



Perception of drought by surface and groundwater farmers: a perspective from Júcar river basin, Spain

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Irrigation farmers play a key role in water management at all levels and their role becomes even more relevant during droughts, when water systems are under increased pressure. The analysis of farmers' drought perception and of their strategies to reduce vulnerability can contribute to better understand their behavior and concerns, and to better inform decision-making regarding drought management at different scales. This study focuses on the analysis of perception of and response to drought of surface and groundwater irrigation farmers in two areas of the Júcar River Basin (Spain). The results show that the dependence on surface water or groundwater for irrigation highly influences farmers' perception of drought. For surface water farmers, non-climatic factors (e.g. level of reservoirs or impacts on production) are used to describe drought situations more often than precipitation shortfalls, while groundwater irrigators barely feel affected by rainfall variability. Local strategies are highly adapted to local conditions and usually require collective agreements to coordinate individual actions and make them effective. The vulnerability factors differ depending on the source of water used to support irrigation, e.g. being water quality and the cost of water reasons of concern for groundwater farmers while irrigators using surface water are concerned with temporal water shortages and the economic viability of their agricultural activity. The analysis of how farmers relate to and face drought appears also to catch the main water management issues in the River Basin. The results of the study highlight that local knowledge can inform policy makers on the way farmers cope with drought and it can also support decision-making in enhancing drought and water resource management.