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Impacts of atmospheric blocking in the Northern Hemisphere

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Atmospheric blockings (herein referred to as persistent and quasi-stationary large-scale anticyclonic systems in the mid and high latitudes) are an important component of the intraseasonal variability in the Northern Hemisphere and a challenge for General Circulation Models (GCMs) and medium-range weather forecasts. They are characterized by a strong meridional circulation and a perturbed jet stream, thus disrupting the regular eastward progression of mid-latitude disturbances. Blocking episodes are associated with anomalous weather conditions over long periods and large areas of the mid and high latitudes.

Herein, we describe the impacts in temperature and precipitation associated with regional blocking events. The last decade has been characterized by an unusual frequency of extreme weather and we discuss the role played by anomalous blocking activity in recently devastating heatwave episodes. The behavior of blocking in climate change scenarios is still unclear. Some of the sources of uncertainty are analyzed.