

# Déséquilibres quantitatifs au sein des bassins de l'Hérault et de l'Ebre: adaptation aux changements climatiques

Fabre<sup>1</sup>, J., Ruelland<sup>1</sup>, D., Dezetter<sup>2</sup>, A., Grouillet<sup>1</sup>, B.

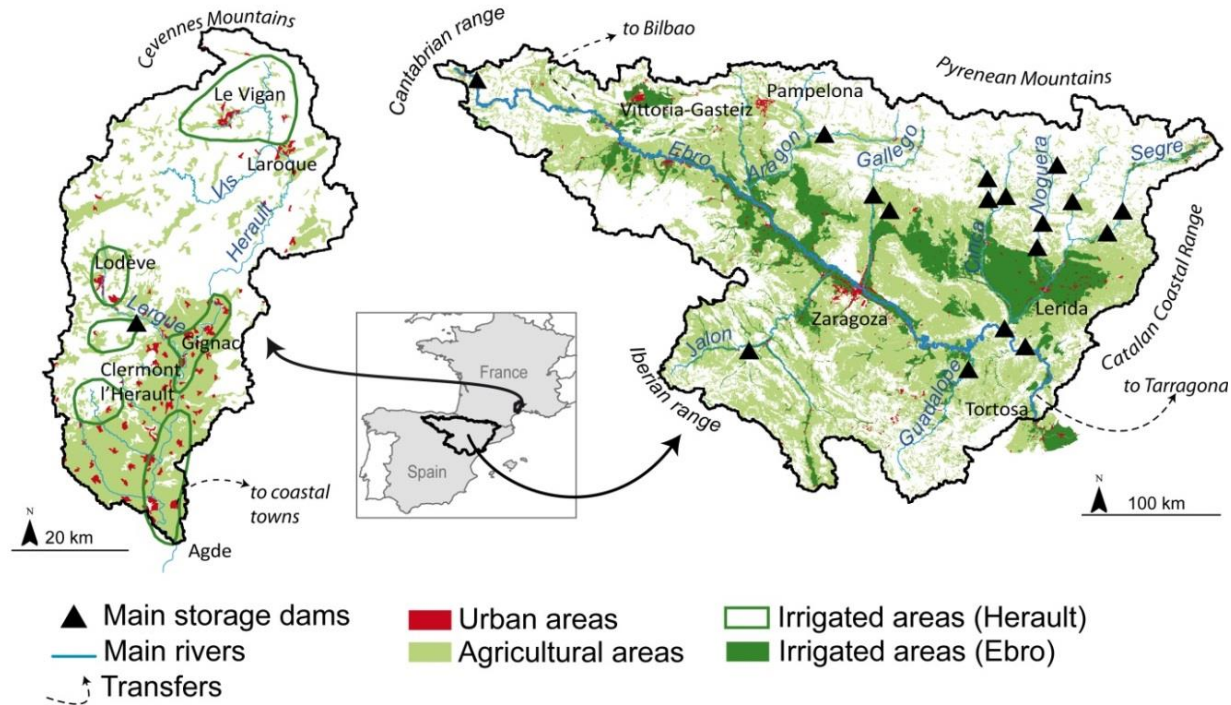
<sup>1</sup> CNRS, <sup>2</sup> IRD, HydroSciences Montpellier



