Deployment of New Satellite Products in AWIPS via

TOWR-S RPM Version 20 (Nov 2020)

Satellite Book Club presentation
Thursday, Nov 19, 2020

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Outline

- What's in a TOWR-S RPM?
- Overview of TOWR-S RPM Version 20
- RPM Installation Overview
- Post-Installation Steps

What is a TOWR-S RPM?

- *TOWR-S = Total Operational Weather Readiness - Satellites (a team supporting the NWS Office of Observations)*
- *RPM = RPM (or: Redhat) Package Manager, a way to bundle files for deployment on Linux systems*

- TOWR-S RPMs increase AWIPS' agility
  - Streamline deployment of new capabilities ahead of AWIPS baseline releases
  - Mature configurations are targeted for the AWIPS baseline

- TOWR-S RPM content is based upon inputs from the user community -- e.g.,
  - Satellite product evaluations (e.g. OT&E; Winter campaign)
  - Satellite Book Club seminars

- TOWR-S RPMs undergo end-to-end live testing. Speaking of which..:

  Many thanks to RPM v20 testers at OPGA and the following sites:
  - *Southern Region:* ABQ, MOB, TUL, EHU
  - *Eastern Region:* CAE, CHS, LWX, PBZ
  - *Western Region:* MFR, MTR, SLC
  - *Central Region:* DLH, GRR, IND, LOT, MQT, BCQ

RPM updates are also made possible with the help of Regional focal points, APO, NCF, and OPPSD staff

Contents of a TOWR-S RPM

- New or modified configuration files:
  - EDEX configurations to route incoming products to specific plugins
  - CAVE configurations: modified menus, bundles, attributes, colormaps, or style rules
  - Plugin configurations to handle new data products
  - File types: *.xml, *.svg (vector graphics), *.py (derived parameters), *.cmap (color maps), *.txt (text files -- svg lookups, *etc.*)
- Installing a TOWR-S RPM adds or changes files only at the AWIPS site level. These override the baseline, but do not interfere with, or alter baseline AWIPS configs or code.
  - Files installed from the RPM populate only site-level sub-directories
  - Files installed from the RPM override their namesakes in the AWIPS baseline
- TOWR-S RPM updates are cumulative -- e.g., v20 includes content from v19
  - Installing an RPM also removes content that is outdated or has migrated to the AWIPS baseline

Changes bundled in TOWR-S RPM v20

- **Updated/Consolidated Satellite Menus** with By-Sector (vs By-Product) precedence for GOES
- Support for **GLM Full Disk tiles**: Flash Extent Density, Min Flash Area, Total Optical Energy
- Support for Conus/PACUS CIMSS GOES **Turbulence Probability**
- Support for Full Disk **GOES Cryosphere Products** (Ice Thickness, Ice Concentration, Ice Motion)
- Combined GOES Conus/PACUS **Derived Motion Winds** with All Pressures/Channels buttons
- GOES Fog & Low Stratus **"Fog Depth"** renamed to **"Cloud Thickness"** with units of **feet** (was meters)
- Support for **SCATSAT Sea Surface wind vectors**
- Support for S-NPP and NOAA-20 **VIIRS Active Fires** product
- Improved **Gridded NUCAPS** profile menu configurations
- Updates **Jason-3 Wave height** configurations to support new product formatting implemented Oct '20
- Support for **GCOM AMSR-2 (Microwave)** Ocean Surface wind speed and 36.5/89.5 GHz Imagery
- Support for NOAA-20 **ATMS MiRS** products (TPW, RR, SIce,SFR, CLW, SWE, Snow, Skin Temp)
- Adds 25-33 kt Wind legend for **ASCAT wind vectors**
- **Removes several legacy menu items** (e.g., GOES Volcanic Ash, Legacy multi-sat imagery composites)
- … Plus everything that was in RPM v19 (Aug. 2020) -- e.g., GOES-East Fog and Low Stratus

TOWR-S RPM v20 will be Available on November 20

Satellite Menu Updates

Sat menu Updates:

Sector is now First

Imagery Combos

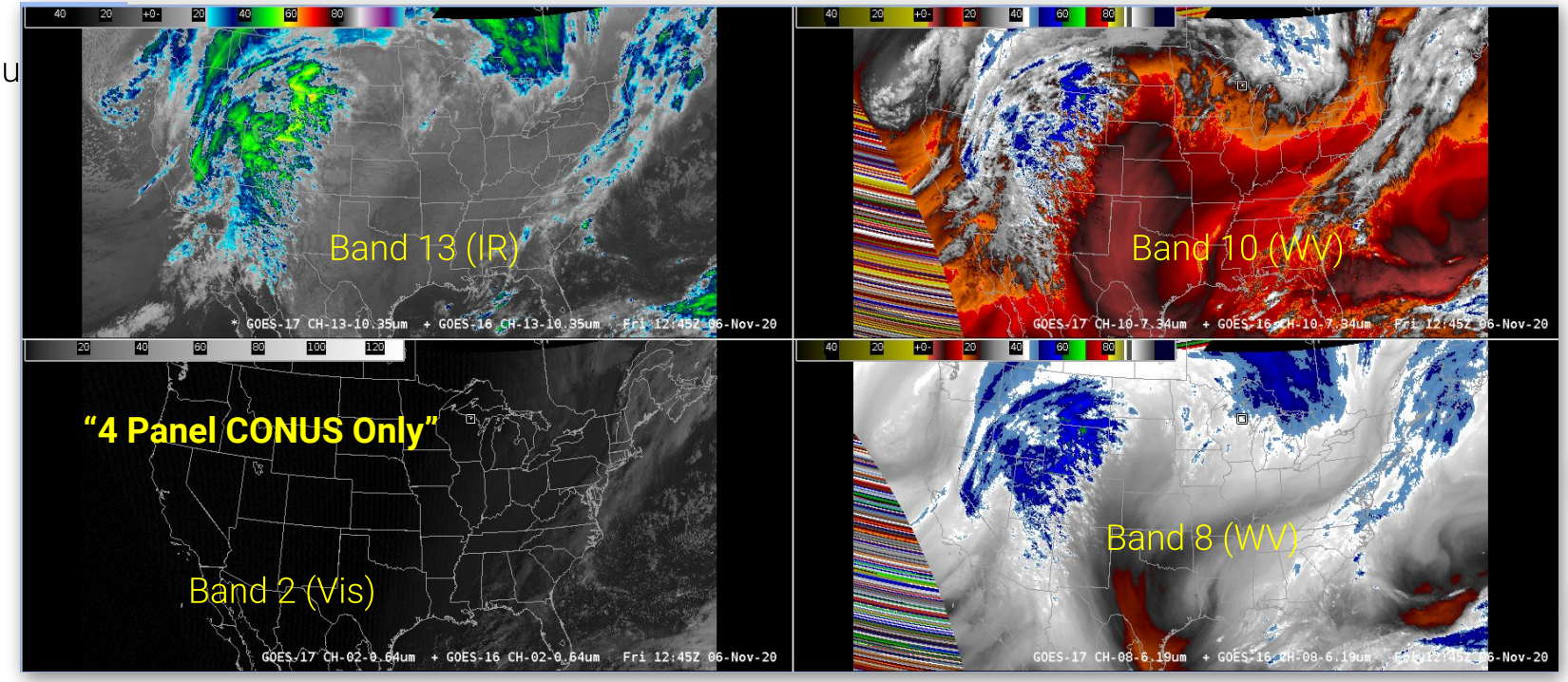
Local Menu Items

Thanks, Frank Alsheimer (CAE), Steve Sigler (MSO), many others

Conus/Pacus Imagery Combinations (4-panel)

