



Ongoing Developments on Water Scarcity and Drought Risk Management at EU level - Enhancing water resilience

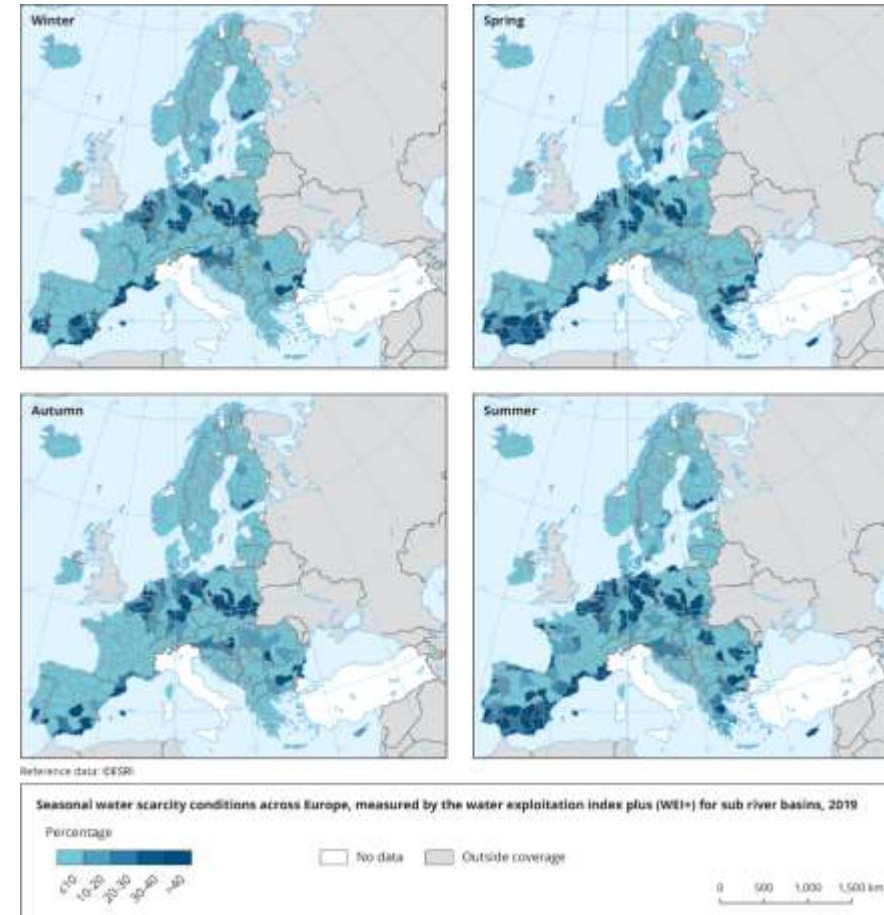
*International Conference
Drought Risk & Drought Risk Management in Romania & in Europe
30 October 2023*

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Sustainable Freshwater Management Unit

Water scarcity on the rise in Europe

Water stress affects approximately 20 % of the European territory and 30 % of the European population on average every year.

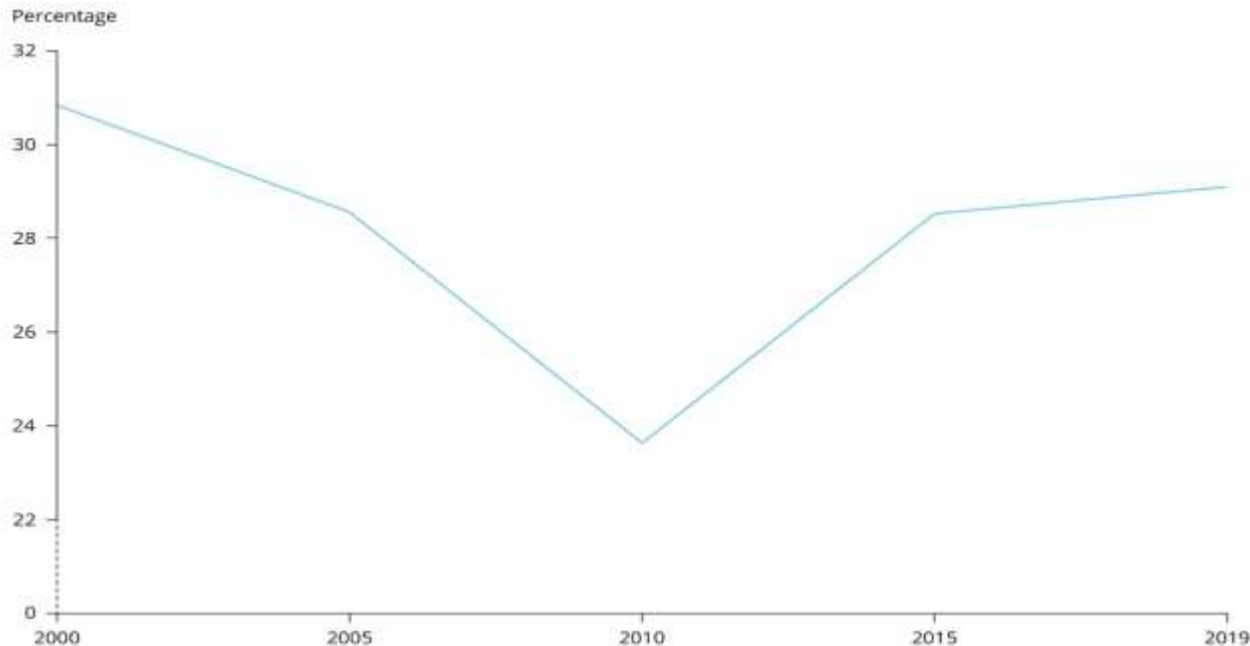
Southern Europe, European metropolises, intensive irrigated areas and popular touristic destinations are becoming vulnerable more and more to the water scarcity.



