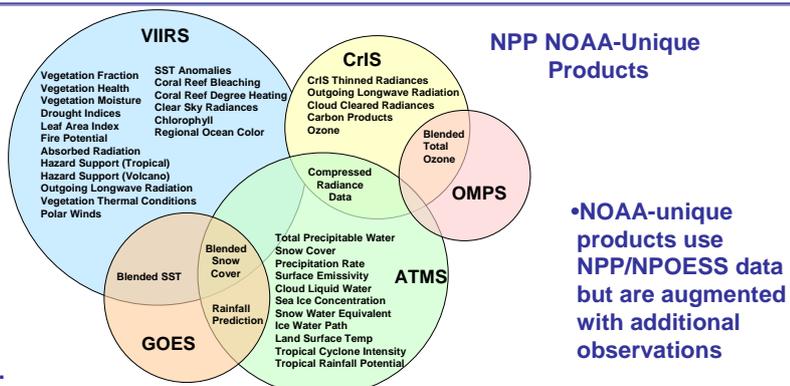
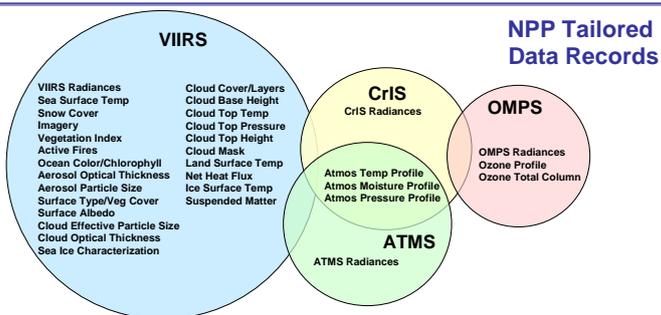
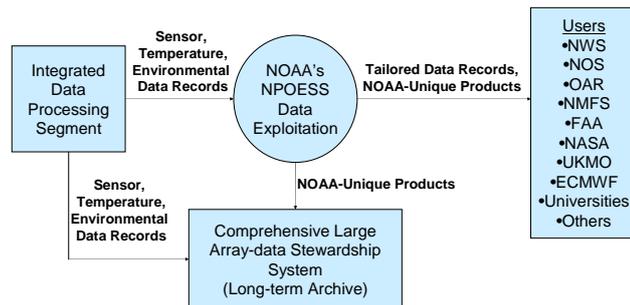


NDE MISSION:

Assist NOAA and other civilian customers to realize the potential of NPOESS observations

NDE System Objectives:

- Disseminate NPOESS Data Records to customers
- Generate and disseminate tailored NPOESS Data Records (versions of NPOESS Data Records in previously agreed alternative formats and views)
- Generate and disseminate NOAA-unique products (augmented environmental products constructed from NPOESS Data Records)
- Deliver NOAA-unique products, product processing elements, and associated metadata to the NOAA Long-Term Archive
- Provide services to customers, including a Help Desk, NDE product training, product enhancement, and implementation support across NOAA
- Develop a sustainable system that meets its customer needs
- Provide software for NPOESS Data Record format conversion and other data manipulations



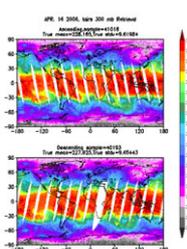
- Products are received by NDE from the Integrated Data Processing Segment
- NDE provides tailored products for format, coverage, frequency, projection, etc.

•NOAA-unique products use NPP/NPOESS data but are augmented with additional observations

Initial Product Development from NPP data

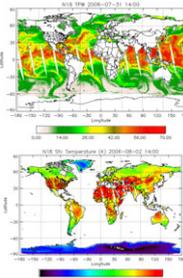
CrIS

- Includes spectrally and spatially thinned radiances; cloud cleared radiances; atmospheric concentrations of carbon dioxide, methane, and carbon monoxide; temperature, moisture, and ozone retrievals
- Benefit of data: Hyper-spectral measurements are used to improve knowledge of temperature, moisture, ozone, for both weather and climate applications
- Continuity from Aqua AIRS and Metop IASI data



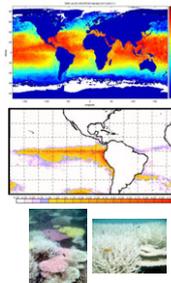
ATMS

- ATMS microwave-only products include: Cloud Liquid Water, Precipitation Rate, Snow Cover, Snow Water Equivalent, Sea Ice Concentration, Total Precipitable Water
- Benefit of data: Used to improve numerical weather prediction models, estimations of rainfall, and continuity of climate monitoring for El Niño, water cycle changes, and long-term climate change
- Continuity from POES and Metop AMSU-A and MHS products



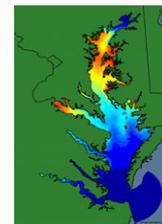
Sea Surface Temperature

- SST products include a blended POES/GOES product, coral reef bleaching, SST anomalies, and hotspots, and degree heating weeks
- Benefit of data: Provides early warnings of coral bleaching, assessment of El Niño development, and monitoring the cooling following the passage of a hurricane
- Continuity from POES and Metop AVHRR products



Regional Ocean Color

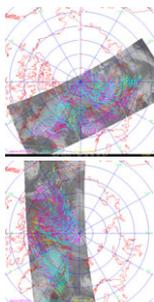
- Ocean color is used to detect the amount of chlorophyll in the oceans
- Benefit of data: Used to monitor red tides and other potentially dangerous biological events that can threaten human health and for fisheries management
- Continuity from SeaWiFS and MODIS products



Future Product Development from NPP data

Polar Winds

- Tropospheric winds are measured in the polar regions by tracking cloud features. Wind products include wind speed, direction, and height at high latitudes.
- Benefit of data: The assimilation of polar tropospheric wind data in numerical weather prediction models has been shown to improve model forecasts for the Northern and Southern Hemisphere.
- Continuity from Aqua MODIS and POES AVHRR Infrared Polar Wind products



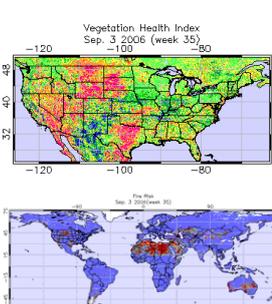
Hazard Support

- Hazard support includes fire and smoke detection, volcanic ash detection and height, and tropical cyclone analyses
- Benefit of data: Fire and smoke products are important for air quality models and to emergency managers for monitoring outbreaks and warning of critical health threats. Volcanic ash detection and tracking is critical for the aviation community. Estimates of satellite-derived tropical cyclone intensity and positioning are used as an input to official forecasts.
- Continuity from many satellites and sensors, including POES and Metop AVHRR, AMSU-A, MHS; Aqua and Terra MODIS; and DMSP OLS



Vegetation

- Vegetation products include real-time green vegetation fraction, leaf area indices, drought indices, vegetation moisture and thermal conditions, and vegetation health
- Benefit of data: Used to determine seasonal and climatic variations, areas for potential drought, fire risk, start/end of the grown season, and crop and pasture productivity. Vegetation products are also an important input to forecast models
- Continuity from POES and Metop AVHRR products



Blended Products

- Blended products are those that use multiple satellite and sensor sources to generate one product. Examples include total ozone analysis and snow and ice coverage.
- Benefit of data: Blended product enhances forecasting and climate monitoring capabilities by combining frequent observations with higher resolution observations
- Snow Continuity: infrared, visible, and microwave sensor on POES, GOES, Metop, and DMSP
- Ozone Continuity: infrared and ultraviolet sensors on POES, Metop, and Aqua