Sat menu

4-panel Imagery Combo



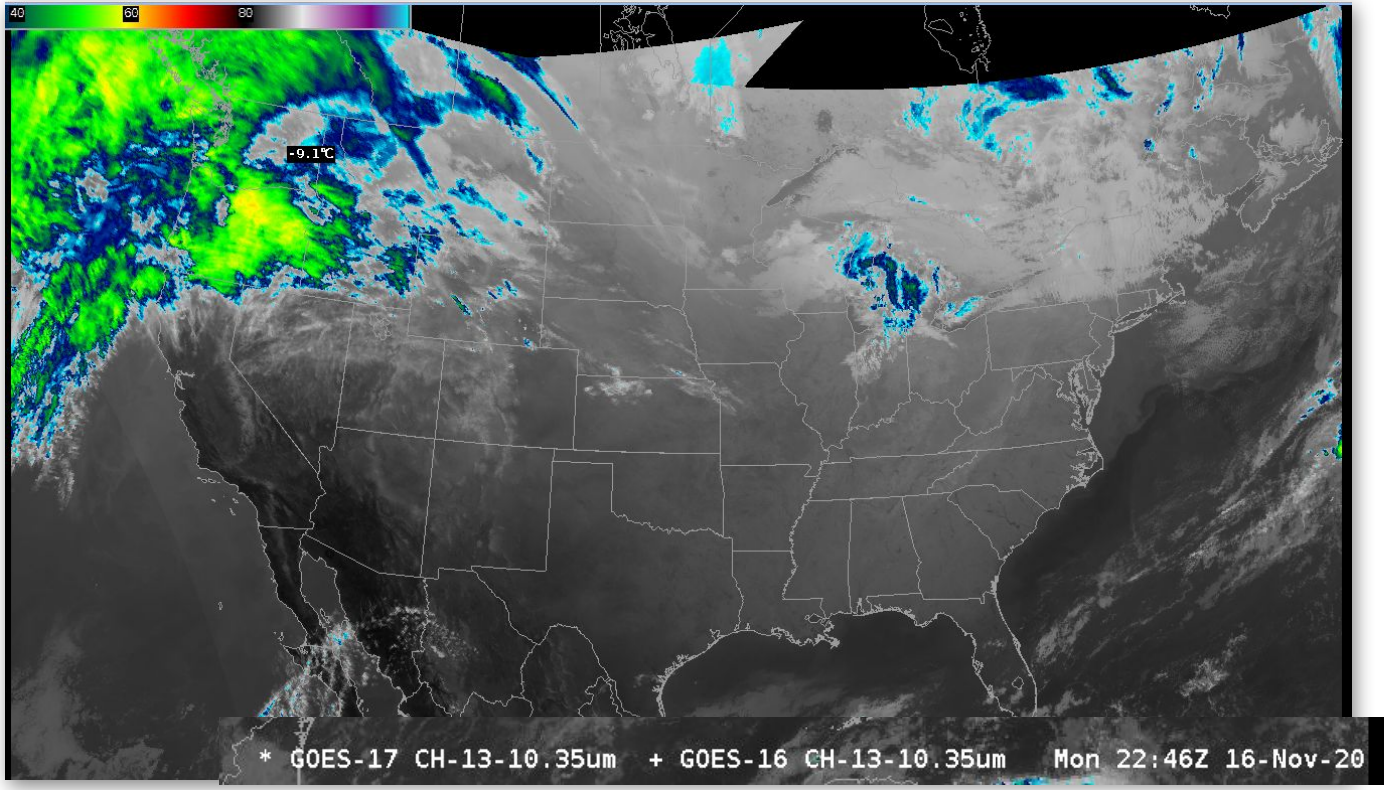
Default for Imagery Combos is for **GOES-East to Overlay GOES-West** as shown above

How to change Conus Imagery combos so that GOES-West overlays GOES-East (also on VLab)

Conus/Pacus Imagery Combos (10.3 um)

Sat menu

Clean Window IR



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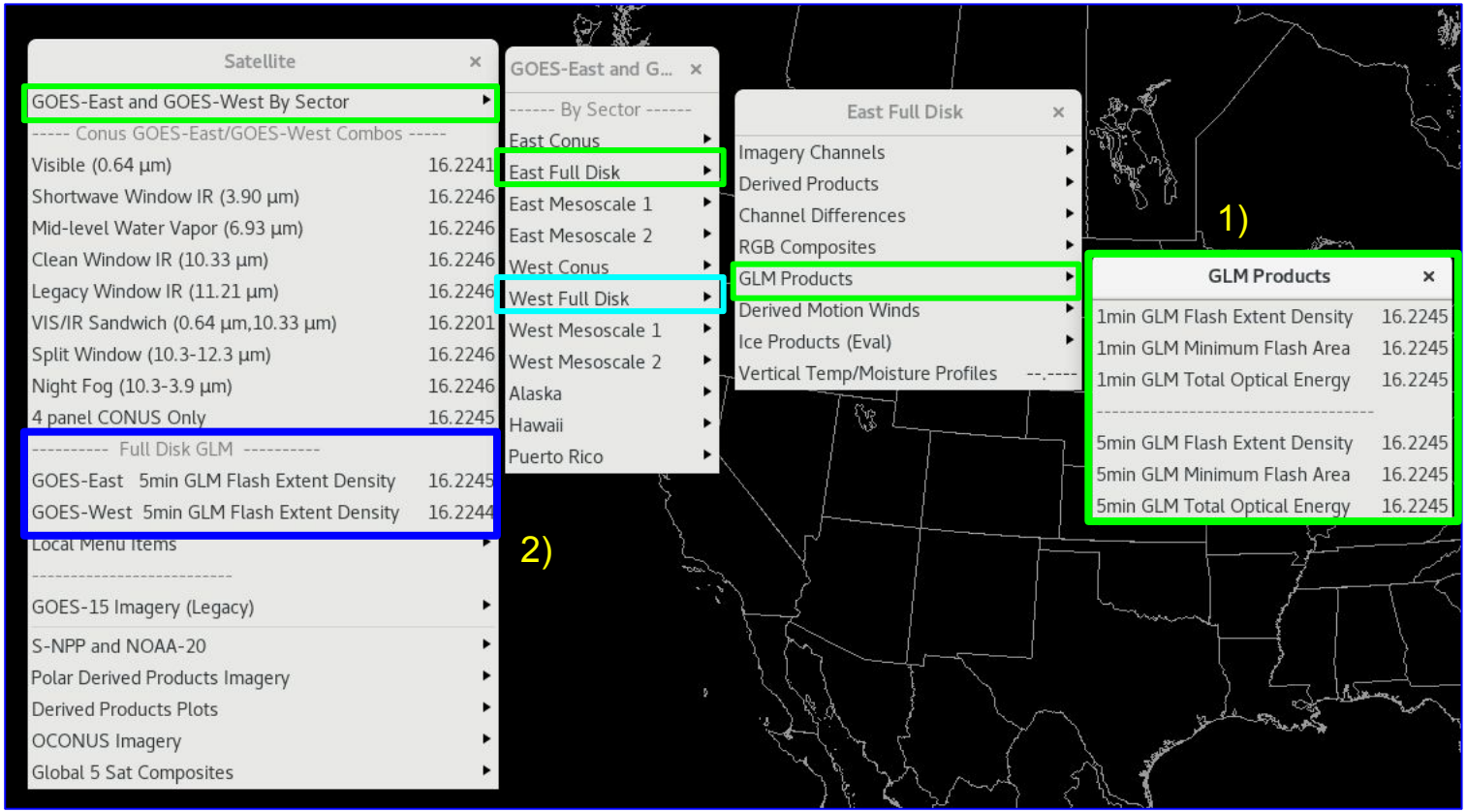
How to change Conus Imagery combos so that GOES-West overlays GOES-East (also on VLab)

