

# Clouds and Circulation Discussion

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# Topics Discussed

- 1. ITCZ shifts
  - Problem: models give different ITCZ responses, mostly due to cloud feedbacks, how to bridge PMIP and idealized sims.
  - Recommendation: Run comprehensive GCMs with an imposed **ocean heat flux**, similar to **shutdown of ocean MOC**.
    - Takes out uncertainty associated with ocean model
    - Run in different basic states: current climate, LGM, warm climate

## 2. Stochastic Parameterizations

- Should we pursue stochastic parameterizations? How? How to test?
  - Discussed field programs, coordinated modeling
- Question?: High resolution **regional reanalysis** in part of the tropics
  - How to get data for this?
  - Useful for development of stochastic parameterizations

# 3. Aggregation

- Are aggregation studies relevant? How to connect to global models?
  - Sensitivity to resolution
- Recommendation: Run GCMs in global RCE mode (non-rotating, uniform solar & SST).
  - Characteristics of global models show up in RCE simulations

## 4. High res simulations

- What numerical experiments would you pursue on 1000x1000 km, 100 m resolution domain on intraseasonal timescales?
  - Relates to “Gray zone” project of WCRP
  - How to link to realism
- Recommendation: Run with a simple land surface
  - Rather than rotation, Walker cell?