

Data System Approaches for DS Mission

Objective



- ◆ To define an implementation framework for each of the incoming Decadal Survey missions
- ◆ To ensure the new systems are integrated with the legacy systems
- ◆ To ensure the data sets are integrated with the legacy data sets
- ◆ To prepare for and implement the future earth system science data systems



Data Policy for Decadal Survey Missions



- ◆ Utilize Existing Earth Science Data and Information Policy
(http://eospsos.gsfc.nasa.gov/ftp_docs/2006ReferenceHandbook.pdf ,p.35)
 - *Common set of carefully crafted data exchange and access principles*
 - *With onset of EOS Program, no period of exclusive access (beyond post-launch check-out period)*
- ◆ Data access is non-discriminatory
 - *All users will be treated equally*
 - *Continue the practice of free access, unless there is some need to charge. Charge for distribution can no more than the cost of dissemination (in keeping with OMB Circular A-130).*
- ◆ Ensure data available when working with interagency and international partners
 - *Negotiate MOUs and agreements with partners and implement arrangements for meeting needs for data acquisition, distribution, and archival needs of the US.*
 - *Effective ongoing partnerships with other agencies includes sharing of data from satellites and other sources, mutual validation and calibration, consolidation of duplicative capabilities and functions.*



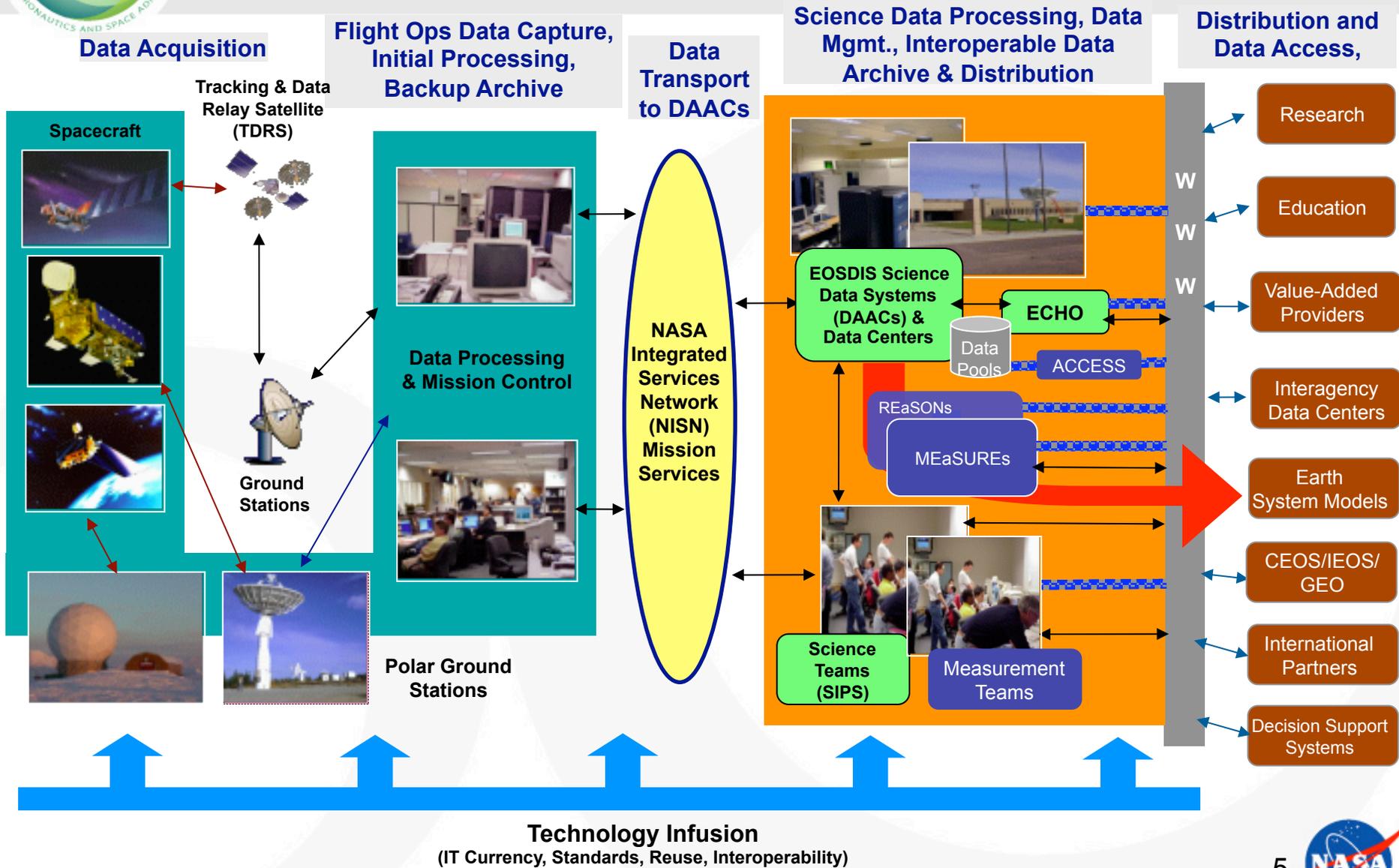
Data System Planning for Decadal Survey Missions



