. Wexford	1-10	2.1	-	1	1	18.2	7.9	13.0	-	2.2	7	0	87	-	38	-	-4.0	7	2	-	-	-	75.4	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11-20	7.6	-	3	1	16.0	7.6	11.8	-	3.9	11	0	74	-	24	-	-1.9	17	4	-	-	-	66.0	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21-END	20.4	-	3	3	16.8	6.9	11.9	-	4.3	28	0	82	-	29	-	-2.9	24	5	-	-	-	80.1	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MONTH	30.1	37	7	5	17.0	7.4	12.2	-	2.2	7	0	243	-	92	-	-4.0	7	11	-	-	-	221.5	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Johnstown Castle Co. wexford	1-10	1.6	-	2	1	16.7	7.6	12.2	-	3.4	7	0	78	-	28	-	-2.4	7	2	-	-	-	64.8	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11-20	8.8	-	3	2	15.2	8.2	11.7	-	5.4	13	0	73	-	22	-	-2.6	12	3	-	-	-	51.5	-	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-		
	21-END	27.0	-	3	3	16.4	8.2	12.3	-	6.0	25	0	87	-	31	-	-3.0	28	3	-	-	-	76.9	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
	MONTH	37.4	56	8	6	16.1	8.0	12.1	-	3.4	7	0	238	-	81	-	-3.0	28	8	-	-	-	193.2	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
Rosslare Co. Wexford	1-10	5.1	-	1	1	14.4	8.4	11.4	-	4.4	7	0	70	-	19	-	2.5	7	0	14.8	-	-	-	75.0	-	3.8	0	-	-	-	-	-	-	-	-	-	-	-		
	11-20	14.3	-	3	2	13.9	9.5	11.7	-	7.6	12	0	73	-	19	-	2.9	12	0	14.5	-	-	-	71.0	-	6.3	1	-	-	-	-	-	-	-	-	-	-	-		
	21-END	21.0	-	3	3	15.4	10.3	12.9	-	9.1	24	0	93	-	32	-	3.0	28	0	16.9	-	-	-	93.0	-	5.1	0	-	-	-	-	-	-	-	-	-	-	-		
	MONTH	40.4	68	7	6	14.6	9.4	12.0	+1.2	4.4	7	0	236	113	70	140	2.5	7	0	15.5	+2.2	-	-	239.0	109	5.1	1	93	-	-	-	-	-	-	-	-	-			

NOTES ON THE TABLES IN JANUARY ISSUE

TABLE 2 GLOBAL RADIATION

STATION	PERIOD	AMOUNT MJ/m <sup>2</sup>
Malin Head Co. Donegal	1-10	195.40
	11-20	209.60
	21-end	237.71
	Month	642.71
Dublin Airport Co. Dublin	1-10	181.32
	11-20	184.57
	21-end	215.69
	Month	581.58
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	177.93
	11-20	160.14
	21-end	217.49
	Month	555.56
Kilkenny Co. Kilkenny	1-10	182.58
	11-20	173.96
	21-end	208.85
	Month	565.39
Belmullet Co. Mayo	1-10	158.45
	11-20	149.57
	21-end	186.43
	Month	494.45
Clones Co. Monaghan	1-10	181.40
	11-20	144.64
	21-end	196.47
	Month	525.51
Birr Co. Offaly	1-10	178.05
	11-20	173.10
	21-end	207.43
	Month	558.58

