



# Exceptional weather events

**Type of event:**

**Rainfall**

**Date:**

**June 1993**

## The Rainfall of June 1993

Total rainfall was just below normal in parts of west Ulster and north Connaught and was highest in the midlands, east and southeast. Highest percentage totals were recorded in the east over parts of the Dublin - Kildare area where they exceeded 3 times normal - this was due to record rainfall on 11th. Indeed the period 9th to 17th contained the bulk of the rain and the spell 20th - 30th was fairly settled and dry.

### Weather Patterns of June

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As a warm front moved northwards on 1st and early on 2nd we had extensive rain, heaviest in the southwest and south. Thereafter most areas escaped significant rain until 7-8th when a cold front was slow-moving over the west and southwest. Even then most areas had only a little rain, the southwest being the exception. A very active situation then developed. A depression near the southwest of England deepened gradually and winds over the west of Ireland became northerly in direction and the slow-moving front became more active. There were outbreaks of rain over the south and west in the later part of 9th and these spread slowly eastwards on 10th as a depression over the southwest of England moved only a little northwards. Rain did not significantly affect the east until 11th when the depression was over Wales and a cool northwesterly airflow covered the entire country. Only the southwest was dry; elsewhere there was rain, steadiest and heaviest in the eastern half of the country where as mentioned above, parts of the east had a spell of sustained heavy rain. Rain persisted into the 12th but gradually lightened off and then cleared to scattered showers as the depression moved eastwards across England. While conditions had to improve, there was no real respite as a rainbelt reached the southwest during the morning of 13th and brought rain to all but the extreme north before the end of the day. Early rain on 14th cleared gradually from the northwest as a slack northerly airflow developed behind a depression which moved southeast-wards across the country towards Wales. A humid southwesterly windflow developed on 15th after a warm-frontal rainbelt moved eastwards across the country. A cold front

followed later in the day. Minor disturbances on the front gave some rain near the south coast early on 16th but generally it was a dry day with occasional showers. Conditions deteriorated again on 17th as rain spread gradually northeastwards. There was a rainy start on 18<sup>th</sup> but brighter weather with scattered showers followed and persisted through 19th. The period 20th - 30th was dominated by high pressure. Only on 25th and 29th was there significant rain and that mostly in the north and west.

#### Rainfall Records of June 1993

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The most notable event was the 24-hour totals in excess of 100mm of rain (25.4mm = 1 inch) which fell in parts of the Dublin - Kildare area on 11th. This was a most remarkable fall for lowland areas in the east, being over twice the long-term average for the whole of June. In terms of return periods the 12-hour rainfalls had a return period of over 100 years and the 24-hour totals a return period of some 250 years at Casement Aerodrome (Baldonnel) whose hourly rainfalls for June are included, together with those of Dublin Airport which had 93mm on 11th. Mullingar (64mm) and Clones (47mm) also had their highest daily total for June but the totals at some Dublin - Kildare stations were their highest ever exceeding even those of 'Hurricane Charley' in August 1986 when Wicklow and much of the Dublin mountains had heavier falls than in this event.

The heavy rainfall was triggered by moist, warm continental air being forced aloft and borne in by easterly winds at the upper levels over a cool, low-level northerly flow. In these situations you get widespread rain with smaller areas of intense rain. What was unusual about this event was that the depression over England was slow moving for several days. On the 11th the band of most active rain extended from Sligo to Wexford and was about 120 miles wide. As there were small scale pockets of intensive activity the totals varied widely even within this band. While rare in any given location falls of more than 100mm in 24 hours at lowland stations have been recorded. The most recent such occurrence in the Dublin city area was in a small-scale thunderstorm which affected the Mount Merrion area, curiously enough on 11th June 1963 when over 180mm was recorded in 24 hours and over 75mm fell in an hour. However, this storm affected an area of only about eight squared

kilometres.

