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## Hailstorms vs. supercells - a comparison of severe thunderstorms in the Alpine region

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Utilizing six years of radar-based thunderstorm data in the Swiss radar domain, we classify these as regular thunderstorms, hailstorms, severe hailstorms and mesocyclonic storms.

After identifying the overlaps between hailstorms and mesocyclones, their intensity lifecycles are investigated. This analysis allows the identification of predictors for intensification within severe storm lifecycles.

Subsequently we divide the radar domain into subregions ranging from the Po Valley, the Southern Prealps, main Alpine ridge, Northern Prealps, Swiss Plateau and Jura. This regional split separates storms in different terrain complexities. An investigation of the intensity distribution of storms in each region shows a clear intensity decrease over the main Alpine ridge, intermediate values over the moderately complex Prealpine regions and peaks for the flat Po Valley and Swiss Plateau.

These analyses investigate the influence of increasingly complex terrain on different types of severe convection from an observational perspective.