

the "Fohn" wind experienced in the Alpine valleys of Switzerland. Both dryness and high temperature effects are caused by the compression of the air in its change from high to low level, when passing over the mountains to the west of the plains where it has parted with its moisture on the windward slopes.

In figures 6 and 7 we have a typical example of a cyclone. The development of this cyclone took place in the northern portion of a depression of the westerly type, and, on the afternoon of August 14, a definite centre was indicated on the weather chart north-west of Auckland. From then on it increased rapidly in intensity, and by the 15th the centre had moved southwards, and, as shown by the chart, fig. 6, was situated north of Cape Egmont. The usual direction of the winds round a cyclone centre, i.e., clockwise, is well shown in this instance. At East Cape, which is in front of the centre, it is north-easterly, at Cape Maria van Diemen westerly, at Cape Egmont south-easterly, and farther south chiefly easterly or southern winds prevail. By the morning of August 16 (figure 7) the centre had crossed the North Island, and was then east of Napier; winds on the 16th were mainly westerly north from Cape Egmont and Napier, and southerly thence southwards.

On account of the steep gradient in this cyclone, gales were fairly widespread during both August 15 and 16, and the southerlies were particularly strong in Cook Strait. It was this particular storm, on account of the heavy seas it caused, which damaged the railway lines on the harbour front between Kaiwarra and Petone.

The North Island experienced general rains on both days, with some heavy falls, the greatest occurring in the East Coast region. Over four inches for 24 hours was measured at some places.

Although the paths followed by the centres of cyclones are occasionally very erratic, they are usually fairly definite, the most common route taken being from north-west of New Zealand across or north of the North Island to the south-east.

They may, however, originate north-east of New Zealand, and advance from

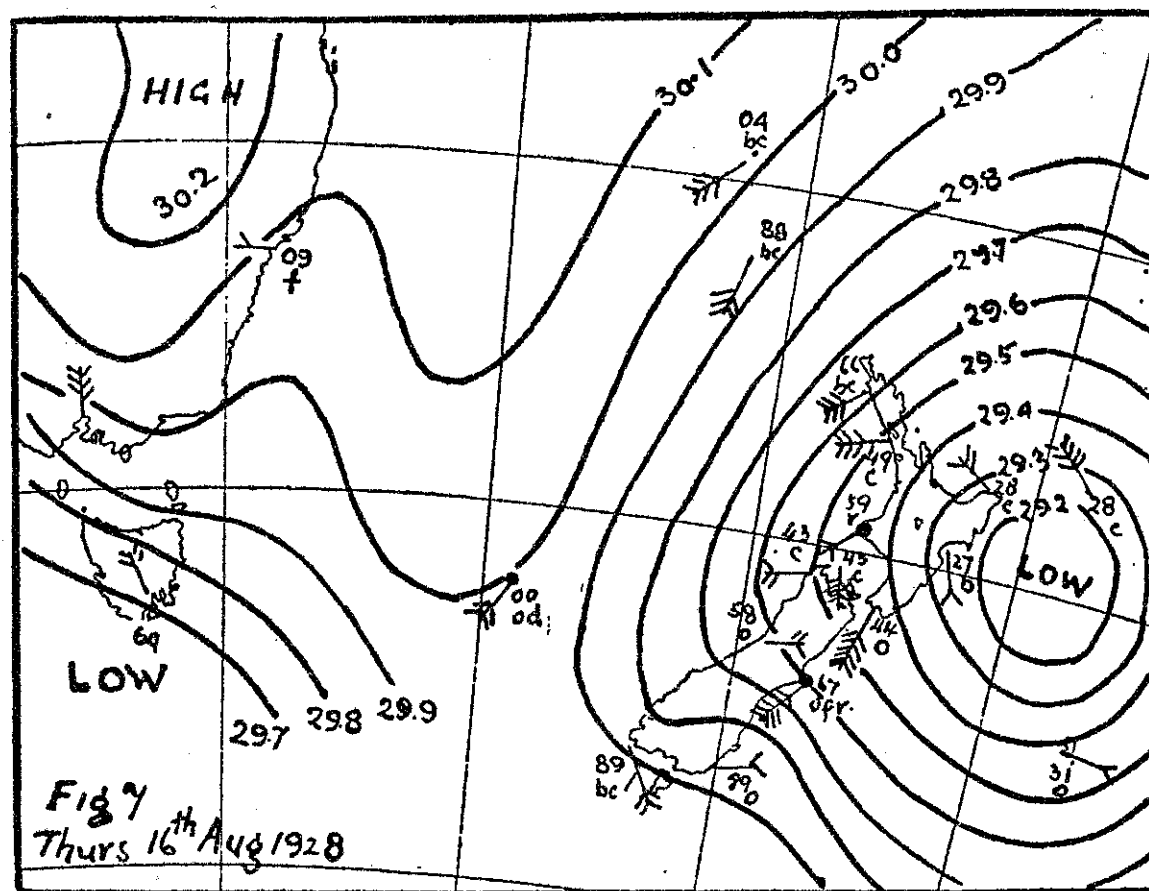
the direction of the Kermadec Islands towards East Cape, off which point they finally re-curve and pass to the south-east. This type of cyclone will sometimes remain stationary off East Cape for several days, while an anticyclone is situated over the South Island, and may be accompanied by severe south-east gales on the East Coast north from Kaikoura.

