



Star-1 image of terrain in the eastern United States shows subtle relief and geologic structure illustrating the advanced resolution and image quality of the system.

Data can be transmitted to the Inuvik ground station from as far out as 350 kilometres with the plane flying at 9 000 metres. This height, combined with the characteristics of the system, means that ice surveillance operations are independent of weather and light conditions.

"This technology has not been possible in commercial systems before," said Mr. Bullock. "The compactness of the system enables it to be used in a lightweight aircraft, thus reducing the operational cost, while improving the quality and utility of the end result," he added.

In its Arctic operations, Star-1 has proven to be a cost effective means of acquiring immediate information on ice and land configurations to support offshore and terrain drilling, engineering, and transportation. Using the measure of real data rate per dollar, the Star-1 out-performs all radar systems currently available by 10 to 100 times said Mr. Bullock.

Further applications

In addition to its work in the Arctic the Star-1 has completed a large terrain survey of 600 000 square kilometres of the eastern United States for the US Geological Survey and some classified research for the United States military.

Star-1 is currently in southeast Asia collecting imagery for geological maps over the continually cloud-covered areas of Papua, New Guinea and Indonesia. This deployment is part of an off season world tour to demonstrate the system for hardware sales and collect data for survey contracts.

In addition, demonstrations are underway or in planning stages in Scandinavia for ice, in Europe for geology, land use and research, and in India, Australia and several other countries for research and mapping. Possible uses include monitoring forest cutting in cloud-covered countries, patrolling shipping, border monitoring, geographic surveys and coastal surveillance of fishing fleets. The system also has applications for monitoring oil spills, terrain mapping, oceanographic research and is a potential data source for sea ice forecast models.

Advances for Star-2

Star-2 will incorporate the features of Star-1 with a number of additions and improvements.

The processing speed and transmitting power will be increased resulting in 110 per cent more productivity per flight hour. There will be a 40 per cent increase in the ground swath covered by a single flight pass and a 50 per cent increase in the speed of data acquisition.

A digital data display and recording system will be added to increase the use, storage and retrieval possibilities of the data. The data can then be more easily distributed to users and overlaid with information such as position co-ordinates, bathymetry for marine traffic, ice forecasts for offshore drilling operations, and satellite imagery for terrain mapping applications.

Other additions for the Star-2 will be single point computerized control, automatic position annotation, three axis stabilization of the antenna and smaller physical size and weight.

Ratification of convention to transfer offenders

Canada has ratified the European Convention on the Transfer of Sentenced Persons, signed at Strasbourg, France, headquarters of the Council of Europe, on March 21, 1983. The convention will enter into force on July 1, 1985, and will be binding on Canada from September 1, 1985.

Canada is not a member of the Council of Europe and this marks the first time it has endorsed a convention developed by the Council. Drawing on Canada's experience in the transfer of offenders, Canadian experts were instrumental in the drafting of the convention.

Under the convention, Canadians imprisoned in the countries which are party to it, will be allowed to serve the remainder of their sentences in Canada. The transfer of sentenced persons will take place only at their request and after all rights of appeal have been exhausted in the sentencing country. Also, all transfers will be subject to approval of both the countries involved.

This is Canada's seventh treaty on the transfer of offenders: bilateral agreements are in force with France, Mexico, Peru, and the United States, while those with Bolivia and Thailand await ratification.

In addition to Canada, five countries — France, Spain, Sweden, Britain, and the United States — have ratified the convention. Other states among the 21 members of the Council of Europe are expected to become parties to it.

Acid rain detection

Environment Canada is setting up an early-warning system, claimed to be the first of its kind, which will detect acid rain across Canada.

The Acid Rain National Early Warning (ARNEW) system is a coast-to-coast network of 110 forest plots set up in strategic zones with varying degrees of acid deposits. Each plot contains 75 trees from six species, various soils and drainage, as well as different geography and climate.

The ministry says 25 plots in the Maritimes, 13 in Ontario and three in British Columbia are in operation. The rest will be in place by the end of this year.

Edward Kondo, director of the ministry's forest insect and disease survey said that damage detected by his staff will be published by Environment Canada and remedial action will be taken after determining its cause and extent.