

2<sup>nd</sup> Annual ARCSS 8k Meeting  
Tuesday 14 December 2010  
Sierra Room K, San Francisco Marriott

**Attendees:**

**PIs:** Abbott, Mark; Axford, Yarrow; Briner, Jason; Hu, Feng Sheng; Kaufman, Darrell; Miller, Giff; Yu, Zicheng

**Collaborators:** Anderson, R Scott; Bichet, Vincent; Froese, Duane; Geirsdóttir, Aslaug; Hanhijärvi, Sami; Henderson, Andy; Korhola, Atte; Massa, Charly; Ojala, Antii; Zhong, Yafang

**Students:** Arnold, Megan; Bochicchio, Chris; Finkenbinder, Matt; Florian, Chris; Hougardy, Devin; Kelley, Sam; Kraweic, Anne; Larsen, Darren; Steinman, Byron; Trifone, Katie; Vaillencourt, Dave; Young, Nicolas

**1. Kaufman: Overview of Study Objectives & Timeline (.ppt)**

Important to link our effort to other groups' work in additional regions of the Arctic – especially given that our study sites represent only one direction of strong correlation between summer temp and AO. On the other hand, our network of sites are well positioned to address winter climate/precipitation phenomena

Our sites allow for comparison between Alaska-Pacific and NW N Atlantic sectors – important to engage international collaborators to compare with other regions

Study aims to develop well-dated quantitative climate reconstructions as well as qualitative reconstructions of directional change

**2. Kaufman: Overview of Project Timeline**

*Step 1:* generate new records and compile edited volume (15+ papers are now committed to be submitted Aug 31, 2011)

- focus papers on understanding proxies and developing geochronology – not regional climate or review of literature
- must be original record (though need not be the record proposed in 2008)
- datasets must be permanently archived (NOAA WDC-Paleoclimate)
- additional records will certainly be generated after this deadline, and may be included in synthesis

*Step 2:* Mid 2012 (IPCC deadline) generate a series of coordinated regional reviews

- focus on major transitions in the spirit of our original hypotheses; including not just lakes but glacial records, ice and marine cores):

- commitments already from:

Kremenetski will lead a Siberian summary

Francus et al in Canadian High Arctic

Seppa et al in European Arctic Russia

Alaska team? (possibly two papers)

NW Atlantic team?

Regional holes in our team: Arctic Ocean, NE Atlantic (Scandinavia), N-Central Canada

*Step 3:* Late 2012 model-data comparison? Submit our next proposal?

Thoughts from the group on a future proposal:

- Compare the latest paleoclimate data with the human/archaeological record?

- Target inclusion in IPCC AR6? (PAGES endorses a Holocene temp reconstruction for AR6 and the Arctic should be represented)

### **3. Where to publish the 2011 special volume?**

Open access & open/transparent discussion at Climate of the Past is appealing for the science; however open access may be prohibitively pricey for submitters given our budgets?

J Paleolimnology is an option (they're open to the possibility) and worked well for the last volume; no participant objected to this option. FSH thought JOPL was most appropriate for proxy-focused papers.

### **4. Reports from PIs:**

DK Alaska: 9 ka shift likely driven by climate, early Holocene env shift from arrival of alder, 3200 yrs shift to Neoglacial

GHM: Iceland 5.5 ka shift to Neoglaciation, Baffin 5 ka, 650-900 AD Dark Ages cold

Chris Boch: 6.1 ka shift to drier conditions (lower lake level), 3.6 another shift

JPB: Neoglacial cooling steepest 4-5 ka (in midges, productivity, glaciers)

FSH: Ben's recently published isotope record shows major drying 5 ka; cooling @ Moose Lake 4 ka

### **5. General Discussion**

DK suggests the next project meeting: INQUA 2011 (propose broader coverage from international community for regional summaries?)

Other possible synthesis-type contributions that may come from our new records:

- Proxy intercomparisons and development
- Quantitative temp reconstructions & their use to address questions about HTM, Neoglaciation, Last 2kyr SPATIAL PATTERNS and modes of variability
- Revisit & update HTM synthesis
- Possible focus on impacts

Potential for integration with other projects:

- Note that any of our records that provide high-res analyses through the past 2 ka will potentially be included in the PAGES Arctic 2k synthesis led by Atte Korhola – providing an incentive to devote resources to focusing on the past 2 ka

- SynTraCE – transient simulation 21 ka to present – major effort at modeling and also data-model comparison; our project might fit under this umbrella and benefit scientifically from the international umbrella of PAGES

How to engage archaeologists & incorporate human dimension?

How can we best use the project website? Ideas for additions/updates are welcome!

Please send links to any relevant outreach materials to DK

Ultimately we'll use the site to summarize results & sites from the special issue