REGIONAL WORKSHOP ON QUANTITATIVE WATER MANAGEMENT PLANNING

TO ADDRESS CLIMATE CHANGE CHALLENGES IN EASTERN PARTNER COUNTRIES

EU Policies for Floods, Droughts & Water Scarcity

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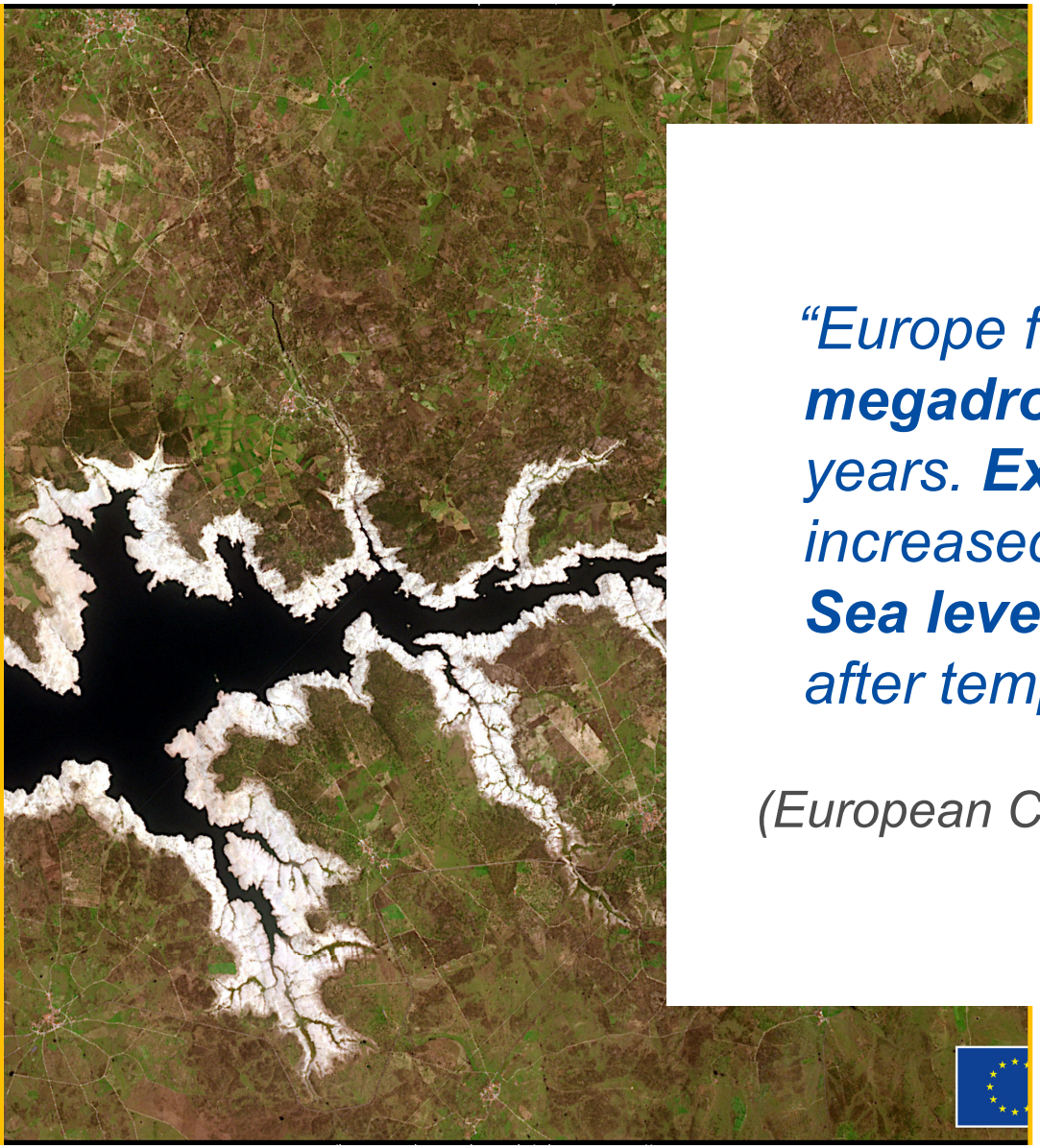

