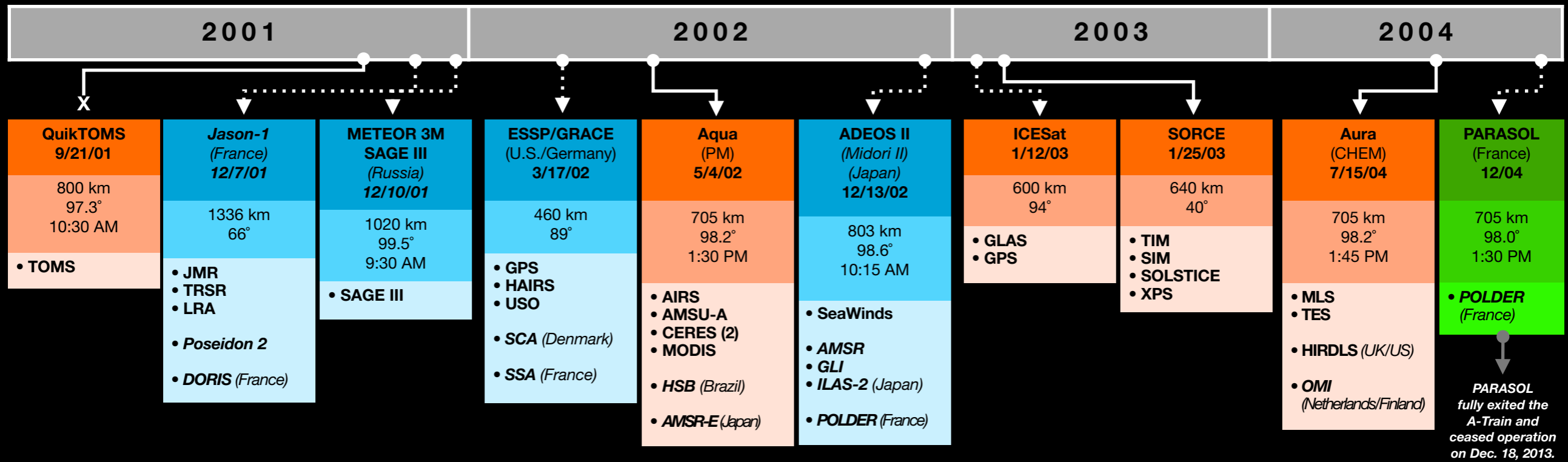
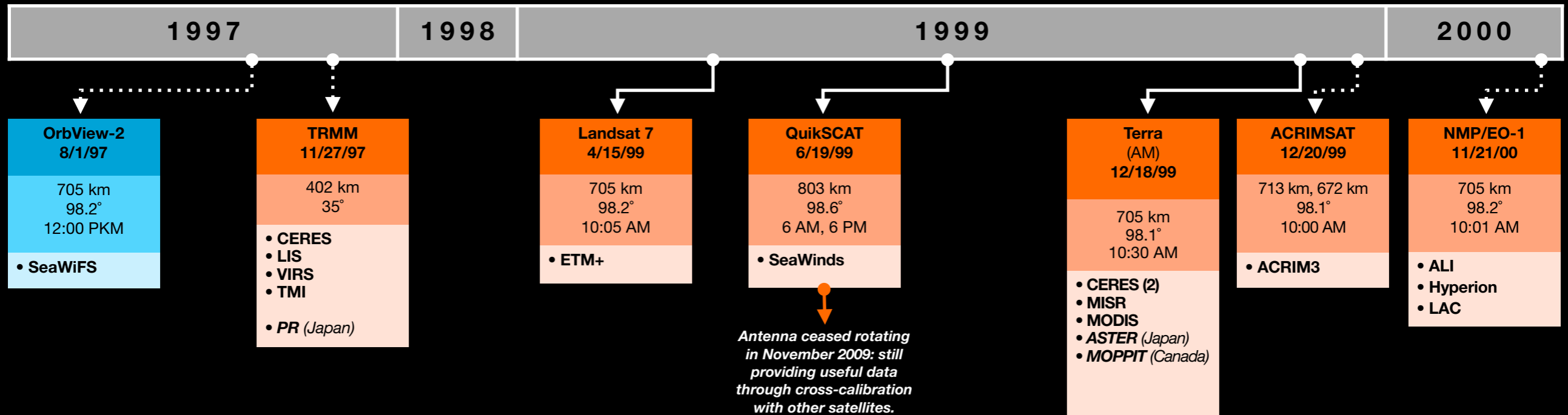


