



DR. KIDSON,
Government Meteorologist.
—S. P. Andrew, photo.

The Climate of Wireless

What Constitutes Radio Weather

Discussed by Dr. KIDSON

Reports by Radio.

IN Europe each country at present collects information from within its own boundaries, and then transmits it by wireless to all other countries. At the same time, 1000 selected ships will also issue regular reports. All this is done according to a pre-arranged schedule, and several times a day. The messages are in code, not because the meteorologist prefers code to plain language, but because some sort of shorthand is necessary if the huge volume of traffic is to be handled. So complete is the European organisation at present that the London Meteorological Office issues daily weather charts for the whole Northern Hemisphere.

But the use of wireless is far more important in the dissemination of information by the meteorologist than in the collection of it for his use. In both cases, the great advantage of a wireless is that a single issue can be addressed to thousands of listeners. It can be picked up by moving stations, whether in trains or motors, on land, on ships at sea, or on aircraft. Navigation on organised air routes is entirely dependent on reports of existing conditions and expected changes. These are provided at all main aero-

The following is a simple instance of the way in which the information can be of use. In making land a vessel must make quite certain of its position. It does this by picking up some known headland or lighthouse, etc. Now, suppose a ship by continuing at full speed can just make port early on a certain morning, with a minimum of time left to land passengers and mails so that both could connect with desired trains. Assume also, that as it approaches land during the night the weather becomes thick. It takes a bearing on the headland it wishes to make by a radio-direction finder, but owing to possible deflection effects, the position it so obtains may be a few miles in error, and in the thick weather it is dangerous to proceed. Speed has to be lowered, the ship arrives late, and for many people a day is wasted. The actual financial loss is considerable. Supposing, however, that the captain gets

word that, although the weather is thick where he is, the visibility at the lighthouse for which he is heading extends for six miles. Then he can confidently carry on and arrive at the desired time.

A recent development has been the initiation of the transmission of weather reports and weather charts in facsimile by wireless. The development is as yet only in its infancy, but when complete it will prove a great boon. The time required to transmit information will be enormously reduced. I hope that before long it will be possible to transmit reports and charts by pictograph either telegraphically or by wireless from Wellington to other parts of New Zealand.

There is another and special way in which wireless may, before long, become of great assistance to meteorologists, and that is by giving them information regarding the position and

HERE are two separate aspects of the relationship between weather and wireless—namely: (a) The assistance given by radio communication meteorology in the collection and dissemination of information. (b) The dependence of communication by radio on conditions in the atmosphere.

The first of these will be briefly dealt with in the following. Wireless is coming increasingly into use as a means of collecting the information by means of which the meteorologist obtains a bird's-eye view of the weather over the area in which he is interested. It is on this information that he bases

Though transport has improved immensely of recent years, man is still to a large extent at the mercy of the elements. This is especially true of travel by sea and air. Though unfavourable weather conditions cannot be obviated, they can be avoided if their presence is known to those in ships or aeroplanes a few hours beforehand. And this is where meteorological observations are so effective. The value of such research, however, would be largely nullified if there were no means of disseminating the information obtained without delay. The last condition is important, for it is obvious that the closer the change in atmospheric conditions, the more accurate will be the forecast. This is where radio plays its indispensable part. The following paper, read by Dr. Kidson before the Technological Section of the Philosophical Society recently, explains how wireless is so utilised. A further explanation of the phenomenon of thunderstorms and their consequent effect on reception will prove interesting to all listeners, in particular to those owning shortwave sets.

his forecast of future developments, and which he in turn passes on to the public.

When it is a question of collecting reports to one centre from land stations, as, for instance, in the collection of New Zealand reports in Wellington, telegraph and cable are quite efficient for the purpose, but when it comes to passing on one country's information to others, the congestion on land lines and cables soon becomes too great, and wireless becomes of enormous assistance. Furthermore, radio is the only means of gathering information from ships at sea.

dromes, and transmitted to pilots in the air by wireless telephony. On airships not only are the ground reports received, but weather charts are drawn on the ship itself, and every movement is adapted to the weather situation.

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