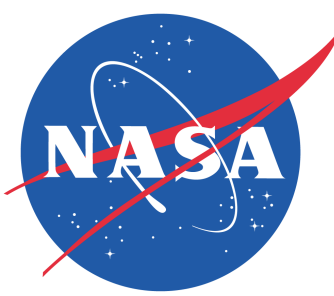


NASA SNPP SIPS – Following in the Path of EOS



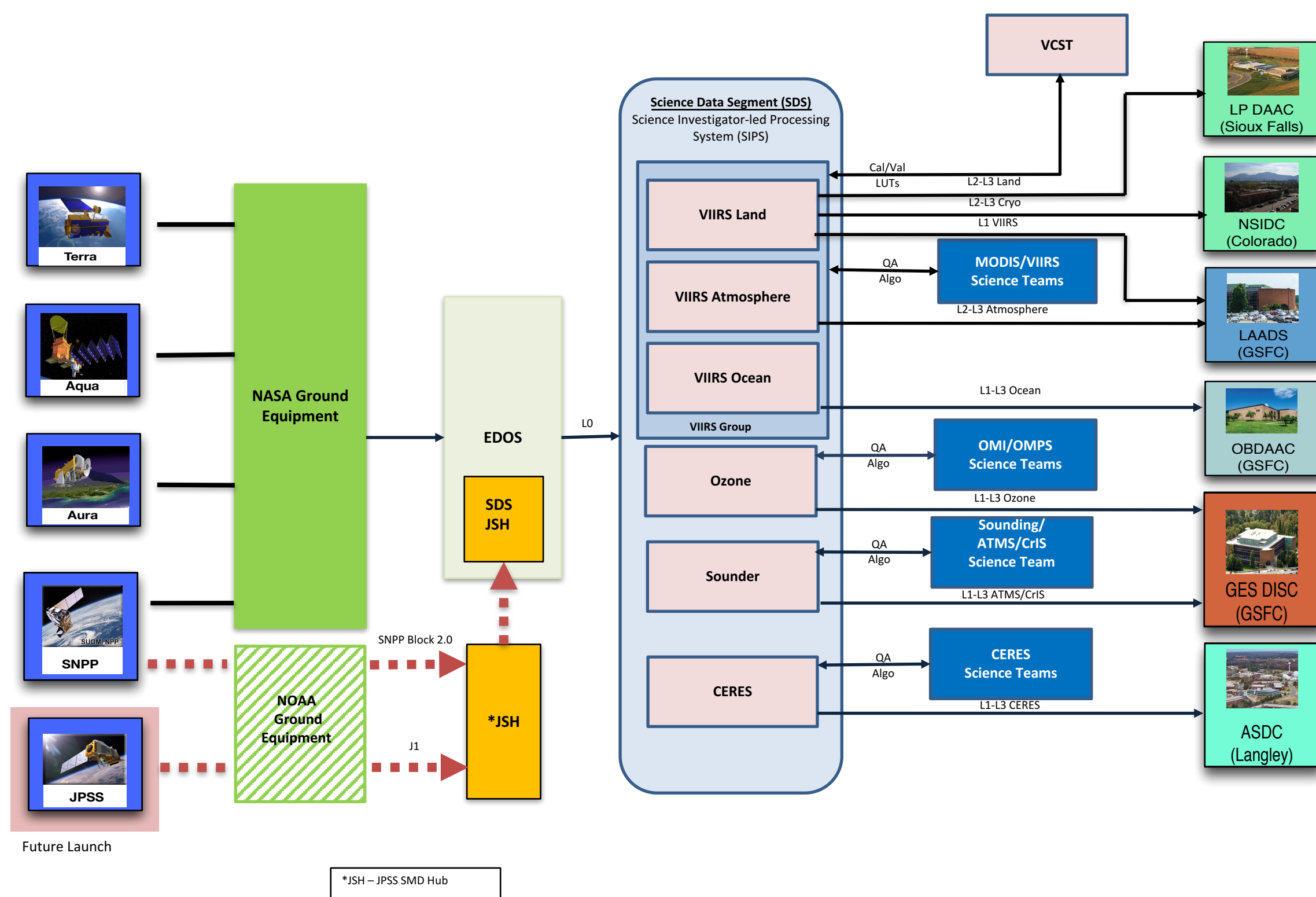
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NASA Goddard Space Flight Center, Greenbelt, MD 20771

