



## Natural Water Retention Measures

Web-based knowledge  
Community of practice  
NWRM practical guide



# Pilot Project - Atmospheric Precipitation - Protection and efficient use of Fresh Water: Integration of Natural Water Retention Measures in River basin management

Service contract n°ENV.D.1/SER/2013/0010

## Session 1 – Project overview

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# NWRM initiative in a nutshell

- Service contract funded by DG ENV (European Commission)
- 11 partners from 7 countries (FR, UK, ES, HU, CY, SE, LV, plus CEE) covering all EU-28 Member states languages
- From September 2013 to October 2014



REGIONAL ENVIRONMENTAL CENTER



NWRM MED countries: PT, ES, FR, IT, MT, EL, CY, HR



# NWRM initiative > work-flow

## Cross-cutting tasks

### Task 1 · Building the knowledge base

Building a catalogue of measures and case studies with semantic annotation

Gathering information on assessment methods and practices and collect data for assessing impacts, cost-effectiveness and efficiency

Handing over the catalogue for integration into WISE

### Task 2 · Launching a dynamic process

Overall steering of the network at EU scale

Regional networks and workshops (Western, Baltic, Danube, Mediterranean)

Contribution to WFD CIS WGs

Raising awareness

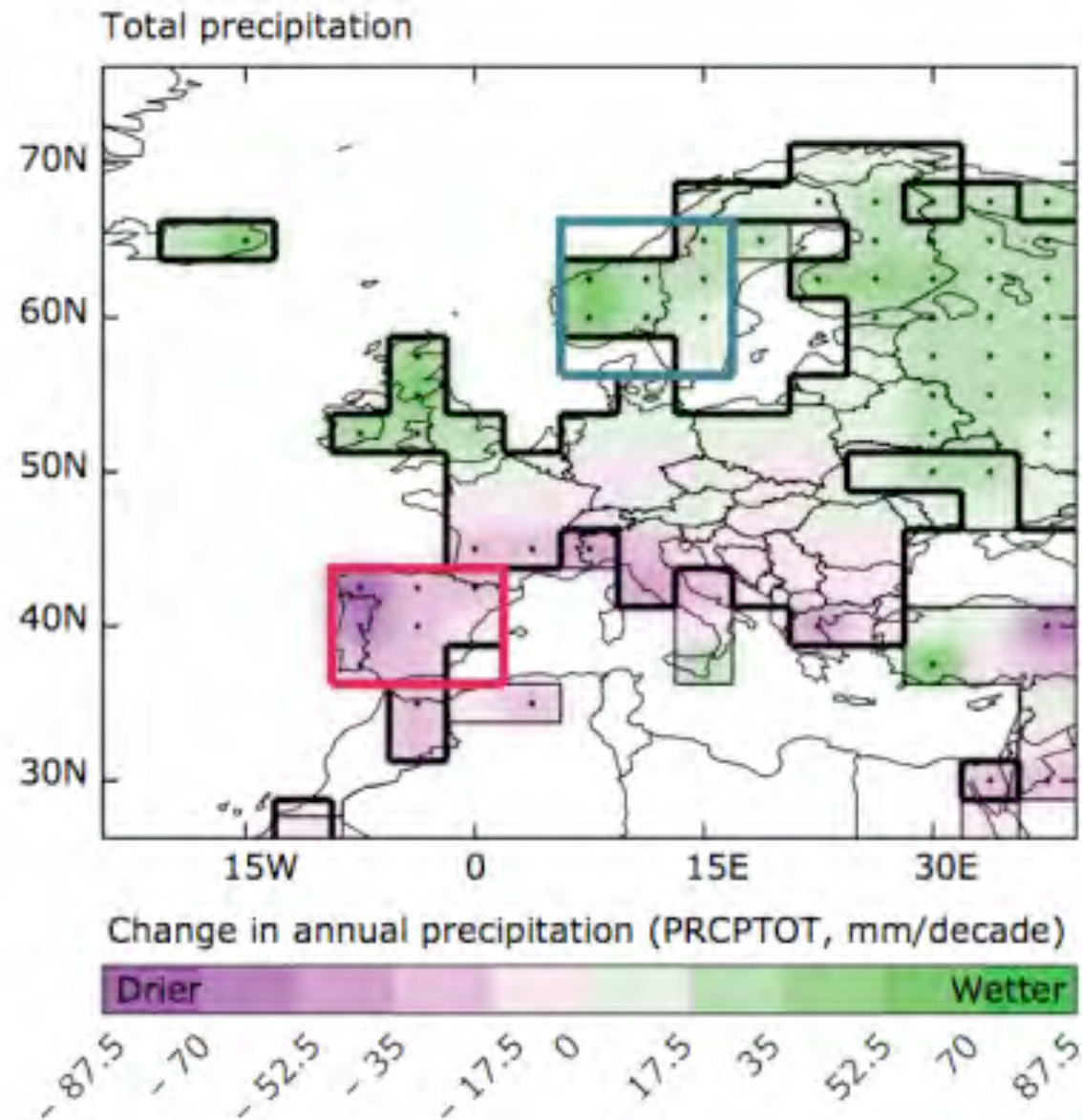
### Task 3 · Supporting future implementation (practical guide)

