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The main features of the temperature regime and atmospheric circulation in the Northern Hemisphere in the summer of 2021 are considered based on the ERA5 reanalysis (ECMWF) of surface air temperature and 500 hPa geopotential height with a daily resolution. Using the operational version of the SL-AV semi-Lagrangian atmosphere model for long-term forecasting, the potential of forecasting heat and cold waves, as well as the Extreme Forecast Index (EFI) against a background of quasi-stable circulation modes of the blocking type are determined. The dependence of the forecast skill on the phase of development of the blocking anticyclone (initiation, mature phase, dissipation) is shown. The results can be used to make forecasts of extreme weather events on intraseasonal timescales.

Keywords: extreme weather events, heat and cold waves, blocking anticyclones, long-term weather forecasts

Fig. 6. Ref. 12.