EGU General Assembly 2022

Sharing is encouraged

Sub-seasonal to climatic hydrologic predictions for sustainable reservoir management in water-stressed Mediterranean basins

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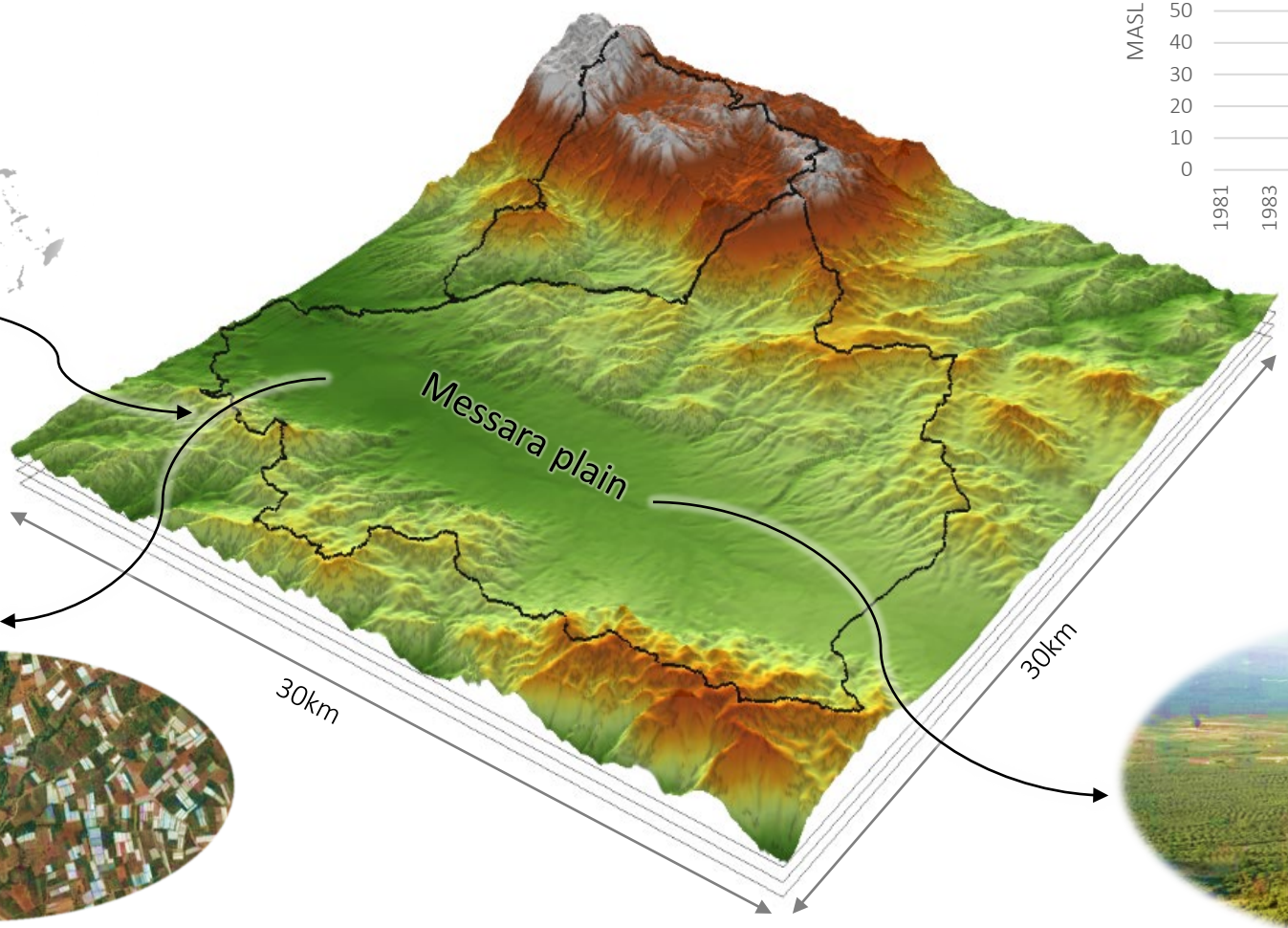
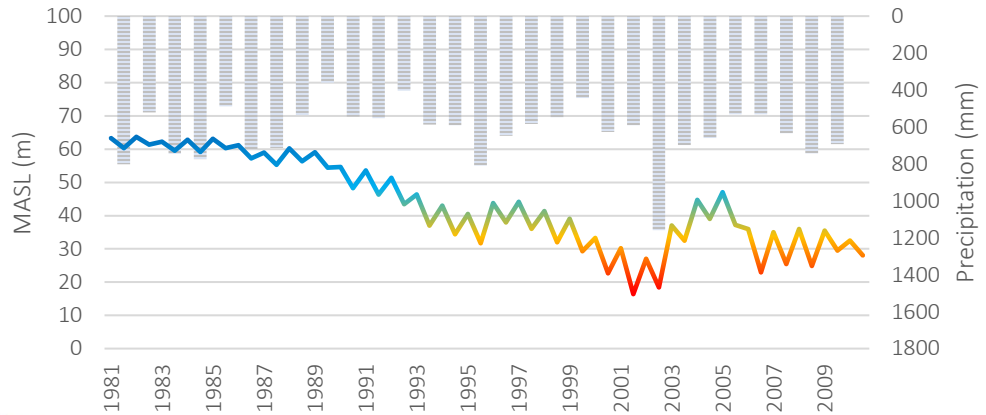
Background and motivation



