The Land Processes DAAC

DAAC Management

2/4/03

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Strategic Planning

- The LP DAAC's vision has not changed:
  1. Provide value to our users.
  2. Provide value to our customers and stakeholders.
  3. Enable the transfer of NASA remotely sensed land data and products into the USGS long term archive.
  4. Learn something along the way and provide that expertise to NASA and the USGS.
- This vision is still valid, and provides a worthwhile result.
- However, our environment has changed.

Strategic Planning - Users

- First, on providing value to our users:
  - Today, the LP DAAC seems to be doing well; we are putting out data, tools, and so on to satisfied users.
  - In the future, we will continue to provide increasingly good access to NASA land remote sensing data. We will do this by:
    - Improving our availability (are we open for business, outreach),
    - Improving our data accessibility (can data be gotten quickly and easily),
    - Improving our user support (tools, assistance, etc),
    - Find additional user groups (partners, USGS National Map, etc).
    - Ensuring we have land data here at all.
  - The first are issues we can work at the LP DAAC.
  - That last issue is where strategy comes in, post-EOS; because we don't control where NASA places it's data.

Strategic Planning - Stakeholders

- Second, provide value to our customers and stakeholders. This is done by:
  - providing good support to the users who get our data (see the previous page).
  - being responsive to our customers and stakeholders.
  - providing good value for the money.
- Our current customer is NASA ESDIS.
- Who will be our customers in the future?

*SEEDS = Strategic Evolution of Earth Data Systems

Strategic Planning

- NASA has five different system/mission models:
  - Principal Investigator (PI) Led
    - Focused, usually single mission, but lower levels of service, insular.
    - Data collocated with scientists.
  - EOSDIS (ECS Only)
    - Powerful, higher levels of service, multi-mission, but ponderous.
    - Data collocated with user community.
  - EOSDIS (Adaptive Processing)
    - Effective so far, no real criticisms, some think this is still insular.
    - Data located where it makes sense.
  - Federation
    - Innovative and very distributed, but not particularly ops minded.
    - Data generally collocated with science and application folks.
  - SEEDS *
    - Essentially tries to combine and regulate the PI and Federation models.
    - Data collocated first with science and apps folks, then with users.

*SEEDS = Strategic Evolution of Earth Data Systems

Strategic Planning

- NASA currently is running with essentially three groups of systems/projects:
  - EOS missions (e.g. Terra, Aqua, L7 partially).

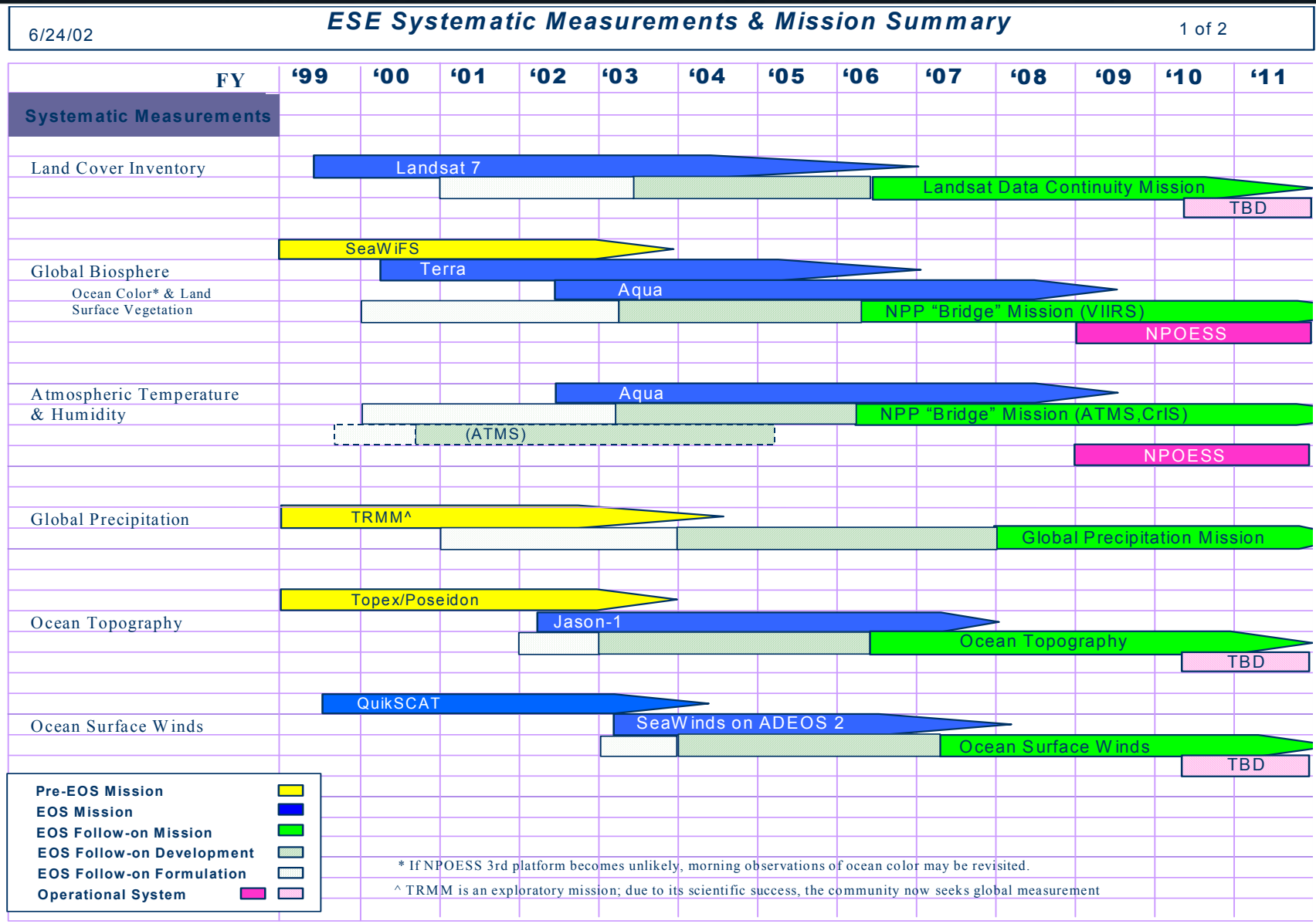
    These use EOSDIS (adaptive processing).
  - EOS Follow-on missions (e.g. LDCM, NPP*, NPOESS*).

