

JPL CCS workshop: Earth's Energy Imbalance and Planetary Heat Uptake

Feb 14 & 15, 2023

JPL Room 180-101 & WebEx

Preliminary Agenda (Topic Overview)

Day 1 - Feb 14

EEl significance, challenges and ways forward

- The importance of the Earth's Energy Imbalance in model predictions of climate change (Gavin Schmidt)
- The Challenges of Measuring Earth's Energy Imbalance (Peter Pilewskie)
- Heat stored in the Earth system 1960-2020: Where does the energy go? (Karina von Schuckmann)
- Back to the future: a European initiative to measure EEI from space (Thorsten Mauritsen)

EEl variability and radiation in the climate system

- EEI variability and trends (Priyam Raghuraman)
- EEI and climate sensitivity Maria Rugenstein)
- EMIT Science (David Thompson)
- PREFIRE Science (Brian Drouin)

Climate cycles and linkages

- The Carbon Cycle (Abhishek Chatterjee and Junjie Liu)
- The Water Cycle (John Reager)

Day 2 - Feb 15

Earth's heat inventory

Ocean heat storage

- OHC assessments under GDAP (Tim Boyer, **virtual**)
- Deep Argo and new OHC maps (Greg Johnson)
- GRACE/GRACE-FO and the sea level budget (Felix Landerer)
- Altimetry and sea level change (Severine Fournier)
- ECCO ocean state estimates (Ian Fenty)

Atmospheric heat storage

- Atmospheric heat storage and divergence (Michael Mayer, **virtual**)
- GPS soundings of the atmosphere (TBC)

Continental heat storage and land heat fluxes:

- Continental heat storage (Francisco José Cuesta Valero)
- Towards satellite-based ground heat flux (TBC)
- Land heat fluxes and soil moisture (Sassan Saatchi)

Cryospheric heat storage:

- Cryospheric Heat storage (Fiamma Straneo, **virtual**)
- Sea ice observations (TBC)
- The cryosphere and energy balance in ISSM (Nicole Schlegel)