

USE OF GAC DATA FOR MONITORING THE CANADIAN LANDMASS

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ABSTRACT

One of the difficulties associated with monitoring global vegetation using satellite data is the need for both good temporal and spatial coverage. The Canada Centre for Remote Sensing (CCRS), through its Global Change Program, has been evaluating the use of data from the Advanced Very High Resolution Radiometer (AVHRR) on board the National Oceanic and Atmospheric Administration (NOAA) satellite.

Composites of North American data at Global Area Coverage (GAC) were obtained from NASA through a cooperative project. These data have a nominal resolution of 4 km and had been calibrated using pre-launch sensor values. The study period chosen was from 1982 to 1986 inclusive.

The purpose of the study was to evaluate annual variations in the seasonal profiles of the Normalized Difference Vegetation Index (NDVI) for areas of different landuse. The primary landcover types were selected from a map of ecological regions, or ecodistricts, obtained from Environment Canada. The seasonal profiles displayed yearly shifts in the response of the NDVI to changing environmental conditions such as drought. The variations in seasonal NDVI profiles illustrate both yearly phenomena and more generalized trends in vegetation growth patterns.