    These are TBD, probably won't use EOSDIS at all.
  - Small New Missions/Projects (e.g. REASoN)

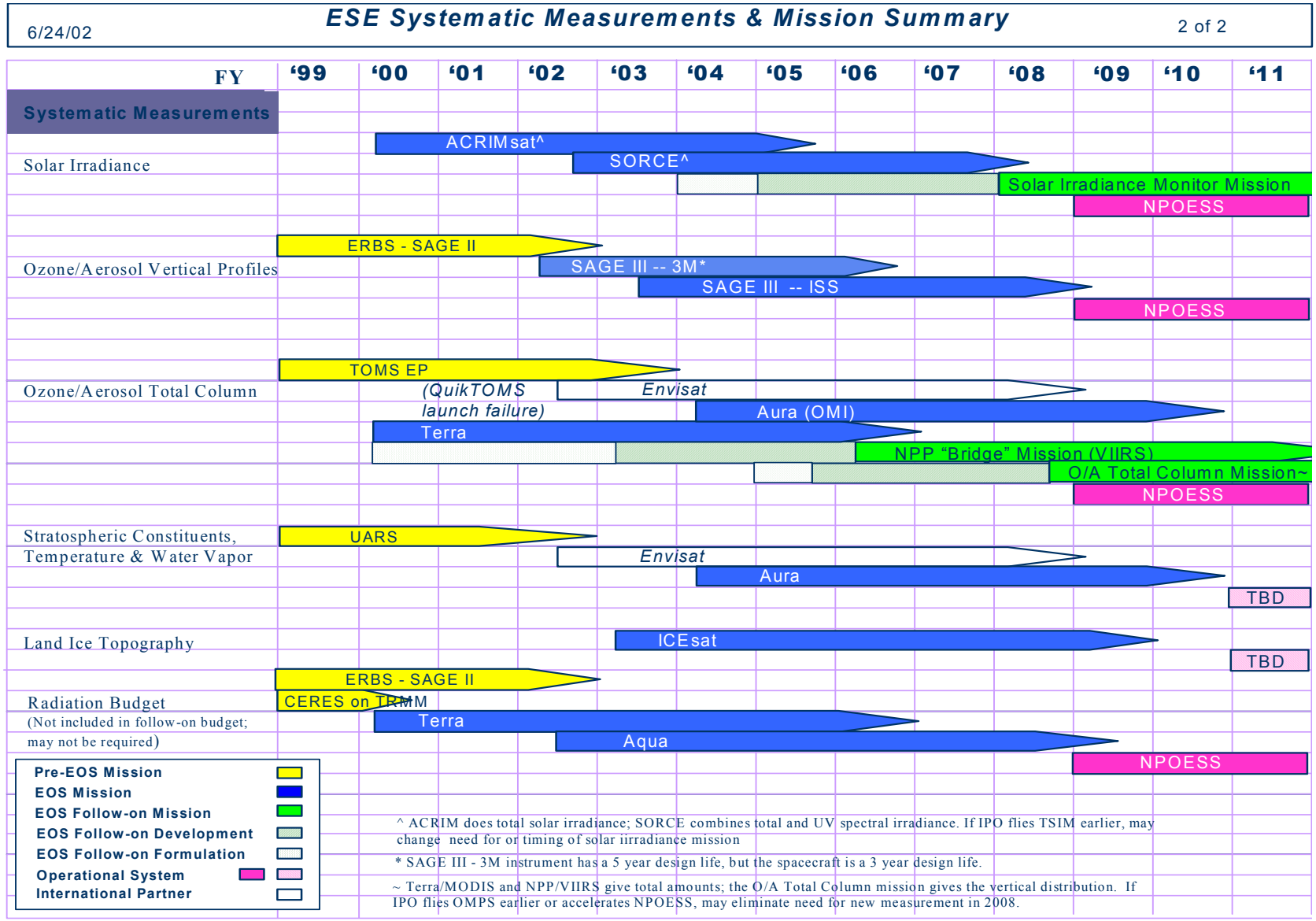
    These essentially use the SEEDS model.

