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.

Source: http://books.nap.edu/openbook.php?record_id=11820&page=81

Initial Plans

- 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

SMAP and the RES

- 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.

ICESat-2 and RRL Use

- 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.

DESDynI and OCO-2 Outreach

- 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

Where To Go from Here?

- 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.