

EDITORIAL

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In this issue of *Weather and Climate* two new aspects of the Society's role in meteorology in New Zealand are introduced. One relates to the question of our political involvement in the process of decision making on matters meteorological, while the second seeks to focus our attention on a particular aspect of the science of meteorology.

For Meteorology in New Zealand, this has been a momentous year. It has also been a watershed in the development of the Meteorological Society. Prior to this year, the Society had been able to rest, apolitically, in its stated purpose of fostering the science of meteorology in New Zealand. However, this year, as the Government's "restructuring logic" reached the Ministry of Transport, all that changed. In order to fulfil its stated goals, the Society has been forced to become both politically aware, and active. The presidential address, given in October 1988 has, in hindsight, turned out to be more accurate in the general thrust of its predictions, than any member might have suspected at the time.

However, I believe that the Society can be well pleased with the outcomes of its involvement in the political process. As a consequence of this involvement, the importance of the science of meteorology in New Zealand is now widely accepted by the public. The current climate of interest in the "Greenhouse" problem has merely underlined the validity of the Society's response to the Government's restructuring programme. As a corollary, it is perhaps fitting to remind readers that the Prime Minister opened the Society's 1989 Scientific Conference "Greenhouse 89".

Now to questions of science. This special issue of *Weather and Climate* focuses on *topoclimatology*. This term was proposed by Thornthwaite (1953) to describe a branch of climatology which has "... a more geograph-

ical approach with an appreciation of the influence of relief, aspect, vegetation, and land-use contrasts, plus the stated necessity for fieldwork and mapping techniques as an aid to understanding the resulting local climatic patterns." (Smith 1975, 14). Clearly, topoclimatology is concerned with a certain scale of phenomena (i.e. local), and consists of a particular approach to the study of these phenomena (i.e. geographical). This latter fact lead to the hosting of a symposium on *Topoclimatological Investigation and Mapping* in Christchurch by the Geography Department, University of Canterbury in August 1988. The symposium was one of several parallel meetings which were held in Australia and New Zealand as part of the International Geographical Union Regional Congress centred on Sydney. The papers presented at this meeting included reviews of research in topoclimatology from several parts of the world, including Sweden, Poland, Australia and New Zealand. Topoclimatological mapping methods, as well as urban climatology and air pollution were also covered. Most of the papers presented at the symposium are published in the proceedings (Sturman, 1988).

The papers published in this special issue of *Weather and Climate* were selected from those presented at the symposium and have been properly refereed. They provide an indication of the nature of contemporary research in topoclimatology. Fitzharris provides a review of research conducted in New Zealand, a country which exhibits amazing variability in its local climate. At a time when there is a major focus on climatic change in New Zealand, it is important that we do not ignore these spatial variations and their significance for such activities as agriculture, forestry, air pollution, and energy generation and use. The other two papers are concerned specifi-

cally with the artificial climates developed within urban environments. That by Oke et al. is a process study which describes the application of micrometeorological methods to the evaluation of energy exchanges in urban areas. Wanner and Filliger's paper is a more conceptual study which examines the influence of orography on urban climatic environments. The content of these two papers reflects the emphasis placed internationally on understanding more clearly the effects of increasing urbanisation on local climate. This includes inadvertent climate modification, such as the development of urban heat islands, as well as air pollution. It is apparent from the papers presented, both in this issue and at the symposium, that the techniques and approaches used in topoclimatology have become increasingly sophisticated over the last decade. They now include numerical modelling, field data collection using complex micrometeorological measurement systems, and the application of remote sensing techniques. Clearly, topoclimatology is a unique approach to the study of local climates. It has developed a distinct methodology based on sound theory, but also emphasises an applied focus. It has an exciting future.

References

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- Sturman, A. P. 1988: *Proceedings of the Symposium of the Topoclimatological Investigation and Mapping Study Group*; Christchurch, New Zealand, August 10-13, 1988. International Geographical Union, Christchurch, 214 pp.
- Thornthwaite, C. W. 1953: *Topoclimatology. Proceedings of the Toronto Meteorological Conference*, Royal Meteorological Society (London), 227-32.