Drafting the guide

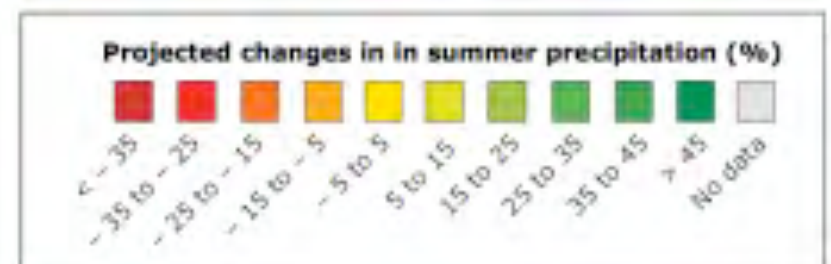
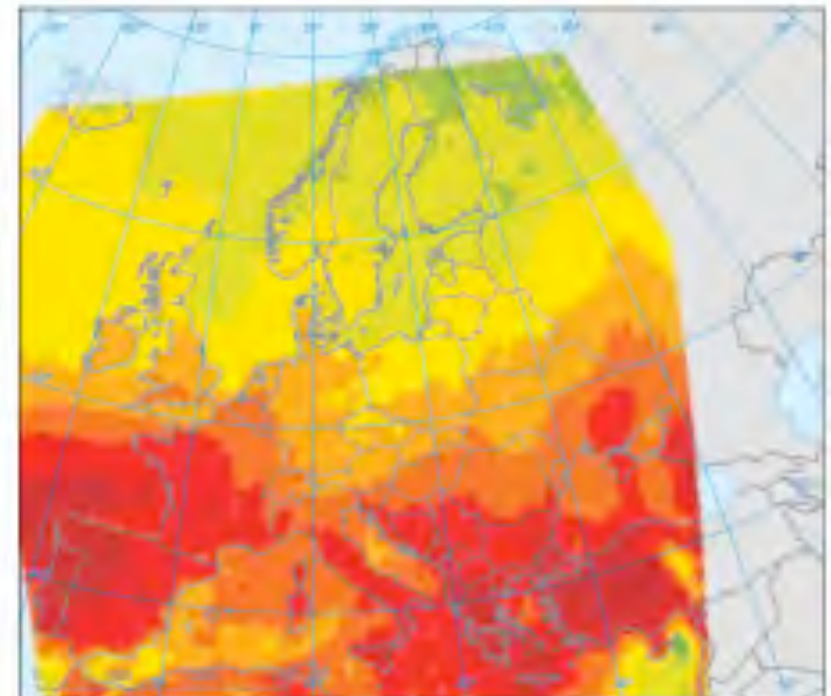
