

## NOAA-20 ATMS First Light Images November 29, 2017

On November 29 the teams received the first light data from the ATMS instrument and did some quick analysis and produced images. In addition to the SDR data, the ATMS Limb Correction Team, and the MIRS team both produced their products using NOAA-20 data. They found that even using parameters generated for Suomi NPP that the products were within expected ranges.

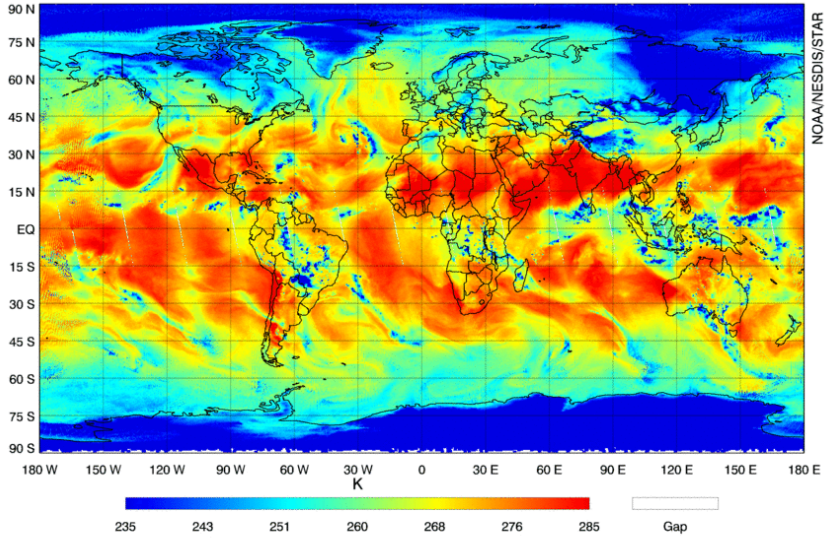
- TDR images are clear
- Full global coverage is good
- Geolocation is good
- Telemetry data look good
- Ka transmitter interference is not seen
- Heater-induced EMI is not seen

The screenshot shows the NOAA JPSS-1 website. At the top is the NOAA logo and the text 'National Oceanic and Atmospheric Administration U.S. Department of Commerce'. To the right is a search bar and the text 'Satellite and Information Service'. Below this is a navigation menu with links for Home, About, Imagery and Data, Our Satellites, News, Science, Education, Multimedia, and Press. The main content area is titled 'JPSS-1' and includes a breadcrumb 'Home > JPSS-1'. On the left is a vertical menu with buttons for NEWS, MISSION, SPACECRAFT, GALLERY, PRESS, and MEDIA B-ROLL. The main article is titled 'NOAA-20 Sends Back First Science Data' and is dated 'Nov 30, 2017'. It features a global map showing temperature data from the ATMS instrument. The map is titled 'NOAA-20 ATMS Channel 18 Absolute Temperature (K)' and has a color scale from 235 to 265. The article text states: 'November 29, 2017: Eleven days after JPSS-1 launched into Earth orbit, the satellite, now known as NOAA-20, has sent back its first Advanced Technology Microwave Sounder (ATMS) science data as part of a series of instrument startups and checkouts that will take place before the satellite goes into full operational mode. The NOAA-20 satellite carries five instruments that will improve day-to-day weather'.

