Earth Observation Satellite Program in Japan

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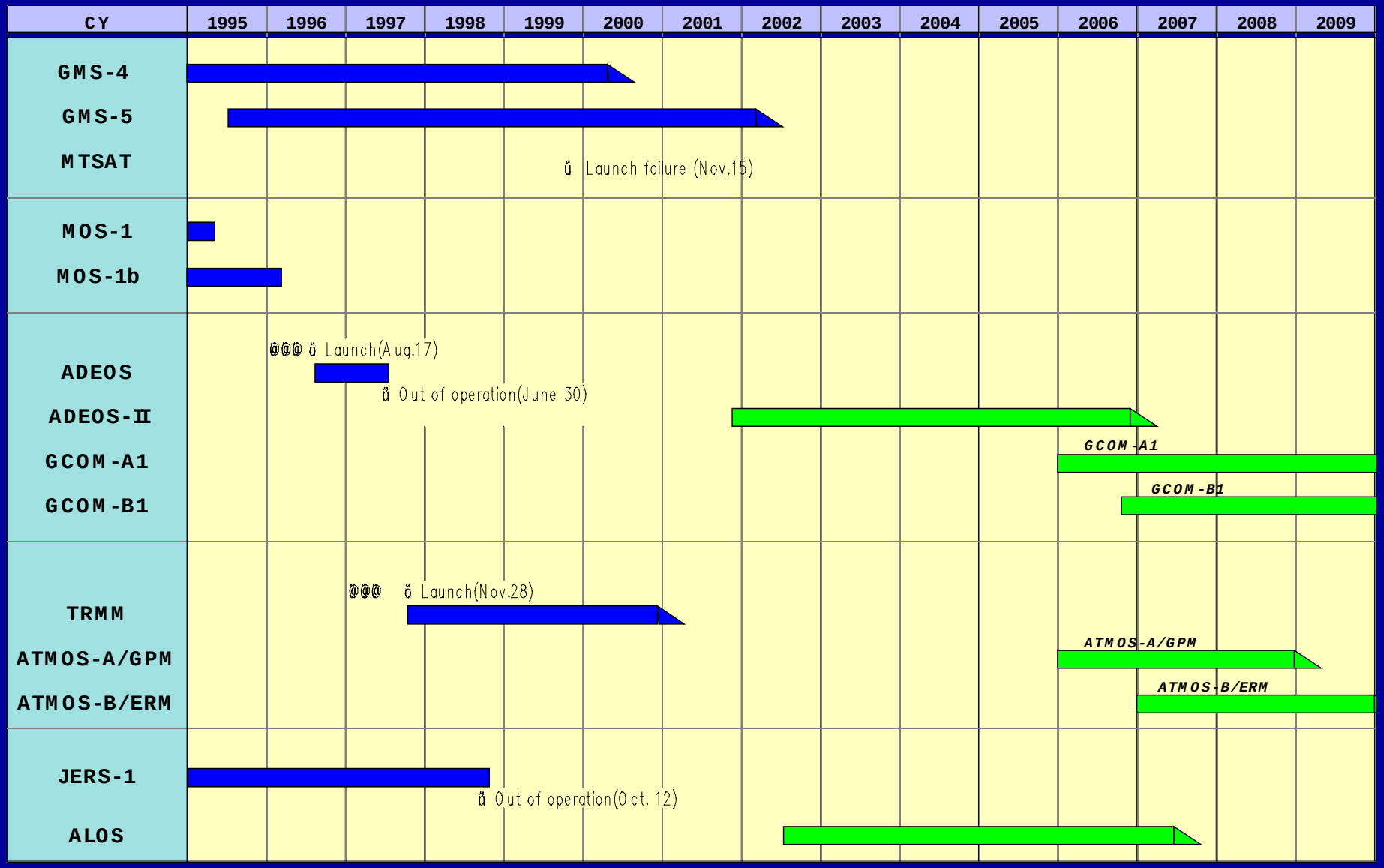
Office of Earth Observation Systems
NASDA