Groundwater level



Greenhouses

Olive trees

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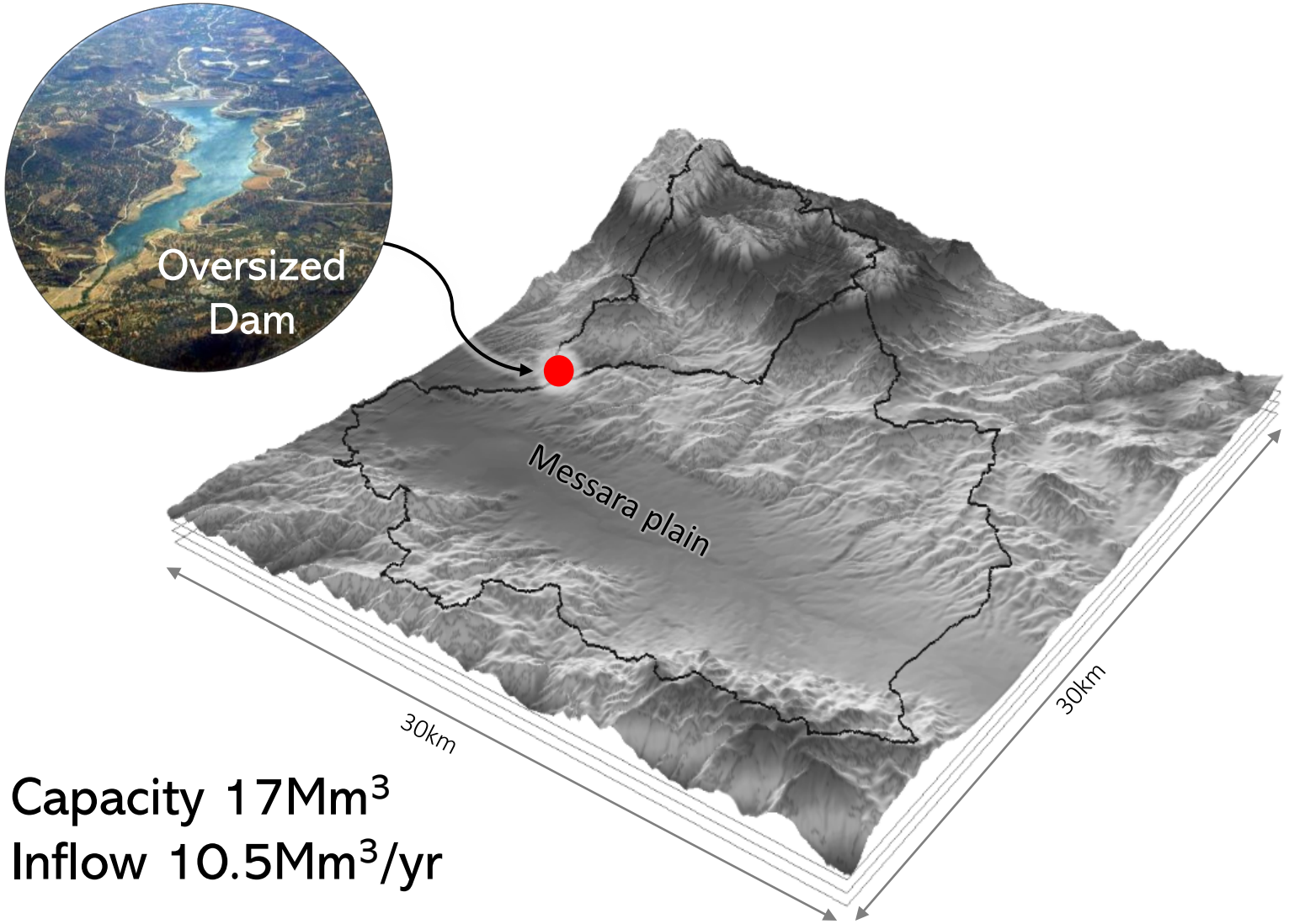
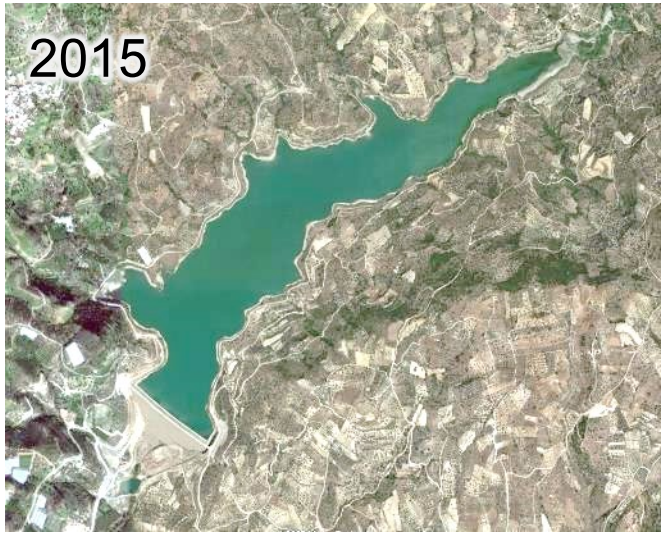
Background and motivation



- Capacity 17Mm^3
- Inflow 10.5Mm^3/yr



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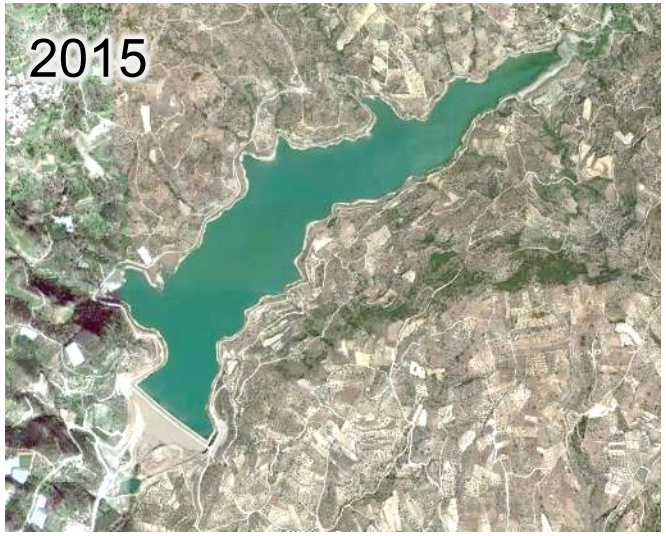
Challenges

- Climate projections of future water availability to support the design of the diversion dam and related infrastructure.
- Introduction of seasonal climate forecast with the potential to provide information on water balance components at a temporal dimension meaningful for water resources management.



