NASA and the California Department of Water Resources Remote Sensing for Drought Monitoring and Response Workshop

NASA Applied Sciences Program: Water Resources Application Area

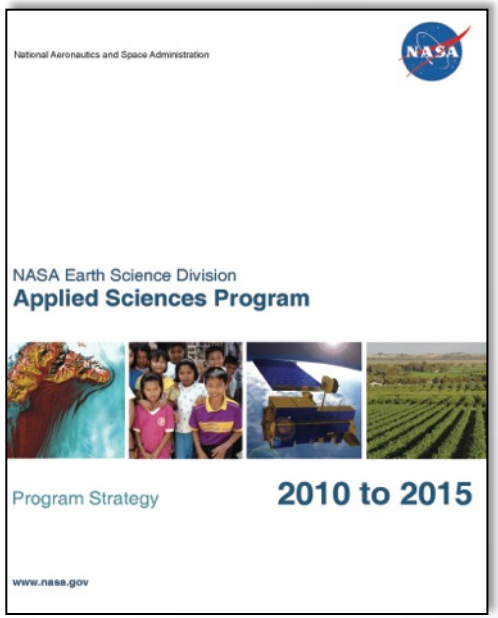
25-26 Feb 2014 Sacramento, CA

Vision

Public and private organizations routinely and seamlessly integrate Earth observations in their decision making activities and demand additional observation types and Earth science knowledge.

Lines of Business

Discovering and demonstrating innovative and practical uses of Earth observations in organizations' policy, business, and management decisions.



http://AppliedSciences.NASA.gov

Applications
Prove-out, develop, and transition applications ideas for sustained uses of Earth obs. in decision making.

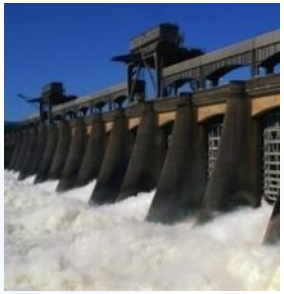
Capacity Building
Build skills and capabilities in US and developing countries to access Earth observations to benefit society.

Mission Planning
Identify applications early in mission lifecycle and integrate end-user needs in mission design and development.

Applications Areas

Emphasis in 4 Applications Areas

Health & Air Quality



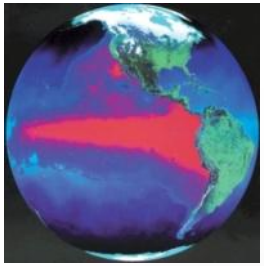
Water Resources

Disasters

Ecological Forecasting

Support opportunities in 5 additional areas

Agriculture



Climate

Weather

Energy

Oceans

NASA Water Resource Applied Sciences

The NASA Water Resources Program Element:
The Water Resources Program Element addresses concerns and decision processes that are related to water availability, water forecast, and water quality. The goal of the Water Resources Program Element is to apply NASA satellite data to improve the Decision Support Tools (DSTs) of user groups that manage water resources. Implementation requires close and enduring partnerships with Federal agencies, academia, private firms, and international organizations.

Water Resources Projects:
Projects are tactical implementations led by Principle Investigators, driven by water management challenges, and ultimately sustained by water resource information stakeholders.

Programmatic Activities:
National and international activities to improve skills, share data and applications, and broaden the range of users who apply satellite data and Earth science in water resource decisions.

