

obstacles to standardization are met with in connection with the times of observation, where business hours and the general routine in a country exercise so great an influence. For climatological purposes, the ideal thing would be to use standard hours of local time, but this is often impossible.

A valuable result of the discussion was that Sir George Simpson promised that in future, before new editions of the London Meteorological Office's "Observer's Handbook" were published, Empire meteorologists would be consulted. The handbook should thus become a standard one for the Empire and help greatly in securing uniformity.

The meeting on the 20th August considered the questions of Air Masses as Units in Climatology, the Computation of Meteorological Averages, and Seasonal Forecasting. The first two subjects are of rather a technical nature. Regarding seasonal forecasting, Dr. Brooks produced a valuable memorandum on the work done hitherto, and considerable discussion followed. The outcome of the discussion was that though results were rather promising for the tropics, anything so far achieved for the temperate regions was of little practical value, and the future was not very bright. The demand for seasonal forecasts in agricultural countries is very strong, and there have been numerous attempts to force the Meteorologist's hands. The situation is exploited, too, by quacks of all sorts. The subject, however, bristles with difficulties. Even were the general character of a season to be correctly anticipated, the time factor and the local variations are so important that the net value of the knowledge is very problematical.

The subjects for the last day of the Conference were the Measurement of Evaporation, with Special Reference to Water-supply and Agriculture, and the Construction of Rainfall Maps.

The Conference was entertained at dinner on the 16th August by the British Government, Sir Philip Cunliffe-Lister, Secretary for Air, presiding. In a speech at this dinner Sir Philip emphasized the Government's determination to carry out the scheme of Empire airways as soon as possible. He expressed his realization of the fact that the success of the scheme depended more than anything else on the efficiency of the meteorological services, and, on behalf of the Cabinet, promised the British service all the assistance it required.

During the course of the Conference excursions were arranged to the Kew Observatory and to the Croydon Airport. Everything possible was done throughout by Sir George Simpson and his staff to make the meeting the success it was.

THE INTERNATIONAL CONFERENCE OF DIRECTORS OF METEOROLOGICAL SERVICES.

Along with most British delegates I proceeded to the International Conference at Warsaw, Poland, on the 31st August.

The previous meeting of the Conference of Directors was at Copenhagen in 1929, and more frequent meetings would be impossible to arrange. It has, however, a permanent secretariat under the control of the president. It also elects from its members the International Meteorological Committee, which manages affairs between conferences, and of which meetings may be called as required. In addition, a number of commissions have been appointed to consider the needs of various branches of meteorology and make recommendations to the committee or the Conference. The whole organization is known as the "Organisation Météorologique Internationale," or, shortly, the O.M.I. The Conference did not begin till the 5th September, but there were meetings at Warsaw of the Commissions of Synoptic Weather Information, Climatology, Study of Clouds, Maritime Meteorology, Exploration of the Upper Atmosphere, Terrestrial Magnetism, and Atmospheric Electricity, and various sub-commissions. It is at the meetings of the commissions that technical matters are mainly discussed, and in connection with them that one gets the most benefit, scientifically, from the Conference. This refers not only to the actual meetings, but still more perhaps to the private discussions between members which are stimulated by them.

In the report of the Empire Conference reference has already been made to the growth of meteorological services as a result of the development of aerial transport. The establishment of forecasting and reporting services of a high standard is being forced upon all countries. This has, in turn, demanded close co-operation between neighbouring countries and the planning of a uniform organization throughout the world. Another consequence has been an increased appreciation of the importance of the meteorology of other parts of the world, particularly the tropics, by European meteorologists. The world is, indeed, rapidly becoming a single meteorological unit. In Europe hourly reports of the weather along air routes are available for aviators, while complete weather charts and forecasts are prepared every three hours. Something of a similar nature is required along all the main air routes. This involves an enormous amount of traffic over telegraph lines and especially over the air. And since to be of use weather reports must be received and the resulting broadcast report and forecast issued soon after the observations are made, it is all urgent traffic. One of the principal duties of the O.M.I., therefore, is to so organize routine, codify reports, and arrange time-tables as to reduce this traffic to a minimum. The modern forecaster requires reports in great detail from a close network of stations extending to great distances on all sides of the area to which his predictions refer. In each region there are local weather variations, varying local demands for information, different degrees of organization of telegraph and other services, and so on. Left to themselves, different countries would observe at different times, record different things, use different types of instruments, and issue reports with varying frequency. In some countries the weather service demanded is of less value to the country itself than to foreign aviators who pass over it. Then again there is the difficulty of defining phenomena accurately, especially in different languages, so that a certain coded message will mean the same thing whatever country it emanates from.

Another important thing in connection with forecasting is that it should be possible to plot as much as possible of the information received on to one chart so that each item can be considered in relation to all the rest and to the general weather situation. This means that symbols must be devised