GDWG activities
IMD

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India Meteorological Department (IMD)
Ministry of Earth Sciences (MoES)

❖ Visualisation tool (RAPID)

❖ Data Supply Portal

❖ Satellite Instrument Landing Page and its linking with WMO OSCAR /Space

❖ All the above activities are jointly coordinated by IMD and ISRO.

❖ Real time Analysis of Products and Information Dissemination (RAPID) : https://rapid.imd.gov.in/r2v/:

  ▪ Web based data analysis and visualization platform integrating all kinds of Observational Platforms and NWP Model data

    • Satellite
    • Radar Data
    • In situ Observations (Surface & Upper air)
    • NWP Models

❖ Avoids downloading large volume data individually

❖ Near real-time access to latest acquired data

❖ Analysis tools focussed data probing, image enhancement/analysis tools and overlays for scientific usage.

❖ Ubiquitous Menu Driven Access on all kinds of devices:

  ▪ Computers
  ▪ Laptops
  ▪ Small Devices (Mobiles, Tablets, etc.)

- ❖ **Data Sources**
  - ▪ Satellite Data
  - ▪ NWP Models
  - ▪ Radar Data
  - ▪ Surface Observations
- ❖ **Satellite Data**
  - ▪ RGB Composites (Day Microphysics and Night Microphysics)
  - ▪ Sandwich RGB (VIS/IR)
  - ▪ Satellite Derived Winds (Wind barbs)
  - ▪ Wind Derived Products (Lower Convergence, Upper Divergence, Vorticity (@500 mb, 700 mb, 850 mb), Wind Shear, Mid Shear)
  - ▪ Support for Categorical Data (e.g. FOG: Shallow, Dense, Very Dense; Air Quality: Good, Bad, Very Bad)
  - ▪ Physical Quantities from Standard Level-1 Products (Brightness Temperature)
  - ▪ Geophysical Parameters
- ❖ **NWP Models**
  - ▪ WRF Model (feasibility for adding more models)
- ❖ **Radar Datasets**
  - ▪ DWR stations from IMD (Z, V, MAXZ and Rainfall) are supported
- ❖ **Surface Observations**
  - ▪ AWS Data with time series
  - ▪ Synoptic Data – Surface and Upper air
  - ▪ Fire (INSAT-3D)
  - ▪ Smoke (INSAT-3D)