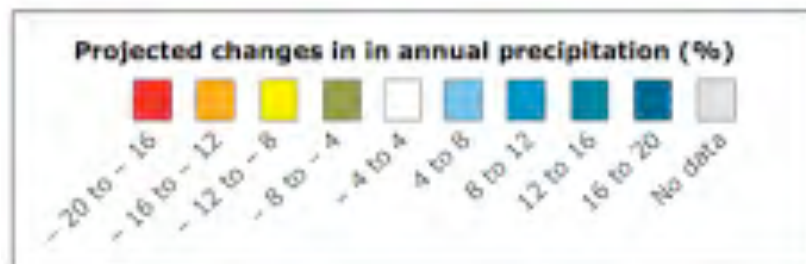
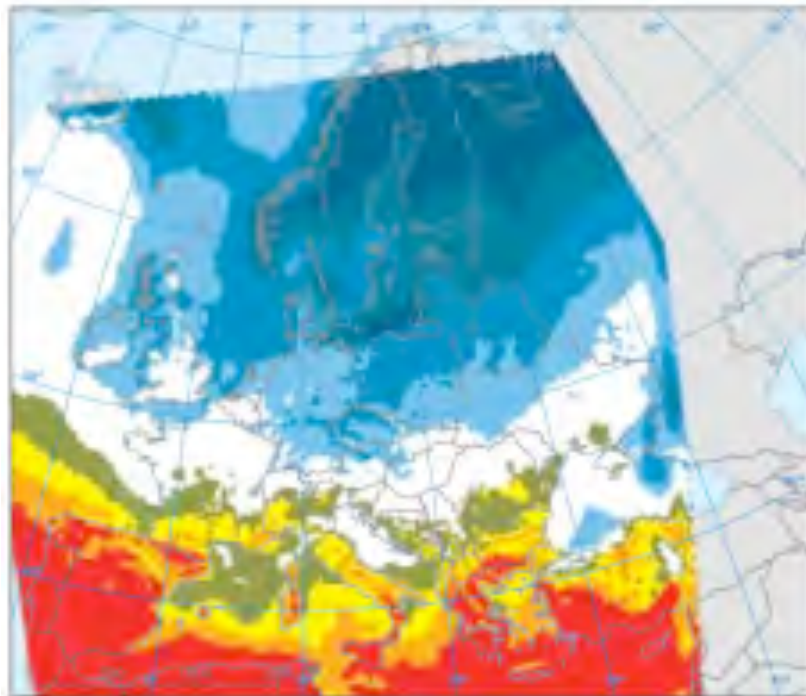
Producing dissemination material



