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## Characteristics of wildfires in the Eastern Alps

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The Eastern Alps are an important tourist destination and attract many visitors every year for their scenic beauty, sports attractions and rich cultural heritage. Tourism is an important source of income and contributes to the revival or maintenance of local traditions. However, tourism also has potential negative impacts on the regions, for example Austria's largest forest fire in Hirschwang near Reichenau an der Rax (district of Neunkirchen) in the period 25.10.2021 to 6.11.2021 was anthropogenically triggered by tourists.

In addition to the anthropogenic factors, the increase in extreme weather events caused by climate change and its scale dependent variations are a major challenge in the preparation of wildfire risk maps.

Wildfires in steep Alpine valleys behave differently than those on flat or moderate inclined slopes. The present work describes a wildfire that occurred in August 2018 in a famous world-heritage site in Austria (Melzner et al. 2019), which was presumably initiated by a carelessly discarded cigarette or the reflection of a broken glass bottle at the foot of the rockwall. Indicators of fire severity and rockfall occurrence during and after the fire are described.

The vertical rockwalls, the anabatic winds and patchy vegetation pattern, caused an upward jumping of the fire resulting in a spotty fire pattern. This most probably resulted in spatially varying fire intensities, and consequently highly heterogenic changes in soil and rockmass structure. The wildfire clearly showed that wildfires can have a significant impact on ecosystems and pose a high risk to settlements in the Alpine area. The rockfall hazard and risk assessment conducted in 2014 (Melzner 2015) enabled a fast decision making as part of an emergency response during and after the wildfire catastrophe in terms of identification of possibly endangered houses and planning of preliminary rockfall preventive measures.