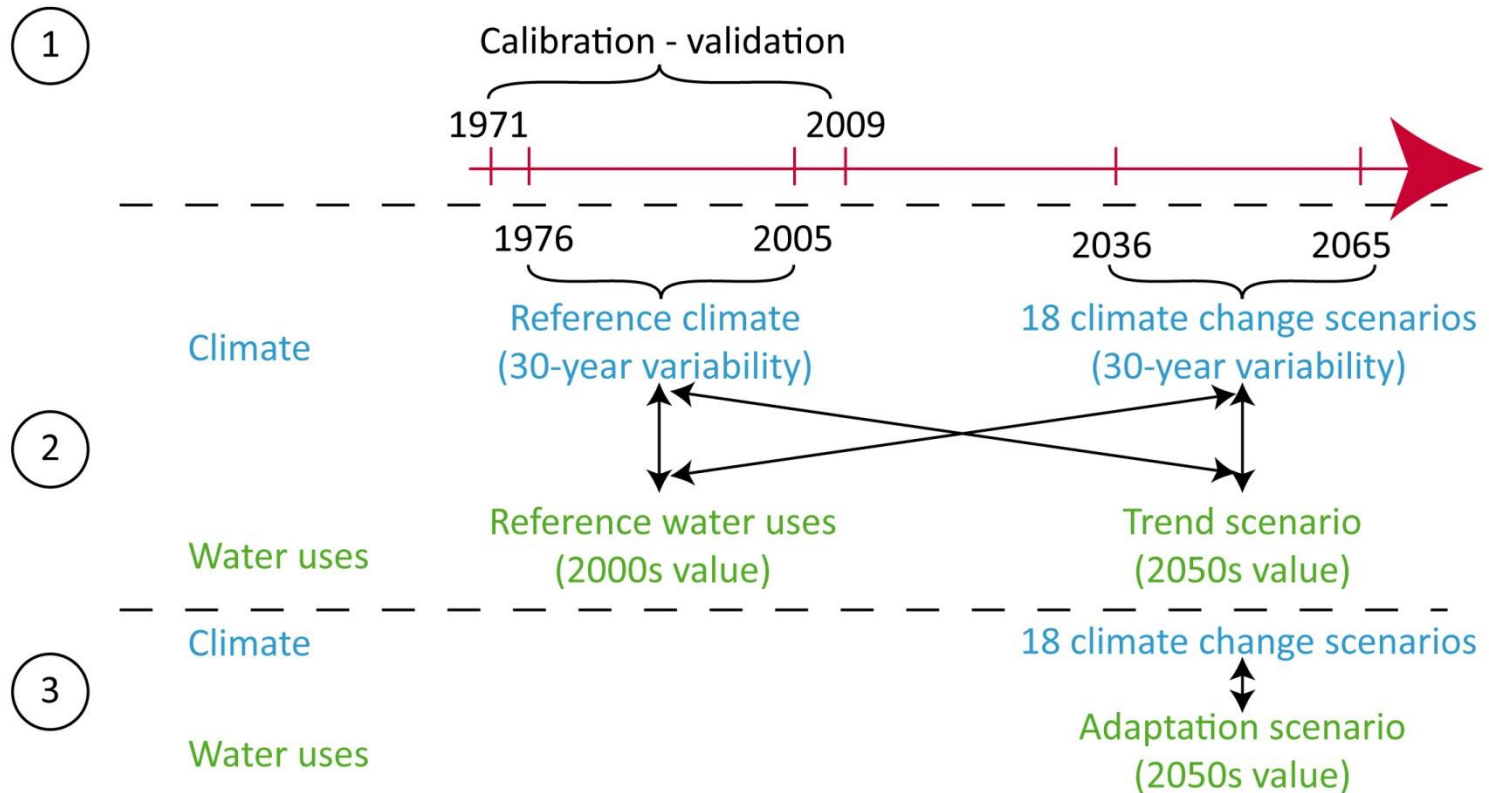
# The Herault and the Ebro River Basins

(a) The Herault basin  
2 500 km<sup>2</sup>

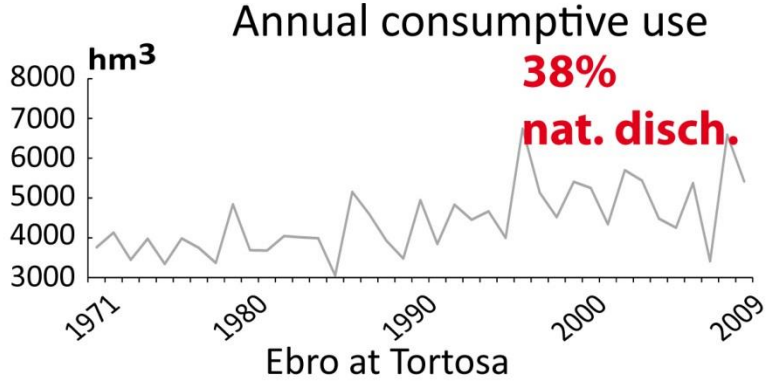
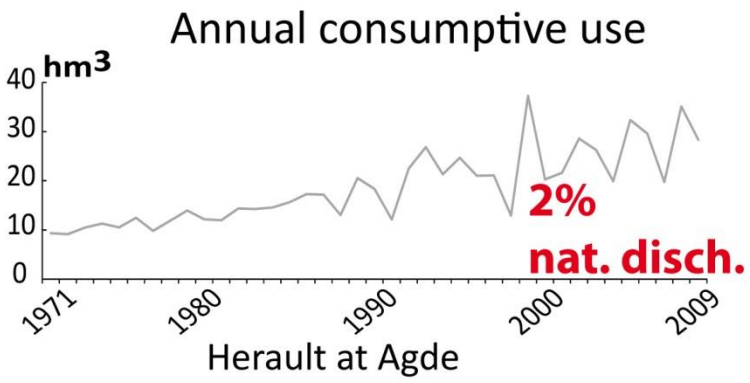
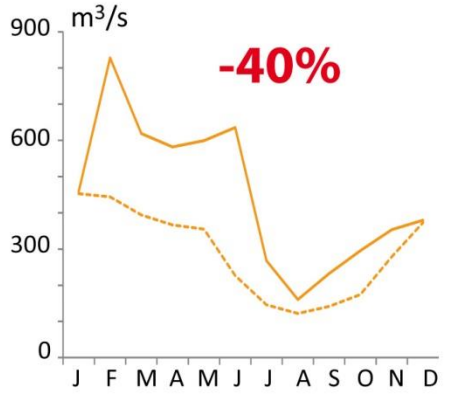
