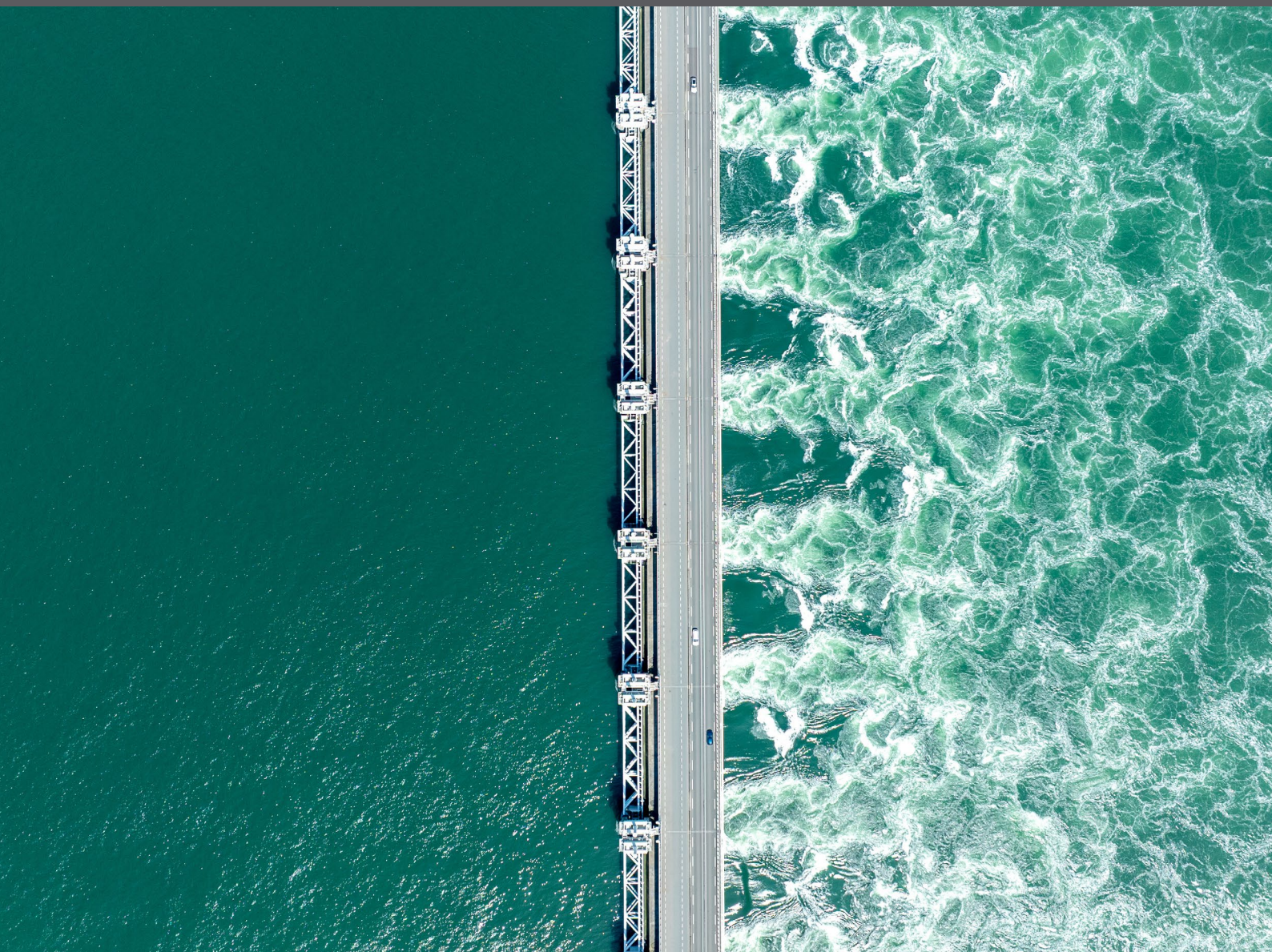


CORDIS Results Pack on solutions for a climate-resilient Europe

**Innovation for prosperity and competitiveness
in a new climate reality**

A thematic collection of innovative EU-funded research results

October 2026



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Editorial

The growing impacts of climate change are accelerating the demand for technologies, services and solutions that enable societies and economies to anticipate and manage climate risks. This Results Pack showcases 14 EU-funded projects delivering concrete, tested and scalable solutions to protect people, critical infrastructure and supply chains, while reinforcing Europe's leadership in climate resilience innovation.

Europe is entering a new climate reality, and the summer of 2026 has offered a stark preview. Record-breaking heatwaves, widespread drought and intense wildfires have disrupted water supplies, agriculture, energy and other economic activities.

These extremes are not isolated hazards: they are reshaping Europe's environment, economy and society. Climate resilience is thus becoming an essential strategy for public safety and economic security. Adaptation investments can save lives, reduce economic losses, safeguard business continuity, protect jobs and minimise disruptions to increasingly interconnected supply chains.

Climate resilience is therefore no longer solely an environmental imperative. It is increasingly a decisive factor for Europe's prosperity, security, competitiveness and social stability. The [2021 EU adaptation strategy](#) highlights the need to accelerate smart adaptation across all sectors of the economy. This ambition is reinforced through the [EU integrated framework for climate resilience](#), fostering Europe's capacity to anticipate, manage and reduce climate risks in a proactive and systemic way.

The transition to a climate-resilient economy also presents significant opportunities for innovation and competitiveness. Growing demand for climate services, early-warning systems, resilient infrastructure, nature-based solutions and risk management tools is creating new markets for European knowledge, technologies and expertise. Investment in adaptation innovation can strengthen Europe's competitive position while helping communities and businesses better cope with climate risks.

Europe's flagship Horizon research and innovation programme is delivering a new generation of market-ready solutions to address this demand.

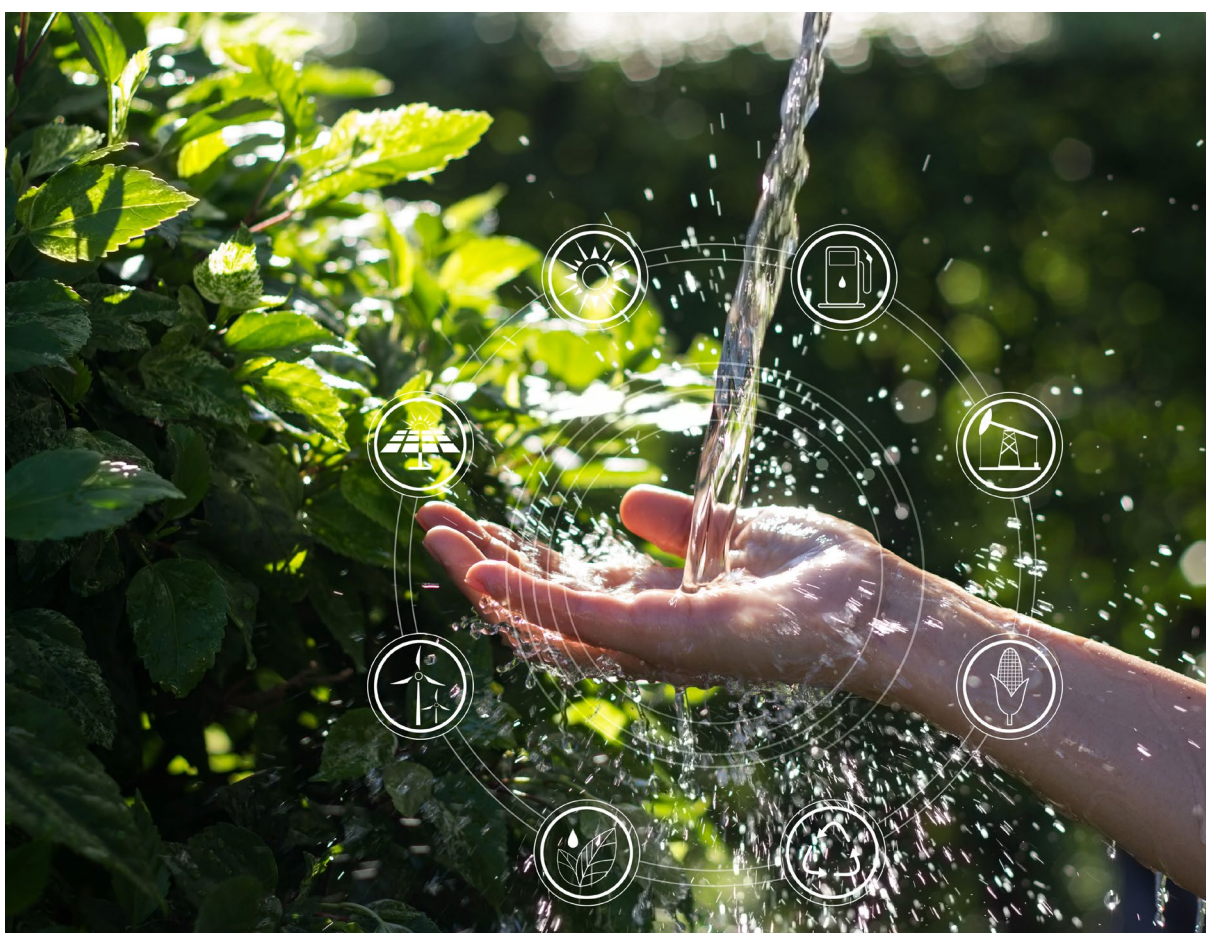
The [EU Mission on Adaptation to Climate Change](#) accelerates the uptake of solutions, in close cooperation with local and regional actors. Knowledge, tools, governance approaches and practical experience generated through the Mission contribute to the EU integrated framework for climate resilience, helping to bridge policy with implementation.

