

**Monitoring the environment using an airborne imaging spectrometer
- applications and Newfoundland examples**

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Imaging spectrometers allow for simultaneous acquisition of images in contiguous, narrow bands such that full reflectance spectra can be constructed for each pixel in the scene. There are a host of biogeophysical parameters which can be measured using such data, including water quality (phytoplankton concentration and genera, dissolved organic carbon, suspended particulate matter); vegetation canopy biochemistry (and, by corollary, ecosystem processes such as net primary productivity); rock/mineral determination and geobotanical phenomena; and soil characteristics. The

Compact Airborne Spectrographic Imager (CASI) is a Canadian designed and built imaging spectrometer which can acquire data in either (i) spatial (image) mode (maximum of 15 bands) or (ii) spectral mode (288 contiguous bands) and therefore satisfies the demand for high spectral resolution data in the visible to near IR region of the spectrum. CASI data sets collected in Newfoundland and Labrador over the past three years will be presented to illustrate various terrestrial and marine applications for this technology.