Séminaire 23 Novembre 2012 11h / Seminar November 23rd 2012 11h

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Sujet/Subject: VIIRS Imager on SNPP satellite:
New capabilities for cloud and surface mapping in the Arctic

Présentation/Presentation: Anglais / English

Lieu/Room: Salle des vents (Dorval)

wiki: https://wiki.cmc.ec.gc.ca/wiki/RPN_Seminars

iweb: http://web-mrb.cmc.ec.gc.ca/mrb/rpn/SEM/
web: http://collaboration.cmc.ec.gc.ca/science/rpn/SEM/index.php

Résumé/Abstract

A new imager - Visible Infrared Imaging Radiometer Suite (VIIRS) - has been launched onboard the NOAA satellite named Suomi National Polar-Orbiting Partnership (SNPP) on October 28, 2011. The SNPP satellite is the first satellite of the future US Joint Polar Satellite System (JPSS). In addition to VIIRS, it carries another four key instruments: the Advanced Technology Microwave Sounder (ATMS), the Cross-track Infrared Sounder (CrIS), the Ozone Mapping and Profiler Suite (OMPS), and Clouds and the Earth's Radiant Energy System (CERES).
The SNPP satellite is on sun synchronous orbit with equator crossing local solar time 1:30pm at the ascending node. The VIIRS imagery has a swath of 3000 km and provides global coverage at a 375m to 750m spatial resolution (nadir) in 22 spectral bands. The VIIRS spectral band are divided into three general groups: five I-bands (imaging bands with 375m spatial resolution), sixteen M-bands (moderate resolution bands with 750m spatial resolution), and one Day/Night (DNB) band (750m). The details of VIIRS imagery structure and formats will be presented. Examples of VIIRS imagery and applications for mapping cloud and surface properties of interest to CCRS/NRCan and EC will be discussed.
Finally, some features of the Low Earth Orbit (LEO) polar satellite system and the Highly Elliptical Orbit (HEO) satellite system will be briefly compared to emphasize the importance of satellite imagery with high refresh rate for monitoring dynamic events.