

Coupled Modeling and Climate Change breakout session

CMMAP Team Meeting, August 6-8, 2013, Fort Collins CO

Indian monsoon in CMIP5 models:

how important is coupling? atmospheric dynamics?

Charlotte DeMott & Mingxuan Chen

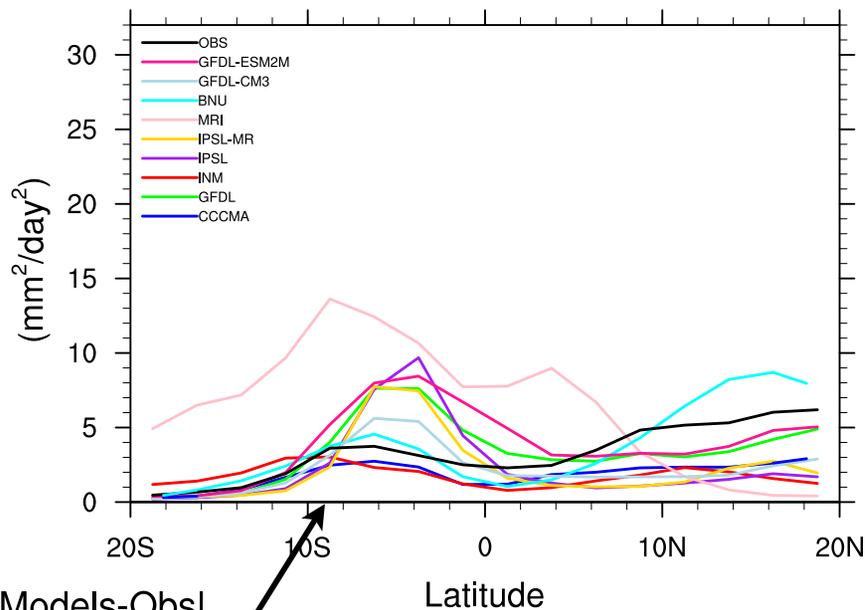
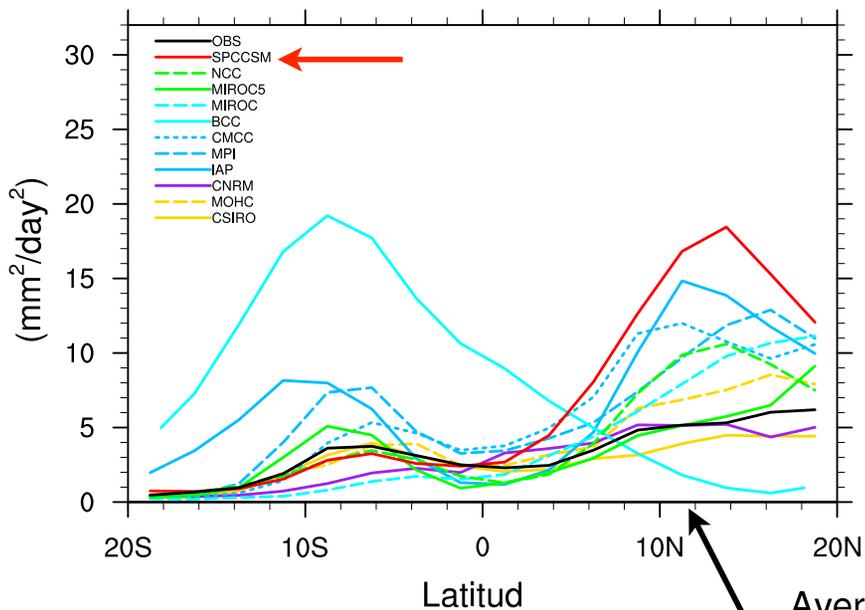
Dynamics: Equatorial Rossby waves