Strategy of NASDA's EO Program

- Contribution to Earth Science
  - ADEOS/GCOM satellite series for long term monitoring, global observation, multi-disciplinary science
  - TRMM/ATMOS mission for diurnal cycle, short-term, focused atmospheric science
- Promotion of practical use of EO data
  - ALOS satellite series for high resolution land observation
- Advancement of technology development of satellites, sensors and ground systems
  - R & D of new technologies

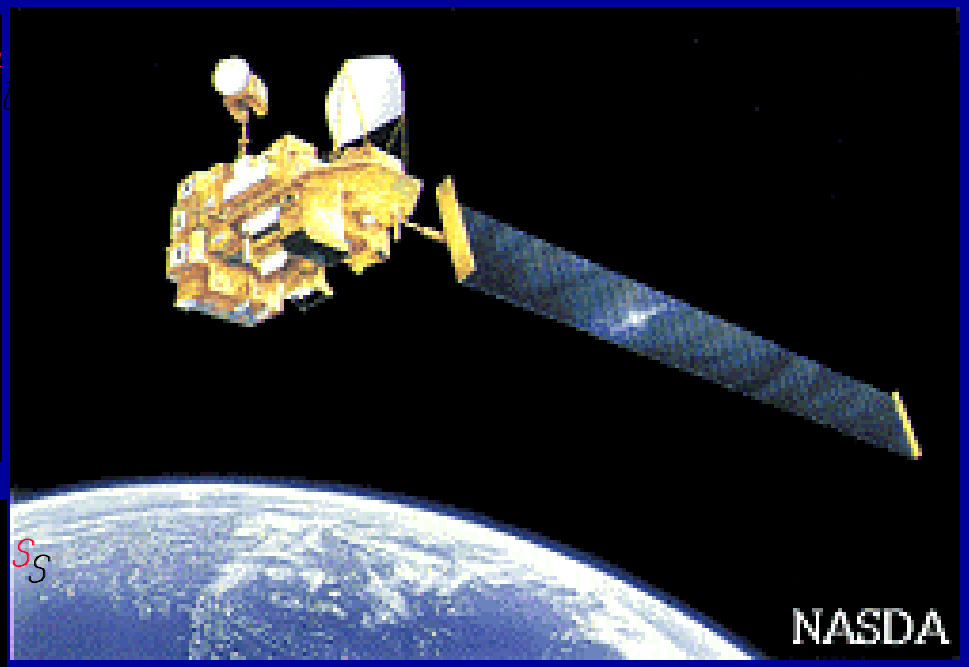
Implementation Plan of the Earth Observation System Projects



Advanced Earth Observing Satellite II (ADEOS-II)

Main Characteristics

Mass	3.. tons
Orbit	Sun-synchronous Subrecurrent Altitude 800km
Mission Period	2001-2005



Observing Sensors

- Advanced Microwave Scanning Radiometer (AMSR)
- Global Imager (GLI)
- Sea Winds Monitoring Unit (SeaWinds)
- Polarization and Directionality of the Earth's Reflectances (POLDER)
- Improved Limb Atmospheric Spectrometer-II (ILAS-II)

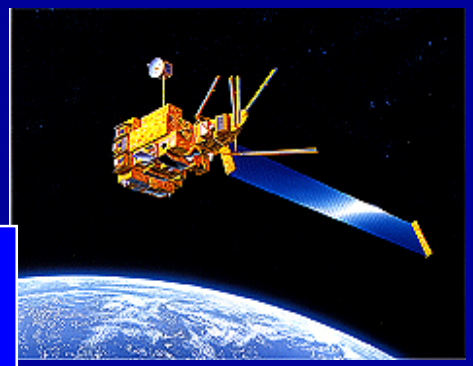
ADEOS/GCOM series (Global Earth Observation)

ADEOS

.Launch. Aug. 1996
.Mass. 3.6ton
.Development. .y
.Mission life. .y
....(N A S D A)
.....(N A S D A)
... (M I T I)
.... (E A)
... (E A)
.....(N A S A)
.... (N A S A)
.....(C N E S)

ADEOS-II

.Launch. Nov. 2001
.Mass. 3.7ton
.Development. .y
.Mission life..y..y
... (N A S D A)
....(N A S D A)
.....(E A)
.....(N A S A)
.....(C N E S)



GCOM-B1.: Mission for Energy and Material Cycles

.Target launch date. Aug. 2006
.Mass. 2. 2..5 ton
.Mission life. more than . years
..SGLI (N A S D A)
.... F/O (N A S D A)
. (IMG F/O) (TBD)
..AlphaSCAT (N A S A)
POLDER F/O (C N E S)

GCOM-A1 : Mission for Ozone and Greenhouse G....