Full Disk GLM Menus

Available on regional LDM

Will replace Conus / Pacus GLM, w/ overlap ~1 month



Links: GLM Quick Guide. Recent SBCs Presentations by S. Cobb/J. Patton, and Jason Jordan

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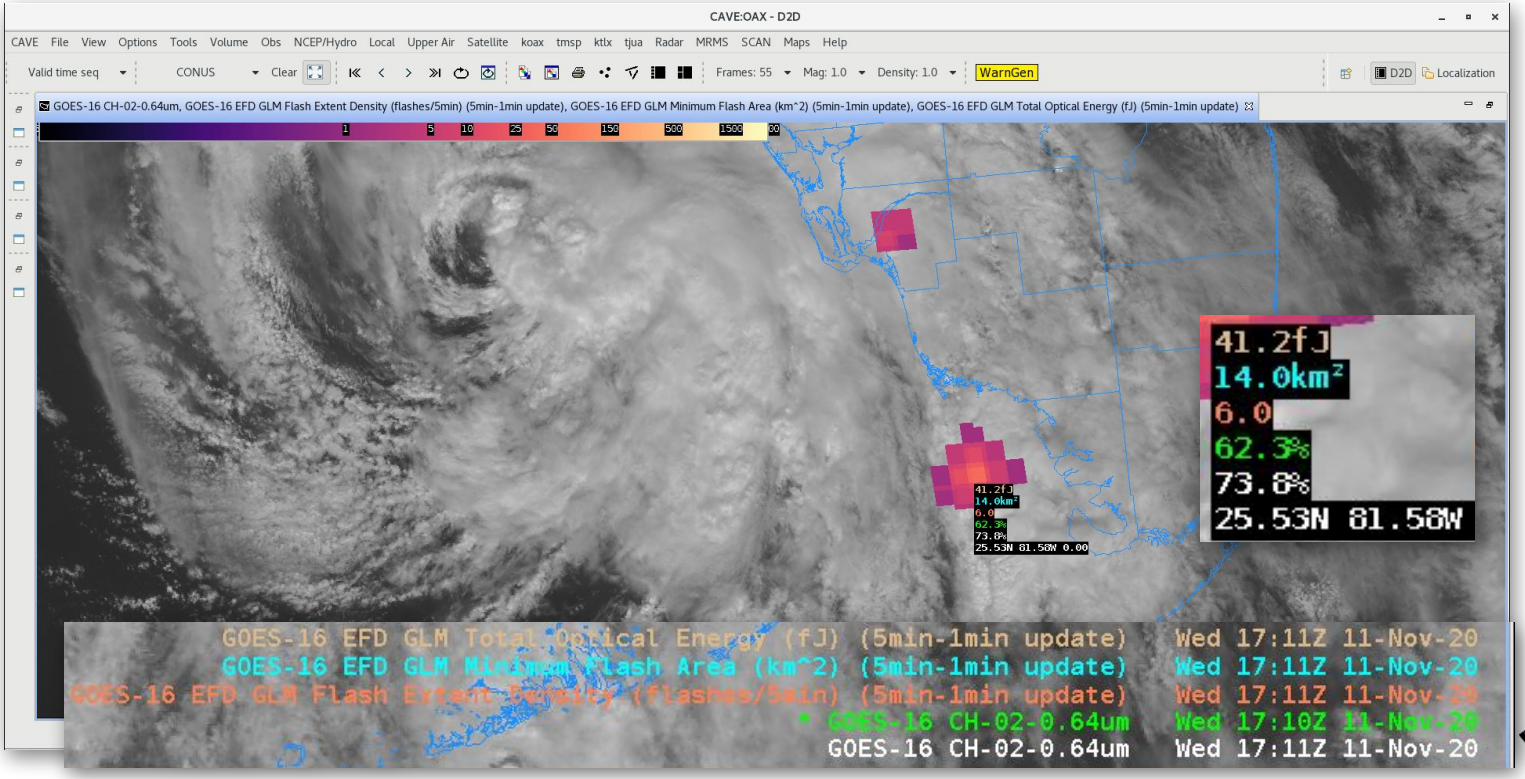

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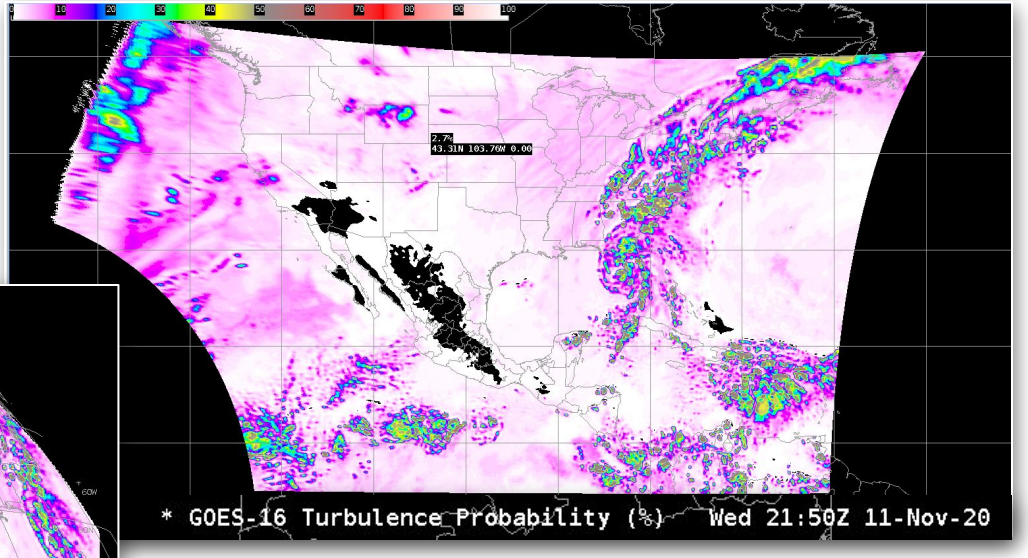
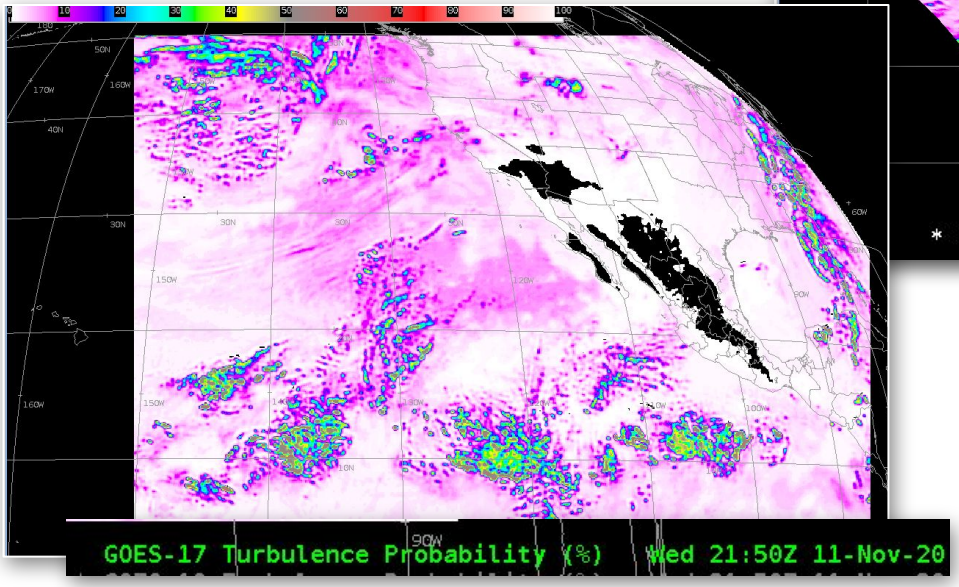
CIMSS GOES Turbulence Probability