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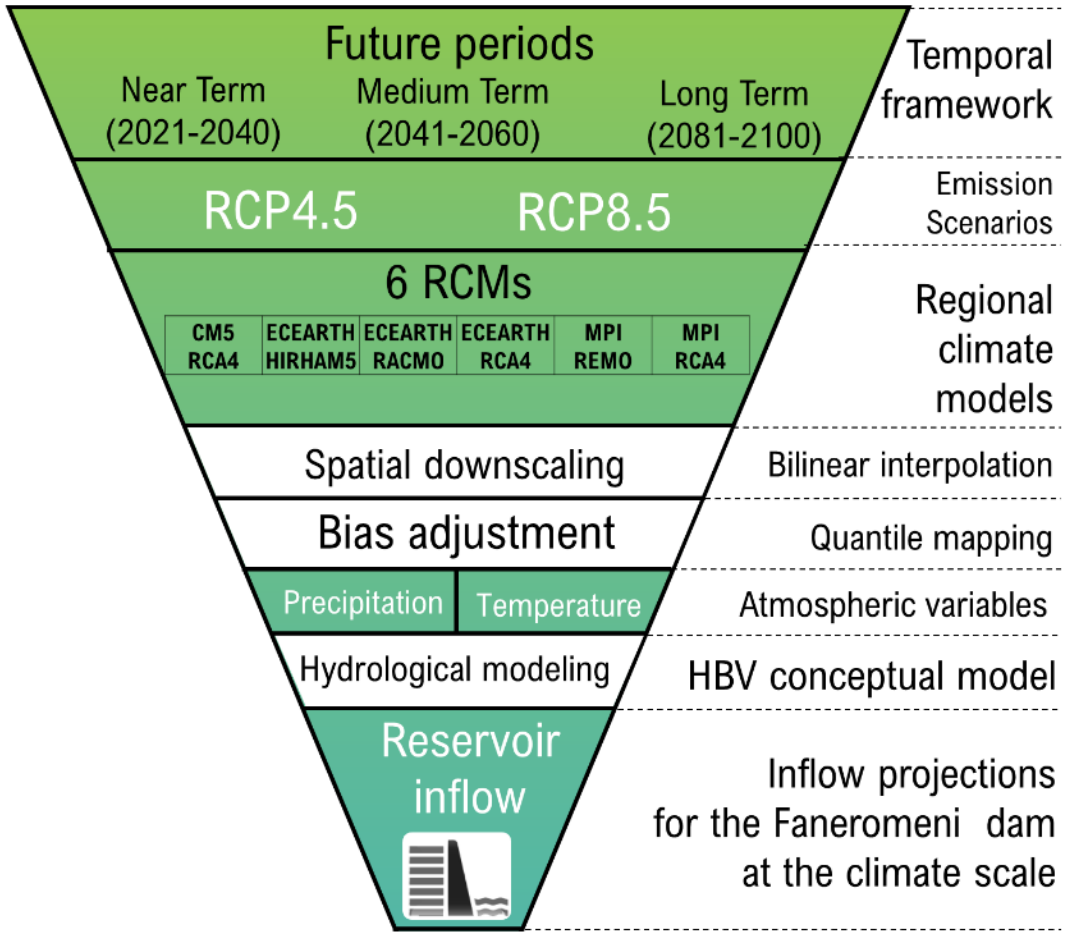