Further support is provided through the [EU startup and scaleup strategy](#), which aims to make the EU the preferred place for launching and growing technology-driven innovative companies. Together with the EU integrated framework for climate resilience, these initiatives will foster a vibrant European ecosystem for climate resilience innovation and deployment.

The 14 Horizon-funded projects featured in this Pack, five of which were funded under the EU Mission on Adaptation to Climate Change (IMPETUS, MountResilience, RESIST, RISKADAPT, TransformAr), demonstrate a portfolio of climate resilience solutions ready to be replicated, scaled and deployed. From services and advanced decision-support tools to enabling frameworks such as standards and financing conditions, they show how innovation in adaptation can contribute to protecting people and prosperity, strengthen Europe's economic security and position the continent as a front runner in a growing global market for climate resilience solutions.

Accelerating circular solutions to meet Europe's water challenges

Climate change is straining the quantity and quality of Europe's water resources. The EU-funded BOOST-IN project is helping to scale context-specific adaptation solutions and businesses that tap the potential of circular water management.



Water stress affects around [20 % of Europe's territory and 30 % of its population annually](#), with most European surface water [failing to meet the required standards](#). The record heatwaves and prolonged droughts of 2026 – with impacts on agriculture, energy production, inland navigation and ecosystems – have underscored the urgent need to strengthen water resilience as a cornerstone of climate resilience and economic competitiveness.

"Europe doesn't just need more water, it needs to manage water differently," explains Angela Magno, coordinator of the [BOOST-IN](#) project, which aims to accelerate the uptake of water and circular economy solutions (WACESS).

The project combines innovation scouting, impact assessment, co-creation, policy analysis, market support and standardisation work, to identify viable solutions that are scalable across regions.

“By changing governance, mindsets and organisational structures, alongside adopting reuse and recovery practices, water management can be integrated into the circular economy,” adds project researcher Rafael Casielles, from eco-innovative company [BIOAZUL](#), the project host.

Context-specific circular water solutions

Through an open call and a review of European research and innovation initiatives, BOOST-IN has built a repository of 727 entries, including [218 validated WACESs](#). Thirty of these were selected for detailed assessment.

In Emilia-Romagna, BOOST-IN assessed real-time microbiological monitoring tools such as [aquaBio](#), to detect contamination in reclaimed water within hours. In France, [Aqualarm](#) sensors were explored for remote monitoring of water quality in recycling schemes for potable supplies. And in Bulgaria, [Amovion's flow-electrode capacitive deionisation technology](#) was assessed for recovery of copper from industrial wastewater.



Europe doesn't just need more water, it needs to manage water differently.

Further assessments were carried out in Germany, Greece and Spain, with each of the six regions focused on a specific water challenge, from agricultural water reuse to industrial wastewater treatment.

“Aside from whether a solution works technically, we wanted to know whether it is viable, acceptable and scalable in different contexts,” notes Magno. Stakeholder workshops were held to co-design strategies that improve uptake of the most effective solutions.

The case studies highlighted that trust, transparency and clear communication are essential. “Many farmers recognise the potential of water reuse, but remain concerned about reputational damage if crops are perceived as unsafe,” says Casielles.

To build confidence in the quality, safety and potential of these solutions, BOOST-IN offers guidance on regulatory routes to support harmonisation of standards at the EU and national level.

Building circular water value chains

BOOST-IN contributes to several EU policy objectives, including the [EU water resilience strategy](#) and the [circular economy action plan](#).

Regional implementation roadmaps involving hundreds of stakeholders are now under development to improve the acceptance, governance and uptake of circular water solutions. These roadmaps are complemented by a searchable innovations database to make WACESs more accessible to potential adopters.

The project is currently offering targeted commercialisation support and business mentoring to select innovators, integrated with the [Water Europe Marketplace](#) platform to help stakeholders find appropriate WACESs, and publishing [learning materials](#) to support the sector.

“The economic opportunity is not only to sell a technology, but to build circular water value chains,” explains Magno. “Reclaimed water, recovered nutrients, energy, and secondary materials can reduce pressure on freshwater resources, lower dependency on external inputs and create new markets, provided that innovators have the right support.”

PROJECT

BOOST-IN – Boosting the uptake of innovative solutions in the context of water and circular economy

COORDINATED BY

BIOAZUL in Spain

FUNDED UNDER

Horizon Europe – Food, Bioeconomy, Natural Resources, Agriculture and Environment

CORDIS FACTSHEET

cordis.europa.eu/project/id/101135239

PROJECT WEBSITE

boostin.eu



Standardising climate services to deliver impactful change

The EU-funded Climateurope2 project has advanced the standardisation of climate services – a critical step towards establishing a viable market for quality-assured and easy-to-access climate information tailored to the needs of different end users.



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It is estimated that [investments of EUR 70 billion per year until 2050](#) will be needed to improve Europe's resilience to increasing climate hazards. From engineers constructing sea walls to farmers selecting crop varieties, climate services perform a critical role.

Transforming raw climate data – provided by Earth observation satellites via the [Copernicus Climate Change Service](#), for example – into actionable knowledge and decision-support tools, climate services help us to assess risks and make decisions on everything from where to place sea walls to which crop varieties to plant.

The need for climate services is unlocking new market opportunities, stimulating innovation and strengthening Europe's long-term competitiveness in the transition to a climate-resilient economy. The downstream climate service market is expanding rapidly, with innovative companies offering a range of tailored tools to improve adaptation and resilience planning. Potential end users include urban planners, farmers, utilities and infrastructure operators.

Unlocking the potential of climate services for market success

"While climate services have been around for a while, the sector still feels like it is in its infancy," says [Climateurope2](#) project coordinator Sam Grainger from the [Barcelona Supercomputing Center](#) (BSC-CNS) in Spain. "It is very fragmented, with many actors, inconsistent practices and limited quality assurance. This makes it difficult for users to compare services or assess their reliability."