*"Europe faces a growing risk of **megadroughts** that last for several years. **Extreme precipitation** has increased and this trend will continue. **Sea level rise** will continue for centuries after temperatures stabilised."*

(European Climate Risk Assessment 03/2024)

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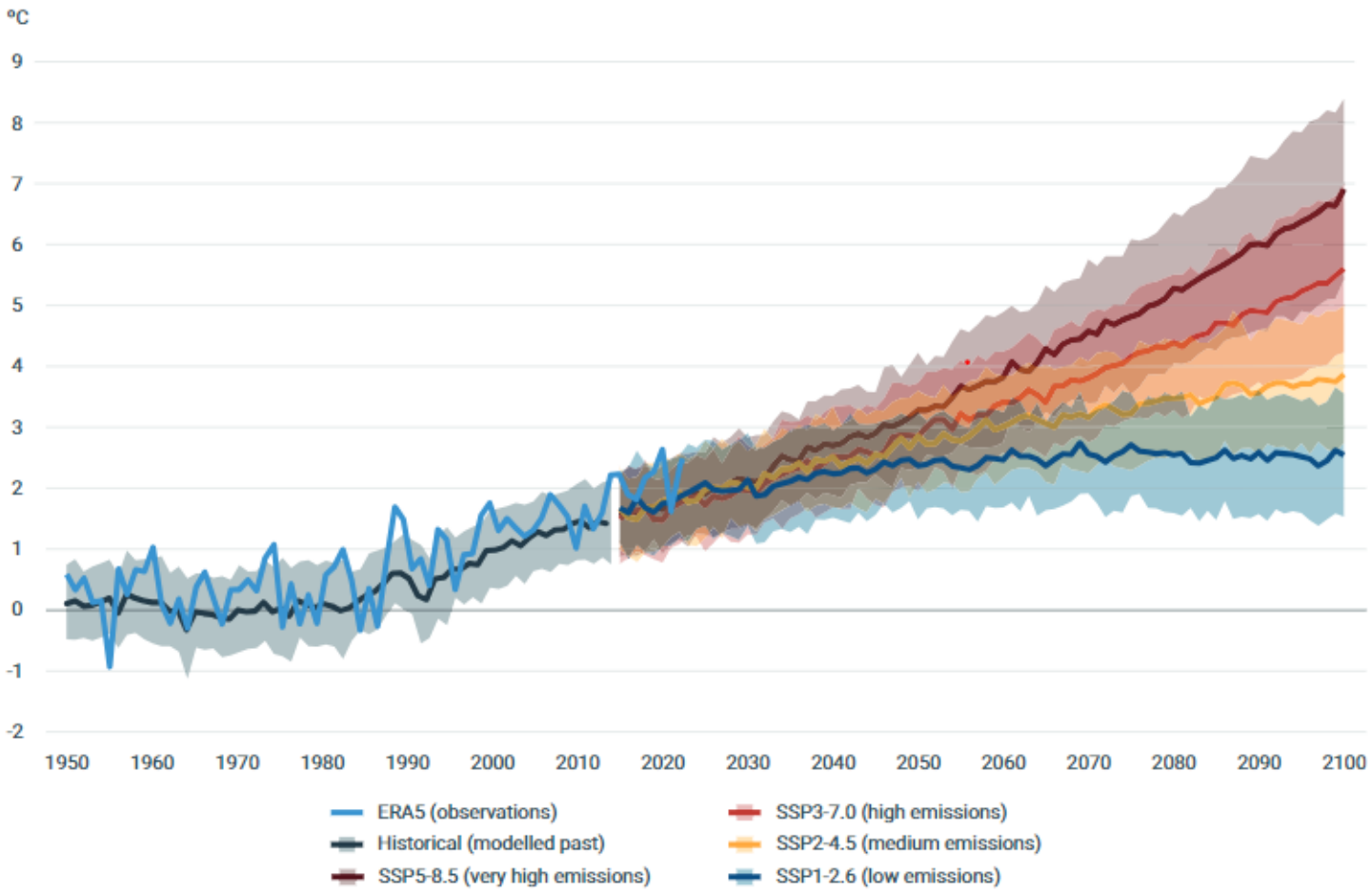
Figure ES.2 Observed and projected temperature increase over European land area



Notes: Temperatures are expressed relative to pre-industrial levels. The model projections show the mean and uncertainty interval. The two scenarios assessed are SSP1-2.6: low warming, and SSP3-7.0: high warming.