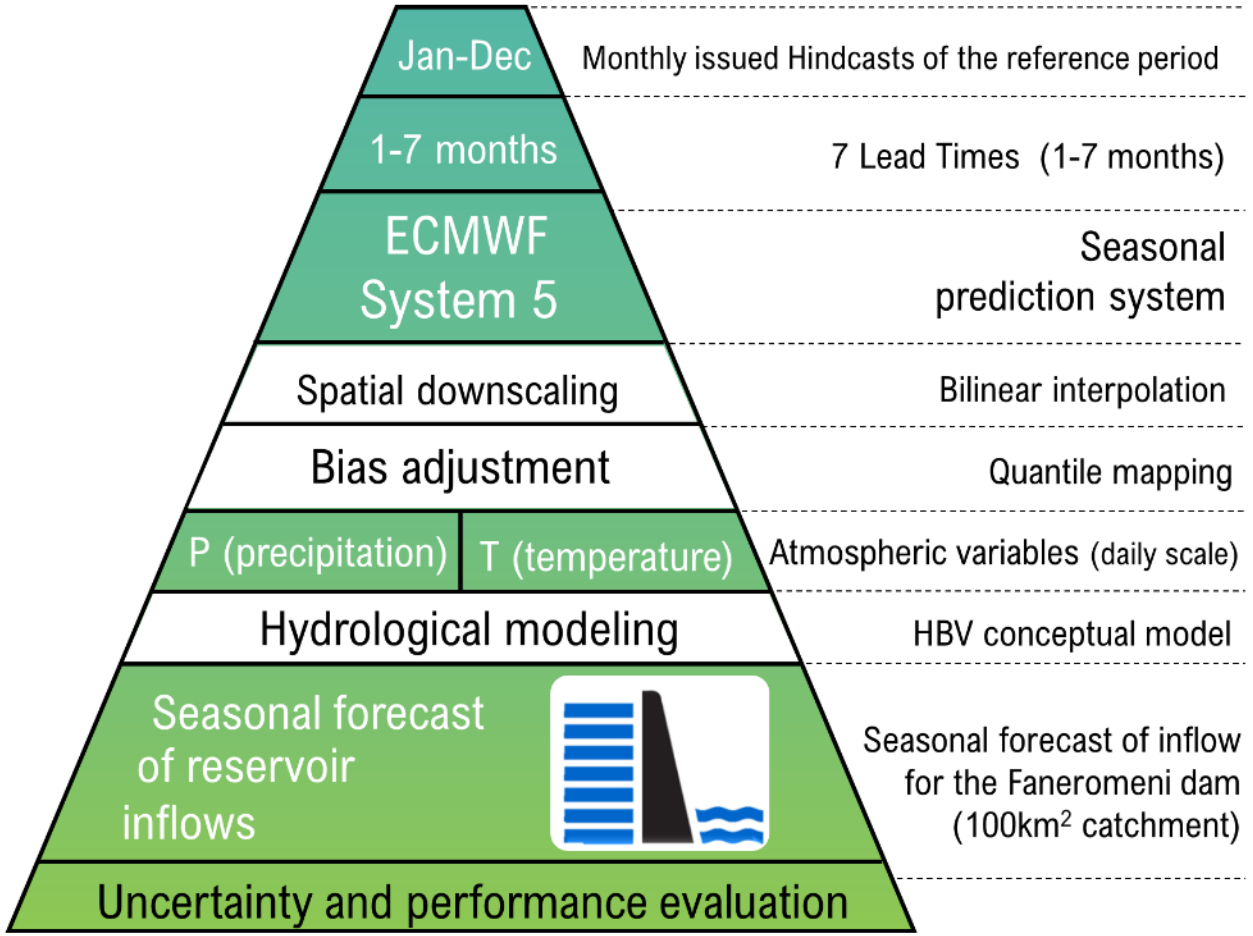
Data and methods