other

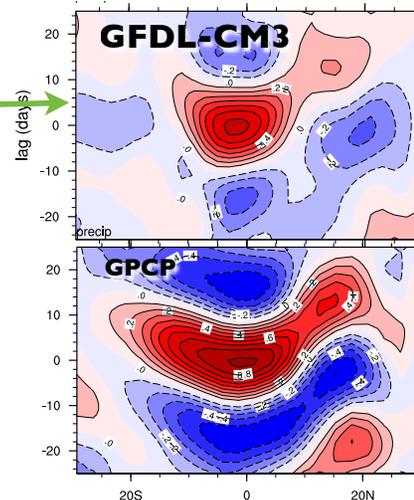
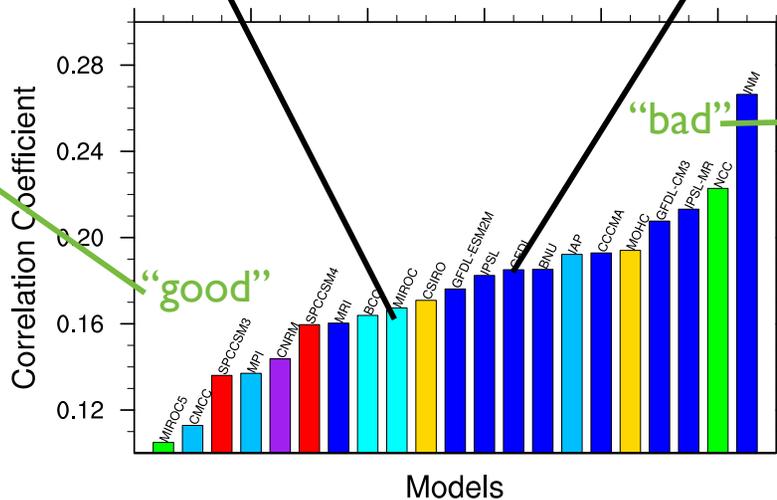
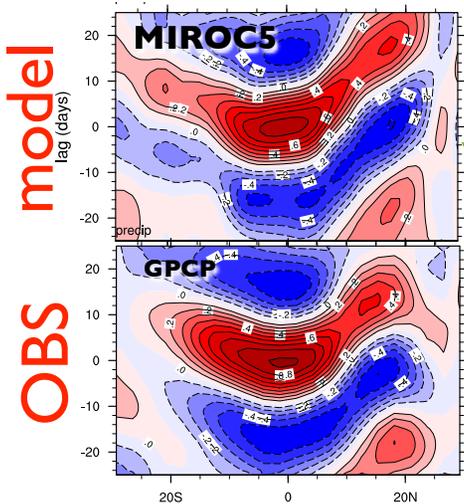
cape

Variance of ER Precip (65°E-115°E)