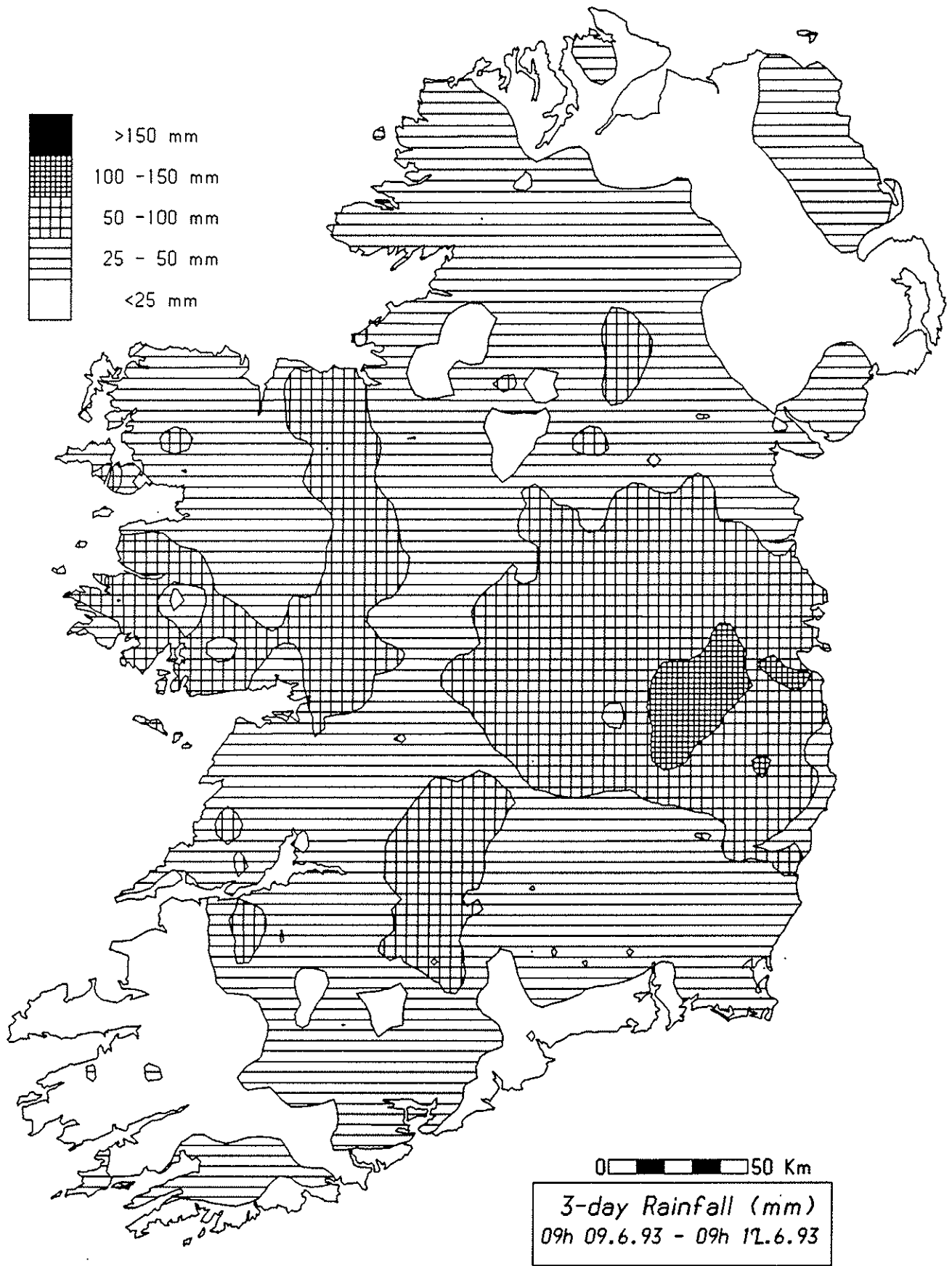
The most recent events giving such rainfalls in Ireland occurred in October 1989 when again on the western side of a slow-moving depression, there were falls over 100mm in parts of Donegal and Mayo. In October 1987 a depression moving slowly up the Irish Sea gave over 100mm in parts of the north. Curiously Dublin Airport, in spite of having a fall with a return period of about 100 years on 11th, did have a higher June total in 1958 but 1993 was the wetter June at Casement Aerodrome.