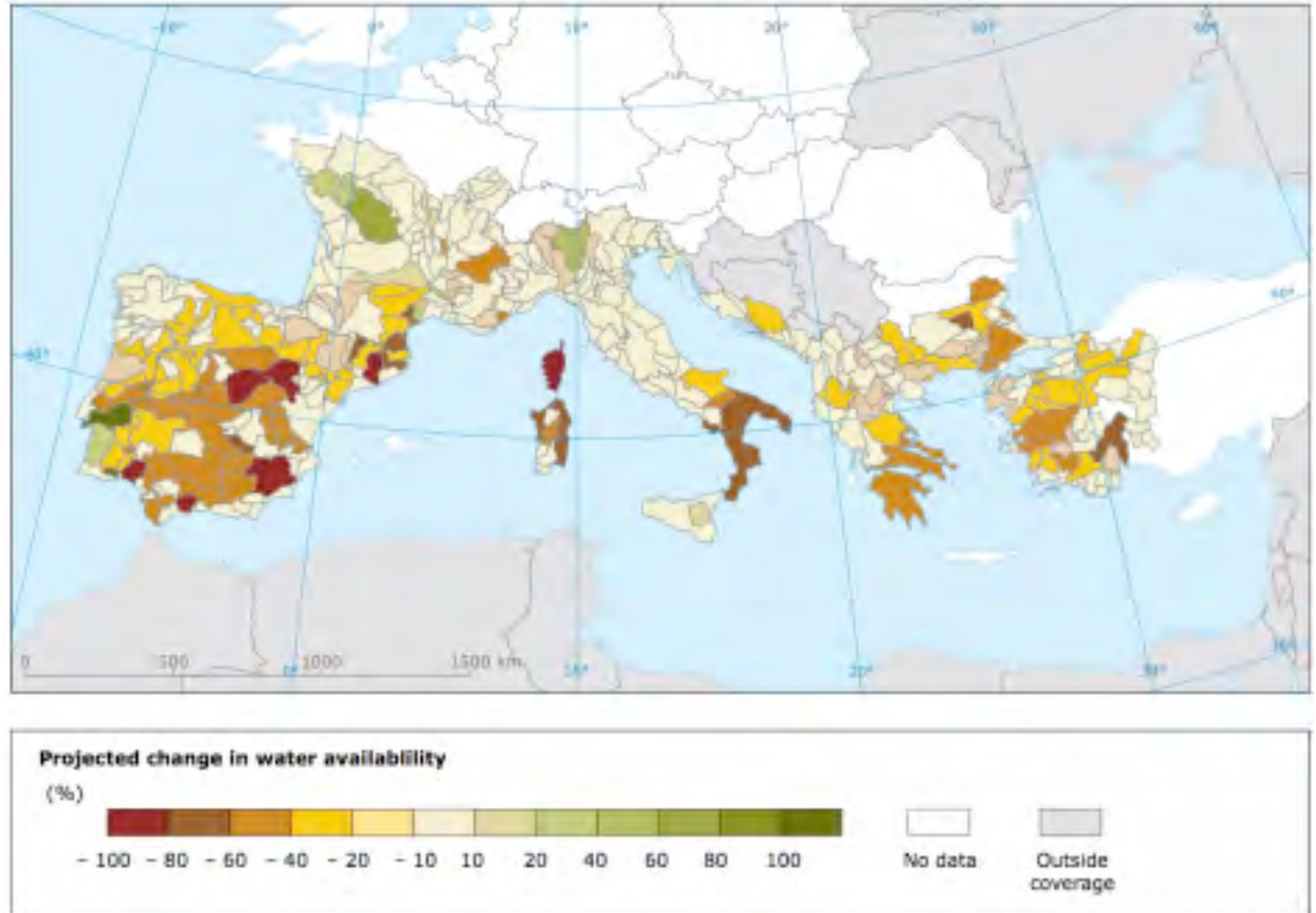
# Trends in annual precipitation across Europe (1960 – 2012), EEA (2012)