[Seasonal water scarcity conditions across Europe, measured by the water exploitation index plus \(WEI+\) for sub river basins, 2019 — European Environment Agency \(europa.eu\)](#)





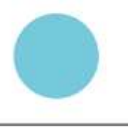


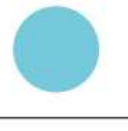



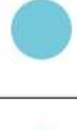



[Water scarcity conditions in Europe \(Water exploitation index plus\) \(europa.eu\)](#)

Area affected during at least for one quarter of the year by water scarcity conditions in the EU, measured by the water exploitation index plus



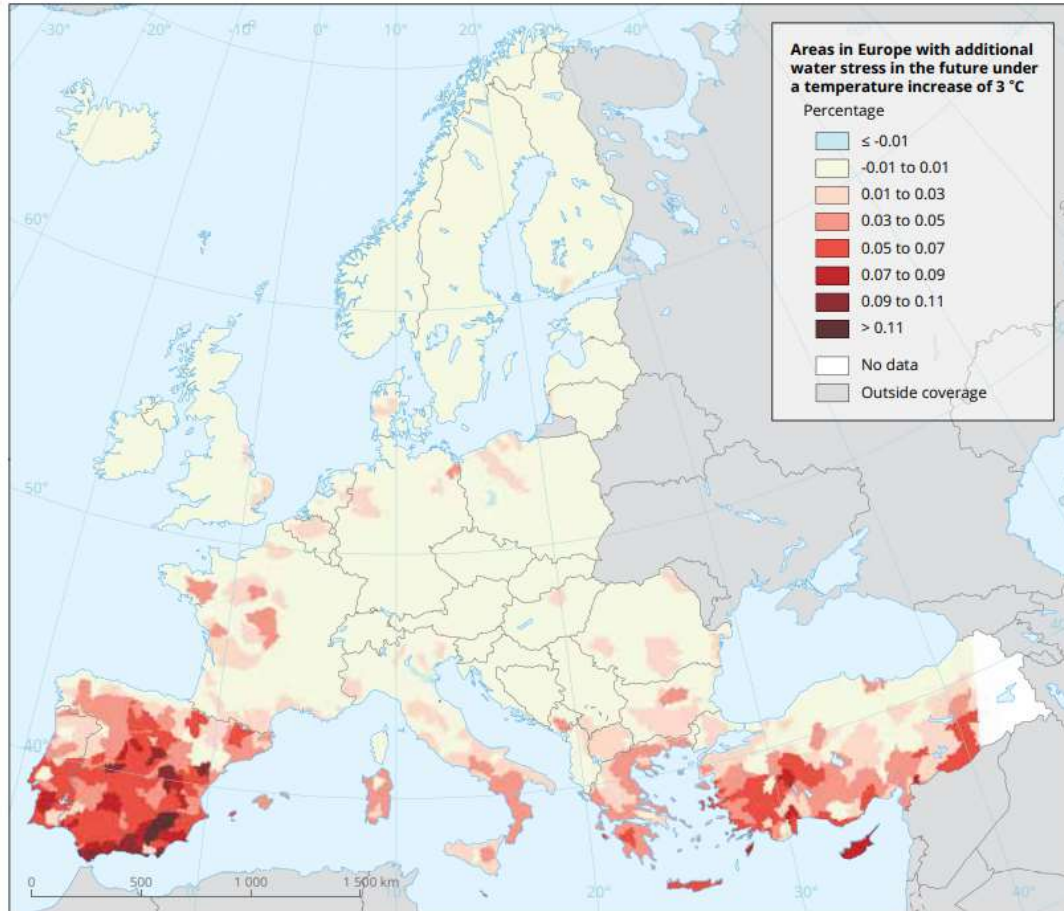
Water scarcity on the rise in Europe

Estimated water availability per capita (m³/capita – 2000-2017)

Country	2000	2010	2017
Austria	 11 298	 9 477	 8 444
Switzerland	 7 728	 6 113	 4 902
Romania	 4 500	 8 159	 4 956
Spain	 4 146	 2 308	 2 042
France	 3 933	 3 286	 2 430
Germany	 2 438	 2 323	 1 629
Italy	 2 120	 3 060	 1 320



Future projections (scenarios) of water stress in Europe



Reference data: ©ESRI

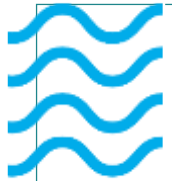
Source: Peseta IV project (Bisselink et al., 2020).

Water stress in Europe is expected to worsen in the future due to;

- ❑ Potential impacts of climate change on water availability in future
- ❑ Urbanisation is expected to concentrate increasing demand for water
- ❑ Intensive tourism
- ❑ Land use land cover changes will affect groundwater recharge conditions

Water resources management – legal basis

- Water Framework Directive



Water quantity is implicitly included in the definition of **good ecological status** and explicitly in hydromorphological elements (i.e. flow regime).



