NECLIME Newsletter 27 November 2013

Report on the 14th Annual NECLIME Meeting, St. Petersburg, 2013

The 14th Annual NECLIME Meeting 2013 was held in Saint Petersburg, Russia, from October 1 to 4. The meeting, hosted by Dmitry Gromyko and Svetlana Popova, took place at the Komarov Botanical Institute of the Russian Academy of Sciences, included a guided tour through the greenhouses of the Botanical Institute, and a 1-day field trip to the Karelian Isthmus (primary and secondary vegetation, cultural heritage).

The NECLIME meeting, perfectly organized by our hosts, was very successful, as we think, and brought together ca. 40 colleagues from 11 countries. 20 talks and 5 posters in total were presented.

The presentations comprised palaeoclimate and vegetation reconstructions from the early Palaeogene to Holocene, observed at local to continental scale, and addressing longer-term changes as well as short-term variability. Contributions on the analysis of palaeobotanical proxies were complemented by talks on numeric modelling of ocean/atmosphere and vegetation cover.

Due to the participation of numerous colleagues from China, India and Japan, the Cenozoic evolution of the Eastern Eurasian biosphere including the impact of climate change on biodiversity were in the focus, as well as monsoon-induced patterns. A second key aspect was continent-wide reconstruction of Eurasian gradients, including the comparison of records from the Atlantic and Pacific side of the continent, a topic ideally addressed in the frame of joint co-operations, especially with our Russian, Chinese, and Japanese partners.

The scientific program and abstract volume of the 14th Annual NECLIME Meeting will be available for download at the NECLIME website.

As usual, the meeting was closed with a plenary discussion. The following topics were addressed:

Topic: Validation of climate change scenarios – how can NECLIME contribute?

The Second and Third Report of the Intergovernmental Panel on Climate Change (IPCC) can be used as a basis for setting up studies on past conditions that are suitable for the validation of climate change scenarios.

Temperature:
As regards temperature changes prognosticated under a changing atmospheric CO_2, climate sensitivity of the model used is important. High sensitive models may overestimate temperature increase anticipated for the near future while low sensitivity models underestimate warming due to CO_2 increase. Comparison of proxy data and data obtained from past model scenarios can provide valuable information.

Precipitation
Most models predict aridification for the lower mid-latitudes of Eurasia. From the palaeo-perspective, however, higher past temperatures were mainly combined with wetter conditions. This irreconcilability should be further addressed in related studies on past time slices.

Research conducted within NECLIME and NECLIME data for Neogene time slices can contribute to better validate modelling approaches for past or future scenarios. Key regions are the high latitudes and the arid to semi-arid zones. Concerning the high latitudes the timing of significant cooling in still unclear, also the relation of sea-ice forming and continental temperature decline is not completely understood. The other main question is how and when continental interiors became arid regimes along the Neogene.

Topic: Evolution of biodiversity hotspots

The evolution of biodiversity hotspots and the loss of biodiversity in the context of Neogene cooling will continue to be in the focus of NECLIME research.

In a Sino-German Symposium organized by Zhe-Kun Zhou and Volker Mosbrugger in Xishuangbanna, Yunnan earlier this year, a project initiative on the biodiversity hotspot Yunnan was appointed and preparations are ongoing to set up a larger project.

In this context members pointed out that other existing co-operations within NECLIME (with V. Prasad; A. Momohara) open up the perspective to evolve and extend this topic into a Pan-Himalayan key area, and to include other areas of high biodiversity such as Japan and Southern India. On the medium-term, a Neclime volume on the evolution of biodiversity hotspots was suggested.

Topic: NECLIME special issues

A special issue on quantitative vegetation reconstruction is intended, based on the contributions anticipated for session S25 of the EPPC. The intended volume will be discussed in Padova.