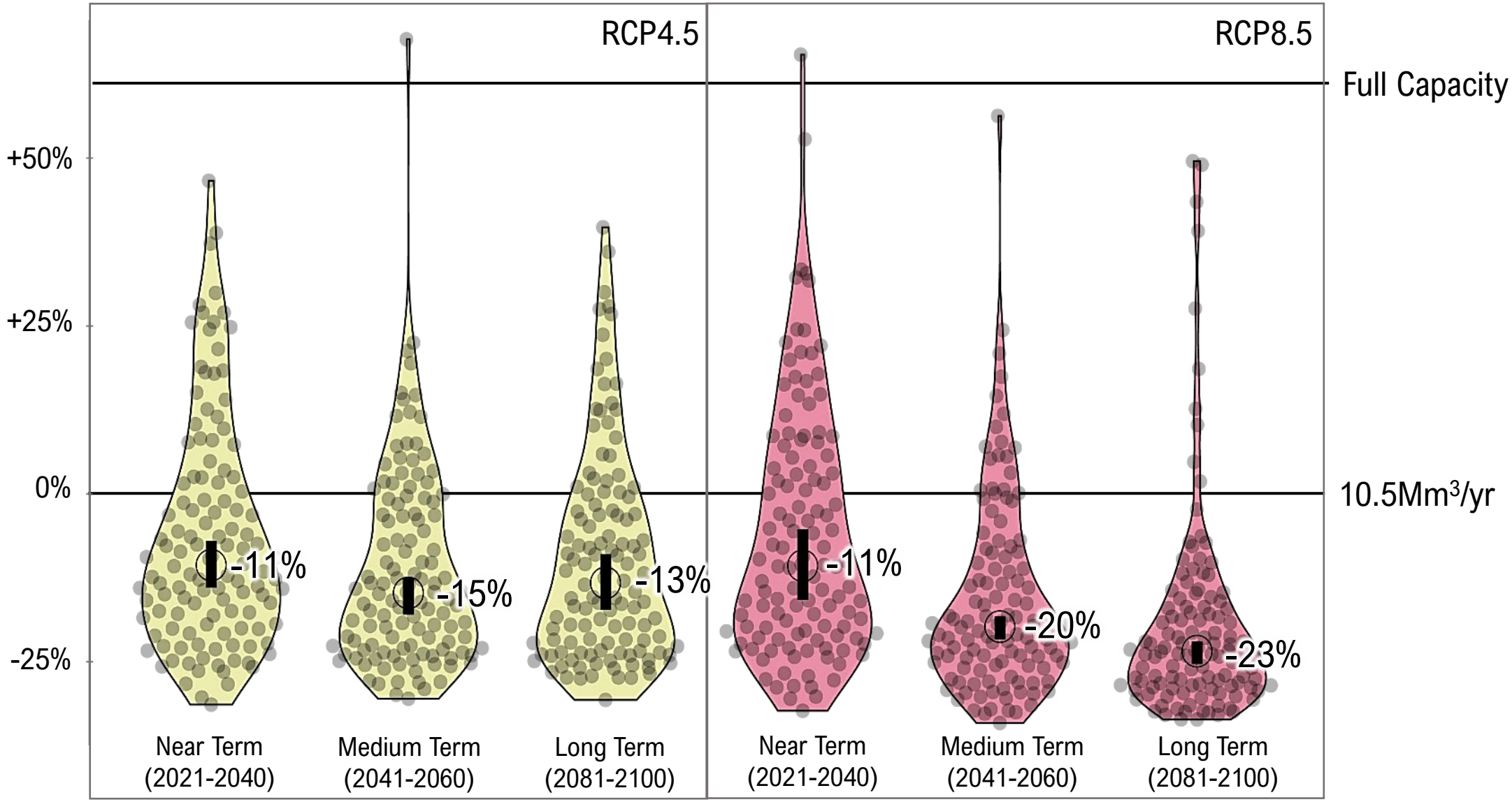
Climate projections



Seasonal forecasts



Outlook – inflow projections



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