



Information on severe weather related damage as a background for better risk assessment

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Severe weather is very unpredictable with respect to estimating a duration, location and intensity of meteorological phenomena. Due to this unpredictability insurance policy for vehicles, buildings and especially agriculture is of great importance.

The Croatian territory is subject to a number of severe weather phenomena, including intense localized thunderstorms, high rates of precipitation, hail, gale force winds, lightning strikes and flash floods.

A set of information about the time, place and paid amounts for property damage caused by certain type of severe weather in Croatia was obtained from insurance company „Croatia osiguranje“. Based on data from 2014 and the first half of 2015, 12 events with the highest number of compensations were chosen for the analysis.

The study was performed in order to identify certain type of synoptic situation that caused severe weather phenomena that lead to property damage. For example, the highest compensation paid for damage in this short observed period was about 300 000 euros per single case in one of these 12 events. So we assume that insurance companies could benefit from results of this work. Additionally, there was an attempt to obtain some criteria for the impact-based warnings in terms of comparing severe weather phenomena intensity and related degree of damage (small, medium, large). However, the available data sample proved to be insufficiently large.

The analysis of the associated synoptic situation and meteorological parameters, which directly caused the damage on the separated dates, shows that in 9 events severe weather was mainly caused by cyclonic activity in Genoa bay and/or nearby. Other events have been associated with the occurrence of intense convective activity over parts of Croatia during summer.

In conclusion, particular synoptic situations identified in this work can help forecasters in decision making when severe weather warnings are to be issued. The idea of quantifying the warning criterion for the operational use needs much longer time periods, i.e. data samples, and this will be done in future work. It is worth mentioning that in all analyzed severe weather events DHMZ's forecasters have issued accurate warnings in MeteoAlarm system.