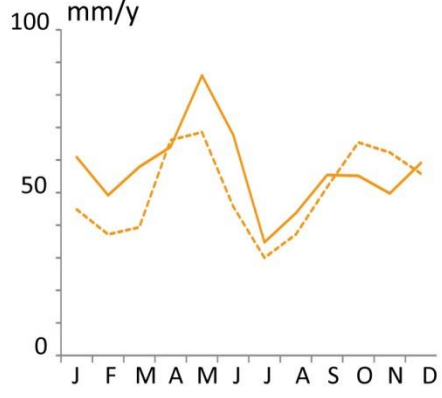
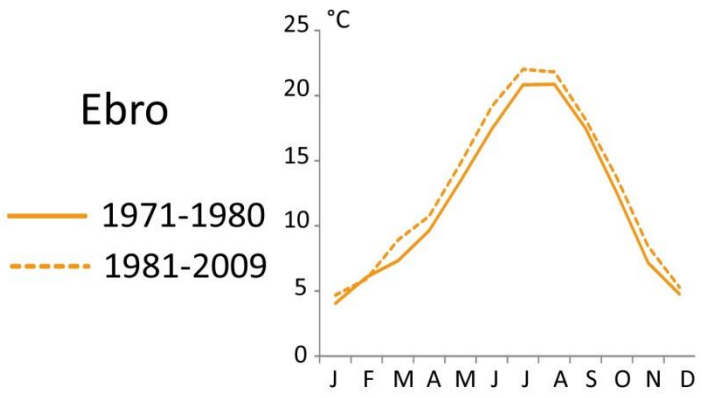
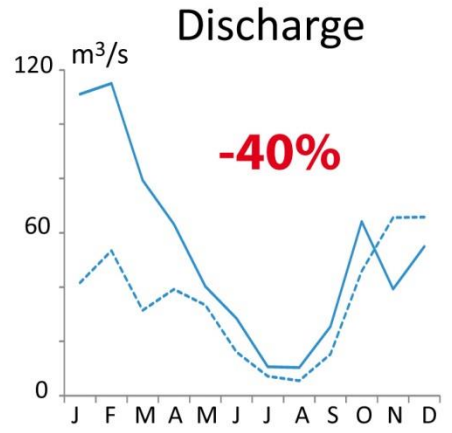
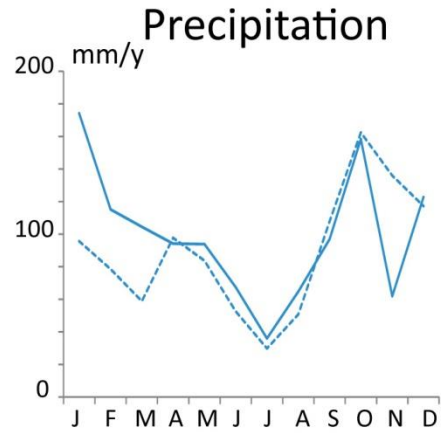
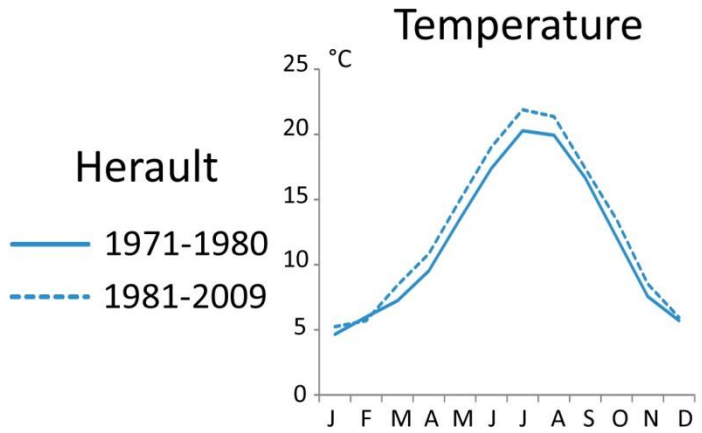
(b) The Ebro basin  
85 000 km<sup>2</sup>