Building on the [Climateurope](#) project, Climateurope2 set out to boost harmonisation of the sector. "This is an urgent task, as there are no recognised best practices," explains Asuncion St Clair from the [Det Norske Veritas Foundation](#), one of the project partners.

To advance this field and consolidate existing knowledge, the project team harvested knowledge from existing literature, organised workshops and carried out case study work. "We looked at managing data, business models, and how to communicate climate information," adds Grainger. "On the demand side, we looked at how the market for climate services is evolving, and how this interacts with policy."

Facilitating market uptake through standardisation

From this work, Climateurope2 has formulated a series of broad [recommendations](#) designed to push standardisation forward by defining common expectations for the quality, performance and usability of climate services.

The project also produced a [joint industry statement](#) to ensure that the needs and perspectives of innovators in the climate services sector are heard in standardisation discussions. The statement highlights the importance of internationally recognised frameworks and harmonised data formats across borders, to strengthen interoperability and enable scaling of innovative solutions.

Climateurope2's findings are already being used in the standardisation of climate services undertaken by the European Committee for Standardisation (CEN) and the European Committee for Electrotechnical Standardisation (CENELEC) as a response to a request from the European Commission. "We can see that our work is being used," notes Grainger. "As the project comes to an end next year, we will continue to ensure that our work is taken up."

The project team hope that the eventual standardisation of climate services will help drive the market for quality-assured, understandable and easy-to-access climate information, tailored to the needs of different communities. The team expect a suite of technical, procedural and performance standards for climate services to be delivered soon, with the first European standard expected in 2028.



The climate services sector is very fragmented, with many actors, inconsistent practices and limited quality assurance.

PROJECT

Climateurope2 – Supporting and standardizing climate services in Europe and beyond

COORDINATED BY

Barcelona Supercomputing Center in Spain

FUNDED UNDER

Horizon Europe – Climate, Energy and Mobility

CORDIS FACTSHEET

cordis.europa.eu/project/id/101056933

PROJECT WEBSITE

climateurope2.eu



Data-driven insights to prepare for rising sea levels

Sea levels will continue to rise for the foreseeable future. The EU-funded CoCliCo project supports improved decision-making on coastal risk management and adaptation, enabling more informed investment choices, reducing economic exposure and supporting the competitiveness of coastal economies.



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Coastal flooding driven by climate change has the [potential to wreak havoc on the many cities, businesses and infrastructure](#) located close to Europe's shorelines or in low-lying areas, posing a major risk to both economic activity and regional competitiveness. The [European Environment Agency estimates](#)

that by 2100 coastal flooding in Europe could affect 3.9 million people and cost EUR 1 trillion each year.

"As we are committed to decades and centuries of sea level rise, it is important to understand what is at risk," says Gonéri Le Cozannet, senior researcher at the [French Geological Survey \(BRGM\)](#).

The [CoCliCo](#) project is helping to deliver that understanding.

An open-source web platform for coastal risk management

CoCliCo is an [open-source web platform](#) designed to improve decision-making on coastal risk management and adaptation in Europe.

"Built for policymakers, planners, infrastructure managers and researchers, CoCliCo provides high-resolution sea level rise

projections, flood hazard assessments, exposure analysis, and cost-benefit comparisons of adaptation strategies," explains Le Cozannet, who served as the project coordinator.

All information is provided in an intuitive map-based interface and backed by open, authoritative datasets. The platform also features ready-made user stories to help visualise impacts and solutions.

But what really sets the platform apart is its ability to translate complex coastal risk data into actionable insights that support faster, better-informed decisions across public and private actors. "Users can interrogate location-specific conditions, test adaptation pathways,

and assess implications for planning and investment choices," notes Le Cozannet.

"Whether you're working on national flood directives, designing resilient urban plans or advising on climate policy, CoCliCo can be useful for you," he remarks.

For instance, the platform can help identify when and where adapting infrastructure is a viable and cost-effective option. This is particularly important for critical coastal assets, where climate risks can affect investment decisions, the continuity of economic activity and the competitiveness of coastal regions. "Being able to adapt coastal ports and infrastructure in anticipation of rising sea levels is essential to supporting Europe's long-term climate resilience," says Le Cozannet.

The project team is currently working to advance the platform from demonstrator status into a fully operational climate service. Thanks to the support of project partner [Mercator Ocean](#), the platform is also being integrated into the [Copernicus](#) Marine Service's [Digital Twin Ocean](#), helping to ensure that its coastal risk data and other functionalities remain accessible beyond CoCliCo's lifetime.

The CoCliCo team has published a [policy brief](#) outlining its vision for a European Coastal Climate Service that would provide sustained access to high-quality coastal risk information and support long-term adaptation decisions going beyond incremental measures.

"CoCliCo is a case study in how scientific data can help drive climate-smart decision-making and adaptation, ultimately strengthening European competitiveness and future-proofing its prosperity," concludes Le Cozannet.



CoCliCo is a case study in how scientific data can help drive climate-smart decision-making and adaptation, ultimately strengthening European competitiveness and future-proofing its prosperity.

A climate service that empowers climate-smart decisions

The project's sea level projections, flood maps based on future socio-economic and climate scenarios, and data on infrastructure risk along coastal zones are increasingly being used by decision makers. According to Le Cozannet, this information can support coastal risk prevention and adaptation policies, including those related to the [EU Floods Directive](#).

PROJECT

CoCliCo – Coastal Climate Core Services

COORDINATED BY

French Geological Survey (BRGM) in France

FUNDED UNDER

Horizon 2020-ENVIRONMENT

CORDIS FACTSHEET

cordis.europa.eu/project/id/101003598

PROJECT WEBSITE

coclicoservices.eu



Moving from emergency alert to actionable intelligence

To meet the growing challenges of climate change, the EU-funded GOBEYOND project developed next-generation early warning systems that include tailored risk assessments, helping to anticipate impacts and prevent loss of life and property.



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Europe's extreme weather and climate events are intensifying. "There is growing awareness of the need for anticipatory action. Existing early warning systems are mostly designed to detect hazards, not to provide actionable information or anticipate impacts," explains [GOBEYOND](#) project coordinator Daniel Sempere-Torres from the [Polytechnic University of Catalonia](#) (UPC).

To address this gap, GOBEYOND is developing an advanced 'Multi-Risk Impact-based Early Warning System' (MR-IEWS). It assesses geological and weather risks such as wildfires, flooding and drought, and identifies not only where and when a disaster will occur, but also who and what will most likely be impacted.

This information is then fed into other digital tools to support better decision-making by civil protection authorities and first responders.

MR-IEWS was co-designed within [Living Labs](#) where scientists, technology developers, civil protection authorities, first responders and communities (regional and local) worked together to define needs and test solutions.

“Converting diverse data into actionable information is very challenging,” adds Sempere-Torres. “Local exposure and vulnerability datasets differ in detail and format, while geophysical and meteorological early warning algorithms differ in nature and timescales.”

Real-life testing of impact-based warnings

GOBEYOND's MR-IEWS comprises two families of platforms: one for tailored regional decision support systems (DSSs), the other for forecasting impacts in European (EW4EU) and Mediterranean (EW4MED) Member States.

The DSS platforms integrate trusted real-time local and regional data to generate site- and time-specific warnings about hazard events. Civil protection authorities access this information through a digital dashboard, and automatic alerts can be sent to emergency managers.

[Real-time operational demonstrations](#) of the DSS are being conducted across five regional and five municipal sites including Andalusia in Spain, Chefchaouen Province in Morocco, and the Attica region of Greece, representing a variety of environmental hazards and geographical contexts.

Turning risk information into market-ready services

In Morocco, EW4MED helped the Ministry of the Interior protect over 140 000 citizens through rapid assessments of flooded areas, thanks to the relatively new integration of satellite imagery.

