Weather-Related Interests and Concerns

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My interest continues to be promoting and facilitating the use of climate information in the interest of society. The highly pervasive nature of climate translates the use of climate information into a broad array of decision-making-related activities involving the conversion of climate data into information. The main focus here is on that conversion.

Over time, both public and private sectors have made extensive use of climate information in setting policies and design codes, in planning, resource management, environmental assessments, operations enhancement, marketing, etc., to enable society to better cope with both the general characteristics of climate and its damaging extremes. Coping techniques included hazard avoidance and mitigation, engineering around problems, insuring, adapting, and, if necessary, moving. Climate futures were estimated in many of those processes, usually on a statistical, analog, and/or model-derived basis. Conventional climate forecasts were used primarily in resource management and relating tactical planning: their value depended on quality, confidence, need, and applications knowledge.

Climate forecasts that are more relevant, timely, user-friendly and contribute significantly to decision-making would be beneficial to many. As a responsible member of the global community, concerned with the provision of aid and assistance to developing countries, for tactical reasons and as an exporting nation, Canada has a strong interest in skillful climate predictions for all areas of the globe. Statistical significance demonstrated between climate and the occurrence of the El Niño-Pacific-North American teleconnection has stimulated interest in improving prediction of wester water yields and drought. The anomalously warm Great Lakes' climate in the strong El Niño year 1982-83 was touted as mimicking projected climate warming. Possible associations with Arctic ice and with icebergs on the Grand Banks have been explored and prairie agriculture studies are being initiated. At present, there is recognition that El Niño influences Canadian climate in a regional, marginal and quite varied manner; but significant economic or other benefit from such information has yet to be demonstrated.

National climate forecasts exploit all scientific understanding that may contribute to their accuracy, including that of air-sea interactions, cyclical processes, teleconnections, indices, etc. Current three-month Canadian forecasts are based on a mix of statistical and empirical methods, climate models, and study of El Niño and La Niña analogs. That is, the effects of the warm and cold phases of ENSO, including their teleconnections, are implicit in current climate forecasts to the limit that understanding permits. The extension of climate forecasting from seasonal to annual overcomes some past limitations and opens new doors. The user community concern, then, is in awareness and application of opportunities provided by improved understanding of ENSO and other atmospheric phenomena. That task requires