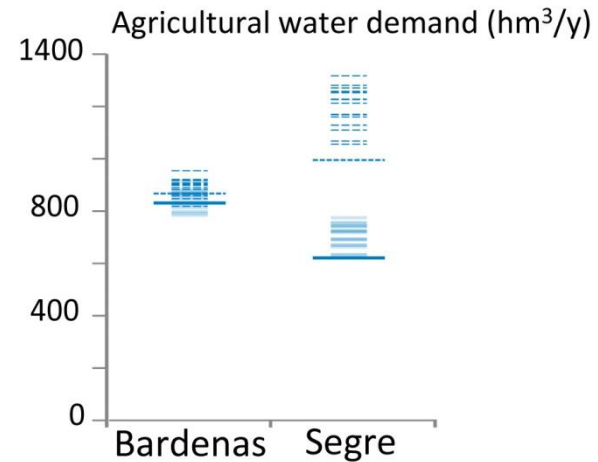
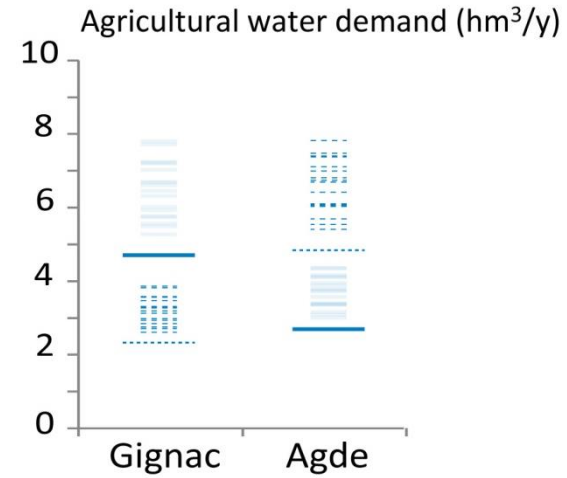
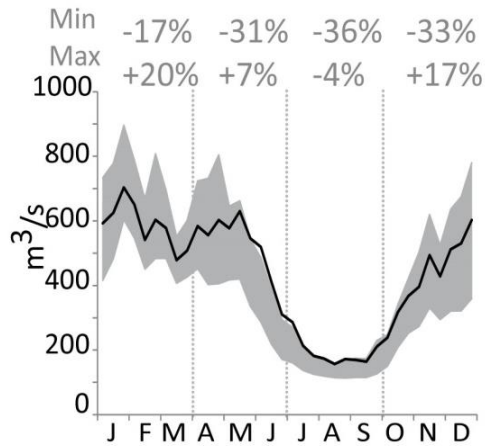
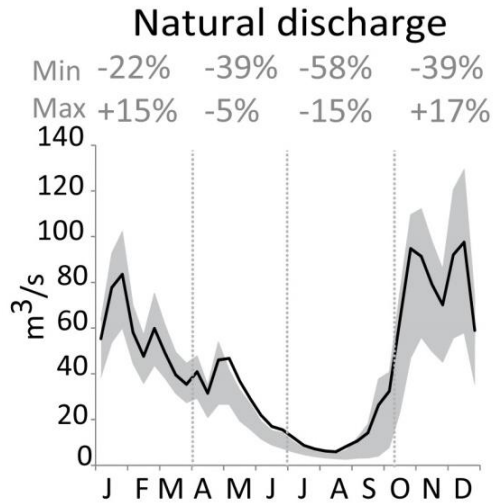
# Three steps to assess and project water stress



