**VEGETATION DYNAMICS, HUMAN IMPACT AND CLIMATE INFLUENCES AROUND LAKE SEVAN IN ARMENIA DURING THE HOLOCENE**

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Armenia is located in Caucasus Mountains and currently, its vegetation is largely dominated by steppes and closely linked with human practices. Holocene vegetation records from this region are often low temporal resolution and climate reconstructions are rare. Pollen-based climate reconstruction coupled to independent climate reconstructions appear necessary to fully understand climate forcing in the region during the Holocene.

The aim of this project is to reconstruct vegetation changes, to identify human activities and to quantitatively reconstruct past climate during the Holocene in the sediments from Vaneev peat (South-Eastern shore of lake Sevan, Armenia). In this study we introduce high-resolution pollen, non-pollen polymsomers (NPP), geochemical analyses and temperature reconstruction based on pollen and branched glycerol dialkyl glycerol tetracetehers (brGDGTs).

**MATERIAL & METHODS**

- 14C dating 10 core samples + Lithology description
- XRF analysis High resolution 5mm
- Erosion Wetland dynamics
- Pollen 28 modern samples
- Modern database Vegetation composition and structure
- for climate reconstructions
- 93 core samples
- Climate parameters reconstructions
- NPP 93 core samples Water level
- 45 core samples Climate parameters reconstructions

**REFERENCES**

- Mann, K., (2013). The archaeological site of the Mattias of Revaz, Transylvania, Romania.

**FIRST RESULTS**

Vegetation, human and climate in the Holocene around Lake Sevan, Armenia.

**DISCUSSION**

Select proxies against age showing percentages of main pollen taxa, alga and XRF data of Vaneev peat. Tree, shrub, and herb taxa are expressed in percentages of total terrestrial pollen. Aquatic taxa (floating macrophytes and semi-aquatic plants) are expressed in percentages of total pollen. Ferno, spores and Algae (PoEastero-Boritersed) are expressed in percentages of total terrestrial pollen and NPP. AP: Arboresal Pollen. Floating macrophytes: Myriophyllum, Potamogeton, Utricularia, Lemna, Nymphaea. Semi-aquatic plants: Cyperaceae, Puccinaria, Sparganium, Typha.

**WETLAND DYNAMICS**

The wetland studied shows major ecological changes and water-level variations:

- From 9700 to 5100 cal. BP a lake system is recorded with a maximum water depth between 8700 and 8000 cal. BP.
- Then, over a period of 100 years, rapid water-level fluctuations emerge and finish by a drying phase at 4700 cal BP.
- Finally, a peatland with a low-level water is gradually formed and will be maintained until today.

**RELATIONSHIP BETWEEN VEGETATION, HUMAN AND CLIMATE**

- Along the Vaneev sequence, the vegetation is characterized by steppes dominated by Poaceae, Artemisia and Chenopodiaceae. A maximum of arboreal taxa, representing mainly distant vegetation, is observed between 8000 and 5000 cal. BP.
- Early and Mid-Holocene climate trends impact distant vegetation dynamics and water-level variations until 5500 cal. BP.
- From 5500 cal. BP the proportion of Cereals at Vaneev peat increases and corresponds to the installation of first farmers around Lake Sevan. Four phases with high cereal values correlate with occupation periods reported in archeological studies. Local vegetation seems to be largely influenced by human practices.