

Earth Science Program and Flight Elements 1999 - 2003

1999

Landsat 7 (4/99)
ETM+
 • Terrestrial surface

QuikScat (6/99)
SeaWinds
 • Surface wind speed and direction over the global oceans

Terra (12/99)
CERES (2) MISR MODIS
ASTER MOPITT
 • Clouds, aerosols, and radiative balance
 • Characterization of terrestrial surface
 • Sea-surface temperature and ocean productivity

ACRIMSAT (12/99)
ACRIM III
 • Solar irradiance

2000

EO-1 (11/00)
ALI Hyperion Atmospheric Corrector
 • Innovative approach to future land imaging

2001

METEOR 3M/SAGE III (12/01)
 Russia
SAGE III
 • Atmospheric aerosols
 • Atmospheric chemical species

Jason-1 (12/01)
 France
JMR Poseidon 2
DORIS TRSR LRA
 • Ocean circulation
 • Sea level

2002

GRACE (3/02)
KBR GPS SuperStar
 • Time-varying nature of Earth's gravity field

Aqua (5/02)
CERES (2) MODIS AMSR-E
AIRS / AMSU-A / HSB
 • Clouds, precipitation, and radiative balance
 • Atmospheric temperature / moisture profile
 • Terrestrial snow and sea ice
 • Sea-surface temperature and ocean productivity

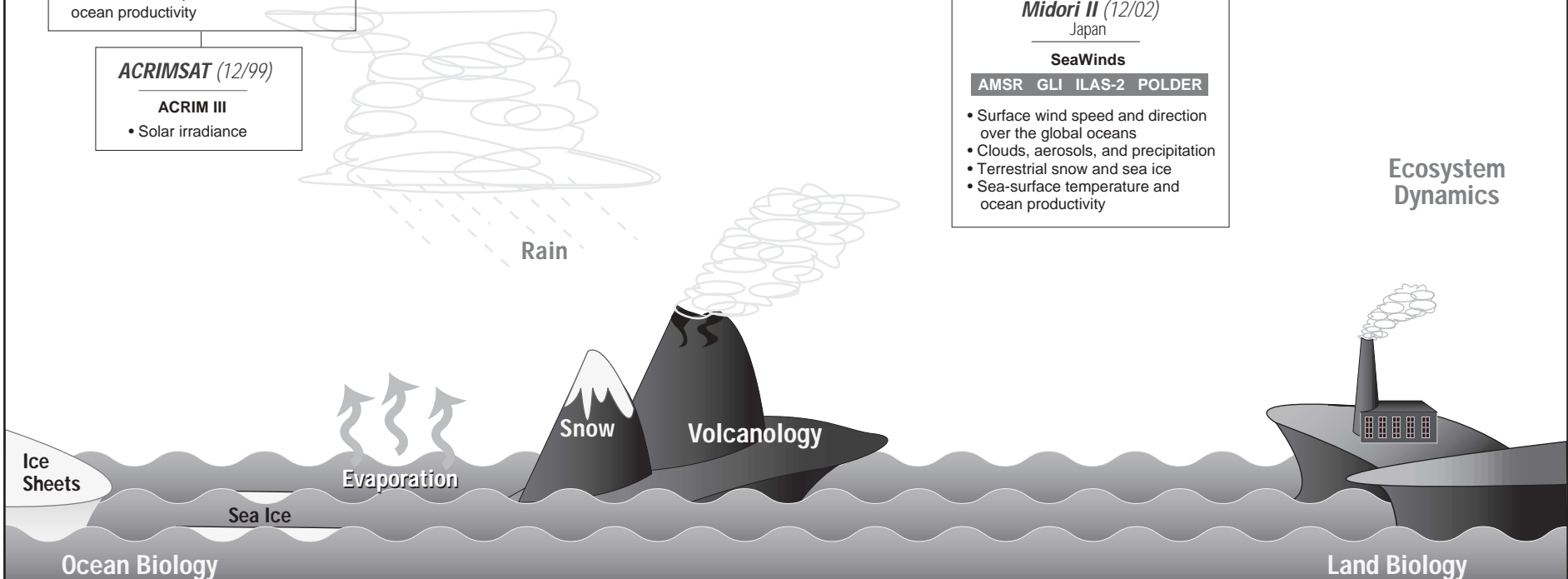
Midori II (12/02)
 Japan
SeaWinds
AMSR GLI ILAS-2 POLDER
 • Surface wind speed and direction over the global oceans
 • Clouds, aerosols, and precipitation
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2003

ICESat (1/03)
GLAS GPS
 • Ice sheet mass balance
 • Cloud heights
 • Sea level change
 • Land topography

SORCE (1/03)
TIM SIM SOLSTICE XPS
 • Solar spectral irradiance
 • Total solar irradiance