Source: Copernicus Climate Change Service (C3S).

In a **best-case** scenario, Europe will have to learn to live with climate that is **3C warmer** than pre-industrial levels.

(European Climate Risk Assessment 03/2024)

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Floods & Droughts in Europe 2020-2100

Droughts:

EUR 9 billion/year damage & unquantified damage to ecosystems and their services (EU 27). Until 2100 without adaptation and +3°C warming ca. 40% less aquifer recharge and river discharges, drought damages increasing to EUR 45 billion/year.

Floods:

EUR 7.8 billion/year damages (EU & UK, estimate in 2020) affecting more than 170,000 people every year. Until 2100 without adaptation and +3°C warming ca. 48 billion/year damages with 482,000 people affected (Source: JRC 2020, base don pESETA IV).

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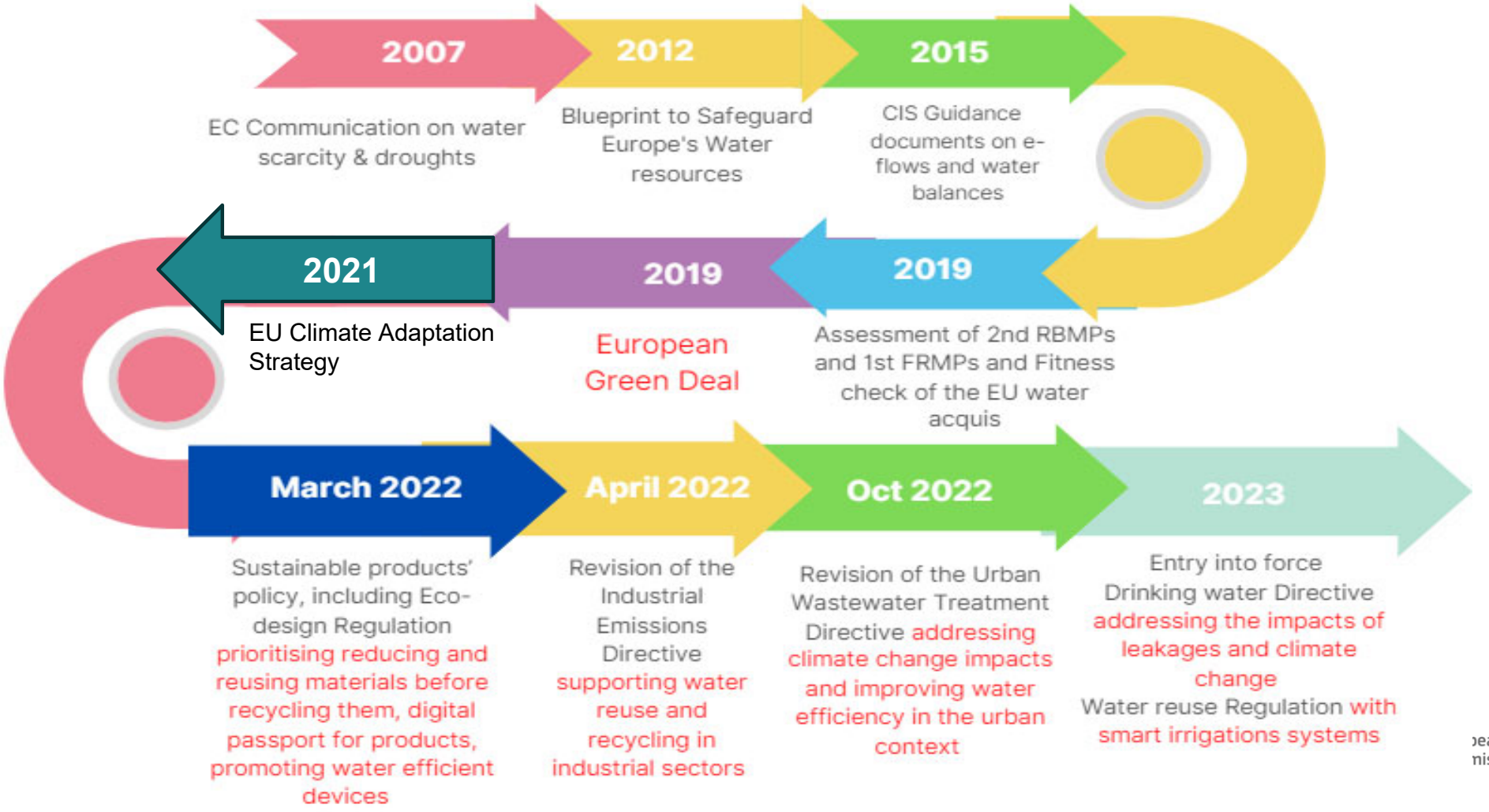
EU policies on water and climate



