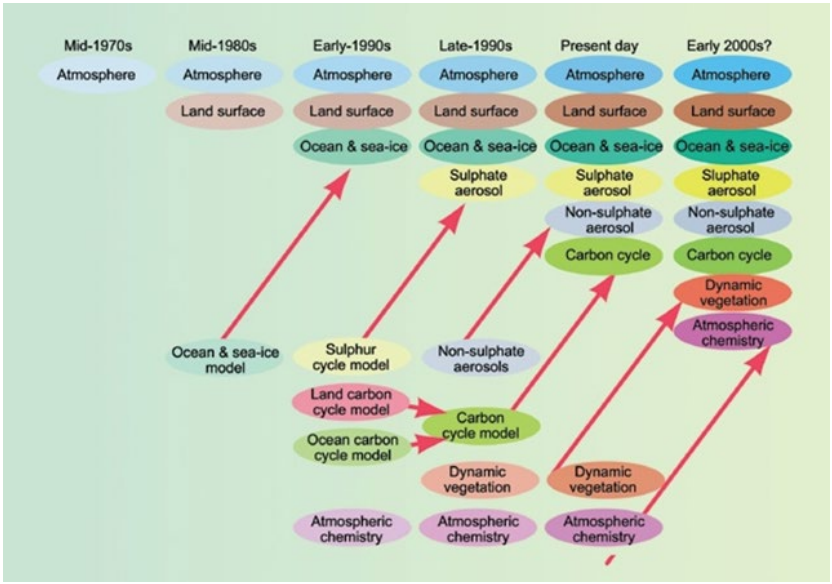
Modeling Panel Discussion

Recommendation (Mid-Term Assessment Report): Through requests for information and workshops, NASA, NOAA, and USGS should more actively engage the Earth system modeling community to devise strategies to exploit existing and potential Earth observations more fully for advancing model parameterizations and predictions.

Response (NASA ESD): NASA concurs with this recommendation. Through engaging the Earth system modeling community, NASA will develop a strategy to expand modeling capabilities and coordination and incorporate new approaches and observations. We will coordinate with other federal agencies, in particular NOAA and USGS, and we will engage the community and the Academies as we progress.



globalchange.gov

Questions

- How can the modeling community be organized to better articulate its observing needs to make progress in either specific ESD focus areas or the broad Earth System model as a whole?

- What specific steps are needed between now and the next decadal survey to prioritize specific activities and/or observations?

- How should issues be prioritized if funding changes?

“Modeling” is broadly defined

- Data assimilation and forecasting, (weather, hydrology, ecosystem) forecasting model improvement
- Reanalysis (and its use in AI model training)
- Satellite instrument emulator
- OSSEs (observing system simulation experiment)
- Earth system-OSSEs (e.g., assess the value of new measurements in improving earth system model sensitivities)

Use of Observing System Simulation Experiments in the United States

Xubin Zeng, Robert Atlas, Ronald J. Birk, Frederick H. Carr, Matthew J. Carrier, Lidia Cucurull, William H. Hooke, Eugenia Kalnay, Raghu Murtugudde, Derek J. Posselt, Joellen L. Russell, Daniel P. Tyndall, Robert A. Weller, and Fuqing Zhang

Online Publication: 02 Sep 2020

Print Publication: 01 Aug 2020

DOI: https://doi.org/10.1175/BAMS-D-19-0155.1

Bulletin of the American Meteorological Society