



Severe Thundershowers Over the Central Part of Latvia on 29 July 2014

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In the end of July 2014, during a continuous heat wave, record-breaking thundershowers occurred in the central part of Latvia. In small town Sigulda the amount of precipitation reached 123 mm in six hours. This was an extreme weather phenomenon not only for Sigulda but also for the whole Latvia - it was the 6th highest precipitation amount observed in Latvia so far.

In the middle of the summer 2014, warm and moist air prevailed over Latvia for several weeks, which resulted in the development of an intensive convective process. Even though early in the afternoon of July 29 there were only a few storms present, their further development was very intense and rapid during the following hours. An area of weak pressure gradient with weak vertical wind shear contributed to slow motion of clouds and resulting extremely heavy showers over some parts of Latvia. This storm caused tens of thousands of Euros damage in the Sigulda municipality, but during the recent years other parts of Latvia have experienced high impact severe thunderstorm events as well. Therefore the analysis and identification of the features associated with such intense and rare processes is essential for the increase in understanding and forecasting these summertime weather hazards.

This study presents an in-depth analysis of this extreme convective event over Latvia by the exploration of mesoscale atmospheric processes, available satellite and radar imagery and products and also in-situ observations.