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## National hail climatology of Croatia

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The step every country should take towards a better understanding of hail is national climatology. It is crucial to explore the temporal and spatial characteristics of this small-scale phenomenon in hope that it will contribute to better defense and preparation for such extreme weather. Even though Croatia is a small country, it has a relatively inhomogeneous climate due to its proximity to the Adriatic sea, a mountain range that in a way separates Croatia, etc. This research will analyze the diversity of the Croatian climate and its impact on the occurrence of hail. The results are based on hail data from 186 stations. This digitized data vary from station to station, so different time periods were observed. The results showed significant interannual and spatial variability, due to which it was necessary to divide into subdomains based on the season in which hail predominates - on the entire coast, the highest hail activity is present in the colder part of the year while the continental part of Croatia shows increased summer hail activity. There is also a transitional area that records most hail in spring and fall. The trend analysis was made for two time periods: 1.) from 1964. to 2019., 2) from 1984. to 2019. and both periods have shown signs of a negative trend in a number of hail events. Daily patterns show a shift in the daily maximum from morning to afternoon hours as we approach the continent from the coast, and the highest frequencies are recorded in Šibenik and Zavižan of as much as 3.8 and 4.8 days with hail per year. Finally, instability indices were studied, which could explain the atmospheric conditions in which hail occurs.