- ◆ Identify Cross-mission data system issues
 - *Ground System and Science Data System architecture most effectively analyzed programmatically*
 - *NASA Earth Science already has significant infrastructure that can be leveraged*
 - *Agreed standards, practices, and interfaces, though not “one size fits all”, can be adopted to create an integrated scientific observing system.*
 - *Forward-looking vision for 2013 and beyond will include technology forecasts.*
- ◆ Ground and Data System Planning Processes
 - *Responsible for overall planning, scheduling and defining issues to be resolved, reporting to SMPO and HQ/Maiden-Yuhas*
 - *Mission ops and ground system architecture Tiger Team to look at end-to-end data flows. Includes SN and GN needs - team will interface with NASA SOMD and institutional groups.*
 - *Science Data Systems: take advantage of existing Earth Science Data System Working Groups: Standards Processes, Technology Infusion, Software Reuse, Metrics Planning and Reporting*
- ◆ Kick-off with Decadal Survey Ground and Data Systems Workshop in FY09
 - *Maiden/Yuhas to lead workshop agenda committee*
 - *Need to identify Data System/Ground System POCs for each Tier 1 and Tier 2 DS Mission*



NASA's Earth Science Data Systems





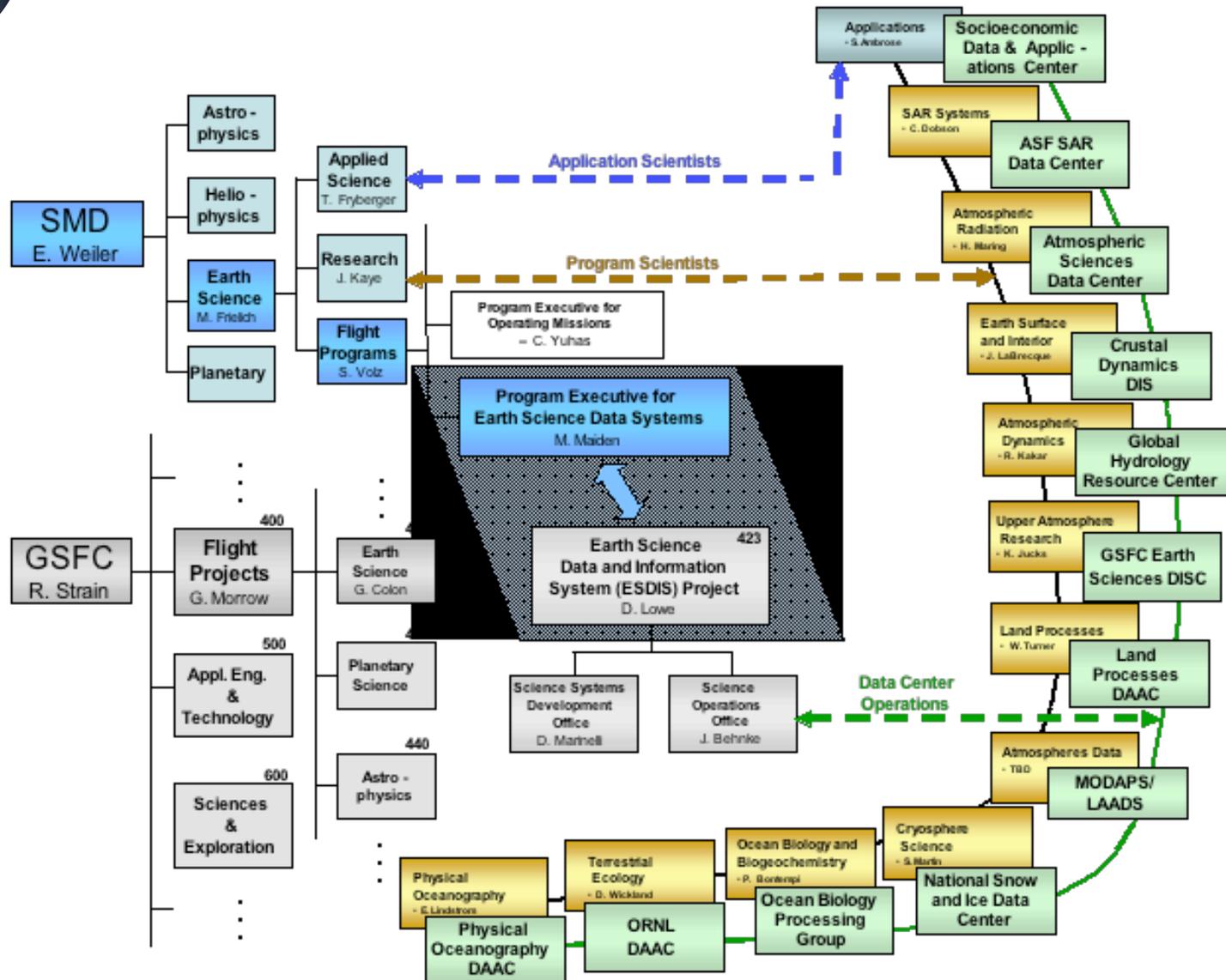
Study Team FY09 Objectives/Plan



- ◆ Data System Planning Group
 - *Kick-off workshop to look at existing plans and requirements of missions, and existing Earth Science infrastructure*
 - *Leverage Earth Science Data System Working Group existing structure*
- ◆ What is the expected state at the end of FY09?
 - *Data System needs for each mission known*
 - *Key decisions timeline and schedule*
- ◆ Results at end FY09
 - *Workshops and Tiger Team Report with Recommendations for Key Decisions*
 - *Systematic Mission Data System Planning Group organized and utilizing ES DSWG structure.*
