

ENSO conceptual models working group

A CLIVAR Pacific Regional Panel Activity

Monash University workshop

14-17 February 2023

ENSO conceptual models WG: who?

PRP

A. Capotondi, J-S. Kug, J-J. Luo, S. McGregor, M. McPhaden, S. Stevenson, J. Vialard, A. Wittenberg

Other ENSO experts

S-I. An, D. Dommenges, A. Fedorov, F-F. Jin, M. Lengaigne, M. F. Stuecker, C. Wang, N. Chen, W. Cai*

Early career scientists

S. Thual, S-K. Kim, S. Hu, P. Priya*, X-H. Fang, S. Zhao*, L. Geng*

16 present this week
* Review contributors

ENSO conceptual models WG: ToRs

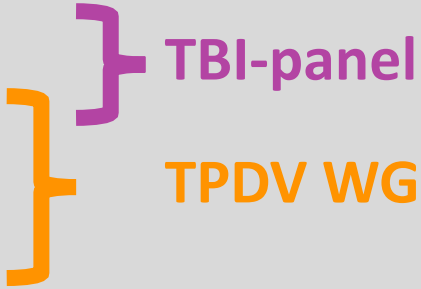
(Below: striped-down version of the ToRs)

1. Common definition for an “ENSO conceptual model”
2. ENSO fundamental properties that should be accounted for by an ENSO conceptual model , and metrics of these properties
3. Literature review: essential physical mechanisms that need to be accounted for
4. Literature review: existing ENSO conceptual model families and core hypotheses
5. Capacity of existing conceptual models to reproduce key ENSO properties and mechanisms in observations and CMIP
6. Properties of ENSO that are *not* well explained by conceptual models, and way forward
7. “Community Conceptual Model” for ENSO
8. Summarize and publish our findings <= in progress
9. Conference session(s) to promote discussions on ENSO conceptual models, in an open and accessible way to the entire ENSO community
10. Work mostly through the internet + PRP meetings and/or conference session

Previous WG activities

- WG initiated in late 2019, all work so far through conference calls
 - Alternating easter- & western-hemisphere friendly timings & recorded
 - 13 videoconferences between June 2020 and September 2022
 - Talks on related themes; syntheses by WG members; review paper framing
- (Online) conference sessions
 - AGU 2020 (convenors: Agus, Mike, Antonietta, Jing-Jia, Kug, Andrew, Jérôme)
 - Ocean Sciences 2022 (convenors: Sam, Malte, Andrew, Jérôme)

Ongoing: review paper on RO

- Relative to the ENSO monograph chapter by Jin et al.
 - More systematic review of the past RO achievements
 - More outlook on the RO usefulness / necessary extensions to study
 - ENSO diversity
 - ENSO-related TBI
 - ENSO response to climate change
 - ENSO sensitivity to mean state
 - (natural climate variability, model biases)
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- We have a first draft and figure list.
 - **Objective of this week:** finalize figure list & provide detailed review to lead authors

This week's menu

	févr. 15	févr. 16	févr. 17
	ENSO breakout sessions (TPDV focus day)	ENSO break out sessions (TBI focus day)	ENSO focus day
09:00 -10:30	09:00-09:30: Introduction to breakout sessions; paper overall structure and figure list (Jérôme)	Breakout groups reviews	09:00-09:20: Synthesis of breakout groups reports on text (Jérôme) 09:20-10:30: Discussion: broad comments on text (Chair: XXX, Jérôme: notes)
	09:30-10:30: Breakout groups reviews		
10:30 - 11:00	Morning tea/Coffee	Morning tea/Coffee	Morning tea/Coffee
11:00 - 12:30	Breakout groups reviews	11:00-12:00: Breakout groups reviews	09:00-09:20: Synthesis of breakout groups reports on figures (Jérôme) 09:20-10:30: Discussion: broad comments on figures (Chair: XXX, Jérôme: notes)
		12:00-12:30: Synthesis by each breakout group	
12:30 -13:30	Lunch	Lunch	Lunch
13:30 - 15:00	13:30-14:15: Breakout groups reviews	13:30-14:15: Preparing ENSO focus day report: main points to discuss, suggestions on figures and text	13:30-14:15: Overall synthesis (Chair: Jérôme)
	14:15 - 15:00: Preparation of ENSO-TBI discussion (chair: Dietmar)	14:15 - 15:00: Preparation of ENSO-TPDV discussion (chair: Samantha)	14:15-15:00: Other items (conference sessions, RO code, online course...) (Chair: Jérôme)

Non-focus day: about 9 people as one group

Non-focus day: about 9 people in 3 breakout groups of 3

ENSO focus day : about 15 people present + online participants

Plenary

WG future (1)

- Priority: finalize the review paper (submission summer 2023)
- 2023 or 24 conference session on ENSO with a RO focus?
 - AGU? (11-15 December 2023 in San Francisco) (deadline?)
 - OSM? (18-23 Feb 2024 in New Orleans)
 - AMS? (8-12 Jan 2024 in Baltimore)

WG future (2)

- Community RO code & tools
- “ENSO for dummies”:
 - RO-based course on ENSO (undergraduate / master 1 level)
 - Hands-on with the RO
 - Test on French students in fall 2023
 - To be proposed to a small subset of the WG, “CLIVAR MOOC”
 - Online: youtube videos, code package
 - Report the whole initiative in BAMS