# Discharge has decreased in both basins



# Climate and water resources projections for the mid-21<sup>st</sup> century

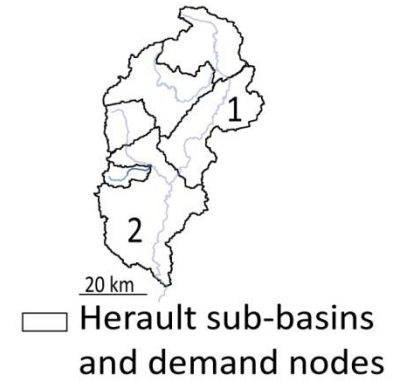
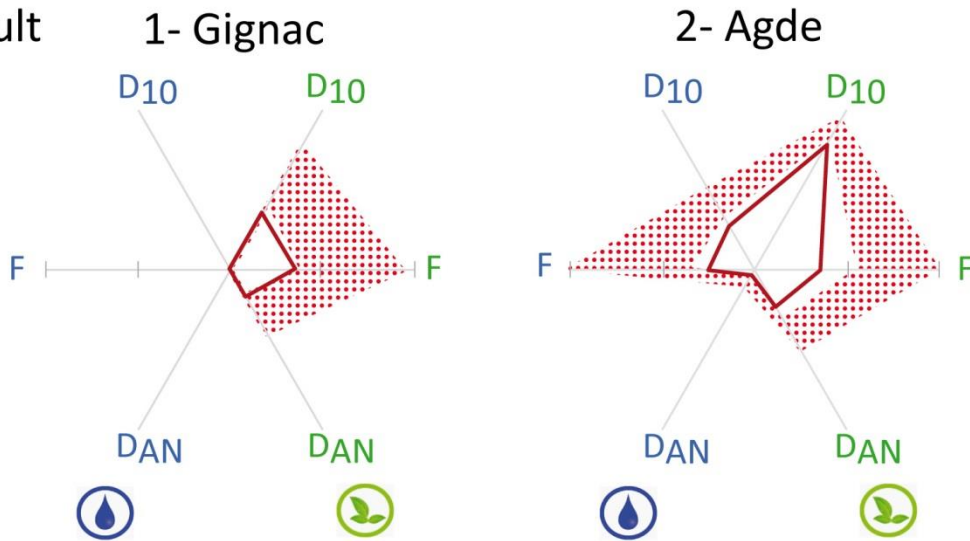


