CESAS - Committee on Earth Science and Applications from Space

Co-Chairs: Chelle Gentemann and Steve Running

The overarching purpose for the committee is to support scientific progress in Earth system science and applications, with an emphasis on research requiring global data that are best acquired from space and to assist the federal government in planning programs in these fields by providing advice on the implementation of decadal survey recommendations. The CESAS provides an independent, authoritative forum for identifying and discussing issues in Earth Sciences and Applications from Space between the research community, the federal government, and the interested public.

At each of its in-person meetings, as appropriate, the committee may prepare concise assessments of progress on the implementation of the decadal survey's recommended scientific and technical activities.

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Current Members:

Chelle L. Gentemann, Co-Chair, Earth and Space Research
Steven W. Running, Co-Chair, University of Montana
Nancy L. Baker, Naval Research Laboratory
Molly E. Brown, University of Maryland College Park
Otis B. Brown, North Carolina State University
Ivona Cetinić, Universities Space Research Association / NASA Goddard Spaceflight Center
William E. Dietrich, NAS, University of California, Berkeley
Everette Joseph, University of Albany, SUNY
George J. Komar, NASA (retired)
Anna M. Michalak, Stanford University
R. Steven Nerem, University of Colorado, Boulder
Eric J. Rignot, NAS, University of California, Irvine
Christopher S. Ruf, University of Michigan
Duane E. Waliser, Jet Propulsion Laboratory
Eric F. Wood, NAE, Princeton University
Ping Yang, Texas A&M University

Staff:

Arthur Charo, Senior Program Director
Andrea Rebholz, Program Coordinator

Meetings

Usually meet twice a year: Fall, Spring

Last meeting 10/2018

New co-chairs, many new members

10/2018

Briefings from USGS, NOAA, NASA

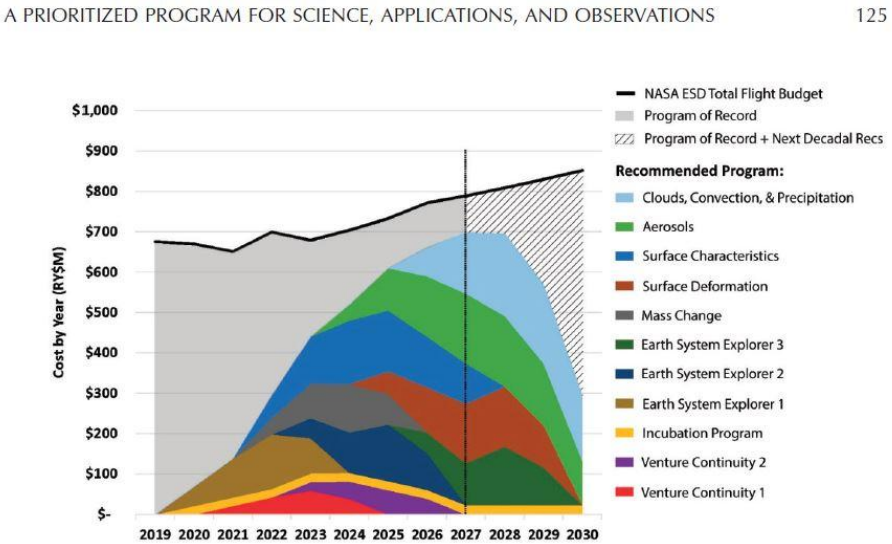
Focused on DS implementation

Discussion on communication and training for open sharing of data, adapting to cloud and open architectures, and that education is key – next generation of researchers need to also be computer scientists.

CESAS Fall Meeting 2018

1) The CESAS statement of task states “The overarching purpose for the committee is to support scientific progress in Earth system science and applications, with an emphasis on research requiring global data that are best acquired from space and to assist the federal government in planning programs in these fields by providing advice on the implementation of decadal survey recommendations”.
    - What would NASA like this advice to look like? On 10/25/2018 Freilich briefed CESAS on NASA’s implementation plans. How would NASA prefer feedback on CESAS views on these plans?
1) Alternating EVI and EVC calls every 18 months rather than independent programs. Timing off for next EVC, all future reset or just long gap?
2) Explorer line delayed ?

3D winds was in both Incubator and Explorer, SMD moved to Explorer in implementation plans, DS included in both, wait and see… Aeolus



These slides are a personal assessment of issues discussed during recent quoted as the views expressed do not necessarily reflect those of CESAS, the SSB, or the National Academies

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A change in the distribution of expertise

What are the roles and responsibilities for NCEI and NASA DAACS as data is moved onto the cloud? Change in funding for NASA DAACS/NCEI. Shift in distribution of expertise for data center personnel. Preparation important.

Science Platforms

Role of government of how cloud providers charge scientists who use cloud for analysis. The rules on how charges are determined keep changing, from month to month someone has to constantly monitor. It would be helpful to have a stable situation for scientists to experiment in. Large, unexpected bills are going to harm acceptance.

Cloud expenses overhead charged / not?

Possible study:

Uncertainty quantification study (short notes here, see doc here:)

- Uncertainty analysis methodologies for L2, L3, L4
- Study joint with math board?

With more and more data being pushed the cloud - the use and applications will continue to grow,yet many of the products produced by NOAA and NASA are often devoid of any UQ, let along robust measures.

Possible study: CDR on cloud

How can cloud effort be exploited for CDR production? ECV CDR data products (NOAA NCEI CDR, NOAA CPO office, and NASA MEASURE program both do some ECVs)

There is some confusion as to which agency or whether both are responsible for CDRs.

ESA has a well funded CCI program. How should the US create a prioritization of ECVs? International coordination may results in more robust ECV by reducing replication of efforts.

Evaluate how transition from Terra/Aqua to JPSS may introduce gaps in data records. What records that are currently produced are going to be dropped? What new ones produced? Are dropped records still valuable? (land / subsurface ocean / mixed layer depth)

1) USGS - wiggle room in Landsat10, how do they want to explore technology / science / applications?

2) What is technology on-ramp look like at NOAA with an architecture fixed through 2030

3) Perhaps add a commercial sector person, ideally with cloud. Alan Steremberg was suggested.

4) Working on popularization of DS