Meanwhile, local authorities in Estepona, Spain used one of the DSS tailored platforms to identify and monitor flood-prone locations, allowing them to quickly take preventive measures such as closing roads.

Advanced features have also been added to the EW4MED platform, such as an artificial intelligence (AI)-based forest fire

risk assessment tool developed by the CIMA Research Foundation through GOBEYOND's [Innovation Prize Open Call](#). It simulates fire propagation and estimates impacts on populations and infrastructure.

“Adopting advanced specialist components like AI-driven wildfire simulations as they are developed, helps build a comprehensive one-stop shop for disaster management, making our solution attractive in the marketplace,” notes Sempere. The project is now developing a business model for cloud-based services integrating customisable GOBEYOND products in line with user needs, creating a scalable value proposition in a growing market for climate and disaster risk services.



Adopting advanced specialist components like AI-driven wildfire simulations, helps build a comprehensive one-stop shop for disaster management, making our solution attractive in the marketplace.

From response to active prevention

Once released in summer 2027, GOBEYOND's suite of early warning platforms will support the objectives of EU initiatives such as the [EU civil protection mechanism](#) and the European integrated framework for climate resilience, helping Member States to anticipate and prepare for the growing impacts of climate change.

PROJECT

GOBEYOND – Geo and weather multi-risk impact Based Early warning and response systems supporting rapid deployment of first responders in EU and beyond

COORDINATED BY

Polytechnic University of Catalonia (UPC) in Spain

FUNDED UNDER

Horizon Europe – Civil Security for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/101121135

PROJECT WEBSITE

gobeyond-project.eu

A bright future for drought-resistant sunflowers

The EU-funded HelEx project has developed new sunflower varieties with increased drought- and heat-tolerance, as well as pollinator-friendly and high-protein cultivars. These could help boost crop productivity and create new revenue streams for farmers.



© Léonie Langlade INRAE

Originating in North America, today around 75 % of the world's sunflowers are grown in continental Europe. However, climate change impacts such as rising temperatures and water scarcity are having a negative impact on sunflower yields.

Developing varieties which tolerate drought and stress will increase crop resilience and reduce European dependence on imported seed oils, as well as reduce the amount of water required for irrigation, boosting climate resilience.

"There is also increasing societal demand for plant proteins," says [HelEx](#) project coordinator Nicolas Langlade, from the [National Research Institute for Agriculture, Food and Environment](#) (INRAE) in France. "Sunflower seeds contain about 43 % oil and 17 % protein. They are mainly used in animal feed, but there is also potential in human food applications."

Developing climate-smart sunflowers

The HelEx project sought to support European production of sunflowers by strengthening their tolerance to drought and heat – Langlade calls them 'climate-smart sunflowers'.

To achieve this, it combined classical breeding approaches and cutting-edge [gene editing](#). The project brought together 17 partner organisations encompassing researchers, plant breeders, biotech SMEs and farmers.



This sunflower produces six times more nectar and pollen than conventional varieties.

Building on previous work that identified the genomic regions responsible for drought tolerance in sunflowers, the researchers screened wild sunflower populations from arid regions in the United States. The most drought-tolerant strains were then crossed with commercial European varieties.

With a year left to go, the project is currently sowing the last field trials of these new sunflowers across France, Germany, Hungary, Romania and Serbia to confirm if its techniques lead to more drought- and heat-tolerant crops. By acting now, HelEx aims to ensure that Europe's sunflower industry can adapt and prepare for changing climatic conditions.

"If we don't do anything, then sunflower yields will decrease and might no longer be viable in places like Greece and Bulgaria," adds Langlade.

The development of climate-smart, drought-resilient sunflowers will also open new commercial opportunities for farmers in northern European countries. The project's industrial partners (Limagrain, RAGT and Lidea, represented by Innolea, as well as MAS Seeds and Syngenta) hope to eventually deploy these 'climate-smart' hybrids across Europe.

From pollinators to protein: unlocking new value from sunflowers

To make sunflowers more attractive to pollinators, genes that control sunflower UV-colour and the sugar content of their nectar were identified. "We also discovered that bees recognise differences in the microbiome in nectar," notes Langlade. "They are more attracted to certain types of microbes."

This results in a sunflower variety that farmers can grow to attract pollinators, increasing yields of nearby crops. "This sunflower produces six times more nectar and pollen than conventional varieties," remarks Langlade. "It also flowers in summer, which is when many hives starve, as resources for pollinators are more abundant in spring. This could be great for honey producers as well."

The project also sought to identify genes responsible for characteristics such as protein content. Higher protein sunflower seeds could meet growing consumer demand for plant-based protein, helping Europe to transition away from carbon-intensive animal protein production and the imported soybeans that it relies on, strengthening the resilience, competitiveness and sustainability of the European agri-food sector.

The new sunflower is currently undergoing a rigorous registration process for placing it on the market, with Langlade expecting the crop to be available in 2028.

PROJECT

HelEx – Use of extremophile *Helianthus* species to mitigate climate change impact on feedstock and ecosystem services provided by sunflower

COORDINATED BY

National Research Institute for Agriculture, Food and Environment (INRAE) in France

FUNDED UNDER

Horizon Europe – Food, Bioeconomy, Natural Resources, Agriculture and Environment

CORDIS FACTSHEET

cordis.europa.eu/project/id/101081974

PROJECT WEBSITE

helxpathject.eu

Turning climate knowledge into targeted local action

By developing tools to improve data-sharing and decision-making around climate adaptation, the EU-funded IMPETUS project strengthened Europe's innovation ecosystems at the local level, and created opportunities to bring proven solutions to the market faster.



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Local and regional authorities are increasingly under pressure to act on climate change impacts to protect lives and local economies. However, they often lack the tools, governance mechanisms and operational capacities to transform knowledge into concrete, long-term adaptation strategies.

"A key challenge is that climate information is typically fragmented, difficult to interpret for non-specialists, and poorly

connected to regional planning and decision-making processes," explains [IMPETUS](#) project coordinator Hannah Arpke from [Eurecat](#) in Spain. "Scientific knowledge is not always easily accessible or actionable for policymakers, infrastructure managers, utilities, businesses or local communities."

This gap can also hold back innovation in climate adaptation, making it harder for companies to secure the funding and support needed to bring new solutions to this rapidly expanding market.

Regional Resilience Knowledge Boosters

Funded by the [EU Mission on Adaptation to Climate Change](#), the IMPETUS project was designed to help European regions translate knowledge into local climate action and boost the market readiness of adaptation innovations. Rather than developing a single centralised knowledge platform for authorities, IMPETUS created seven regional [Resilience Knowledge Boosters](#) located in: Catalonia, Spain; Berlin-Brandenburg, Germany; Valle dei Laghi, Italy; Zemgale, Latvia; Attica, Greece; Zeeland, the Netherlands; and Troms County, Norway.

Each Resilience Knowledge Booster was composed of two key elements, the digital and the human dimension. The first involved setting up technical infrastructure to provide access to tools such as climate-relevant datasets, climate-risk assessments, and modelling and simulation capabilities.

The second brought together policymakers, scientists, businesses, NGOs and local communities to co-design resilience actions and adaptation pathways. "This approach ensured that the solutions developed were not only technically robust, but also operationally relevant, locally accepted and aligned with regional adaptation priorities," says technical project coordinator Josep Pijuan Parra from Eurecat.

Diverse climate risks and governance contexts

The project validated and upscaled 15 technical and nature-based solutions across sites chosen to reflect the specific climate needs of diverse geographic locations, territorial conditions and governance contexts.

These included a [pilot project in Attica](#) to treat wastewater for local non-potable use, [dune monitoring methods developed in Catalonia](#) to mitigate the effects of sea level rise and marine storms on coastal erosion, a [flood early warning system piloted in Zemgale](#), a water management [decision support system](#) in Valle dei Laghi, and a decision support tool to aid industrial decarbonisation at Rotterdam port.