— Average 1976-2005  
 Average 2036-2065 in 18 climate scenarios

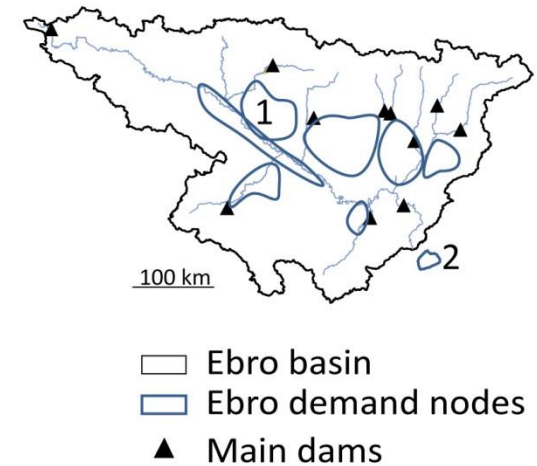
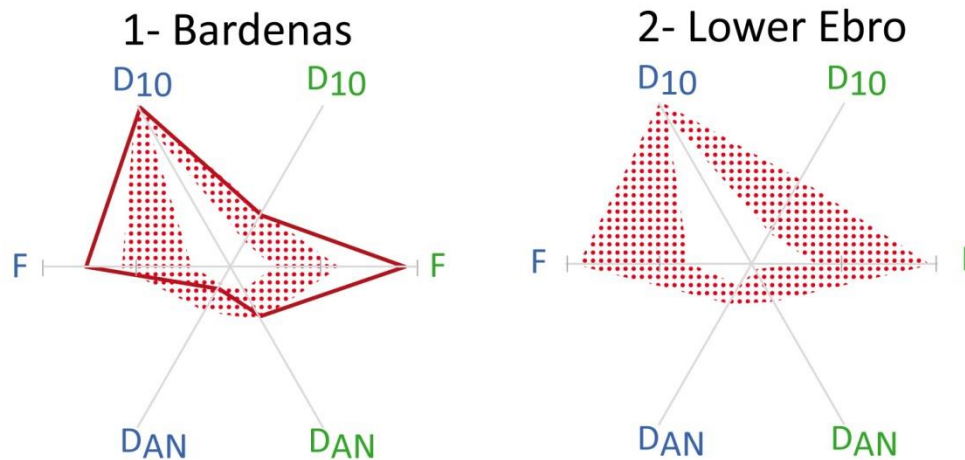
— 2000s water uses - no climate change  
 2000s water uses- 18 climate scenarios  
 - - - 2050s water uses - no climate change  
 - - - 2050s water uses- 18 climate scenarios

# Water demand satisfaction in the 2050s

(a) Herault



(b) Ebro



## Water demand satisfaction indicators

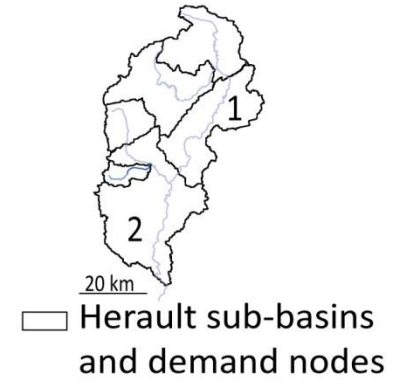
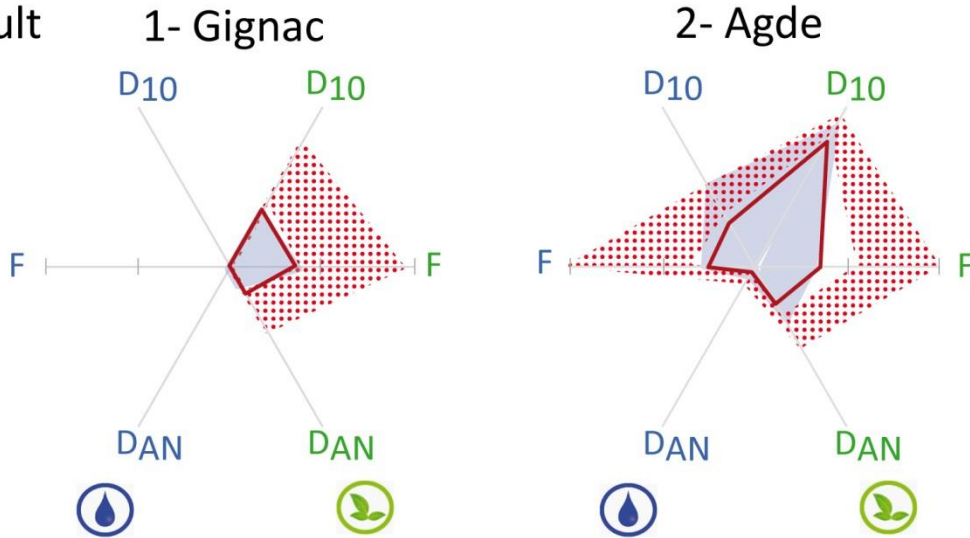
— Reference