# Earth Science Mission Profile 1997 - 2004

Revised:  
November 9, 2017



Click the mission name below for a detailed description.



Spacecraft not provided by NASA    Non NASA A-Train constellation member

Items in italics not funded by NASA.

<sup>1</sup> OrbView-2 is not provided or operated by NASA but is a data buy.

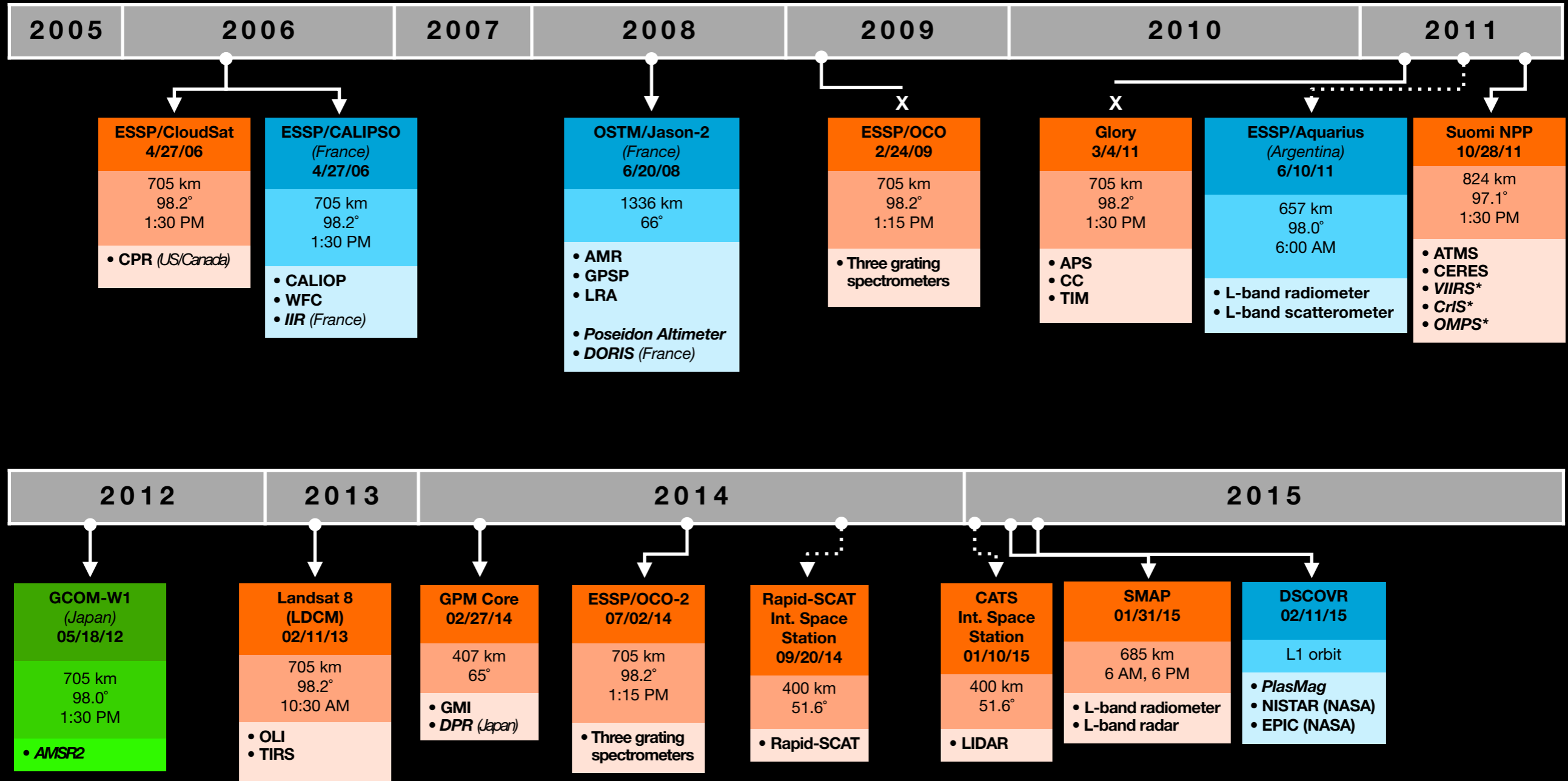


# Earth Science Mission Profile 2005 - 2015

Revised:  