Good quantitative status is required for groundwater – MS to ensure a balance between abstraction and recharge rates.



The requirement of **water pricing (Art. 9)** also aims to provide incentives for water users to use water resources efficiently.



Measures to promote an **efficient & sustainable water use – Art. 11.3 (c)**



Controls over the **abstraction** of freshwater & groundwater – **Art. 11.3 (e)**

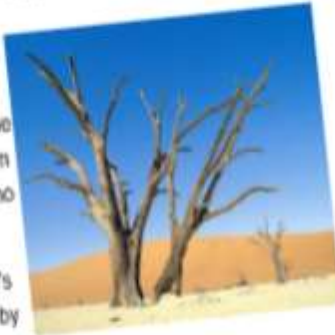
The recognition that **water quality and quantity are closely related within the concept of ‘good status’** is fundamental in addressing quantitative water management challenges

Sustainable water resources management

- ✓ Putting the **right price tag** on water
- ✓ **Water allocation** mechanism
- ✓ Improving **drought risk** management
- ✓ Fostering **water efficient technologies and practices**
- ✓ Fostering **water-saving culture** in Europe
- ✓ Additional **water supply infrastructures**
- ✓ Improve knowledge & data collection

Water Scarcity & Droughts in the European Union

While Europe is by large considered as having adequate water resources, water scarcity and drought is an increasingly frequent and widespread phenomenon in the European Union. The long term imbalance resulting from water demand exceeding available water resources is no longer uncommon.



It was estimated that by 2007, at least 11 % of Europe's population and 17 % of its territory had been affected by water scarcity, putting the cost of droughts in Europe over the past thirty years at EUR 100 billion. The Commission expects further deterioration of the water situation in Europe if temperatures keep rising as a result of climate change. Water is no longer the problem of a few regions, but now concerns all 500 million Europeans.

Objectives

The main overall objective of EU water policy is to ensure access to good quality water in sufficient quantity for all Europeans, and to ensure the good status of all water bodies across Europe. Therefore, policies and actions are set up in order to prevent and to mitigate water scarcity and drought situations, with the priority to move towards a water-efficient and water-saving economy.

EU Action

The major challenge from water scarcity and droughts has been recognised in the Communication "**Addressing the challenge of water scarcity and droughts**" from the European Commission adopted in 2007 [COM(2007)414]. Implementation of the Communication is periodically assessed through annual **Follow-up Reports**

EGD – supporting water resources management



Revision of the Industrial Emissions Directive supporting water reuse and recycling in industrial sectors (EC proposal **5 Apr 2022**)

Revision of the Urban Wastewater Treatment Directive addressing climate impacts and improving water efficiency in the urban context (EC proposal **26 Oct 2022**)

Revision of list of pollutants for surface and ground water (EC proposal **26 Oct 2022**)

Implementation of the Drinking Water Directive addressing the problem of leakages and climate change impacts (**Jan 2023**)

Implementation of the Regulation on water reuse in agriculture and smart irrigation systems (**June 2023**)

A ‘sustainable products’ policy, including Eco-design Regulation prioritising reducing and reusing materials before recycling them, digital passport for products, promoting water efficient devices (EC proposal **30 March 2022**)

EGD – supporting water resources management

Biodiversity Strategy

- Restoring Freshwater Ecosystems (free flowing rivers, restore floodplains)
- Binding Nature Restoration Targets (EC proposal **26 Oct 2022**)
- Agriculture: Reduce pesticides, enhance organic farming, sustainable soil management
- Reforestation
- Soil Health and Resilience Directive (EC proposal **5 July 2023**)



EU Climate Change Adaptation Strategy



COM (2021) 82 final, 24.2.2021

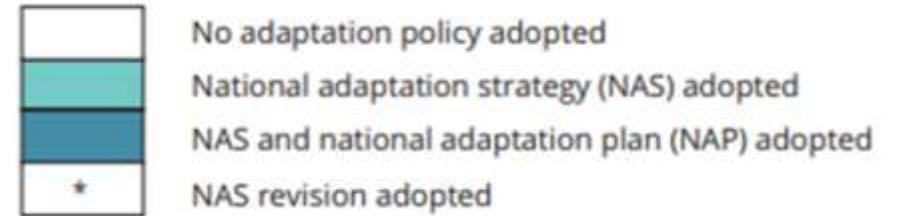


Albufeira Barragem de Salgueiro
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- Towards a climate-resilient **water management**
 - Improve **coordination of thematic plans and other mechanisms** (incl. water resource allocation and water-permits) across sectors and borders
 - **Drought risk management** 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**
 - **Nature-based solutions** to achieve the goals of the Water Framework Directive and the Floods Directive

Systematic Climate Adaptation: Progress 2005-2020

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Austria													*			
Belgium																
Bulgaria																
Croatia																
Cyprus																
Czechia																
Denmark																
Estonia																
Finland																
France																
Germany																
Greece																
Hungary																
Ireland																
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Luxembourg																
Malta																
Netherlands																
Poland																
Portugal																
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Iceland																
Liechtenstein																
Norway																
Switzerland																
Turkey																