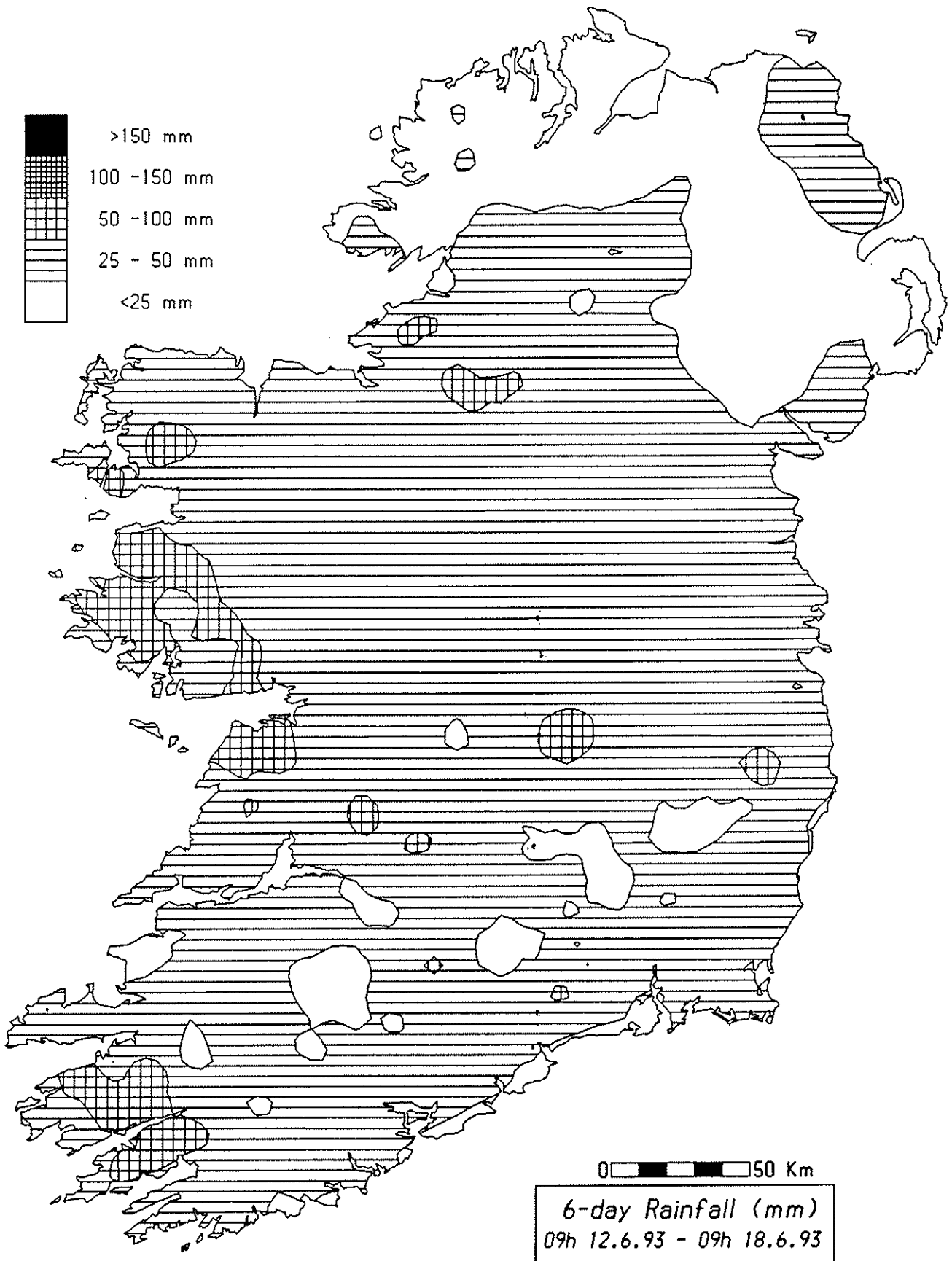
#### Maps and tables

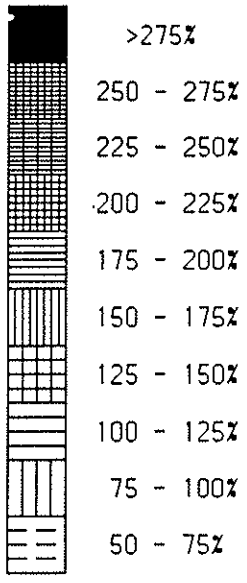
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The enclosed map is for the period 0900 on 9th to 0900 on 12th the rain affected the country over several days. Cahirciveen had rain on 8th and was essentially dry from 9th to 12th. Some western areas had rain from late on 9th, well into 12th while some eastern areas did not have heavy rain until 11th. Nationally the map is a fair representation of the rainfall event. The map for 12th to 18th shows the distribution of amounts in what might be termed a 'normal' spell of wet weather.

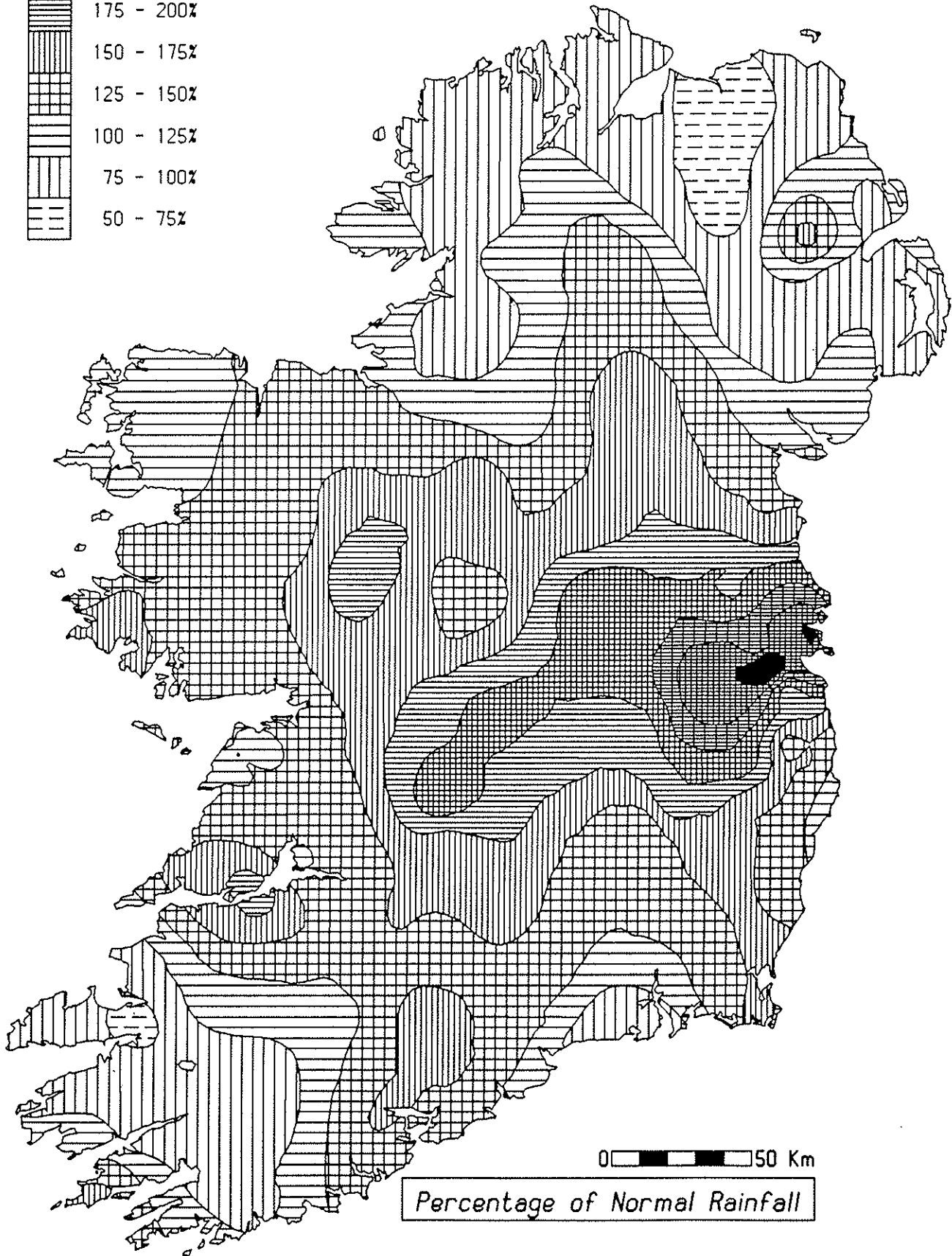
For more detail, hourly rainfalls from a representative set of stations are also included.