Key EU legislation & policy initiatives

EU Directive/Communication/ Strategy	Policy Objective
EU Water Framework Directive (WFD) 2000/60/EC, daughter directives (2000) [2], and guidance documents within the Common Implementation Strategy.	Ensure a good quantitative status of groundwater bodies; Achieve good ecological status of surface water bodies (including in terms of supporting environmental river flow requirements); Identify significant pressures from abstraction (Art. 5).
EC Communication "Addressing the challenge of water scarcity and drought in the European Union" (2007) [3]	Encourage Member States (MS) to identify river basins which face quasi-permanent or permanent water stress or scarcity; Improve drought risk management; Improve knowledge and data collection.
EC Communication "Blueprint to Safeguard Europe's Water" (2012) [4]	Put quantitative water management on a much more solid foundation (including identification of the ecological flow –i.e. the amount of water required for the aquatic ecosystem to continue to thrive and provide services) and address the issue of over-allocation at the river basin scale; Recognize that water quality and quantity are intimately related within the concept of good status; Develop water efficiency targets for river basins which are (or are projected to be) water stressed, on the basis of water stress indicators developed in the Common Implementation Strategy (CIS) process and applied at river basin level; Implement Water Accounts at river basin and sub-catchment level: they can tell water managers how much water flows in and out of a river basin and how much water can realistically be expected to be available before allocation takes place; Identify and reduce of illegal abstraction/impoundments.
EU Strategy on Adaptation to Climate Change [5]. **EC Communication "White Paper:**	Build a solid knowledge base on the impact and consequences of climate change for EU water resources as a basis for developing sound adaptation strategies for water. (Water resources are directly impacted by climate change, and the management of these resources affects the vulnerability of

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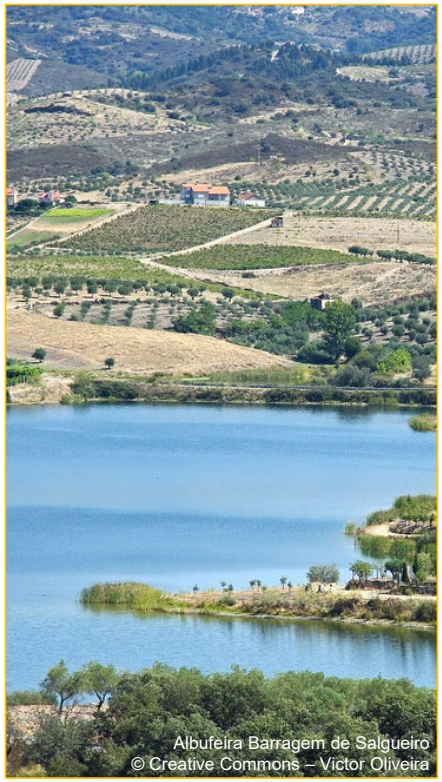
Key EU legislation & policy initiatives

EU Strategy on Adaptation to Climate Change [5]. **EC Communication "White Paper: Adapting to climate change: Towards a European framework for action" (2009) [6].**	Build a solid knowledge base on the impact and consequences of climate change for EU water resources as a basis for developing sound adaptation strategies for water. (Water resources are directly impacted by climate change, and the management of these resources affects the vulnerability of ecosystems, socio-economic activities and human health. Water management is also expected to play an increasingly central role in adaptation. Climate change is projected to lead to major changes in water availability across Europe with increasing water scarcity and droughts mainly in Southern Europe and increasing risk of floods throughout most of Europe).
UN-Water: Water in the post-2015 development agenda (2014) [7]. **Sustainable Development Goals (SDGs) for water: core indicators related to Target B-water resources management (WRM).**	Target B: Improve by (x %) the sustainable use and development of water resources in all countries. Suggested action: - Bringing freshwater withdrawals into line with sustainably available water resources.
GEOSS Water Strategy **Integrated Global Water Cycle Observation (IGWCO)**	Develop widely available, sustained water cycle data sets and related information products, at both global and basin scales, tailored to the near- and long-term needs of stakeholders and end-users; Guide decisions on water cycle observations; Promote strategies for the acquisition, processing and distribution of data products needed for effective management of the world's water resources.