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

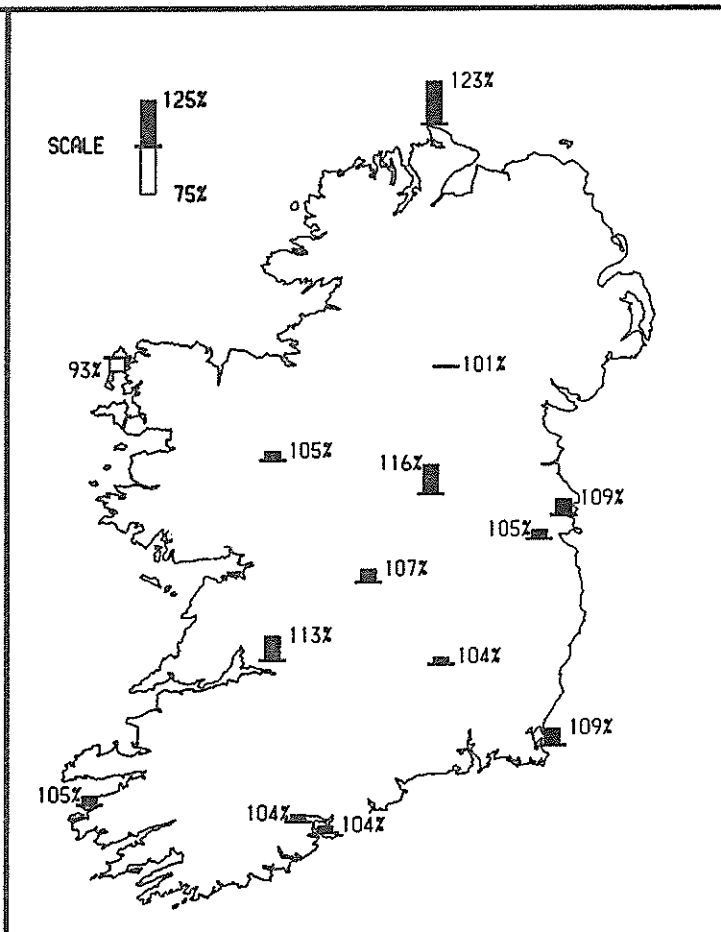
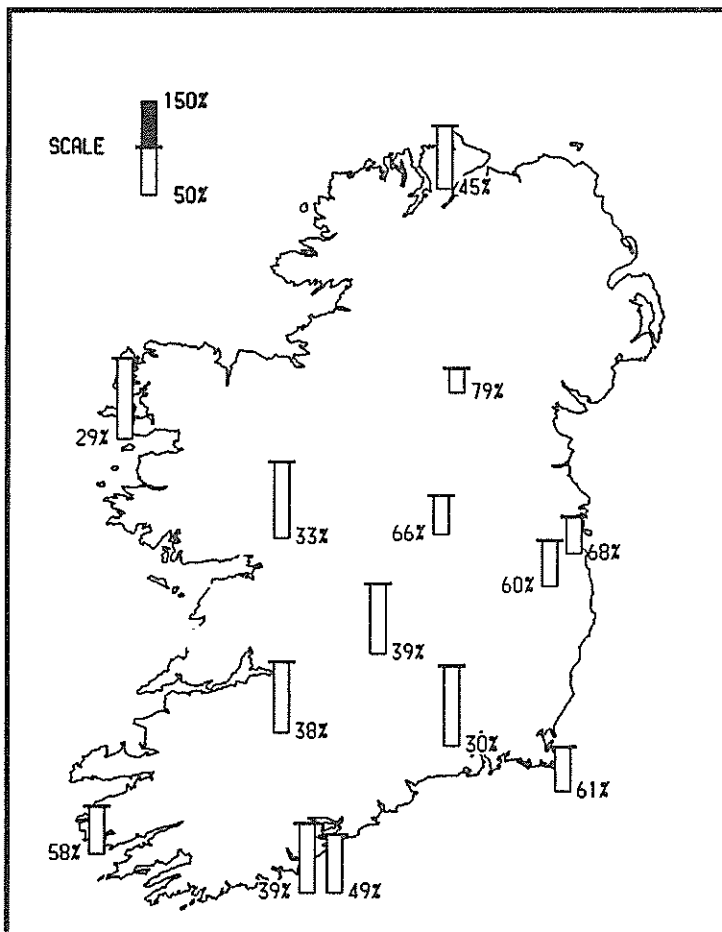
STATION	PERIOD	P.E. (mm)		SOIL MOISTURE (mm)	
		Amount	Deficit	Accumulated Deficit	Surplus
Carlow (Oak Park) Co. Carlow	1-10	26.7	22	51	0
	11-20	23.1	8	59	0
	21-end	34.7	7	66	0
	Month	84.5	-	-	-
Kinsealy Co. Dublin	1-10	21.7	1	40	0
	11-20	23.9	14	54	0
	21-end	29.5	12	66	0
	Month	75.1	-	-	-
Cahirciveen (Valentia Obs.) Co. Kerry	1-10	25.7	23	32	0
	11-20	13.9	-	14	18
	21-end	24.5	8	22	0
	Month	64.1	-	-	-
Ballinamore Co. Leitrim	1-10	29.7	19	34	0
	11-20	13.1	-	32	2
	21-end	27.9	17	49	0
	Month	70.7	-	-	-
Glenamoy Co. Mayo	1-10	27.2	18	27	0
	11-20	30.3	19	46	0
	21-end	20.9	13	59	-
	Month	78.4	-	-	-
Johnstown Castle Co. Wexford	1-10	21.0	19	28	0
	11-20	20.7	12	40	0
	21-end	31.9	10	50	-
	Month	63.6	-	-	-

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	16.4	14.8	11.6	-0.3
	11-20	15.0	13.3	11.1	0.1	94.1	94.9
	21-end	16.6	14.9	12.3	-0.3	227.7	134.6
Mineral	1-10	19.0	14.2	10.7	-0.8	146.7	129.3
	11-20	16.3	13.3	10.2	-0.5	99.4	113.7
	21-end	19.4	15.0	11.6	-0.9	263.0	225.4

