

PALEOCLIMATE MODELLING USING A MICROFOSSIL DATA.

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New paleoreconstruction model based on determinant statistics is offered. Cluster analysis of modern sediment samples allows to divide these samples into groups and to reveal correlation between these groups and water masses. The correct choice of one from six metrics and one from five strategies of union depends on the reliability of data. Cluster analysis of the species reveals groups of species preferring similar biogeographical conditions. Factor analysis is used for paleoreconstructions by microfossil data. We offer some methods which can improve the accuracy of calculations and enlarge the range of researched parameters. One of such methods is multidimensional splines based on Green functions. Our model permits to reconstruct not only sea surface temperature and salinity but hydrology of the upper layer of ocean water. By this model we have got three-dimensional baroclinic components of paleo currents and mass-heat transport in the Atlantic Ocean for the Last Glacial Maximum.