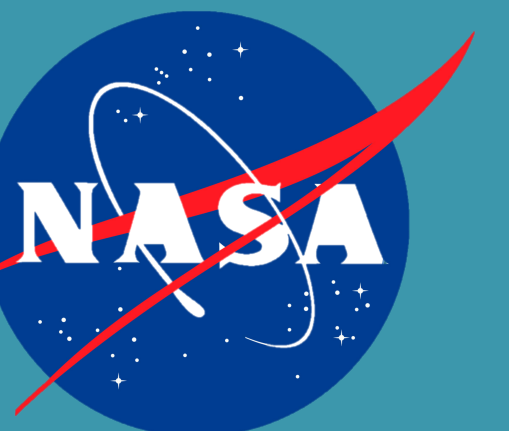




IMAPP: Supporting the Aqua and Terra Operational Community



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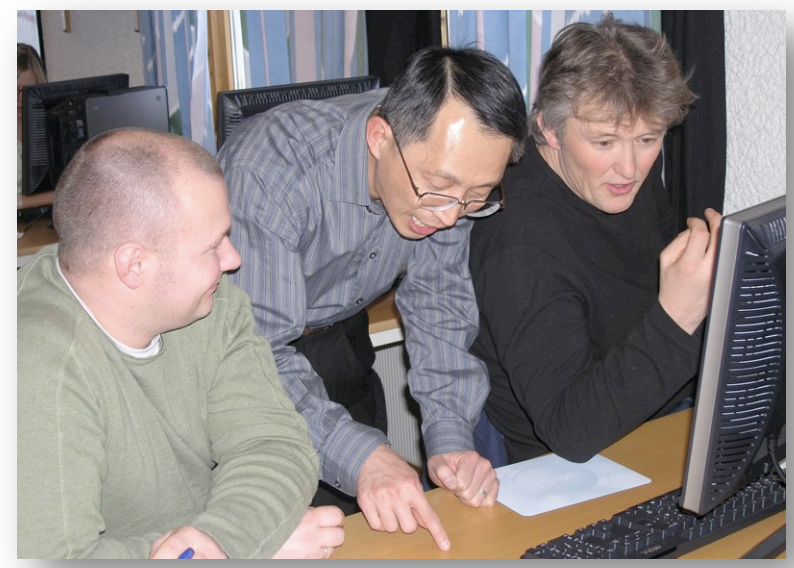
*NOAA/STAR/ASPB

What is IMAPP?