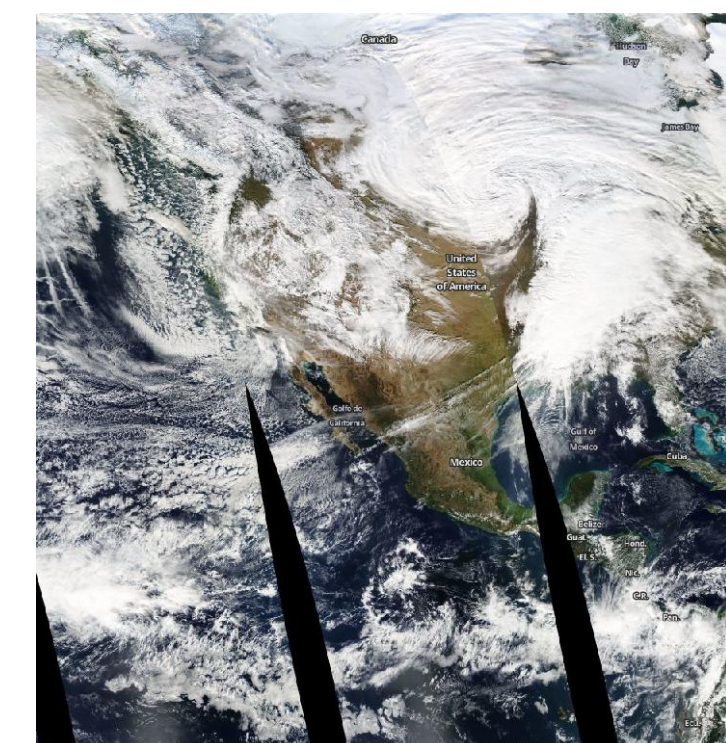
Abstract

NASA's Earth Science Data Information System (ESDIS) Project has been operating NASA's Suomi National Polar-Orbiting Partnership (SNPP) Science Data Segment (SDS) since the launch in October 2011. At launch, the SDS focused primarily on the evaluation of Sensor Data Records (SDRs) and Environmental Data Records (EDRs) produced by the Joint Polar Satellite System (JPSS), a National Oceanic and Atmosphere Administration (NOAA) Program, as to their suitability for Earth system science. During the summer of 2014, NASA transitioned to the production of standard Earth Observing System (EOS)-like science products for all instruments aboard Suomi NPP. The five Science Investigator-led Processing Systems (SIPS): Land, Ocean, Atmosphere, Ozone, and Sounder were established to produce the NASA SNPP standard Level 1, Level 2, and global Level 3 products developed by the SNPP Science Teams and to provide the products to NASA's Distributed Active Archive Centers (DAACs) for archive and distribution to the user community. The processing, archiving and distribution of data from NASA's Clouds and the Earth's Radiant Energy System (CERES) and Ozone Mapper/Profiler Suite (OMPS) Limb instruments will continue. With the implementation of the JPSS Block 2 architecture and the launch of JPSS-1, the SDS will receive SNPP data in near real-time via the JPSS Stored Mission Data Hub (JSH), as well as JPSS-1 and future JPSS-2 data. The SNPP SIPS will ingest EOS compatible Level 0 data from the EOS Data Operations System (EDOS) element for their data processing, enabling the continuous EOS-SNPP-JPSS Satellite Data Record.