- ❖ Interactive Image Analysis Tools
  - ▪ Point Probe
  - ▪ Time Series
  - ▪ Transect Plots
  - ▪ Year-wise Plots
  - ▪ Vertical Profiles
  - ▪ Point Observation Time Series
  - ▪ Thermodynamic Diagrams (for Satellite Sounding and NWP Model Outputs)
    - • Skew-T Plots
    - • T-Φ gram
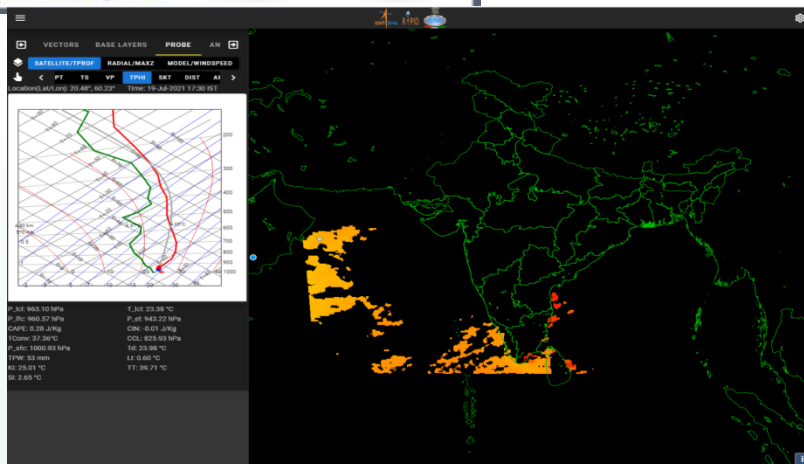 - ▪ Polygon Statistics (Enhanced version of Box Statistics)
