



Water. Stress. Resilience.

LIFE leads the way to water resilience

Water is essential to life, yet water stress is increasing within the EU and worldwide. Discover how the LIFE programme supports water-related projects on the ground.

Globally, the water cycle is out of balance, putting immense pressure on this precious resource. Water stress is driven by excess demand, mismanagement and ecosystem degradation. It is compounded by the impacts of the triple planetary crises of climate change, biodiversity loss and pollution.

Citizens across Europe are experiencing a surge in extreme weather events such as droughts and floods, highlighting the need for increased **water resilience**.

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See
Water
Differently



Main Water Challenges

Not Enough

Europe is the fastest warming continent in the world. Many countries are at risk of increasing water scarcity and droughts.

Too Much

Floods are becoming more frequent, dangerous, and costly. It's time to tap into nature's resilience.

Polluted

Many of Europe's rivers, lakes, seas and groundwater sources are contaminated by toxic chemicals, plastic pollution, farm waste and other pollutants.

Poorly Managed

Water is needed to produce food and power economies. Poorly managed water including overuse, leaks and waste can lead to scarcity.

LIFE: supporting water resilience in the face of climate change

The LIFE Programme supports projects addressing water and climate-related challenges

Since 2014, more than 220 LIFE projects have helped alleviate drought and water scarcity, mitigate flood and storm risks and support communities to become more resilient.

A further 118 projects have supported river basin management, and 50 have helped prevent water pollution.



To fight scarcity

LIFE DESERT-ADAPT building resilience in vulnerable farms to combat desertification in Italy, Portugal and Spain

LIFE DESERT-ADAPT successfully piloted nine Desert Adaptation Models (DAMs) across some 1000 ha of farmland. DAMs are land management models specifically designed to help farming communities adapt economically, environmentally, and socially to climate extremes. Environmental adaptation combines inter-planting (a technique consisting of mixing plant types), reforestation, water-saving technology and soil protection.

As a result, land at risk of desertification benefited from improved soil quality and better farming practices, while revenues increased.

Project achievements

Farmers and landowners established their own DAMs on 85 sites across more than 10 000 ha in Italy, Spain and Portugal, with average annual farm income set to rise by around €100 per ha. 93 000 trees have been planted, storing 2.1 tonnes of CO₂ per ha each year, and soil water retention improved by 2-3%. Nearly 66% of soil runoff has been avoided, allowing soil stability to increase by up to 59%. There were big boosts for wildlife too: bird species increased 30% and soil insects 29%.

The project also paved the way for new national and local regulation in Italy. Five regional laws were passed to tackle desertification and forest fires and to promote sustainable agro-forestry management.

As a result, DAMs have been shown to offer a tried-and-tested method for farmers and landowners to face climate change, by reducing risks from desertification while enhancing their economic and social prospects.

[LIFE: DESERT-ADAPT report](#)
[Project website](#)

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To fight floods

LIFE UrbanStorm nature-based solutions for urban storm water management in Estonia

LIFE UrbanStorm demonstrated that nature-based stormwater management systems are key to managing flash floods in cities increasingly vulnerable to extreme weather events.

The project installed four low-cost, sustainable drainage systems known as SUDs in Viimsi and Tallinn and helped eight other towns to develop similar plans.

Installing SUDs required some local parks to be redesigned and rivers widened to create rapids, water barriers and small waterfalls. Permeable car parks, pervious pavements, grass verges and rain gardens

were all tested to prevent rainwater from overwhelming sewage systems.

Project achievements

LIFE UrbanStorm successfully established four demonstration sites showcasing 17 natural solutions across 37 ha.

As a result, annual flood emergencies in the Tallinn demonstration zone fell to zero. In Viimsi, 36 000 m³ of rainwater per year was drained from the pilot sites resulting in 38% fewer emergency floods. Nine municipalities have replicated the SUDs approach as part of their strategies to tackle climate change.

Other successes included four training sessions and a handbook for water managers, engineers and SUDs designers; the introduction of a municipal rainwater tax to pay for future flood prevention schemes; and a public awareness raising campaign.

[Project website](#)

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To fight pollution

LIFE SOuRCE using new technology to restore contaminated groundwater in Spain and Sweden

Per- and polyfluoroalkyl substances (PFAS) are artificial chemicals which have been widely used in many consumer products and industrial processes for decades. However, they break down very slowly and have been linked to poor human and animal health through contaminated drinking water supplies.

LIFE SOuRCE aims to test a range of cost-efficient new technologies which will help clean up groundwater polluted by these highly toxic chemicals. Two contaminated areas - a landfill site in Sweden and an old industrial complex in Spain

- have been chosen to trial four innovative ways to extract PFAS from water.

If successful, the new processes could be applied to around 100 000 similar sites around Europe, which currently rely mostly on expensive carbon granules. The LIFE SOuRCE trials include millions of tiny air bubbles, special resins, fast-growing willow saplings and special diamond electrodes. The project aims to prove that a combination of these applications can remove up to 99% of certain types of harmful substances.

[Project website](#)

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To protect our precious resources

LIFE IP Integrated River Solutions (IRIS) long-term sustainable strategies to restore rivers and water quality in Austria

LIFE IP IRIS takes the long view: instead of short-term, ad-hoc measures to revive Austria's rivers and lakes, the project is developing an integrated approach to combine environmental restoration with flood protection across the whole country.

Rivers need space

The project aims to establish free-flowing river corridors by removing man-made barriers across the entire river catchment area, including dams, weirs, and hydroelectric infrastructure. Eight pilot projects known as River Development and Risk Management Concepts

(GE-RMs) using nature-based flood management are being trialled along nearly 600 km of the rivers Traun, Pielach, Leitha, Lafnitz, Enns and Danube.

One early success has been the restoration of two river loops on the Enns near Mandling, where the river is once more flowing freely. LIFE IRIS is also developing a National Implementation Strategy for GE-RMs which will legally embed both flood protection and river ecology into Austrian government water policy.

[Project website](#)

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EU Water Policies

The EU has a robust body of water legislation in place, which has been developed and systematically reviewed over decades. Despite this, most water resources across Europe are still not meeting the 'good status' goal set by the [Water Framework Directive](#).

Europe therefore needs to transform the way water is managed, used and valued. This makes strengthening Europe's water resilience a key challenge for the future of the EU.

Water resilience is a key priority for the new Commission. Actions will aim to ensure clean and affordable water for all, to build a water-smart economy and competitive water industry and to restore and protect the broken water cycle.

The new European Water Resilience Strategy will ensure sources are properly managed, scarcity is addressed and the water industry is more competitive and innovative.

Water resilience is the ability to adapt to and recover from future water-related shocks or stress. It plays a critical role in maintaining healthy ecosystems, ensuring access to water and sanitation, and supporting climate regulation and adaptation. Read more about the EU's efforts on the global water agenda [here](#).

Dive into the [#WaterWiseEU](#) campaign to learn about the many solutions to the global water crisis – including some inspirational LIFE projects!

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