November 20, 2017



Click the mission name below for a detailed description.



Spacecraft not provided by NASA
Non NASA A-Train constellation member
Other agency spacecraft of interest

Items in italics not funded by NASA.

\* Instrument provided jointly with the Integrated Program Office (IPO)

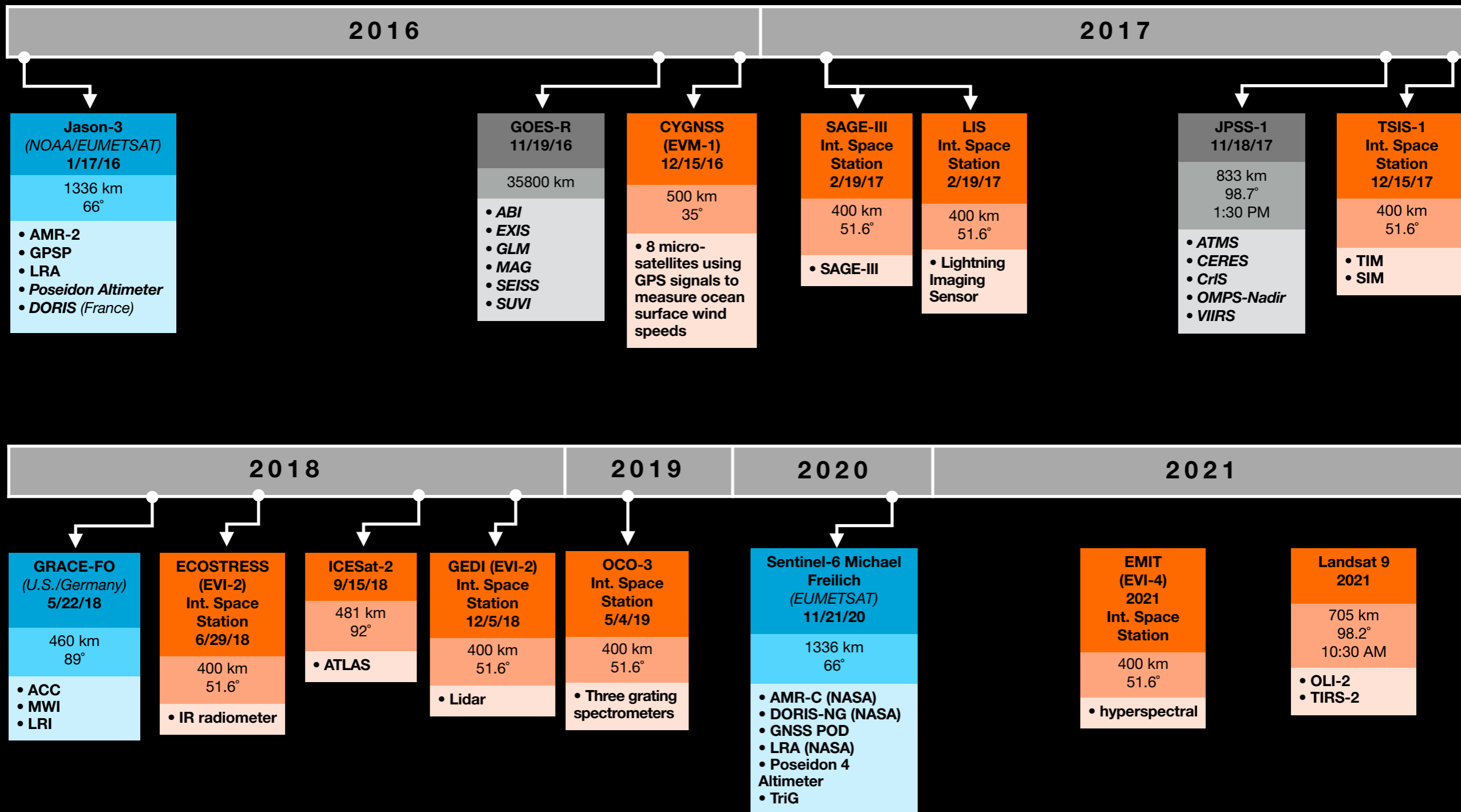
Currently in Operation  
 Future Mission  
X Launch Failure  
 No Longer in Science Operation