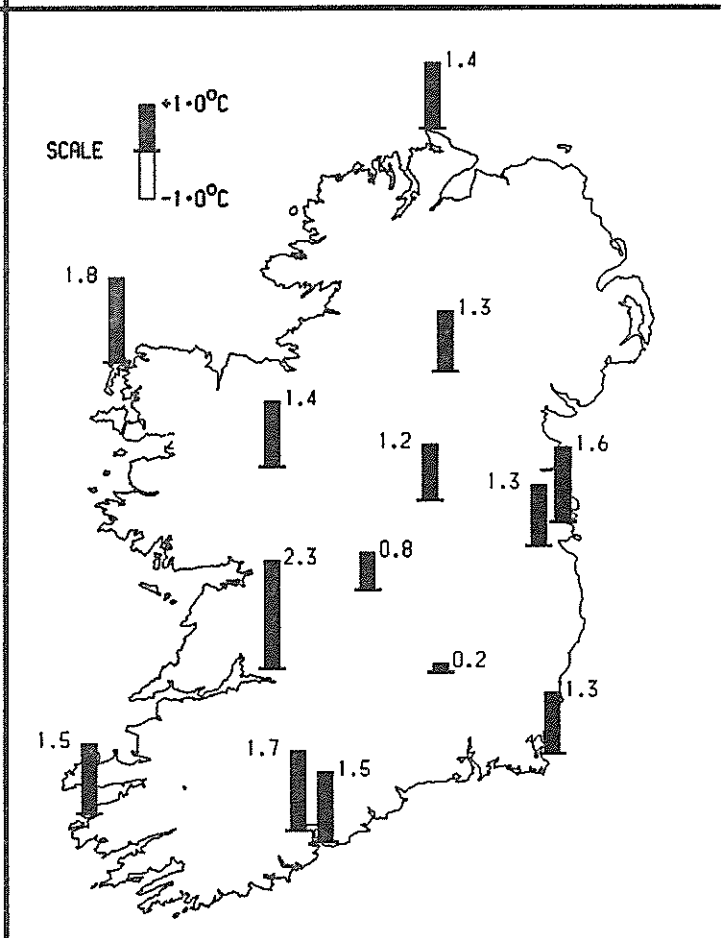
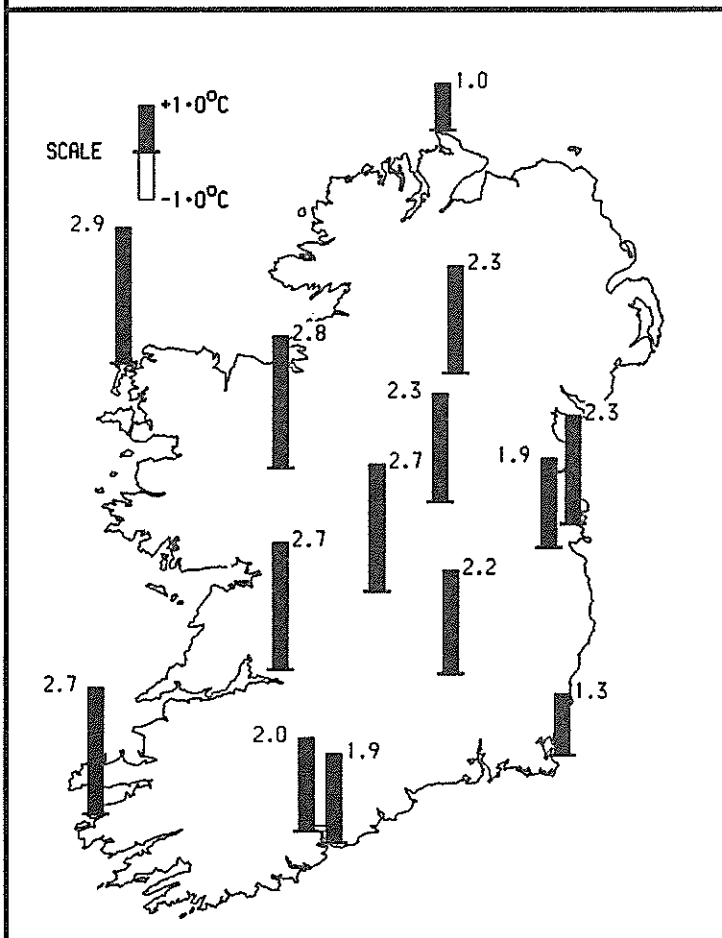
Notes on the tables in January issue

May 1990



RAINFALL (Percentage of 1951-1980 normals)

