*Forecasting the weather
- ensemble techniques
in probabilistic weather prediction*

Regionalization and regression analysis of air temperature and precipitation in global Data Base on climate

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Estimates of informative capacity were obtained for the climatic factors of river runoff (precipitation, air temperature) at different levels of spatial resolution. The local level is presented by long-term observations at meteorological stations, regional one – by series of meteorological characteristics in the global DB on climate CRU TS 3.0 (http://www.cru.uea.ac.uk/cru/data/hrg-interim/). This DB includes average monthly values of temperature and humidity, total cloud cover, difference between the maximum and minimum temperatures, monthly precipitation, and frequency of days with frost. Series of meteorological data in this global data base refers to the period of 1901-2006 years. Spatial interval between the nodes of a regular grid is equal to 0.5 degrees in longitude and latitude. Data are distributed along altitude from 0 to 5734 m above sea level. The comparative analysis was performed for the quality of multiple linear regression equations Run = f(A1 ... AN) and R = f(B1 ... BN) on an example of the Amu Darya and Syr Darya rivers – the main sources of water supply in Aral Sea Basin. Here: Run – runoff or water flow, A1 ... AN – direct measurements of precipitation and air temperature, B1 ... BN – the same characteristics, selected from a database CRU TS 3.0. Determining the most informative composition of the climatic factors of runoff is performed by the method of exhaustive search 2 ... N combinations of independent variables in the training sample. Information capacity of the average annual air temperature at the regional level offers an opportunity to apply the method of statistical downscaling to the output results of models of global circulation of atmosphere and ocean.