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Averaged |Models-Obs|

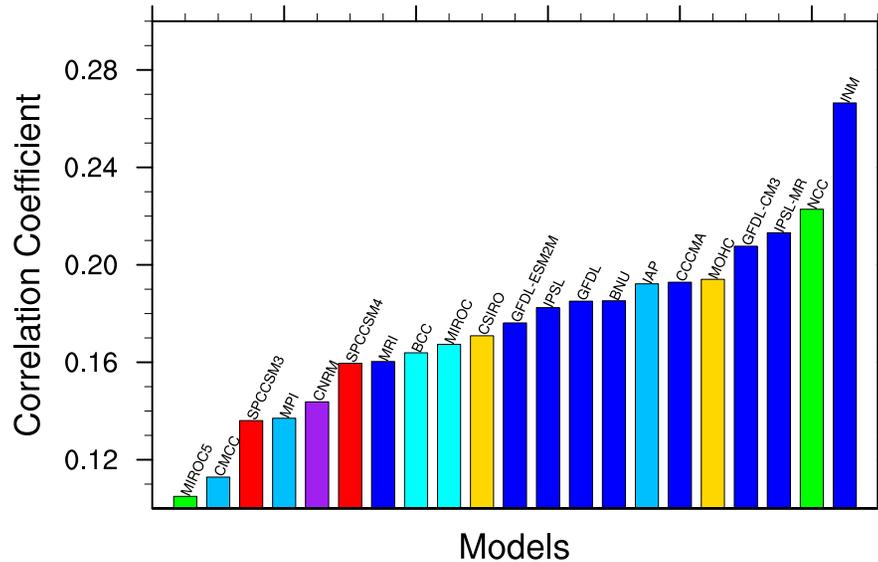


model
OBS

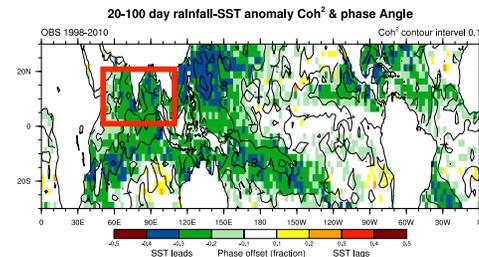
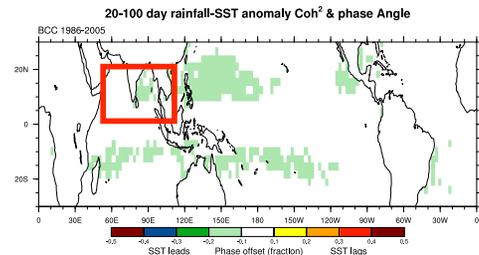
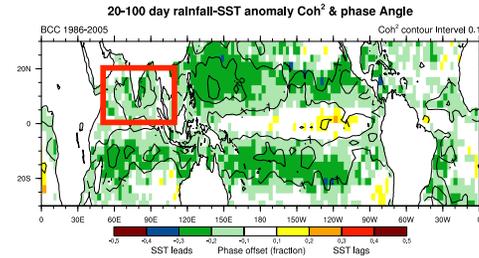
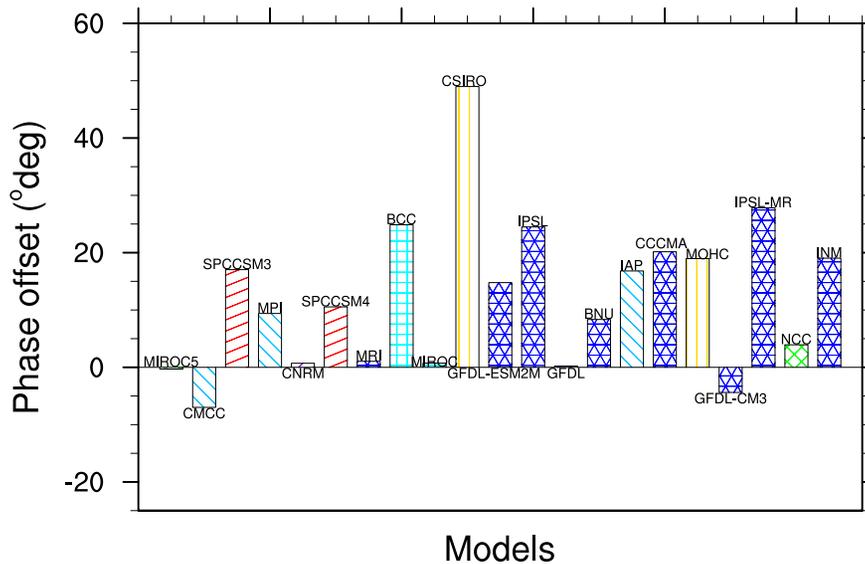
model
OBS