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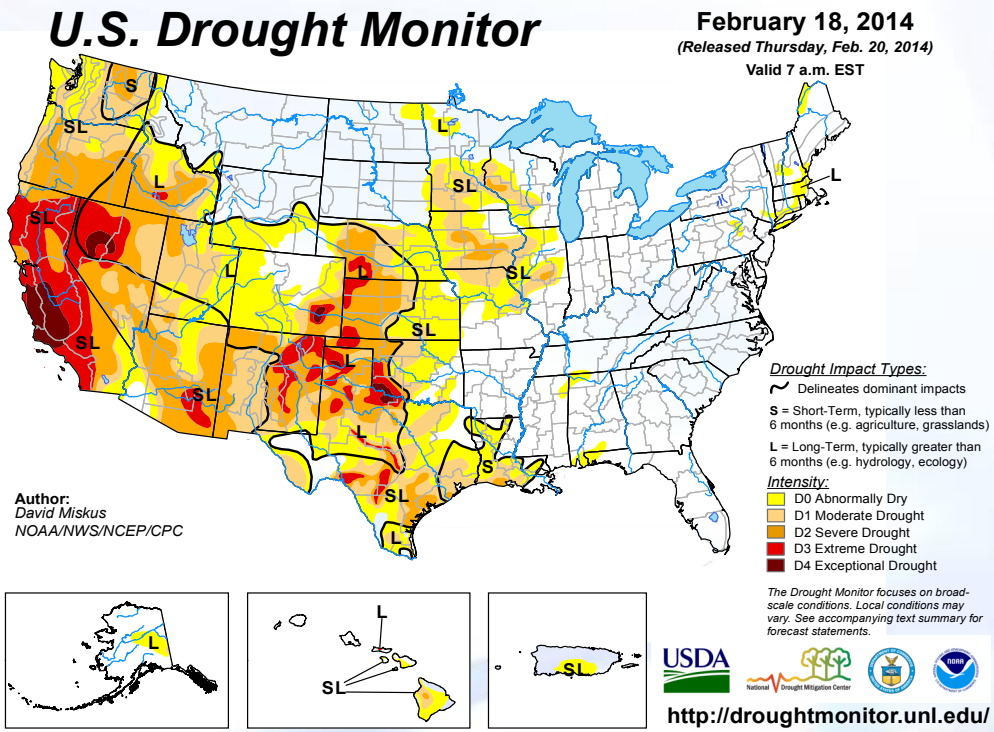

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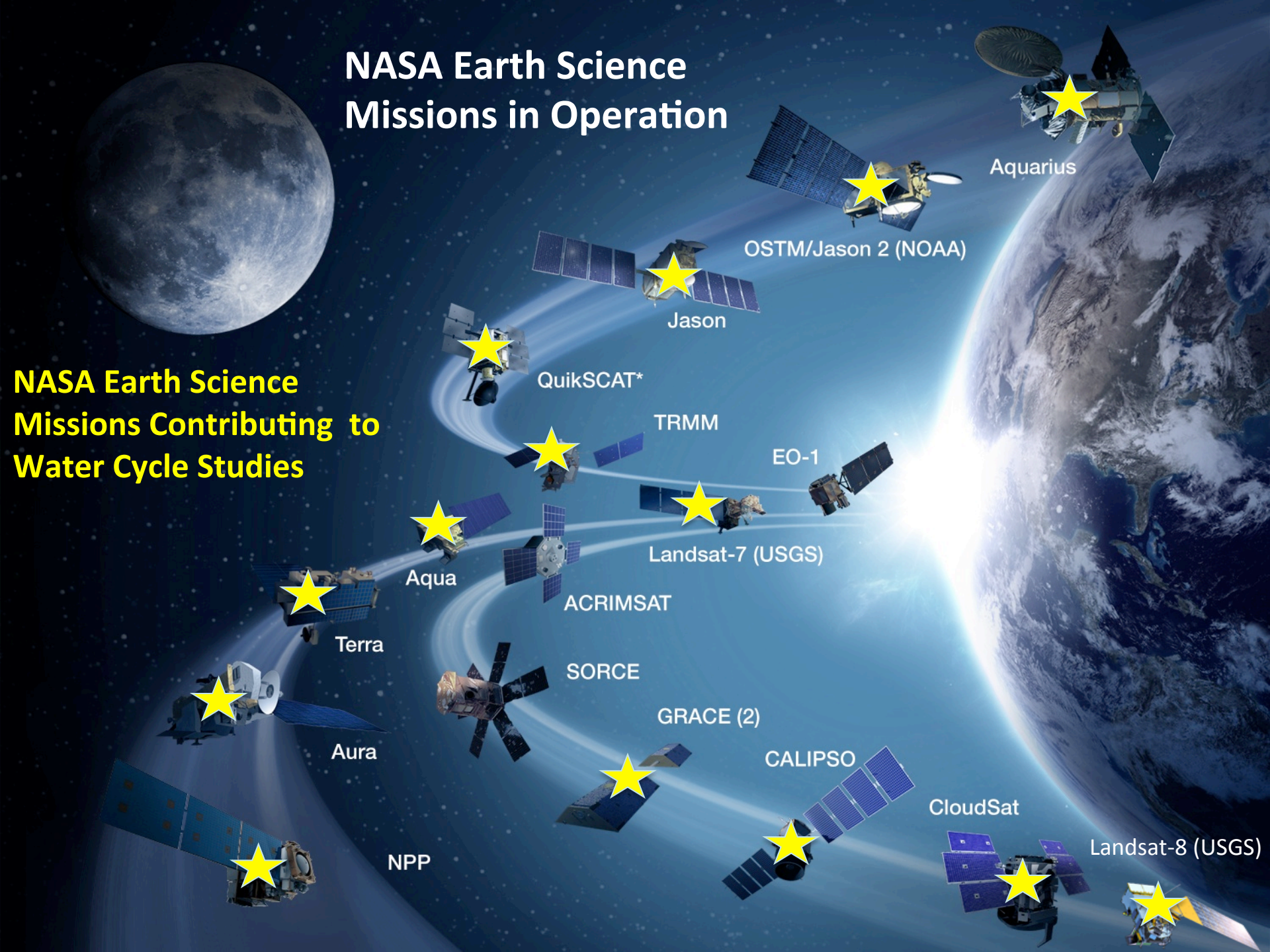
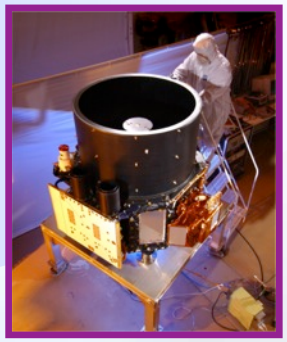