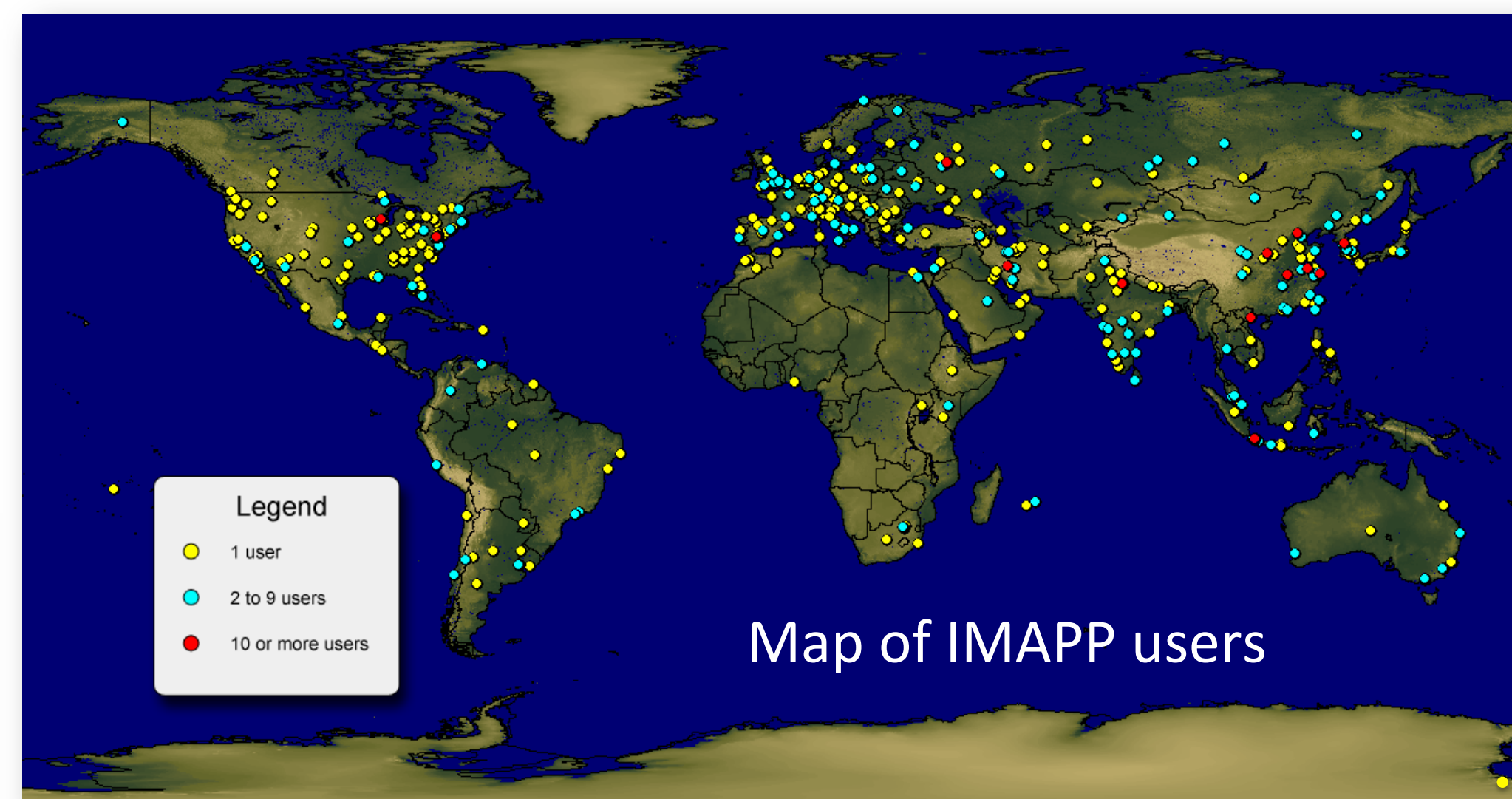
The **International MODIS/AIRS Processing Package (IMAPP)** supports the global community of direct broadcast users and the next generation of scientists through a freely available suite of **software** and **direct broadcast seminars**. Ground stations around the world receiving direct broadcast satellite data from the Terra and Aqua satellites can use the software to process data from MODIS, AIRS, AMSU, and AMSR-E to create useful products for local real-time applications. US users include:

- US National Weather Service
- NASA SPoRT
- Naval Research Lab
- US Forest Service
- NOAA Coast Watch
- Env. Protection Agency

Direct Broadcast Satellite Seminar training workshops are conducted worldwide. Information on the workshops can be found at <http://cimss.ssec.wisc.edu/dbs>.



Pictures from workshops in Norway (above) and Indonesia (below).



IMAPP software freely available at <http://cimss.ssec.wisc.edu/imapp>:

MODIS Products

- MODIS Level 1B Infrared Band Destriping Software
- MODIS Level 2 Atmosphere and Polar Products
- MODIS Surface Reflectance
- MODIS DB BRDF

AIRS and AMSU Products

- AIRS/AMSU/HSB Retrievals
- UW-Madison AIRS, CrIS and IASI Dual Regression Single FOV Retrieval Package
- UW-Madison MODIS/AIRS Collocation, AIRS Cloud Mask and AIRS All Sky Single FOV Retrieval Package
- AIRS Level 1B HDFEOS to BUFR Utility

AMSR-E Products (archive only)

- AMSR-E Calibration and Geolocation
- AMSR-E Rain Rate and Rain Type
- AMSR-E Soil Moisture
- AMSR-E Snow Water Equivalent