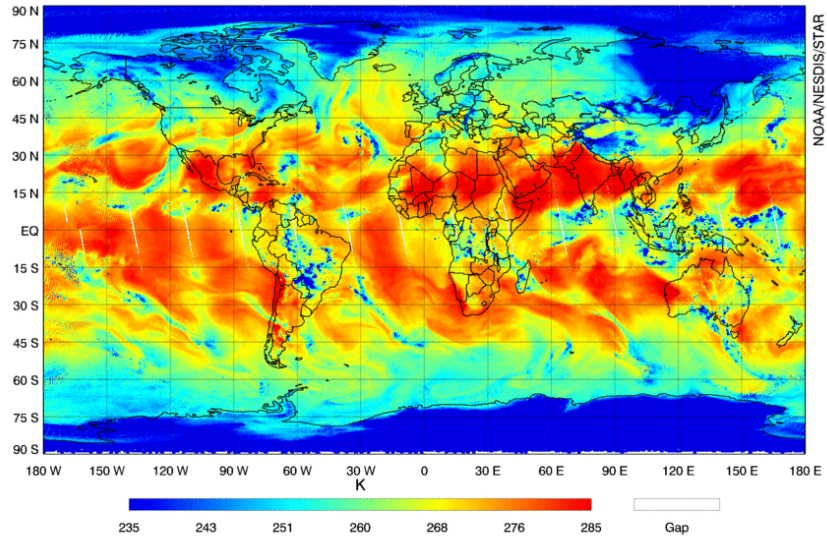
# NOAA-20 vs SNPP ATMS Channels 18 TDR



Suomi NPP ATMS TDR Ch.18  $183.31 \pm 7.0$  GHz QH-POL  
2017-11-30  
Ascending

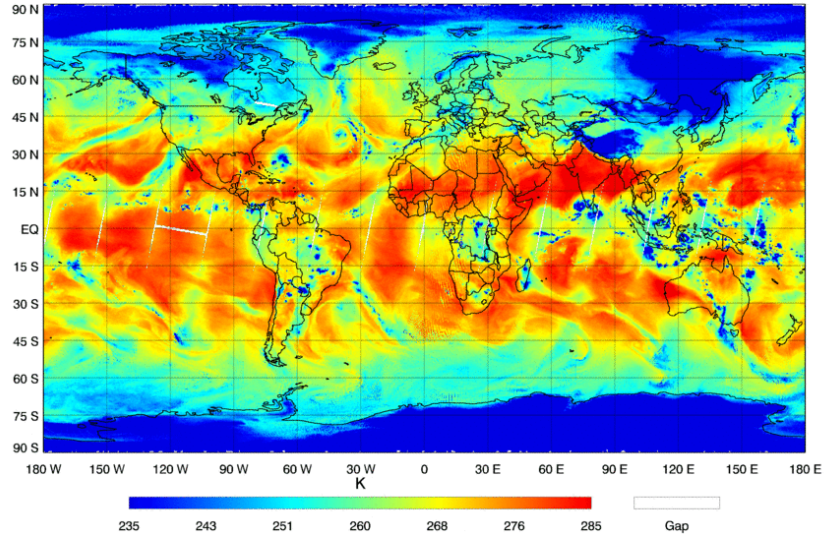
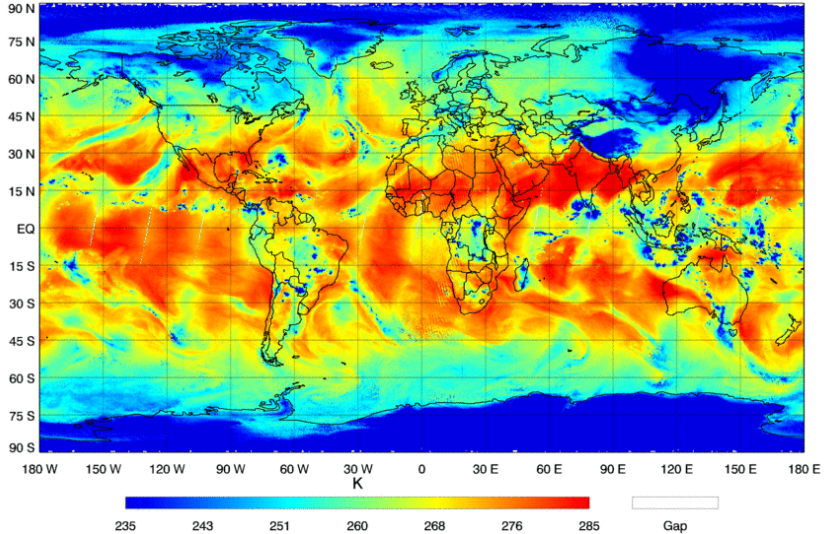