NASA Earth Science
Missions in Operation
NASA Earth Science
Missions Contributing to
Water Cycle Studies
Aquarius
OSTM/Jason 2 (NOAA)
Jason
QuikSCAT*
TRMM
EO-1
Landsat-7 (USGS)
Aqua
ACRIMSAT
Terra
SORCE
GRACE (2)
Aura
CALIPSO
CloudSat
NPP
Landsat-8 (USGS)

New and Upcoming Freshwater Observing Satellite Missions

Landsat 8
2013
Water Impacts and Water Demand

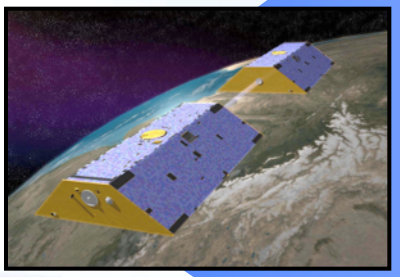
Global Precipitation Measurement (GPM)
2014
Precipitation

Soil Moisture Active-Passive (SMAP)
2014
Soil Moist., Freeze/Thaw

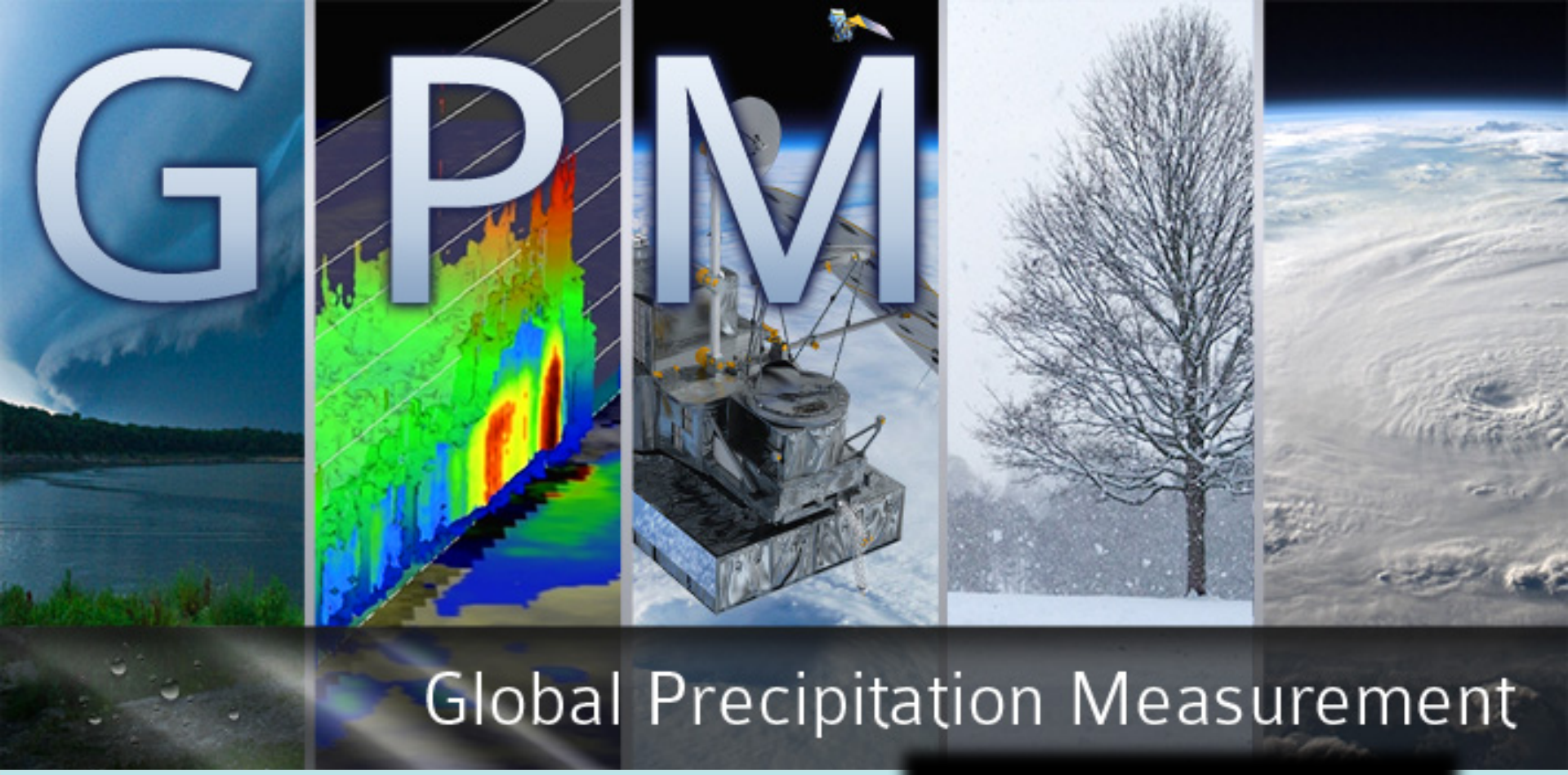


Ice, Cloud,and land Elevation Satellite (ICESat-2)
2016
Ice Dynamics

Cyclone Global Navigation Satellite System (CYGNSS)
2016
Cyclone Generation

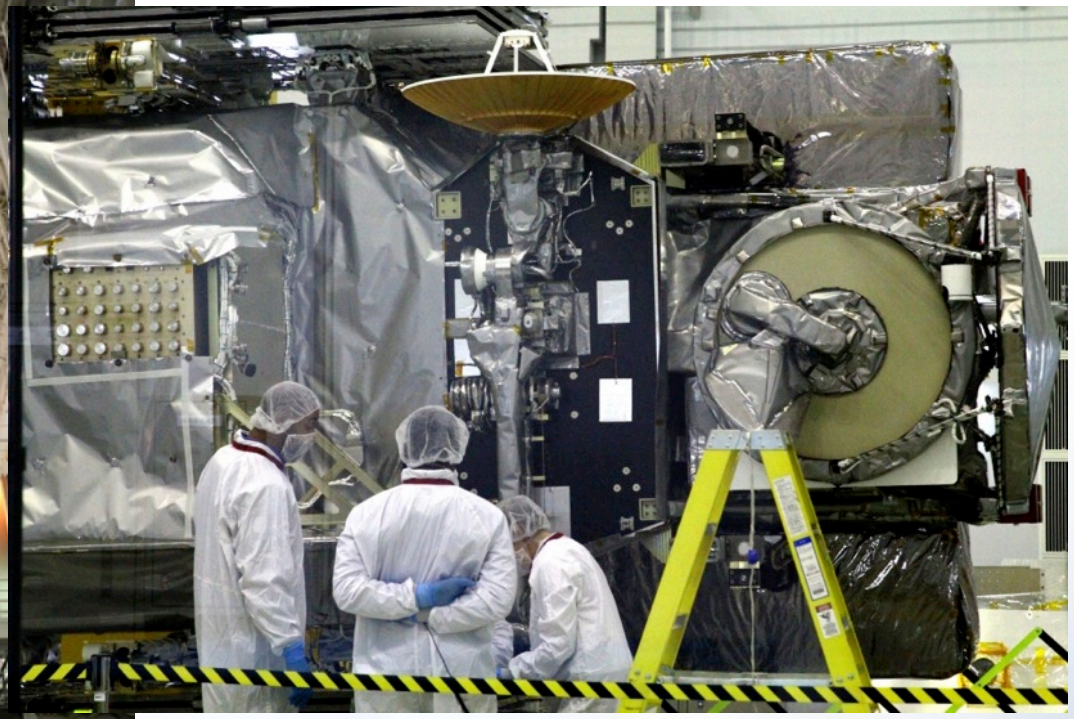


Gravity Recovery and Climate Experiment (GRACE) Follow-On
2017
Global Mass & Water Variation



The GPM Core Observatory is scheduled to launch February 27th, 2014 from Tanegashima Space Center, Japan.

