



Joint Polar Satellite System (JPSS)

NOAA REPORT – FEATURING NOAA-20 ATMS

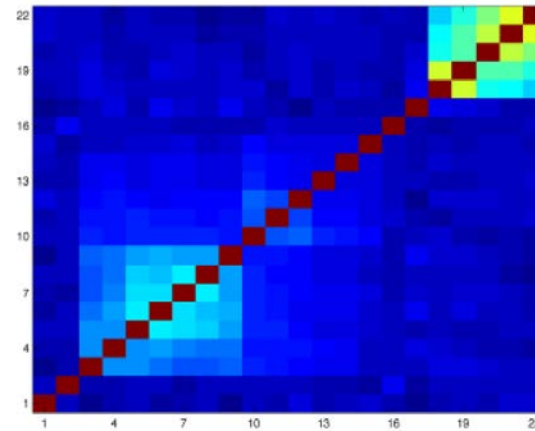
Mitch Goldberg, Lihang Zhou

**Many thanks to Mark Liu (ATMS Sensor team lead), Ninghai Sun, Tiger Yang,
Kexin Zhang, Chris Grassotti, Vince Leslie**

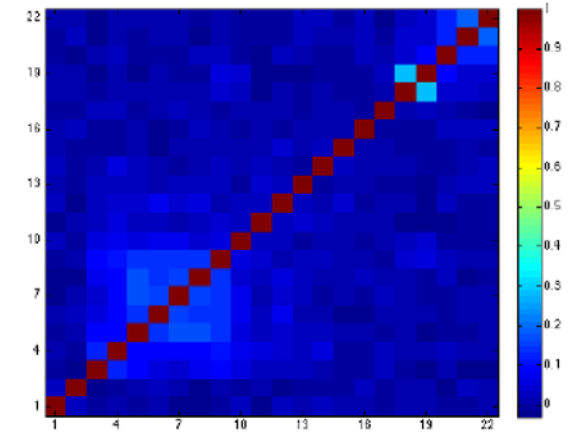
Joint Polar Satellite System
National Environmental Satellite, Data, and Information Service
U.S. National Oceanic and Atmospheric Administration
U.S. Department of Commerce

- Data is flowing to NCEP, EUMETSAT, NRL as cal/val members
- L+90 is the official data for operations
- Bug in the SDR computation which has been fixed, but not implemented yet.
- Use the TDRs. Do not use the SDRs (for now)
- Noise appears to slightly less than SNPP
- Channel Correlation is less
- Less Striping