Available on regional LDM

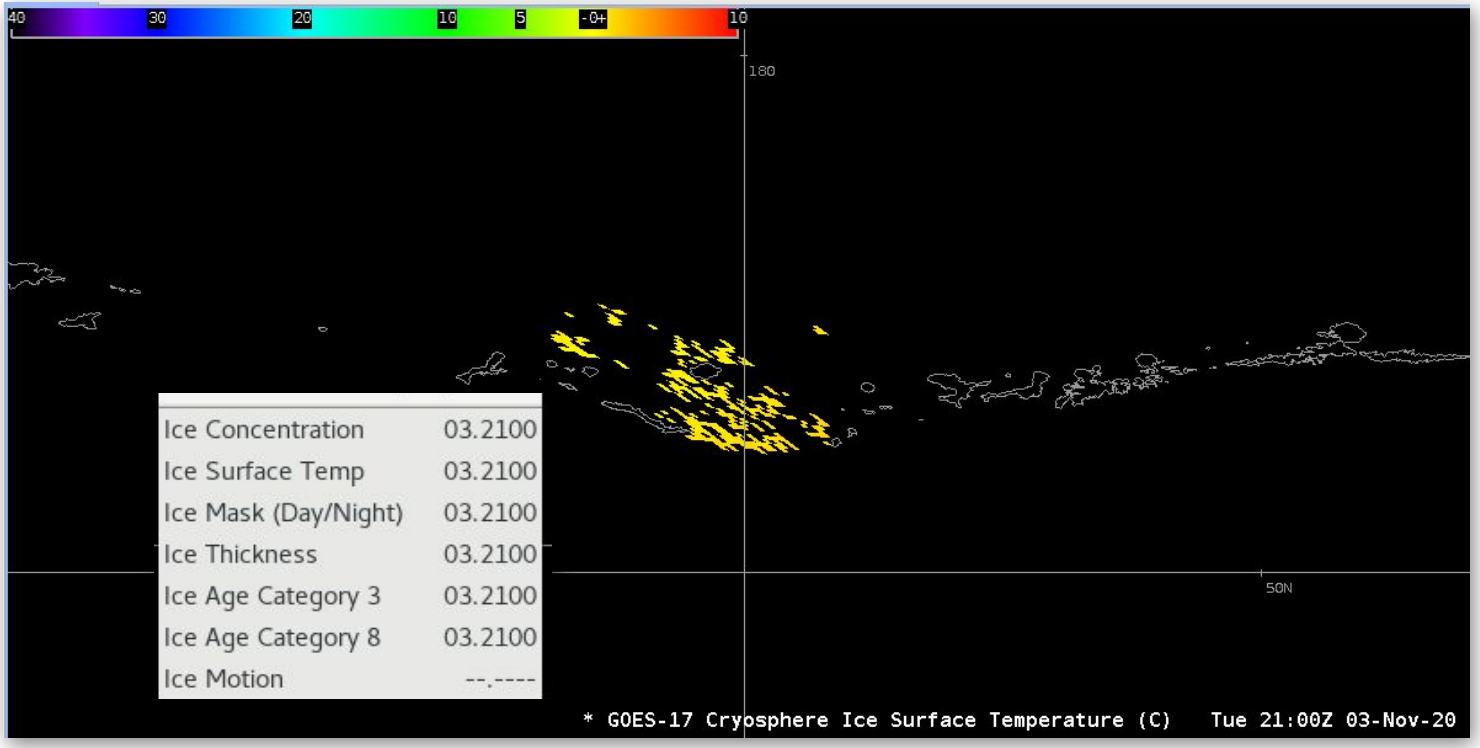




Subset of CIMSS Full Disk Product
for Conus and PACUS

GOES Ice Products for Winter Evaluation (1)

