

standards group ISO/TC 211, which is geared toward developing a framework that will harmonize core data sets.

SUPPORTING NEW INFORMATION TECHNOLOGIES

Most observers see information and communications technologies as key agents in the far-reaching changes that are overtaking every society on earth as the world enters the new millennium. In 1997, the World Economic Forum ranked Canada first among the G-7 countries by technology potential and second by information technology. Since then, Canada has remained a leader in developing next-generation information technologies.

Remote Sensing and Space Technologies

One of the most effective ways to look at the earth as a whole and to better understand climate change and other vital planetary issues is by monitoring the earth's environment from space. In its Atmospheric Environment programs, the Canadian Space Program studies the dynamics of the atmosphere, the ozone layer, greenhouse gases, and other global climate change phenomena. The Canadian Space Program's Surface Environment programs include the development and use of space-borne technologies for studying the cryosphere; monitoring the sustainable development of Canadian forests; understanding the interaction between land-based ecosystems and climate change; mapping nearshore changes and studying the evolution of coastal zones with their ecosystems; and monitoring the northern offshore marine environment and its interaction with global climate at northern latitudes.

The Canada Centre for Remote Sensing (CCRS) of Natural Resources Canada has research projects under way for the application of remote sensing technologies, including radar, to support sustainable development. For example, CCRS collaborates with other government agencies, resource industries, and environmental consultants to make remote sensing data and techniques useful and economical in regional and local environmental monitoring applications, a new and high-growth area in the geomatics industry. This work is being conducted under the Local Environmental Applications Program initiative using high-resolution imagery in the areas of baseline environmental surveys; impact assessment of human activities

RADARSAT

RADARSAT is an advanced earth-observation satellite program developed by Canada to monitor environmental change and to support resource sustainability. The launch of RADARSAT-1 in 1995 gave Canada and the world access to the first radar satellite system capable of large-scale production and timely delivery of data that meet the needs of commercial, government, and scientific programs. RADARSAT-1 provides a new source of reliable and cost-effective data for environmental and resource professionals worldwide. With a planned lifetime of five years, it is equipped with synthetic aperture radar that can transmit and receive signals to "see" through all weather at any time and obtain high-quality images of the earth. RADARSAT-2, due for launch in 2001, will build on the successes of RADARSAT-1 and offer improved quality of data images to meet the growing world demand for earth-observation information.