SUNSHINE (Percentage of 1951-1980 normals)



MEAN MAX. TEMPERATURE (Deviation from 1951-1980 normals)

MEAN MIN. TEMPERATURE (Deviation from 1951-1980 normals)



# IMPLICATIONS OF CLIMATE CHANGE FOR AGRICULTURE

(continued from the April Bulletin)

## Water Balance

A 15 per cent increase in potential evapotranspiration (PE) in winter and a 10 per cent increase in summer (assuming a 5 per cent change in PE for every 1°C) is possible (see Table 1, April Bulletin). Changes in precipitation are less certain—an increase of about 15 per cent in winter and 5 per cent in summer is indicated by the models—but rain spells may be confined to more intense storms rather than prolonged light falls.

## Water Table

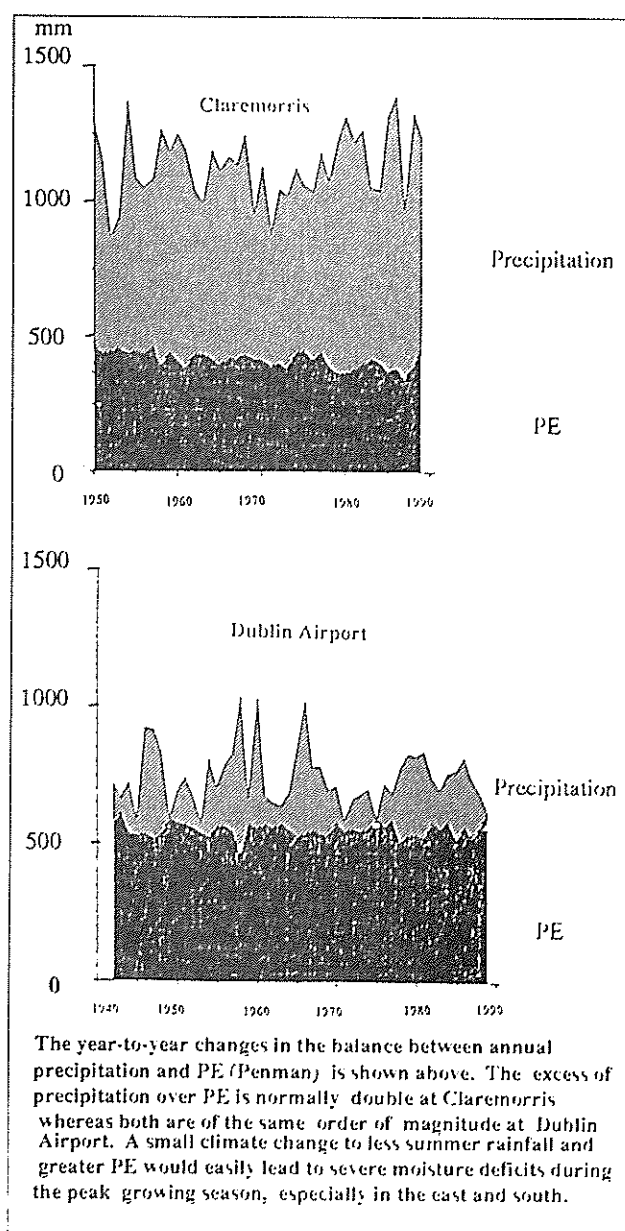
Because of increased rainfall in winter and spring the timing of various spring farm operations such as ploughing, fertilizing, beginning of grazing, etc, would be affected. Turn-out date would also be delayed due to slow drying of the soil and the season may end earlier in the autumn. Difficulties would attend utilization (grazing/silage making) of the increased herbage produced early in the season and again at late harvesting. A higher water table level would also lead to much less stock being carried on wet soils compared with dry grassland. Conditions in the wetter areas would be affected most. These considerations indicate new difficulties for the farmer at the extremities of the growing season (in a changed but wetter spring and autumn).

## Summer Drought

Additional difficulties are likely in summer. An increase of 5 per cent in summer rainfall would not compensate for an expected 10 per cent increase in PE (as summer PE is normally greater than summer rainfall). Increased moisture shortfall would thus lead to large soil moisture deficits and greater risk of more frequent drought. Irrigation of crops, particularly in the south and east may become a more common practice in this country.

## Radiation

Models are less in agreement with respect to changes in radiation—some predict increased cloudiness but it may be of the thin type that is easily dissipated. Given the rise in temperature and more concentrated rainfall events in summer, radiation may well be enhanced by at least 5 per cent. As a result of both the increase in temperature and radiation, growth rates will be accelerated. Earlier times of harvesting, e.g. sugar beet which is now harvested in October and November, would benefit quality and reduce spoilage due to better condition of soil and trafficability.



(concluded in next issue)