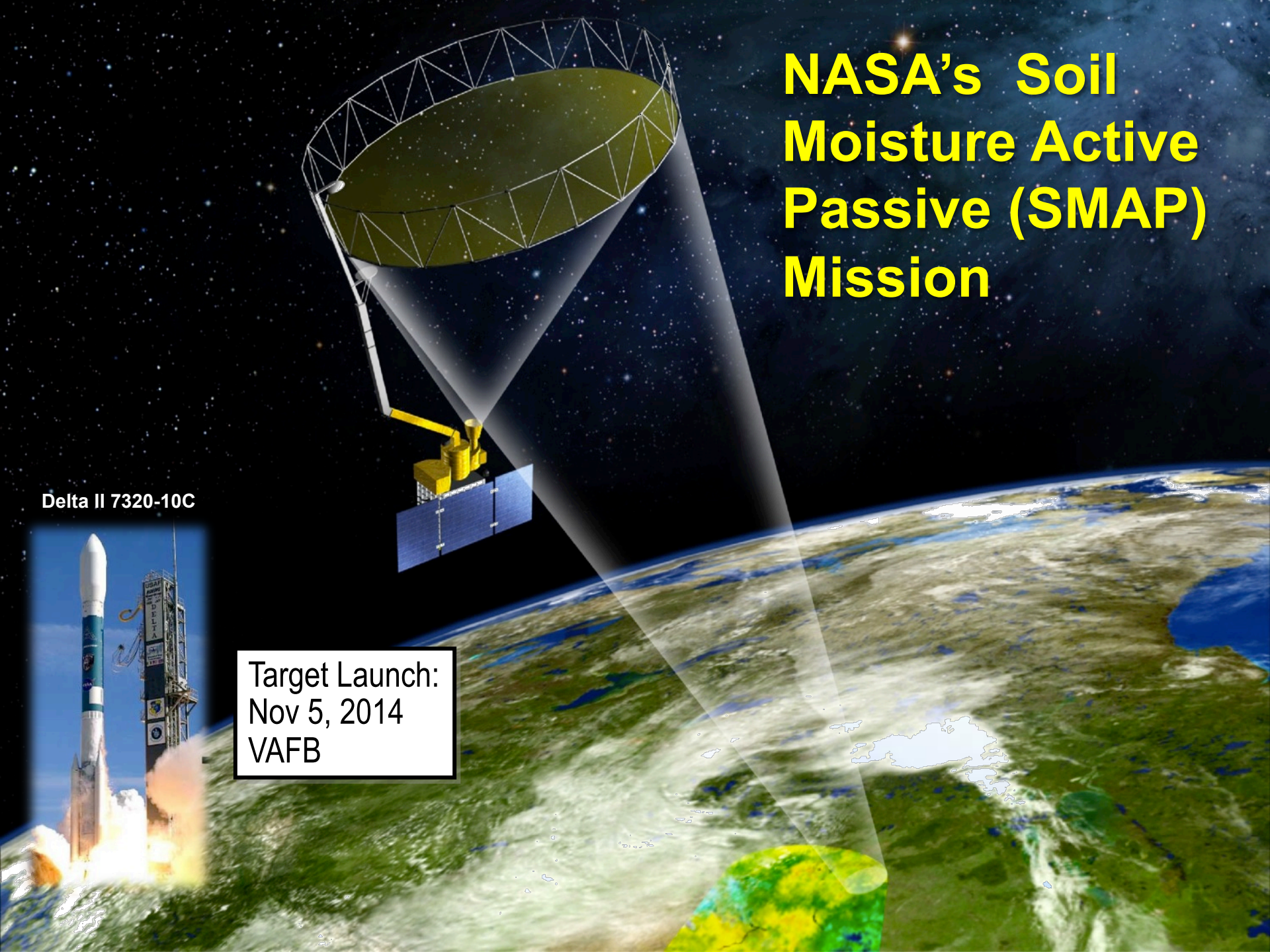
GPM in Tanegashima Space Center



GPM in Tanegashima Space Center Cleanroom

Attaching solid rocket boosters to GPM's launch vehicle, the HII-A No. 23.

