



VIIRS Cloud Team Activities in the Arctic

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and the JPSS Cloud Team (CIMSS and CIRA)

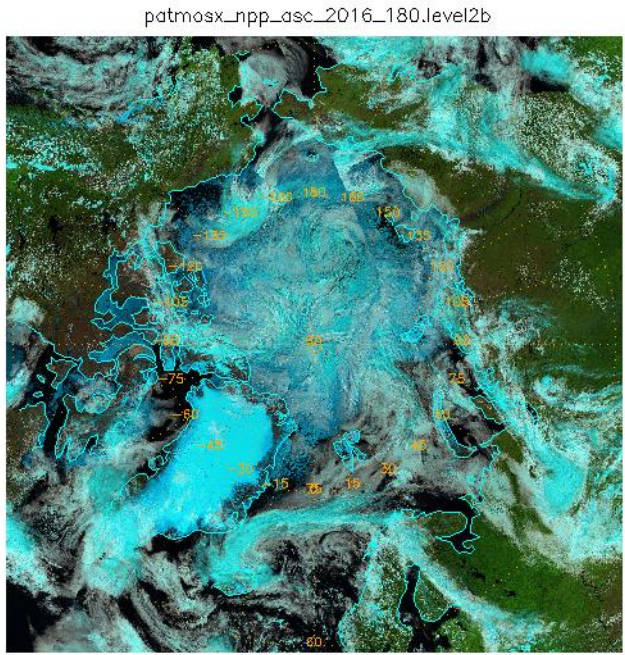
Cloud Composites over the Arctic

- We generate a full suite of cloud products from VIIRS globally. Products include mask, phase, height/temp/pressure and optical depths, particle sizes, water paths.
- We composite the level-2 data into a global field and an Arctic grid.

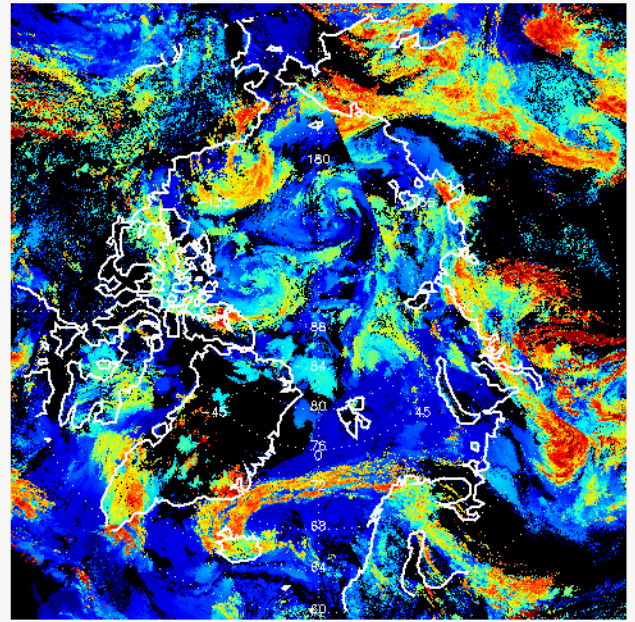
NOAA VIIRS Enterprise Products from July 2016
 patmosx_npp_asc_2016_180.level2b

We provide this data to:

- NWS AWC for global monitoring of aviation hazards.
- Plan to provide to OAR/ESRL for NWP model verification over polar regions.
- Cloud Heights used in Polar AMVs.



