

EXTREME RAIN AND CLOUDBURSTS NOW AND IN THE FUTURE IN SWEDEN

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Abstract

The existing precipitation networks in Sweden are sparse and most measurements are restricted to one reading per day. Therefore, it is a delicate task to estimate the severeness of extreme rainfall based on observed events.

The effect of relatively small cloud bursts may cause for example local flooding and land-slides and damages amounting to millions of kronor. The ongoing climate change increases the global temperature but it also changes the precipitation. Exactly how this change in precipitation will manifest itself varies a lot geographically.

In the Baltic region most climate models show a general increase of the precipitation. But, there may also be dry periods and a higher temperature increase the evaporation that in turn makes the dry period worse.

The present climate models in operation are rather coarse and their description of small scale precipitation phenomena such as cloud bursts are not good. This causes uncertainty in the prediction of how intense rains will develop in the future. At the moment so called down scaling methods are used and the results of that show that the cloud bursts will be more extreme in the future.