Aviation Products

- MODIS Overshooting Tops Aviation Weather Support

NWP Products

- DBCAS NWP Software Assimilating IMAPP MODIS Level 2 Products

Virtual Appliance

- IMAPP Virtual Appliance

Air Quality Forecasting Products

- IDEA-I Aerosol and Ozone Air Quality Forecast Support

Visualization and Analysis Tools

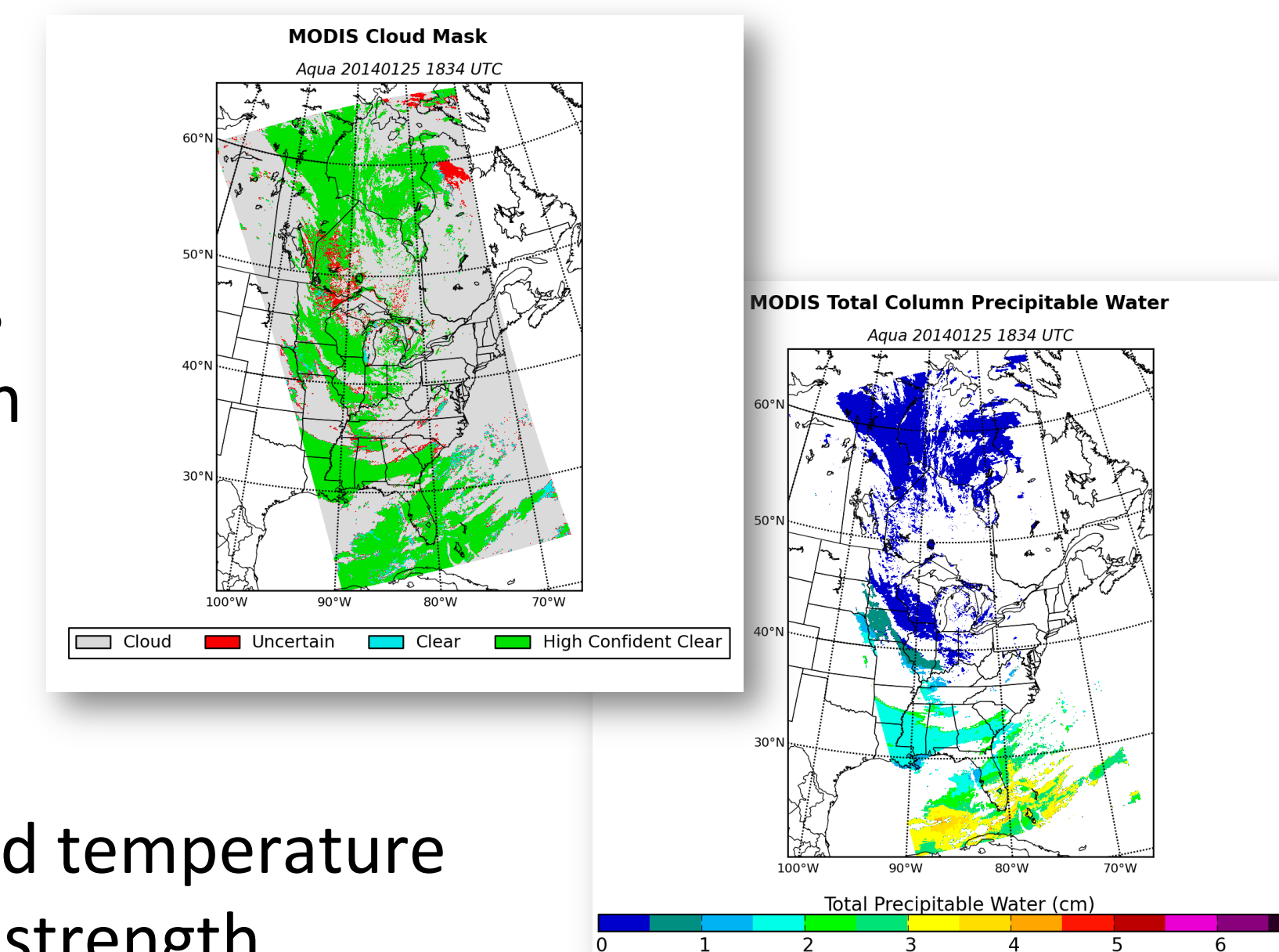
- HYDRA2 Multipsectral Visulaization and Analysis Toolkit
- Polar2Grid Reprojection and GeoTIFF Creation
- Web Mapping Service (WMS) for GeoTIFF display
- MODIS Direct Broadcast Google Earth (DBGE)

Recent Software Updates and Releases

MODIS Level 2 Atmosphere and Polar Products

The MODIS Level 2 V3.0 software update uses NASA Collection 6 and University of Wisconsin science algorithms to create products which include:

