"Ice maps" help oil and shipping industries

Canadian scientists are hot on the trail of a satellite method that uses the small amount of heat given off by ice floes to predict when northern shipping routes will freeze over, writes Christina Spencer in *The Citizen.*

Using sophisticated microwave equipment aboard a United States Navy satellite, researchers at a Toronto firm have watched ice thicken and abate along more than half of Canada's coastline since the mid-1970s.

The result is a large collection of "ice maps" that show the day-to-day changes in ice throughout Canada's North.

Accurate predictions

By measuring the type of ice in each area, they can make accurate predictions of when shipping routes will be stopped up for the winter season. The knowledge may save oil and shipping companies millions of dollars annually.

"We can tell within a day what the ice is doing," Frank Bunn, owner of Ph.D. Associates, said recently.

"If we can use that to extend the shipping season a few weeks, it could save Canadian industry millions of dollars."

Mr. Bunn said the process evolved as scientists realized everything — even ice — gives off a certain amount of heat. Examined in the microwave spectrum, this heat can be monitored to see when changes occur.

Readings vary

The microwave readings of ice vary with age, although researchers are not sure why.

"We know that it happens and we can tell we've got totally different kinds of ice. We don't really understand the physics yet, but we can use those changes," he said.

Two American satellites, *Nimbus 5* and *Nimbus 7,* were outfitted with microwave instruments when they were launched in 1972 and 1978. They have measured ice temperatures in the Beaufort Sea, Hudson Bay and Baffin Bay since then.

From the temperatures, Mr. Bunn's group calculates the concentration of ice and can determine whether ships will make it through certain areas.

With the data, ships could even be sent to sea before the ice has completely broken up, because the ice map would indicate that by the time it reached a certain point on its journey, enough melting would have occurred to let the ship through.

Canadian army uniforms grace new stamps

The Canadian army began as a volunteer militia force 100 years ago and uniforms worn by militiamen around 1883 are featured on two recently issued stamps.

The 32-cent stamps depict the uniforms of four regiments founded in 1883 when the government of the day passed a new Militia Act authorizing the raising of regular units of cavalry and infantry to supplement the artillery batteries already in existence.

One new stamp shows a scarlet-coated senior non-commissioned officer of the Royal Canadian Regiment with an officer wearing the traditional blue uniform of the British Columbia Regiment. On the second stamp, a militiaman in the traditional dark green uniform of the Royal Winnipeg Rifles is paired with an officer of the Royal Canadian Dragoons in a scarlet tunic.

The finely detailed illustrations on these stamps are by Toronto artist and art teacher William Southern. Ralphy Tibbles, also of Toronto, created the layout and typography.

Bolivian wins McLuhan prize

Luis Ramiro Beltran, Bolivian-born journalist and communications scholar, has won the first $50 000 McLuhan Teleglobe Canada Award, the Canadian Commission for UNESCO has announced.

The award was set up earlier this year in honour of the late University of Toronto philosopher Marshall McLuhan, author of *Understanding The Media.*

Its purpose is to encourage exceptional contributions to better understanding the influence of communications media and technology on society in general, and on its cultural, artistic and scientific activities.

Luis Ramiro Beltran, who lives in Bogotá, has written extensively on communications research and techniques for rural development in Latin America and was a visiting professor at Stanford University in California in 1978.

Computer speaks for the disabled

Development of computerized communications aids for the disabled has been announced by two Ontario universities.

At a University of Windsor demonstration recently, a modified Timex Sinclair 1000 home computer was controlled by a joystick to present written messages on a video display terminal.

Developed by a research team headed by Reinhard Helbing, a physics professor, two prototypes are being used by severely handicapped multiple sclerosis patients who have lost the ability to speak.

The device allows patients who are capable of bodily movements of only six millimetres to assemble sentences from letters displayed in a matrix pattern. Patients can program the unit to display labelled messages such as "I am fine" or "I need a drink of water" at the touch of a key.

Mr. Helbing's prototypes need 16K RAM (random access memory) and 4K ROM (read-only memories), both offered by Timex as Sinclair options. An interface to permit use of the joystick was developed by the university.

At the University of Waterloo, researchers unveiled an "audio Bliss board", which uses a microprocessor and speech synthesizer to allow severely handicapped people to communicate. The device is used to manipulate a 22-centimetre-square plexiglass tablet containing an array of 64 Bliss symbols, a symbolic language used by the disabled.