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Adaptation strategies to water scarcity in the Mediterranean induce a complexification of hydrosystems

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The Mediterranean and neighboring countries are already experiencing broad range of natural and man-made threats to water security. According to the latest reports of the intergovernmental panel on climate change, the region is at risk due to its pronounced susceptibility to changes in the hydrological budget and extremes. Such changes are expected to have strong impacts on the management of water resources and security from an ecological, economic and social angle. This communication asks the question of the relevance of the comparison of the solutions implemented to face water scarcity in two cases a priori not comparable: (i) the Thau coastal lagoon and its catchment in the South of France, (ii) the Rio Mannu catchment in Sardinia, the second Island in the South of Italia.

The Thau coastal lagoon on the French coast is caracterised by intensive shellfish farming production in the lagoon waters and summer tourism with regard to the mediterranean coast. Its territory is also supporting industrial and commercial activities concentrated around Frontignan and Sète ports and the expansion of the small villages of the catchment as the consequence of the connexion with the city of Montpellier.
The catchment of the Rio Mannu in South Sardinia is part of the Campidano plain of the Sardinia Island in Italy and is located 30 km close to the city of Cagliari, the capital of the Island. The basin is mainly covered by agricultural fields and grassland, while only a small percentage of its area is occupied by forests in the south-east of the basin.

The communication aims, by presenting results of the FP7 EU CLIMB project, to think about the degree of complexity of the dynamic of the stakeholders system for water allocation in the Mediterranean Region in the context of climate change. After the presentation of the case studies and the perception of the water uses by stakeholders, a reflexion on the capacity of stakeholders to represent the new hydrosystems limits is carried out.
For the authors, in those two particular case studies, water scarcity problematics are similar even if water uses are differing. The answers to water scarcity, mainly depending of the capacity to import water, are generating new limits for the hydrosystems and induce an enhancement of the complexity of the stakeholders systems. This represents a risk for stakeholders not to be able to represent the uses in the hydrosystems which could cause difficulties to establish a dialogue for integrated solutions in a context of crisis.

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