**Drought risk assessment of five coastal agricultural watersheds in the Tuscany region**

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**Abstract.** Due to climate change, drought events are expected to increase in frequency and severity in the Mediterranean area. Some regions, such as the coastal agricultural watersheds of central and southern Tuscany, are particularly prone to drought impacts due to the concurrent high water demands for irrigation and tourism during the summer months. To properly tackle this natural hazard, it is essential to shift from a reactive approach towards a proactive one and, for this scope, detailed drought risk assessment is fundamental. In this study, the drought risk was calculated for 58 municipalities belonging to the Cecina, Cornia, Bruna, Ombrone, and Albegna watersheds. Multiple drought hazard indicators were selected to consider both past and future conditions; exposure indicators represented the infrastructural, social, and economic characteristics of the agricultural systems, while vulnerability indicators the social and ecological susceptibilities and the coping and adaptive capacities. As a result, 42 indicators were finally included to estimate drought risk. The highest risk and hazard were found in the southernmost part of Tuscany; exposure was significant in the coastal and high-value wine producers’ municipalities of the Chianti area, while vulnerability patterns were less clear. To validate the results of our assessment, we conducted a robustness evaluation by applying alternative methodologies in the calculation of the composite drought risk index. Finally, to link the results of the assessment with possible adaptation strategies, we used archetype analysis, which is an emerging approach for identifying recurrent patterns within cases and supporting a context-specific generalization of insights. The maps, rankings, and clusters of municipalities were analysed, and specific adaptation strategies were proposed considering each drought risk profile. The results of the assessment are meant to be used to fuel the discussion about effective drought management in these watersheds.