The movement of "V" or southern depressions from west to east varies

Anticyclones are more leisurely in their movements taking, most frequently, about six days to come from western Australia to New Zealand, but sometimes longer. They also have a habit of remaining stationary for several days.

Value of Wide Sources.

OWING to the charts herein having to be produced on such a small



so considerably that it would be hardly possible to give an average rate. It may be as low as 400 miles or as high as 1000 miles per day. Unlike cyclones, however, the paths of these depressions are well defined, and they can nearly always be followed from western Australia across southern Australia, Tasmania, the Tasman Sea and New Zealand to beyond the Chatham Islands.

On the other hand, just as the path of cyclones is more erratic, more variable still is the rate at which they move. A cyclone centre has been known to move from near Hobart, where it was situated at 4 p.m. one day, to the vicinity of Foveaux Strait by 9 o'clock the following morning, which is equal to a rate of about 64 miles an hour.

scale, it was impossible to fill in the meteorological information conveyed in the weather reports as is done in the originals. To draw isobars in such detail as is shown in Figures 1 to 6, one requires to have reports from a very large number of stations, but quite a serviceable chart might be constructed from a reduced number as Figure 7 will show. It is based on the information received from the stations following. These stations are the ones whose weather reports it is intended to broadcast, as mentioned later. Wireless weather reports from three ships are included in the table. At the end of the table there is given the Beaufort Scale of wind force with equivalent velocities, the Beaufort weather notation and notation for state of sea and swell.

Incessant Change.

IT will be obvious to those who read this brief sketch and examine closely the weather charts reproduced herein that pressure systems are constantly changing in form, position, and rate of movement, and that, as a result, there are always new developments taking place in the meteorological situation.

In order, therefore, not to lose the sequence of meteorological events, synoptic charts are prepared twice each day at Wellington, at 9 a.m. and 4 p.m., and forecasts, based on these charts, are issued each morning and evening. In addition to the forecast which has hitherto been broadcast there will henceforth be added reports from various places in New Zealand, from Norfolk and Chatham Islands and from Sydney and Hobart, which will give the actual pressure, wind, weather, etc., ruling at 4 p.m. Besides the precise information which these reports will give of conditions prevailing at the places concerned, they will enable the listener-in to draw his own weather chart. This is a practice being followed very largely by mariners in European and American waters, and is one which will, no doubt, be increasingly adopted by those sailing in these regions. But there is no reason why intelligent farmers, school teachers, students, and others interested in the weather should not do the same. By drawing his own weather chart an individual will gain much information which it is impossible to include in the forecast without making it too lengthy. Particularly will he be able to obtain a longer view of the weather changes and of their probable course for several days to come.

FOR the benefit of shipping, the information will be issued in morse from the Wellington Radio Station at 9 p.m. N.Z.S.T., as well as being broadcast by the Radio Broadcasting Company between 7 and 8 p.m. Forms are being prepared which will include space for entering the reports and forecasts as sent from Wellington, and also a map of the New Zealand and surrounding areas for use in plotting the isobars. These forms will be issued freely to such ships as supply the Meteorological Office with weather reports, and at cost price to others requiring them.

(Continued on page 9.)