WCRP–AGU
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TOGA. 89–94
CLIVAR–chair. 95–2004
GEWEX–chair. 2004–14
WOAP–chair. 2004–10
WMP. 2004–09

TOGA: Tropical Oceans Global Atmosphere
CLIVAR: Climate Variability and Predictability
GEWEX: Global Energy and Water Exchanges
WOAP: WCRP Observations and Assimilation Panel
WMP: WCRP Modeling Panel
I also wish to put in a pitch for AGU to have a coupled climate journal

And for WCRP to adopt a coupled approach to the science

Journal of Geophysical Research
Atmospheres
Biogeosciences
Earth Surface
Oceans
Planets
Solid Earth
Space Physics
Energy on Earth

The climate is changing from increased GHGs.

The most fundamental measure that the climate is changing is Earth’s Energy Imbalance.

Major advantage: it is the net result of all complicated feedbacks.

Come to Moscone West 3012 L3:
16:00 to 16:30 Earth’s changing energy budget
Implications of Regional Energy Budgets

Earth’s Energy Imbalance

Net absorbed 0.9 W m⁻²

Trenberth et al (2009)
Ways forward

Requirements

- TOA radiation
- All atmospheric fields, including liquid and solid water
- Ocean heat content, sea level
- Land, and hydrology: runoff, stream flow, lakes
- Ice and snow
- Surface fluxes
EEI has implications for the future

- These methods bring in new information
- Indeed, there is a lot of information in the coupled system not being utilized in many analyses.
- Constrain many datasets
  - and models
- Recommended by EEI Workshop Toulouse, 2018