Projected changes in annual (*left*) and summer (*right*) precipitation (%) between 1961 -1990 and 2071 – 2100, EEA (2012)



## Projected change in water availability for irrigation in the MED region by 2071 – 2100, EEA (2012)






## WATER STRESS BY COUNTRY

ratio of withdrawals to supply

- Low stress (< 10%)
- Low to medium stress (10-20%)
- Medium to high stress (20-40%)
- High stress (40-80%)
- Extremely high stress (> 80%)

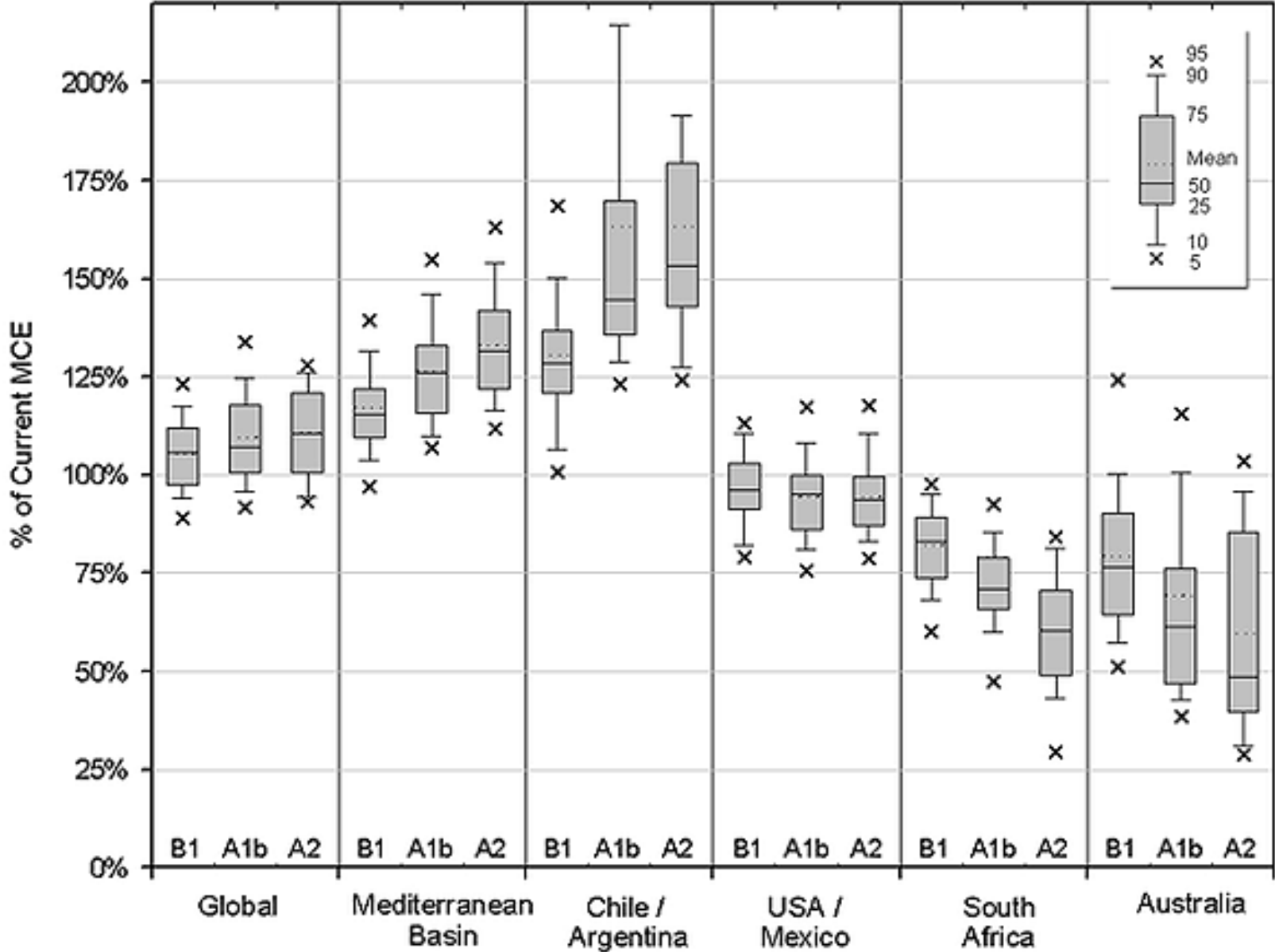
This map shows the average exposure of water users in each country to water stress, the ratio of total withdrawals to total renewable supply in a given area. A higher percentage means more water users are competing for limited supplies. Source: WRI Aqueduct, Gassert et al. 2013