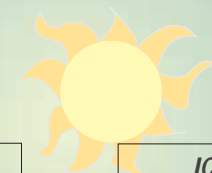
Ecosystem Dynamics



- A DARK BOX WITH WHITE TEXT (A) INDICATES AN INSTRUMENT PROVIDED BY AN INTERNATIONAL PARTNER
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27 January 2003

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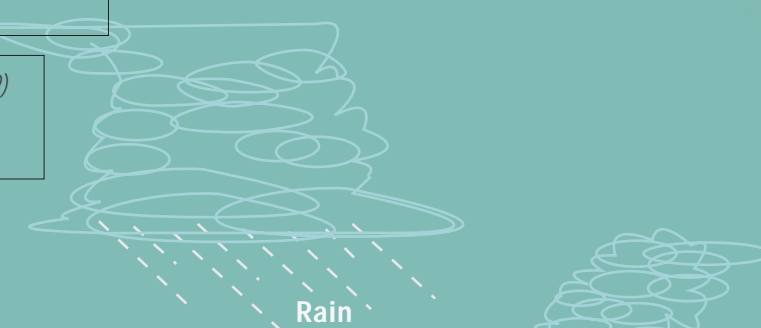
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Ecosystem Dynamics

Ice Sheets

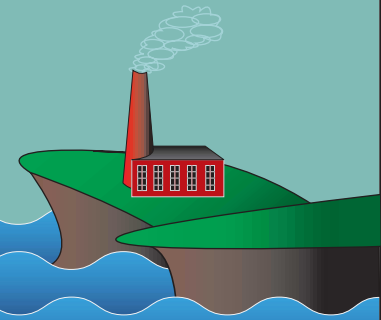
Sea Ice



Evaporation

Snow

Volcanology



Land Biology

Ocean Biology

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Mission Profile 1997 – 2003 Acronym List

ACRIMSAT

- **ACRIM III** - Active Cavity Radiometer Irradiance Monitor

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

ESSP/GRACE

Earth System Science Pathfinder/Gravity Recovery And Climate Experiment

- **KBR** - K-Band Ranging
- **GPS** - Global Positioning System

ICESat

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

Jason-1

- **JMR** - Jason Microwave Radiometer
- **TRSR** - TurboRogue Space Receiver
- **LRA** - Laser Retroreflector Array
- **DORIS** - Doppler Orbitography and Radiopositioning Integrated by Satellite

Landsat 7

- **ETM+** - Enhanced Thematic Mapper Plus

METEOR 3M/SAGE

- **SAGE** - Stratospheric Aerosol and Gas Experiment

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 Reflectance

NMP/EO-1

New Millennium Program/Earth Observing-1

- **ALI** - Advanced Land Imager

OrbView-2

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

QuikScat

Quick Scatterometer

QuikTOMS

- **TOMS** - Total Ozone Mapping Spectrometer

SORCE

Solar Radiation and Climate Experiment

- **TIM** - Total Irradiance Monitor
- **SIM** - Spectral Irradiance Monitor
- **SOLSTICE** - Solar StellarIrradiance 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 Infrared Scanner
- **TMI** - TRMM Microwave Imager
- **PR** - Precipitation Radar

Mission Profile 2004 – 2010 Acronym List

Aura

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

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** - IR Imager
- **WFC** - Wide Field Camera

ESSP/Cloudsat

- **CPR** - Cloud Profiling Radar

ESSP/OCO

Orbiting Carbon Observatory

GCOM

Global Change Observation Mission

- **AMSR** - Advanced Microwave Scanning Radiometer
- **GLI** - Global Imager
- **OVWM** - Ocean Vector Wind Mission

GPM/Constellation

Global Precipitation Measurement

- **GMI** - GPM Microwave Imager

GPM/Core

Global Precipitation Measurement

- **DPR** - Dual frequency Precipitation Radar
- **GMI** - GPM Microwave Imager

ISS/SAGE III

International Space Station

- **SAGE III** - Stratospheric Gas and Aerosol Experiment

LDCM

Landsat Data Continuity Mission

NMP/EO-3

New Millennium Program/Earth Observing-3

- **GIFTS** - Geosynchronous Imaging Fourier Transform Spectrometer
- **IMAGE** - Ionospheric Mapper And Geo-coronal Experiment

NPP

NPOESS Preparatory Project

- **ATMS** - Advanced Technology Microwave Sounder
- **CrIS** - Cross-Track Infrared Sounder
- **OMPS** - Ozone Mapping and Profiler Suite
- **VIIRS** - Visible/Infrared Imager/Radiometer Suite

OSTM

Ocean Surface Topography Mission

- **DORIS** - Doppler Orbitography and Radiopositioning Integrated by Satellite
- **TRSR** - TurboRogue Space Receiver

SIGF

Solar Irradiance Gap Filler

- **SIM** - Spectral Irradiance Monitor
- **TIM** - Total Irradiance Monitor