

INDIA METEOROLOGICAL DEPARTMENT

IN the Report on the Administration of the Meteorological Department of the Government of India* that has been recently issued, we have a brief survey of the various activities of the Department, and a concise account of the interesting developments that have taken place during the year. Considerable attention appears to have been directed as during previous years, to the subject of improving the weather forecasting facilities for airmen. The forecasting office at New Delhi was re-established and began to issue from 1939 October 1, forecasts and weather reports for aviators flying in the extensive area served by that centre. Some new observatories and current weather stations have been started to provide additional information along the principal air routes; and on the outbreak of war, arrangements were made for certain special services to meet the requirements of the Indian Air Force.

At the Meteorological Office, Poona, a new wireless station was opened in April 1939, for broadcasting synoptic weather messages. Thus there are in India, four centres collecting observations in their regions and broadcasting them as regional synoptic messages, viz., Poona, Calcutta, Delhi and Karachi; the Poona Office, in addition, issues collective synoptics based on these regional synoptic messages, from which weather information for the whole of India can be obtained. The two systems are illustrated in Plates I and II of the Report.

Considerable progress has been made with the arrangements for the transfer of the Upper Air Observatory at Agra to New Delhi. Besides other advantages the transfer is expected to facilitate the establishment of a closer *liaison* of the Department with aviation interests.

Sounding balloon ascents have been made at seven stations; about 500 balloons carrying meteorographs were released, out of which 229 have been retrieved. In order to obtain more precise information about the structure, process of information and movement of tropical storms, it has been proposed to have a large number of sounding balloon ascents ("swarm ascents") made in the field of such storms during their progress over a particular area. The Department also rendered assistance to Dr. R. A. Millikan and his colleagues who visited India for securing data in connection with their researches on cosmic rays. The observations were made at Agra, Gwalior, Peshawar and Bangalore where large balloons carrying recording instruments were released for the purpose.

The section of agricultural meteorology has

continued its useful work, chiefly in investigations connected with the effect of weather and climate on crops—a subject of supreme importance to a country like India which is mainly agricultural. The researches carried out by this section include, among others, the measurement of the effect of wind-breaks and shelter belts by means of a hot wire anemometer and an investigation to evaluate the effect of topography on local climate by comparative observations at four selected stations a few miles apart from each other. Of particular interest is the work on "precision observations" at Poona and Karjat designed to reveal the effect of weather on crops. By the application of the sampling methods developed by Prof. R. A. Fisher, important results have been obtained which are useful in studying the behaviour of the rice crop during six different seasons. Considerable attention has also been given to certain statistical investigations in connection with agricultural problems. It is gratifying to note that the Government has decided to finance this section from the Central Revenues for a further period of three years.

An important feature in the development of the Colaba Observatory is the appointment of a special officer for seismological research. Various problems relating to earthquakes in India and its neighbourhood have been receiving attention and investigations have been made of the characteristics of certain important shocks such as the Satpura Range earthquake of March 14, 1938 and the great Pacific earthquake of November 10, 1938.

At the Kodaikanal Observatory, studies of solar phenomena have been continued and observations have been made as usual with the spectroheliograph, the spectrohelioscope and other instruments. Among the special researches may be mentioned the detailed study of the bright solar eruption of March 3, 1939 and of the unusual solar activity during August and September 1939.

Appendix B of the Report contains a list of departmental publications issued during the year as well as of the occasional papers contributed by the members of the staff, which is a good indication of the amount of valuable and interesting work carried on by the Department in the various directions of its activities.

T. P. B.

* *Report on the Administration of the Meteorological Department of the Government of India in 1939-40.* (Manager of Publications, Delhi), 1940. Pp. 35. Price Rs. 1-2-0.