NASA SDS Data Flow

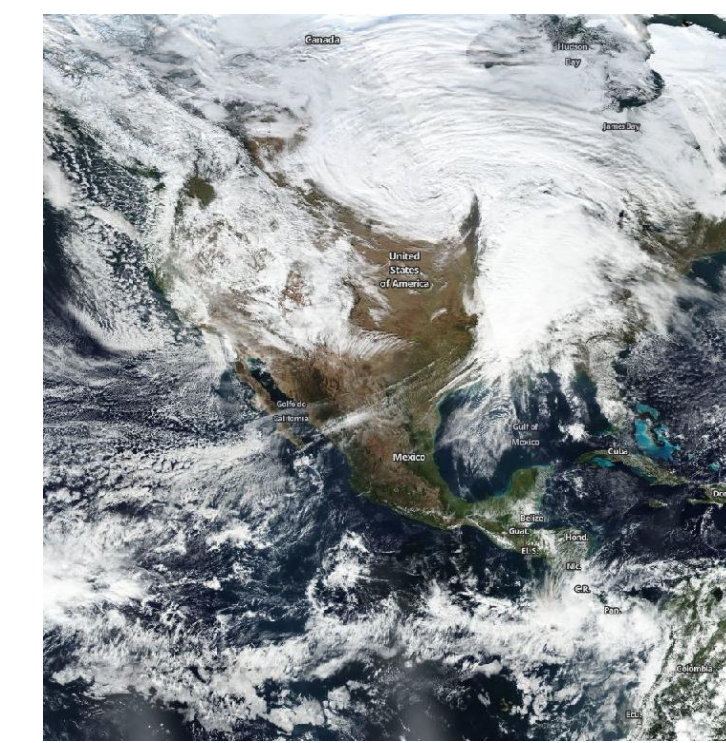


EOS



Aqua/MODIS
 Corrected Reflectance (True Color)
 November 29, 2016
 from <https://worldview.earthdata.nasa.gov>

SNPP



Suomi NPP/VIIRS

SNPP Data Product Continuity

VIIRS Atmosphere Product Name	MODIS (EOS Terra, Aqua)	VIIRS (S-NPP)
Cloud Mask	X	X
Atmospheric Profiles	X	X
Aerosols	X	X
Total Precipitable Water Vapor	X	X
Cloud Properties	X	X
Clear Sky Radiance	X	X
Joint Atmosphere Product*	X	X

VIIRS Land Product Name	MODIS (EOS Terra, Aqua)	VIIRS (S-NPP)
Land Surface Reflectance	X	X
MAIAC Product Suite *	X	X
BRDF/Albedo, NBAR	X	X
Land Surface Temperature and Emissivity	X	X
Vegetation Indices (VI)	X	X
FPAR	X	X
Fire and Thermal Anomalies	X	X
Burned Area	X	X
Snow Cover	X	X
Sea Ice Cover	X	X
Ice Surface Temperature	-	X
Land Cover Dynamics (Land Surface Phenology)	X	X

