

The Delineation of Natural Areas in New Zealand

Chairman: Mr. L. W. Tiller

Climatic Districts of New Zealand

N. G. Robertson

There is no generally accepted division of New Zealand into climatic districts. The whole country lies within the belt of prevailing westerly winds and the climate as a whole is usually described as moist, temperate. This is in agreement with the well-known system of classifying climates due to Koppen, according to which the whole of New Zealand, with a few minor exceptions, has the designation Cfb, that is, a warm, temperate, rainy climate without any marked dry season. Koppen's system is, however, not sensitive enough to distinguish climatic districts within New Zealand.

In 1931 Kidson published a map containing a subdivision of the country, using as an index the annual variation of rainfall. This map was modified in 1932 (see list of references) and again in 1937, when it was published as a map of climatic districts. Such an index, however, does not appear to be a satisfactory basis for representing the climate as a whole.

Two other systems of classification, both due to Thornthwaite and published in 1931 and 1948 respectively, have been applied to New Zealand conditions in a number of papers by Garnier. A revised map, based on Thornthwaite's 1931 system, was published by Garnier in 1950; in his 1951 paper he used Thornthwaite's 1948 system. Both systems lead to a detailed and rather complex subdivision of the country into climatic districts using rainfall and temperature as the

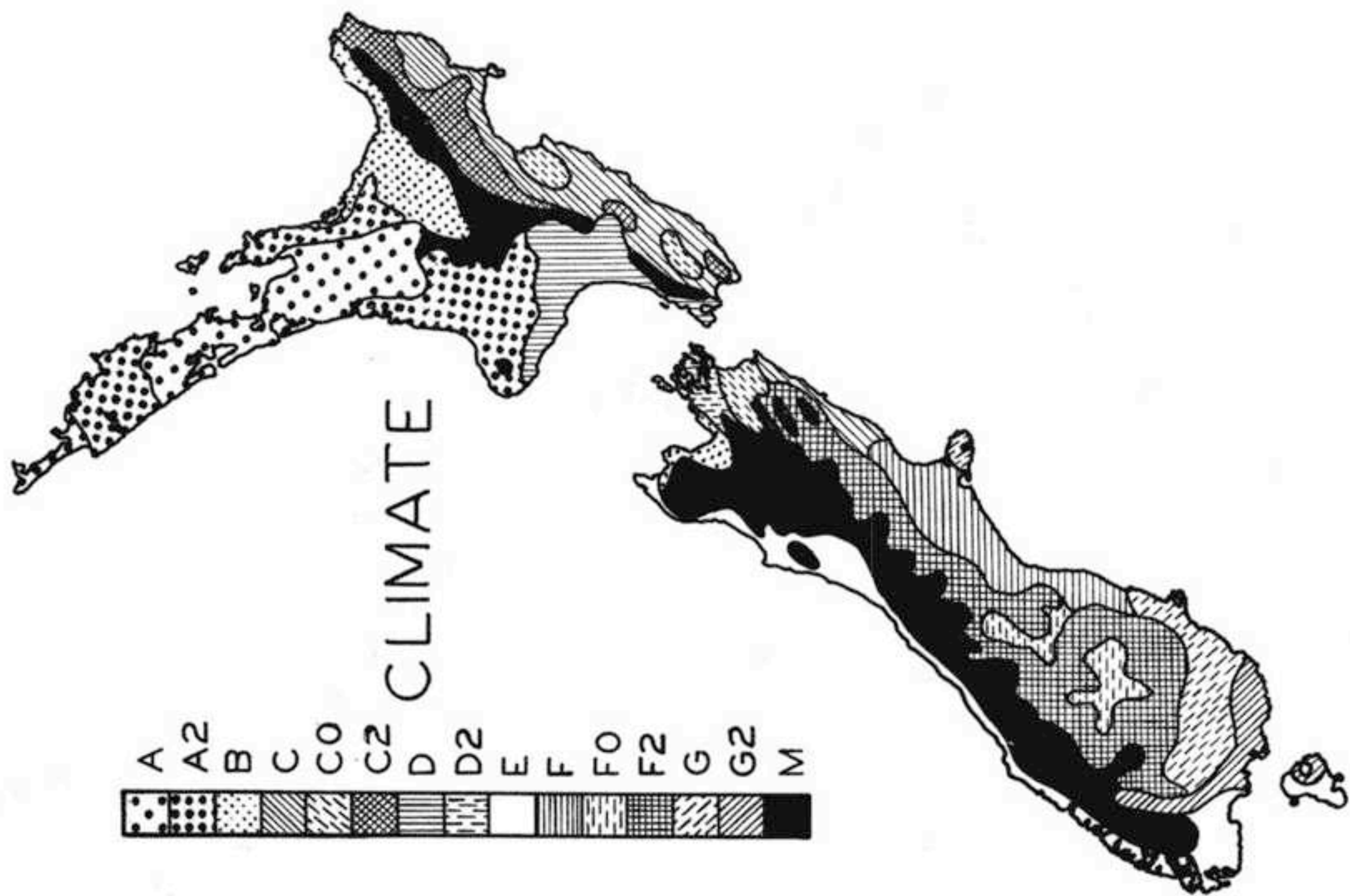
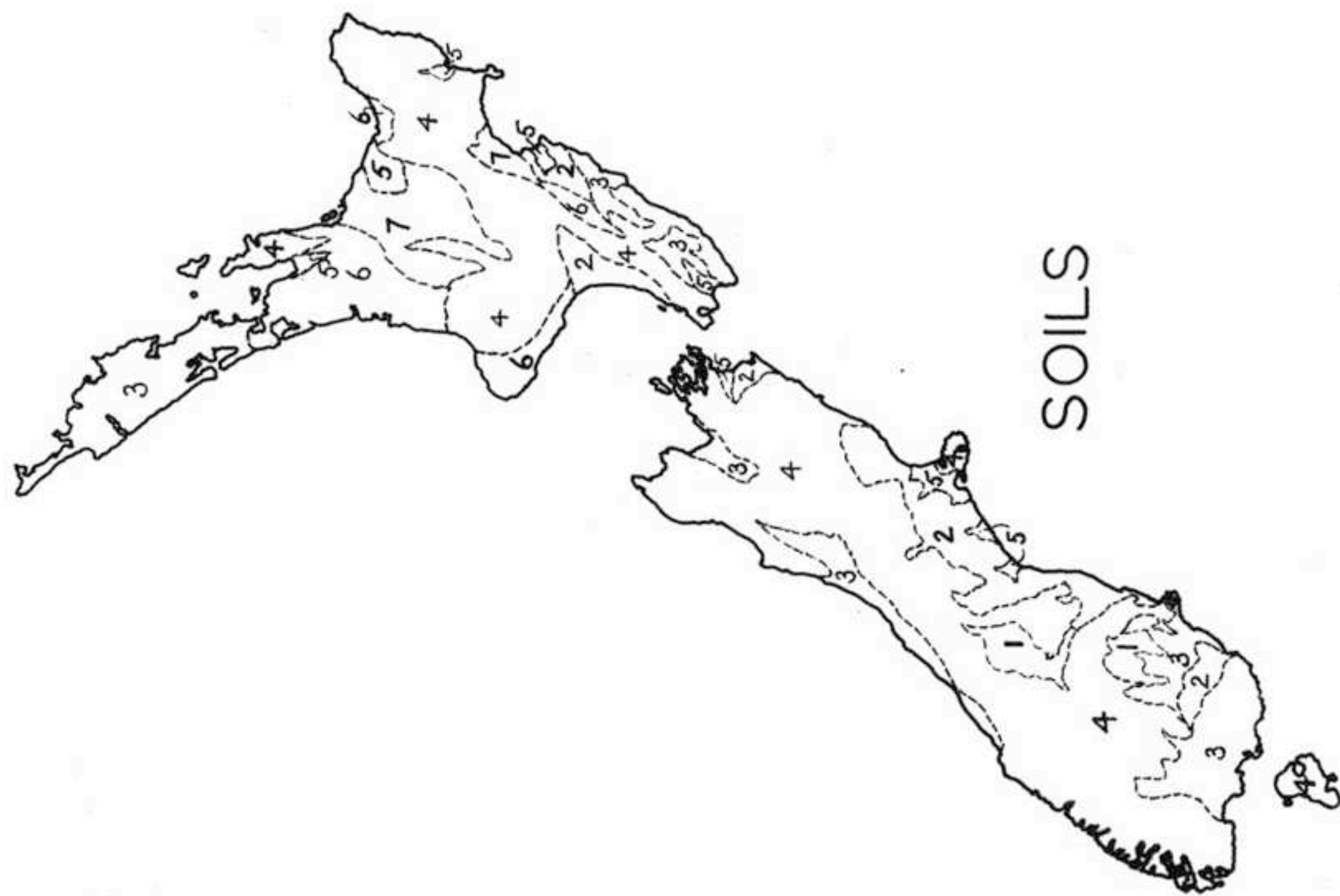
basic elements; evaporation is also used but is calculated by means of a formula in which the only weather element is temperature. Generally speaking rainfall and temperature are without question the most important climatic elements but, in some areas, extreme of windiness, sunshine, etc., may be of equal importance in distinguishing climatic variations.

The accompanying map was prepared in an attempt to take account of some additional weather elements wherever they were considered to exert a major influence over the temperature and rainfall contribution to the climate. The aim was also to make it self-explanatory by adding brief descriptive notes regarding the main climatic characteristics of each district.

It should not be inferred that the boundaries between adjacent climatic districts necessarily represent a sharp climatic change. In general there is only a gradual transition of climate except where the boundaries coincide with some marked topographical feature.

REFERENCES

- GARNIER, B. J., 1950: New Zealand Weather and Climate. *N.Z. Geog. Soc. Misc. Ser.* 1: 1-154.
 GARNIER, B. J., 1951: *Trans. Roy. Soc. N.Z.* 79: 87-103.
 KIDSON, E., 1931: *N.Z. J. Sci. Tech.* 12: 268-72.
 KIDSON, E., 1932: *Handbuch der Klimatologie, Band iv, Teil S ed. Koppen & Geiger*, p S 114.
 KIDSON, E., 1937: *Q. J. R. Met. Soc.* 63:83-92.



- A
- A2
- B
- C
- C0
- C2
- D
- D2
- E
- F
- F0
- F2
- G
- G2
- M