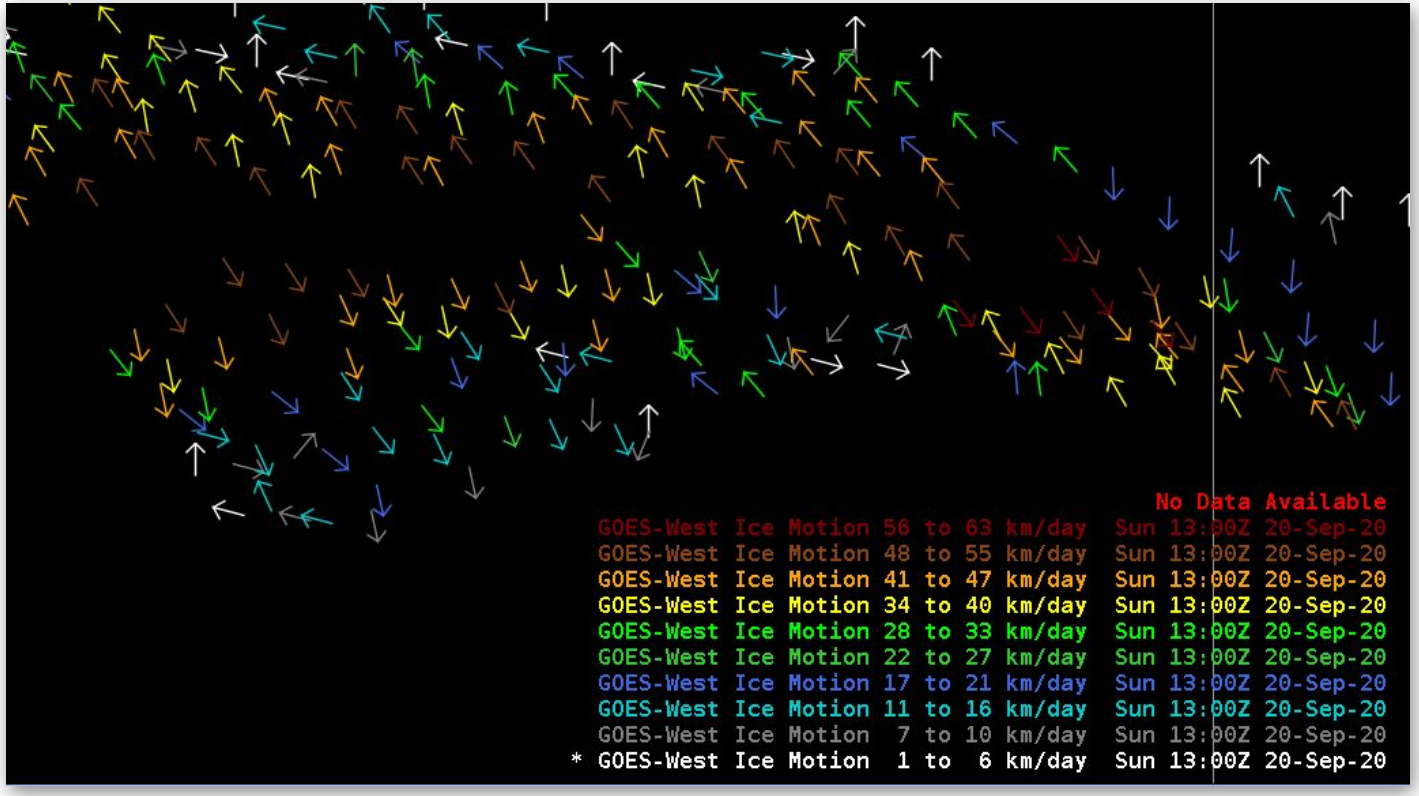
Available on regional LDM



Full Disk, 3-hourly GOES-17 Ice Products will flow over LDM initially for interested sites. Products are currently at the Beta maturity level.

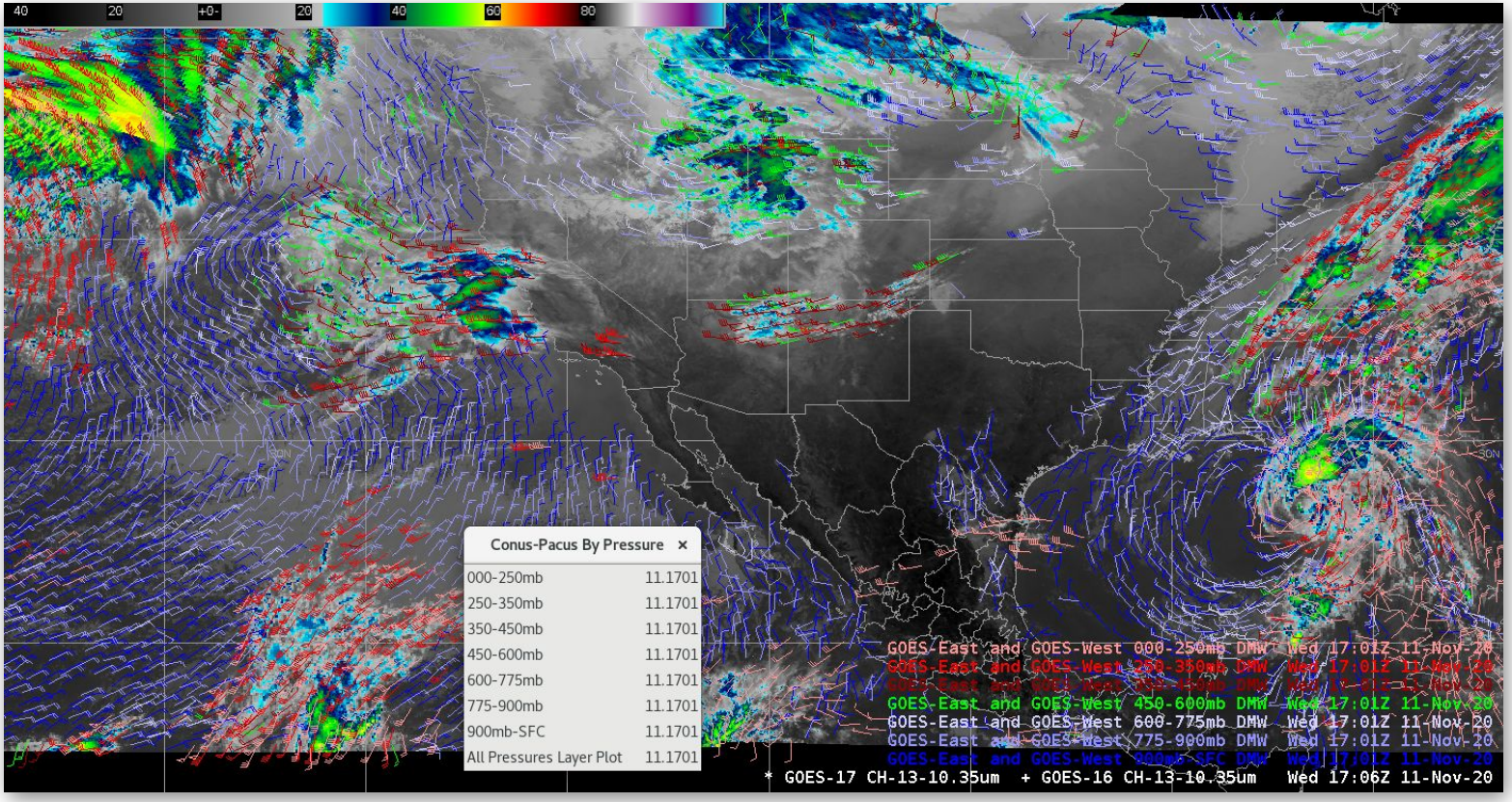
GOES Ice Products for Winter Evaluation (2): Ice Motion

Available on regional LDM



Above: sample SE Pacific Ice Motion. 3-hourly vectors colored by speed (km/day)

