Paleogeographic investigation in the Kaliningrad region, Russia



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Location of research



Main goal

 Main goal of our research – is high resolution reconstruction of climate and nature variability in late Pleistocene and Holocene in southeastern part of Baltic region.

Methods

- Field work
- Radiocarbon dating
- Pollen analisis
- Diatom analysis
- Geochemistry analysis
- - LOI
- Grain-size analysis

Objects of research



Kamishovoe lake in June



Kamishovoe lake in March

Kamishovoe lake (54°22'531''N, 22°42'750''E, 189 m a.s.l.)



Maximum length 1200 m, width -600 m, maximum depth - 3.8 m, depth in the drilling place -2.2 m. In result of drilling was taken 9,8 meters of bottom deposit.

Lithology and analysis



Deph from water level, cm

Legend Title Black gyttja Gyttja Clay gyttja Organic layer Clay alevrit

- Totally we have 3 full cores.
- First core was divided on 10 cm samples for dating and LOI
- Second core was divide on 1 cm samples for geochemistry
- Third core was divide on 2 cm samples for pollen and diatom

Approximately reconstruction of climate changes



Conclusions

- Before 10000 yr BP climate was cold.
- Rapid warming begin from 9800 till 6000 yr BP.
- From 6000 to 4100 BP event climatic stabilization.
- From 4100 to 600 yr BP was gradually cooling, except for an interval, selected as zone 4.2, which can be associated with human activity

Research perspectives

 When the study of other analysis will complete, then we can more accurately describe the dynamics of the natural environments in the Russian part of South-Eastern part of the Baltic region in late Pleistocene and Holocene. The researchers are supported by Strategic development program of the Herzen University for 2012-2016 (project No 2.3.1) and RFBR projects (№ 12-05-33013; 13-05-01039).