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## Impact of global warming on the conditions of the Siberian rivers discharge formation

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The modern Arctic is becoming warmer and more humid, and the Arctic Ocean is increasingly free of ice in summer. One of the feedbacks of global warming in the arctic part of the climate system is an increase of downward long-wave radiation inflow to the surface of snow and ice due to an increase of the content of water vapor in the atmosphere of the Arctic. The source of the increase of the water vapor content in the arctic atmosphere is the atmospheric branch of the freshwater cycle, including moisture transport from low latitudes and inflow from the ocean surface. Moisture from low latitudes is transferred not only to the Arctic, but also to the adjacent continent of Eurasia, from where its excess is transferred by river flow to the Arctic Ocean. Strengthening of zonal transports of heat and moisture from oceanic regions to continents and meridional transports from low latitudes of the World Ocean to temperate and high latitudes is shown using the proposed indices of the zonal and meridional circulation. The indices were calculated according to the NCEP, ERA-Interim reanalysis data. It has been established that the increase in transports is manifested, in particular, in an increase of air temperature, in an increase of the total moisture content in the atmosphere over the area of Siberian rivers flow formation, in an increase of precipitation and, as a result, in an increase of the run-off of rivers flowing into the Arctic Ocean. The connection between the indices and surface air temperature, precipitation, atmospheric moisture content in the regions of catchment areas of three main Siberian rivers, Ob, Lena and Yenisei, confirmed the influence of atmospheric transports in the cold part of the year. Assessment of the relationship between changes of climatic conditions in the catchment areas and interannual changes of river runoff parameters indicated that annual runoff increases and mostly is affected by increase of average annual precipitation. The study was carried out with the support of the Russian Foundation for Basic Research (Project 18-05-60107).