

# PAGES2k-PMIP3: Comparing Data and Model Estimates of Hydroclimate Variability and Change over the Common Era

WEDNESDAY, JUNE 1<sup>ST</sup>

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9:00-9:30 AM	ARRIVAL AND COFFEE	
9:30-10:30 AM	<i>Welcome, Agenda Review, and Introduction of Neighbor Historical review of data-model comparison workshops Discussion of planned accomplishments of the workshop - Planned Paper for Special Issue Updates on PAGES2k Hydroclimate efforts</i>	Jason Smerdon  Juerg Luterbacher
10:30-10:45 AM	COFFEE BREAK	
10:45-11:45 AM	<i>Scoping Exercises Review of submitted questions on hydroclimate of the CE What are the challenges of hydroclimate data-model comparisons over the CE and what can we learn from these studies? What are we hoping to learn from this workshop?</i>	Jason Smerdon
11:45-12:45 PM	CATERED LUNCH	
	<i>Hydroclimate Proxies and Large-Scale Syntheses I</i>	Chair: J. Tierney
12:45-1:15 PM	<i>Hydroclimate over the Common Era from Sr/Ca and Oxygen Isotope Records of Corals</i>	Thomas Felis
1:15-1:45 PM	<i>Hydroclimate Signals in Tree-Ring Chronologies Across Time and Space</i>	Kevin Anchukaitis
1:45-2:15 PM	<i>Interpreting Past Hydroclimate Variability from Sedimentary Records: Challenges and Considerations</i>	Jessica Tierney
2:15-2:45 PM	<i>Australasian Monsoon Variability During the Common Era Inferred from Indo-Pacific Speleothem Records</i>	Michael Griffiths
2:45-3:00 PM	COFFEE BREAK	
	<i>Hydro Proxies and Large-Scale Synth. II</i>	Chair: J. Luterbacher
3:00-3:30 PM	<i>Iso2k: A Community-Sourced Global Database of Paleo- Water Isotopes from the Past Two Millennia</i>	Konecky/Partin

## WORKSHOP AGENDA – June 1<sup>st</sup> – 3<sup>rd</sup>, 2016

3:30-4:00 PM	<i>An Update on the Arctic 2k Hydroclimate Efforts</i>	Hans Linderholm
4:00-4:30 PM	<i>The Role of Tree Ring Drought Atlases in Climate Change Research: State of the Art and Future Developments</i>	Edward Cook
4:30-5:00 PM	<i>Warm-Season Precipitation Reconstruction over Asia in the Past Half Millennium: Tibetan Plateau</i>	Huan Zhang
5:00-5:45 PM	<b>Review hydroclimate proxies</b> <i>What are the challenges/limitations of hydroclimate proxies and how might they be overcome?</i> <i>Where do we have good sampling and where are we missing opportunities?</i> <i>What are the best products and syntheses for model comparisons?</i>	<b>Chairs:</b> <b>Jessica Tierney</b> <b>Juerg Luterbacher</b>
5:45-7:30 PM	<b>CATERED BBQ AT LAMONT</b>	

## THURSDAY, JUNE 2<sup>ND</sup>

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9:00-9:30 AM	<b>ARRIVAL AND COFFEE</b>	
	<b>Model Simulations of the Common Era I</b>	<b>Chair: Steven Phipps</b>
9:30-10:00 AM	<i>Last Millennium Simulations at GISS Including Water Isotopes</i>	Schmidt/LeGrande
10:00-10:30 AM	<i>Simulations of the Common Era in PMIP4/CMIP6: Overview and Specific Issues for Studies of Hydroclimate</i>	Johann Jungclaus
10:30-10:45 AM	<b>COFFEE BREAK</b>	
	<b>Model Simulations of the Common Era II</b>	<b>Chair: Steven Phipps</b>
10:45-11:15 AM	<i>The Global Monsoon Response to Volcanic Eruptions in the CMIP5 past1000 Simulations and Model Simulations of FGOALS</i>	Wenmin Man
11:15-11:45 AM	<i>An Ensemble of Simulations for the Last Millennium with CESM</i>	Bette Otto-Bliesner
11:45-12:15 PM	<i>Hydroclimate Responses to Volcanic Eruptions in CESM</i>	Samantha Stevenson
12:15-1:15 PM	<b>CATERED LUNCH</b>	