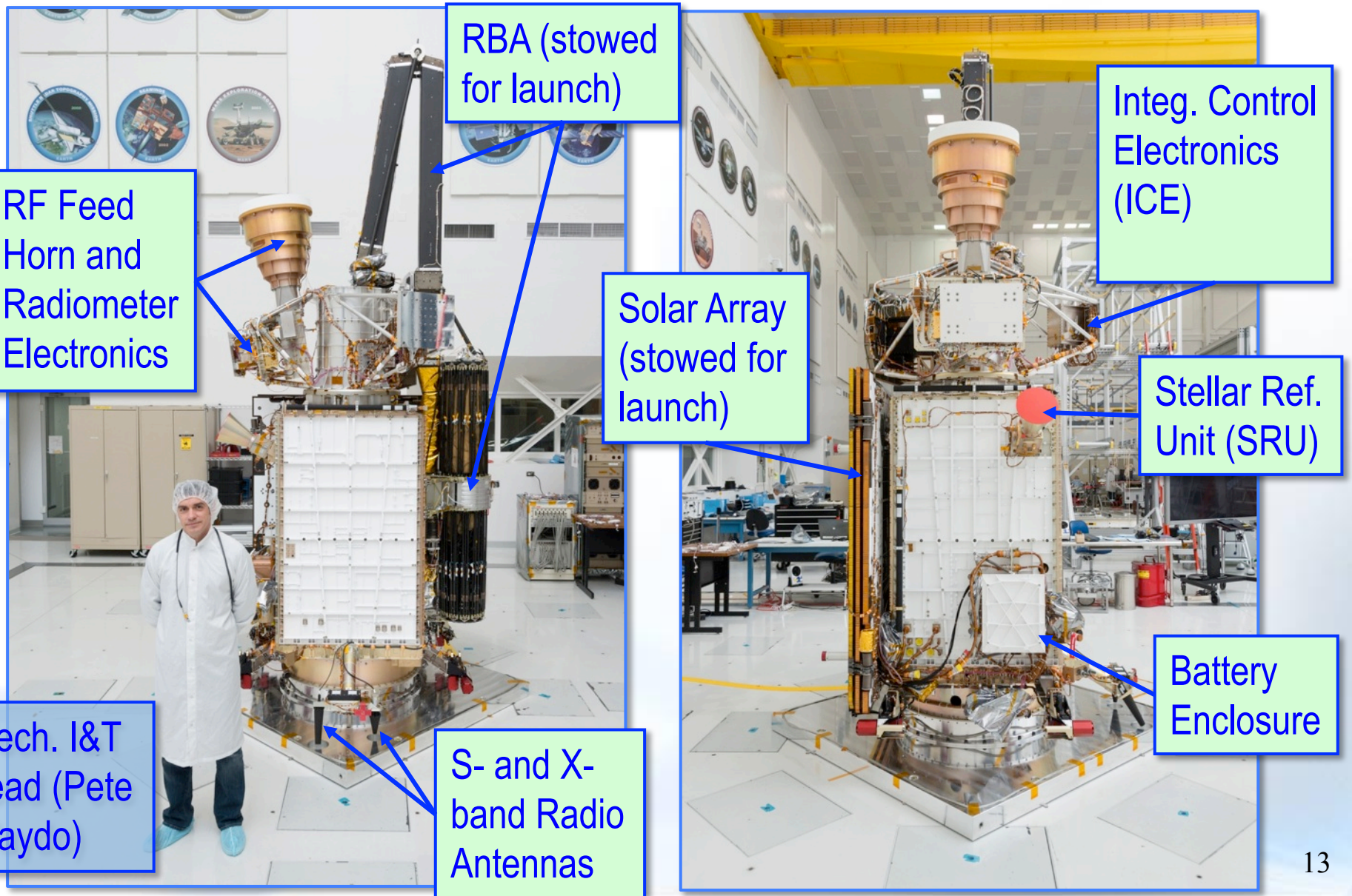
NASA's Soil Moisture Active Passive (SMAP) Mission