# Earth Science Mission Profile 2016 - 2021

Revised:  
February 1, 2021



Click the mission name below for a detailed description.



Spacecraft not provided by NASA
Other agency spacecraft of interest

Currently in Operation
  Future Mission
 X Launch Failure
  No Longer in Science Operation

Items in italics not funded by NASA.

Future mission launch dates indicate agency baseline commitment (ABC) schedule confidence levels.

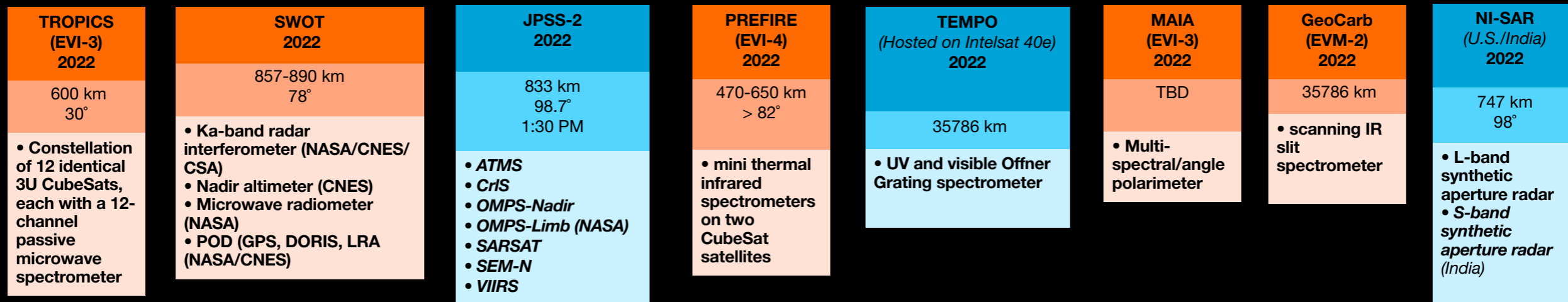
# Earth Science Mission Profile 2022 - 2031