- Today, the LP DAAC supports:
  - ESDIS on several EOS missions with EOSDIS (adaptive processing).
  - Perhaps a few small new missions/projects through SEEDS.

Strategic Planning



Strategic Planning



Strategic Planning

- NASA's vision that has been displayed so far:
  - EOSDIS will evolve in some unspecified way with Synergy upgrades.
  - SEEDS will not discourage projects from using EOSDIS.
  - SEEDS missions will typically be competitive and cost constrained, so unlikely to support higher levels of service (e.g. EOSDIS).
  - SEEDS suggests that the science teams will define the systems, and not the NASA system folks.
  - EOS Follow-on missions are not planning on using EOSDIS, and are not obligated to use SEEDS, either (as far as we can tell).

  - Thus, potential future customers are the science teams through SEEDS and ECS Follow-on missions, particularly NPP and NPOESS (with VIIRS).
  - Hold on to this thought…

*SEEDS = Strategic Evolution of Earth Data Systems

Strategic Planning – LTA, Experience

- Third, we need to enable the transfer of NASA land data to the USGS for long term archiving by:
  - Encouraging the USGS and NASA to begin working the issue.
    - Given the existing agreement, Version 0 transfer should be done, ASTER start in a year or three, MODIS in nine years.
  - Understanding USGS requirements early so we can influence DAAC systems early to make the transfer easier.
  - Influencing USGS requirements to include DAAC and NASA user requirements during planning.
- Fourth, pass on lessons learned to NASA and the USGS.
  - Being done internally and externally.

Strategic Planning

- So, where does that all lead us?
  - EOSDIS, the LP DAACs current base, has an unclear future.
  - High levels of user service will likely be competed away by SEEDS.
  - Science teams who win SEEDS-type competitions will be determining who does data system work.
  - EOS Follow-on missions will generate new big systems.
    - EDC and the LP DAAC 'bid' to be location for NASA NPP work; apparently the GSFC DAAC won, or will likely win.
    - No specific word on NPOESS, new systems are in work by Contractor (likely based on ECS).
  - LTA is not worked out or accomplished for EOSDIS yet.
  - LTA is not defined for EOS Follow-on missions, or completely worked out for SEEDS.

Strategic Planning

- Possible Strategies:
  - Continue with EOSDIS work, of course; budgets will be reduced.
  - Readdress NPP and possibly NPOESS, with USGS and NASA, based on LTA and LP DAAC requirements and capabilities.
  - Look at partnering more closely with NASA or USGS science teams – would have to reexamine systems.
  - Be more aggressive on bids and estimates.
    - LP DAAC culture is in general to reduce risk, plan for change, and bid realistically, which is a handicap in a competitive environment.
    - Low-balling has long term implications, though.
  - Try to integrate LP DAAC and USGS LTA capabilities, systems, and requirements to develop lower cost data management and easier data transition. "DAAC-in-place", not "archive-in-place".
  - Advice?