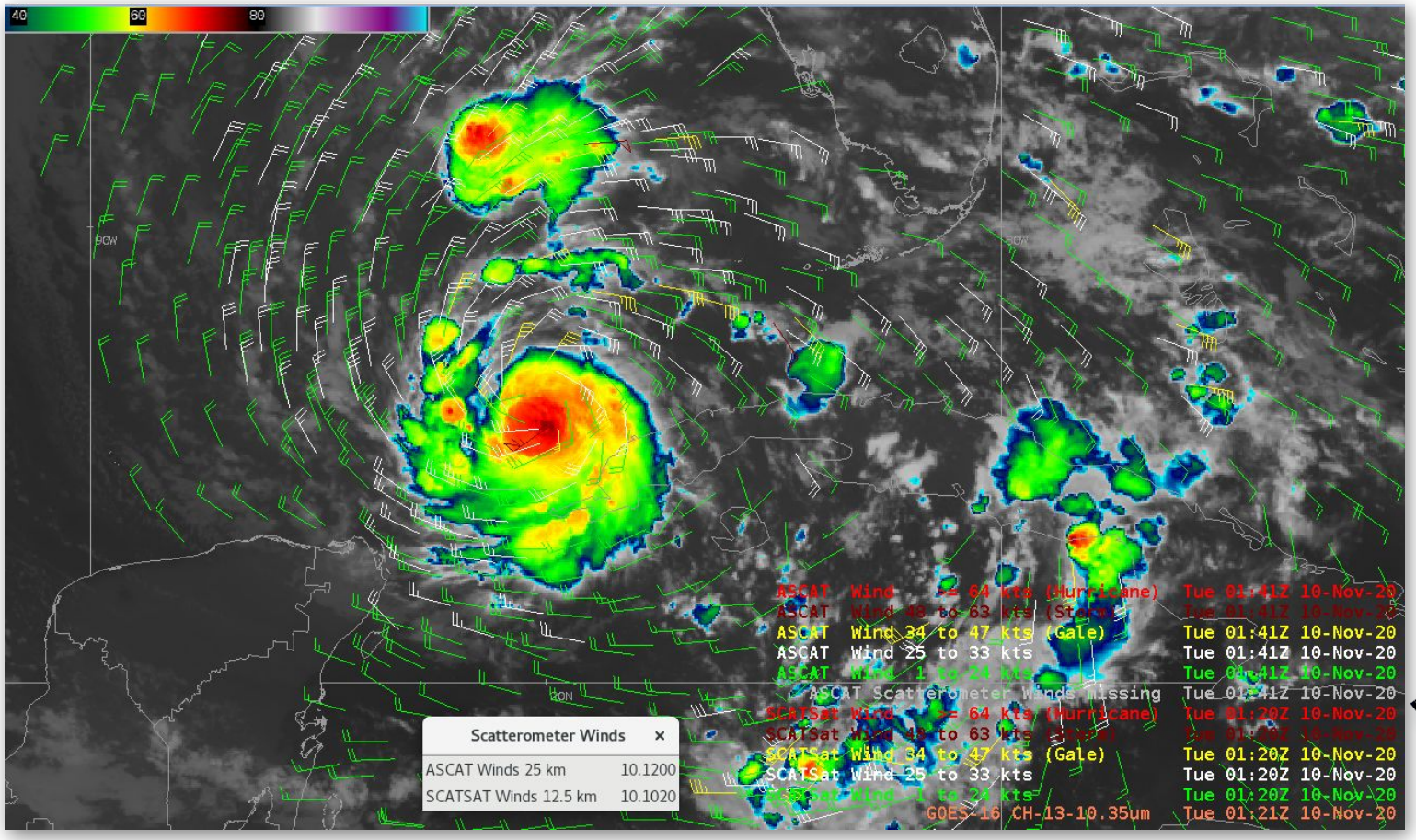
GOES Conus/Pacus Derived Motion Winds Menu Updates



Consolidated Conus/Pacus option. All Channels or All Pressures (shown above) Menu Button.