June 1993



DUBLIN AIRPORT RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT. JUNE 1993

| HOUR GMT. | 0  | 1  | 2  | 3  | 4  | 5   | 6  | 7   | 8   | 9   | 10 | 11  | 12 | 13   | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21  | 22  | 23 | 24 | AMT. 0-24H | DUR. MAX. 0-24H | MM/HR |    |
|-----------|----|----|----|----|----|-----|----|-----|-----|-----|----|-----|----|------|----|----|----|----|----|----|----|-----|-----|----|----|------------|-----------------|-------|----|
| DAY 1     |    |    | TR | TR | T  | 03  | 09 | 09  | 07R | 13  | 04 | 01  | TR |      | TR | TR | TR | TR | TR | 02 | 01 | TR  | 08R | TR | 05 | 54         | 59              | 04    |    |
| 2         | 14 | 07 | 02 |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    | TR | 08R |     |    |    | 31         | 30              | 02    |    |
| 3         |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 4         |    |    |    |    |    |     |    | TR  |     |     |    |     |    |      |    |    |    |    | TR | 01 | 01 |     |     |    |    |            |                 |       |    |
| 5         |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 6         |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 7         |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 8         | T  | T  |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 9         | T  |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 10        | T  | T  | T  | T  | T  | T   | TR | 08  | 04R |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 11        | 14 | 01 | TR | 07 | 39 | 60  | 11 | 06  | 58  | 110 | 70 | 71  | 55 | 120R | 60 | 51 | 30 | 43 | 42 | 22 | 24 | 20  | 10  | 02 |    | 926        | 216             | 18    |    |
| 12        | 02 |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 68              | 66    | 05 |
| 13        | TR | TR | TR | TR | TR | 01P | TR | TR  | TR  | TR  | TR | 01P |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 80              | 56    | 04 |
| 14        | 08 | 12 | 05 | 09 | 08 | 10  | 16 | 38R | 21  | 11  | TR | TR  |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 138             | 94    | 08 |
| 15        | T  | T  | T  | 01 |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 19              | 26    | 08 |
| 16        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 04              | 04    |    |
| 17        | T  | T  | T  | T  |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 41              | 52    | 04 |
| 18        |    |    | TR | TR |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 06              | 04    | 04 |
| 19        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | 92              | 09    | 48 |
| 20        | T  | T  | T  | T  |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | TR              |       |    |
| 21        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 22        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 23        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 24        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 25        | T  | T  | T  | T  | T  | T   | T  | T   | T   | T   | T  | T   | T  | T    | T  | T  | T  | T  | T  | T  | T  | T   | T   | T  | T  |            | TR              |       |    |
| 26        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 27        | T  | T  | T  | T  | T  | T   | T  | T   | T   | T   | T  | T   | T  | T    | T  | T  | T  | T  | T  | T  | T  | T   | T   | T  | T  |            | TR              |       |    |
| 28        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |
| 29        | TR | TR |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            | TR              |       |    |
| 30        |    |    |    |    |    |     |    |     |     |     |    |     |    |      |    |    |    |    |    |    |    |     |     |    |    |            |                 |       |    |

TOTAL 038 020 007 017 049 080 038 066 091 137 078 080 087 135 068 142 043 069 069 055 040 048 016 010 1483  
 DUR.HR. 35 22 11 16 22 27 31 42 33 29 22 15 22 20 21 32 29 44 39 31 23 31 18 23 638  
 R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET



| HOUR GMT. | 0  | 1  | 2  | 3  | 4  | 5  | 6   | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19  | 20 | 21 | 22 | 23 | 24   | AMT. 0-24H RATE | DUR. MAX. 0-24H RATE |
|-----------|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|------|-----------------|----------------------|
| DAY 1     | T  | T  | T  | T  | TR | 05 | 23R | 02 | 06 | 07 | TR | TR | TR |    |    |    |    |    |    |     |    |    | TR | 01 | 44   | 41              |                      |
| 2         | 01 | 01 | 01 |    | TR | TR |     |    |    |    |    |    |    |    |    |    |    |    | 03 | 25R | 02 | TR | TR |    | 33   | 19              |                      |
| 3         |    |    |    |    |    | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  |    | T    |                 |                      |
| 4         |    |    |    |    |    | TR | 01  |    |    |    |    |    |    |    |    |    |    |    | TR | TR  |    | T  | T  | T  | 01   | 03              |                      |
| 5         | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  |    | T    |                 |                      |
| 6         |    |    |    |    |    | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  |    | T    |                 |                      |
| 7         |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    | T  |      | T               |                      |
| 8         | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    | T  |      | T               |                      |
| 9         | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    | T  |      | T               |                      |
| 10        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    | T  |      | T               |                      |
| 11        | 06 | 08 | 20 | 05 | 15 | 20 | 23  | 24 | 14 | 44 | 60 | 72 | 33 | 76 | 61 | 73 | 69 | 80 | 89 | 86  | 69 | 67 | 43 | 29 | 75   | 36              |                      |
| 12        | 03 | TR | TR | TR | 06 | 02 | TR  | 01 | TR | TR | TR | TR | TR | 06 | 13 | 01 | 01 | TR | 02 | 02  | TR |    |    |    | 1086 | 231             |                      |
| 13        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 49              | NA                   |
| 14        | 12 | 07 | 05 | 03 | 01 | 07 | 19  | 45 | 45 | 11 | 09 | 05 | TR | TR | TR | TR | TR | 20 | 22 | 21  | 14 | 06 | 07 |    | 90   | NA              |                      |
| 15        | T  | T  | T  | T  | T  | TR | TR  | TR |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  | T  | T    | 169             | NA                   |
| 16        | T  | T  | T  | T  | T  | T  | TR  |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  | T  | T    | 10              | 13                   |
| 17        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 05              | 02                   |
| 18        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 05              | 02                   |
| 19        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 44              | 27                   |
| 20        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  | T  | T    | 33              | 06                   |
| 21        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 21              | 06                   |
| 22        | T  | T  | TR | TR | TR | TR | TR  | 01 |    |    |    |    |    |    |    |    |    |    |    |     |    |    | T  | T  | TR   |                 |                      |
| 23        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 01              | 03                   |
| 24        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      |                 |                      |
| 25        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      |                 |                      |
| 26        | TR | TR | TR | TR | TR | TR | TR  | TR | TR |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 03              | 02                   |
| 27        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | TR              |                      |
| 28        | T  | T  | T  | T  | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      |                 |                      |
| 29        | T  | TR | TR |    | 01 | 01 |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 02              | 04                   |
| 30        |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |      | 06              | 11                   |

TOTAL 031 019 026 008 017 039 069 087 073 062 074 086 046 083 093 151 078 090 122 162 094 081 049 037 1677

DUR.HR. 31 19 21 19 17 30 36 39 45 18 12 20 12 19 30 25 21 23 23 30 15 10 10 14

R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN. 408

TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE. COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

MULLINGAR RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT. JUNE 1993

| HOUR GMT. | 0  | 1  | 2   | 3  | 4  | 5  | 6   | 7   | 8  | 9  | 10 | 11  | 12  | 13 | 14  | 15 | 16  | 17  | 18 | 19 | 20  | 21 | 22  | 23 | 24  | AMT.  | DUR.  | MAX. |
|-----------|----|----|-----|----|----|----|-----|-----|----|----|----|-----|-----|----|-----|----|-----|-----|----|----|-----|----|-----|----|-----|-------|-------|------|
|           | TO | TO | TO  | TO | TO | TO | TO  | TO  | TO | TO | TO | TO  | TO  | TO | TO  | TO | TO  | TO  | TO | TO | TO  | TO | TO  | TO | TO  | 0-24H | 0-24H | RATE |
| DAY       | 1  | 2  | 3   | 4  | 5  | 6  | 7   | 8   | 9  | 10 | 11 | 12  | 13  | 14 | 15  | 16 | 17  | 18  | 19 | 20 | 21  | 22 | 23  | 24 | HR. | MM/HR |       |      |
| 1         |    |    |     |    | 04 | 07 | 20R | 07  | 20 | 03 | TR |     |     |    |     |    | TR  | 01  | 02 |    |     |    |     |    | 64  | 54    | 05    |      |
| 2         | 01 | 04 |     |    |    |    |     |     |    |    |    |     |     |    |     |    | 44R | 11  | 11 |    | 01  |    | T   |    | 72  | 26    | 20    |      |
| 3         | T  | T  | T   | T  | T  |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 4         | TR | TR |     |    |    |    |     |     |    |    | TR | TR  | TR  | TR | TR  |    |     |     |    |    | T   | T  |     |    | TR  | 02    |       |      |
| 5         |    |    |     |    |    |    | T   | T   |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 6         |    |    |     |    |    |    | T   | T   |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 7         | TR | TR |     |    |    |    | TR  | TR  |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 8         | T  | T  | T   | T  | TR | TR | TR  | TR  |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 9         |    |    |     |    |    |    | T   | T   |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 10        |    |    |     |    |    |    | TR  | 02  | 07 | TR |    |     |     |    |     |    | TR  | 09R | 06 | TR |     |    |     |    | 15  | 08    | 05    |      |
| 11        | 01 | 02 | 09  | 05 | 20 | 20 | 17  | 24  | 17 | 02 | 01 | 12  | 26  | 19 | 69  | 55 | 49  | 41  | 32 | 49 | 46  | 55 | 56R | 12 | 639 | 218   | 13    |      |
| 12        | 01 | 01 | 02  |    |    |    | TR  | 01  | TR | TR |    |     |     |    |     |    | TR  | TR  |    |    | TR  | TR |     |    | 05  | 13    |       |      |
| 13        |    |    |     |    |    |    | TR  | TR  |    |    |    |     |     |    |     |    | TR  | 03  | 10 | 22 | 24R | 22 | 13  | 08 | 119 | 75    | 05    |      |
| 14        | 08 | 07 | 07  | 04 | 04 | 31 | 44R | 10  | 09 | 03 | TR |     |     |    |     |    |     |     |    |    |     |    |     |    | 127 | 94    | 08    |      |
| 15        | T  | T  | 02  | 01 | 01 | 04 | 08  |     |    |    | 01 | 16R | 03  |    |     |    |     |     |    |    |     |    |     |    | 40  | 30    | 07    |      |
| 16        | T  |    |     |    |    |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | 05  | 06    | 02    |      |
| 17        |    |    |     |    |    |    | 01  | TR  | TR | TR |    |     | 02R | TR | 02  | TR |     |     |    |    |     |    |     |    | 128 | 68    | 12    |      |
| 18        | 02 | 01 |     |    |    |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | 17  | 19    | 05    |      |
| 19        | T  | T  | T   | T  | T  | T  | T   | TR  |    | TR | TR | TR  | TR  | 01 | 04R |    |     |     |    |    | 03  |    |     |    | 05  | 04    | 02    |      |
| 20        | T  | T  | T   | T  | T  | TR | TR  |     |    | TR | TR | 03R | TR  | TR | TR  | 02 |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 21        |    |    |     |    |    |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | TR  |       |       |      |
| 22        |    |    |     |    |    |    | TR  | 04R |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 23        | T  | T  | T   | T  | T  | T  | T   |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 24        | T  | T  | T   | T  | T  |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 25        |    |    |     |    |    |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 26        | 01 |    |     |    | 01 | 04 | 01  | TR  | TR | TR | TR | 07R |     |    |     |    |     |     |    |    |     |    |     |    | 09  | 13    |       |      |
| 27        | T  | T  | T   | T  | T  | T  | T   |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 28        | T  | T  | T   | T  | T  | T  | T   |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | T   |       |       |      |
| 29        | TR |    |     |    |    |    | TR  |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | 04  | 07    |       |      |
| 30        | 01 | 04 | 06R | 06 | 02 | TR | TR  | TR  |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | 01  | 01    |       |      |
|           |    |    |     |    |    |    |     |     |    |    |    |     |     |    |     |    |     |     |    |    |     |    |     |    | 19  | 42    | 02    |      |