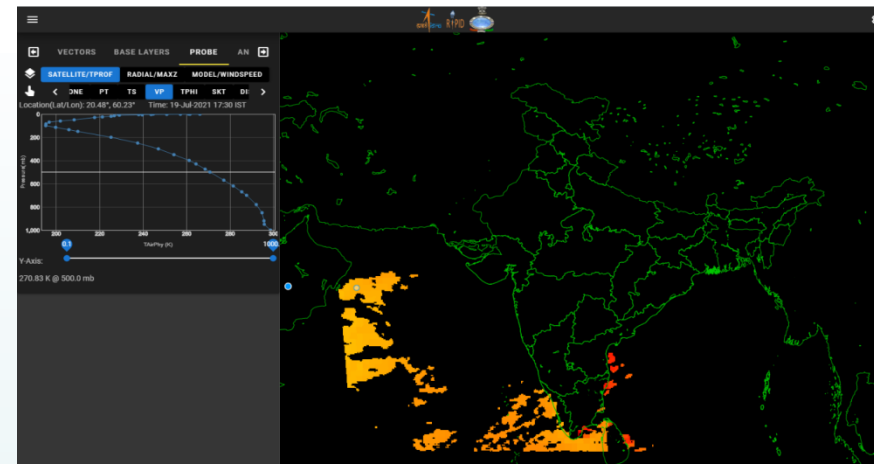- ❖ Animation of images /products as per selection
- ❖ Image Enhancement capability
  - ▪ Contrast Stretch
  - ▪ Pseudo LUT
  - ▪ Contouring (Enhanced)
  - ▪ Density Slicing
  - ▪ Clip Range

Sandwich RGB (VIS/IR)
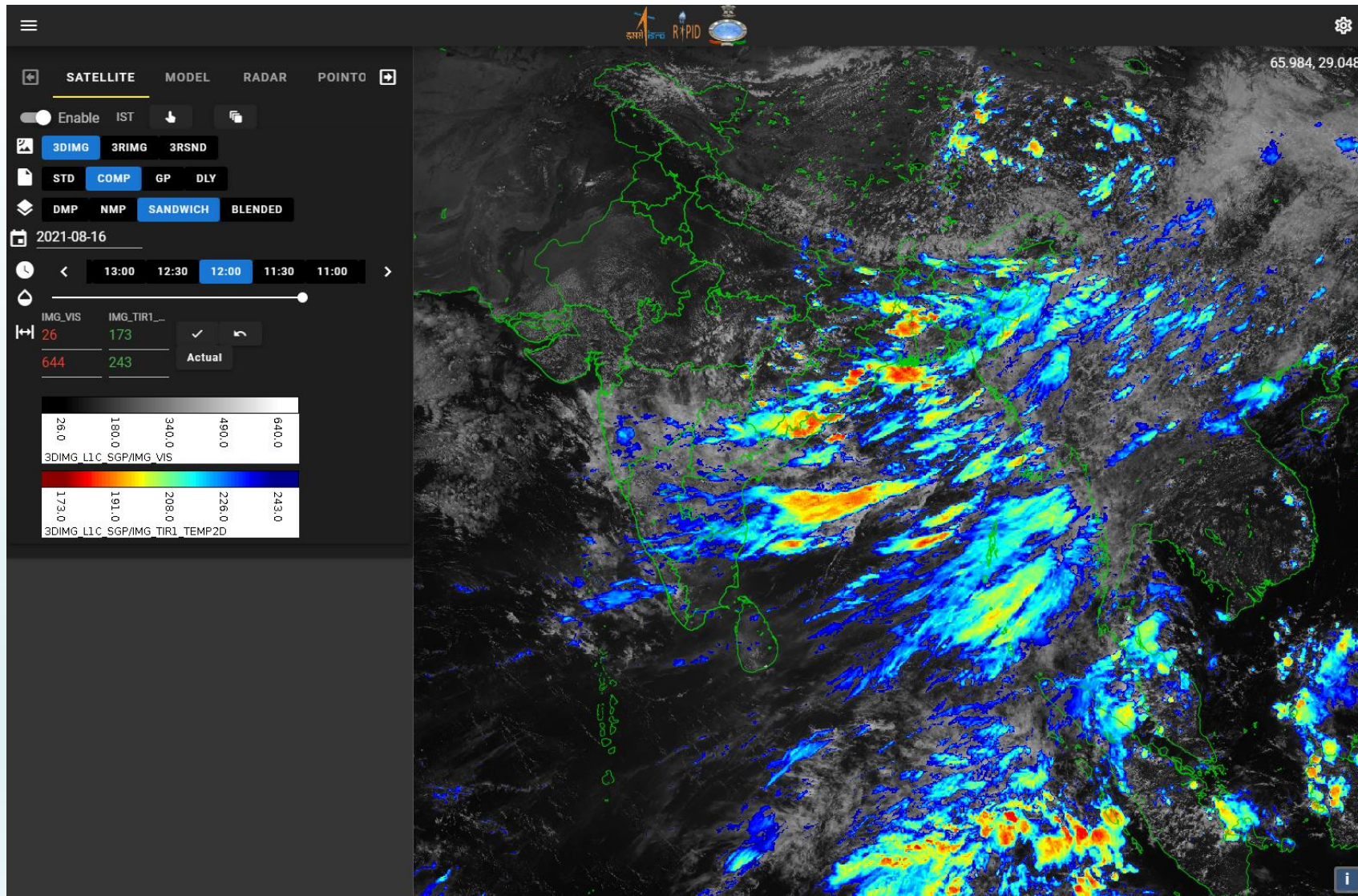
Thermodynamic Diagram (T- Φ gram)