Revised:  
February 3, 2021

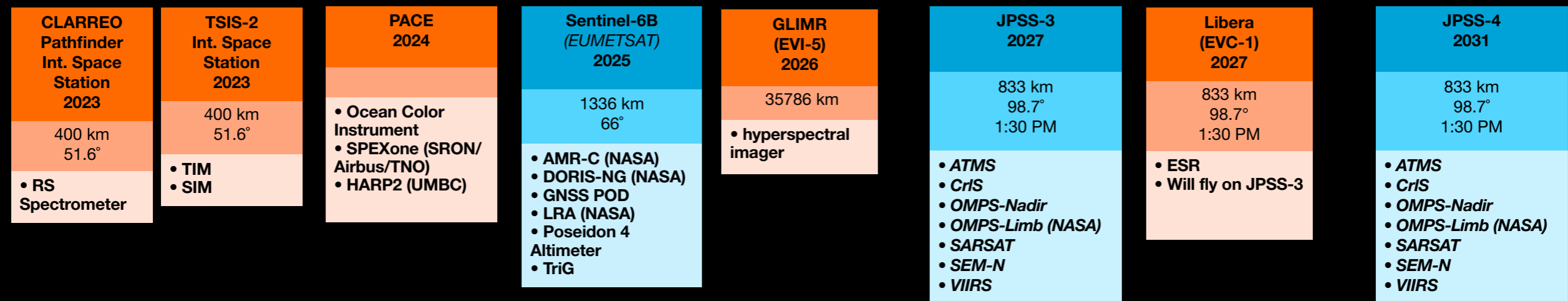


Click the mission name below for a detailed description.

## 2022



## 2023      2024      2025      2026      2027      2031



Spacecraft not provided by NASA
Other agency spacecraft of interest

Currently in Operation     
  Future Mission     
 X Launch Failure     
  No Longer in Science Operation

*Items in italics not funded by NASA.*

*Future mission launch dates indicate agency baseline commitment (ABC) schedule confidence levels.*

## ACRIMSAT

- ACRIM3 - Active Cavity Radiometer Irradiance Monitor

## ADEOS II (Midori II)

- AMSR - Advanced Microwave Scanning Radiometer
- GLI - Global Imager
- ILAS-2 - Improved Limb Atmospheric Spectrometer 2
- POLDER - Polarization and Directionality of the Earth's Reflectances

## Aqua

- AIRS - Atmospheric Infrared Sounder
- AMSU-A - Advanced Microwave Sounding Unit-A
- CERES - Clouds and the Earth's Radiant Energy System
- MODIS - Moderate Resolution Imaging Spectroradiometer
- HSB - Humidity Sounder for Brazil
- AMSR-E - Advanced Microwave Scanning Radiometer for EOS

## Aura

- HIRDLS - High Resolution Dynamics Limb Sounder
- MLS - Microwave Limb Sounder
- OMI - Ozone Monitoring Instrument
- TES - Tropospheric Emission Spectrometer

## ESSP/GRACE

### *Earth System Science Pathfinder/Gravity Recovery And Climate Experiment*

- GPS - Black-Jack Global Positioning System Receiver
- HAIRS - High-Accuracy Inter-satellite Ranging System
- SCA - Star Camera Assembly
- SSA - SuperStar Accelerometer
- USO - Ultra Stable Oscillator

## ICESat

- GLAS - Geoscience Laser Altimeter System
- GPS - Global Positioning System

## Jason-1

- JMR - Jason Microwave Radiometer
- TRSR - Turbo Rogue Space Receiver
- LRA - Laser Retroreflector Array
- DORIS - Doppler Orbitography and Radiopositioning Integrated by Satellite
- Poseidon-2 Altimeter

## Landsat 7

- ETM+ - Enhanced Thematic Mapper Plus

## METEOR 3M/SAGE III

- SAGE III - Stratospheric Aerosol and Gas Experiment III

## NMP/EO-1

### *New Millennium Program/Earth Observing-1*

- ALI - Advanced Land Imager
- Hyperion - Hyperspectral Instrument
- LAC - Linear Etalon Imaging Spectral Array (LEISA) Atmospheric Corrector

## OrbView-2

- SeaWiFS - Sea-viewing Wide Field-of-view Sensor

## PARASOL

### *Polarization & Anisotropy of Reflectances for Atmospheric Sciences coupled with Observations for a Lidar*

- POLDER - Polarization and Directionality of the Earth's Reflectance

## QuikScat

### *Quick Scatterometer*

- SeaWinds

## QuikTOMS

- TOMS - Total Ozone Mapping Spectrometer

## SORCE

### *Solar Radiation and Climate Experiment*

- TIM - Total Irradiance Monitor
- SIM - Spectral Irradiance Monitor
- SOLSTICE - Solar Stellar Irradiance Comparison Experiment
- XPS - XUV Photometer System