EU Climate Change Adaptation Strategy

COM (2021) 82 final, 24.2.2021



- Towards a climate-resilient **water management**
  - Improve **coordination of thematic plans and other mechanisms** (incl. water resource allocation and water-permits) across sectors and borders
  - **Drought risk management** to be improved
  - Reduce **water use**, encouraging **water efficiency and savings**
  - Stable and **secure supply of drinking water** → climate change-risks in risk analyses of water management
  - Sustainable **soil management and land-use**
  - **Flood risk management** to better consider climate change impacts
  - **Nature-based solutions** to achieve the goals of the Water Framework Directive and the Floods Directive

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Flood Risk Management

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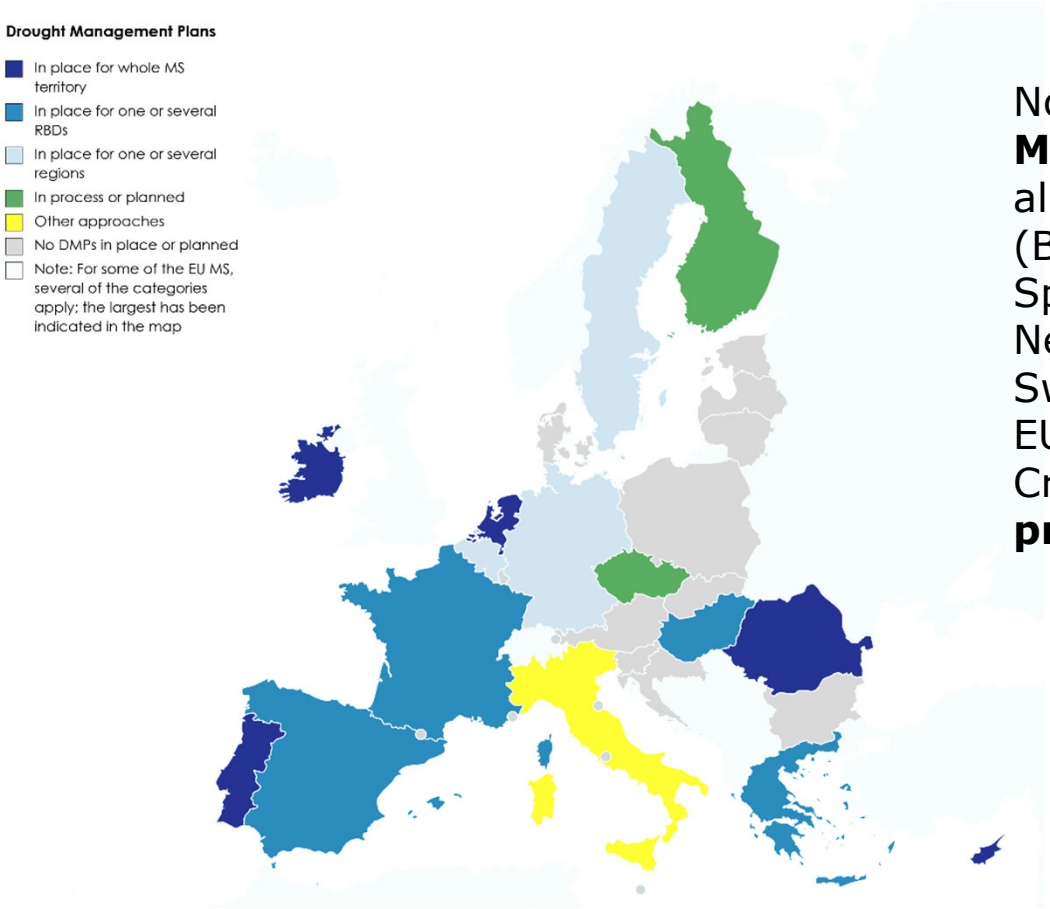
To this end, Member states create and update Flood Hazard Maps and Flood Risk Maps. **Flood Hazard Maps** should cover the geographical areas which could be flooded and **Flood Risk Maps** show the potential adverse consequences associated with these flood scenarios. These maps form the basis for the drafting of flood risk management plans.