The team hopes that demonstrating the efficacy and cost-effectiveness of innovative adaptation solutions under real-world conditions will help drive public and private innovation in this field, and create more opportunities to bring proven solutions to market.

Value of federated knowledge-sharing mechanisms

Project partners in the Attica, Berlin-Brandenburg and Valle dei Laghi pilots all plan to continue using the new tools and scale up the respective solutions they had been testing.

The next major objective is to transform the IMPETUS approach into a scalable framework that can be adopted by other regions. This will involve expanding the Resilience Knowledge Booster concept, strengthening data-sharing capabilities and supporting regions with more limited capacities.

"The project additionally demonstrated the value of knowledge-sharing mechanisms that enable interoperability and information exchange across regions," notes Pijuan. "These results will now be taken forward in further EU climate adaptation projects such as [NATALIE](#)."



The project demonstrated the value of knowledge-sharing mechanisms that enable interoperability and information exchange across regions.

PROJECT

IMPETUS – Dynamic information management approach for the implementation of climate resilient adaptation packages in European regions

COORDINATED BY

Eurecat in Spain

FUNDED UNDER

Horizon 2020-ENVIRONMENT

CORDIS FACTSHEET

cordis.europa.eu/project/id/101037084

PROJECT WEBSITE

climate-impetus.eu



Boosting climate resilience in mountain regions

Europe's highland areas are among its most spectacular – and most vulnerable to climate change. The EU-funded MountResilience project is helping local communities to pilot and share lessons learnt from successful adaptation efforts, boosting resilience and safeguarding competitiveness.



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Europe's mountainous regions, including the Alps, Dolomites, Pyrenees and Carpathians, are home to millions, and attract many more as visitors every year. But rising temperatures and more frequent extreme weather events are impacting water resources, agriculture, tourism and ecosystems.

Funded under the [EU Mission on Adaptation to Climate Change](#), the [MountResilience](#) project is working across six pilot regions and four replicators, exploring local-scale responses to climate change and if these methods could be transferred and scaled elsewhere.

By protecting high-value mountain economies from climate risks, reducing long-term infrastructure and disaster costs, and developing scalable adaptation approaches, the project helps safeguard regional economic activity and strengthens the conditions for growing markets in climate resilience solutions.

"The main objective is to set the stage for effective adaptation action," says project coordinator Anna Giorgi, an environmental botanist at the [University of Milan's UNIMONT campus](#). "We need to understand the situation today before deciding where we should go next."

Turning climate risks into real-world action

MountResilience uses a [risk analysis framework and Regional Adaptation Support Tool](#) that helps authorities understand the climate risks they face and where to focus their efforts.



We need to understand the situation today before deciding where we should go next.

The pilot regions address a wide range of challenges, including drought, water management, changing tourism patterns, declining pasture productivity, heatwaves and wildfire risks. Together, they show how different mountain regions are affected by and respond to climate change in practice.

In Gabrovo, Bulgaria, the aim is to help local authorities reduce climate risks while making better use of limited water resources. Alongside nature-based solutions for rainwater harvesting and green infrastructure planning tools, early warning systems for wildfires and extreme weather events are also being tested.

In Piemonte, Italy, the focus is also on water management through decision support tools that help irrigation authorities and farmers monitor water use and plan for periods of drought.

In Lapland, the project is working with tourism businesses and reindeer herders to understand how changing weather patterns are affecting traditional livelihoods. In Romania, activities in Râu Sadului focus on maintaining pasture productivity under changing climate conditions.

“Solutions need to be implemented with a shared ownership approach,” remarks Giorgi. To do this, the team has established local councils in each of the six pilot regions, bringing together public authorities, businesses, researchers and community representatives to provide local knowledge and shape responses.

From local action to wider adoption

The tested solutions all have one thing in common: they help local businesses and populations weather the effects of climate change, protecting livelihoods and the fragile ecosystems on which they depend.

The project is now taking the next step: its four replicator regions – Primorje-Gorski Kotar (Croatia), Friuli-Venezia Giulia (Italy), Podkarpackie (Poland) and Catalonia (Spain) – are exploring which ideas and approaches could be useful for them.

To support the replication work, the project has also developed a [Solutions Database](#) showcasing examples of successful adaptation measures and experiences from mountain regions across Europe. The idea is simple: if an intervention has worked in one area, other regions can use that knowledge to evaluate if it might work for them, saving time and costs.

“We are working to create awareness about the importance of mountains not as marginal, but as a vital part of the European territory, with specificities to be recognised and valued,” concludes Giorgi.

PROJECT

MountResilience – Accelerating transformative climate adaptation for higher resilience in European mountain regions

COORDINATED BY

University of Milan in Italy

FUNDED UNDER

Horizon Europe – Climate, Energy and Mobility

CORDIS FACTSHEET

cordis.europa.eu/project/id/101112876

PROJECT WEBSITE

mountresilience.eu



Investing in nature to reduce climate risks

Insurance is usually associated with compensating damage after a flood, storm or other extreme event. The EU-funded NATURANCE project asked whether insurance can also play a role in preventing these disasters.



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Interventions such as wetland restoration and forest management offer a pragmatic approach to limiting climate change impacts, but many projects struggle to attract investment.

While these projects can boost climate resilience and deliver wider benefits for biodiversity, water quality, food security, public

health and local economic resilience, these gains are often spread across communities, businesses and public authorities rather than generating a direct return for a single investor.

"Nature-based solutions (NbSs) are fantastic," says Jaroslav Mysiak, project coordinator of [NATURANCE](#) and founding director of the



[Risk Assessment and Adaptation Strategies](#) division at the Euro-Mediterranean Center on Climate Change. “But investors need reliable returns on investment, while NbSs create benefits that are shared more widely.”

The challenge, therefore, is twofold: to demonstrate the wider economic value of NbSs, and to develop financial mechanisms that can recognise and reward these benefits.

“In NATURANCE, we were trying to bridge insurance and risk transfer with ecosystem restoration,” explains Mysiak. “The question was how insurance could contribute to reducing climate risk by incentivising investments in nature.”

Insurance as part of the solution

NATURANCE established nine Innovation Labs across Europe to test how insurance and investment approaches could make NbSs more financeable, involving insurers, finance professionals, SMEs, local authorities and NbS developers.

Each lab produced practical outputs, including recommendations for insurance design and a five-phase roadmap for developing innovative financing schemes.

In Italy, NATURANCE looked at how ecosystem restoration could support flood management. The work brought together regional water management bodies, public authorities, insurers and financial regulators to test the feasibility of insurance-backed controlled flooding and a community insurance fund.

In the United Kingdom, the team looked at whether requirements for property developers to improve habitats could help generate funding for projects that use nature to reduce flood risks. The lab also tested parametric insurance, which provides a pre-agreed payout when a defined event or threshold is reached – such as a heatwave – rather than a loss incurred.

In Sweden, the lab used ongoing wetland restoration projects to identify barriers to scaling up, and explored how benefits such as carbon sequestration, biodiversity, water quality, and flood and drought protection could be valued in financing models.

NATURANCE also worked with organisations and companies active in nature-based insurance, including the Munich Re Foundation, OroVerde, Allianz Commercial and WTW, to strengthen business

We developed a common way of looking at how nature restoration and climate risk reduction can work together.

cases through risk and performance assessment, governance and equity criteria.

Beyond the consortium, the team also collaborated with European initiatives including Invest4Nature, Firelogue, PIISA and Adaptation AGORA through webinars, workshops and ‘Naturethon’ activities connecting expert knowledge with citizen-led ideas for nature-based climate adaptation.

