Extratropical-**T**ropical **IN**teraction (ETIN) Model Intercomparison Project

- Lead coordinator: Sarah Kang
- Co-coordinators: Yen-Ting Hwang, Matt Hawcroft, and Baoqiang Xiang
- Science questions:
  - How sensitive is the partitioning of energy transport response between the atmosphere and ocean to the region of forcing?
  - Does the ocean heat transport response primarily result from dynamic ocean circulation changes or ocean temperature anomalies?
  - Which part of the ocean circulation (i.e., Ekman transport, subtropical gyres, deep overturning circulation) is most effective at inducing cross-equatorial energy transport?
  - How much does the inter-model response spread vary with forcing location and what are the implications for understanding (a) the causes of bias in the climatology of those models and (b) the likely fidelity of their future projections, individually and collectively?
- Publication:

  Kang et al. (2019): ETIN-MIP: Extratropical-Tropical Interaction Model Intercomparison Project – Protocol and Initial Results, accepted at *Bull. Am. Meteorol. Soc.*

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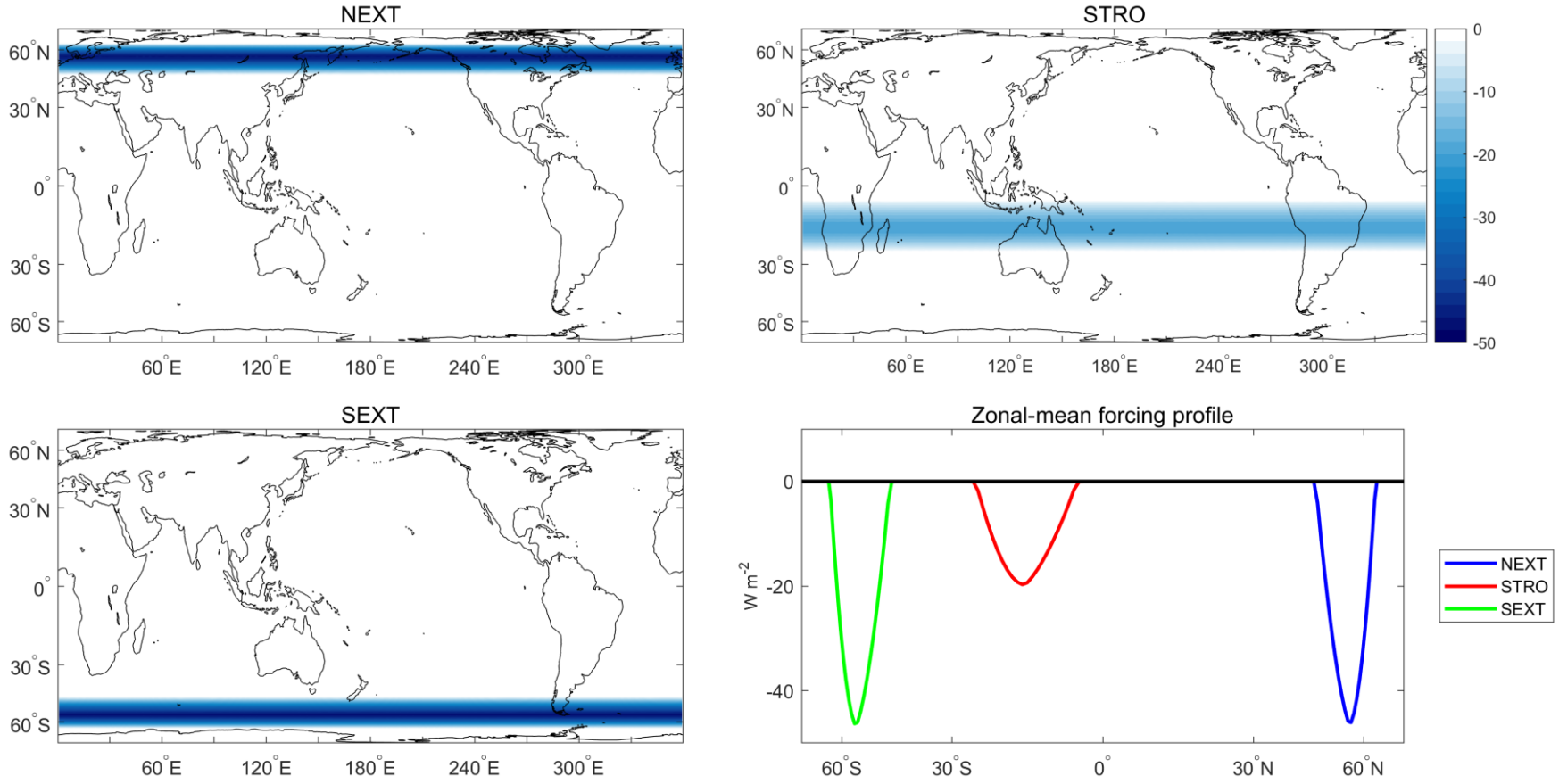
Nine participating models: GFDL AM4+FLOR, GFDL CM2, HadGEM2-ES, MIROC, IPSL, NorESM1-HAPPI, MPI-ESM1.2, NCAR CESM, UCLA-MIT GCM

Tier 1 experiments



Tier 2 experiments

- Conduct corresponding slab ocean experiments
- Vary forcing type (insolation vs CO_2)
- Perform warming experiments

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Ongoing/potential projects

- Cause of model spread in energetics response
- Zonally asymmetric Walker cell response
- Fast and slow responses of tropical SST pattern
- The seasonality of tropical circulation responses
- Changes in ENSO characteristics
- Hemispheric symmetry in planetary albedo

Feel free to contact one of the coordinators if interested in analyzing ETIN-MIP data.

Welcome to join as Tier 2 experiments are under plan.