Strategic Planning

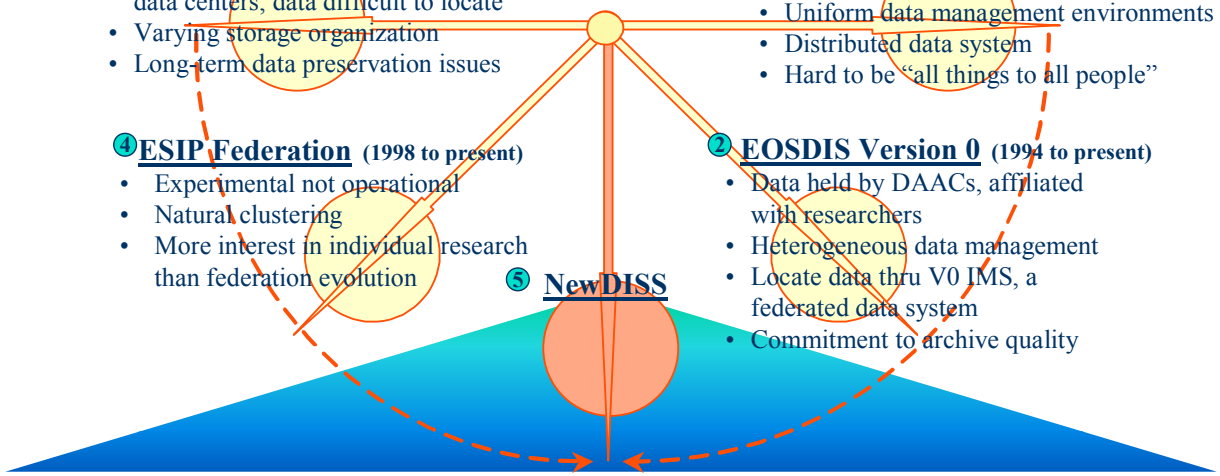
Backup Slides

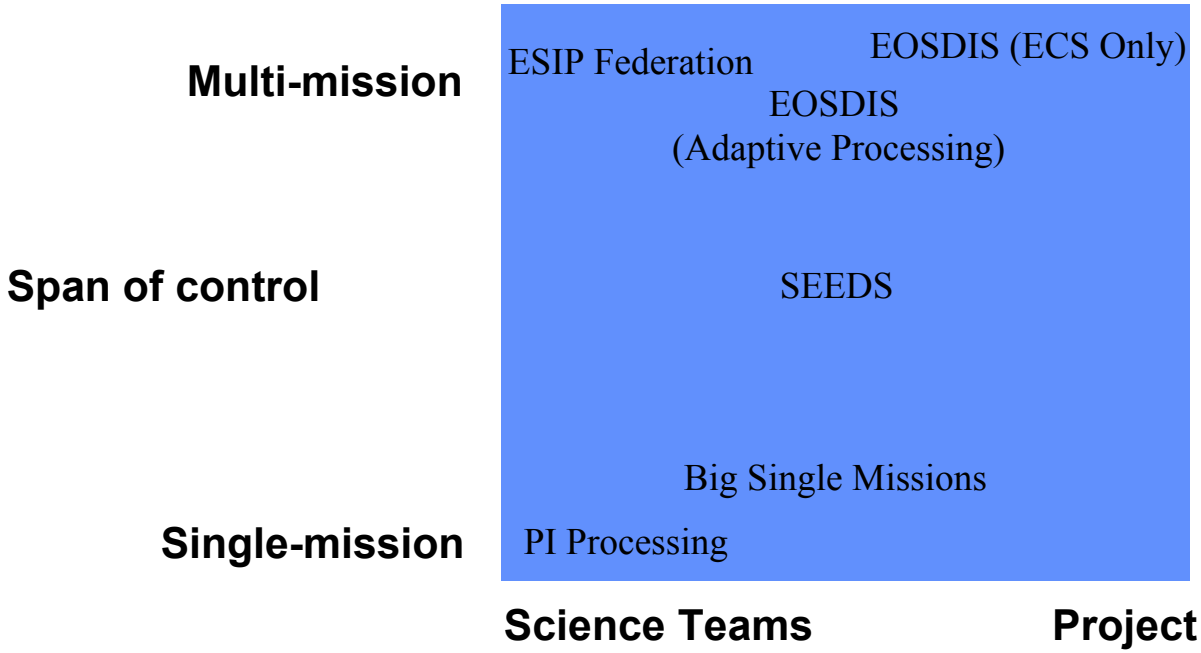
Strategic Planning

Evolution in ESE Data Management

Less NASA control in data management

More NASA control in data management



- **The intent of the NewDISS program is to focus ESE data system evolution to:**
  - increase NASA's flexibility to adapt the network of data systems & service providers;
  - enable access for NASA's Applications program and its educational programs;
  - improve cost effectiveness throughout the data system development and operational life cycle;
  - leverage the capabilities, expertise, and lessons learned from existing data systems; and
  - assure long-term data stewardship and continuity of services.

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