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Weather regime dependence of extreme temperature and precipitation events across Austria's part of the European Alps as well as thereby triggered hazard occurrences jeopardizing society

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Extreme events, such as heat waves and floodings, constitute major challenges for all organizations and institutions responsible for protection, support and medical assistance of civilians. Therefore the ongoing enhancement of alert and warning systems is highly desirable. In particular the investigation of climate change driven effects on extreme events will help agencies to plan their medium to long term resources.

We thus investigate the relationship between large scale synoptic weather patterns and extreme events on the regional scale in Austria and thereby focus on studying how the frequency, duration and intensity of weather patterns change under global warming by performing nonstationary regression.

Furthermore the impact of these trends in the large scale weather patterns on extreme precipitation and temperature events in Austria is analyzed. Achieved results shall significantly support disaster protection and relief organizations' anticipatory medium to long term planning of resources.