



14th NECLIME Annual Meeting 2013

1st – 4th of October, St.Petersburg, Russia

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 CO₂, 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 CO₂ 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 is 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.