GLOBAL SCIENCE & TECHNOLOGY, INC.

Partnering for Success

DirectMet®2 Commercial Weather Applications

Functionality

- **Ingest**
  - Ingest of GRB datasets via direct readout platform for Level 1B Advanced Baseline Imager (ABI) and Level 2B Global Lightning Mapper (GLM) products
  - Space weather modules for SEISS, EXIS, SUVI, and MAG
- **Storage**
  - Effective handling and storage of large volumes of satellite data
- **Product Generation**
  - Automatic production of incoming direct readout imagery; imagery format suitable for dissemination to Internet or publication
  - Native satellite view and different map projections, defined by user
  - Creation of Level 2 RGB data products
  - Optional platform for distributed CSPP GEO AIT Level 2+ processing architecture, if necessary
- **Visualization and Analysis**
  - Web Viewer for office and user extensibility
  - Expandable, customizable overlay database, including regional sectors
  - User-defined image enhancement curves and color tables
  - Automatic imagery and loop updates
  - WAFS-METLAB2™ visualization option for integration of other meteorological data sets (i.e., overlay stations and numerical models)
- **Dissemination**
  - Support for multiple data formats (e.g., GeoTIFF, PNG, JPEG) for dissemination to third-party geographical information systems (GIS) or other external systems (social media, websites)

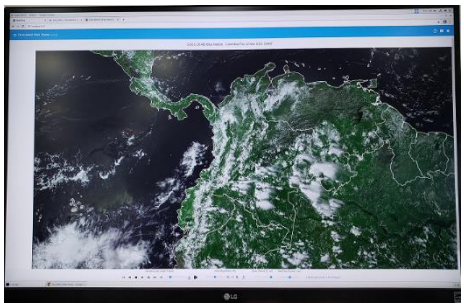
DirectMet®2 Overview

For more than 25 years, GST's Weather Group has developed and installed commercial weather systems that include meteorological and satellite data processing workstations in more than 35 countries. GST developed the DirectMet® satellite ground system technology in the 1990s, and since then has installed first- and second-generation DirectMet® workstations for GOES satellite data at meteorological, academic, and military agencies around the world. DirectMet®2 processes 3-4 TB of satellite imagery, lightning data, and space weather data daily, helping weather professionals process, organize, integrate, and view the data they need to make weather forecasts, ensure flight safety, manage water resources, and more. The DirectMet®2 system includes a GOES Rebroadcast (GRB) ground station and different software packages for image visualization.

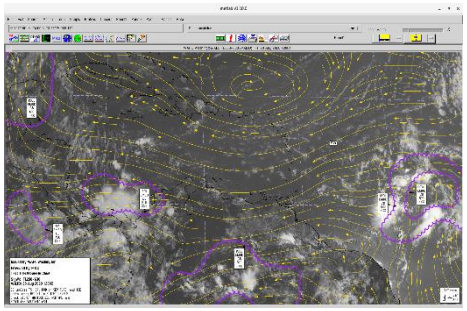
HARDWARE OVERVIEW: DirectMet®2 includes a visualization workstation, an ingest server, and a production platform. The DirectMet®2 processing system is designed to acquire GOES data in NetCDF4 format via the GRB direct readout satellite ground station. A complete, turnkey DirectMet®2 system includes GOES GRB ground system hardware. The GRB Satellite Receiver and Antenna System includes a 3.8 to 4.5-meter antenna (dependent on location); ground or roof mounting options; manual or motorized dish adjustment; integrated feed/down-converter; 300-feet RG-58/U coaxial cable with connectors; and a GOES GRB demodulator (rack mountable).

Satellite dish and feed

SOFTWARE OVERVIEW: DirectMet®2 is built with high-quality components for reliability and durability. Ingest and Production processes run on rack-mounted server class machines. Analytical tasks are performed on a desktop visualization workstation with extensibility to external users and web browsers. DirectMet®2 includes a Web Viewer for the basic display and animation of produced sector imagery as image files. These images may also display color tables and geopolitical data.



L2 "Blue Marble" in the Web Viewer



WAFS-METLAB2™ satellite overlay

For those organizations that need integration with other meteorological data sets, such a numerical model data and observational (station) data, GST includes WAFS-METLAB2™ software (see separate cutsheet for details). Users can overlay the satellite image with other meteorological data and do side-by-side comparisons in multiple windows. The WAFS-METLAB2™ software package includes a drawing toolkit for annotation on the satellite image.

DirectMet®2 includes automatic dissemination of high-quality products for external users with Internet compatibility.

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