

Observatoire Océanologique de Villefranche sur Mer
21 - 23 September 2011



Paleoclimate Modelling



Tropical Climate Variability with a focus on Last Millenium,
Mid-Holocene and Last Glacial Maximum

Objectives of the meeting: to produce a “synthetic” product on short-term (interannual to decadal) climate variability (mostly) in tropical regions (e.g. multi-authored publication in a high-profile journal of the current state-of-knowledge about changes in tropical variability based on data analysis, model experiments and data-model comparisons). This product could include:

1. Synthesis of available high-resolution data sets for one/all CMIP5 time periods (The Last Millennium, the mid-Holocene and the Last Glacial Maximum, LM, MH, LGM). We are defining the last millennium as between 850-1850AD, the MH as 7-5ka and the LGM as 22-20ka) as a starting point.
2. Discussion of how to include information from different sensors (coral, shells, tree rings etc...) in a common framework in a way that best reflects what each type of record shows about variability
3. Synthesis of available model simulations of different aspects of climate variability (magnitude, modes, teleconnections), probably focusing on tropical variability
4. Joint analyses of model experiments and observations to characterise variability for each time period
5. Identification of outstanding issues, gaps, problems
6. Discussion of future directions for model/data comparisons

Before the meeting, please think about your contribution to the big-picture paper product and bring material that might be useful (e.g. data sets, summary tables, potential figure) with you.

In preparing your talk (see agenda below), please try to focus on the material that will help answer points 1 to 6 above. Please plan on a 12 minute presentation, followed by 2-3 minutes of immediate questions – there will be lots of opportunities for more in-depth discussion throughout the meeting.

PRELIMINARY AGENDA

(Please note that this agenda is preliminary, in the sense that we want to be flexible about what needs doing and the best way to divide our activities to reach the goal! As new ideas for working together emerge during the meeting, we may alter the timetable and the “tasks” to accommodate them)

Tuesday 20 September Arrival of participants. (evening: ice-breaker, more information to come soon)

Wednesday 21 September

9h00 - 9h30	- Welcome and practical information (10 mn): - Objectives of the workshop and how to reach them (20mn)	Pascale Braconnot Sandy Harrisson
9h30 - 10h30	Presentations of data available for the different time periods <i>(12 minute presentation with 2-3 minutes afterwards for questions, 15 minutes total slot)</i>	Sandy Tudhope Helen McGregor Thierry Correge Julia Cole
10h30 - 11h00	Coffee break	



INQUA/PALCOMM



11h00 - 12h30	Presentations of data available for the different time periods (continued, <i>12 minute presentation with 2-3 minutes afterwards for questions, 15 minutes total slot</i>)	Kim Cobb Claire Lazareth Matthieu Carré Mary Elliot Francisco Cruz Kathy Allen
12h30 - 14h00	Lunch	
14h00 - 14h30	Presentations of data available for the different time periods (continued, <i>12 minute presentation with 2-3 minutes afterwards for questions, 15 minutes total slot</i>)	Duncan Christie Roseanne D'Arrigo
14h30 - 16h00	Presentations of modelling and data-model comparisons (<i>12 minute presentation with 2-3 minutes afterwards for questions, 15 minutes total slot</i>)	Pascale Braconnot Mat Collins Laurent Bopp Birgit Schneider Julien Emile-Geay Tom Russon
16h00 - 16h30	Coffee break	
16h30 - 18h00	Plenary discussion: Strengths and weaknesses of the observational record (Motivated by Sandy Harrison) <ul style="list-style-type: none"> - <i>What are the controls on each sensor? Climatic and non-climatic?</i> - <i>Are there regional differences in the controls?</i> - <i>What are the key aspects of variability to consider? Number of events? Spectrum? Magnitude? Persistence?</i> - <i>What can we say from the data about variability at the LGM ? MH? LM?</i> - <i>Has all this been synthesized before or do we have something new to say about global/regional signals?</i> - <i>Are there discrepancies between the stories told by different types of record? If so, what are the explanations?</i> - <i>Are there significant spatial gaps in our coverage? What are the implications of these gaps for our interpretations?</i> - <i>What would be a good way of summarizing the available data for each time period?</i> - <i>What are the key climate variables that we need to consider for data-model comparison?</i> 	

Thursday 22 September

9h00-10h30

Plenary discussion: Questions and issues emerging from the modeling (Motivated by Sandy Harrison)

- *What can we say from the climate modelling about variability at the LGM ? MH? LM?*
- *What are the key climate variables that we need to consider from a process point of view?*
- *What are the key climate variables that we need to consider for data-model comparison?*
- *Can process modeling (inc biogeochemical modeling) help us understand the records?*
- *Is "model stability" an issue for short-term variability?*

- *Timescales of land, ocean response and impact on data-model comparisons?*
- *What do we know about changing teleconnections and what implication does this have for data-model comparisons?*
- *Are there significant spatial patterns that tell us about process? Are there issues about data coverage in these regions?*
- *What would be a good way of summarizing the available model results for each time period?*

10h30 - 11h00

Coffee break

11h00 - 12h30

Break-out groups. *We will divide into three working groups (LM, MH, LGM). Each working group will prepare:*

- 1) map/table of available data for the time period (include note on “missing data that needs to be chased up, key people to involve in this etc)
- 2) table documenting interpretation of data, separated if necessary by region
- 3) list of key features of the observational record for that time period, plus ideas about how these could be illustrated in figures etc
- 4) list of key uncertainties with respect to the observational record
- 5) list of key features of the model simulations for that time period, plus ideas about how these could be illustrated in figures etc
- 6) list of key issues with respect to the modeling

Please try to have e.g. figures, tables etc ready for the plenary discussion session !

12h30 -

Lunch

Afternoon

Break-out groups (continued)

17h00 - 18h00

Plenary Presentations

Someone from each working group, will provide a brief overview of their discussions/results and any issues that have come up

Evening (Time TBD)

Conference Dinner at La Fille du Pecheur

Friday 23 September

9h00-10h30

Plenary Discussion: Thinking Outside the Box

- *What are the most important features of variability?*
- *What is the relationship between variability and mean state?*
- *How do we relate process to observations?*
- *Is it necessary to develop new data-model comparison tools? If so, what might they look like?*
- *What are the unasked questions? Where do we think the study of variability should go from here?*
- *Could any of this thinking be included in our product? If so, what practical steps do we need to take to include it?*

10h30 - 11h00	Coffee break
11h00 – 12h30	Outline of workshop product(s) <i>The organizers will present (for discussion) an outline of proposed products, drawing on break-out group discussions etc</i>
12h30 -	Lunch
Afternoon	Working groups <i>Based on the discussion of the workshop products we will ask participants to begin work on (or planning of) tasks or activities contributing to the proposed products. This will allow us to make concrete commitments in the final session!</i>
16h30-18h00	Workshop summary, conclusions and outputs (synthesis paper, web, working groups, newsletter;...)