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Variability of planetary high-altitude frontal zone and jet stream in the Northern hemisphere from 1991 to 2019 in the summer period

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Global climate changes particularly observed in the Arctic region are influenced on the formation of circulation in the atmosphere. The planetary high-altitude frontal zone for midlatitudes has analyzed from 1991 to 2019 in the summer period, on July. Deviations poleward from the normal of high-altitude frontal zone and jet stream have observed, particularly marked over the Eurasia during last decades. Changes in the form and decreasing of intensity of high-altitude jet streams are noted, which further contribute to the formation of blocking anticyclones and increasing in the incidence of anomalous weather events.

The case of July 2018 is presented in this work. The anomalous high temperature in Scandinavia and north area of the European part of Russia have observed due to formation of the blocking over this territory. The main reason for the formation of blocking is the instability of the jet stream. The characteristics (intensity, position relative to the North Pole and form) of the arctic and midlatitudes jet stream have analyzed.