

to have had a trajectory also from the Antarctic continent but from the south-west over a longer path. The air arriving on the next day was considered to have followed an ocean path from the west-south-west or west.

A formula similar to that used for a study of the modification of air over Boston Harbour was used to estimate the modification of air following these trajectories. This modification was compared with modification of the air in the North Atlantic as obtained by Craddock.

Mr. Morley drew on the recently increased network of upper air observations over the Antarctic to outline some features of the circulation there.

In the discussion it was pointed out that the speed with which the air came from the south was the major factor influencing the intensity of cold outbreaks. Mr. Morley said that the formula used for estimating modification took this into account by allowing for the time spent over a water surface of a given temperature.

28 November, 1957

#### Meteorological instrument developments overseas

by H.N. Brann

Mr. Brann, of the Bureau of Meteorology, gave details of some of the developments in meteorological instrumentation he had seen on a recent visit to the U.K., U.S., France and Canada.

In U.K. and U.S.A. four different weather radar sets, designed specifically for meteorological purposes, were available commercially. In addition two new radar wind-finders were available in U.K. The newer American radio-theodolite, which operates on 1680 mcs/sec was a very accurate instrument which tracked the radiosonde automatically printing out its elevation and azimuth readings every minute.

The Canadian Meteorological Service aimed at eliminating radiation errors in radiosonde temperatures by using black and white temperature elements. In Canada, a standard barometer, a very fine piece of instrument design, had just been completed.

Instruments of particular interest to aviation staff were the "ceilometers" (électronic cloud searchlights) which showed very clearly the rapid changes of cloud height with time. Recorders of cloud height were either operating or planned at Paris, London and Washington. At Washington a transmissometer was set up to measure visibility to a range of  $1\frac{1}{2}$  miles.

In U.K. and U.S.A. experiments with evaporation tanks were under consideration and in Canada and U.S.A. remote reading thermometers and either wet bulb or dew point indicators were in widespread use but developmental work in this field was still proceeding.

In many locations in U.S.A. weather radars were placed in the meteorological office and particularly in the middle west, were used for flash flood and tornado forecasting. In U.K. the London forecast office mans a weather radar continuously in the day time. Even with the close and frequent network of observations available around London, this radar provided significant information.

In reply to questions on current developments in automatic weather stations, Mr. Brann described an automatic station in U.S.A. designed to report wind speed and direction, temperature, dew point, pressure, rain amount and whether raining at time and thunderstorms within 25 miles. The inclusion of visibility and cloud height measurements is under consideration. Mr. Brann thought transmission problems were the main barrier to be overcome in the development of a simple, comparatively cheap automatic floating weather station.

#### CORRIGENDA

In the Australian Meteorological Magazine No. 18 (The Climate of Mawson during 1955 by P.J. Shaw) please make the following corrections -

Page 4, 10 lines from bottom, "five" to read "fine"

Page 12, line 8, "marked" to read "masked"

Page 16, add above 8th last line

$$\int_0^{60} a \, dl = 0.09$$