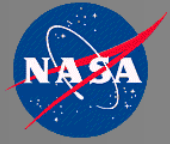
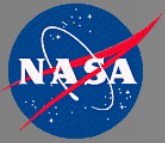


Reuse Working Group Breakout #1: Decadal Survey Missions

9th Earth Science Data Systems Working Group Meeting
New Orleans, LA
October 20–22, 2010



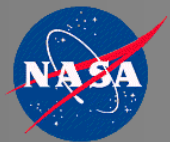
Brief Introduction



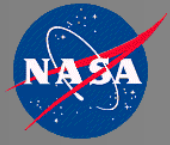
Near-Term Missions (2010–2013)

Decadal Survey Mission	Mission Description	Orbit	Instruments	Rough Cost Estimate (FY06 \$million)
CLARREO (NASA portion)	Solar and Earth radiation; spectrally resolved forcing and response of the climate system	LEO, precessing	Absolute, spectrally resolved interferometer	200
SMAP	Soil moisture and freeze-thaw for weather and water cycle processes	LEO, SSO	L-band radar L-band radiometer	300
ICESat-II	Ice sheet height changes for climate change diagnosis	LEO, Non-SSO	Laser altimeter	300
DESDynI	Surface and ice sheet deformation for understanding natural hazards and climate; vegetation structure for ecosystem health	LEO, SSO	L-band InSAR Laser altimeter	700

NOTES: Missions are listed by cost. Colors denote mission cost categories as estimated by the committee. Pink, green, and blue shading indicates large-cost (\$600 million to \$900 million), medium-cost (\$300 million to \$600 million), and small-cost (<\$300 million) missions, respectively. LEO = low Earth orbit; SSO, Sun-synchronous orbit.



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- Open communication with the decadal survey missions
 - Identify opportunities for reuse in these (and other) future missions
 - Provide advice to the missions on reuse
 - Assist the missions with their reuse activities



Progress to Date



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- Chris is our point of contact for the Soil Moisture Active/Passive (SMAP) mission.
 - They are interested in the RES, and have installed an instance of it in their ground system.
 - Working with Cynthia Wong to record and track information for ~5 science data system components that were reused from OCO.
 - SMAP is also leveraging the RRLs in their ground and flight systems.



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- Bob is our point of contact for the Ice, Cloud, and land Elevation Satellite 2 (ICESat-2) mission.
 - Working with Mark Sherman to assess the reusability of the Scheduling and Data Management System (SDMS).
 - Leveraging the RRLs and developing a procedure / template for RRL assessment.

 - ICESat-2 has also indicated some interest in the RES work, and wanted to know about SMAP's experience in this area.



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- Chris has been our point of contact for the Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) and Orbiting Carbon Observatory 2 (OCO-2) missions.
 - Opened communications with the missions and encouraging them to make use of the RES and/or RRLs.



Future Plans

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- Plan to continue assisting SMAP and ICESat-2.
 - Hope to start working more closely with DESDynI and OCO-2.
 - Consider opening communications with the Climate Absolute Radiance and Refractivity Observatory (CLARREO) mission.