NOAA-20 ATMS TDR Ch.18  $183.31 \pm 7.0$  GHz QH-POL  
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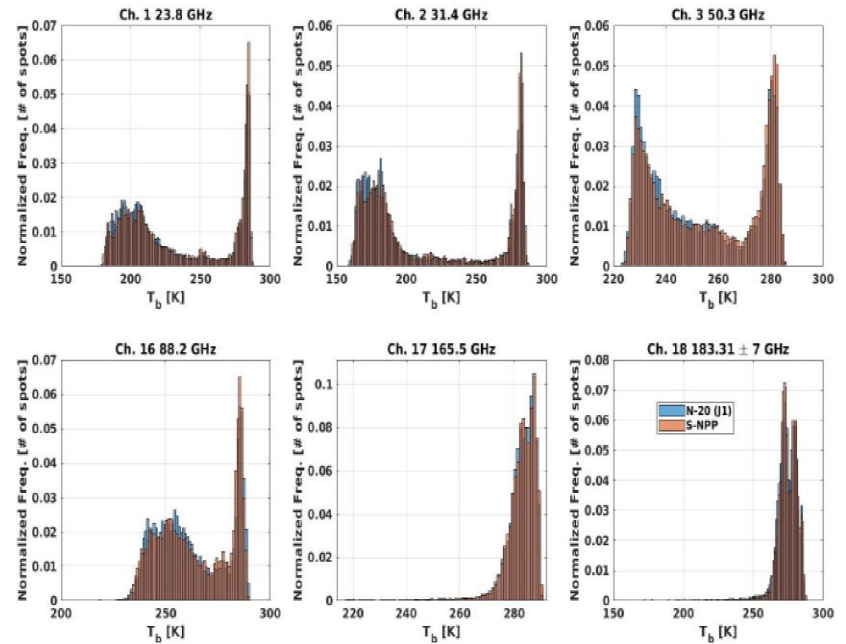
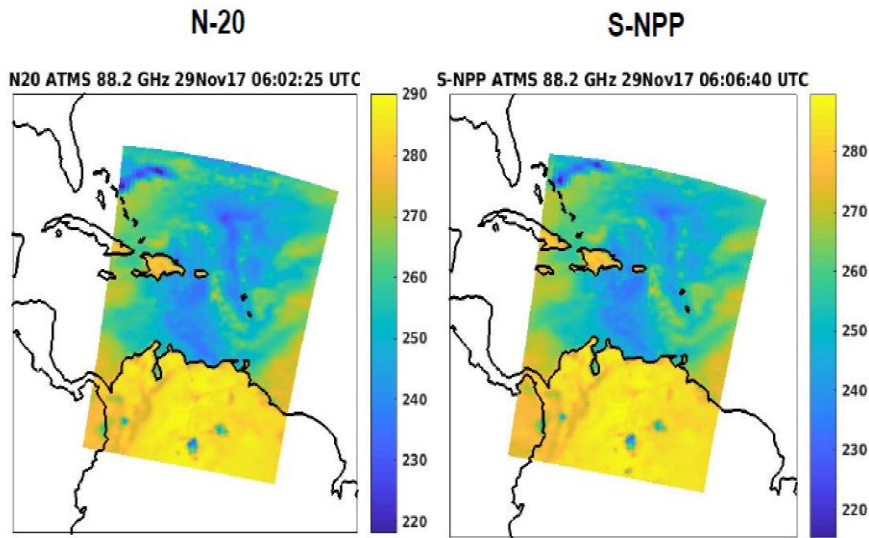


Descending

Descending



# Very good agreement between SNPP and NOAA-20

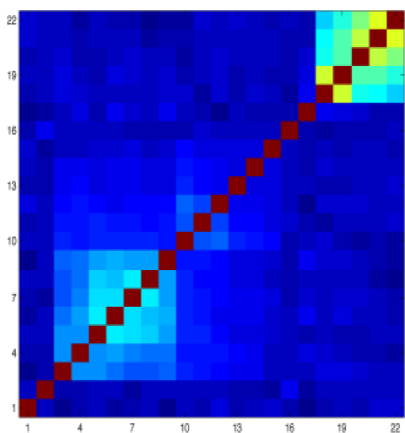




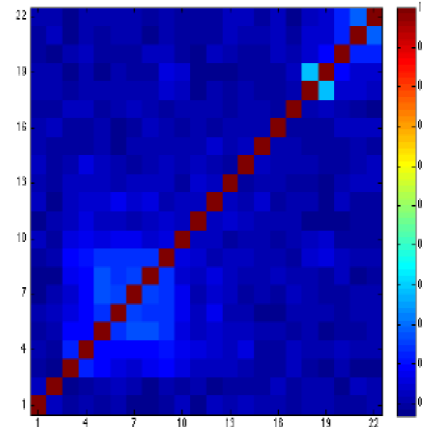
# NOAA-20 ATMS Performance: Initial Look

- Noise appears to slightly less than SNPP
- Channel Correlation is less
- Less Striping