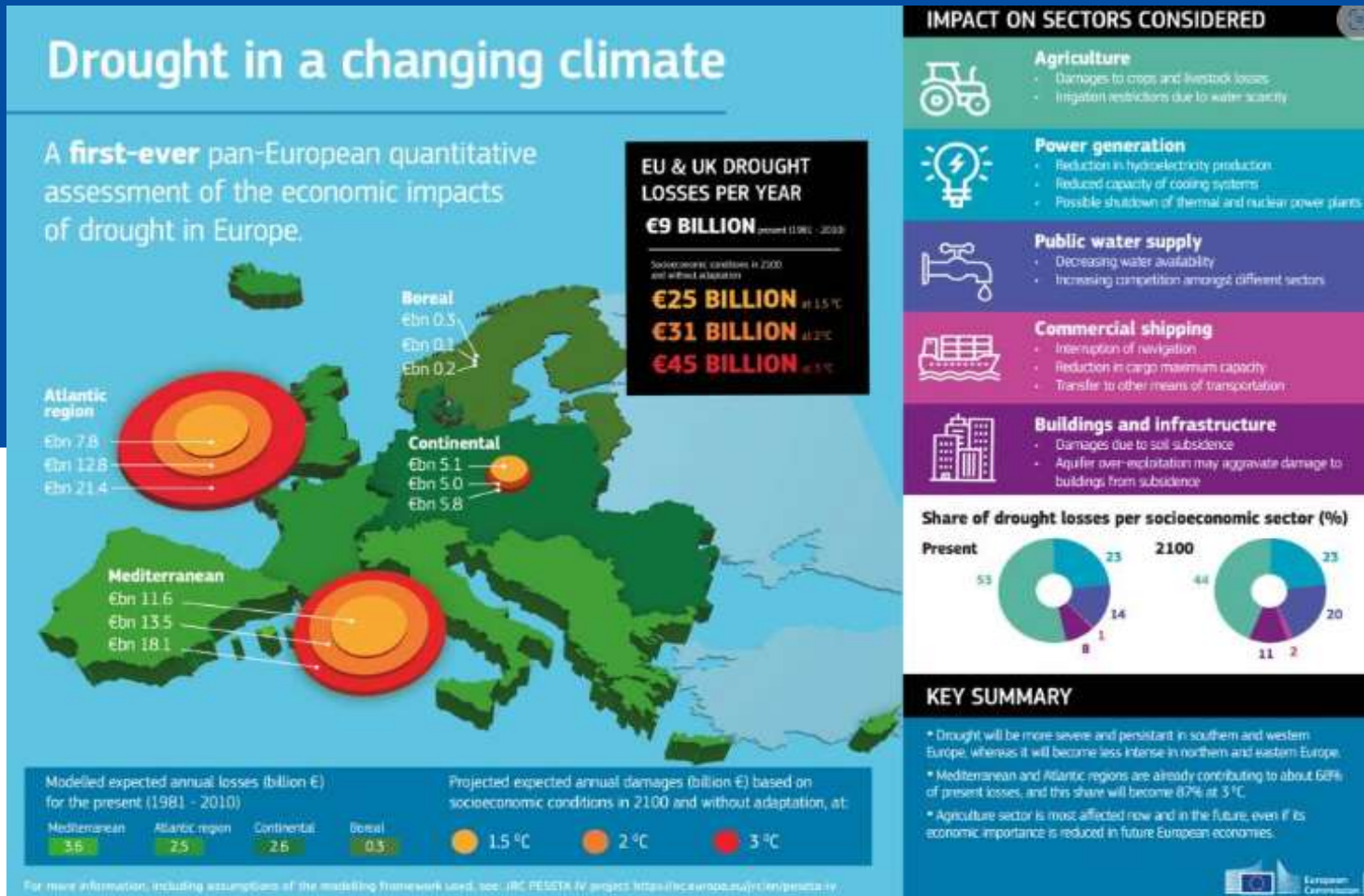


- All EU Member States have a dedicated adaptation policy in place
Some MSs have started evaluation of the strategies
- **Almost all Member States identify drought and water management as key issue**

Source:

<https://www.eea.europa.eu/publications/national-adaptation-policies>

Nexus Water- food- energy –ecosystems-society



A lot of work being done on water scarcity and droughts with JRC (EDORA) and CLIMA
 Also on floods with JRC and ECHO

**Water resilience –
the main work
strands under the CIS
WP**

01

**Enhanced implementation of the
water acquis**

02

**Better implementation of
ecological flow and
water balances for
'good status**

03

**Address potential for
water efficiency in all
the main water-using
sectors**

04

**Better coordination and
coherence of sectoral plans,
including adaptation strategies**

05

**Enhancing drought
management in Europe and
data on water quantity**

06

**Promoting resilience
to climate change**

Main deliverables and timeline

- 1. Exchange on transboundary cooperation on water scarcity and droughts within the EU**, focusing on collecting good practices for potential input to the UN Water Conference in March 2023 (supported by a contract on water quantity management)⁵.

Timeline: Q3 2022

- 2. Report on drought management policies and an in-depth assessment of drought management plans in the EU and adaptation measures to droughts in various sectors (EDORA outcome).**

Timeline: Q2/Q3 2023

- 3. Drought impact database and drought risk atlas established at the JRC-EDO (EDORA outcome).**

Timeline: Q4 2023

- 4. Updated CIS Guidance 24 in collaboration with relevant CIS WGs/EGs** (supported by a contract on water quantity management)

Timeline: Q4 2023

- 5. Report on WS&D management in terms of RBMP and risk reduction, including NBS in WS&D management** (supported by a contract on water quantity management).