Delta II 7320-10C

Target Launch:
Nov 5, 2014
VAFB

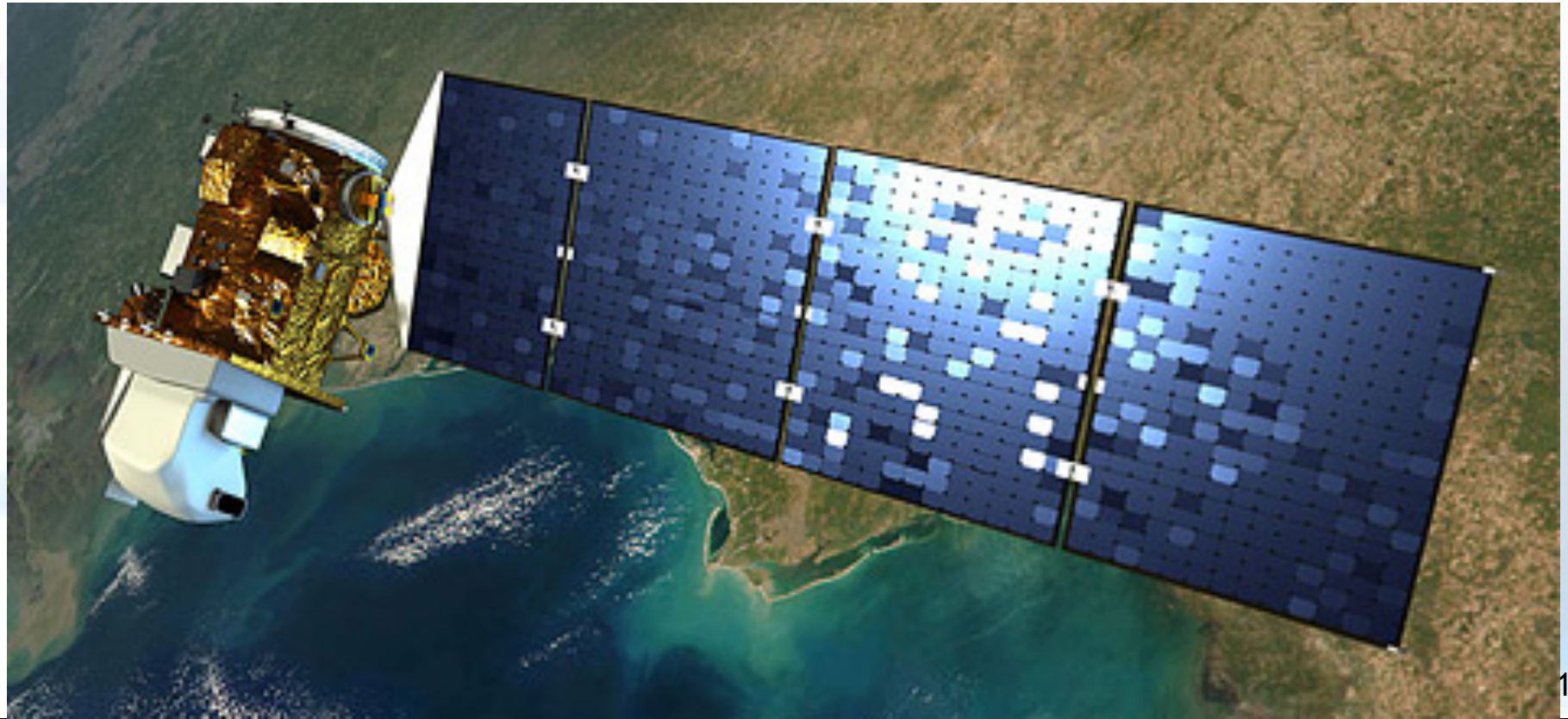
SMAP Observatory in Launch Configuration



SMAP reflector fully deployed at factory

Land Imaging (Landsat and Beyond)

FY14 President's NASA budget featured a new land imaging project for development of a national sustained Land Imaging Satellite System (with USGS).
NASA/ESD Sustainable Land Imaging report due Aug. 2014.



ROSES 2013 A.45 Earth Science Applications: WATER RESOURCES

The specific goal of this solicitation is to advance the long-term (30-180 day) outlooks of water supply anomalies and their effective use by water managers, their organizations, and/or decision-makers.

- Proposals are due April 30, 2014.

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