

CAN WE AFFORD NOT TO PARTICIPATE?

In an address to the First Canadian Symposium on Remote Sensing last February, the Minister of Energy, Mines and Resources, Mr. Donald S. Macdonald, stated that Canada would spend "about \$25 million over four years on a pilot program for remote sensing". He outlined what Canada hoped to gain from the program; part of his remarks follow:

...Let's just say for the moment that remote sensing technology will play a part in both the exploitation and conservation of our resources, depending on interpretation of the data received and how man chooses to react to his environment, whether pursuing economic growth or assessing its costs in terms of the quality of life. To reach precise judgment about our future resource management we need more precise measurement of our land mass and what it contains.

It's far too early to assess all the tangible or intangible benefits likely to accrue from the investment required to bring this technology to bear on the management of our resources, but the Canadian Government believes benefits will be well in excess of the costs involved. Given the kinds of concern expressed today about resource scarcity and the need to conserve our national assets, the question really becomes: "Can we afford *not* to participate?"

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Here's a quick rundown on our initial objectives:

- (1) to satisfy the growing information needs of Canadian resource management and environmental-control agencies by producing and distributing remotely sensed data, derived information and related consultant services in a centrally organized, timely and economical fashion;
- (2) to provide technology, methods and organization to maintain a full inventory of remote sensing data gathered over Canada;
- (3) to promote research and development and the diffusion of a new remote sensing technology into Canada, so that the nation will not become dependent on other countries for this new technology so vital to effective resource-management and environmental control;
- (4) in co-operation with other agencies to develop high reliability and continuity in the acquisition, processing and interpretation of remotely sensed data so that the national program of remote sensing will not fail to meet the needs of user agencies.

The Government of Canada regards remote sensing of terrain as an extension of its mapping function — complementary to its topographical mapping. A host of geographical maps on various themes will be derived from remote sensing data. All the data will be stored at a central repository and made available on request to meet the needs of government, industry and the public at large. Canada's National Air Photo Library is currently being expanded and equipped for this task....



Prince Albert Satellite Receiving Station

sing. The only part of Canada that will not be covered is the extreme Arctic, north of 82 degrees.

WHAT ERTS WILL SHOW

While satellite photography has no application in the direct detection of mineral and oil deposits, it has considerable application in the mapping of structural geology. Geological mapping, in turn, is an essential base for mineral prospecting.

The pictures will produce a great deal of new information about Canada's water resources. The advance and retreat of winter conditions as represented by snow and ice cover, the freeze-up and break-up of lakes, water levels in lakes and reservoirs, shore erosion, the formation and movement of sea ice can all be detected by satellite imagery. Infrared imaging can detect temperature changes of a fraction of a degree centigrade. Warm or cold ocean