Tools to unlock investment in nature

The project’s [Digital Library](#) offers the NATURANCE Compendium, a practical resource of 45 case studies from across Europe, a Business Model Canvas designed to help organisations assess nature-based investments, identify opportunities and tackle barriers to implementation, as well as other tools.

NATURANCE also developed a [CEN Workshop Agreement](#) that provides guidance on the design and assessment of nature-related insurance schemes. It has already been taken up for development into a national standard in Italy, paving the way for wider market uptake.

According to Mysiak, this was one of NATURANCE’s most significant achievements: “We developed a common way of looking at how nature restoration and climate risk reduction can work together.”

PROJECT

NATURANCE – Nature for insurance, and insurance for nature

COORDINATED BY

Euro-Mediterranean Center on Climate Change in Italy

FUNDED UNDER

Horizon Europe – Food, Bioeconomy, Natural Resources, Agriculture and Environment

CORDIS FACTSHEET

cordis.europa.eu/project/id/101060464

PROJECT WEBSITE

naturanceproject.eu



Alternative water sources for a water-stressed Europe

Climate change is drying up Europe's freshwater resources, impacting public health, essential services and key economic sectors such as energy, logistics and agriculture. The EU-funded RECREATE project demonstrates how integrating water reuse, desalination and rainwater harvesting can boost water resilience.



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Europe's water systems face a crisis as demand grows and climate change makes traditional sources less predictable. Droughts in Europe caused losses of [EUR 40 billion in 2022 alone](#),

with falling river levels stifling agriculture, energy production and logistics. The summer of 2026 has provided a stark reminder of these risks: record-low Danube levels have threatened cooling

water supplies for nuclear power plants in Hungary and Romania, putting pressure on electricity generation and prompting emergency measures to maintain water flows.

Many impacted regions lack the resources to implement a comprehensive response – a gap that the [RECREATE](#) project tackles via proactive, evidence-based water management planning.

“We aim to address the growing challenge of water scarcity and climate-related pressure on regional water systems by supporting the wider, safer and more trusted use of alternative sources such as water reuse, desalination and rainwater harvesting,” explains Digu Aruchamy, programme manager at [Eurecat](#), the project’s coordinator.

Digital tools to guide adaptive water planning

At the heart of the project is RECREATE_WT, an open-source platform co-created with stakeholders. It integrates climate projections, water demand scenarios, system modelling, health risk assessment and water management strategies into a single decision support tool to guide adaptive water planning.

The platform is already helping evaluate future water supply and demand scenarios in the project’s four case study regions of North Holland in the Netherlands, Spain’s Costa Brava, Kalundborg in Denmark and Syros in Greece.

“Our assessments provide the basis for understanding how water stress may evolve, and which alternative water resource strategies may be the most

relevant,” says Marcel Gutenberger, communications expert at project partner [ICLEI](#).

Local solutions for local needs

Decisions on alternative water sources involve governance, trust, regulation, economics and local priorities. That’s why, in addition to testing its platform, the project established communities of practice within each case study region.

“These communities bring together stakeholders from science, policy, utilities, industry and civil society and are essential for building trust and ensuring our solutions respond to real local needs,” adds Gutenberger.

The project’s comprehensive approach has already yielded important results. Partners in North Holland used RECREATE_WT to model their regional drinking water system evolution, exploring climate change, demand and water quality challenges.

Authorities in Costa Brava are using RECREATE_WT to evaluate water reuse strategies, and explore the economic and environmental viability of desalination.

In Kalundborg and Syros, the platform is being used to model the potential of rainwater collection and reclaimed wastewater respectively as alternative water sources.

“The diversity of our case study regions may make the project more complex, but also much more valuable for replication in other water-stressed regions in Europe,” notes Aruchamy.

From demonstration to market uptake

To support market uptake of its solutions, RECREATE will conduct a comprehensive market analysis to assess the potential across its four case study regions, identifying key barriers to wider adoption as well as funding and other support opportunities.

The project will also deliver actionable replication roadmaps. “RECREATE will transfer best practices and locally adapted solutions to new target regions, fostering long-term collaboration beyond the project’s lifetime,” says Aruchamy.

Due to conclude in December 2027, the project is preparing a [joint policy brief](#) with sister projects [MARCLAIMED](#) and [AWARD](#).

PROJECT

RECREATE – Reliability and effectiveness of integrated alternative water resources management for regional climate change adaptation

COORDINATED BY

Eurecat in Spain

FUNDED UNDER

Horizon Europe – Food, Bioeconomy, Natural Resources, Agriculture and Environment

CORDIS FACTSHEET

cordis.europa.eu/project/id/101136598

PROJECT WEBSITE

recreate4water.eu



The diversity of our case study regions may make the project more complex, but also much more valuable for replication in other water-stressed regions in Europe.

Pairing climate-vulnerable regions to spread innovative adaptation solutions

The impacts of climate change are being felt across Europe. To address this challenge, the EU-funded RESIST project validated and scaled a portfolio of solutions that protect climate-vulnerable regions and position Europe as a global leader in adaptation solutions.



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As global temperatures continue to increase, so do the impacts of climate change on the day-to-day lives of Europeans. “From extreme heatwaves to catastrophic flooding and devastating wildfires, climate change is already putting our lives, prosperity and well-being at risk, and without preventative actions, the risks will only become worse,” says Vilija Balionyte-Merle, senior

business developer at Norwegian independent research firm [SINTEF](#).

Addressing this risk is the [RESIST](#) project, funded under the [EU Mission on Adaptation to Climate Change](#). Led by SINTEF and innovation consultants [INOVA+](#), the project aims to increase

climate resilience, accelerate the transformation of 12 selected climate-vulnerable regions in Europe, and reduce the time to market of adaptation solutions.

The power of twinning

The project is developing and demonstrating nearly 100 innovative climate change adaptation solutions. Each is being designed, developed and deployed in one of four pilot regions experienced in adaptation measures: central Denmark, south-west Finland, central Portugal and north-east Spain.

Each of these regions is paired with two less-experienced twinning regions facing similar climate challenges. Leveraging the experience of the leading regions, RESIST tested and validated its climate solutions before transferring and scaling them in the twinning regions.

For example, [Argos, an emergency alert system developed in Catalonia](#), was transferred to the twinned regions of Italy's Puglia and Portugal's Baixo Alentejo.

Supported by RESIST, the twinned regions conducted additional research and tailored the system with new datasets, functionalities and scenarios. Puglia, whose economy is heavily dependent on tourism, adapted the early warning solution to provide information to tourists on how to protect themselves during extreme heatwaves. In Baixo Alentejo, partners adjusted the software to issue early warnings about wildfire conditions.

With the support of RESIST, authorities in Denmark developed an app that uses data on groundwater levels to provide citizens with an advanced warning about potential flooding.

The region also developed a prototype model of a flood-resistant house, designed to allow water to enter and exit without causing damage. The project conducted tests to examine how various insulation, building materials and design solutions perform during flooding. Findings were shared with authorities in Blekinge, Sweden and Zemgale, Latvia, two other regions that are becoming increasingly vulnerable to floods.

"By sharing ideas, knowledge and solutions, we're [empowering regions to build a more climate-resilient Europe](#)," notes Balionyte-Merle.

Towards market uptake and large-scale deployment

The project is helping to position Europe as a global leader in climate adaptation, attracting interest from the United States and China. "Europe is at the frontlines of climate change," adds Balionyte-Merle. "It is only natural that we leverage our research capabilities for this urgent global challenge."

Researchers are now focused on promoting the market uptake of RESIST's solutions, with the goal of having 100 solutions fully market ready at the end of the project. "To move RESIST's technological solutions closer to commercial and large-scale deployment, the next key step is to continue our exploitation activities, business-readiness support, and engagement with investors, public authorities and innovation ecosystems," explains Balionyte-Merle.

