

Drought in Catalonia: measures for the present and challenges for the future

Press kit

May 2023



Generalitat de Catalunya
Government of Catalonia

PRESS KIT

DROUGHT IN CATALONIA: MEASURES FOR THE PRESENT AND CHALLENGES FOR THE FUTURE

Catalonia takes action against drought and prepares for the future

Water shortages and droughts are becoming increasingly common and widespread in the European Union. In some areas such as Catalonia, **the intensity and frequency of droughts can give rise to water shortages** and exceptional circumstances. In addition, further deterioration of Europe's water resources is expected if temperatures continue to rise as a result of climate change.

In this global context of climate emergency, **Catalonia is facing increasingly irregular rainfall** and more extreme weather conditions. In fact, according to projections by the Catalan Water Agency (ACA), the levels of available water in Catalonia are anticipated to decline by up to 18% by 2050. Furthermore, **simultaneous droughts and heatwaves** will be some of the most frequently occurring weather phenomena in the Mediterranean region.

1. The drought in Catalonia

Context

Drought is a **defining feature** of the Mediterranean climate, but it is **being aggravated by the effects of climate change**. Persistent periods with below average rainfall have occurred in the past, although five episodes of water shortage have already been recorded in the twenty-first century. The drought between 2005 and 2008 was even more intense than the current drought in Catalonia as a whole.

Nevertheless, all the scientific reports suggest that in the Mediterranean region, and especially in territories like Catalonia, droughts will be increasingly common and intense, and last longer in the coming decades.

The current period

The current period of drought is the second most intense in the last seventy years – since 1950 – in Catalonia as a whole. The defining features of this episode are its **length, and the lack of rainy months** interrupting the dry period. Between July 2021 and February 2023 (a period of 32 months), only March 2022 was rainy in the country as a whole.

In addition, the current drought has been aggravated by record high temperatures, with a **record-breaking warm spell in 2022**, including an unprecedented anomaly of +2.7°C above average. This led to unprecedented levels of water loss as a result of evapotranspiration.

Water reserves in reservoirs in the inland river basins		
25% (176 hm³)	700	1
Current reservoir reserves (%)	Total capacity in reservoirs (hm ³)	Daily consumption in Catalonia (hm ³)

(*) Figures as of 19 May 2023

This [interactive display](#) shows **the water reserves** in Catalonia's reservoirs, with daily updates.

The ACA also has a [drought viewer](#), with searches possible for each municipality.

As for [precipitation](#), the current **lack of rainfall** is the second most intense ever recorded, after the 2004-2008 drought.

2. The Government of Catalonia's strategy

The Catalan government is taking action in two areas to address the drought:

- First, **in the present, managing the emergency that has arisen as a result of the drought** over two years, by means of **planning, dialogue and investment**. It should be noted that the Government of Catalonia has been addressing the lack of water

since September 2021 with the Drought Plan, and reviewing the situation on a monthly basis in order to take appropriate measures.

- Second, **preparing the country for a future** with increasingly severe droughts, with a clear focus on mitigation and **adaptation to climate change**.

Investments in the water cycle have been accelerated since 2022, with the following objectives:

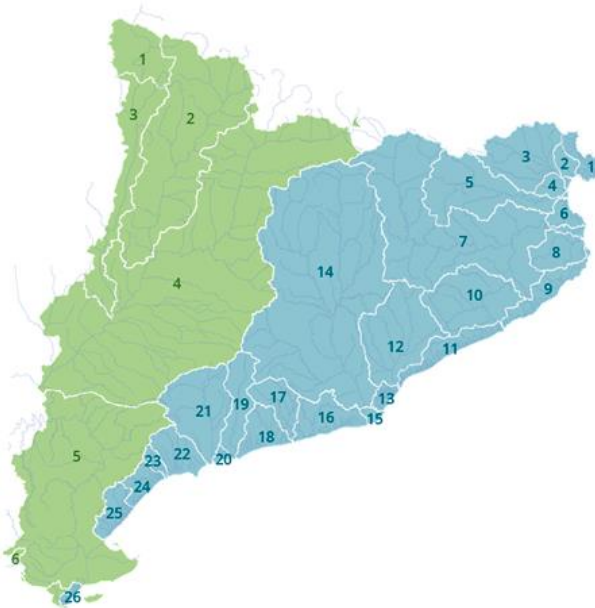
- **Avoiding dependence on the weather: producing more water and being more efficient**
 - The two desalination plants, near the Tordera and Llobregat rivers, have been operating at 100% for months. This water can supply the entire metropolitan region of Barcelona for 4 months.
- **Supporting municipalities in the management of the water available.**
- **Supporting the sectors most affected by the drought**
 - The primary sector is the first to suffer from persistent drought in economic terms. For this reason, intensive efforts are being made to make use of the limited water that is available, and to engage with irrigation and agricultural organisations on an ongoing basis.
- **Preparing the country for more frequent droughts**
 - Progress is being made on the construction of major infrastructure that was planned for the long term. For example, the 240 million-euro extension of the Tordera desalination plant will be put out to tender in 2023, and the plant is expected to become operational in 2025. Work is also beginning on the construction of a new plant in the Foix river basin that was planned for 2028-2033, which will come on stream in 2027.
- **Raising awareness of water consumption**
 - The National Water Board will be established in June 2023, to discuss the water consumption model in Catalonia and move towards a responsible demand for water as a resource.

