Earth Science Subcommittee
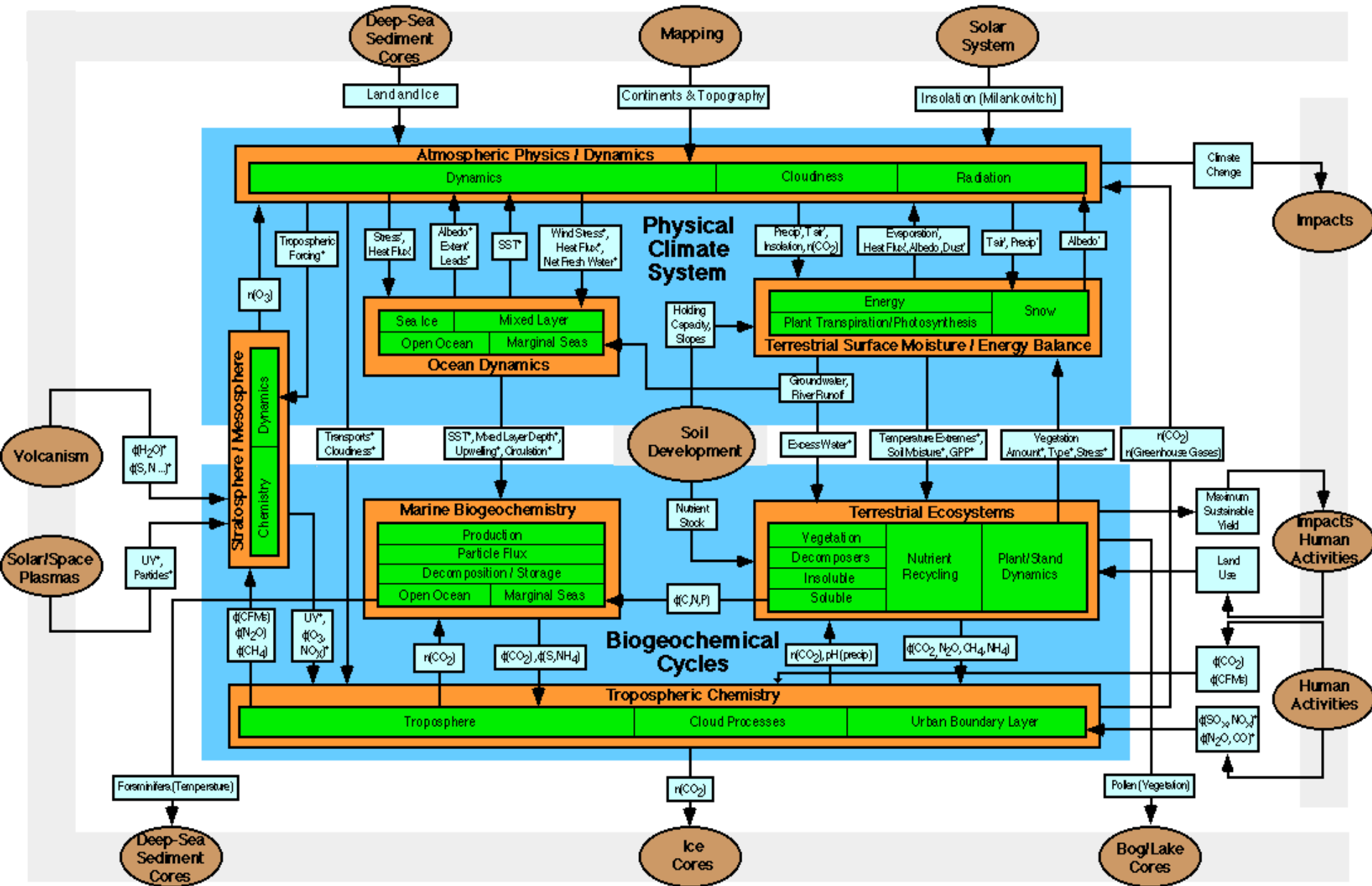# Report from October 28-29, 2015
Steven Running, Chair

This ESS meeting focused on modeling, particularly Earth Systems modeling, as per the 2nd slide. Reports given by all key large scale modeling groups and centers.

Earth systems modeling based on global observations (atmosphere, oceans, land, ice) is a unique NASA capability, no other U.S science agency produces global satellite based datasets for this modeling.

The last 15 years ESD has deployed an unprecedented constellation of Earth observing satellites, **and** the data processing/archiving/distribution system to exploit the science

Bretherton Diagram 198x

CONCEPTUAL MODEL of Earth System process operating on timescales of decades to centuries

' = on timescale of hours to days   * = on timescale of months to seasons ϕ = flux   n = concentration

Earth Science Subcommittee
Report from October 28-29, 2015
Steven Running, Chair

- **FINDING**: New international agreement with the EU and ESA for full data sharing from new European satellites major step forward.

- **FINDING**: USGCRP Earth System Modeling "Summit" of Interagency teams in Feb 2015 positive first step in coordinating model development, global dataset production, validation activities. This coordinating activity should be continued.

Earth Science Subcommittee
Report from October 28-29, 2015
Steven Running, Chair

- **FINDING**: *NASA has an important role in <u>research</u> to improve weather forecasting because of the satellite observational network.*

Earth Science Subcommittee
Report from October 28-29, 2015
Steven Running, Chair

- **FINDING**:

The 2-step proposal review system has been used in ESD periodically for many years for certain competitions. The ESS finds that giving the program managers the option to use this review system when appropriate retains optimum flexibility.

2 Other Topics

- NASA Big Data Task Force: ESD has two seats on committee, ESS will wait for a briefing.

- ESD Decadal Survey: Details at
- http://sites.nationalacademies.org/DEPS/esas2017/index.htm

NASA
Earth Science Division
Modeling Interactions

Climate Variability and Change

Carbon Cycle and Ecosystems

Process and External Modeling

Earth Surface and Interior

Atmospheric Composition

NASA Earth System Modeling

Weather

Water & Energy Cycle

Scientific and Policy-Relevant Understanding Providing Societal Benefits