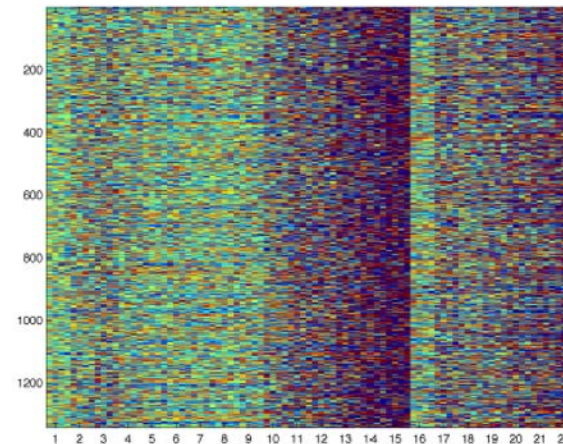
NPP ATMS



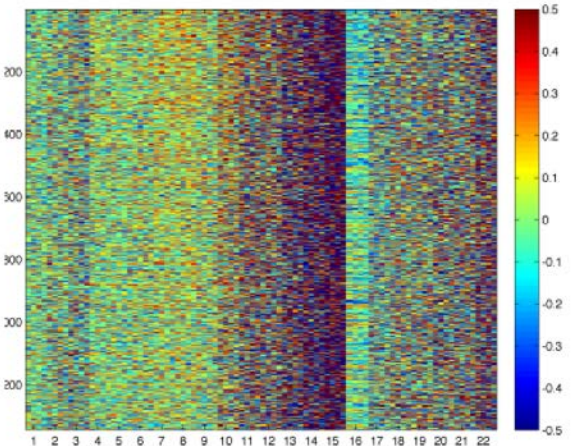
N20 ATMS



NPP



N20



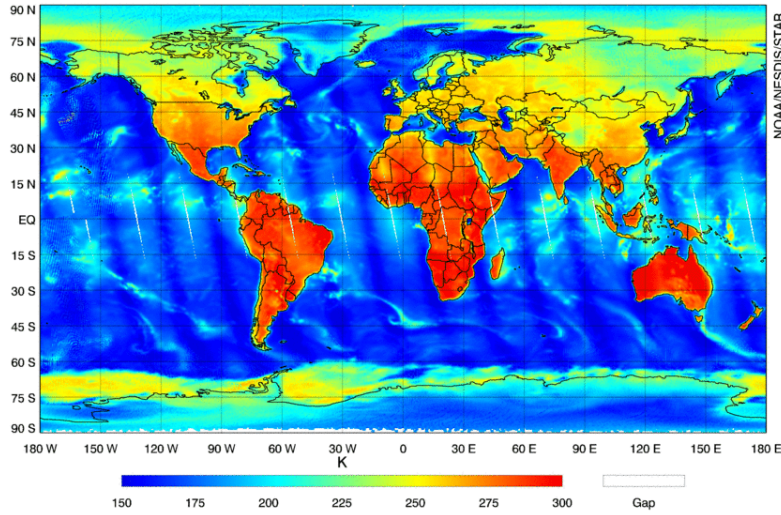


Use this Disclaimer with respect to pre-operational data

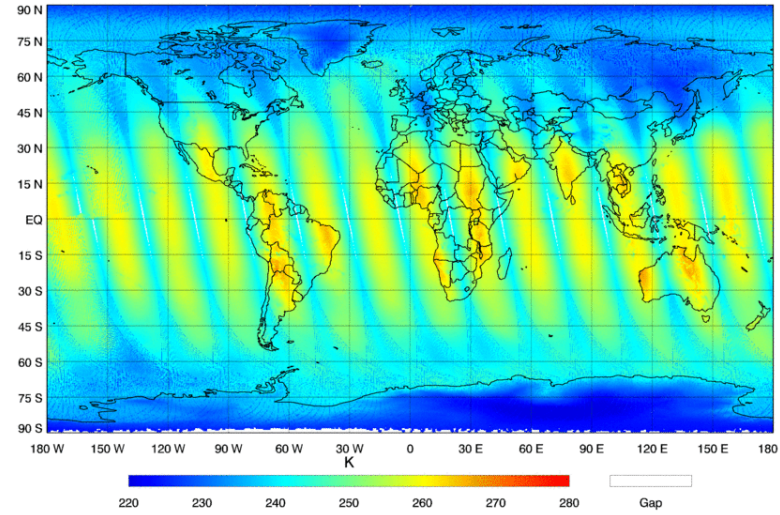
- Disclaimer: Until NOAA-20 has been declared operational, its data are preliminary and will be undergoing testing. Users receiving these data through any dissemination means (including, but not limited to, PDA and HRD) assume all risk related to their use of the NOAA-20 data and NOAA disclaims any and all warranties, whether express or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. Until the instrument data is ready for operational use (at least provisionally mature), the following disclaimer should accompany any NOAA-20 imagery and/or data: “NOAA-20 Preliminary, Non-Operational Data.”

ATMS Channels 2, 6, and 17

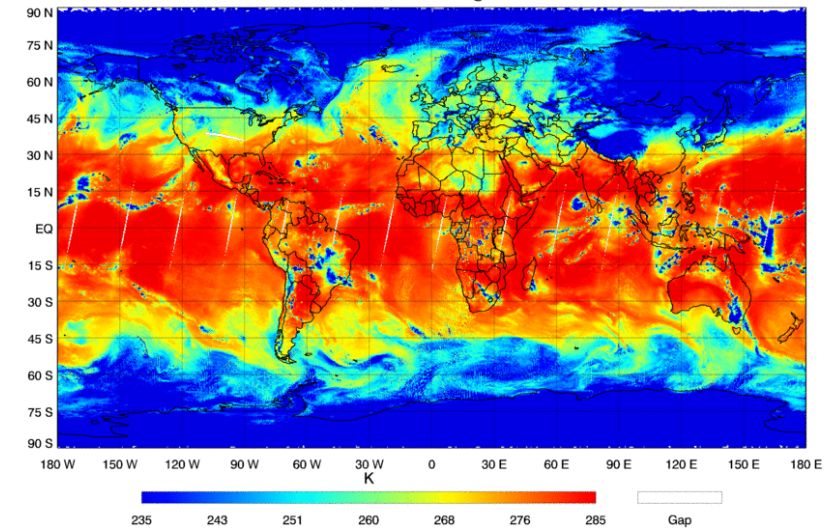
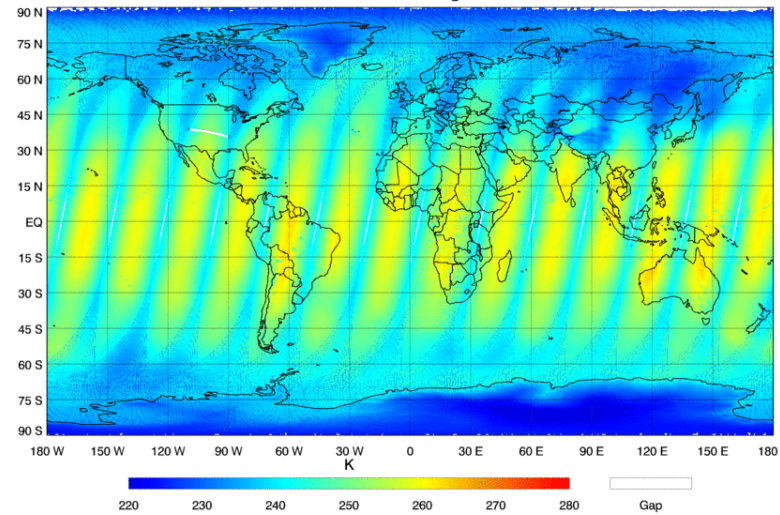
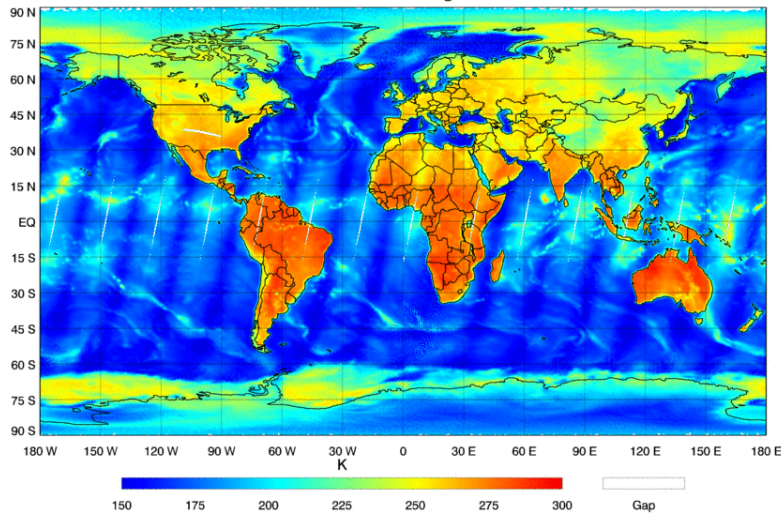
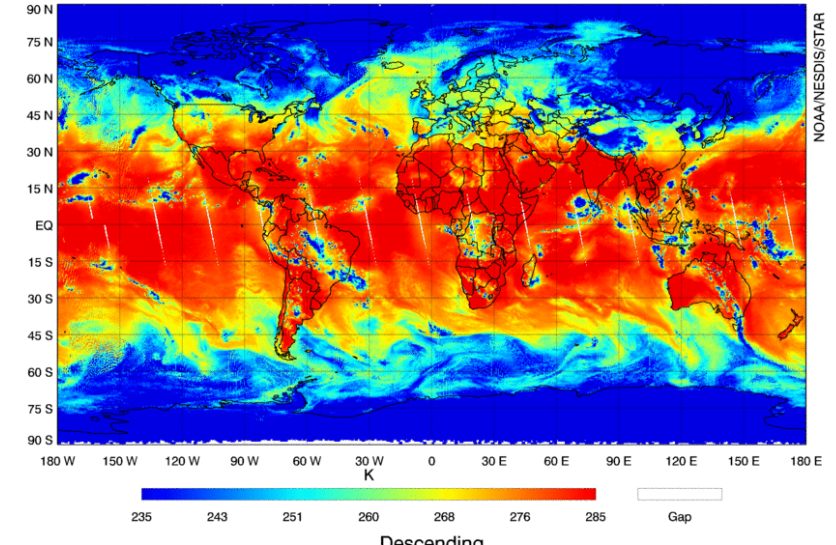
NOAA-20 ATMS TDR Ch.2 31.4 GHz QV-POL
2017-12-01
Ascending



