

# **A method of palaeoclimate reconstruction by lithological and geochemical characters of sediments on the basis of wavelet-analysis and artificial neural networks for the example of Teletskoe Lake (Altai)**

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## **Abstract**

The method of climatic reconstruction by lithological and geochemical sediment properties on basis of combination of wavelet-analysis and artificial neural networks is proposed. Time series of chronological sequences of these properties variations are used for that. Artificial neural networks let to make functional dependences between climatic parameters and sediment properties by training on known data. At that, time series previously are decomposed into frequency levels using wavelet-analysis, and only those levels, which contain periods presenting on known zone of climatic parameter, are used for training. The method was tested on average annual temperature reconstruction in Altai area by bottom sediment properties from Teletskoe lake.