



Modeling a heavy rainfall case in North-East Estonia in august 2003

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In August 6-7, 2005, North-East of Estonia suffered under a heavy rainfall. Precipitation amount was more than 130 mm in two days, which is very unusual for the area. Some small towns were flooded, several roads were destroyed. Factories had to stop for weeks.

Estonian Meteorological and Hydrological Institute (EMHI) gave general storm warnings for Estonia, but nothing about the possibility of such a heavy rainfall. Also, numerical weather prediction model HIRLAM at the Finnish Meteorological Institute didn't show the possibility of the extreme rainfall.

In current study, HIRLAM and it's non-hydrostatic extension are tested at higher resolutions to see, if it would have been possible to predict the event with currently available models. It is shown that already model resolutions of the order of 10km would have given a much better forecast. Potential benefits of using even higher resolutions is also tested and discussed.