Progress is already visible. HYDS, an SME working on early warning systems in RESIST, is now exploring new market opportunities in Croatia. "This shows how we are helping our partners move beyond research and demonstration, towards real market positioning," she says.



Europe is at the frontlines of climate change. It is only natural that we leverage our research capabilities for this urgent global challenge.

PROJECT

RESIST – Regions for climate change resilience through Innovation, Science and Technology

COORDINATED BY

SINTEF in Norway

FUNDED UNDER

Horizon Europe – Climate, Energy and Mobility

CORDIS FACTSHEET

cordis.europa.eu/project/id/101093968

PROJECT WEBSITE

resist-project.eu



Climate-resilient infrastructure: a bridge towards a more competitive Europe

Europe's built environment is at risk from extreme weather events intensified by climate change. The EU-funded RISKADAPT project offers tools to identify and manage these vulnerabilities, boosting resilience.



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Europe's roads, railways, energy grid and communication networks, healthcare facilities and other critical assets are facing a climate that in many cases they were not designed for. Identifying which elements to fortify – and how – is critical for Europe's future.

"Climate-resilient infrastructure keeps the essential services that underpin Europe's economy running," says Stephanos

Camarinopoulos, director at [RISA](#), a German engineering and IT firm.

Infrastructure adaptation decisions are complex, as they must account for technical performance, environmental sustainability, economic feasibility and social impacts. Most assessment methodologies treat these dimensions separately despite the need for a comprehensive approach to infrastructure adaptation.

Funded under the [EU Mission on Adaptation to Climate Change](#), RISKADAPT addresses this gap by proposing an integrated decision-support approach. “We aim to deliver the tools infrastructure owners need to make better adaptation decisions,” adds Camarinopoulos. “In doing so, we will support more efficient investments, reduce long-term costs and improve overall resilience to future climate risks.”

A unified decision-support environment

One of the key project outcomes is the RISKADAPT platform. The innovative solution integrates climate hazard data, structural vulnerability models, life-cycle assessment tools and social impact indicators.



The pilots show how better adaptation planning can reduce service disruptions, optimise public investments and ultimately protect the infrastructure that is so critical to Europe’s economy and long-term competitiveness.

“Users can explore future climate scenarios, assess asset fragility, compare adaptation options and visualise risks and impacts in a very user-friendly way,” notes Camarinopoulos.

What sets RISKADAPT apart is that it puts its methodologies and concepts into practice through [real-world pilot cases](#). In Greece, for example, the project’s methods were used to assess both the current and future structural condition of the Polyfyto Road Bridge connecting the cities of Kozani and Athens.

The approach was also used in Finland to compare different adaptation strategies for electricity transmission towers under future wind and icing conditions, and identify the most effective long-term solutions.

“The pilots show how better adaptation planning can reduce service disruptions, optimise public investments and ultimately protect the infrastructure that is so critical to Europe’s economy and long-term competitiveness,” explains Camarinopoulos.

The importance of social impact modelling

A particularly innovative aspect of the project is its integration of social impact modelling into infrastructure risk assessment. Through spatial microsimulation techniques, the project explored

how disruptions to critical infrastructure can affect well-being, accessibility and quality of life – especially for vulnerable communities.

“This helped us move beyond purely technical assessments and introduced a stronger societal dimension into climate adaptation planning,” remarks Camarinopoulos.

He notes that this social dimension also makes the project’s research even more relevant from a policy perspective. Understanding who is most affected by infrastructure disruptions can help policymakers design adaptation measures that are both effective and equitable, supporting the objectives of the [European Green Deal](#) and the [EU climate adaptation strategy](#), in line with the ‘leave no one behind’ principle.

Safeguarding infrastructure to strengthen long-term prosperity

Concluded in December 2025, RISKADAPT offers an integrated and scalable framework for understanding and managing climate risks to infrastructure systems. The platform’s components will be further exploited by the project’s partners through consultancy services, customised solutions, platform operation and licensing.

In doing so, the project is helping protect Europe’s critical infrastructure, strengthen economic resilience and safeguard long-term prosperity in a changing climate.

PROJECT

**RISKADAPT – Asset Level Modelling of RISKS
In the Face of Climate Induced Extreme Events
and ADAPTation**

COORDINATED BY

RISA in Germany

FUNDED UNDER

Horizon Europe – Climate, Energy and Mobility

CORDIS FACTSHEET

cordis.europa.eu/project/id/101093939

PROJECT WEBSITE

riskadapt.eu



European innovation for a world facing more wildfires

Fuelled by climate change, Europe's fire season is growing longer, and its wildfires more intense. A forest management platform developed by the EU-funded SILVANUS project offers a suite of tools to prevent and suppress fires.



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Forest fires, driven by complex interactions between climate, shifts in land use, and forest management practices, are [growing more frequent and severe](#) in Europe and around the world. As well as loss of life, wildfires inflict economic effects through property destruction, increased healthcare costs and tourism impacts, estimated at [EUR 2.5 billion](#) per year in the EU, and rising.

“Wildfire management is a multidimensional challenge that goes well beyond simply knowing where a fire has started,”

explains Michele Corleto, associate professor of International Law at [Pegaso University](#) (website in Italian). “Conventional fire-management approaches, typically organised around national authorities and reactive suppression, are increasingly mismatched to the spatial extent, speed and complexity of contemporary events.”

Responding to this challenge, the [SILVANUS](#) project developed a climate-resilient forest management system, using a multilayered



architecture comprising remote sensing, communication, modelling, decision support and citizen engagement components. It brings together 21 interoperable products that span fire prevention, preparedness, detection and response, along with post-fire restoration and adaptation. The system is currently at an advanced pre-commercial stage, validated through a structured programme of 12 pilots across 11 countries.

"Beyond its technological achievements, SILVANUS has built a cross-sectoral governance model that brings together governments, research institutions, emergency services and civil society around a shared agenda," says Corleto, who acted as project coordinator.

Drones, sensors, cloud and crowd

SILVANUS developed and integrated technologies such as internet-linked fire detectors, autonomous drones, robotics, data analytics, fire modelling powered by machine learning, and training environments supported by augmented and virtual reality (AR/VR).

Distributed sensors collect meteorological and fuel-moisture data in forests, while drones provide aerial and ground-based observation and fire inspection, underpinned with a wireless connectivity in remote areas.

The modelling layer offers biodiversity, fuel and fire-behaviour models, augmented by artificial intelligence components that help to detect fires and predict their severity. A decision support layer helps authorities allocate resources, plan evacuation routes and monitor post-event. A citizen-facing app offers public advice and the ability to report fires.

The platform was validated through a series of pilots, including [trials of ground drones](#) in Brisbane, Australia, [firefighter training exercises](#) in Dalmatia, Croatia, a [post-fire restoration programme](#) in Sebangau National Park, Indonesia, and more. Successful application across such different contexts demonstrates the potential of 'made in Europe' wildfire solutions to be scaled internationally in a growing global market for wildfire resilience.

From inception, SILVANUS was designed to be both scalable and exportable. It can be regarded as a mature candidate for European technology export to wildfire-affected regions worldwide.

From science to policy and implementation

The project's impacts are broad, from an immersive AR/VR training toolkit for wildland firefighters and a multi-stakeholder knowledge network, to the translation of wildfire science into concrete policy recommendations, such as contributions to the European Commission's recent [Communication on integrated wildfire risk management](#).

The SILVANUS consortium is now establishing a market exploitation strategy to promote industrial uptake of its technologies. "From inception, SILVANUS was designed to be both scalable and exportable," adds Corleto. "On this basis, SILVANUS can be regarded as a mature candidate for European technology export to wildfire-affected regions worldwide."

Its modular and interoperable architecture allows individual components – sensing, modelling, decision support, training and citizen engagement – to be adapted for other applications across floods, industrial emergencies and ecosystem monitoring.