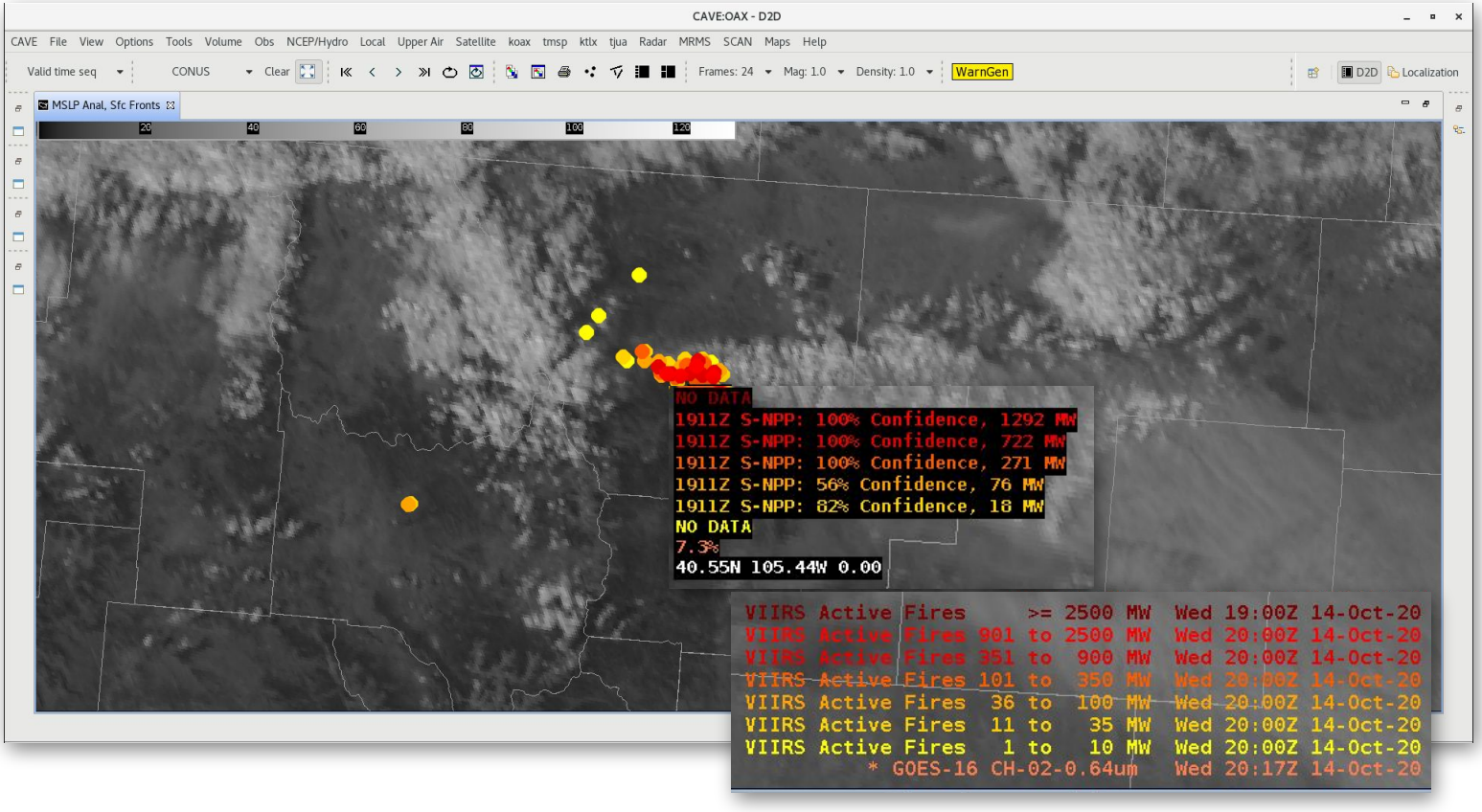
SCATSAT Wind Vectors

Available on regional LDM



S-NPP and NOAA-20 VIIRS Active Fires

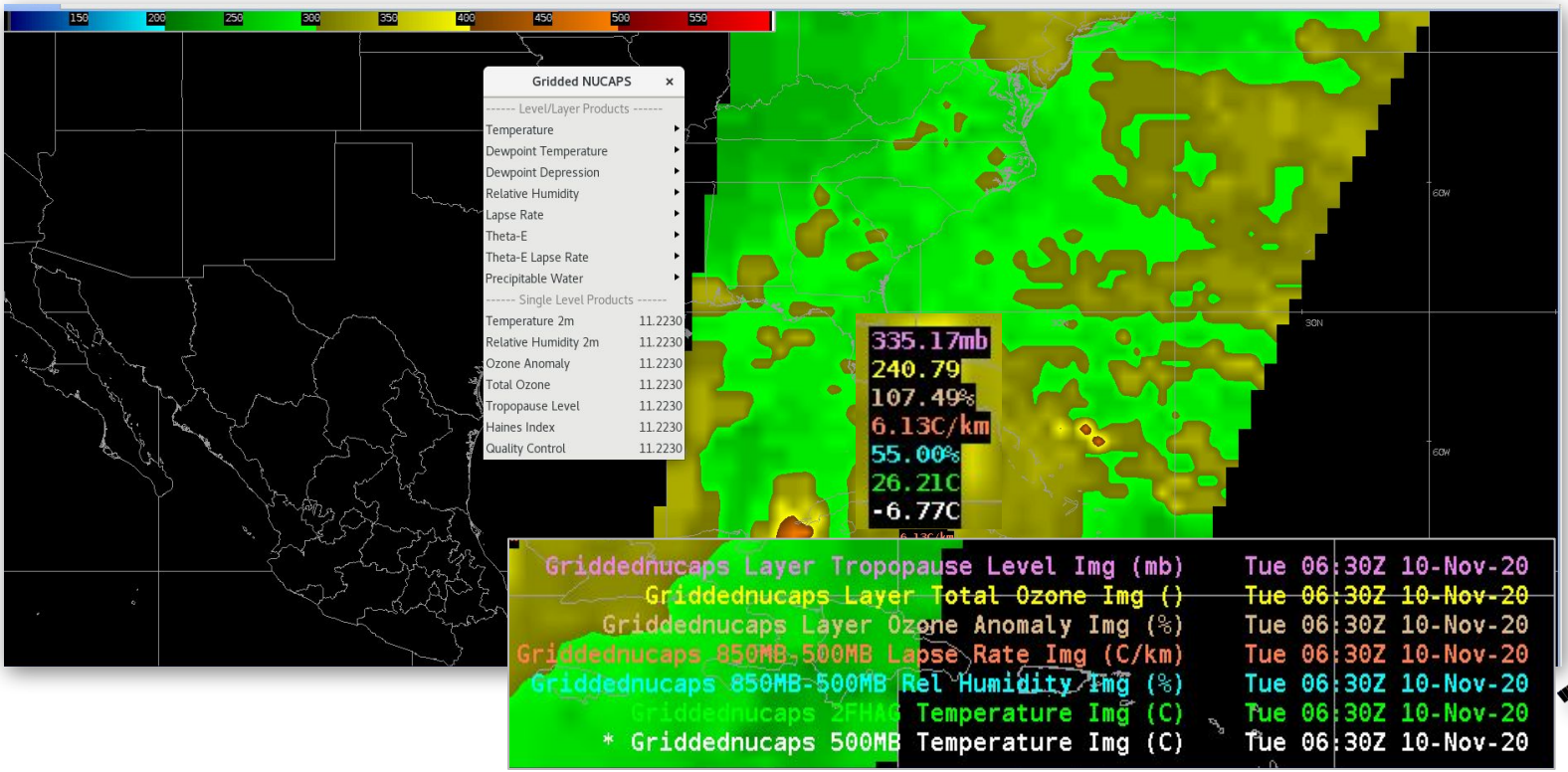
Available on regional LDM



S-NPP and NOAA-20 Gridded NUCAPS profiles

Thanks, Kris White (HUN) and SpORT team

Available via SBN

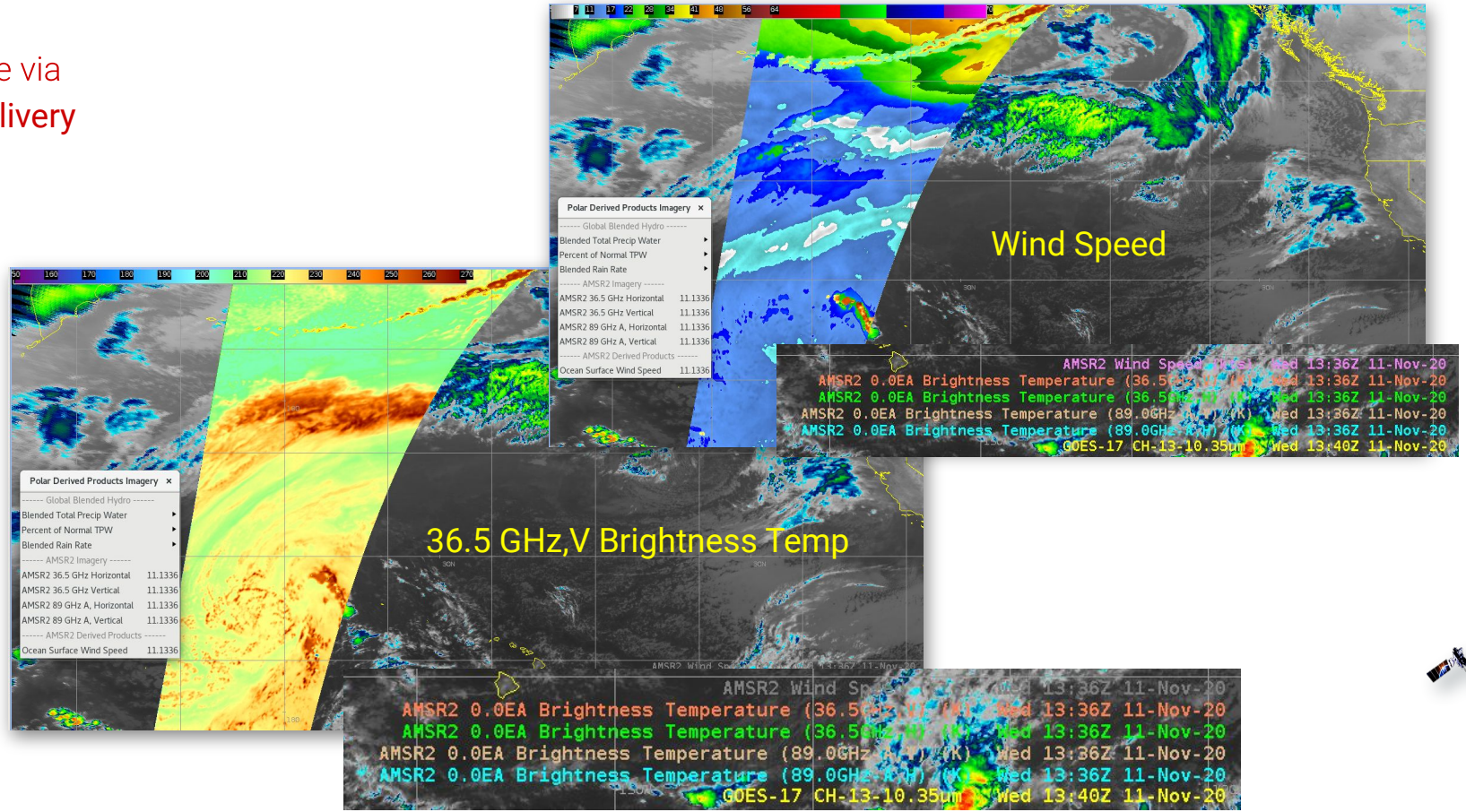


- *Fixed some menu/bundle glitches in the base Gridded NUCAPS package*
- *Each frame now reflects 30 mins of data*

