

Most northerly weather station

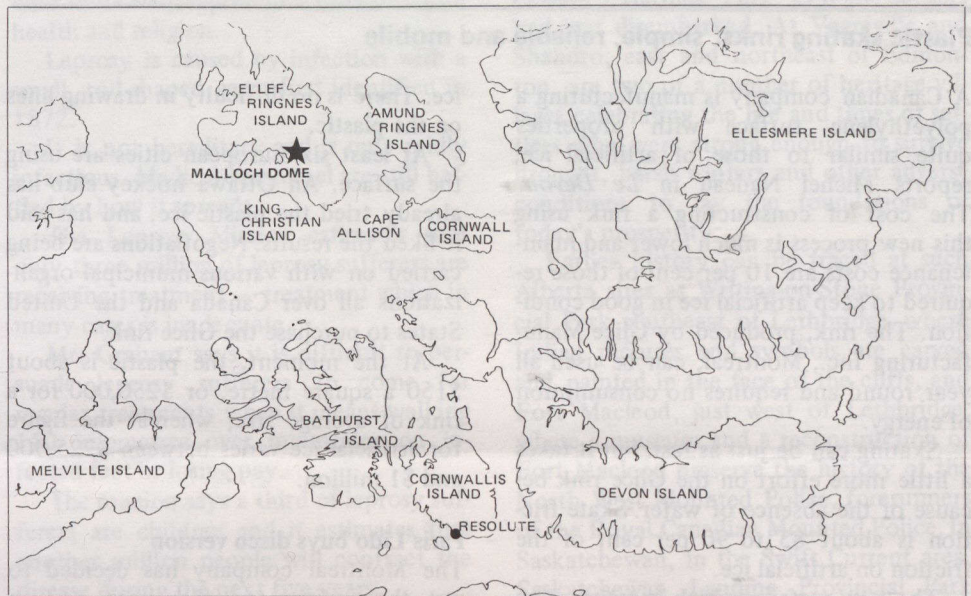
The world's most northerly weather station using the American Geostationary Environment Satellite (GOES) is now in operation in the Canadian Arctic.

Installed by TransCanada PipeLines at Malloch Dome, the unmanned station is on the very fringe of access to the satellite due to the earth's curvature. The satellite is located over the equator at an altitude of 35,800 kilometres. Its orbital path and speed match the speed of the earth's rotation thereby making it stationary.

TransCanada constructed the station to assist in the design and operation of a proposed liquefied natural gas port facility at Ellef Ringnes Island.

Twenty years of meteorological data is required for the design of port facilities, the overall planning of the site and the preparation of navigation safety requirements for approaches to the terminal and berthing procedures.

The TransCanada weather station takes measurements of wind direction



The 'star' marks the location of TransCanada's automatic weather station.

and air temperatures and broadcasts this information every three hours. The data is received by the satellite and in turn is transmitted to a receiving terminal at Wallops Island, Virginia. It is then passed along by computer to Washington and Atmospheric Environment Services (AES)

in Downsview, a suburb of Toronto.

AES records the data and then sends it to Arctic Weather Forecasting in Edmonton. The information from this station and other manned stations at Mould Bay, Eureka and Resolute is then assembled to provide the Arctic weather forecasts.

Saskatchewan researchers claim key nerve finding

Two University of Saskatchewan scientists report they have discovered the mechanism that gives tea and coffee their reputations as stimulants and why tranquilizers like Valium and Librium have the opposite effect.

Professor John Phillis, head of the university's department of physiology, and Dr. P.H. Wu, a department member, have been studying the biochemistry of the brain for several years on an \$85,000 annual grant from the Medical Research Council of Canada.

Their work has focused particularly on the activity and effects of a chemical called adenosine, produced naturally by the body.

In a report released by the university, the two men said they feel the research could have important clinical applications in helping develop effective stimulants and improved drugs to control anxiety and convulsions.

Working with animals, the researchers found that adenosine and related compounds significantly reduced the firing of cells in the central nervous system, diminishing nervous excitability.

Coffee and tea have the opposite effect, but until now the way they work has not been satisfactorily explained, they said. The two researchers said they have discovered that caffeine and theophylline, the active ingredients in the coffee and tea, block the effects of adenosine.

"It appears, in other words, that adenosine and related compounds normally keep central nervous system activity under control but that drugs in coffee, tea and other such products as colas and chocolates prevent the controls from acting, with the result that nervous excitability increases," Mr. Phillis said.

He added that stimulants in coffee or tea can cause anxiety, sleep disturbance and withdrawal symptoms with some people and may be related to hypertension. But he said tolerance varies widely among individuals.

Work with minor tranquilizers suggests that drugs such as those sold under brand names like Valium and Librium enhance the levels of adenosine, suppressing the firing of cells in the nervous system.

Conference on future in Toronto

The First Global Conference on the Future will take place in Toronto on July 20-24, 1980. The conference is an expanded version of the fifth annual conference of the Canadian Futures Society and the Third General Assembly of the World Future Society.

Organizations and groups that will take part include the Club of Rome, the Hudson Institute, Stanford Research Institute, Futuribles of Paris, Information Society of Japan, Polish Academy of Sciences, the World Future Studies Federation, the Centre for Futures Research, Institute for Research on Public Policy, Institute on Man and Science, Mankind 2000 and Planetary Citizens. More than 500 future-oriented groups and United Nations organizations have been invited.

The theme for the conference is "Through the 80s: Thinking Globally, Acting Locally". Delegates to the conference will discuss issues in the fields of energy; health, medicine and welfare; science and technology; information and communications; environmental quality; and education.