



[pastglobalchanges.org/2k](http://pastglobalchanges.org/2k)

Dear colleagues,

We hope that this circular finds you safe and well.

In this update, you will find news about activities in the 4th phase of the 2k Network

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This circular is sent to all 2k mailing list subscribers. Feel free to forward it to interested colleagues with a link to the [PAGES 2k list](#) where they can sign up to receive future circulars. You can unsubscribe at any time [here](#). All previous circulars are available online on the [PAGES 2k Network](#) website.

Please do feel free to contact any of the coordinating team with questions you have about PAGES 2k.

Best wishes from the coordinators:

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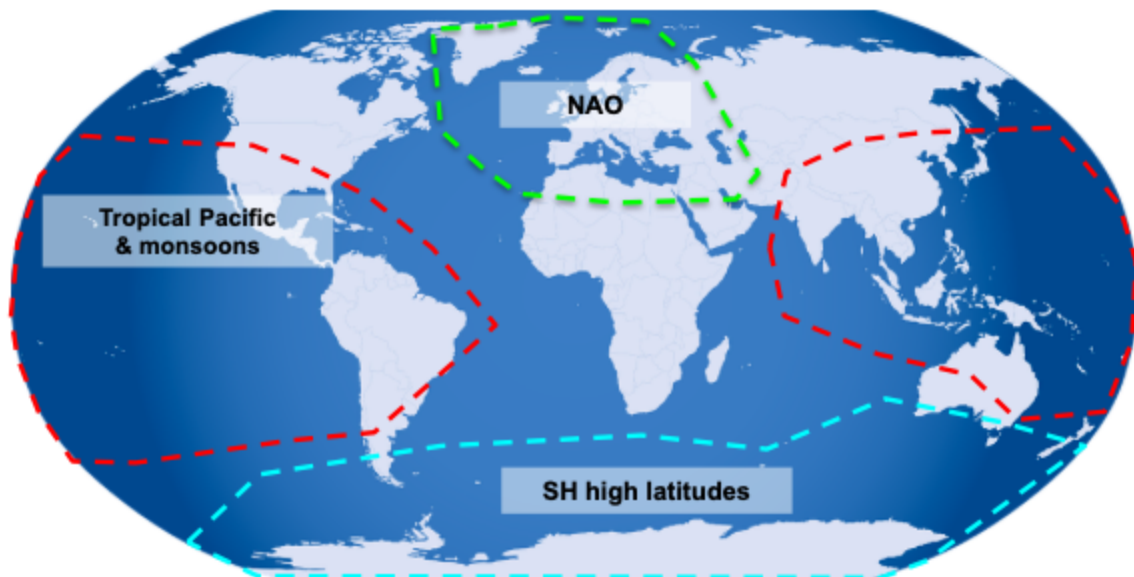
### **1 – PAGES 2k Network Phase 4 Updates**

We continue to work towards the 4 objectives of Phase 4, with our activities to date focusing on objectives 1 - 3.

1. Reconstruct spatial and temporal hydroclimate variability and change over the Common Era from local to global scales.
2. Evaluate and constrain Earth system models using hydroclimate proxy data, whilst using models to inform process-level understanding of Common Era hydroclimate.
3. Develop tools and practices to maximize interoperability of 2k data products, including data sets from earlier phases.
4. Translate the science into evidence-based policy outcomes.

### 1.a - Regional Working Groups

To facilitate initial progress toward Objective 1, we have set up 3 regional working groups, which had some initial meetings prior to the Potsdam workshop around initial targets for work.



These groups are now moving into a 'working' phase, towards Phase 4 Objective 1 and the synthesis of records into databases whilst starting to discuss initial science questions, which are outlined in the workshop report below.

As with other PAGES initiatives, involvement in these working groups is open to all who would like to be involved. Please contact the following Phase 4 co-ordinators if you are interested in being involved.

ENSO-Monsoon - Alyssa Atwood (aatwood@fsu.edu)

Southern High Latitudes - Anaïs Orsi (aorsi@eoas.ubc.ca)

North Atlantic/NAO - Matt Jones (matthew.jones@nottingham.ac.uk)

We are very aware that these groups do not yet cover the entire globe - so if you have interest in other areas and would like to get involved in the Phase 4 data collation phase please do also get in touch.

### **1.b - Potsdam Workshop**

The workshop in Potsdam (6-10 March 2023) presented the first opportunity for the network to meet in person to discuss Phase 4. Approximately 19 joined on site, with an additional 27 registered online.

The first half of the workshop was used for plenary talks by invited speakers and extensive discussions to set the scene for break-out sessions during the second half. The talks started with an introduction on the history of hydroclimate research within the 2k network (presented by Thomas Felis), followed by two talks related to the first goal of the working group: to build a database to reconstruct spatiotemporal hydroclimate variability over the common era. Chris Hancock presented work on a Holocene hydroclimate database and Bronwen Konecky described the process of building the Iso2k database. Seminars by Kira Rehfeld and Nathan Steiger on the next day focused on integration of information from interactions between hydroclimate simulations and reconstructions.

The second half of the workshop was used for detailed discussions within the three regional focus groups. The goals were to sharpen the research questions that these groups aim to answer and map out pathways towards answering them. The tropical Pacific and south Asia group identified the reconstruction of ENSO-hydroclimate teleconnections and variability of large-scale monsoon/circulation patterns as high priority targets, whereas the southern high latitude group focused on the reconstruction of extreme hydroclimate events and the understanding of atmospheric blocking events. The North Atlantic group identified large scale atmospheric modes of variability during climate extremes of the Common Era as a first reconstruction target. All discussions included identifying missing sources of hydroclimate information including those not yet in PAGES databases or similar (e.g. XRF data) and addressing technical issues related to ensuring adherence to the FAIR data principles in accordance with the third goal of the working group to increase interoperability of the 2k data products.

As a part of the discussions during the workshop it was also realized that despite the availability of a vast number of proxy records from a number of different archives in databases, only a few were being utilized for data-model comparisons and data assimilation approaches. More work and communication between the archive groups and modelers is required for the development of suitable Proxy System Models (PSMs) to enable utilization of all the available proxy records. This approach may additionally provide stronger regional signals on decadal-centennial timescales as well.



## 2 – Upcoming PAGES 2k events

**23-28 April 2023: EGU General Assembly (Vienna, Austria)**

2k session [CL1.2.4](#) Studying the climate of the last two millennia

**14-20 July 2023 INQUA Congress (Rome, Italy)**

2k presentation in Session 11: Proxy-based reconstructions of atmospheric and oceanic patterns

More upcoming meetings can be found at: [pastglobalchanges.org/calendar](https://pastglobalchanges.org/calendar)