

*General.*—While many inquiries could be dealt with from statistical information already assembled in anticipation of the needs of the community, a number of special investigations were carried out on behalf of those engaged in such activities as river control, the supply of power and water, town-planning, and the establishment of new crops or industries, to mention but a few.

Some progress has been made in the preparation of an extensive analysis of rainfall data which has been undertaken at the request of the Soil Conservation and Rivers Control Council. Frequent changes of staff, and the time absorbed in the training and extra supervision of new staff, have had an adverse effect on the progress of this and the other work of the section. Further difficulties have been created by an acute shortage of storage space required for the filing of the ever-mounting volume of climatological records.

The typing of the "Annual Observations" for the years 1943 and 1944 was completed and the drafts despatched to the Government Printer for reproduction. It is hoped that by the end of 1949 this series, publication of which was discontinued during the war years, will have been brought up to date. The "Climatological Table" was published monthly in the *New Zealand Gazette*.

#### REPORTING ORGANIZATION AND INSTRUMENTS

The basis of any meteorological service is a system for the provision of comprehensive, accurate, and regular reports on the processes occurring in the earth's atmosphere. Upon the raw material of these weather reports are dependent the technique of forecasting, climatological investigations, and meteorological research. To ensure this continuous flow of weather data the Reporting Branch of the Meteorological Service is subdivided into three main sections, as under:—

- Establishment and maintenance of networks of reporting stations on land and sea for observations both at the surface and through the upper atmosphere.
- Equipping these stations with suitable meteorological instruments.
- Training of staff to operate the stations.

The existing organization and the work accomplished during the year are summarized below for each of these sections.

*Reporting Network.*—The area from which the Meteorological Office receives reports covers some 30,000,000 square miles, or about one-seventh of the earth's surface, stretching from the Equator to the Antarctic, and from Australia in the west to the far-eastern waters of the Pacific Ocean.

As part of the world-wide scheme developed by the International Meteorological Organization and the International Civil Aviation Organization, New Zealand is responsible, either directly or on behalf of the United Kingdom for the establishment and operation of synoptic and other types of weather-reporting stations throughout much of this region. The numbers of synoptic stations, together with the numbers in actual operation at 31st March, 1948, are shown in the following table:—

	New Zealand.		Pacific and Outlying Islands.	
	International Requirement.	In Operation 31st March, 1948.	International Requirement.	In Operation, 31st March, 1948.
Third-order reporting stations (surface observations)	22	22	46	34
Second-order reporting stations (pilot-balloon observations)	11	11	16	8
First-order stations (radiosonde observations) ..	3	2	6	Nil.
First-order stations (radar wind observations) ..	3	2	6	Nil.