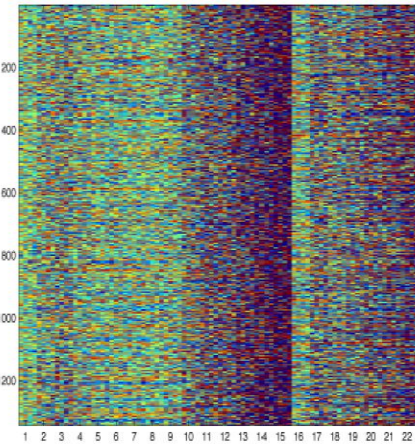
NPP ATMS



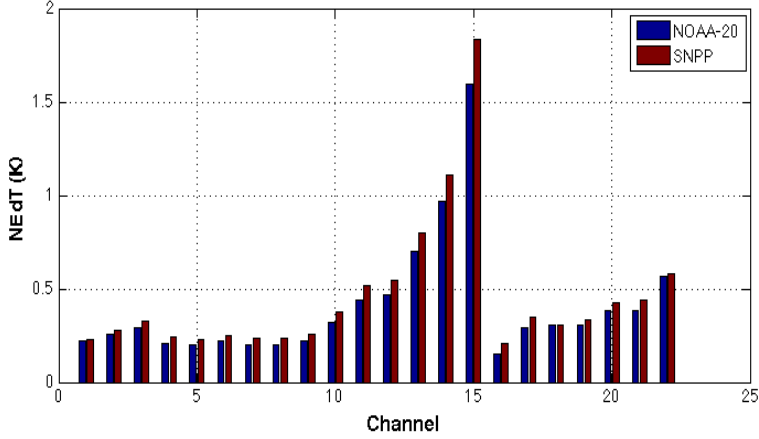
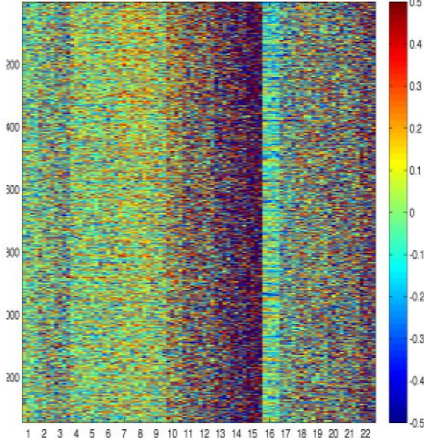
N20 ATMS



NPP

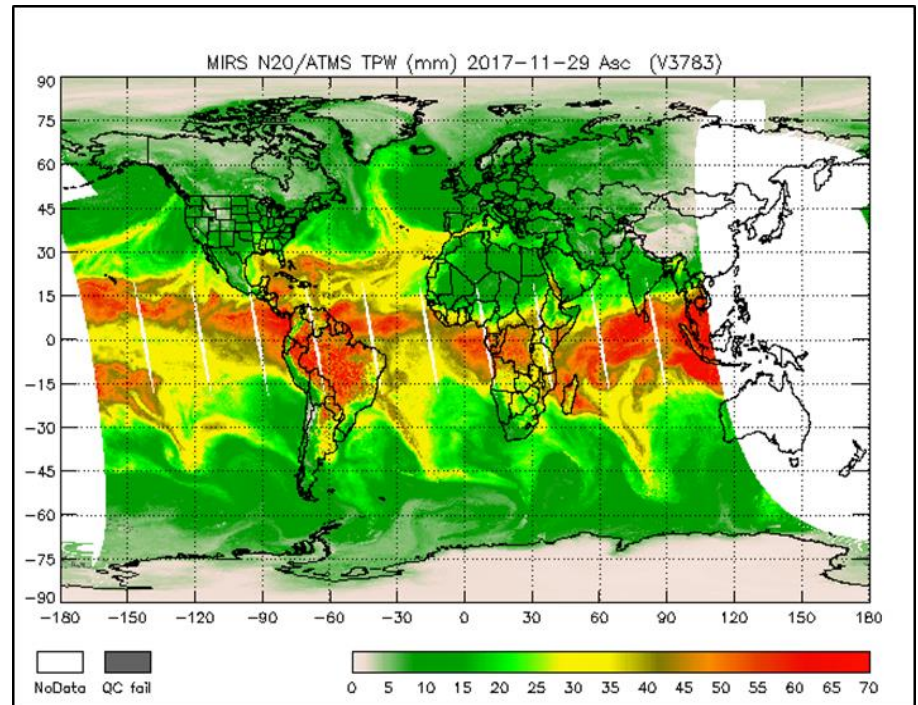
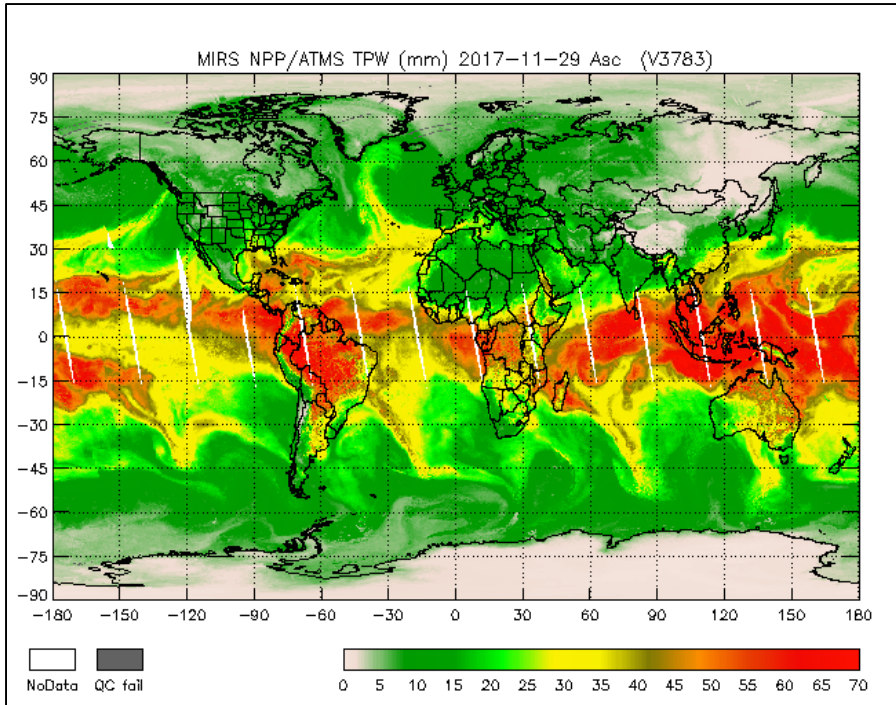