NOAA-20 ATMS TDR Ch.6 53.596±0.115 GHz QH-POL
2017-12-01
Ascending

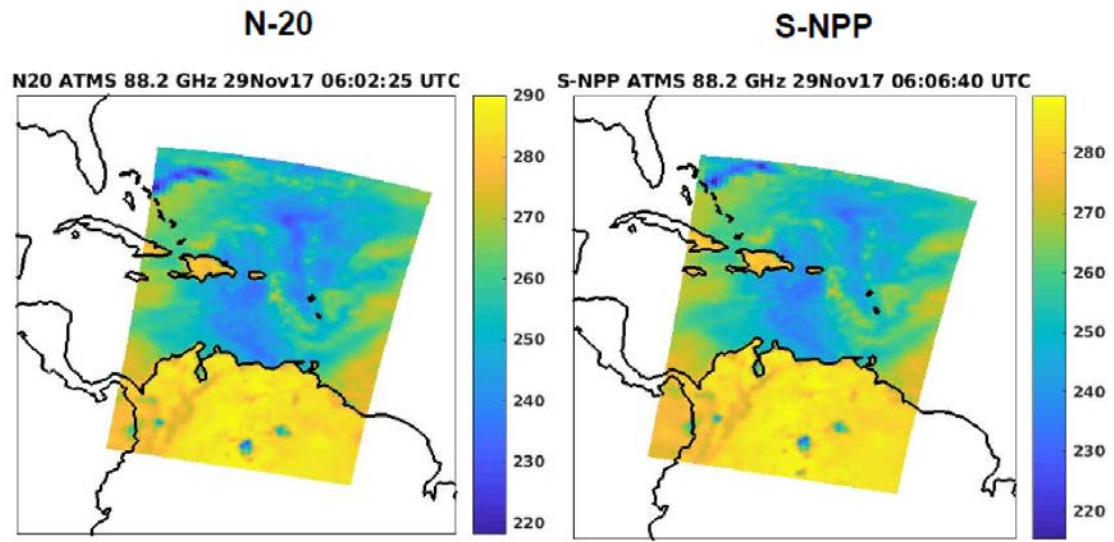


NOAA-20 ATMS TDR Ch.17 165.5 GHz QH-POL
2017-12-01
Ascending



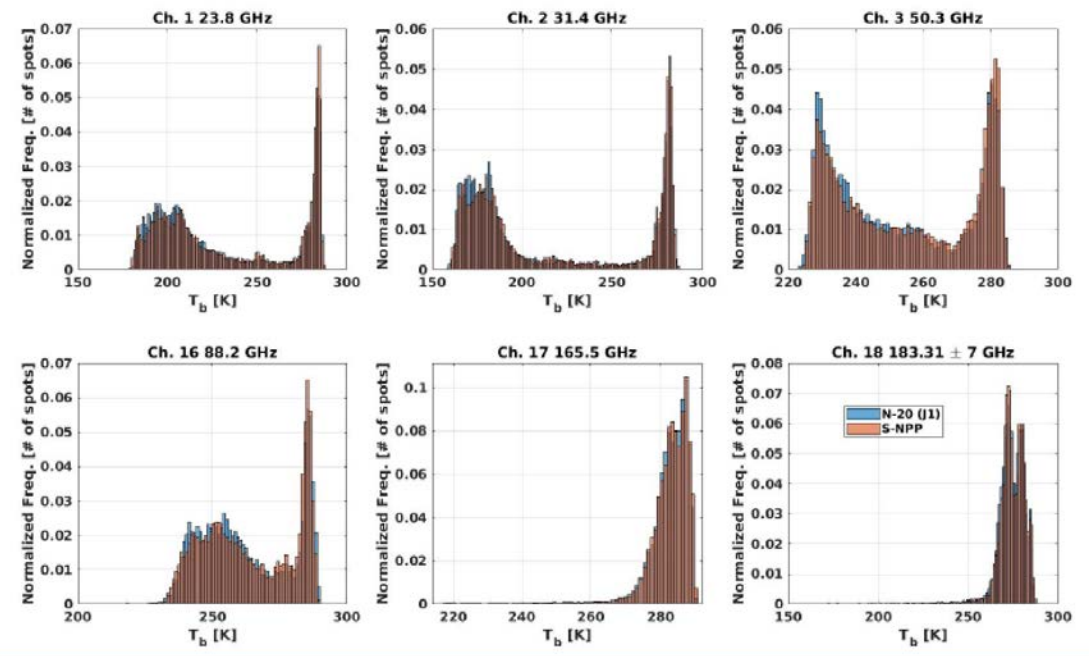