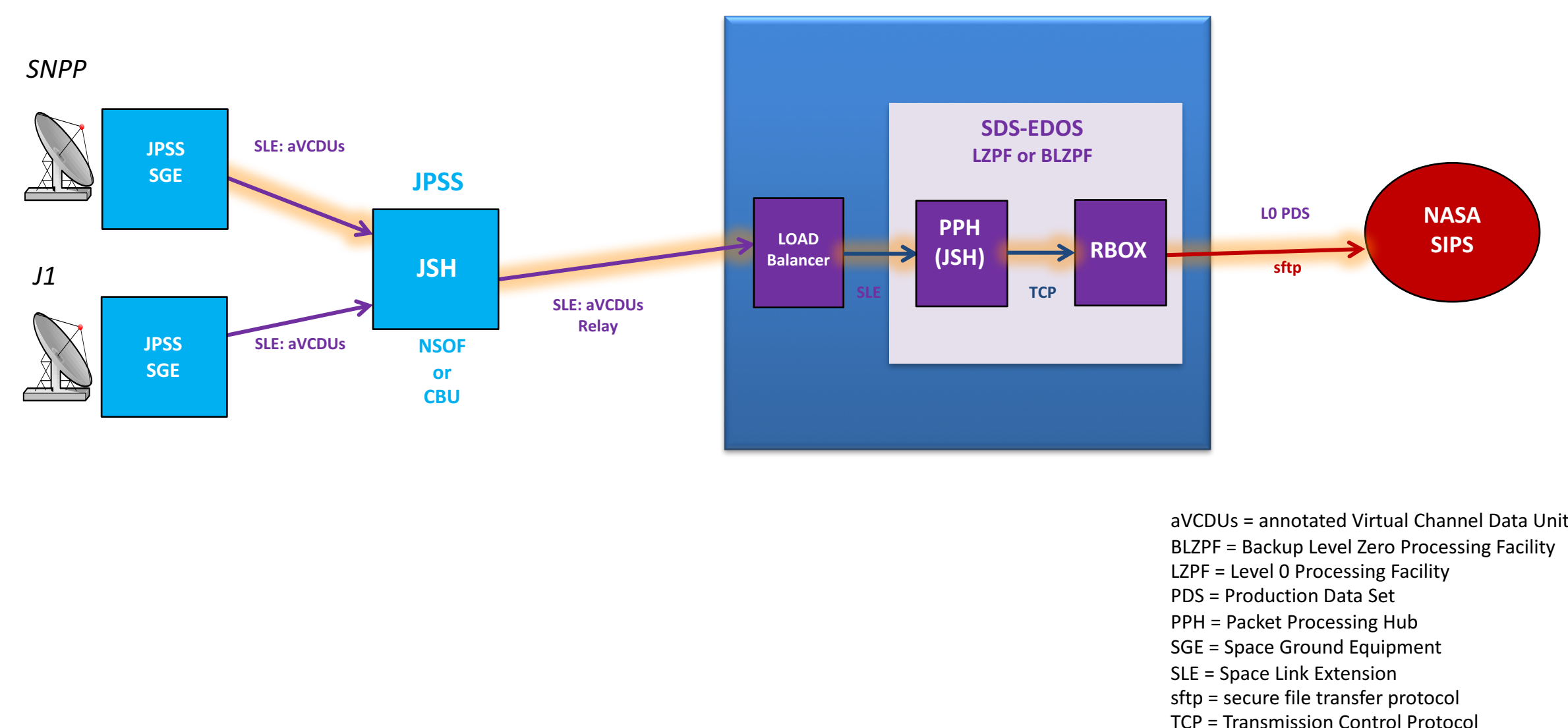
VIIRS Ocean Product Name	MODIS (EOS Terra, Aqua)	VIIRS (S-NPP)
Aerosol Angstrom Exponent	X	X
Aerosol Optical Thickness	X	X
Chlorophyll a Concentration	X	X
Diffuse attenuation at 490 nm	X	X
Photosynthetically Available Radiation	X	X
Particulate Inorganic Carbon	X	X
Remote Sensing Reflectance	X	X
Inherent Optical Properties (total and component absorption and scattering coefficients)	X	X
Sea Surface Temperature	X	X

Ozone Product Name	OMI (EOS Aura)	OMPS Nadir + Limb (S-NPP)
Calibrated, geolocated L1B	X	X
Ozone nadir vertical profiles	X	X
Ozone Total Column maps	X	X
Aerosol amount	X	X
High resolution vertical Ozone profiles	-	X
High resolution aerosol vertical profiles	-	X

Sounder Product Name	AMSU-A/AIRS (EOS Aqua)	VIIRS (S-NPP)
Atmospheric Temperature (vertical profiles)	X	X
Atmospheric Moisture (vertical water vapor profiles, total precipitable water, total cloud liquid water)	X	X
Surface Temperature	X	X
Cloud Properties (fractional cover, cloud top temperature, cloud top height)	X	X

