

Reports of the visibility have been included in the daily weather reports from Timaru and Kaikoura, and, until the report had to be dropped on grounds of economy, also from Blenheim. Under the existing financial conditions it has not been possible to attempt the establishment of a proper meteorological service for aviators, but this is undoubtedly one of the needs for the near future. The number of requests for weather information and forecasts from aviators grows every year.

DIRECTOR'S VISIT TO EUROPE.

In August, 1931, I was invited to become one of the delegates of the Australian and New Zealand Association for the Advancement of Science to the centenary meeting of the British Association in London in September, a grant of £150 being made by the British Association towards the expenses of each of the chosen delegates. The Government did not see its way to providing any additional assistance, but I was given leave to attend the meeting at my own expense. The occasion was unique in that the Faraday centenary was to be celebrated also in London at about the same time. Both the British Association and the Faraday centenary meetings were extremely interesting and successful functions. But, as usual in such cases, the greater part of the benefit of the gathering arose from the meetings and discussions with fellow-workers.

At the close of the British Association meeting Dr. G. C. Simpson, Director of the London Meteorological Office, invited me to accompany him to a meeting of the International Meteorological Committee at Locarno, in Switzerland. This committee is appointed from the Directors of the Meteorological Institutions of the world. Its duties are to arrange the international co-operation necessary for the collection of uniform and accurate knowledge of the climate of the world, for the interchange of information by telegraph, cable, and wireless, on which forecasting, and especially the meteorological services for aviation, are based; and generally to maintain and improve the standard of meteorological work. There were three vacancies on the committee through death or retirement of members, and the writer was done the honour of being elected to one of them, the others not being filled. There is no other member in the Southern Hemisphere. The committee has been responsible for the organization of the Polar Year scheme. Some members felt that the scheme should be postponed owing to the financial depression. It became clear, however, that a considerable success was already assured and that some nations were already deeply committed. Under the circumstances, therefore, it was decided to go ahead.

From Locarno the writer proceeded to Bergen in order to study the most recent methods of forecasting at their place of origin. At the instance of Dr. J. Bjerknes, the leader in the recent developments and a meteorologist of world-wide repute, accommodation was provided at the Geophysical Institute at Bergen, and the fullest possible facilities given for studying the Norwegian methods. Furthermore, Dr. Bjerknes made a point of studying the writer's work in the Southern Hemisphere and discussing it with him. Dr. S. Petterssen, Director of the Meteorological Institute, also gave every possible assistance. The visit proved most helpful and stimulating.

One was impressed by two outstanding features of conditions in Norway. The first of these was that with very little suitable land available, and climatic conditions vastly inferior to those in New Zealand, the same classes of commodities are being produced for sale in England. The second was the importance attached by Norwegians to scientific research. The amount of work carried out with the aid of Government grants and by means of endowments provided by wealthy business men in a country with approximately the same population as New Zealand is astounding.

After a week at Bergen a return was made to England, and the remainder of the available time spent in gaining an insight into the work of the different branches of the London Meteorological Office and in visiting various research institutions. Amongst the latter was the Radio Research Station at Slough. One of the branches of the work carried out at that station, under the direction of Mr. R. A. Watson Watt, is the study of atmospherics, one of the most troublesome features of reception by wireless. Atmospherics are connected with weather phenomena, and their study will be to the mutual advantage of meteorology and wireless.

At Oxford Dr. G. M. B. Dobson has developed a spectroscope for the measurement of the amount of ozone in the atmosphere by a simple and rapid process. Since the ozone is contained principally in layers at very high altitudes, Dr. Dobson's researches seem likely to give a means of gaining information regarding the state and movements of those layers. It is probable that conditions at these high altitudes have an important influence on the weather, and interesting results should accrue from the world-wide studies which Dr. Dobson is organizing and in which it is to be hoped that New Zealand will, at a later date, be able to take part. Promising results were obtained at Christchurch by Dr. C. Coleridge Farr, F.R.S., with an earlier instrument devised by Dr. Dobson. Dr. Dobson kindly demonstrated his new instrument to me, and the whole problem was discussed with him.

Visits were paid, also, to the Agricultural Experiment Station at Rothamstead and the Fruit Research Station at East Malling. At each of these stations important investigations of the relation between climatic factors and agricultural problems are being carried on. At both it was emphasized that these factors were more important than those which could be controlled, but that at present they are insufficiently understood.

The members of all branches of the London Meteorological Office staff all showed the utmost cordiality, explaining their equipment and methods used and giving any other possible assistance. But it is to the Director, Dr. G. C. Simpson, C.M.G., F.R.S., that the writer is chiefly indebted for the most stimulating and informative experience which the voyage proved. Dr. Simpson was principally responsible for my nomination as a delegate to the British Association meeting, secured the invitation of myself and my wife to the Faraday centenary meeting, arranged for me the visits to Locarno and Bergen, and did all in his power to make our stay pleasant both socially and scientifically.

During my absence the work of the Office was carried on satisfactorily without untoward incident or interruption by the staff under the direction of Mr. B. V. Pemberton. To be responsible every day, including Saturdays, Sundays, and holidays, for months on end for several weather forecasts imposes a considerable mental strain, and my thanks are especially due to Mr. Pemberton. He was assisted in the work during the week-ends by Mr. R. G. Simmers.