Very good agreement between SNPP and NOAA-20



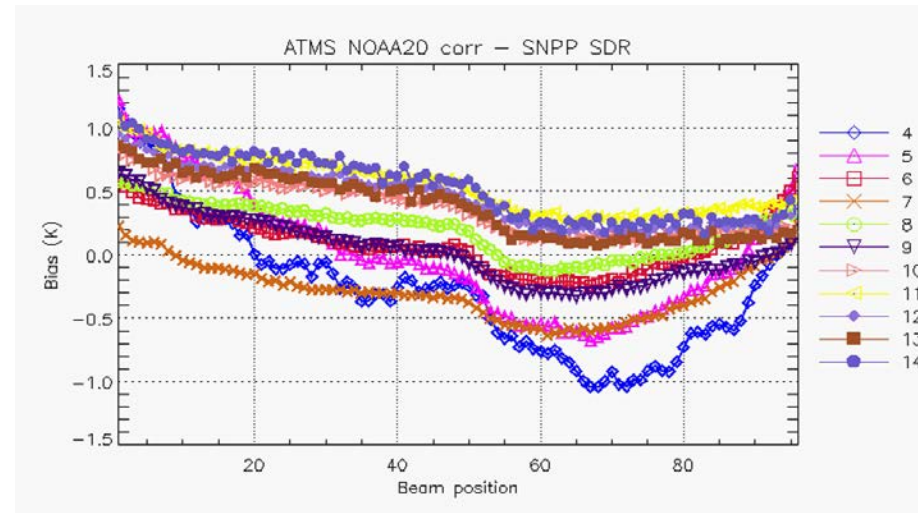
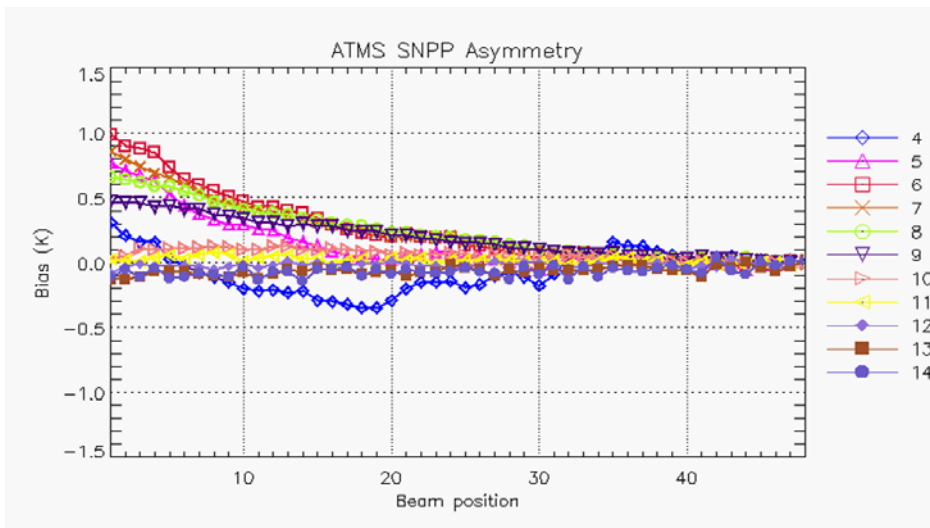
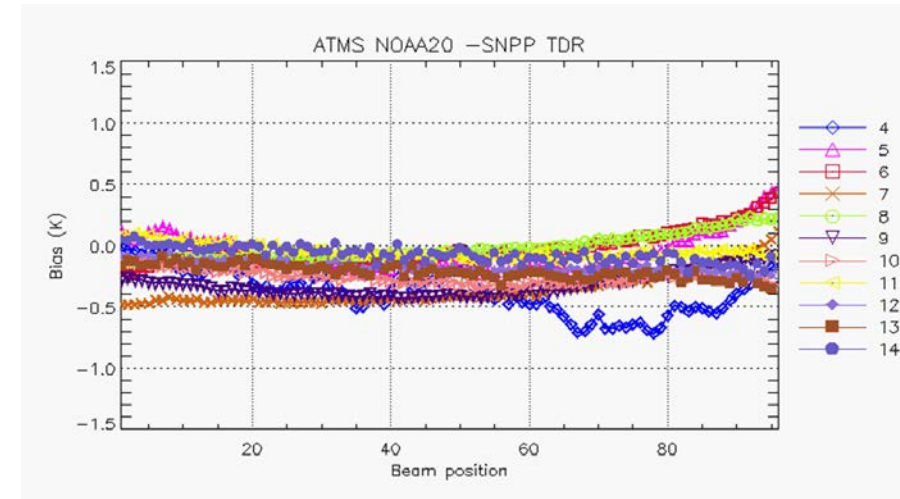
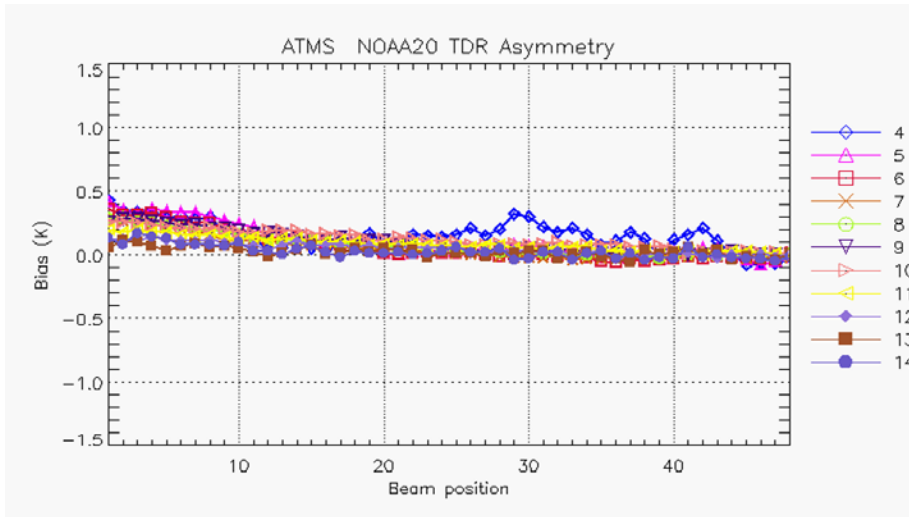
ATMS SDR - 2
R/L 11/29/17