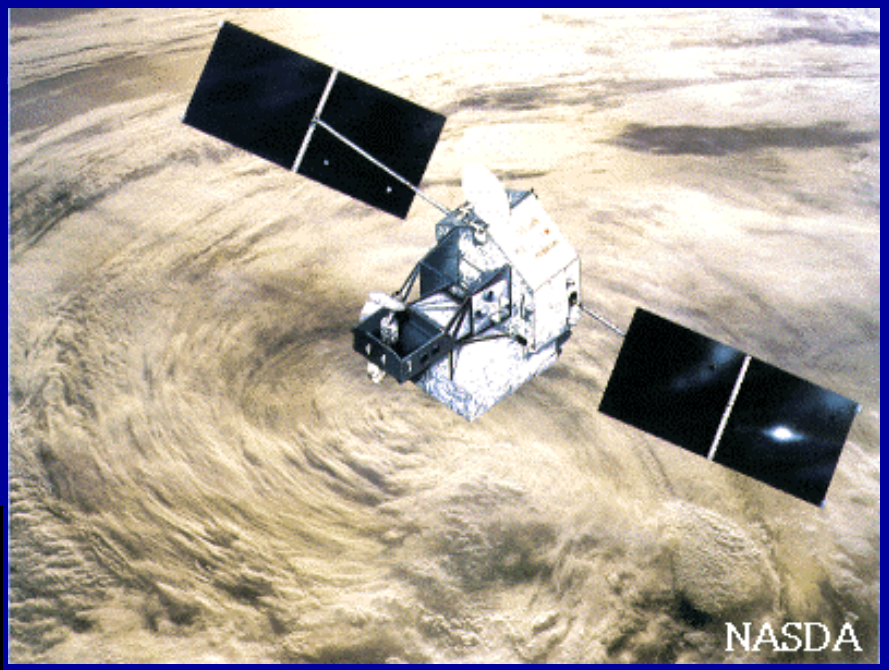
.Target launch date. Feb. 2006
.Mass. 1. 1.5 ton
.Mission life. more than . years
..OD.. (N A S D A)
..SOFIS (E A) ...

SGLI:Super Global Imager
AMSR:Advanced Microwave Scanning Radiometer
ODUS:Ozone Dynamics Ultraviolet Spectrometer
ILAS:Improved Limb Atmospheric Spectrometer
IMG :Interferometric Monitor for Greenhouse Spectrometer

Tropical Rainfall Measuring Mission (TRMM)

Main Characteristics

Mass	3.5 tons
Orbit	35 degree Inclination Orbit
	Altitude 350km
Mission life	1997 –