## Terra

- ASTER - Advanced Spaceborne Thermal Emission and Reflection Radiometer
- CERES - Clouds and the Earth's Radiant Energy System
- MISR - Multi-angle Imaging Spectroradiometer
- MODIS - Moderate Resolution Imaging Spectroradiometer
- MOPITT - Measurements of Pollution in the Troposphere

## **TRMM**

### *Tropical Rainfall Measuring Mission*

- CERES - Clouds and the Earth's Radiant Energy System
- LIS - Lightning Imaging Sensor
- VIRS - Visible and Infrared Scanner
- TMI - TRMM Microwave Imager
- PR - Precipitation Radar

**CATS***Cloud-Aerosol Transport System*

- LIDAR

**DSCOVR***Deep Space Climate Observatory*

- PlasMag - Plasma-Magnetometer
- NISTAR - National Institute of Standards and Technology Advanced Radiometer
- EPIC - Earth Polychromatic Imaging Camera

**ESSP/Aquarius**

- LBR - L-Band Radiometer
- LBS - L-Band Scatterometer

**ESSP/CALIPSO***Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations*

- CALIOP - Cloud Aerosol Lidar with Orthogonal Polarization
- IIR - Imaging Infrared Radiometer
- WFC - Wide Field Camera

**ESSP/CloudSat**

- CPR - Cloud Profiling Radar

**ESSP/OCO-2 (also ESSP/OCO)***Orbiting Carbon Observatory*

- Three high-resolution grating spectrometers

**GCOM-W1***The Global Change Observation Mission-Water*

- AMSR2 - Advanced Microwave Scanning Radiometer

**Glory**

- APS - Aerosol Polarimetry Sensor
- CC - Cloud Camera
- TIM - Total Irradiance Monitor

**GPM Core Observatory***Global Precipitation Measurement*

- DPR - Dual Frequency Precipitation Radar
- GMI - GPM Microwave Imager

**LDCM Landsat Data Continuity Mission (Landsat 8)**

- OLI - Operational Land Imager
- TIRS - Thermal Infrared Sensor

**OSTM/Jason-2***Ocean Surface Topography Mission/Jason-2*

- DORIS - Doppler Orbitography and Radio-positioning Integrated by Satellite
- TRSR - Turbo Rogue Space Receiver
- LRA - Laser Retroreflector Array
- Poseidon-3 Altimeter
- AMR - Advanced Microwave Radiometer
- GPSP - Global Positioning System Payload

**Rapid-SCAT (International Space Station)**

- Rapid Scatterometer

**Suomi NPP***Suomi National Polar-orbiting Partnership*

- ATMS - Advanced Technology Microwave Sounder
- CERES - Clouds and the Earth's Radiant Energy System
- CrIS - Cross-Track Infrared Sounder
- OMPS-Nadir - Ozone Mapping and Profiler Suite
- VIIRS - Visible/Infrared Imager/Radiometer Suite

**SMAP***Soil Moisture Active Passive*

- L-Band Radiometer
- L-Band Radar

**CYGNSS (EVM-1)***Cyclone Global Navigation Satellite System (Earth Venture-2)*

- 8 micro-satellites using GPS signals to measure ocean surface wind speeds

**ECOSTRESS***ECOsysteM Spaceborne Thermal Radiometer Experiment on Space Station*

- Infrared radiometer

**EMIT (EVI-4)***Earth Surface Mineral Dust Source Investigation**Earth Venture Instrument*

- Hyperspectral instrument

**EVM-2***Earth Venture Full Orbital Mission***GEDI***Global Ecosystem Dynamics Investigation*

- Lidar

**GeoCarb***Geostationary Carbon Cycle Observatory*

- scanning IR slit spectrometer

**GOES-R***Geostationary Operational Environmental Satellite-R Series*

- ABI - Advanced Baseline Imager
- EXIS - Extreme Ultraviolet and X-Ray Irradiance Sensor
- GLM - Geostationary Lightning Mapper
- MAG - Magnetometer
- SEISS - Space Environment In Situ Suite
- SUVI - Solar Ultraviolet Imager

