

Jet Propulsion Laboratory (JPL)

Highlights:

Earth Science Mission accelerations:

- Rapid Development and Launch of Orbiting Carbon Observatory-2: Funds also enable a second set of instrument hardware to help ensure continuity of the measurements.
- Decadal Survey Tier 1 Missions: The FY 2011 President's Budget enables all four of the Tier 1 missions recommended by the National Research Council. JPL will lead the SMAP and DESDynI mission development.
- Augmented Climate Continuity Missions: Development of a GRACE Follow-On (GRACE-FO) mission to meet an important scientific need for continuity of key climate observations.

Center Assets: Located in Pasadena, CA, JPL employs approximately 5,000 contractors in this federally Funded Research and Development Center. Center capabilities that will be tapped in the President's new program include remote sensing, robotic engineering and other capabilities. Specific new activities include the following.

Climate Initiative: The President's FY 2011 Budget provides additional \$2.4 billion in funding over five years to accelerate the development of new satellites to enhance observations of the climate and other Earth systems. Included in that acceleration are specific projects managed by JPL including:

- SMAP (Soil Moisture Active-Passive) is a Tier 1 mission. It will launch in November 2014 and provide a direct measure of surface soil moisture and freeze-thaw state, needed to improve our understanding of processes that link the water, energy, and carbon cycles. Soil moisture information at high resolution enables improvements in weather, flood, and drought forecasts, and predictions of agricultural productivity and climate change.
- DESDynI (Deformation, Ecosystem Structure and Dynamics of Ice) is a project jointly managed with GSFC that will launch by 2017. The global observations of surface deformation have several scientific goals, including advances in earthquake science that benefits the health and safety of the public. There are two components, DESDynI Radar+Lidar (two spacecraft sharing a single launch). JPL's responsibility for this mission is with development of the Radar spacecraft.
- The GRACE-FO (Gravity Recovery and Climate Experiment – Follow On) mission is a “gap-filling” mission between the current GRACE mission and the recommended higher-capability GRACE-II (a Tier-III Decadal Survey mission). Planned for launch in 2016, GRACE FO will continue to map the Earth's gravitational field with regional resolution and monthly variability.