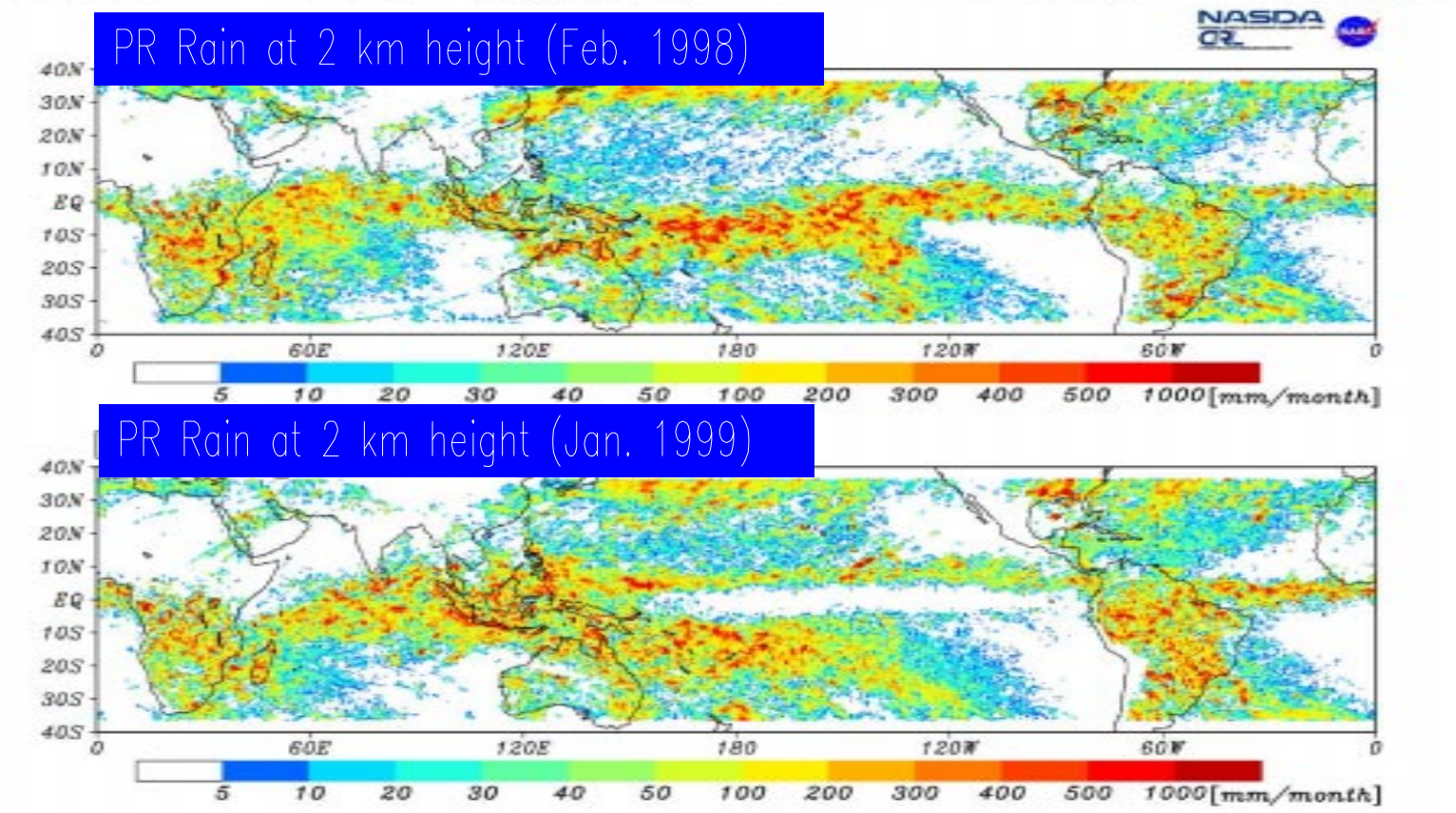


Observing Sensors

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

TRMM PR image

El Nino warm episode observed by TRMM PR (Rainfall distribution)



TRMM/ATMOS Series (Diurnal Cycle Observation)

TRMM
(with NASA/GSFC)

.Launch. Nov. 1997
.Mass. 3.5 ton
.Mission life .3 years

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....., ...

DPR :Dual frequency Precipitation
TMI :TRMM Microwave Imager
VIRS:Visible Infrared Scanner
CPR :Cloud Profiling Radar
DIAL:Differential Absorption Lider

ATMOS-A/GPM (with NASA)

Global Precipitation mission

launch date. 2006 (TBD)

ATMOS-B / ERM (with ESA)

Climate study mission on
Cloud-aerosol radiation

launch date.2007 (TBD)

Imager

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, ODUS,

RSE

Advanced Land Observing Satellite (ALOS)

Main Characteristics

Mass	3.9 tons
Orbit	Sun-synchronous Subrecurrent Altitude 800km
Mission Period	2002-2006

Observing Sensors

- Panchromatic Remote sensing Instrument for Stereo Mapping (PRISM)
- Advanced Visible and Near Infrared Radiometer type 2 (AVNIR-2)
- Phased Array type L-band Synthetic Aperture Radar (PALSAR)