3. Measures adopted by the Government of Catalonia

Faced with this situation, the Government of Catalonia has adopted various measures based on two approaches: **managing the current situation and preparing for future droughts and water scarcity**. The Executive is implementing measures set out at a drought summit

that was convened in late March 2023, and is taking firm action to address the emergency the country is experiencing due to the lack of rainfall.

These measures have been taken in **the areas managed by the Government of Catalonia**, which only administers the water in 52% of the territory - the **inland basins** or the Catalonia River Basin District (shown in blue on the map below). It administers them through the Catalan Water Agency (ACA). These basins are home to 90% of the population, but only have 40% of Catalonia's water resources. The remaining 48% is managed by the Spanish Government through the Ebro Hydrographic Federation and the Júcar Hydrographic Federation (areas in green).



According to ACA forecasts, **a reduction of up to 18% of Catalonia's available water** is to be anticipated by 2050. This is in addition to the fact that the ACA can only manage 40% of Catalonia's water resources in a territory where 90% of the population lives, **making water self-sufficiency more important than ever**.

3.1. Special Drought Plan

This Plan has been in force **since September 2021**, when the first signs of drought were detected. Since then:

- More than 240 cubic hectometres of water have been produced as a result of desalination, regeneration and drought wells – the equivalent of water consumption in Barcelona for 28 months.

- The water quality of the Sau reservoir has been maintained by transferring it to the Susqueda reservoir, and 1 million people have been supplied for 3 months.
- **The declaration of the state of exception was delayed by 6 months:** instead of September 2022, the more restrictive measures did not come into force until March 2023.
- **Plans have been made with the agricultural sector** in the basins we administer regarding their campaign: they knew how much water they would have in March, meaning they were able to decide what to plant, when to plant it and how it needed to be done.
 - (*) While the inland basins were prepared for the current drought with the first savings measures adopted in September 2021, the Ebro basins, administered by the Spanish government, had no planning of any kind in place. The Ebro Hydrographic Federation applied measures immediately, without sufficient room for manoeuvre. When the first measures were announced on 25 April 2023, the reserves in the Rialb reservoir were at 6%. Meanwhile, in the inland basins, the state of exception had already been declared, and reserves were at 25%.
- Practically all **councils** of towns with 20,000 inhabitants now have an Emergency and Savings Plan to improve the management of the water available.
- **Consensus has been sought on adopting extraordinary measures to deal with the drought:** a decree-law was initially enacted, a summit was convened and finally, consensus was reached on a law that includes the proposals of both initiatives, and also contains the roadmap for investment proposed by the Government.

3.2. Water management plan for the inland basins

This week, the Government approved the Water Management Plan for the inland basins for 2022-2027, with an **investment of more than 2.4 billion euros**. The new plan triples the investment in the previous plan, and will ensure that the country is resilient in the face of increasingly extreme and frequent weather events such as droughts and floods. The roadmap **guarantees the supply, improvement of the condition of bodies of water, and management of the environment**.

The 2.4 billion euros are allocated as follows:

- 1.417 billion euros (58.2%) to increase water availability and improve the efficiency of networks and irrigation
- 866.6 million euros (35.6%) for environmental improvement of the water environment

- 150 million euros (6.1%) to reduce flood risks
- 3.6 million euros (0.1%) for R&D in the complete water cycle

All the investments, broken down by area, can be consulted [here](#).

The objective of the plan is to **guarantee access to water for all uses, despite the structural water shortage in the inland basins and the climate emergency**. The plan's investments are aimed at improving efficiency and increasing water production in order to resolve the water shortage and avoid dependence on rainfall levels. The quality of the water environment will also be guaranteed with the incorporation of resources such as regeneration and desalination.

The measures included in the management plan will increase the **amount of new water available by around 30%**. The Government is thereby addressing the gradual reduction of resources anticipated by 2050 by improving supply, water use efficiency, regeneration and flood prevention.