LINCOLN LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

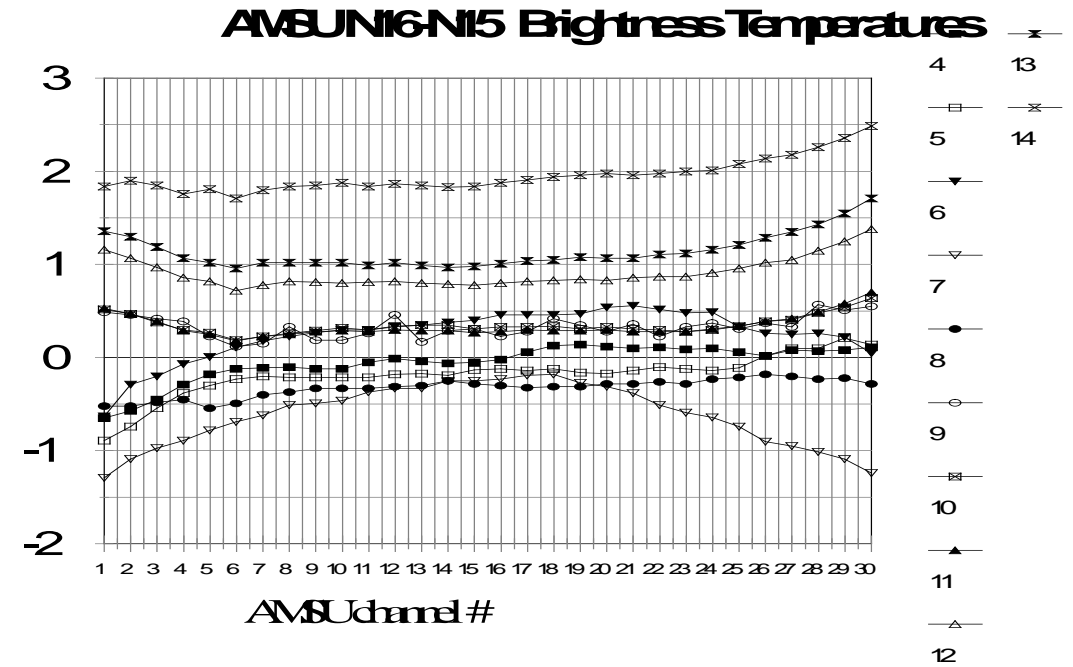
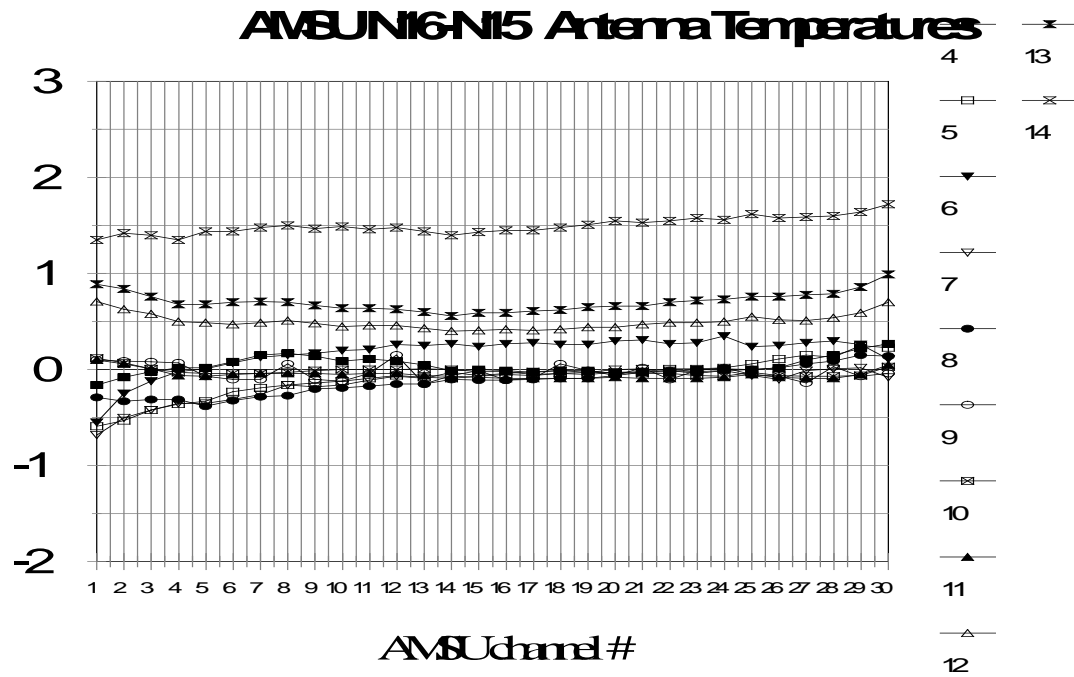