Timeline: Q1 2024

- 6. Report on good practices on water allocation mechanism** (supported by a contract on water quantity management and in collaboration with WG Economics).

Timeline: Q2 2024

Other tasks

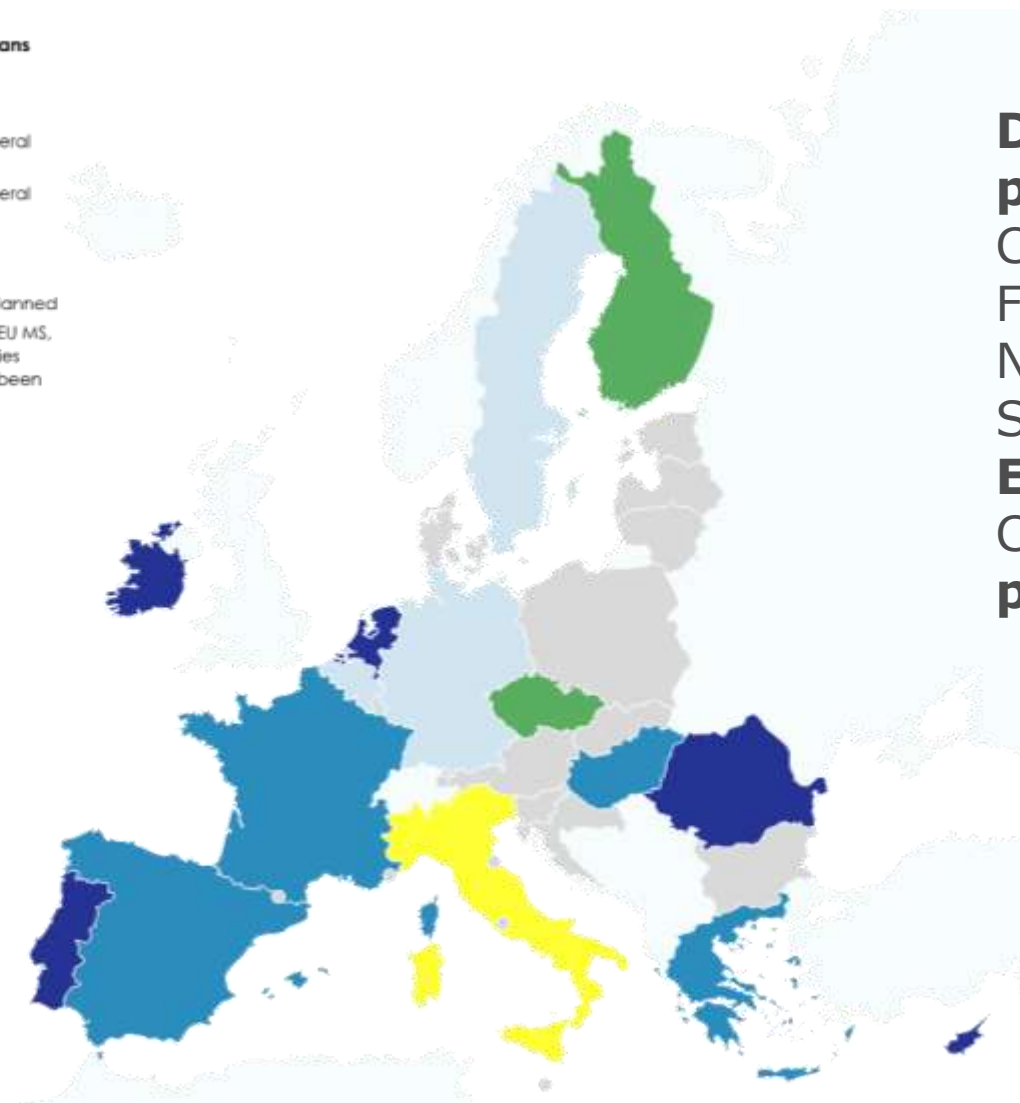
Contributing to the implementation of the European Green Deal, particularly the Circular Economy Action Plan, the EU Climate Adaptation Strategy and the Common Agricultural Policy.

CIS ATG Water scarcity and droughts

Drought management plans increasingly used

Drought Management Plans

- In place for whole MS territory
- In place for one or several RBDs
- In place for one or several regions
- In process or planned
- Other approaches
- No DMPs in place or planned
- Note: For some of the EU MS, several of the categories apply; the largest has been indicated in the map