- cloud mask
- cloud top properties
- atmospheric profiles
- aerosol optical depth
- sea surface temperature
- snow mask
- ice mask
- ice concentration and temperature
- inversion depth and strength



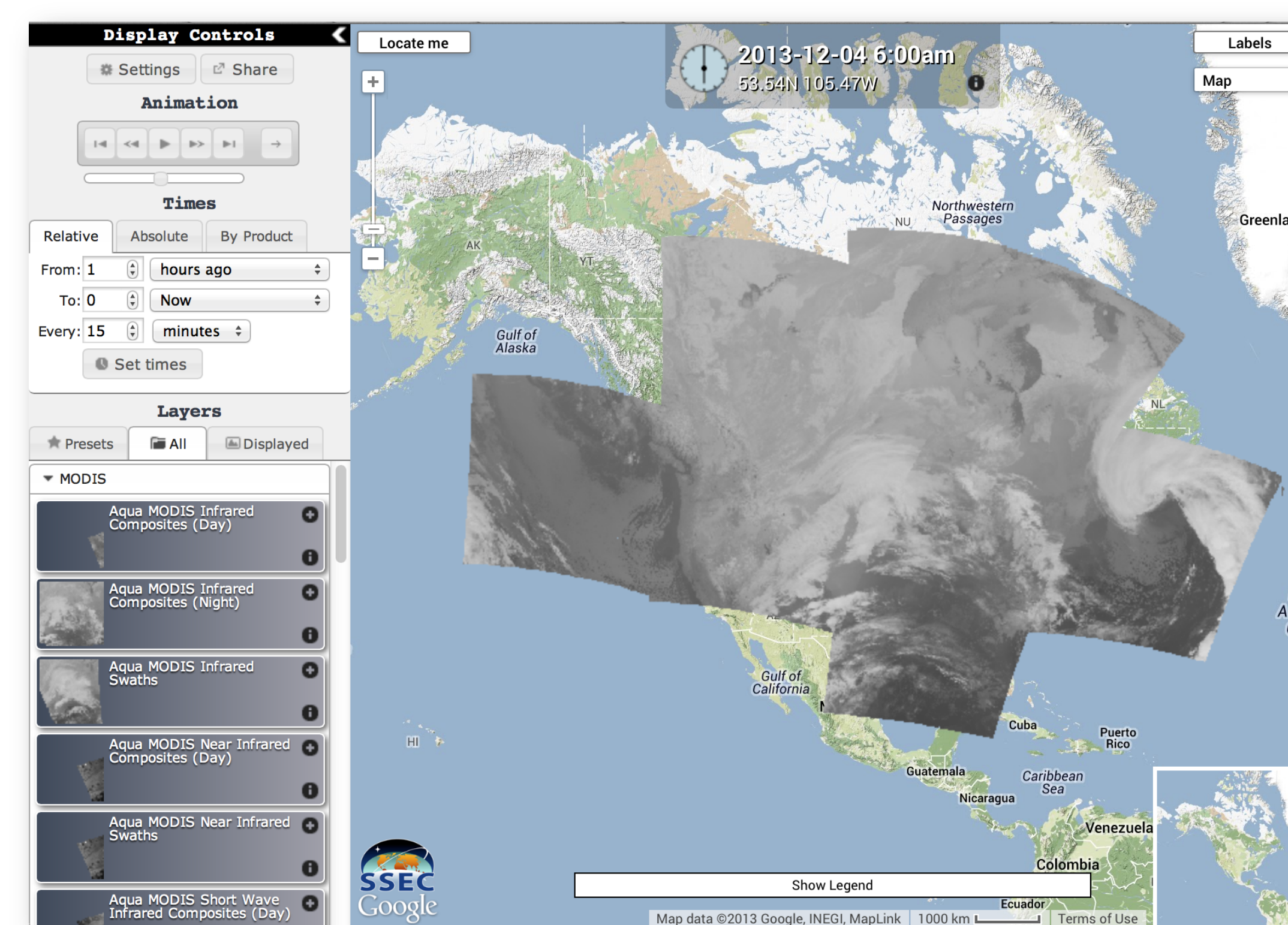
MODIS Level 2 V3.1, to be released soon, will also create cloud optical properties products.

