



## **Storm surges in the Gulf of Finland and the Neva River observed on satellite altimetry data**

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Satellite altimetry data on sea level anomalies (SLA) obtained from TOPEX/Poseidon and Jason-1 satellites were analyzed to investigate storm surges in the Gulf of Finland. Comparison of the satellite derived SLAs with the records of maximal historical storm surges in the estuary of the Neva River in St. Petersburg show that SLA reflects all the observed storm surges. However the temporal resolution of satellite data may be insufficient. Time interval of the Jason-1 data in crossover points is about five days. That is why the peak of sea level rising may be missed. Nevertheless satellite SLA variability shows that there is a period of gradual sea level rising before the strong storm surges which can be observed far from the estuary in the entry to the Gulf of Finland. Thus the satellite altimetry data can be used for monitoring and early prediction of the storm surges in the Gulf of Finland. Peculiarities of the sea level variability are discussed in the report. This study was supported by the grant of the Russian Foundation for Basic Research (06-05-64871), and by the INTAS Project "ALTimetry for COastal REgions" (ALTICORE).