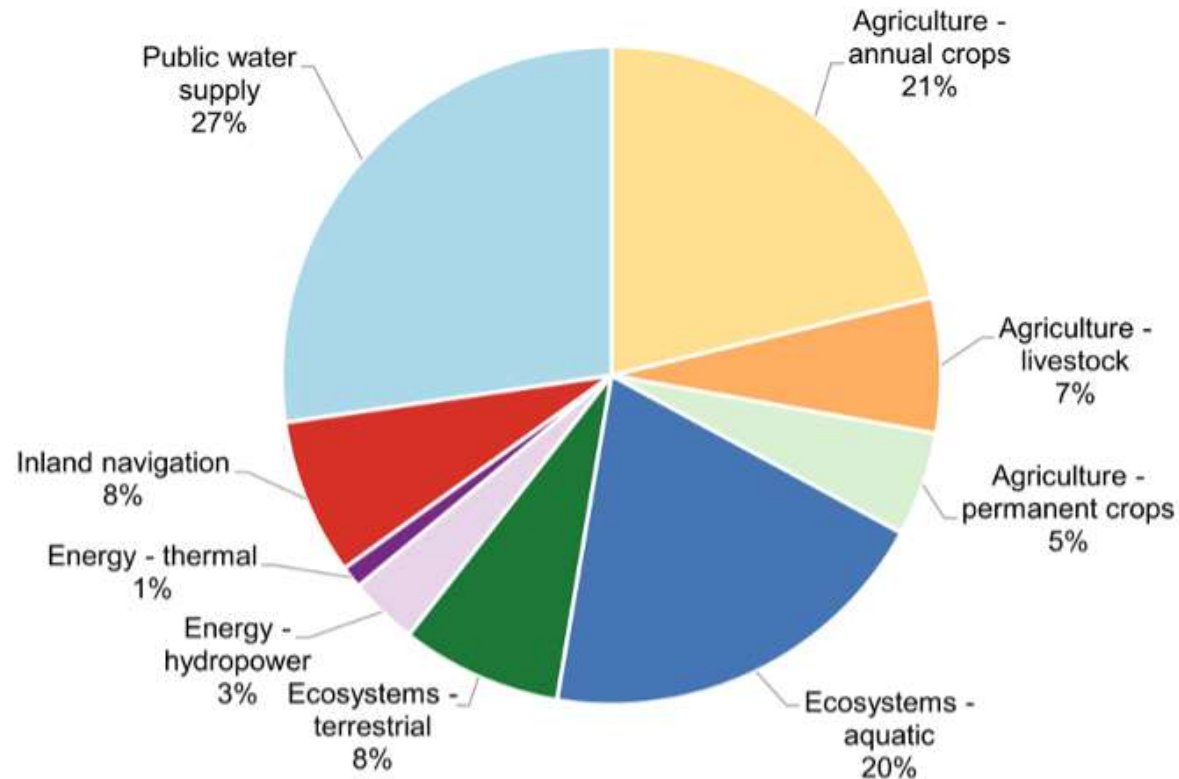


Drought Management Plans are in place in 13 EU MS (Belgium, Cyprus, Germany, Greece, Spain, France, Hungary, Ireland, Italy, Netherlands, Portugal, Romania and Sweden), at different levels **and more EU MS** (including Czechia, Finland, Croatia, Luxemburg and Slovenia) **are preparing or updating** such plans.