ATMS SDR - 4
R/L 11/29/17

LINCOLN LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

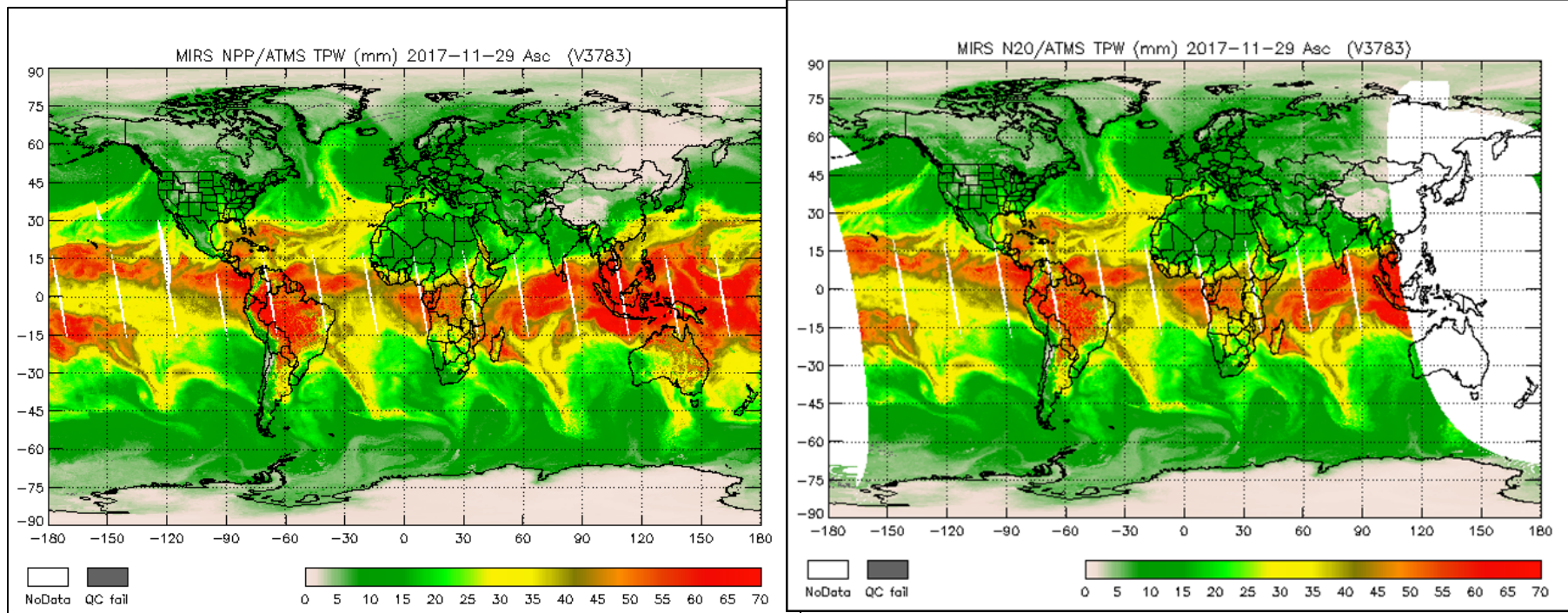


ITSC (2001) – Budapest Results (N16-N15)



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



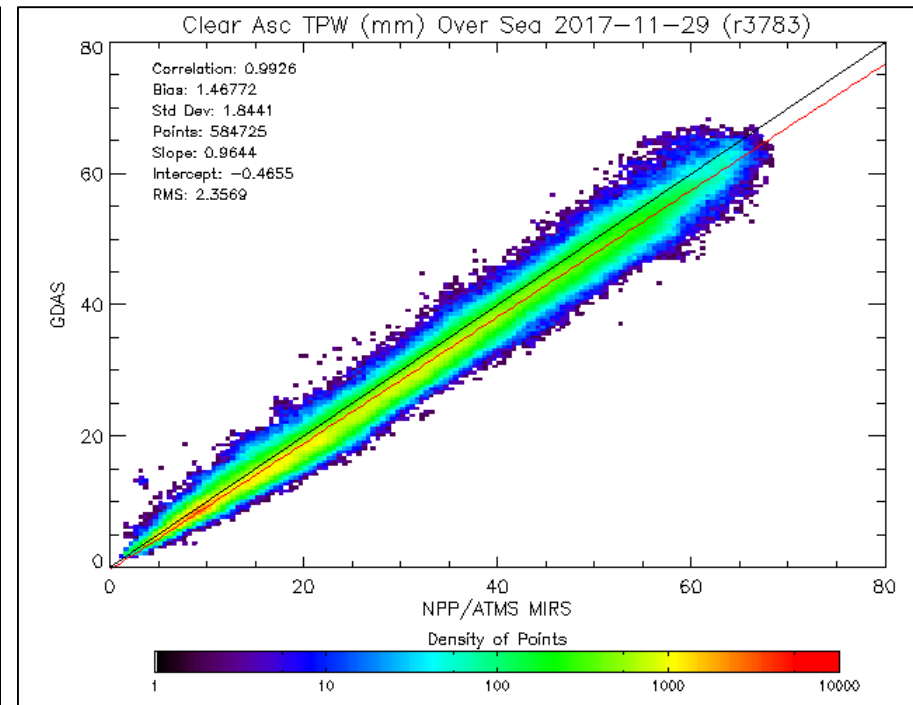
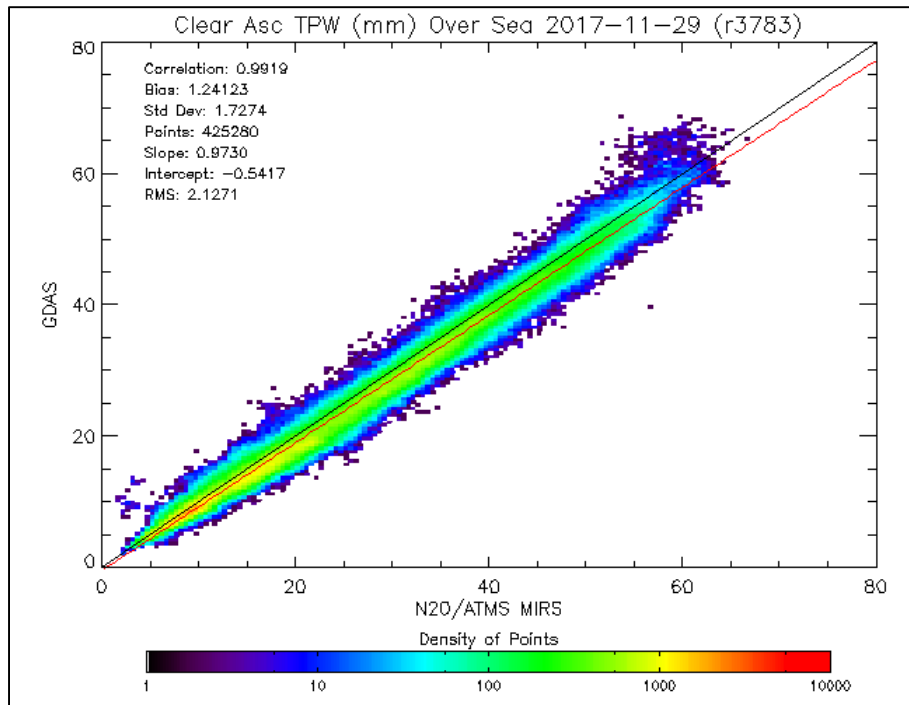
NOAA's MiRS (Microwave Integrated Retrieval System): First Results from JPSS-1/N20 ATMS

