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The field of integrated water vapor over northeastern Siberia from the data of global navigation satellite systems

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Abstract

© 2016, Allerton Press, Inc. Seasonal and diurnal variations in integrated water vapor over northeastern Siberia derived from the data of global navigation satellite systems are considered. It is demonstrated that integrated water vapor is characterized by asymmetric annual variations with the maximum in July and with the minimum in February. The meridional gradient of integrated water vapor during the year varies from -8.7 mm/1000 km in July to -0.5 mm/1000 km in February. The zonal gradient reaches 1.0 mm/1000 km in July and -2.8 mm/1000 km in September. It is shown that the diurnal maximum of integrated water vapor is registered in the evening and at night and the amplitude of diurnal variations is 0.25-0.70 mm in summer and 0.08-0.21 mm in winter.

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Keywords

global navigation satellite systems, Integrated water vapor, northeastern Siberia