TOTAL 015 019 026 017 035 061 076 061 041 027 027 018 028 043 097 063 102 098 080 088 121 092 076 054 1365  
 DUR.HR. 32 37 36 32 44 30 34 41 39 27 16 14 11 18 24 19 30 41 40 35 52 46 41 41 780  
 R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

CLONES

RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT.

JUNE

1993

| HOUR GMT. | 0   | 1  | 2  | 3   | 4  | 5  | 6   | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19  | 20 | 21 | 22 | 23 | 24 | AMT. 0-24H | DUR. MAX. 0-24H RATE |
|-----------|-----|----|----|-----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|------------|----------------------|
| DAY       | 1   | 2  | 3  | 4   | 5  | 6  | 7   | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20  | 21 | 22 | 23 | 24 | 41 | 05         |                      |
| 1         | T   | T  | T  | T   | T  | T  | T   | T  | T  | T  | T  | T  | T  | T  | T  | T  | T  | T  | T  | T   | T  | T  | T  | T  | TR | 41         | 05                   |
| 2         | TR  | 02 | 03 | 05  | 08 | 09 | 01  |    |    |    |    |    |    |    | 03 | TR |    | TR | TR | 10R | TR | TR | TR | TR | TR | 41         | 04                   |
| 3         |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 4         |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 5         | T   | T  | T  | T   | T  | T  | T   |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 6         | T   | T  | T  | T   | T  | T  |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 7         |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 8         |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 9         | T   | T  | T  | T   | T  | T  |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 10        | T   | T  | T  | T   | T  |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 11        | 57R | 39 | 38 | 20  | 26 | 02 | 10  | 19 | 09 | 01 | 08 | 05 | 06 | 39 | 28 | 11 | 32 | 30 | 20 | 35  | 27 | 01 | 01 | 07 | TR | 161        | 30                   |
| 12        | TR  |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    | 471        | 35                   |
| 13        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 14        | 02  | TR | TR | 01  | 01 | 10 | 22R | 12 | 03 |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    | 07         | 09                   |
| 15        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 16        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 17        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 18        | 06  | 01 | TR | TR  | TR |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 19        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 20        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 21        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 22        | TR  | 01 | 01 | 04R |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 23        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 24        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 25        | T   | T  | T  | T   | T  | T  |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 26        | TR  | TR | TR | TR  | 02 | TR | TR  | 01 | 04 |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 27        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 28        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 29        | TR  |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |
| 30        |     |    |    |     |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |            |                      |

TOTAL 065 043 044 036 038 022 036 034 018 033 048 059 030 044 064 012 060 054 121 119 083 033 028 022 1146  
 DUR.HR. 24 23 38 33 27 32 38 22 22 15 18 25 28 14 28 8 30 29 43 52 61 26 23 28 687  
 R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

CLAREMORRIS

RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT.