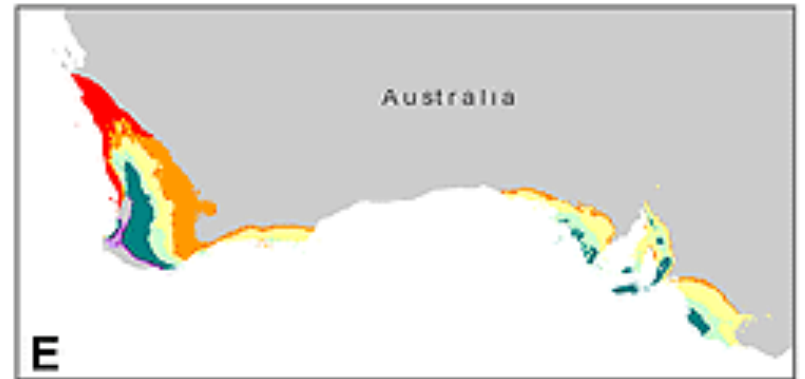
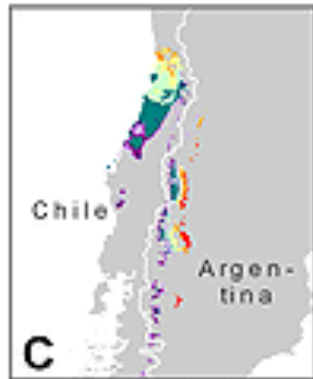
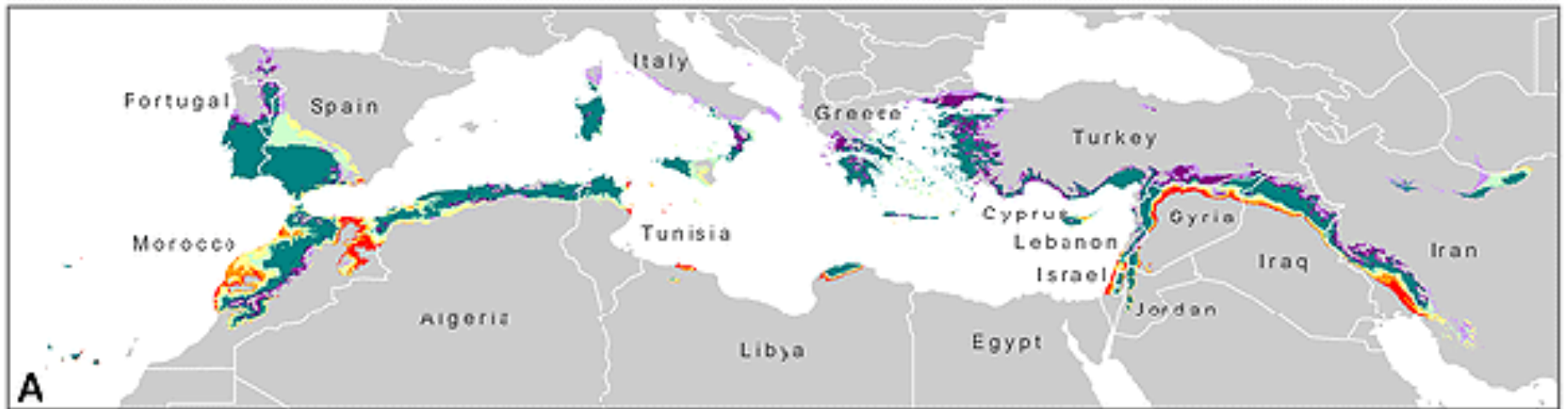
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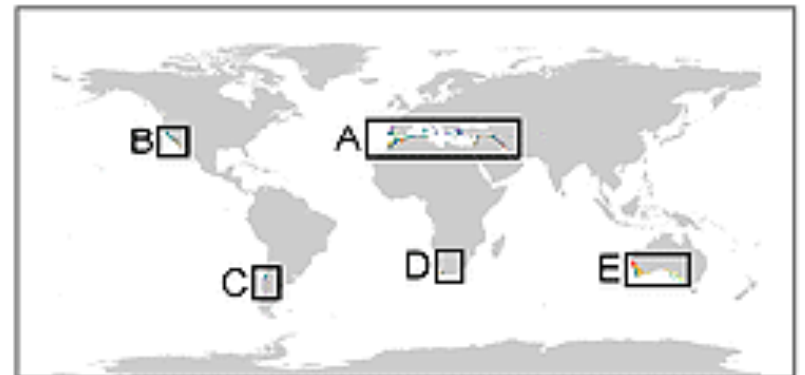


Relative size of the projected future (2070–2099) to the current (1960–1989) MCE (Mediterranean Climate Extent), IPCC (2007)





### Legend



# Overview of water stress in the Mediterranean basin, highlighting water exploitation as well as existing and planned desalination plants

- GRID-Arendal (2013)