IMAPP Virtual Appliance

The IMAPP Virtual Appliance is an automated processing system for MODIS, AIRS, and AMSR-E data. It is easy to install and run on many platforms including Microsoft (7, Vista, XP), Apple OSX and Intel Linux. The latest version is 64 bit and no longer supports AMSR-E since it is no longer operational.

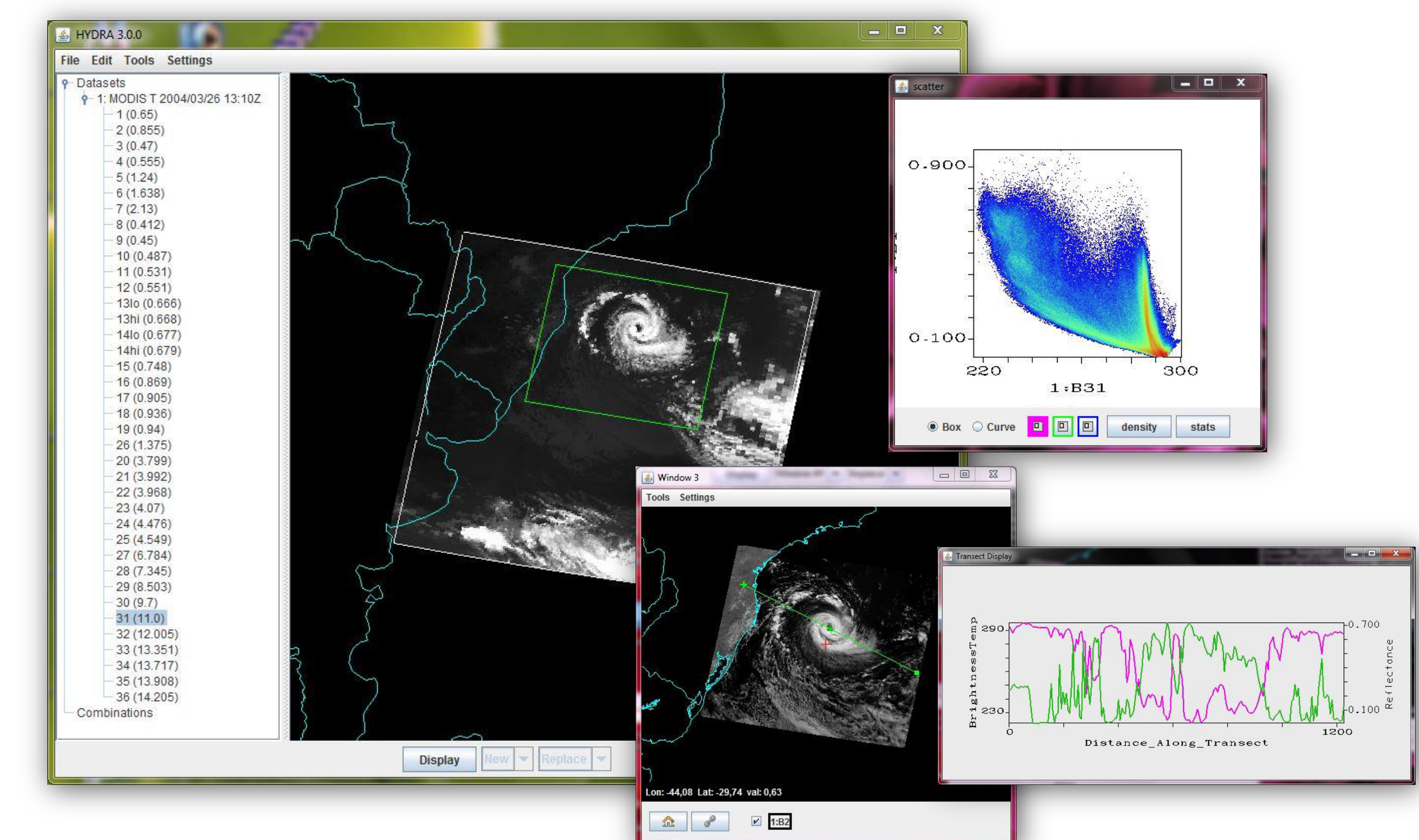
Web Mapping Service (WMS)

The WMS is used to display meteorological data on the web in a Google Earth interface, including MODIS direct broadcast GeoTIFFs, which can be created using the IMAPP Polar2Grid software.