Drought Risk Management



No legal requirement for **Drought Risk Management Plans** but they are already in place **in 13 EU MS** (Belgium , Cyprus, Germany, Greece, Spain, France, Hungary, Ireland, Italy, Netherlands, Portugal, Romania and Sweden), at different levels **and more** EU MS (including Czechia, Finland, Croatia, Luxemburg and Slovenia) **are preparing** such plans.

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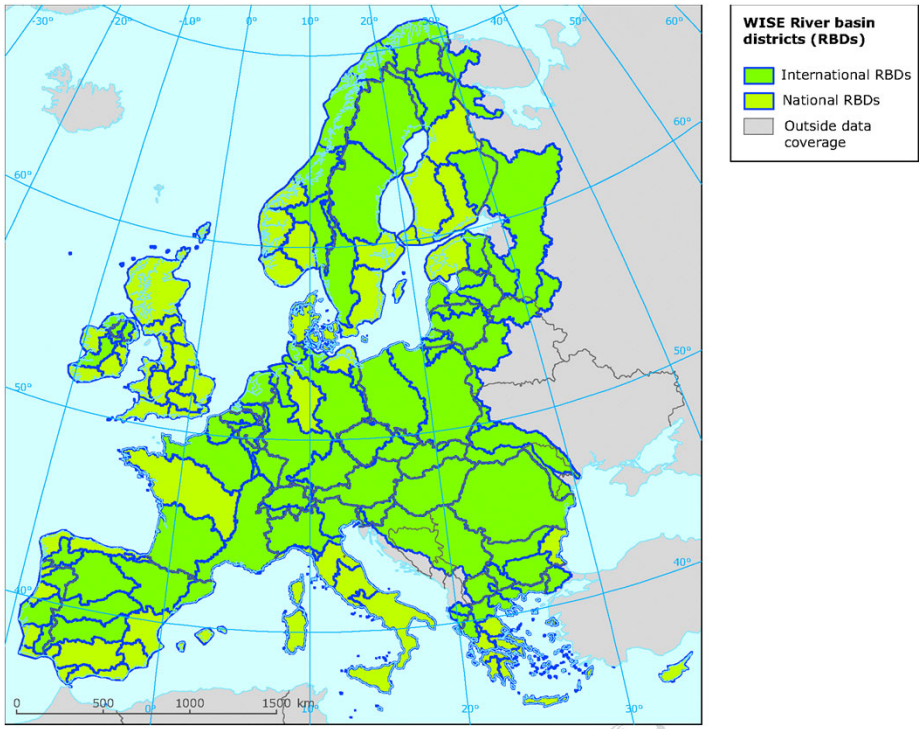
Transboundary cooperation on water quantity management in the EU 27

- WFD: .. *Where the use of water may have transboundary effects, the requirements for the achievement of the objectives should be coordinated for the whole of the river basin.*
- RBMPs for transboundary river basins developed jointly:

• Danube	Rhine
• Elbe	Meuse
• Scheldt	Ems
• Sava	Odra



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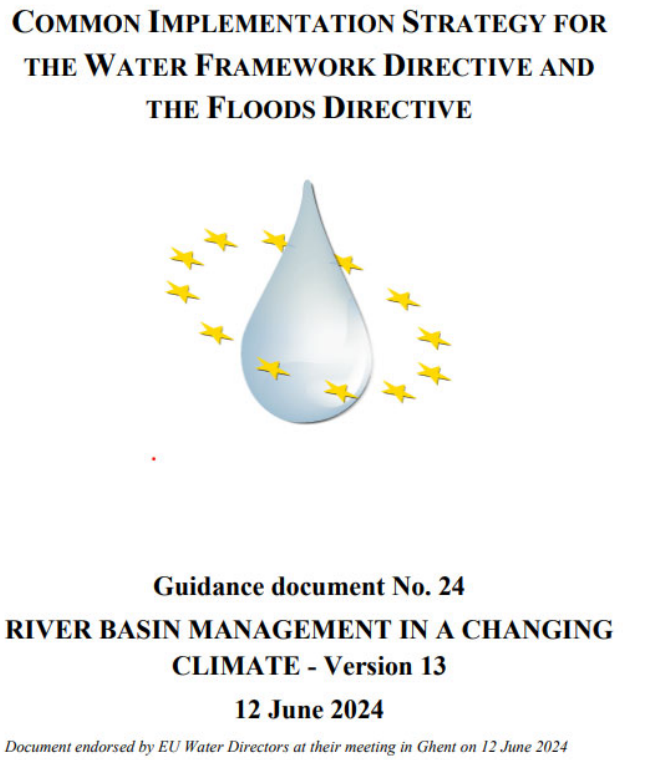
Guidance water management & climate change