## Water stress in the Mediterranean basin

**Water Exploitation Index<sup>1</sup>**  
 Percentage, 2000-2010

- Less than 20
- 20 to 40
- 40 to 60
- 60 to 80
- more than 80

**Existing and planned desalination plants**  
 Capacity, thousand cubic metres

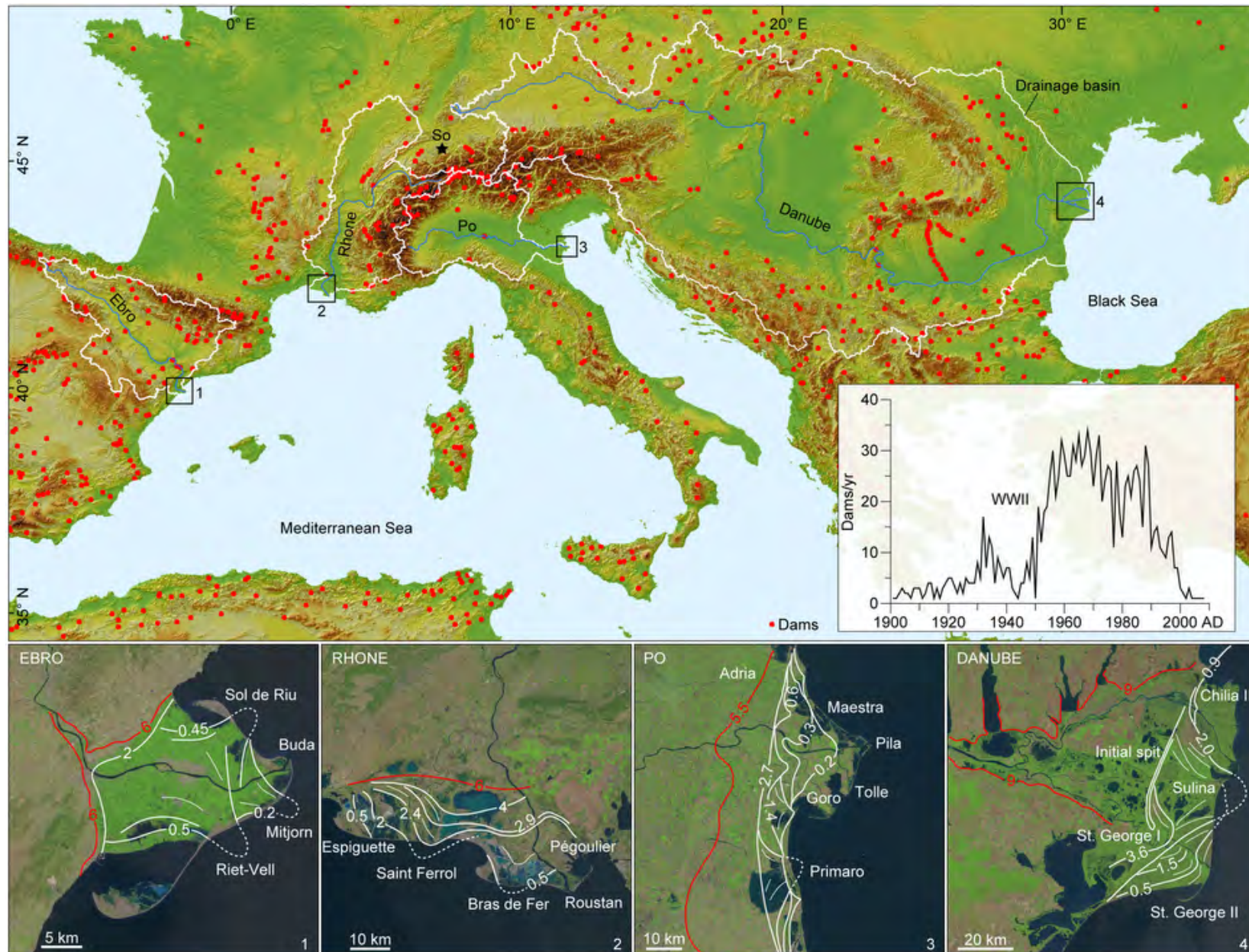
- More than 50
- 50 or less

**Desertification**  
 Severe desertification area

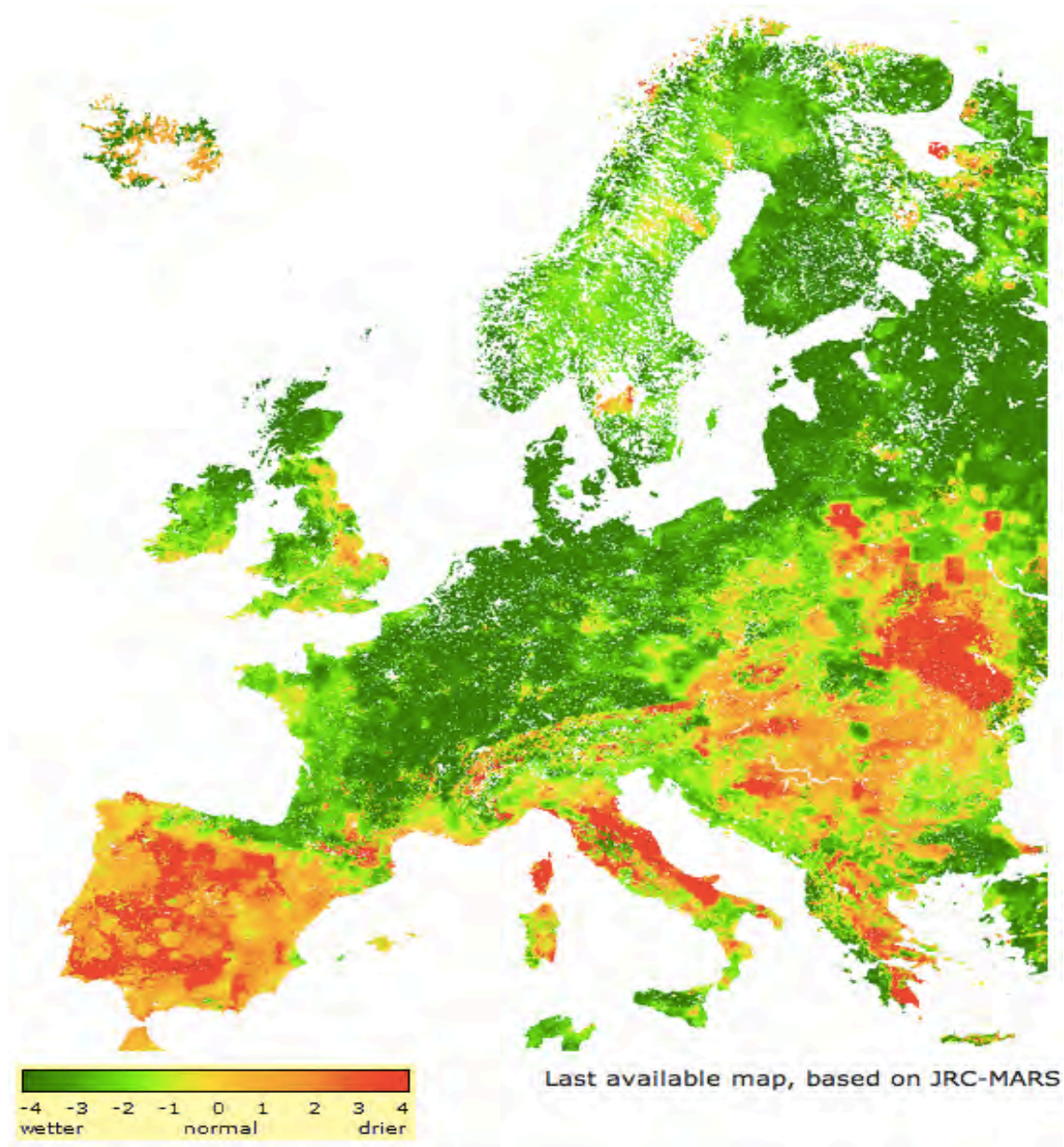
Sources: Blue Plan, Informations based on national sources; Water, energy, desalination & climate change in the Mediterranean, 2008; IDA Worldwide Desalting Plants Inventory; Balaban, M.; Bourney, E., Environment and Security in the Mediterranean: Desertification, ENVSEC, 2009.



# Location of the four delta systems with catchments and growth phases, Maselli & Trincardi (2013)



# Increasing drought exposure (JRC-MARS)







## Practical info

- Talk to Estefanía if you have any query regarding travel arrangements (she is in direct contact with the travel agents) – some return flights have already been affected due to some air traffic controllers on strike.
- Breakout working groups (session 4) will be held in this plenary room (WG1) and at the CIFF Foundation (200 m away from this building, WG2 & WG3). Directions are provided in your conference file but someone will guide you on your way.
- Conference dinner is at 20:00 at this building. We need to be on time. Please help us with that!
- We will very much appreciate if you can (1) provide us with your view on delivered documents and (2) fill in the evaluation form and sheets for feedback on project issues.