HYDRA2 Multispectral Data Display and Analysis Toolkit

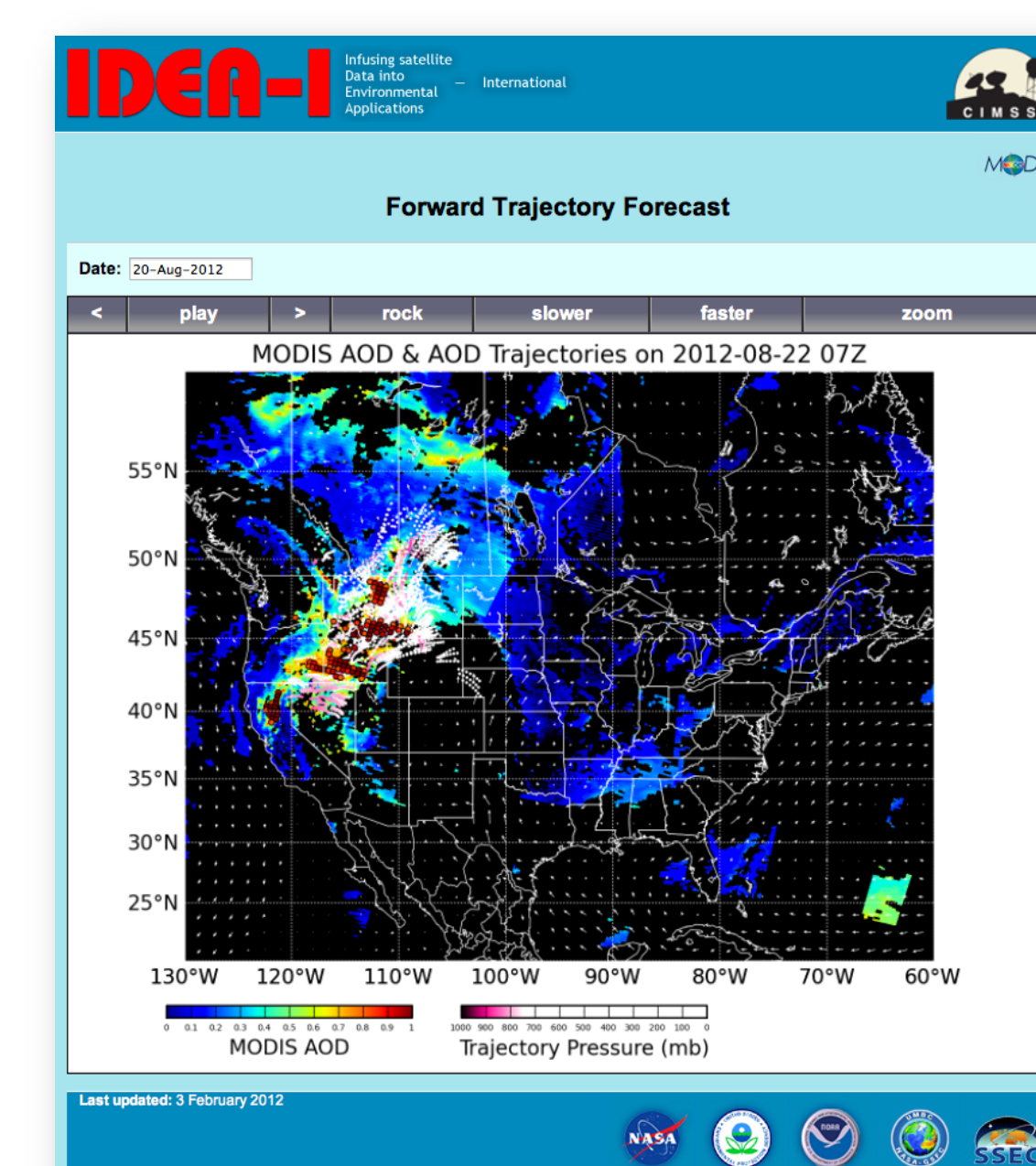
HYDRA2 can be used for interrogating data from the Aqua, Terra, and JPSS S-NPP satellite instruments for research, development or education and training purposes.