False Color Image
 Red=1.6 μ m, Green = 0.86 μ m, Blue = 0.65 μ m



cld_height_acha
 0.0 2000.0 4000.0 6000.0 8000.0 10000.0

VIIRS Clear Sky Applications



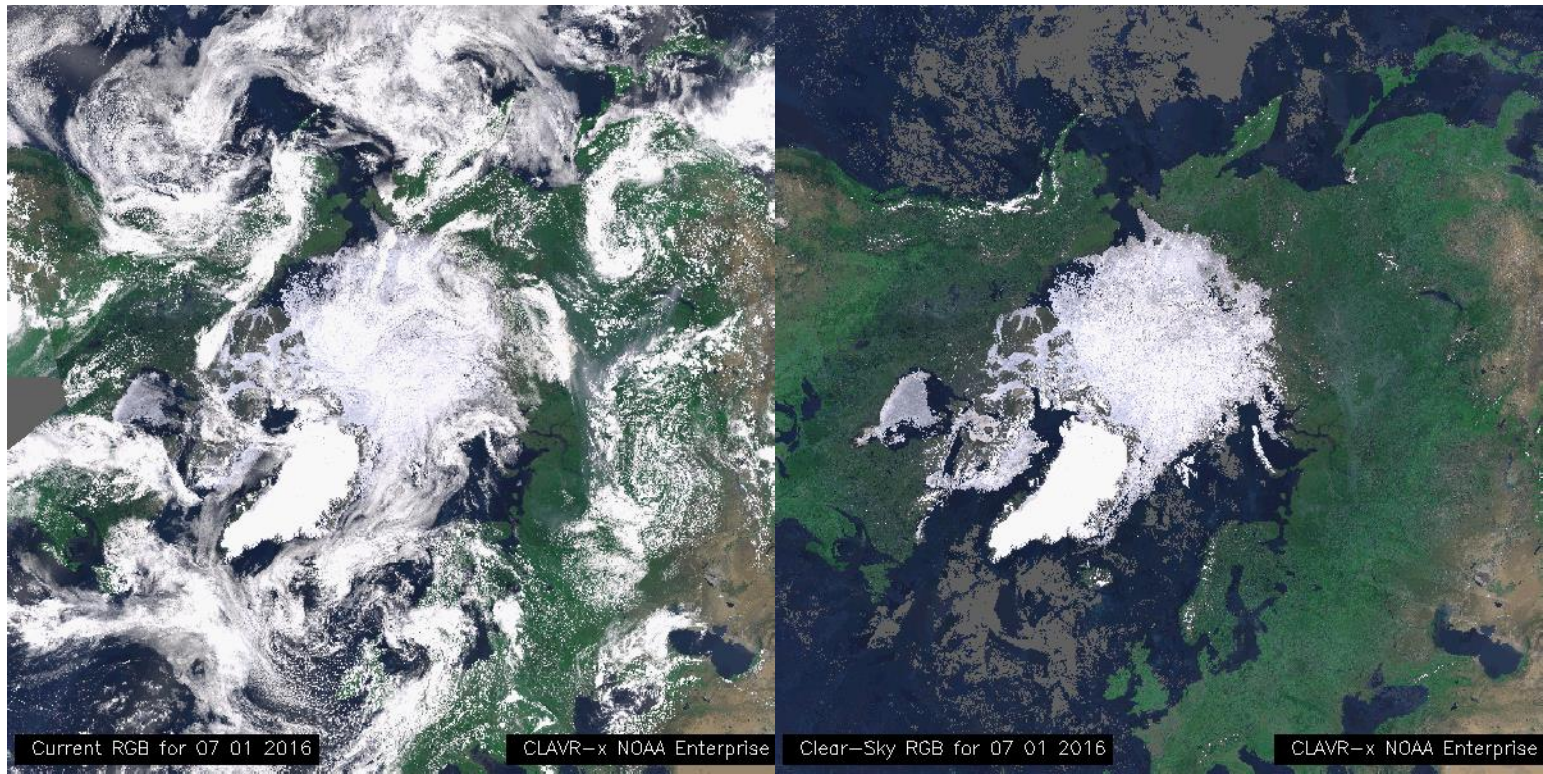
- We make cloud detection products using the NOAA Enterprise Cloud Mask.
- NCEP/EMC will use our clear-sky mask for its radiance assimilation.
- We also make clear-sky imagery to verify mask and potentially aid imagery users.

Images show VIIRS true color imagery for July 2016.

Left image is unmasked.

Right image shows image constructed from clear pixels from the VIIRS cloud mask.

Grey regions have no clear data in last 2 weeks.



Climate Applications



- The VIIRS Cloud Team also makes the Pathfinder Atmospheres Extended (PATMOS-x) series of satellite climate products. PATMOS-x products are identical to the NOAA Enterprise Suite but use the spectral information and reanalysis data instead of forecast NWP data. Resolution is 0.1° .
- AVHRR PATMOS-x is operational and available from NCEI. (1979-present)
- GOES PATMOS-x is available via the CIMSS Climate Data Portal. (1995-present)
- MODIS PATMOS-x is also available on the CIMSS CDP. (2002-present)
- VIIRS will be included when SDR reprocessing is done and funds allow.