N20



# NOAA's MiRS (Microwave Integrated Retrieval System): First Results from JPSS-1/N20 ATMS

SNPP vs NOAA-20 Total Precipitable Water



**Produced by the MiRS Algorithm Development Team at NOAA/NESDIS/STAR**

## NUCAPS at NASA Sounder Science Meeting

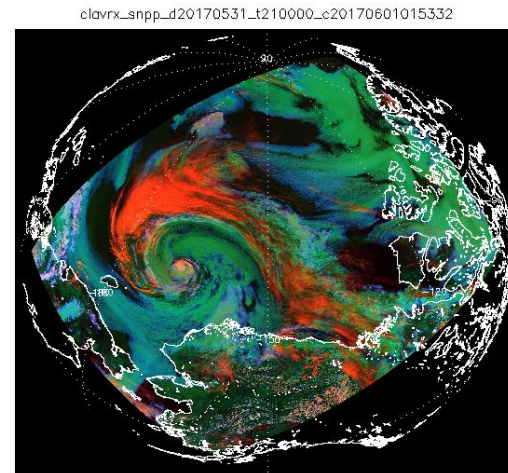
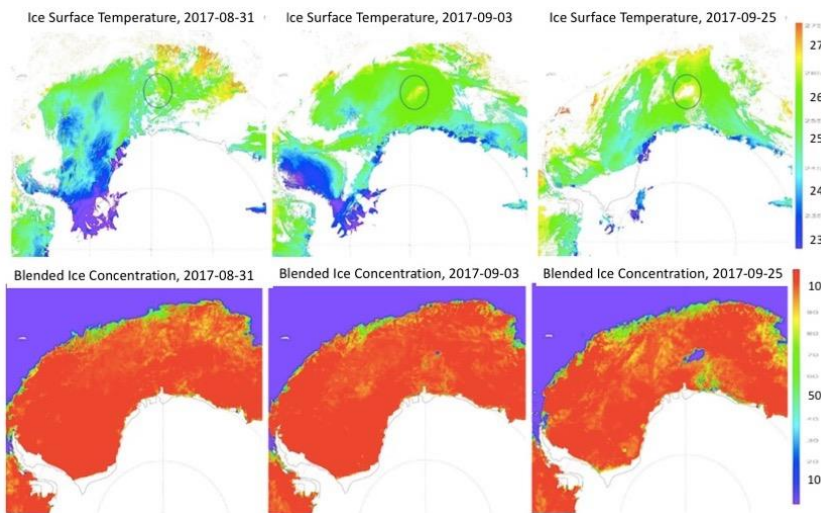
Several STAR NUCAPS Scientists attended and participated in the Fall NASA Sounder Science Team Meeting, held in Greenbelt, Maryland, 24-26 October 2017. The participants gave oral presentations on the status of the CrIS Full Spectral Resolution (FSR) NUCAPS.