Total Precipitable Water: Comparison with GDAS

Clear Ocean

JPSS-1/N20

SNPP



Note: differing sample sizes due to incomplete global coverage of N20 data

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



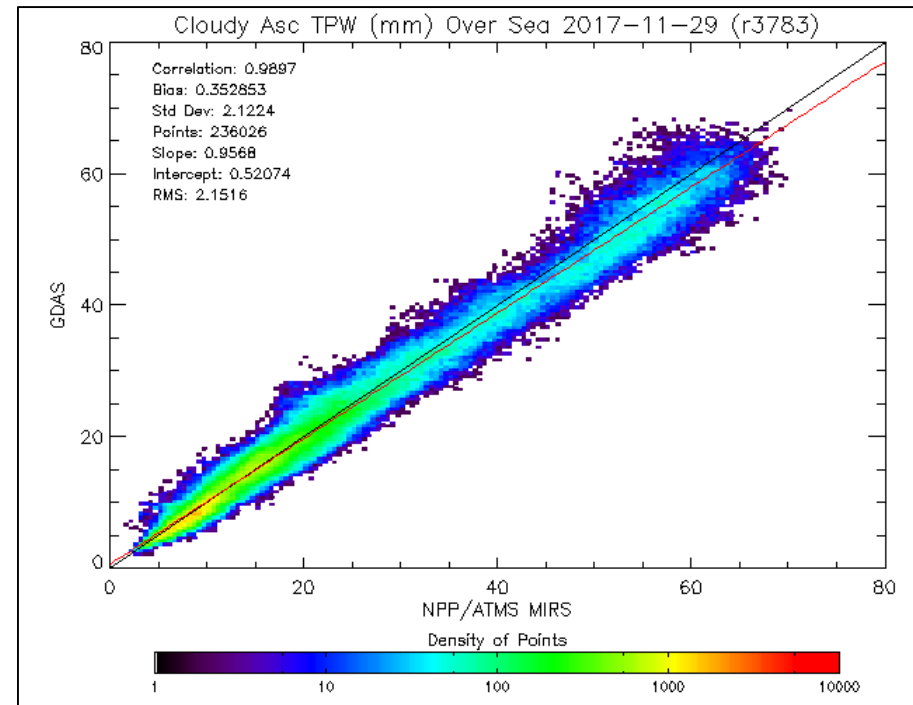
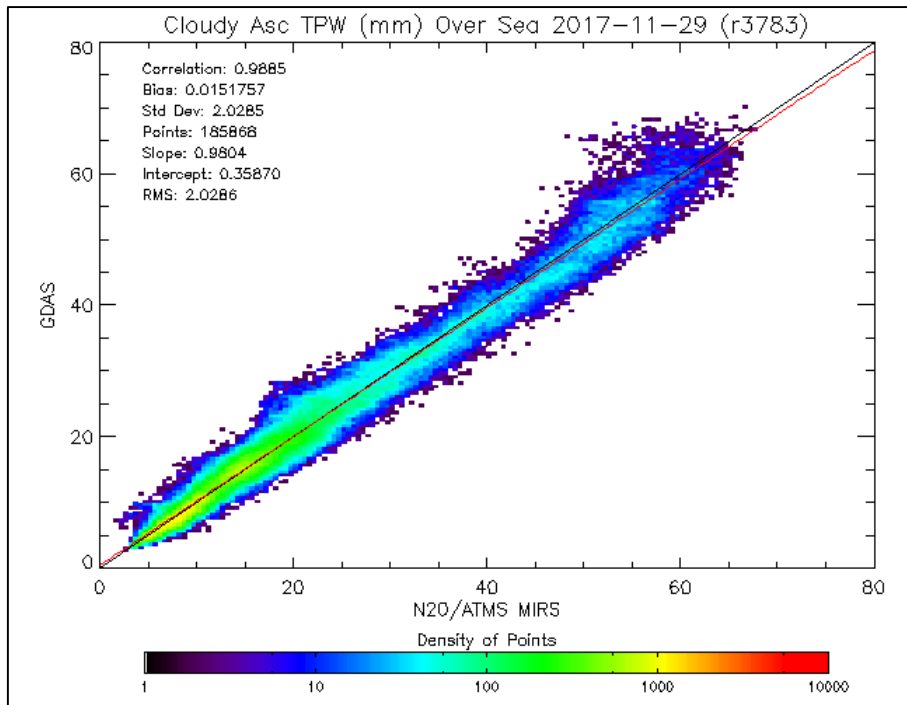
NOAA's MiRS (Microwave Integrated Retrieval System): First Results from JPSS-1/N20 ATMS

