



Branching out

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EOSD: monitoring our forests from space

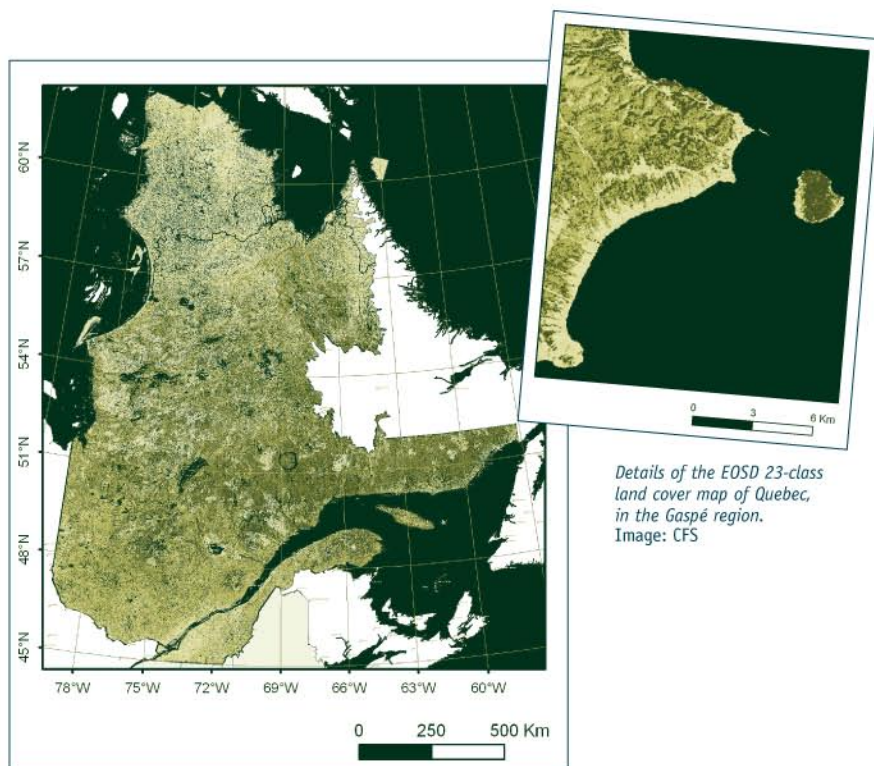
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THIS IS AN UPDATE OF BRANCHING OUT, NO. 17

The Earth Observation for Sustainable Development of Forests (EOSD) project is a joint initiative of the Canadian Forest Service (CFS) of Natural Resources Canada and the Canadian Space Agency. It is aimed at establishing a national forest measuring and monitoring system using Landsat satellite images.

Four CFS centres¹ are involved in this project. After more than four years of intensive work, an initial operational component aimed at mapping the land cover of the forested areas of Canada was completed in 2007, using more than 450 LANDSAT images obtained around the year 2000.

An EOSD land cover map of Quebec's forested area (excluding tundra) was produced by classifying about a hundred Landsat images into 23 thematic classes designed to identify forest environments, stand types, and density. The result of this undertaking is the first digital coverage of the entire forested area of Canada with a 25-metre resolution.



*Details of the EOSD 23-class land cover map of Quebec, in the Gaspé region.
Image: CFS*

*EOSD land cover map of Quebec, 23-class version.
Image: CFS and MDDEP*

A healthy forest ■ A strong forest sector ■ Knowledge at your fingertips

¹ Pacific Forestry Centre (PFC), Northern Forestry Centre (NoFC), Laurentian Forestry Centre (LFC), and Atlantic Forestry Centre (AFC).



This EOSD map product can now be accessed free of charge through a Web portal (see "Useful link" below). In addition, an EOSD satellite map of Quebec's tundra zone was completed in 2007 under a separate project carried out in partnership with the MDDEP to meet the department's needs (see box).

Together these two projects have made it possible to produce a more detailed thematic version (52 classes) of the entire land cover of Quebec that should meet the demands of a wide variety of users.

Maps of biomass and of natural and anthropogenic disturbances, which are the results of other EOSD research components, will also be deployed on a broad scale. They will be the basis of a new Canadian forest monitoring system which will feature widely accessible digital coverage data. These data will be especially useful in northern regions for which there currently is little geospatial information available on forests and the vegetation

Teamwork

One CFS team handled the production work for Quebec in collaboration with several provincial partners, including the Université du Québec en Abitibi-Témiscamingue (UQAT) and the *ministère du Développement durable, de l'Environnement et des Parcs du Québec* (Quebec Department of Sustainable Development, the Environment and Parks - MDDEP).



Spruce-lichen forest in Quebec's Middle North region.
Photo: A. Beaudoin

Forests on the map: some EOSD land cover applications

The MDDEP would use the detailed version of the EOSD complete land cover map of Quebec to characterize land use for the broad territorial units that make up its ecological reference framework and for its biodiversity reserves.

The *Institut de recherche d'Hydro-Québec* (IREQ) uses EOSD land cover data to enhance the mapping of wind resources, particularly in northern Quebec, and to make projections of hydro and wind energy production throughout Quebec.

The UQAT, working in collaboration with the CFS, handled the EOSD land cover mapping for 1985, 1990, 1995 and 2000 for the Abitibi-Témiscamingue and Northern Quebec regions. It has provided a general portrait of forest change based on four indicators of forest condition.

in general. Through the National Forest Inventory, Canada is already using this system to meet its national and international commitments related to sustainable forest management.

USEFUL LINK:

Earth Observation for Sustainable Development of Forests (EOSD) and free download of EOSD land cover data:

eosd.cfs.nrcan.gc.ca

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