

COLD REGION TECHNOLOGIES

The proposals examined were classified as: operations in progress, new operations and prospective operations.

1. Operations in progress

- An ice-structure interaction program: icebreakers and platforms in the polar regions (LGGE Grenoble, IFP - NRC, and Memorial University in Newfoundland). Co-operation has occurred in a satisfactory manner and both sides have agreed to continue it.
- Experimental simulation and theoretical modelling of the freezing and thawing of soils (Laboratoire Central des Ponts et Chaussées/Geological Survey of Canada, Carleton University). Experiments in the Caen cold station, along with the development of computational software are actively progressing. It was therefore agreed to support this project.
- Heat transfer in cold regions (NRC-CNRS Laboratoire d'Aérothermique). This was a highly active area in 1987-1988 and the 1988-1989 outlook for an appropriate conclusion to this area of co-operation is good. A positive recommendation was made to continue this operation.

2. New operations

- Polar engineering: measuring the motions of an iceberg impacting the sea bottom (IV - 7).

The object of this program is to evaluate the forces, constraints and deformations generated by an iceberg impacting a solid object. The extension of this program should facilitate modelling of offshore structures; offshore platforms, artificial islands, dikes, and ships.

Two researchers from C-CORE will set up instruments in Adélie Land together with the French polar engineering team. Logistical resources, such as a ship, helicopter and diver, will be provided by the French polar expeditions.

Processing of the data will be done independently by C-CORE and the Laboratoire de glaciologie et géophysique de l'environnement de Grenoble.