Components for a system of systems

INFORMATION

C3A

Critical attributes

1. Information requires interactions of in situ data, remote sensing and models in a platform that enables multiple data streams
   - EO (RS & In situ)
   - meteorological
   - hydrological
   - model outputs (ensembles?)
2. Facilitates multiple workflows
   - modeling
   - historic observations and time series
   - re-analyses

Critical Attributes

3. Successful models of information delivery have a key common denominator: **end-user feedback cycles**
   - Asking for end-user requirements prior to information development and delivery is too abstract for most end users
   - Information provided to end-users must be actionable. It should be summarized or distilled
     - E.g., median, 90th quantile, or qualitative (“high,” “med,” “low”)

     and accessible at variable levels through the feedback cycle
     - data formats (e.g., PNG to GeoTIFF to web-based GIS to HDF)
   - Requires end-user education, iteration with information provider, documentation and demonstration from provider showing how information meets end-user needs and requirements

Priorities

- EO as source of actionable information
  - Policies and their implementations undergo revision cycles
  - Aim to **embed EO as a possible method** in policy frameworks by demonstrating successful cases and how they fit in policy frameworks.

Priorities

- Ensuring access to in situ data
  - Address how to make existing and ongoing in situ datasets discoverable?
  - Serving end-user in situ data strengthens end-user engagement and allows local development and application
    - Recommendation: GEO strongly promote this effort through existing and expanded linkages with UNEP, GMES, OGCs
    - Suggested models to incentivize in-situ data contribution
      - Multi-level restrictions
      - Member registration, variable membership groups for different data views, access
      - “Fremium” mode

Priorities

- Ensuring access to in situ data
  - Ensure matchups with satellite overpasses
    - Rapid information to in situ efforts for closure of the feedback cycle
  - **GEO's largest accomplishment in the last decade was forcing the free and open access data policies for satellite data. can we achieve this for in situ data in the next decade?**

Priorities

- Outreach and engagement
  - To embed EO as actionable information
  - To facilitate end-user feedback cycles
  - To ensure end-user uptake
  - Recommendation: design an important component for successful engagement (user interface design should occur throughout process)
  - Suggestions:
    - web-based tutorials/instructions, youtube videos, open source EP software
    - IOCCG-like summer school
    - Aggregator websites?