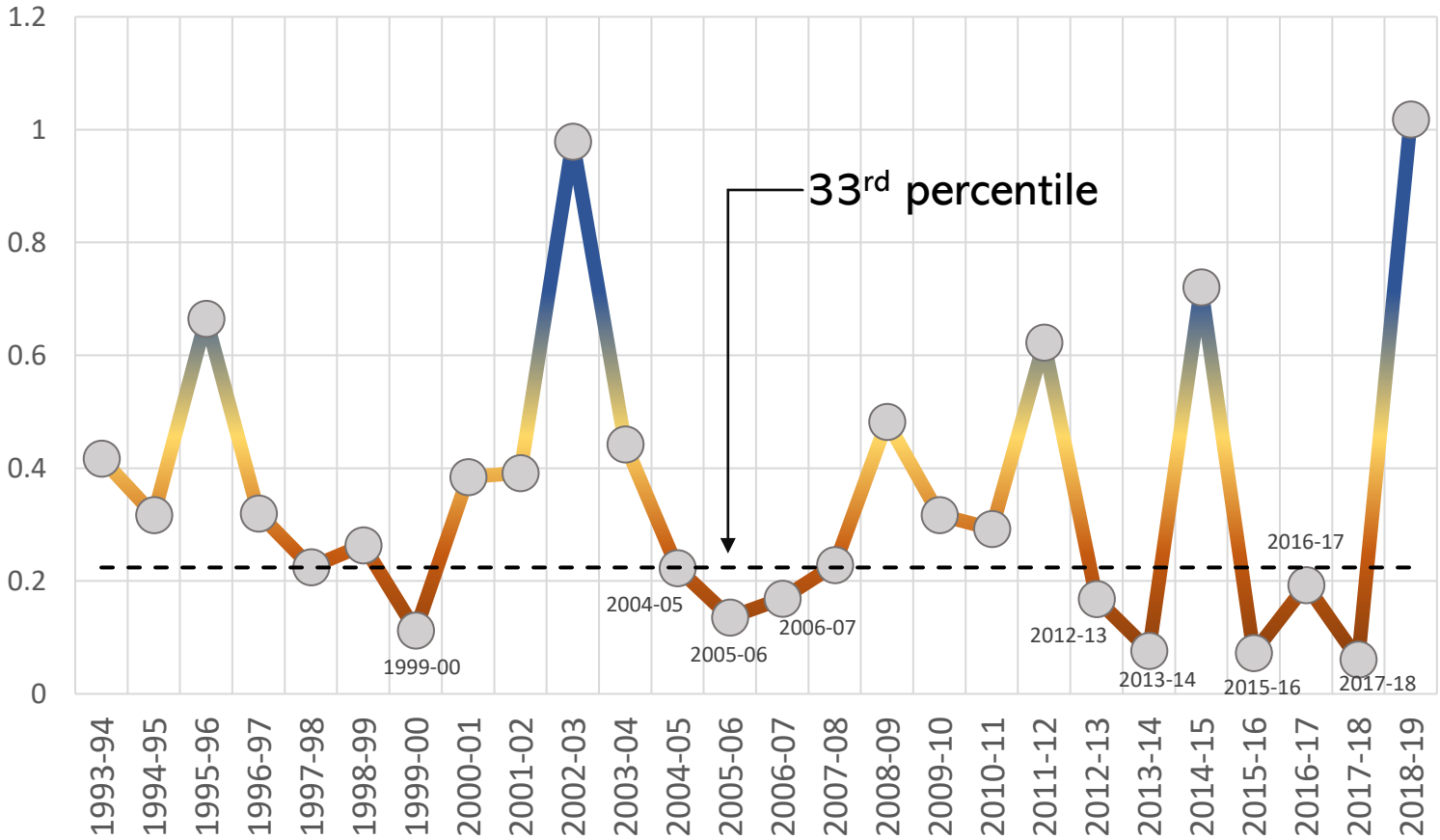
Outlook – seasonal forecast efficiency



Perfect forecast average hydrological year flows and the threshold of 33rd percentile.

