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Impact data in weather & climate services

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In extreme weather events and in studies about climate change, the impacts are front and center of attention. For example an extremely high air pressure may cause no significant impacts and therefore is of little interest to most people. Therefore gathering and using impact data is vital when connecting extreme weather and climate to our everyday lives. We demonstrate the use of impact data as one source of information in operational weather forecasting duties as well as in weather and climate studies.

The Finnish Meteorological Institute has for a few years received near-real time filtered emergency dispatch data that has proved to be useful in severe weather events. As an example we show how different data sets, including storm related emergency calls, can be combined into a product that gives up-to-minute information about the storm intensity, area and impacts. This compiled information can quickly be: used by forecasters in nowcasting efforts, used in communicating the storm to the media, deliver a quick graphical summary to insurance companies or any other interested party.

Additionally we illustrate how impact data can be helpful in a variety of weather and climate studies. For example we can use storm damage impacts combined with weather reanalysis data to gather information about thresholds of wind gust speeds and soil conditions that lead to either minor or major damage in different parts of the country. Some further plans of possible impact data usages are also highlighted.

The examples shown here are additionally used in capacity building workshops related to the EU FP7 project CORE-CLIMAX (2014).