GCOM AMSR2- Ocean and Imagery Products

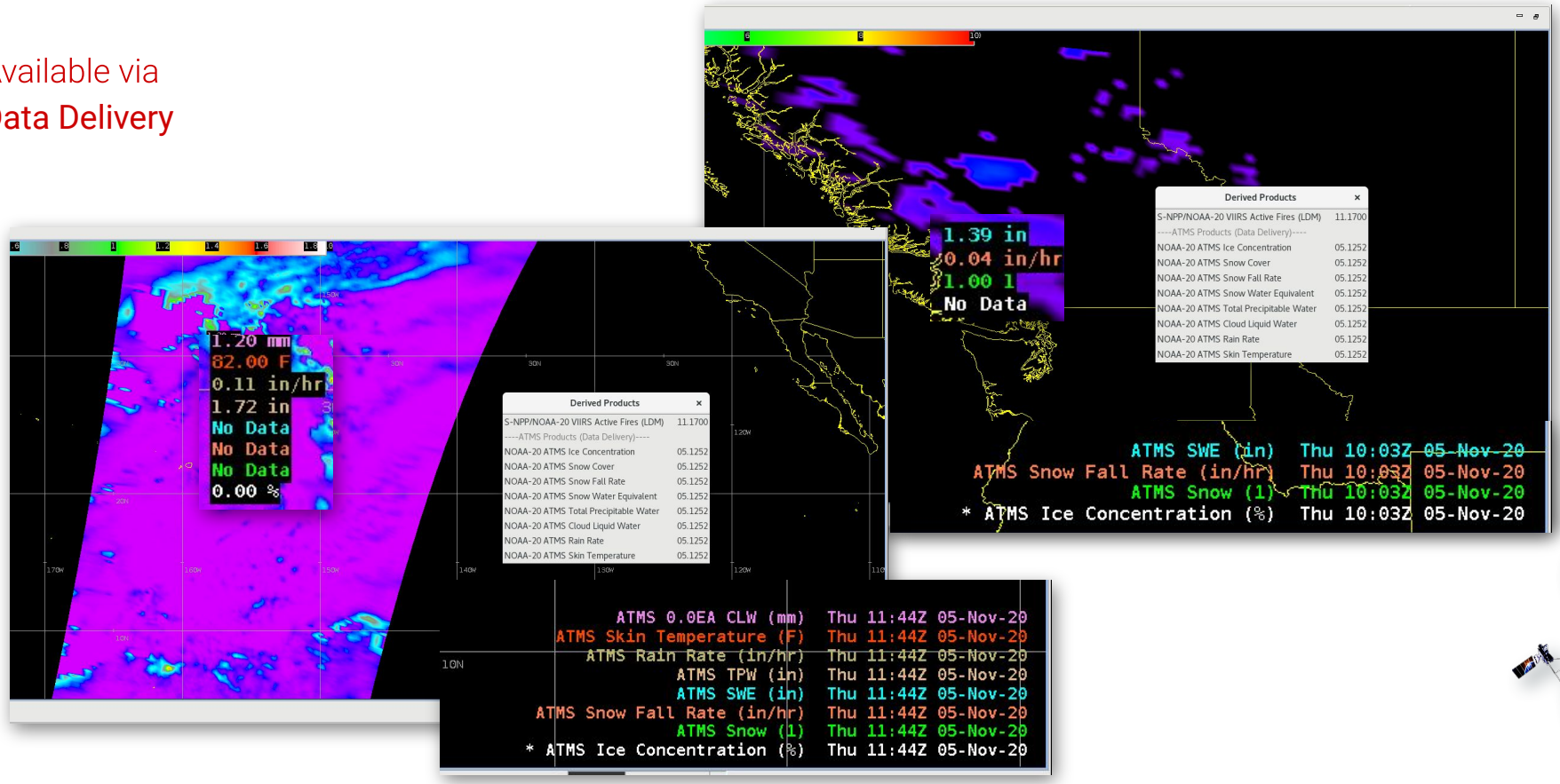
Available via

Data Delivery



NOAA-20 MiRS ATMS Products

Available via
Data Delivery



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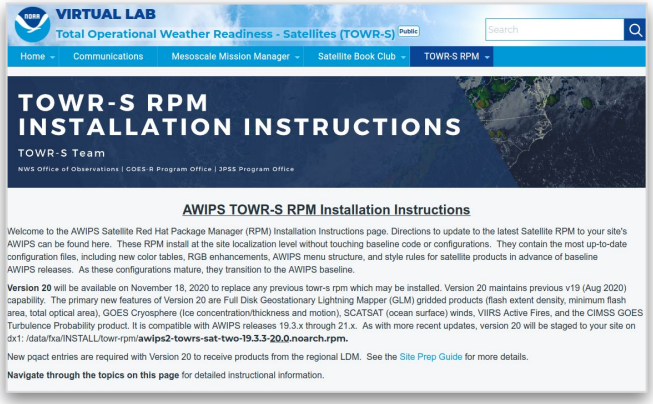
The Preceding Slides Showed Examples of v20 Updates

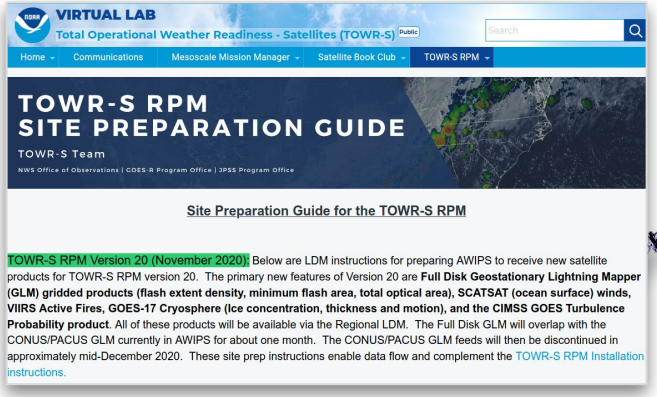
TOWR-S RPM Installation overview

Three Steps to making Updates:

1. Uninstall any previous TOWR-S RPM
   https://vlab.ncep.noaa.gov/web/towr-s/rpm/installation-instructions
2. Install the new TOWR-S RPM
   https://vlab.ncep.noaa.gov/web/towr-s/rpm/installation-instructions
3. Update LDM configuration (*e.g.* pqact.conf.xyz) needed to receive new products
   https://vlab.ncep.noaa.gov/web/towr-s/rpm/site-preparation-guide

TOWR-S RPM v20 will be Available on November 20





Post-installation

- After restarting EDEX and CAVE, check for new menu items in CAVE
  https://vlab.ncep.noaa.gov/web/towr-s/rpm/installation-instructions
  (See *"II. Instructions: Ensuring Satellite Products Ingest and Display in CAVE"*
  -- Can also review slides 6 - 19 above)
- In CAVE, check that new LDM data products are arriving and displaying from the menus
  - GOES Full Disk GLM *(available soon)*
  - CIMSS GOES Turbulence Probability *(available soon)*
  - GOES Cryosphere products (*available soon*)
  - SCATSAT Wind Vectors (*available soon*)
  - VIIRS Active Fires (*available now*)
- Please reach out to the TOWR-S Team for assistance

Additional / Optional Configurations

From https://vlab.ncep.noaa.gov/web/towr-s/rpm/installation-instructions

For further information or assistance:

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Also in the towr-s room on NWS Chat:
https://nwschat.weather.gov/live