2010年夏のロシアブロッキングにおける大西洋ストームトラックの寄与
Contribution of the Atlantic storm track to the Euro-Russian blocking maintenance in summer 2010

*山崎 哲[1]
*Akira Yamazaki[1]

1. 海洋研究開発機構 アプリケーションラボ
1. Application Laboratory, Japan Agency for Marine-Earth Science and Technology

A long-lived blocking anticyclone occurred over western Russia during summer of 2010. This blocking persisted especially during the whole July over the western Russia and caused various weather extremes in the Eurasian continent. In this study, we investigate the mechanism and predictability of Euro-Russian blocking in terms of the interaction between blocking and synoptic eddies or storm tracks, that is, the eddy feedback mechanism. The author adopts the selective absorption mechanism (SAM, Yamazaki and Itoh 2013) to explain the maintenance mechanism and predictability of Euro-Russian blocking during July. Using an ensemble data assimilation system and an AGCM with the same forecast model, we conducted ensemble medium-range (7 days) forecast experiments. Isentropic trajectory analyses suggested that the SAM can work even in the summertime blocking event and the mechanism is more effective for forecast members in which the blocking is successfully forecast. We also conducted a sensitivity experiments in which the Atlantic storm track was suppressed by a piecewise potential vorticity inversion method to evaluate the impact of the storm track on the maintenance of the blocking. The result indicates that the blocking can be substantially maintained by the feedback from the storm track. The results suggested that the Atlantic storm track can substantially contribute to the maintenance of Euro-Russian blocking and its predictability.

キーワード：大気ブロッキング、ストームトラック、アンサンブル予報
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