## Cryosphere team sees large polynya.

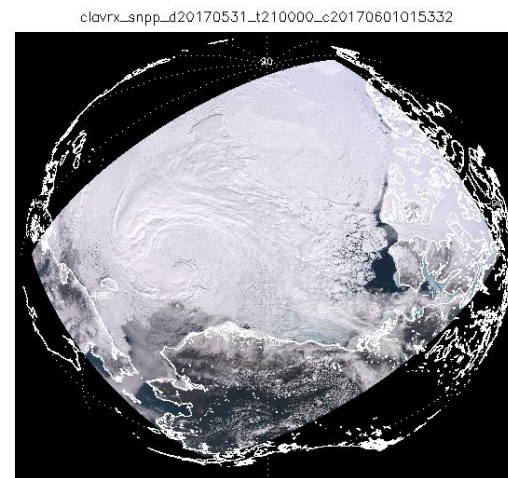
The VIIRS cryosphere products were able to observe a large polynya forming in the Weddell Sea. This feature, the size of Maine, was the largest in this area of the Antarctic in more than 40 years.

## New False Color Imaging Technique

The Cloud Team has developed new false color imaging techniques to help visually verify the performance of the cloud algorithms in the Arctic. The channels used in the false color image isolate the clouds from the sea-ice, which is difficult using True Color. In the false color image, ice clouds are red and water clouds are green or blue (depending on particle size).



False Color Image  
Red=1.38 $\mu$ m, Green = 1.60 $\mu$ m, Blue = 3.75 $\mu$ m (solar)

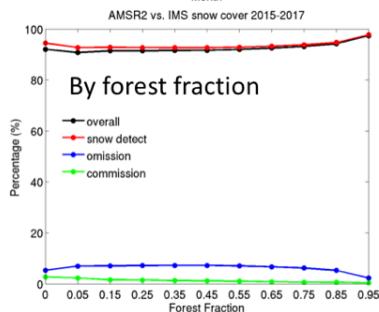
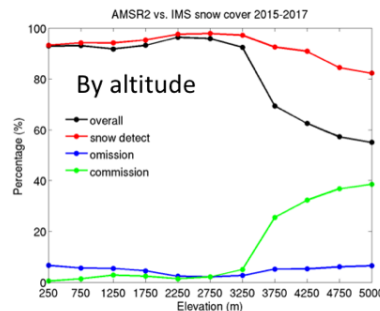
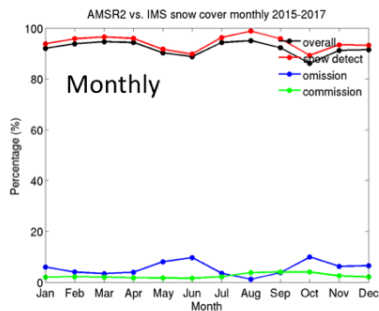


True Color Image  
Red=0.65 $\mu$ m, Green = 0.55 $\mu$ m, Blue = 0.48 $\mu$ m

## GCOM AMSR-2 Snow Cover Statistics

The GCOM team has compiled the Snow Cover detection statistics for 2015-2017. The team found good agreement with observations for most conditions, although they note that retrievals degrade rapidly for altitudes above 3250 m.

AMSR2 Snow Cover Statistics, Jan 2015 – Oct 2017



### Summary

Overall accuracy: 92.34%  
 Snow detection rate: 94.33%  
 Omission error: 5.41%  
 Commission error: 2.25%  
 Number of pixels: 536462057

## Ocean Color Cruise Report Published

The Report on the Dedicated JPSS VIIRS Ocean Color Cal/Val Cruise of October 2016 has been published online by the NOAA Library as NOAA Technical Report NESDIS 151. The aim of this cruise is to help calibration/validation of JPSS Ocean Color algorithms and secondarily to add in calibration of in situ sensors. Twelve teams participated in the cruise, which had to change its plans after the late season passage of Hurricane Matthew in the planned cruise path.

## ITSC-221

Several STAR JPSS team members including JPSS STAR Lead Lihang Zhou, attended the International TOVS Study Conference in Darmstadt, Germany, from November 28-Dec 4.

The meeting covers a wide range of topics regarding atmospheric soundings including the CrIS and ATMS instruments. Lihang presented the post launch JPSS-1 Cal Val Readiness; also gave an update of NOAA NUCAPS algorithm developments and near real time applications.