- Update pulished in June 2024
- Practical Guidance for Water Managers
- Adaptation of River Basin Management to Climate Change – best practices



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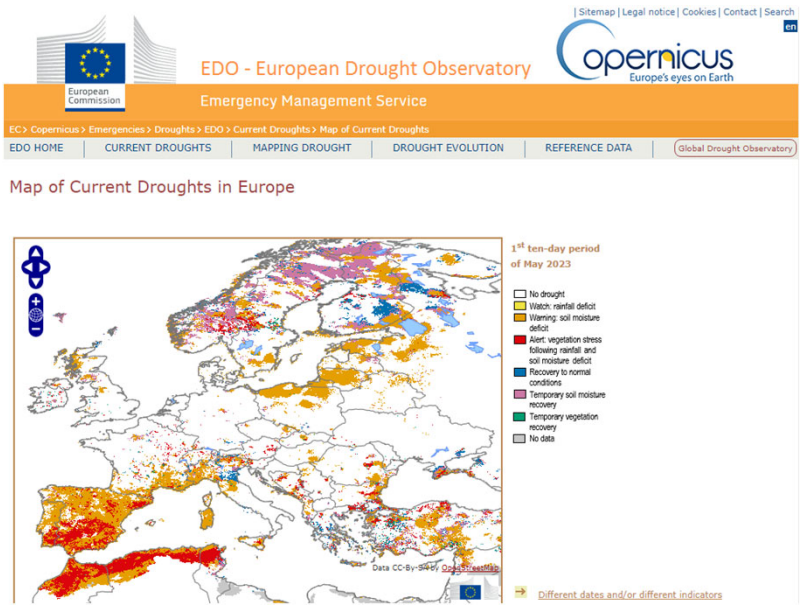
European Drought Observatory for Resilience and Adaptation (EDORA)



- Aiming at strengthening the European Drought Observatory by
  - Improving drought impact and risk assessment
  - Enhancing cooperation between drought observatories in the EU
  - Stocktaking of drought management and adaptation review

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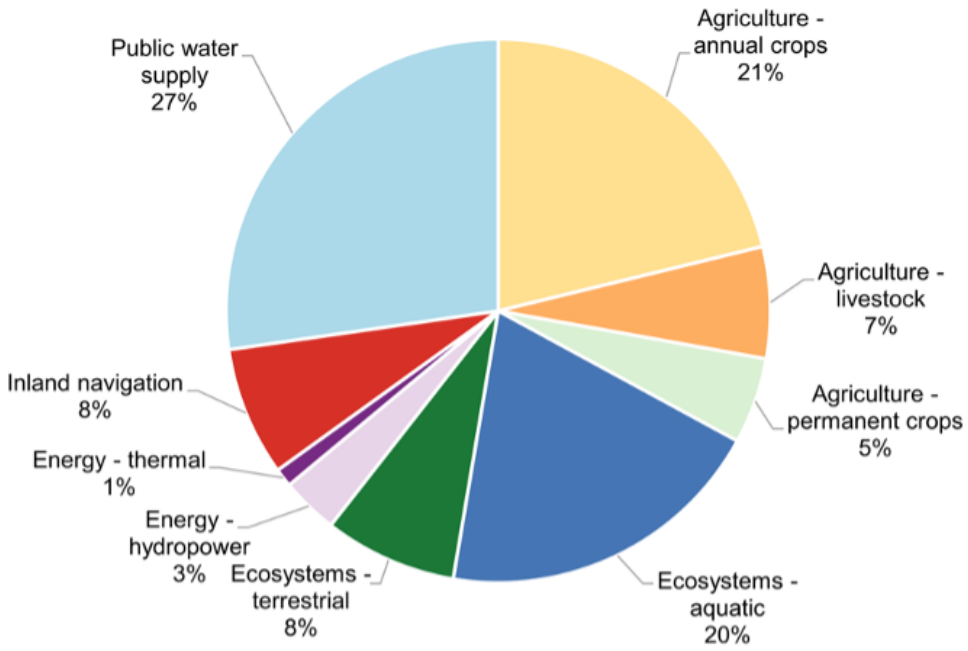
2023: European Droughts Impact Database