2022: Network of EU Drought Observatories



2023: European Droughts Impact Database

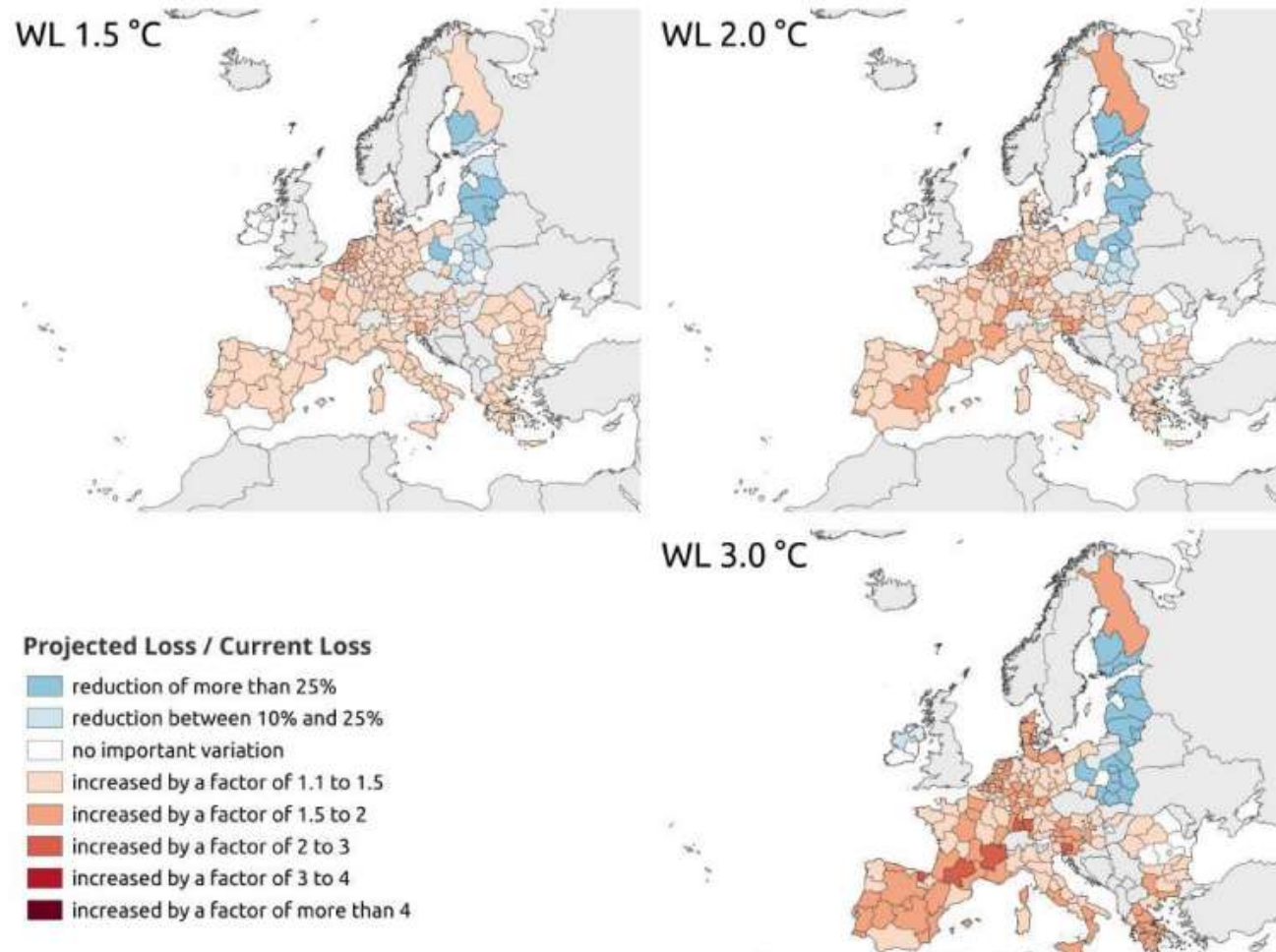


Drought impacts in EDID by sectors

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.

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

Towards an EU Water Resilience Initiative in 2024

An EU vision for 2050 Water Resilience was endorsed by the College ahead of the UN Water Conference: “In 2050, global society will be water resilient, offering water security for all. This entails the protection and restoration of aquatic ecosystems, and a fair balance between water supply and water demand responding to current needs, including the realization of the human right to safe drinking water and sanitation, without compromising the rights of future generations.”