Vertical Profile
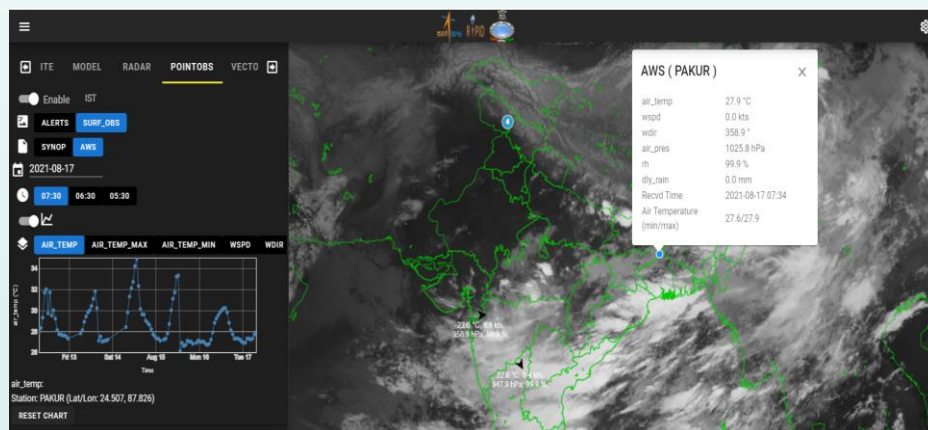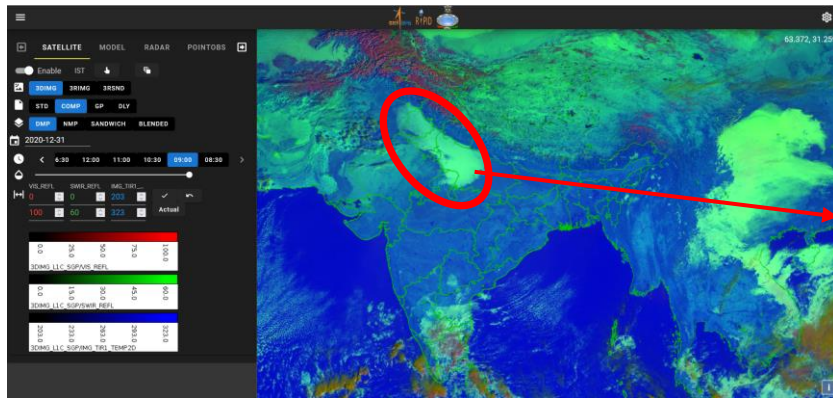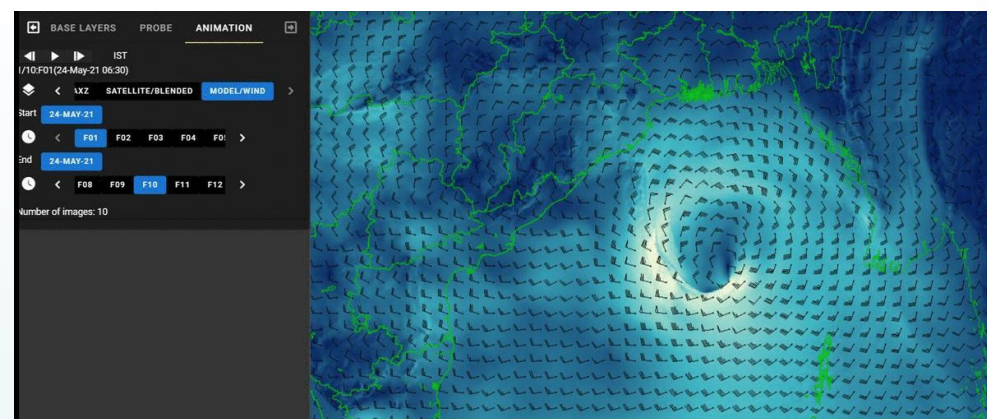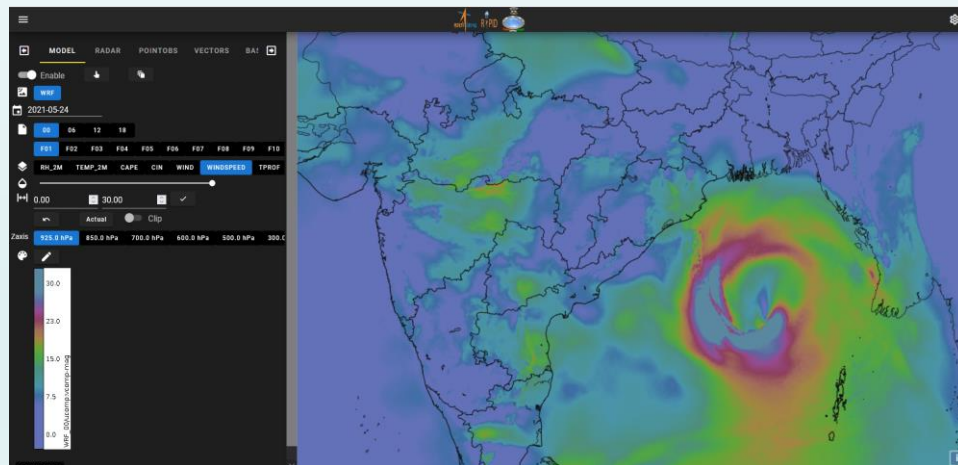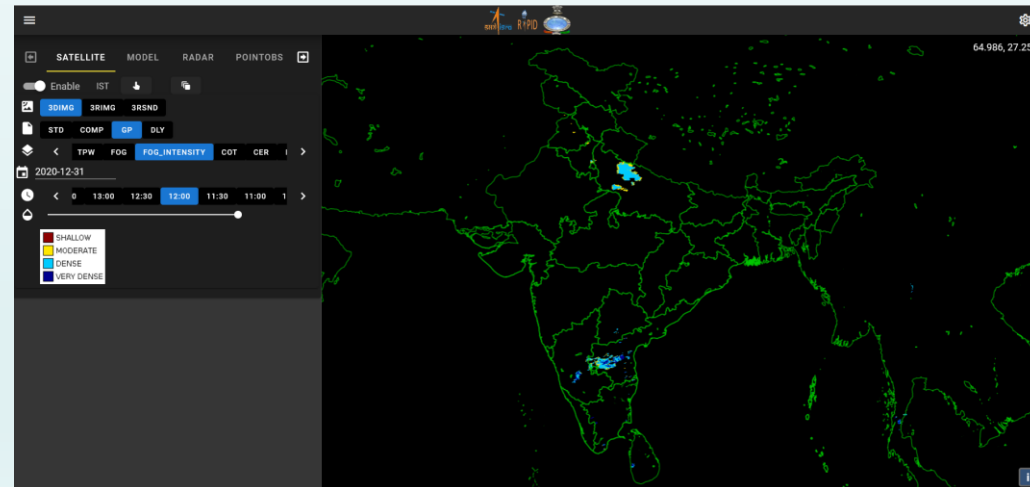