Total Precipitable Water: Comparison with GDAS

Cloudy Ocean

JPSS-1/N20

SNPP



Note: differing sample sizes due to incomplete global coverage of N20 data

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



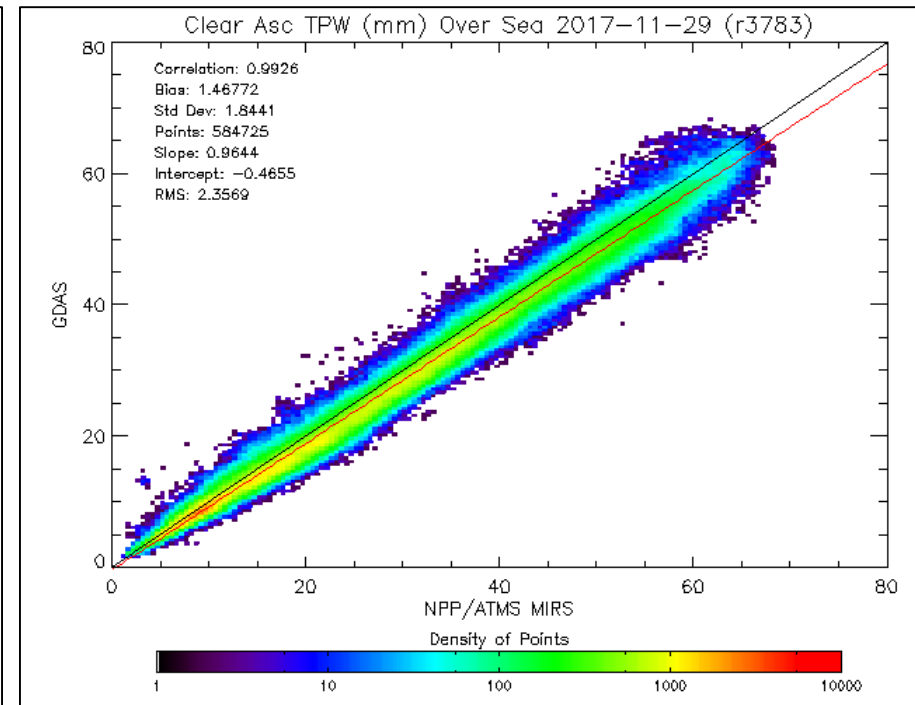
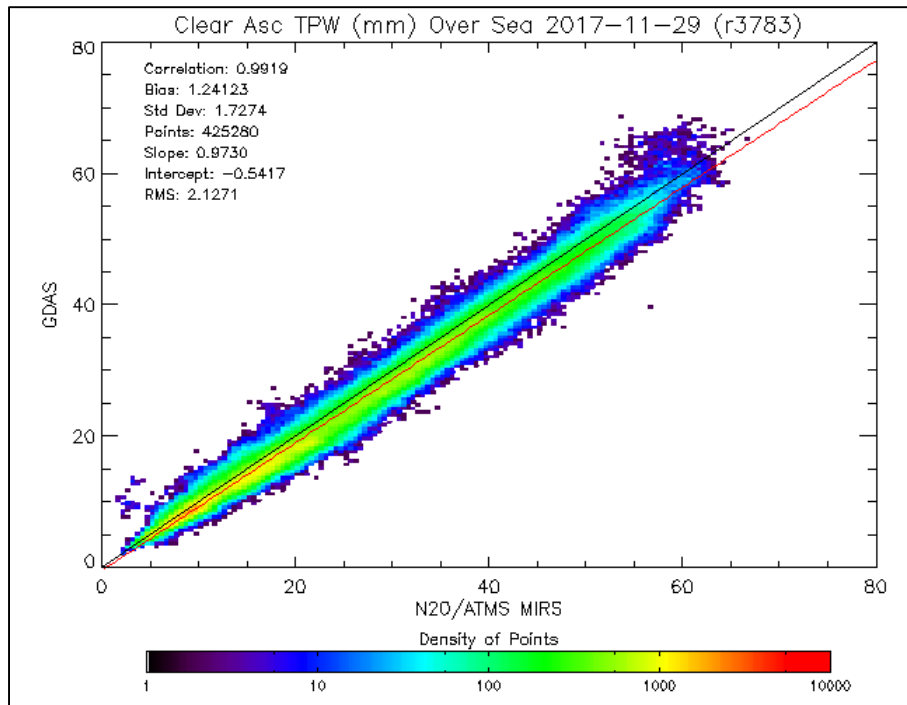
NOAA's MiRS (Microwave Integrated Retrieval System): First Results from JPSS-1/N20 ATMS

Total Precipitable Water: Comparison with GDAS

Clear Land

JPSS-1/N20

SNPP



Note: differing sample sizes due to incomplete global coverage of N20 data

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



NOAA-20 ATMS looks good - lower noise, less channel intercorrelation, less striping

Encourage the community to look at NOAA-20 ATMS and provide feedback to STAR
JPSS Cal/Val Team - contact Lihang Zhou, Mitch Goldberg

- Recall the disclaimer

Do not use the SDRs for now.

Later (after L=90) Evaluate the TDRs vs SDRs