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WATER STORAGE CHANGES ON ARCTIC WATERSHEDS. CONTRIBUTION OF FUTURE SWOT MISSION

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On the north of the Western Siberia the permafrost degradation results in changes of surface pool water storage. A lot of the thermokarst lakes have been formed in this region. Their water regime and their role in the catchment water balance is a primary goal of this study. By combining the satellite optical and altimetric measurements with in situ observations, we estimate the variability of water storage at the local scale and extrapolate the results for a large river basin. We also assess how the future hydrological satellite mission SWOT will help us to evaluate the contribution of the freshly formed thermokarst depressions to water cycling. To do this we use the SWOT simulator, developed by JPL/CNES and evaluate the accuracy of the water level reconstruction for lakes and ponds of different size.

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