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ExtremA: a review of extreme natural hazard events in Austria

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Extreme natural hazard events are difficult to predict and to manage, mainly because of (i) limited awareness, experience, and data due to long recurrence intervals or singularity of events; (ii) often complex process interactions involving threshold effects, tipping points, or other nonlinear phenomena; and (iii) the potentially large number of people and high economic values affected. As a result, extreme events and their consequences have a high potential to evolve into "natural" (which are actually social) disasters. The statements (i)-(iii) are not bound to specific types of hazardous processes, but are claimed to be generally valid.

Therefore, a sound documentation of extreme events recorded in a given area in the past and – most importantly – the lessons learned from occurred disasters can provide a valuable basis for an appropriate management of the risks associated with possible future extreme events. The ExtremA project aims to provide such documentation for the territory of Austria. Thereby we focus on mountain hazards and risks including various types of landslide processes, but also on more broadly distributed phenomena such as floods, storms, or wildfires. Furthermore, we will also investigate the socio-economic challenges associated with extreme events and possible risk management strategies. Also a future outlook will be considered. For this purpose, leading national and international experts will compile information for documentation and state of the art reports on their specific fields of expertise.

Within the present contribution, we will provide a first overview of conditions related to extreme alpine events in Austria. The final individual reports will be compiled into a comprehensive assessment report on extreme natural hazard events in Austria and will be presented in summer 2018.