UN WATER CONFERENCE 2023



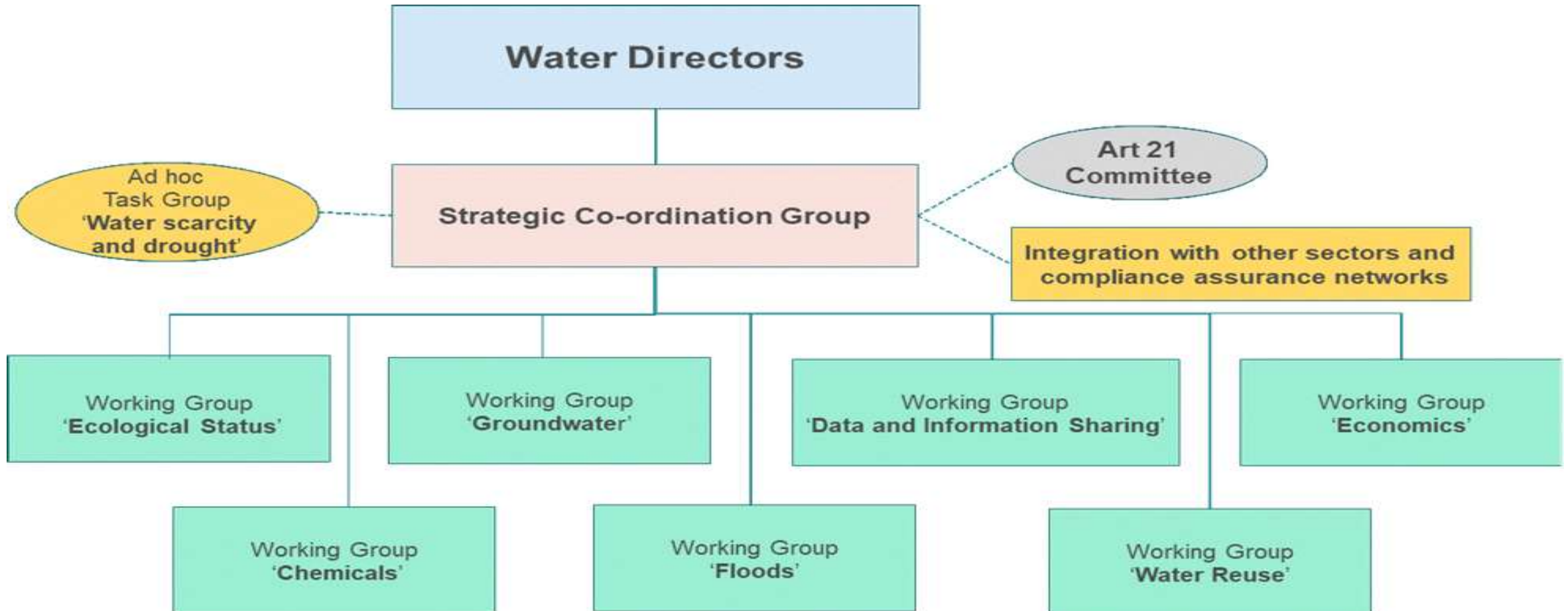
Thank you

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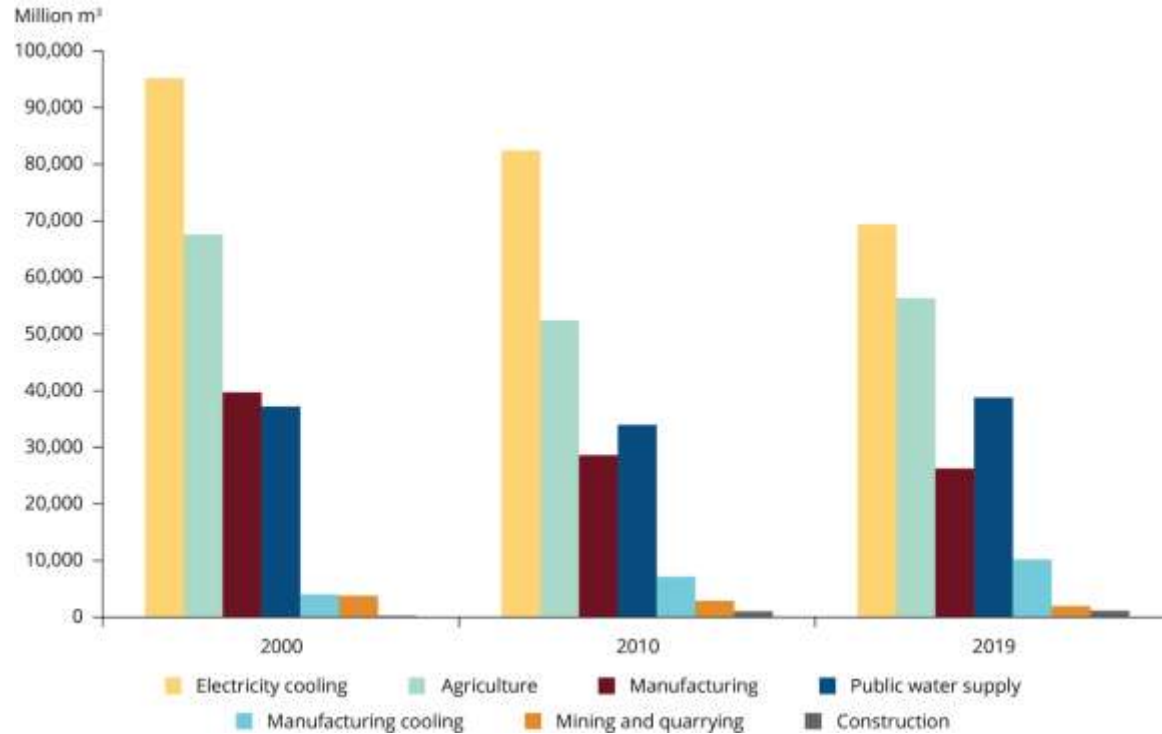
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Common Implementation Strategy (CIS) for the EU Water Law

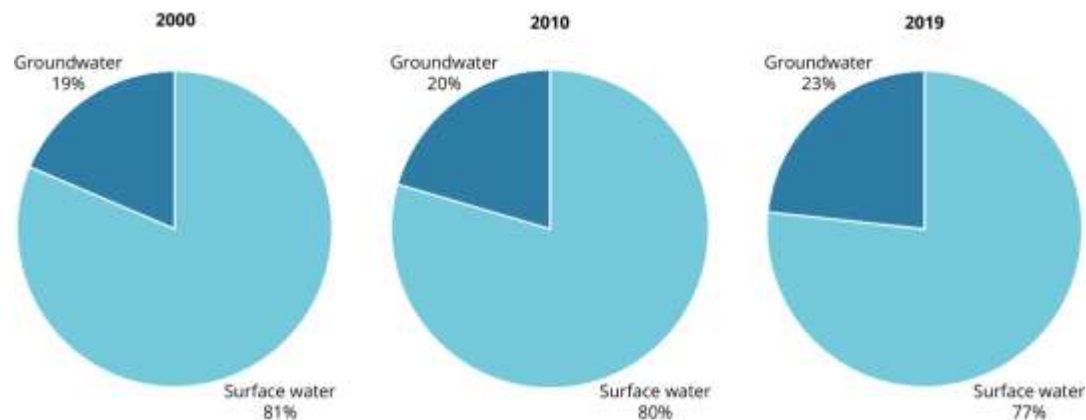
CIS Work Programme 2022-2024



Water abstraction by source and sector (2000-2019)



Total volume of water abstracted from surface water and groundwater declined by 15% in EU-27. Annual water withdrawals for public water supply, agriculture and manufacturing cooling are increasing since 2010. However, this pattern shows significant differences at regional and national level



Share of water abstraction from groundwater resources increased from 19% to 23% of total water withdrawals between 2000 and 2019.

Progress towards water resilience



Sustainable solutions for water stress management



- ❑ Strong needs in shifting from crisis management to proactive risk management approaches to address water stress in Europe and globally
- ❑ Focus on alternative water supply measures e.g. desalination, water reuse
- ❑ Sectoral policy interventions must not only work in synergy with water policies but also actively support them.
- ❑ Nature-based solutions, nexus approaches and systemic change can actively contribute to the integrated water management in areas that are often already affected by drought.
- ❑ Promote cross-fertilisation in water use efficiency and transfer of technology and knowledge.
- ❑ Earth observation, mobile data collection and data integration will further support our knowledge in risk management.
- ❑ Cooperation in international river basins and supporting the implementation of the UN SDG 2030 is essential in coping with water-related risk management