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## **Projected extreme precipitation changes over the coastal-mountainous region of the eastern Adriatic and Dinaric Alps**

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The study aims to estimate the future climate change of extreme precipitation over the topographically complex coastal-mountainous region of the eastern Adriatic and Dinaric Alps, which is particularly vulnerable to climate change. A number of studies classify this region as an area with a "zero-change" line between the wetter north and drier south, which shifts northward towards the end of the century. However, the research on future extreme precipitation changes over this region is still limited. We use an unprecedented ensemble of ~140 regional climate model (RCM) simulations of future climate from the EURO-CORDEX ensemble at 0.11° resolution, to cover as many future conditions and sources of uncertainty as possible. The ensemble is comprised of 15 RCMs driven by 11 CMIP5 global climate models. The climate change signal is estimated for three different greenhouse gases concentration scenarios (RCP2.6, RCP4.5 and RCP8.5) and several future periods (2041-2070, 2071-2100) with respect to the historical period (1971-2000). We focused on heavy precipitation measures: the 99th percentile of all-day precipitation, number of heavy and very heavy precipitation days, maximum one-day and five-day aggregated precipitation sum. Additionally, we have applied the extreme value analysis, specifically the generalized extreme value theory, to assess extreme precipitation return levels associated with return periods between 10 and 100 years. The results are highly dependent on period, scenario, season and location. Overall, results show an intensification of both heavy and extreme precipitation events, especially during cold seasons over the north-eastern areas for the far future period. For this projected change, models show high agreement as opposed to that in summer, when most of the examined indices display the aforementioned south-north gradient. A more detailed analysis is planned to quantify the climate change signal for several subdomains of interest.