	LT1	LT2	LT3	LT4	LT5	LT6	LT7
1999-00							
2004-05							
2005-06							
2006-07							
2012-13							
2013-14							
2015-16							
2016-17							
2017-18							

Simulated as dry

Simulated as normal

Simulated as wet

The dry year forecast efficiency of ECMWF Sys5 at different lead times

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Linked study

HS5.4

Water resources policy and management - forecast and control methods

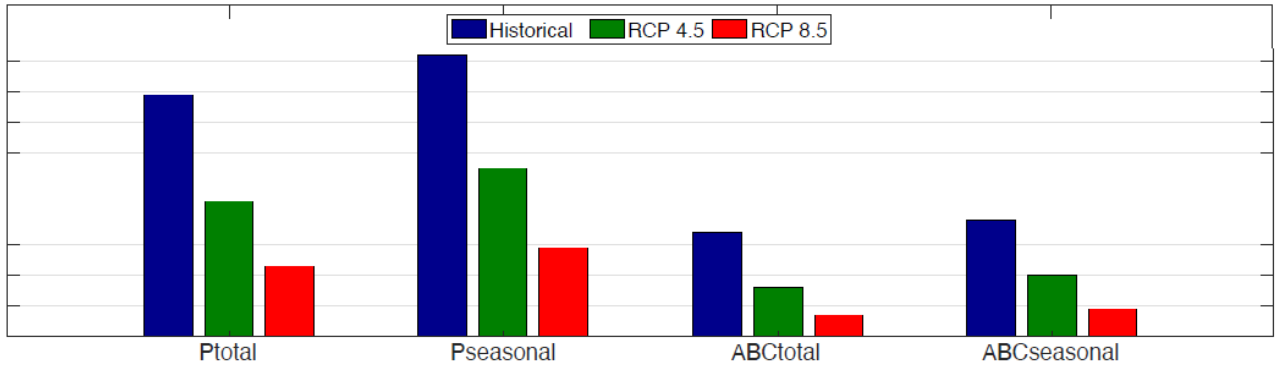
Presentations: Wed, 25 May | Room 2.17

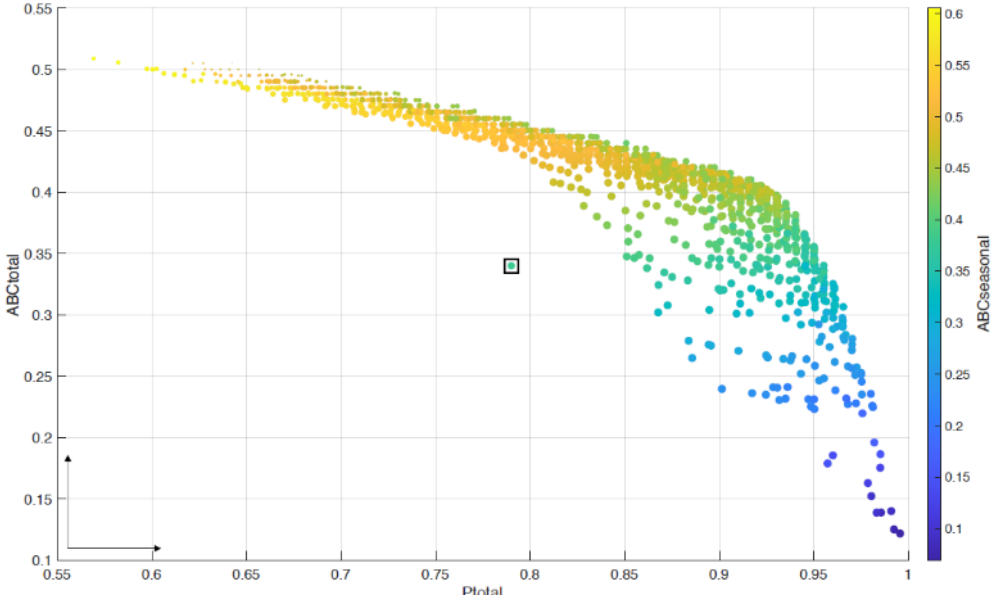
Chairpersons: Louise Crochemore, Matteo Giuliani

10:45–10:50 | EGU22-5956 ★ | ECS | On-site presentation

Assessing the value of seasonal forecasts in informing reservoir operations in water-stressed Mediterranean basins

Nicola Crippa, Guang Yang, Manolis Grillakis, Aristeidis Koutroulis, and Matteo Giuliani





https://doi.org/10.5194/egusphere-egu22-5956

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Questions?

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