FORECASTING OF MEAN ANNUAL HEAT CONTENT CHANGES IN NORTH ATLANTICS UPPER LAYER HAVING REGARD TO GLOBAL FACTORS INFLUENCE

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Forecasting possibilities of annual mean heat content changes in upper 700 m layer of North Atlantics were studied with regard to influence of sun activity prehistory variations and CO_2 tropospheric concentration. For prediction a linear multiple regression model with 29 factors was used. It connected studied process changes with prehistory fragments of named global factors, which statistical connections were the most powerful and steady.
Forecasts with all possible sets of such factors were compared. It allowed to establish a set of such factors, which consideration as forecasting model arguments, secures minimal levels of maximum prediction errors with 1-5 years advancing.
Forecasts features, developed with regard to this one and all other arguments sets of the model, were analyzed. It was determined, that decrease of annual mean heat content in upper 700 m layer of North Atlantics, which began after 2004 yr, would stop and change its phase on opposite in 2014-2016 yrs.
It was established, that prehistory of CO_2 tropospheric concentration changes and sun activity variations were statistically significant factors of studied process under determined time shifts. Statistical relations between them have steadiness to time shifts of corresponding time series. This provides robustness of forecasting multiple regression models of studied process, considering them as arguments.
Developed forecasts are the most realistic, accurate and will be realized in future, under condition that regularities, which cause statistical connections of studied process and its global factors, will not change.
Keywords: heat content in upper 700 m layer of North Atlantics, sun activity, CO_2 concentration, forecast, multiple regression model.

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