**GRACE-FO***Gravity Recovery And Climate Experiment-Follow-on*

- ACC - Accelerometer
- MWI - Microwave Instrument
- LRI - Laser Ranging Interferometer

**ICESat-2**

- ATLAS - Advanced Topographic Laser Altimeter System

**Jason-3**

- DORIS - Doppler Orbitography and Radio-positioning Integrated by Satellite
- TRSR - Turbo Rogue Space Receiver
- LRA - Laser Retroreflector Array
- Poseidon-3 Altimeter
- AMR-2 - Advanced Microwave Radiometer
- GPSP - Global Positioning System Payload

**JPSS-1***Joint Polar Satellite System*

- ATMS - Advanced Technology Microwave Sounder
- CERES - Clouds and the Earth's Radiant Energy System
- CrIS - Cross-Track Infrared Sounder
- OMPS-Nadir - Ozone Mapping and Profiler Suite
- VIIRS - Visible/Infrared Imager/Radiometer Suite

**JPSS-2***Joint Polar Satellite System***JPSS-3***Joint Polar Satellite System***JPSS-4***Joint Polar Satellite System***Landsat 9**

- OLI-2 Operational Land Imager-2
- TIRS-2 Thermal Infrared Sensor-2

**Libera**

- ESRs - Electrical Substitution Radiometers

**LIS**

- LIS - Lightning Imaging Sensor



**MAIA*****Multi-Angle Imager for Aerosols***

- Multi-spectral/angle polarimeter

**NI-SAR**

- InSAR - Interferometric Synthetic Aperture RADAR (Radio Detection and Ranging)

**OCO-3*****Orbiting Carbon Observatory***

- Three high-resolution grating spectrometers

**PACE*****Plankton, Aerosol, Cloud, ocean Ecosystem***

- Ocean Color Instrument - spectrometer
- SPEXone - spectro-polarimeter
- HARP2 - hyper-angular rainbow polarimeter

**PREFIRE*****Polar Radiant Energy in the Far Infrared Experiment***

- Miniaturized thermal infrared spectrometers on two CubeSat satellites

**Sentinel 6 Michael Freilich**

- AMR-C - Climate Quality Microwave Radiometer
- DORIS-NG - Doppler Orbitography and Radio-positioning Integrated by Satellite-NG
- GNSS POD Receiver
- LRA - Laser Retroreflector Array
- Poseidon-4 Altimeter - Poseidon-4 SAR Radar Altimeter
- TriG - TriG Receiver for Radio Occultation

**SAGE-III (International Space Station)**

- Stratospheric Aerosol and Gas Experiment - III

**SWOT*****Surface Water Ocean Topography***

- KaRIn - Ka-band radar interferometer
- Nadir Altimeter
- Microwave Radiometer
- POD (GPS, DORIS, LRA)

**TEMPO (hosted on Intelsat 40e)*****Tropospheric Emissions: Monitoring of Pollution***

- UV and Visible Offner Grating Spectrometer

**TROPICS*****Time-Resolved Observations of Precipitation structure and storm Intensity with a Constellation of Smallsats***

- 12 identical 3U CubeSats, each with a 12-channel passive microwave spectrometer

**TSIS-1*****Total and Spectral Solar Irradiance Sensor***

- Total Irradiance Monitor
- Spectral Irradiance Monitor

**TSIS-2*****Total and Spectral Solar Irradiance Sensor***

- Total Irradiance Monitor
- Spectral Irradiance Monitor