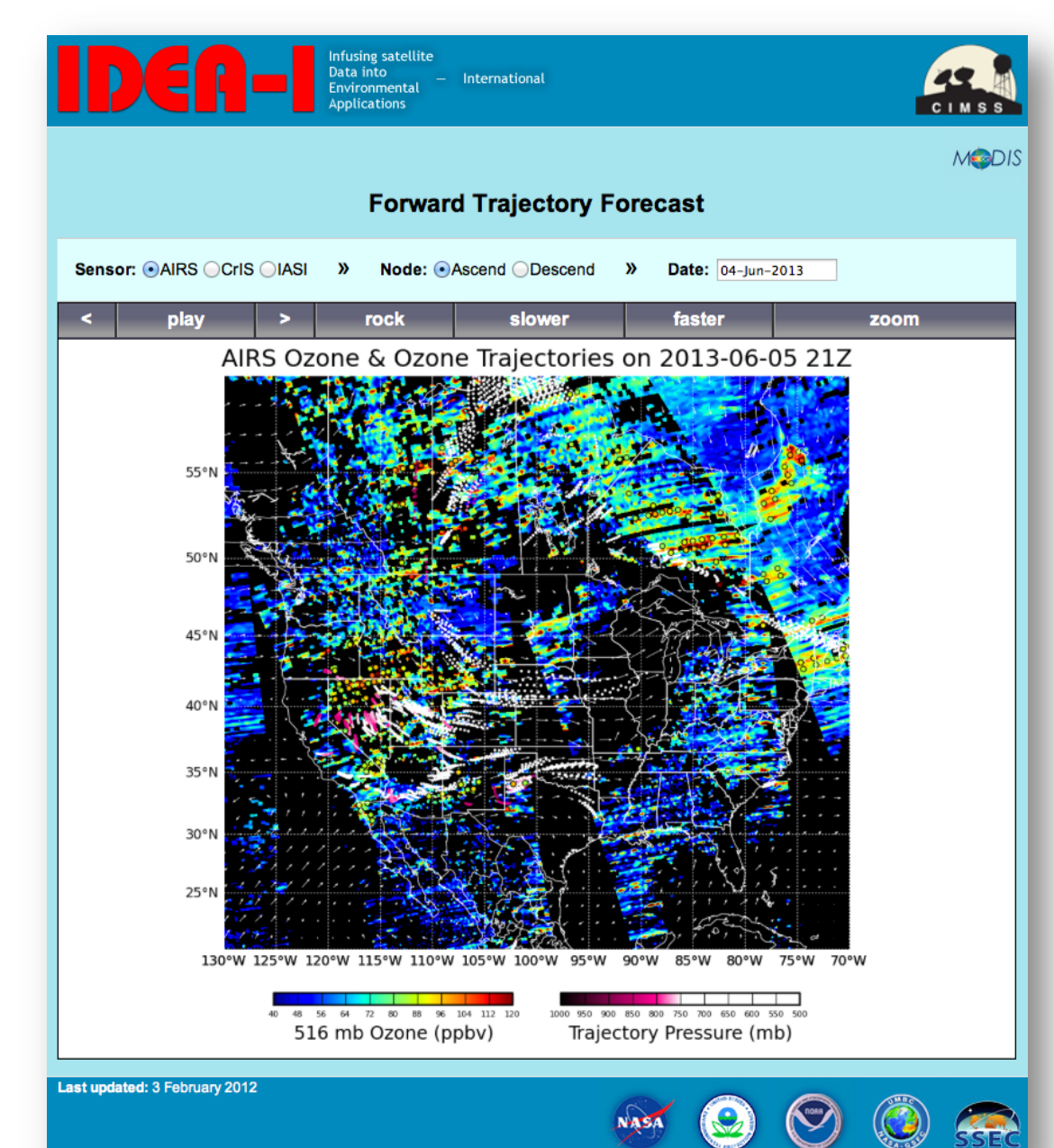
Above are examples from a Servicio Meteorológico Nacional of Argentina training course in remote sensing using HYDRA2.

IDEA-I Aerosol and Ozone Air Quality Forecasting

The Infusing Satellite Data into Environmental Applications – International (IDEA-I) software produces 48 hour 3-dimensional trajectory forecasts for satellite-detected aerosols and stratospheric intrusions of ozone. IDEA-I Aerosol uses MODIS aerosol optical depth and IDEA-I Ozone supports AIRS, CrIS, and IASI retrievals.



MODIS Aerosol example



AIRS Ozone example