JUNE

1993

| HOUR<br>GMT. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AMT.<br>0-24H | DUR.<br>0-24H | MAX.<br>RATE |  |  |  |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------------|---------------|--------------|--|--|--|
| DAY          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 68 | 59            | 08            |              |  |  |  |
| 1            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 2            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 3            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 4            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 5            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 6            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 7            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 8            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 9            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 10           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 11           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 12           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 13           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 14           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 15           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 16           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 17           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 18           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 19           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 20           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 21           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 22           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 23           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 24           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 25           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 26           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 27           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 28           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 29           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |
| 30           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |               |               |              |  |  |  |

TOTAL 029 034 053 116 066 016 025 016 042 042 030 037 015 028 029 029 063 041 060 055 048 056 064 055 1049  
 DUR.HR. 39 38 29 40 33 22 29 20 14 12 30 27 25 26 33 43 42 33 36 48 47 61 50 46 824

R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

CORK AIRPORT

RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT.

JUNE

1993

| DAY | HOUR GMT. | HOURS GMT. |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     | AMT. O-24H | DUR. MAX. O-24H RATE |
|-----|-----------|------------|----|----|-----|----|-----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|------------|----------------------|
|     |           | 01         | 02 | 03 | 04  | 05 | 06  | 07 | 08 | 09 | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22  | 23  | 24  |            |                      |
| 1   | 08        | 05         | 14 | 17 | 25R | 20 | 02  | 01 | TR | TR | 03  | 08 | 15 | 04 | 10 | 14 | 06 | TR | 02 | TR | 10 | TR | 10  | 179 | 133 | 16         |                      |
| 2   | 32R       | 11         | 12 | 04 | 08  | 04 | 01  | TR | 03 |    |     |    |    |    |    |    |    |    |    |    | T  | T  | T   | 75  | 63  | 09         |                      |
| 3   | T         | T          | T  | T  | T   | T  | T   |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | T   |     |            |                      |
| 4   |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 05  | 11  |            |                      |
| 5   |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | T   |     |            |                      |
| 6   | T         | T          | T  | T  | T   | T  | TR  | TR |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | TR  |     |            |                      |
| 7   |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 09  | 37  |            |                      |
| 8   | T         | T          | TR | 01 | TR  |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    | 01  | 09  |     |            |                      |
| 9   |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 270 | 91  | 25         |                      |
| 10  | 42        | 12         | 01 | 01 | 02  | 28 | 42R | 27 | 11 | 03 | TR  | TR |    |    |    |    |    |    |    |    |    |    | 170 | 90  | 10  |            |                      |
| 11  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 04  | 05  | 02         |                      |
| 12  | 06        | 04         | 07 | 04 | 05  | 04 | 02  | 03 | 16 | 25 | 18R | 13 | TR | TR |    |    |    |    |    |    |    |    | TR  | 04R |     |            |                      |
| 13  | T         | T          | T  | T  | T   |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    | 107 | 114 | 06  |            |                      |
| 14  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 63  | 48  | 04         |                      |
| 15  | T         | T          | T  | T  | T   | T  |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    | TR  |     |     |            |                      |
| 16  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 26  | 11  | 11         |                      |
| 17  | TR        | 03         | TR | 02 | 22R | 02 |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 29  | 25  | 05         |                      |
| 18  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     | 117 | 72  | 12         |                      |
| 19  | T         | T          | T  | T  | T   | T  |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    | 02  |     |     |            |                      |
| 20  | T         | T          | T  | T  | T   | T  |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    | 01  |     |     |            |                      |
| 21  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 22  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 23  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 24  | T         | T          | T  | T  | T   |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 25  | T         | T          | T  | T  |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 26  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 27  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 28  | T         | T          | T  | T  | T   | T  |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 29  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |
| 30  |           |            |    |    |     |    |     |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |     |     |     |            |                      |

TOTAL 088 032 035 027 031 039 076 050 046 036 045 022 012 029 029 060 079 074 044 029 082 060 007 026 1058  
 DUR.HR. 40 39 32 53 40 43 51 33 31 20 22 19 15 25 28 33 39 39 27 28 15 10 10 18 710  
 R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

KILKENNY

RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT.

JUNE 1993

| HOUR GMT. | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | AMT. 0-24H | DUR. MAX. |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------|-----------|
|           | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | HR.        | MM/HR     |
| DAY 1     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 69         | 06        |
| 2         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 22         | 30        |
| 3         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 4         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | TR         | ---       |
| 5         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 6         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 7         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | TR         | ---       |
| 8         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 9         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | TR         | ---       |
| 10        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 01         | 02        |
| 11        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 43         | 41        |
| 12        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 204        | 163       |
| 13        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 46         | 39        |
| 14        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 84         | 74        |
| 15        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 48         | 19        |
| 16        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 32         | 30        |
| 17        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 16         | 18        |
| 18        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 68         | 63        |
| 19        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 36         | 17        |
| 20        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 09         | 08        |
| 21        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | TR         | ---       |
| 22        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ---        | ---       |
| 23        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 24        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 25        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 26        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 11         | 08        |
| 27        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | TR         | ---       |
| 28        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T          | ---       |
| 29        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 01         | 01        |
| 30        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ---        | ---       |
|           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 21         | 45        |

TOTAL 009 022 020 012 018 041 062 039 017 027 014 015 036 020 074 057 037 042 057 028 018 019 005 711  
 DUR.HR. 15 10 15 23 25 29 44 40 45 27 17 29 15 22 22 41 33 35 40 33 26 13 16 12 627  
 R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.  
 TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.  
 COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET

BIRR

RAINFALL AMOUNTS IN MILLIMETRES AND TENTHS BETWEEN EXACT HOURS GMT.