Surface Observations
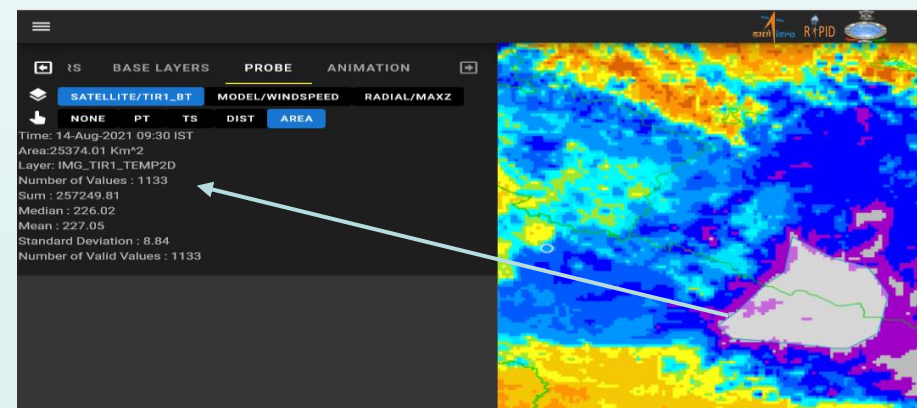
Polygon Statistics

FOG
Date: 31DEC2021
Time: 0900 IST

Day Microphysics

Cb clouds
Cb clouds – small droplets
Water clouds with small particles
Maritime stratocumulus

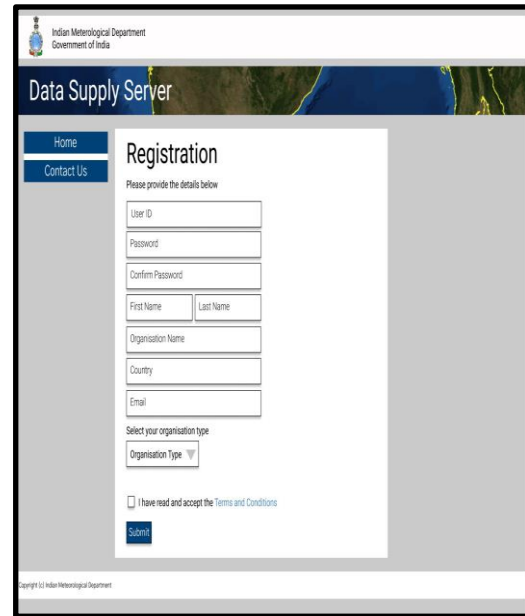Mid-level orographic clouds
Ciro-cumulus
snow

YAAS Cyclone (Wind Barb Animation)

Wind Speed from NWP Output (YAAS Cyclone)

Customized product (Fog event in IGP 31st Dec-21)