Coupling: SST-Precipitation phase offset

Averaged |Models-Obs|



Model-Obs (0° - 20° N, 40° E- 100° E) May-Oct

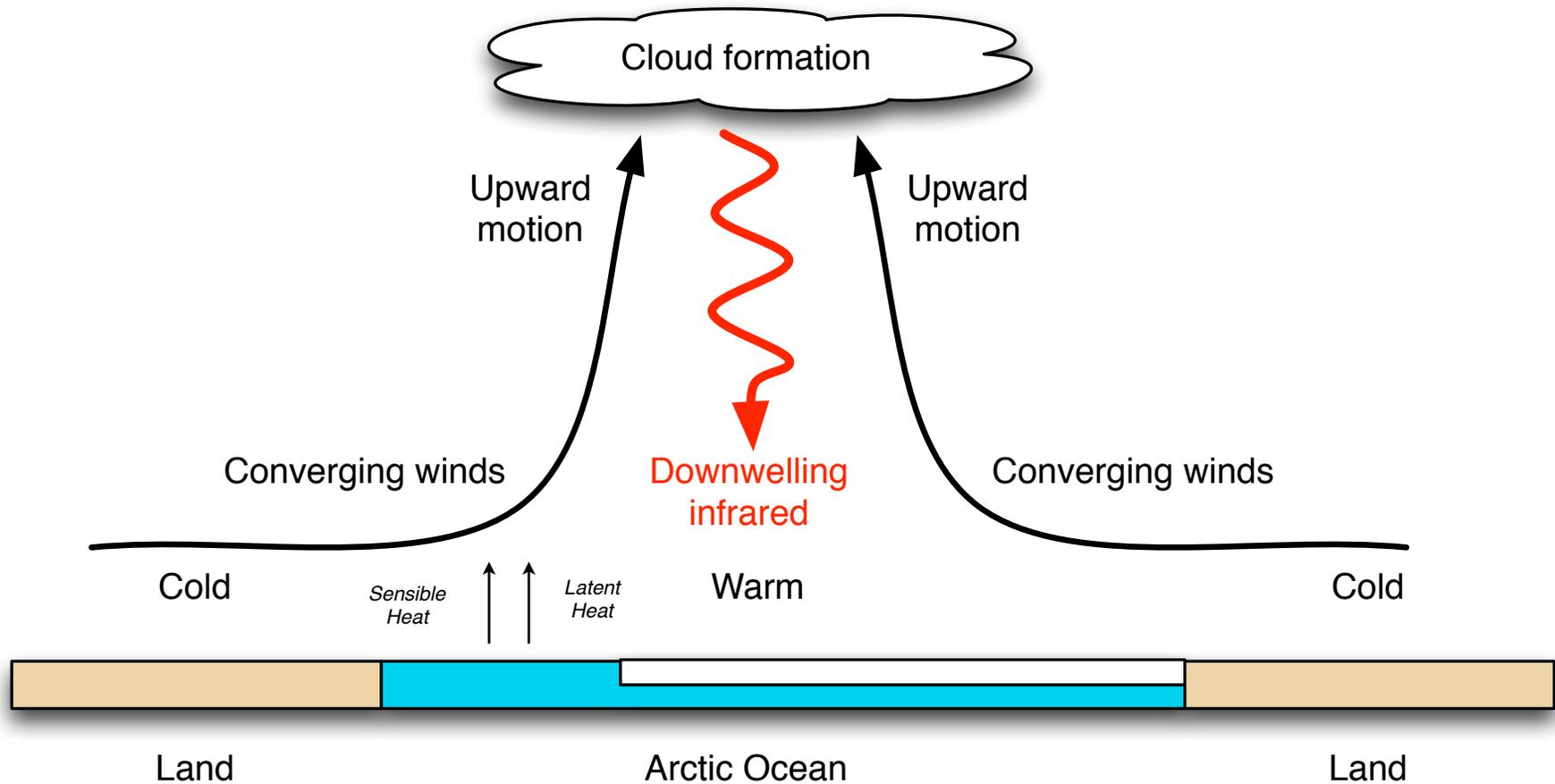


- precipitation-SST phase offset is a poor predictor of monsoon skill

Arctic Feedbacks on Climate Change

Melissa Burt, Dave Randall, Mark Branson, Abby Ahlert

Arctic Winter Monsoon



Conclusions

- The surface albedo feedback is only part of reason for polar amplification.
- An important longwave feedback works all year round.
- Fall and winter are key to Arctic climate change.