..... 2050s water uses  
 ..... 18 climate scenarios

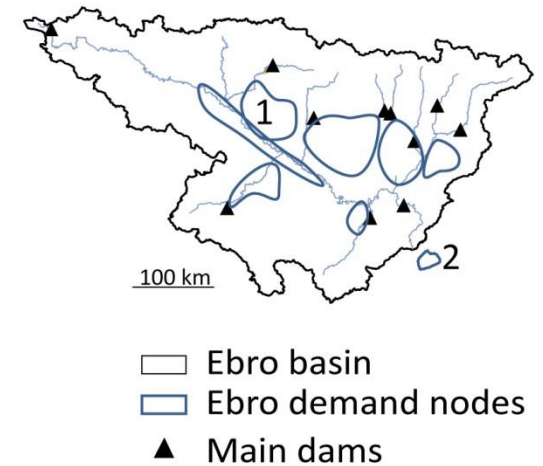
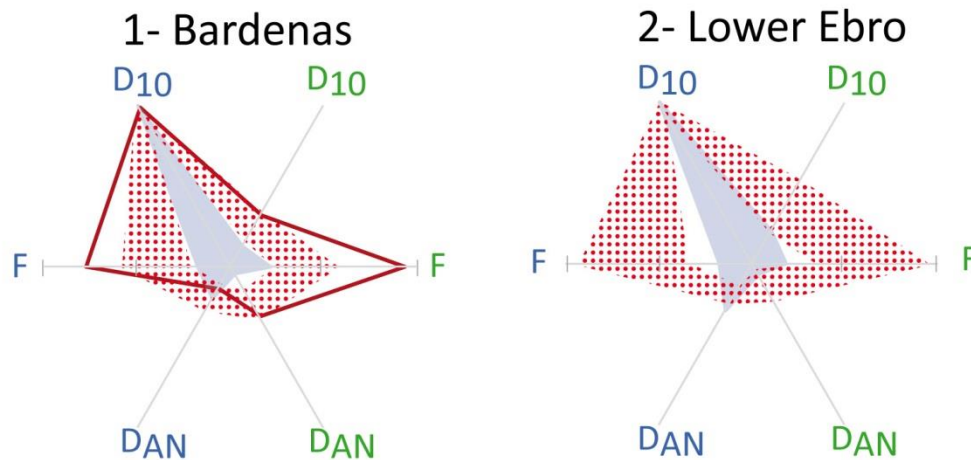
D10: average 10-day deficit  
 F: Frequency of years with deficit  
 DAN: average annual deficit

# Water demand satisfaction in the 2050s

(a) Herault



(b) Ebro



## Water demand satisfaction indicators

— Reference

- ..... 2050s water uses
- ..... 18 climate scenarios
- Adaptation scenarios
- 18 climate scenarios

- D10: average 10-day deficit
- F: Frequency of years with deficit
- DAN: average annual deficit

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