Drought impacts in EDID by sectors

Source: JRC 2023, EDID

- The most comprehensive database on drought impacts in Europe, containing 20.202 recorded drought impacts covering 36 different European countries from 1970 – 2022.
- The impact content increases over time, in particular following the availability of online media reports from the 2000s. The largest numbers of impacts are available in the most recent 10-20 years.

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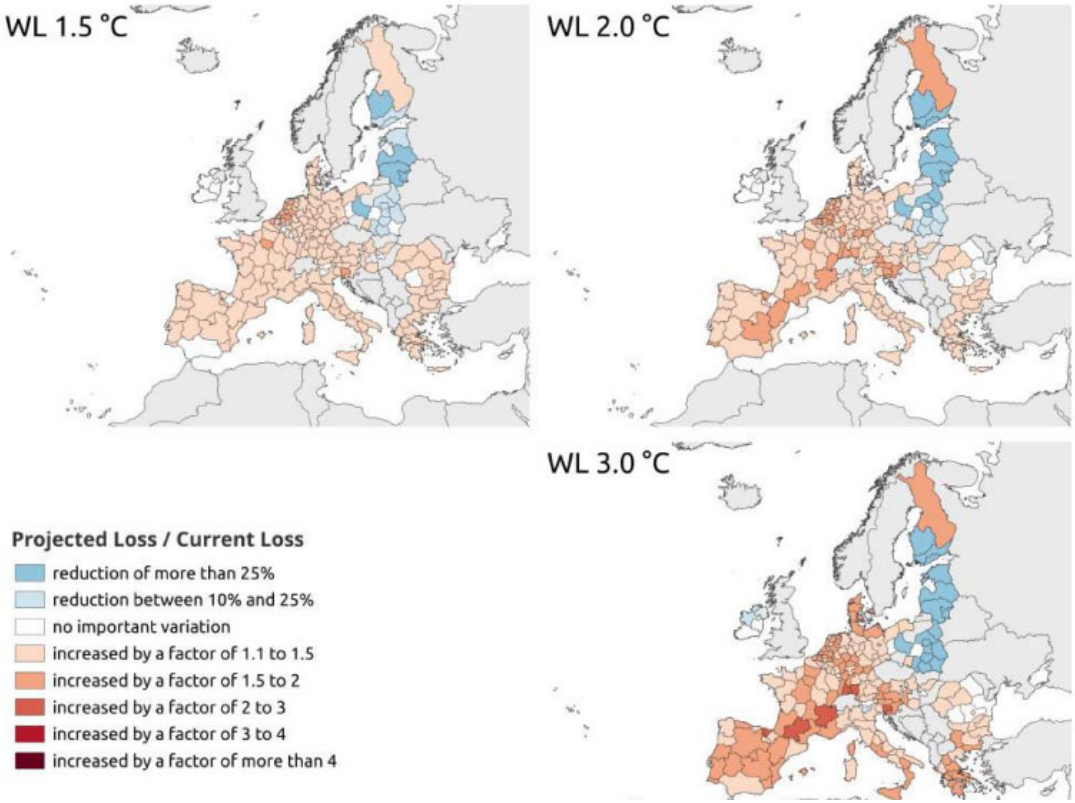
2023: European Droughts Risk Atlas



- Simulates impact of global warming on key economic sectors and within some sectors also focus on selected product categories
- Estimates potential future economic gains and losses due to increase/decrease of precipitation in a +1.5C, +2C and +3C scenario.

Source: JRC 2023, EDORA Risk Atlas

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Thank you

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