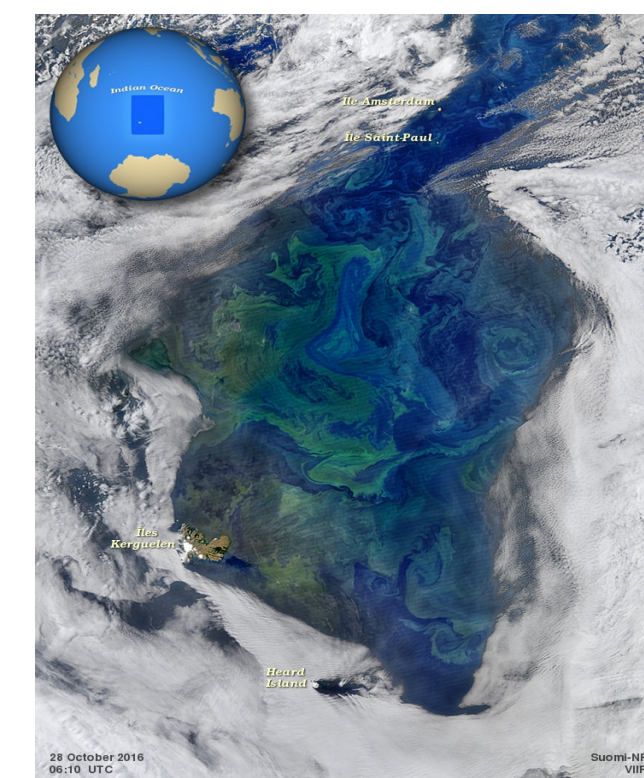
CERES Product Name	CERES (EOS Terra, Aqua)	CERES (S-NPP)
Bi-Directional Scan (BDS) Radiance	X	X
ERBE-like Instantaneous TOA Estimate (ES-8)	X	X
ERBE-like Monthly Regional Averages (ES-9)	X	X
ERBE-like Monthly Geographical Averages (ES-4)	X	X
Single Scanner Footprint TOA/Surface Fluxes and Clouds (SSF)	X	X
Hourly Gridded TOA/Surface Fluxes and Clouds (SSF1deg-Hour)	X	X
Monthly and Daily Gridded TOA/Surface Fluxes and Clouds (SSF1deg-Month/Day)	X	X
Monthly and Daily Zonal and Global Radiative Fluxes and Clouds (SYN1deg-Month/Day)	X	X
Cloud Type Histogram	X	X

NASA SDS Block 2.0



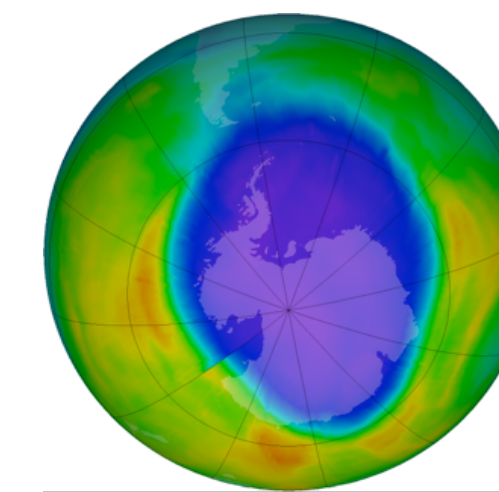
aVCDUs = annotated Virtual Channel Data Units
 BLZPF = Backup Level Zero Processing Facility
 LZPF = Level 0 Processing Facility
 PDS = Production Data Set
 PPH = Packet Processing Hub
 SGE = Space Ground Equipment
 SLE = Space Link Extension
 sftp = secure file transfer protocol
 TCP = Transmission Control Protocol

SNPP



Southern Indian Ocean

NASA Goddard Space Flight Center, Ocean Biology Processing Group; (2014):Suomi NPP/VIIRS, NASA OB.DAAC, Greenbelt, MD, USA.
<http://oceancolor.gsfc.nasa.gov/cms>
 Accessed 2016/10/28. Maintained by NASA Ocean Biology Distributed Active Archive Center (OB.DAAC), Goddard Space Flight Center, Greenbelt MD.



The Ozone SIPS noted that beginning in late August, the sun begins to shine in the Antarctica and an ozone hole forms. A picture of the ozone hole for September 28, 2016 can be found at Ozone Hole Watch.
 Credit: Ozone Hole Watch at <http://ozonewatch.gsfc.nasa.gov/SH.html>

Data Access and Discovery

Earthdata Search
<https://search.earthdata.nasa.gov>

WorldView (Visual Search)
<https://worldview.earthdata.nasa.gov>

