

**VALUE-ADDED PRODUCTS and SERVICES in the METEOROLOGICAL SECTOR**

Adapted from a presentation by Robert Boggs  
at the Hydraulic Integrated Resource Management Interest Group  
on behalf of the Canadian Meteorological and Oceanographic Society  
Private Sector Task Force

A burgeoning private sector industry has developed in Canada to provide products and services related to weather and to meet the needs of Canada's economy. Private sector meteorologists are playing an increasingly larger role in the provision of weather services in Canada.

The Canadian Meteorological and Oceanographic Society (CMOS), Private Sector Task Force (PSTF), has developed a document titled "A Meteorological Industry Strategy for Canada". This study was done with the support and encouragement of the Meteorological Service of Canada (MSC). This brief note is to increase the awareness of the meteorological private sector and the value-added products and services that are available today.

The Private Sector Task Force is determining the exact size of the private sector in Canada. Current estimates place the numbers somewhere between 50 and 100 firms in Canada which provide services in a wide range of weather disciplines. These companies range from individuals who often function as consultants, to small firms consisting of only one or two people, and to large companies such as Pelmorex-The Weather Network, Seimac Limited and World Weatherwatch. Some companies provide operational weather forecasting to a variety of sectors, such as offshore oil and gas, transportation, fire weather and the media. Others provide consulting services in data analysis, climate change, forensic meteorology, air quality and so forth. Still others supply weather instrumentation and weather observing services. Today, approximately 20% of Canadian weather services are being delivered by the value-added private sector.

The MSC is refocusing its relationship with the private sector and has set a policy not to bid on competitive Requests for Proposal, if the services can be provided by the private sector. MSC is also in the midst of restructuring data access and lowering data charges. These changes will make it more financially feasible for the private sector to deliver value-added services and for all Canadians to access weather and climate data.

The growth of the private sector over the next ten years will result in better prices for weather-related goods and services. Such developments will increase the demand for these services and lead to greater innovation in service preparation, presentation and delivery, spurred by the additional competition for private business.

High-speed computing and telecommunications and the emergence of the Internet have fuelled the demand for and ease-of-access to dynamic weather services at the local, regional, national and international levels.

We are developing a uniquely Canadian public-private partnership so that:

- all citizens and all organizations have instant access to the critical weather and climate information they need, when they need it and wherever they need it, from Canadian suppliers;
- the Canadian economy knows about and adapts to the weather-related risks and opportunities better than any other country in the world;
- the accuracy of Canadian weather forecasting has improved, decade after decade, generating net benefits for the economy;

The private weather and climate sector will be:

- Advancing Canada's innovation in research, technology, communications and resources;
- Developing leading-edge "content" for the country's "Connecting Canadians" agenda;
- Providing new growth opportunities in the information, high tech and science sectors;
- Creating new career opportunities and high-quality jobs;
- Expanding from an industry generating some \$65-million in annual revenue to perhaps \$185-million by 2011, with associated economic spin-offs.

The weather-sensitive sectors of the economy – and the economy as a whole – will benefit substantially, through the economic and social benefits that flow from improved weather forecasting, climate forecasting and through improved availability of weather and climate information to weather-sensitive users.

The markets served by the private sector include the following: media, marine (fishing, shipping, offshore oil and gas exploration and production), truck and rail transportation, aviation, utilities - including hydroelectric operators, construction, agriculture, education, legal,

insurance, leisure and tourism, government, and many others. Recently, new markets, such as “weather derivatives for the financial industry”, have emerged, and other markets, such as renewable energy, have taken on new emphasis.

Private sector companies are currently providing many services to the Canadian energy sector. There are companies that specialize in the provision of site-specific forecasts and ancillary services to the offshore oil and gas explorers and producers. There are companies that also specialize in the provision of forecasts and studies for wind energy generation. There are still others that provide forecasts and support data for load forecasting and more.

Some examples of products and services include:

- Quantitative precipitation forecasts over a basin out to five days;
- Climatological outlooks of precipitation and temperature for planning purposes;
- Data analysis and calculation of extremal values of precipitation;
- Load forecasting – sky cover, maximum and minimum temperatures, wind speed and direction, precipitation type and occurrence – over a period of days and including warnings of hazards such as freezing precipitation, volume precipitation (flooding) and so forth.

The weather derivative sector is another area of growth for the Canadian private weather services companies. On a world-wide basis, weather derivatives are estimated to be a \$4 billion US per year industry. While in its infancy in Canada, it is expected to grow over the next ten years and the Canadian weather private sector will be the main support to Canadian and indeed foreign companies that will operate in this market.

In the United States weather-related disasters over the past 22 years numbered 52 and costs exceeded \$ 1 billion. It is estimated that 1/7<sup>th</sup> of the US economy is weather-sensitive, a staggering \$1 trillion. During this same period of time the number of meteorologists in the private sector has increased from 800 in 1982 to over 3,500 and the number of private sector companies from 100 to more than 400.

MSC and the private sector working together will continue to provide services to weather-sensitive industries and to all Canadians:

- MSC acquires and analyzes observations and issues area forecasts and warnings for defined regions of the country;
- Private sector firms use government data and products as a basis for creating information and special products for the media, and site-specific products for weather sensitive clients;
- MSC and electronic media disseminate atmospheric information, forecasts, and warnings to the public;
- Tailored products provided by the private sector are disseminated through information networks such as the Internet or dedicated channels;
- Scientists in the academic community, the government, and the private sector advance atmospheric understanding and assist in creating capabilities for service;
- Private sector firms work with MSC to commercialize research projects and develop new products for the user community.