WORKSHOP AGENDA – June 1<sup>st</sup> – 3<sup>rd</sup>, 2016

**Data-Model Comparisons I**

**Chair: K. Anchukaitis**

- 1:15-1:45 PM *What We Talk About When We Talk About Hydroclimate: Challenges in Model/Data Comparisons* Ben Cook
- 1:45-2:15 PM *Droughts in the Last Two Millennia: Challenges in its Definition and Connection to Modes of Variability* Raible/Lehner
- 2:15-2:45 PM *Challenges and Opportunities for Data-Model Comparisons in Australia* Ailie Gallant
- 2:45-3:15 PM *Paleoclimate Model-Data Comparisons of Hydroclimate over North America* Sloan Coats

3:15-3:30 PM

**COFFEE BREAK**

**Data-Model Comparisons II**

**Chair: K. Anchukaitis**

- 3:30-4:00 PM *Hydroclimate Changes in the Tropical Pacific over the Last Millennium: Data-Model Comparisons and Possible Mechanisms* Alyssa Atwood
- 4:00-4:30 PM *A Robust Null Hypothesis for the Role of the Tropical Pacific in Driving Megadrought in Western North America* Toby Ault
- 4:30-5:30 PM **Review of Modeling and Data-Model Comparison Efforts** **Chairs: Steven Phipps, Kevin Anchukaitis**  
*What are the challenges/limitations of climate models and how might they be overcome?*  
*What models and simulations are available and how will the landscape change with CMIP6/PMIP4 and in the interim?*  
*Can we define “best practices” for comparison methods? How should model and proxy uncertainties impact comparisons?*  
*How does this inform us of the future?*

7:00 PM

**DINNER AT IL FRESCO**

**FRIDAY, JUNE 3<sup>RD</sup>**

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9:00-9:30 AM

**ARRIVAL AND COFFEE**

***Proxy System Modeling and Proxy Comparisons***

**Chair: Kim Cobb**

9:30-10:00 AM

*Introduction to Proxy System Modeling*

Mike Evans

10:00-10:30 AM

*Model-Data Comparisons: Understanding Water Isotopes in Speleothems*

Sophie Lewis

10:30-11:00 AM

*An Update on Proxy System Modeling and Model-Data Comparison: Progress, Challenges, and Applications*

Sylvia Dee

11:00-11:15 AM

**COFFEE BREAK**

***Data-Model Comparisons with Data Assimilation***

**Chair: Toby Ault**

11:15-11:45 PM

*Assimilation of PAGES2k Continental Temperature Reconstructions using GCM Ensemble Member Selection*

Martin Widmann

11:45-12:15 PM

*Hydroclimate Reconstructions Using Data Assimilation*

Nathan Steiger

12:15-1:15 PM

**CATERED LUNCH**

1:15-1:45 PM

***Review of Proxy Modeling and Data Assimilation***

**Chairs:  
Kim Cobb  
Toby Ault**

*What is the current collection of PSMs and what are the challenges of incorporating them into reconstructions?*

*What are the challenges of using data assimilation for hydroclimate and how might they be addressed?*

1:45-2:30 PM

***Discussions and Group Breakout Sessions***

2:30-3:00 PM

***Reports From Breakout Groups***

3:00-3:15 PM

**COFFEE BREAK**

3:15-4:15 PM

***Summary***

*Review and refinement of workshop questions  
Plans and assignments for special issue contribution*

Jason Smerdon  
Juerg Luterbacher  
Steven Phipps

4:30-7:00 PM

***Paleoclimate and Modeling Outreach Event***

*Speakers: Gavin Schmidt and Kim Cobb*

*Exchange Exercise with Workshop Attendees and Teachers*

**RECEPTION AND MIXER**