CLIVAR Research Focus on Tropical Basin Interaction (TBI) Report

CLIVAR SSG Meeting, 10 March 2021

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Goals of RF TBI

- deeper understanding of the mechanisms of TBI, its preferred pathways, and its potential benefits for seasonal-to-decadal prediction
- coordinated multi-model GCM experiments
- facilitate the use of paleo proxies
- workshops
- summer schools

from Chunzai Wang 2019
Activities: March 2020 – February 2021

- regular online meetings of RF members
- 3 sessions on TBI at international conferences:
  - EGU 05/2020 (co-conveners: Keenlyside, Richter)
  - JpGU 07/2020 (conveners: Richter, Tokinaga, Taschetto, Keenlyside)
  - AGU 12/2020 (conveners: Richter, Keenlyside, Taschetto, Stuecker)
- research on TBI by RF members
- WCRP-CLIVAR Workshop on TBI held in February 2021
WCRP-CLIVAR Workshop on Climate Interactions among the Tropical Basins

- online-only format; plenary talks, e-posters, discussion groups
- first online-only workshop for CLIVAR
- co-sponsored by US CLIVAR, NOAA, NSF
- technical support from UCAR
- 3-day workshop with 3 sessions per day; 5-hour break
- ~ 200 registrants
- audience typical 100-120 for plenary talks
- working groups on day 3 to chart the way forward
Overall structure of the workshop (days 1+2)

- 4 plenary talks per day (30 min each)
- 2 poster sessions per day (1 hr each)
- Breakout group discussions (1hr)
- Plenary session at the end (30 min)
Overall structure of the workshop (day 3)

- Invitation only (to keep discussion groups at manageable size)
- 4 Working groups meet in parallel; discuss predetermined agenda items
- Plenary session at the end for summary and discussion
- Two time slots: same agenda but different participants
- Results will be merged after the meeting and made available to all participants
Workshop – Outcomes

WG1 Coordinated GCM experiments
• discussed experiment designs
• plan for follow-up meeting to agree on set of experiments

WG2 Theoretical approaches and Intermediate Complexity Models (ICMs)
• plan for developing inter-basin ICM

WG3 Observations
• more interaction between ocean basin communities -> e.g. session at CLIVAR Multi-Region Panel Workshop in 2022

WG4 Paleo proxies
• more interaction among paleo proxy and climate modeling communities
• set up centralized information sources (more detailed meta data etc.)
Workshop – Feedback and Lessons Learned

• feedback
  • generally positive feedback from participants
  • some criticism of schedule
  • waiting for results from participant survey

• lessons learned
  • spread meeting over 5 days
  • longer poster sessions
  • short breaks between sections → opportunity for socializing
  • avoid Friday afternoon session (US time) → Saturday morning elsewhere
  • Slack channels can be a useful addition
Workshop – Ways Forward

- keep the working groups active
- summarize reports of WGs and formulate specific tasks
- meeting of WG1 to finalize GCM experiment design
- special issue in CLIVAR exchanges
  - summary of scientific outcomes
  - report on organization and logistics
  - ~ 10-12 poster presentations written up as short articles
What’s next for TBI?

- parallel processing: RF members split along 4 WGs and conduct activities independently
- plenary meetings to coordinate WG activities
- potentially add a few members, particularly for strengthening paleo links
- initiate and oversee coordinated GCM experiments, hopefully in 2021
- organize some smaller meetings to follow up on workshop outcomes
TBI Timeline

- 2020: 1st workshop
- 2021: RF member research; conference sessions; mentoring
- 2022: GCM experiments
- 2023: 2nd workshop
- 2024: 3rd workshop; summer school
- 2025: review paper