 - *Cross-mission ground and data system recommendations for programmatic Level 1 Requirements to harmonize mission Tiers.*



EOSDIS provides the core data systems for Earth science disciplines





Models for NASA Earth Science Data Systems



Mission	Data System
EOS Program	Products Shipped from Science-Investigator Led Processing Systems to DAAC for Public Distribution
ESSPs	PI-Led End-to-End including Data Distribution Data to be Migrated to DAAC after Mission
Non-EOS Missions	Mission Science Team production. Distribution at appropriate site based on heritage (DAAC/Data Center)
NPP	NASA PEATES will be used to evaluate the data streams and IPO-created products to determine appropriate use.
Measurement Systems	System and science s/w reuse. Capability of processing of new data stream incorporated seamlessly with reprocessed heritage data



Models for NASA Earth Science Data Systems



Mission	Development -system -science s/w	Phase D Production	Phase D Distribution	Post- Mission Reprocessing	Post- Mission Distribution
EOS Program	EOS Program Requirements -DAACs/SIPSs	SIPSs (ESDIS)	DAAC, Data Center (ESDIS)	MEaSURES (ROSES)	DAAC or Data Center (ESDIS)
“non-EOS” Systematic missions	Mission Project	Mission Project (MO&DA)	DAAC or Data Center (ESDIS/MO&DA)	MEaSURES Research (ROSES)	DAAC or Data Center (ESDIS)
ESSP	PI-led Project	PI-led Project (MO&DA)	PI-led Project (MO&DA)	MEaSURES, Research (ROSES)	Migrates to DAAC (ESDIS)
NPP	(IPO/NOAA) PEATES evaluate	IPO	NOAA	During Mission: Go/ No Go	Go: NASA
Measurement Instrument (color, precip)	Reuse -system -science team	science s/w updated for new stream	Measurement System (OCDPS, PPS)	ROSES, Measurement System	Measurement System (Active Mission/ESDIS)
Decadal Survey	ESM Program Requirements -ES DSWG	SIPS or Mission Project (ESDIS/MO&DA)	DAAC or Data Center (ESDIS/MO&DA)		