JUNE

1993

| HOUR GMT. | 0  | 1   | 2  | 3   | 4  | 5   | 6  | 7  | 8  | 9   | 10 | 11  | 12 | 13  | 14 | 15  | 16  | 17 | 18  | 19 | 20 | 21 | 22 | 23 | 24 | AMT. 0-24H | DUR. MAX. 0-24H | MAX. RATE MM/HR |    |
|-----------|----|-----|----|-----|----|-----|----|----|----|-----|----|-----|----|-----|----|-----|-----|----|-----|----|----|----|----|----|----|------------|-----------------|-----------------|----|
| DAY 1     | TR | TR  | 05 | 19R | 07 | 06  | 06 | 05 | 03 | 01  |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 52         | 60              | 04              |    |
| 2         |    |     |    |     |    | 02  | TR | 05 | TR | TR  |    |     |    |     | TR | 11R | TR  | TR |     |    |    |    |    |    |    | 18         | 10              | 10              |    |
| 3         |    |     |    |     |    |     | T  |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 4         | 01 |     |    |     |    |     |    |    |    | TR  | TR | TR  | TR | 01  |    |     |     |    |     |    |    |    |    |    |    | 02         | 04              |                 |    |
| 5         | T  | T   | T  | T   | T  | T   | T  | T  |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 6         | T  | T   | T  | T   | T  | T   | T  | T  |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 7         |    |     |    |     |    |     |    |    |    | TR  | TR |     |    |     |    |     |     |    |     |    |    |    |    |    |    | TR         |                 |                 |    |
| 8         |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 9         |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 10        | 03 | 01  | 08 | 02  | TR |     |    |    |    | TR  | 08 | 45R | 04 | 11  | 14 | 01  | 04  | 01 | 02  | 05 | 03 | 02 | 02 |    |    | 06         | 07              | 02              |    |
| 11        |    |     |    |     |    |     |    |    |    | TR  | 02 | TR  | 16 | 11  | 06 | 06  | 10  | 21 | 35R | 24 | 23 | 22 | 25 | 22 | 14 | 13         | 119             | 129             | 13 |
| 12        | 46 | 55R | 25 | 08  | 04 | 07  | TR | TR | 02 | 12  | 06 | 02  | 01 | TR  |    |     |     |    |     |    |    |    |    |    |    | 282        | 163             | 05              |    |
| 13        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 168        | 84              | 10              |    |
| 14        | 01 | TR  | 01 | TR  | 01 | 37R | 41 | 13 | 09 | TR  | 01 | TR  |    |     |    |     |     |    |     |    |    |    |    |    |    | 98         | 94              | 06              |    |
| 15        |    |     |    |     |    |     |    |    |    | TR  | 01 | 13R | 04 | TR  | TR | TR  | 01  | TR | TR  |    |    |    |    |    |    | 104        | 54              | 11              |    |
| 16        |    |     |    |     |    |     |    |    |    | TR  | TR |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 25         | 15              | 11              |    |
| 17        | T  | TR  | TR | TR  |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | TR         | 01              |                 |    |
| 18        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 42         | 37              | 04              |    |
| 19        | 01 | TR  |    |     |    |     |    |    |    | 06R | TR | 05  | TR | 04R | TR | 04  |     |    |     |    |    |    |    |    |    | 09         | 08              | 02              |    |
| 20        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 14         | 09              | 05              |    |
| 21        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | --         | --              | --              |    |
| 22        | T  | T   | TR | TR  | 03 |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 23        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 03         | 05              |                 |    |
| 24        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | --         | --              | --              |    |
| 25        | T  | T   | T  | T   | T  | T   | T  |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 26        | TR |     |    |     |    |     |    |    |    | TR  | TR | TR  | 02 | TR  | TR | TR  | 04R | 06 |     |    |    |    |    |    |    | 10         | 12              | 02              |    |
| 27        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 02         | 01              |                 |    |
| 28        |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | T          |                 |                 |    |
| 29        | TR |     |    |     |    |     |    |    |    | TR  |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | TR         |                 |                 |    |
| 30        | 05 | 04  | TR | 01P | TR | TR  |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 122        | 43              | 32              |    |
|           |    |     |    |     |    |     |    |    |    |     |    |     |    |     |    |     |     |    |     |    |    |    |    |    |    | 10         | 24              | --              |    |

TOTAL 056 061 034 016 033 057 051 024 041 091 026 019 025 018 040 052 051 055 050 113 059 052 037 025 1086

DUR.HR. 32 22 21 23 26 32 28 24 33 43 34 26 18 31 44 46 36 38 40 39 30 30 760

R-HOUR WITH MAX RATE 2MM/HR OR MORE. P-SUM OF TRACES OF PRECIPITATION. D-SUM OF TRACES OF DEPOSITION. X-MAX OF ROW OR COLUMN.

TR-LESS THAN 0.05 MM OF RAINFALL. T-LESS THAN 0.05 MM OF DEPOSITION. DECIMAL POINT OMITTED FROM ALL VALUES. NA-NOT AVAILABLE.

COLUMN 27 TO THE NEAREST MM. \* - SNOW OR SLEET