Satellite Direct Readout Events

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Presenter: Mitch Goldberg – NOAA, USA

Abstract:

The Joint Polar Satellite System is NOAA's new operational satellite program and includes the Suomi National Polar-orbiting Partnership (S-NPP) as a bridge between NOAA's operational Polar Orbiting Environmental Satellite (POES) series, which began in 1978, and the first JPSS operational satellite scheduled for launch in 2017. S-NPP and JPSS provides a myriad of critical data that are used for weather forecasting, environmental assessments and climate variability. S-NPP/JPSS data are conducive to different applications and time scales, and supports the observation, forecasting and mitigation of natural disasters.

Weather forecasting – the assimilation of data from the JPSS Cross-track Infrared Sounder (CrIS) and the Advanced Technology Microwave Sounder (ATMS) into global forecast models, provide support to forecasting weather events out to 7 days. Nearly 85% of all data used in weather forecasting models are from polar orbiting satellites.

Environmental assessments – data from the JPSS Visible Infrared Imager Radiometer Suite (VIIRS) are used to monitor/assess the environment including the health of coastal ecosystems, drought conditions, rainfall, fire, smoke, dust, snow and ice, and the state of oceans, including sea surface temperature and chlorophyll-a.
Climate variability – data from JPSS instruments will provide continuity to long-term data records and time series established using NOAA POES and NASA Earth Observing System (EOS) satellite observations. These data records provide a unified and coherent long-term observation of the environment; the records and products are critical to climate modelers, scientists, and decision makers.

Ready access to VIIRS data through direct broadcast capabilities has proven to provide essential data at critical times in the severe weather decision process of US and foreign weather services. VIIRS imagery from Direct Broadcast is now in daily use in data sparse areas of the globe and is frequently referenced in forecast discussions across the United States.