The Plan includes the following measures:

- **Improvements in desalination, purification and reuse:**
 - 182 hm³ of new drinking water will be produced. That is 20 hm³ more than the capacity of the Sau reservoir (166 hm³):
 - 80 hm³ from desalination
 - 56 hm³ from reuse and improvements to water treatment plants
 - 6.3 hm³ from improvements to network efficiency
 - 15 hm³ from the recovery of wells
 - 25 hm³ to intensify the use of the River Besòs
- **Boosting regeneration:**
 - The current 24 water reclamation plants will be increased to 40.
 - This will reclaim 120 hm³/year, 50 hm³ more than at present.
 - While 10% of the total treated water is currently reused, this figure will double to 20% as a result of the investments in the Plan. This water is used for agricultural irrigation and for industrial, environmental, recreational and municipal uses.
- **Drainage improvements:**
 - Catalonia has very high levels of drainage (97.1% of the population has drainage). The aim is to reach 100% of the population.

- It is planned to build 174 new wastewater treatment plants and upgrade 438 existing plants by 2027.
- The 2022-2021 plan will make the self-supply of wastewater treatment plants with clean energies such as photovoltaic energy and biogas production a priority, so that 78% of the energy they need comes from clean sources.
- **Environmental restoration and river linking:**
 - The 2022-2027 Plan increases investment in environmental restoration fivefold, from 8 million euros in the current cycle (2016-2021) to 44 million euros for the period between 2022 and 2027.

3.3. Restrictions

The ACA periodically reviews the drought situation in the inland basins, and decides which areas the state of exception applies to. The territory of the inland basins is divided into 18 zones, according to the main water source (reservoirs, aquifers or rainfall), of which **3 are in a normal situation, 2 are on pre-alert, 2 are on alert and 11 in a state of exception.**

This means that **495 municipalities** (with a total population of **6,632,000 inhabitants**) are **subject to the state of exception**, 38 are on alert, 54 are on pre-alert and 43 are in a normal situation.

[This map](#) shows the municipalities affected.

Examples of restrictions

The state of exception involves **further reductions in water** for some uses, such as a 40% reduction in water for agricultural uses, a 15% reduction for industrial uses, the reduction of water for recreational uses (15% in comparable uses and 50% for watering) and the prohibition on watering public and private green spaces. Street cleaning with drinking water is also prohibited, and the average water allocation per inhabitant per day is reduced. While this limit was 250 litres per inhabitant per day in the alert scenario, in the state of exception it is reduced to **230 litres per inhabitant per day (this figure includes all the consumption in the municipality per day, including household consumption, the water used for economic activities, and for street cleaning, among other uses)**. Water consumption levels in Catalonia are 120-130 litres per inhabitant per day.

3.4. Other measures

- In order to guarantee the quality of water for human consumption, the Government of Catalonia decided to reduce the number of fish in one of the reservoirs, at Sau. After

a month and a half of work, **2.6 tonnes of fish** have been removed, including around 4,000 specimens of invasive species to prevent them from dying en masse in the reservoir and drastically reducing the sanitary quality of the water. This procedure cost 138,000 euros.

- In addition, **a large proportion of the water from the Sau reservoir**, which is at historic low levels, has been transferred to the Susqueda reservoir, in order to preserve the water quality in the Ter basin.

4. The European and Mediterranean perspective – crucial for responding to the consequences of drought

The Government of Catalonia is convinced that the causes and consequences of drought, as well as the effects of climate change in general, require joint and coordinated responses at all levels.

The main framework for action of the Government of Catalonia's external action is **Europe** and the **Mediterranean**. The Catalan Government is focusing its efforts on establishing mutually beneficial alliances in this geographical area, in addition to all the actions it undertakes within the multilateral system.

The Government of Catalonia is currently following the strategy below in order to address drought issues internationally:

- **Promotion of the Mediterranean macro-region.** The Government of Catalonia is committed to prioritising the creation of this new framework for governance among all actors in the Mediterranean, and to fostering greater influence of Euro-Mediterranean policies. The United Nations has warned that the Mediterranean region is warming at a rate 20% faster than the global average. The consequences of this warming affect not only southern Europe but the continent as a whole. The challenges of the Mediterranean are also European, which is why the Euro-Mediterranean perspective needs to be incorporated into European institutions to a greater extent. As a first step, the Government of Catalonia [welcomes the adoption](#) by the European Parliament of the report by François Alfonsi MEP in favour of the Mediterranean macro-region. From there, the Catalan Government will continue to work with all the necessary actors to gain influence and achieve the ultimate goal of creating the Mediterranean macro-region.

- **Drought – one of the priorities in the programme of Catalonia's presidency of the Euroregion.** The [Pyrenees-Mediterranean Euroregion](#) is a territorial cooperation network which was established in 2004 and is based in Perpignan. It has 15 million inhabitants (more people than 19 of the 27 EU countries). Catalonia holds the rotating presidency of the Euroregion until 2025, and one of the working priorities is to jointly address the problem of drought. To that end, the Euroregion is also working to influence the creation of the Mediterranean macro-region in the European institutions.

5. Further information

- [Drought portal](#) of the Government of Catalonia
- [Frequently asked questions](#) about drought
- [Infographic](#) on the restrictions due to the state of exception