



Understanding and Defining sociohydrological spaces and their boundaries: an interdisciplinary perspective from collective fieldwork

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Focussing on the interactions between water and society, researchers from various scientific disciplines have worked together on a common case study, the Merguellil catchment in Central Tunisia. The aim was to foster interactions between wide-ranging disciplines and their associated approaches, as the segmented analysis of water resources, uses and management is known to limit the comprehensive understanding of water issues. One of the major difficulties in developing an interdisciplinary approach is defining a suitable common observation space or “territory”. Research in social sciences notably showed that hydrological catchments, suited to integrated water resource management, are rarely relevant to socio-political issues (water transfers, management of interfluves, etc.). Likewise, hydrological research regularly highlights the mismatch between surface and ground water processes and boundaries. Hydrological, hydrogeological and sociological boundaries also fluctuate when considering different time frames, socio-political organisations and processes. Finally, a suitable observation space must also be coherent to the variety of local stakeholders involved in the research.

The present paper addressed the question of what is a common multidisciplinary observation space? What approach can help define and identify boundaries that make sense to hydrologists, agronomists, anthropologists and local stakeholders? How do we reconcile physical limits and territories?

In the first instance, we focus on the value and importance of fieldwork, crucial in anthropology, but equally important for hydrologists and agronomists. Through a mutual process of defining the limits and characteristics of our research object, relevant socio-hydrological spaces were able to emerge. These were circumscribed through the physical characteristics (based upon hydrological boundaries and processes) and the human particularities (political organisation, productive activities) of the study area. The characteristics of these spaces are described and the differences between them are highlighted. The presence of surface water resources in the upper catchment and the reliance of riparian populations on these resources are shown to heavily condition the behaviour and boundaries of this sociohydrological space, when compared to the downstream Kairouan irrigation plain. Crucially, relevant observation scales can not be defined through an overlap of hydrological boundaries and socio-political territories. Furthermore the value and benefits of a commonly defined socio hydrological space are highlighted through the observed interactions between surface and ground water resources, hydro agricultural activities and the history of local populations. More widely, the paper also discusses the importance of historical trajectories, upscaling difficulties and the interactions which develop for and around water resources, which must be accounted for when defining a suitable socio-hydrological space.