Menu driven selection
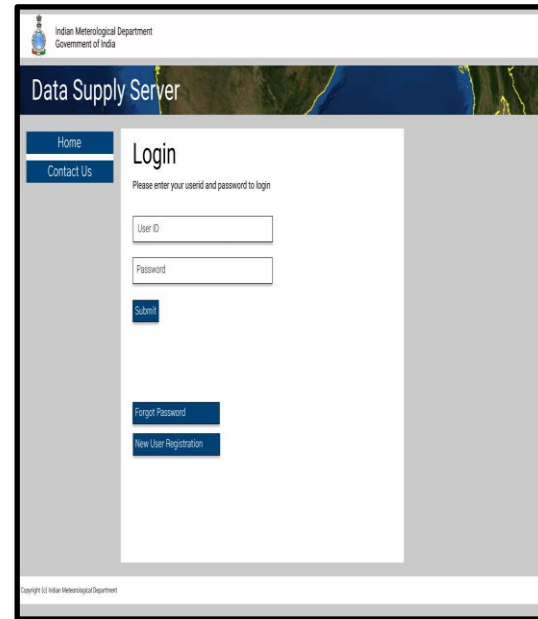
Registration to dissemination
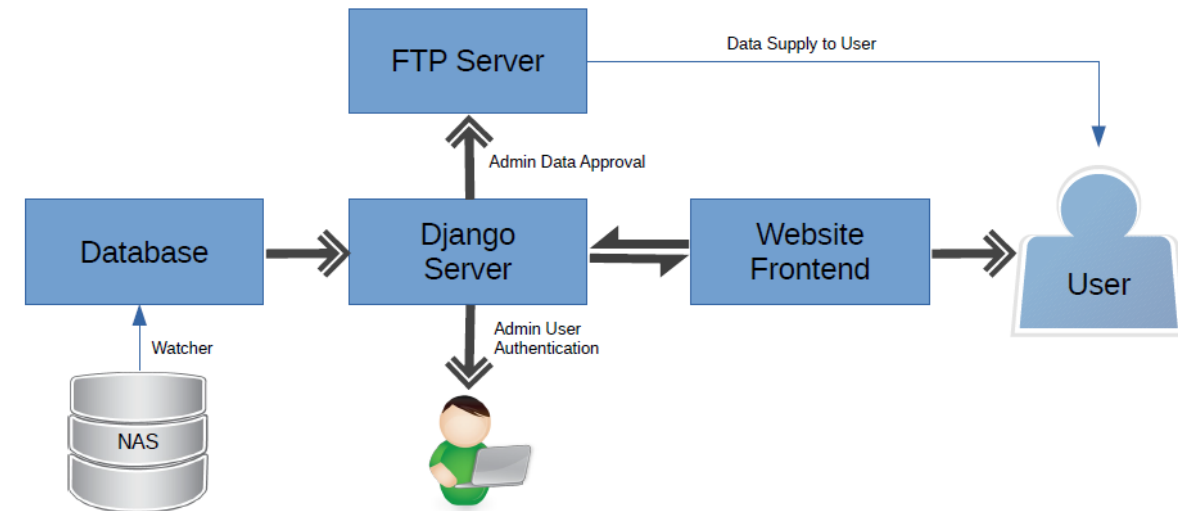
- ❖ Provision to access calibrated satellite images & data (Historical as well current)
- ❖ Interactive user Interface,
- ❖ Automatic extraction and supply of information.
- ❖ In final stage of testing - will be made operational soon.

This instrument landing page is in under development with joint collaboration of IMD and ISRO and the current status is available on : (https://space.oscar.wmo.int/spaceagencies/view/isro)

❖ Time Series for Polygon Statistics

❖ Vertical Cross-Sections

❖ Streamlines

❖ Ocean Currents and Waves

❖ Wind Animation

❖ Hovmoller Plots

❖ Cyclone Cone of Uncertainty Plots

❖ Iso-surfaces, Volume Rendering on Web

❖ Data supply portal is in final testing phase

❖ Satellite instrument landing page is under development

Thank You