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## **Influence of the ocean initial state on the weather anomalies simulation for 2019/2020 winter in the INMCM5 seasonal hindcasts**

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During the 2019/2020 winter season the extremely high air temperature and precipitation were recorded over northern Eurasia, eastern Asia and eastern North America. Over the UK this winter was stormy and one of the wettest for the entire observational period. Moreover, it was the only winter without stable snow cover in the central East European Plain. The reason of such exceptional weather is the domination of a North Atlantic Oscillation (NAO) positive phase during the whole season.

Since the NAO effect on winter weather is strong, prediction of its phase is a challenge for all national meteorological services. Several of them predicted the positive sign of North Atlantic Oscillation phase for 2019/2020 winter season, but underestimated the magnitude and duration. Forecasts obtained from INM RAS climate model (INMCM5) demonstrated consistent results for the considered season.

In this work we use the INMCM5 to study the sources of the predictability of both the extremely positive NAO phase and the weather fields anomalies in the 2019/2020 winter season. In particular we consider whether the INM RAS climate model simulates the positive Indian Ocean dipole — positive North Atlantic Oscillation phase teleconnection.

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