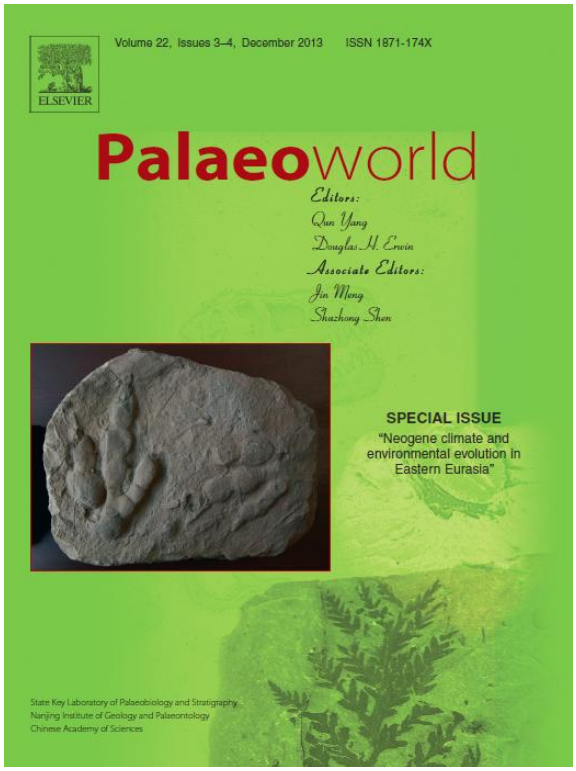
First appointments concerning the planned special issue on biodiversity will be made in Izmir, at the Annual NECLIME Meeting 2014.

NECLIME website and publications

Members are asked to provide references of their published work when related to NECLIME topics, update their project entries at our website, and check their affiliations (including email) for correctness.

The **4th NECLIME special issue** will be released still in December 2013. The volume has a total of 11 contributions, with an emphasis on East Asia, but including as well global issues and methodological papers. We congratulate Wei-Ming Wang and Zhe-Kun Zhou on the

successful release and express our thanks for organizing this valuable contribution to NECLIME.



The volumes and the contained papers can be accessed at sciencedirect under http://www.sciencedirect.com/science/journal/1871174X

Reference:

Wang, W.-M. and Zhou, Z.-K. (eds), 2013. Neogene climate and environmental evolution in Eastern Eurasia. Palaeoworld 22 (3–4), 73-168 (December 2013).

NECLIME 2014 - forthcoming events

- NECLIME Annual Meeting 2014

  In Saint Petersburg, Funda Akgün introduced the venue of the 15th Annual NECLIME Meeting 2014. The meeting will be held in Izmir, Turkey / Dokuz Eylül University from October 13 to 15. More details will be communicated to you in a first circular that will be sent around in December.

  The offer of our Italian colleagues to organize the meeting in Padova, along the EPPC conference, is gratefully acknowledged and was considered as another very attractive solution by the participants of the St. Petersburg meeting.

- 5th workshop of the NECLIME working group in "Taxonomy of Neogene Palynomorphs" The workshop, organized by Serkan Akkiraz, will take place in Kütahya / Dumlupınar University, Western Anatolia, right after the NECLIME meeting, and will include a field trip to the Seyitömer and Tunçbilek Cenozoic basins. You will be informed about details on the program and the core topics of the workshop.

- NECLIME sessions at the EPPC Padova, Italy, 26.08.-02.09.2014

  S26. Seasonal climate differences and their evolution through the Cenozoic of Eurasia (a NECLIME symposium); Convenors: Andrea K. Kern, Gonzalo Jimenez-Moreno & Wei-Ming Wang

  S25. Cenozoic vegetation quantification with models and proxy data (a NECLIME and ROCEEH contribution); Convenors: Louis François, Angela A. Bruch & Torsten Utescher

We are grateful to all participants for presenting their research in Saint Petersburg, and for all the good discussions we shared.

Our special thanks go to Dima and Svetlana, and all the colleagues from the Komarov Botanical Institute who greatly helped to make this 14th Annual Meeting of NECLIME that successful and most pleasant.

Thanks again from all of us!
Angela, Volker and Torsten