Several project partners are already turning SILVANUS results into durable products and follow-on projects around the world, demonstrating the potential for the project's technologies to reach new sectors and markets.

PROJECT

SILVANUS – Integrated Technological and Information Platform for Wildfire Management

COORDINATED BY

Pegaso University in Italy

FUNDED UNDER

Horizon 2020-ENVIRONMENT

CORDIS FACTSHEET

cordis.europa.eu/project/id/101037247

PROJECT WEBSITE

silvanus-project.eu



Accelerating transformational climate adaptation in Europe

The causes and impacts of climate change are multifaceted and far-reaching. The EU-funded TransformAr project set out to demonstrate solutions and pathways to achieve rapid transformational adaptation across the EU.



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Transformational adaptation is an approach that aims to reduce the impacts of climate change on people, the economy and the planet through deep and systemic changes.

Gathering 22 partners from 11 countries, the [TransformAr](#) project drew on successful existing initiatives to develop, test and demonstrate [climate solutions](#) and pathways across six locations with varying needs.

"We tested 20 adaptation solutions practically at the local scale, focused on water-related challenges such as drought, flood and sea level rise," explains project coordinator Jan Cools from the Institute of Environment and Sustainable Development at the [University of Antwerp](#) in Belgium.

Interventions such as stormwater control, microclimate weather stations, and maritime monitors were validated through

demonstrators and Living Labs, while financial mechanisms were developed to accelerate investments in these solutions.

Supporting local communities and their economies

In the Caribbean, TransformAr developed and piloted the [Guadeloupe Adaptation Fund](#) (FLAG). This delivered investment to six climate resilience projects tailored to local contexts, including water management, flood defence, vanilla cultivation and pig farming.



Climate adaptation is not an expense, but a critical investment to protect our GDP, employment and productivity.

In Galicia, Spain, rising temperatures and declining water quality threaten mussel aquaculture. TransformAr supported three adaptation solutions [centred on water monitoring](#), helping to anticipate environmental changes, support evidence-based adaptive management, and strengthen the competitiveness of local businesses and communities.

Further interventions tested include weather monitoring and youth training in Greece, stormwater biofiltration in Finland, and coastal defence in Sardinia.

Boosting demand for nature-based solutions

Through its demonstrators and strong cooperation established between local authorities, researchers, stakeholders and citizens, the project fostered both awareness of and demand for nature-based solutions (NbSs).

“Local decision makers got to know experts they could approach for advice tailored to their specific context, and to discuss practical solutions,” Cools says. As a result, new NbSs are being implemented in the Azores, Czechia, Finland and Norway.

The project also explored an investor-friendly mechanism that bundles solutions with financing. For example, a brokerage service in the United Kingdom links companies looking to offset their climate impacts with farmers who can implement NbSs. “Companies on their own wouldn’t immediately know how and where to offset, while farmers may not automatically invest in NbSs if there is no demand for it,” adds Cools.

Building the economic case for climate resilience

The project, funded under the [EU Mission on Adaptation to Climate Change](#), also assessed the economic impacts of global warming to find that unchecked climate change could cut EU-wide gross domestic product (GDP) by up to 1.43 %, with losses close to 2 % in southern Europe. “Climate adaptation is not an expense, but a critical investment to protect our GDP, employment and productivity,” notes Cools.

The researchers developed a [policy brief on monitoring climate adaptation initiatives](#), and an accessible [visualisation of European climate impacts](#), for both historical and projected future scenarios across key areas: socio-economic, health, water and agricultural.

TransformAr has led to several spin-off projects, including [SystR](#), which aims to boost systemic resilience across Europe, [BALTFLOODS](#), on flood preparedness in the Baltic Sea, and [DesirMED](#), which supports NbSs across the Mediterranean.

PROJECT

TransformAr – Accelerating and upscaling transformational adaptation in Europe: demonstration of water-related innovation packages

COORDINATED BY

University of Antwerp in Belgium

FUNDED UNDER

Horizon 2020-ENVIRONMENT

CORDIS FACTSHEET

cordis.europa.eu/project/id/101036683

PROJECT WEBSITE

transformar.eu



How green infrastructure can grow economic and climate resilience

Europe's cities are facing the local impacts of climate change. Nature-based solutions demonstrated through the EU-funded Upsurge project are acting as 'lighthouses' to show the way to urban climate resilience.



Urban environments face a range of climate impacts, many of which can compound one another. "Many cities have dense built-up areas, sealed surfaces and traffic pressure, which increases heat stress, worsens air quality and reduces biodiversity," explains [Upsurge](#) project coordinator Ksenija Napast, from Slovenia's [E-zavod](#) development institute.

Cities also face specific governance and adaptation implementation challenges, as beyond building infrastructure, they also need to secure data, financing, long-term maintenance, public acceptance and clear ownership.

The Upsurge project brought together citizens, public officials, researchers and local organisations to address these challenges through nature-based solutions (NbSs), digital tools and governance frameworks, recasting urban spaces as sites of environmental regeneration.

Trialling nature-based solutions

Upsurge successfully demonstrated a range of solutions across five European cities. “The project brings together knowledge, tools and experiences to help cities select, plan and implement locally adapted NbSs for regenerative urban development,” adds Napast.

In Belfast, United Kingdom, Upsurge transformed neglected land into a community agroecology garden, restoring soils and boosting biodiversity. It also provided educational activities and fostered new social connections in the community.

In Breda, the Netherlands, a 1960s neighbourhood was regenerated with high-biodiversity rain gardens, trees and bioswales which help combat severe heat stress, capture intense stormwater run-off and filter out pollutants. This pilot serves as a real-life ecological testbed for driving Breda’s transition into a climate-resilient ‘City in a Park’.

In Maribor, Slovenia, new green corridors and blue infrastructure were established along fragmented neighbourhoods, with ecological and community benefits. And in Budapest, Hungary, rain gardens and a green wall were built to reduce stormwater run-off, support biodiversity and improve the local urban climate.

In Katowice, Poland, Upsurge’s demonstration site deployed green bus stops, vertical gardens, pollutant-absorbing walls and other NbSs to reduce run-off, helping to control flooding, reduce exposure to traffic-related emissions and relieve urban heat island effects.

Paving the way to urban regeneration for social and economic benefits

Upsurge is built on the quintuple helix model, a principle that brings together universities, businesses, local governments, citizens and the natural environment itself.

This broad approach recognises that NbSs can deliver benefits beyond urban greening, including jobs and economic opportunities,

particularly in underserved neighbourhoods. Upsurge explored this potential by working with business partners to develop and test innovative business models and financing mechanisms for NbSs.

The collaborative model was implemented across all sites by pairing active community participation with high-tech environmental sensors. By involving local residents in the design and planning, while simultaneously tracking real-time data on air and water quality with the sensors, the model ensured these green spaces were both shaped by the community and scientifically robust.

For example, the project’s [Citiair app](#) was deployed across all demonstration sites, giving citizens access to real-time data on air quality in their cities and the ability to report environmental problems.

The [Upsurge Storymap](#) presents the results across the demonstration cities. “This makes the results understandable not only for experts, but also for stakeholders and the wider public,” notes Napast.

By showcasing NbS innovations that are exportable and scalable, and grounded in participatory governance, Upsurge gives European cities and service providers the evidence, tools and options they need to develop climate resilience solutions of their own.



The project brings together knowledge, tools and experiences to help cities select, plan and implement locally adapted nature-based solutions.

PROJECT

Upsurge – City-centered approach to catalyze nature-based solutions through the EU Regenerative Urban Lighthouse for pollution alleviation and regenerative development

COORDINATED BY

E-zavod in Slovenia

FUNDED UNDER

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Aerial View of Oosterscheldekering Storm Surge Barrier, Netherlands

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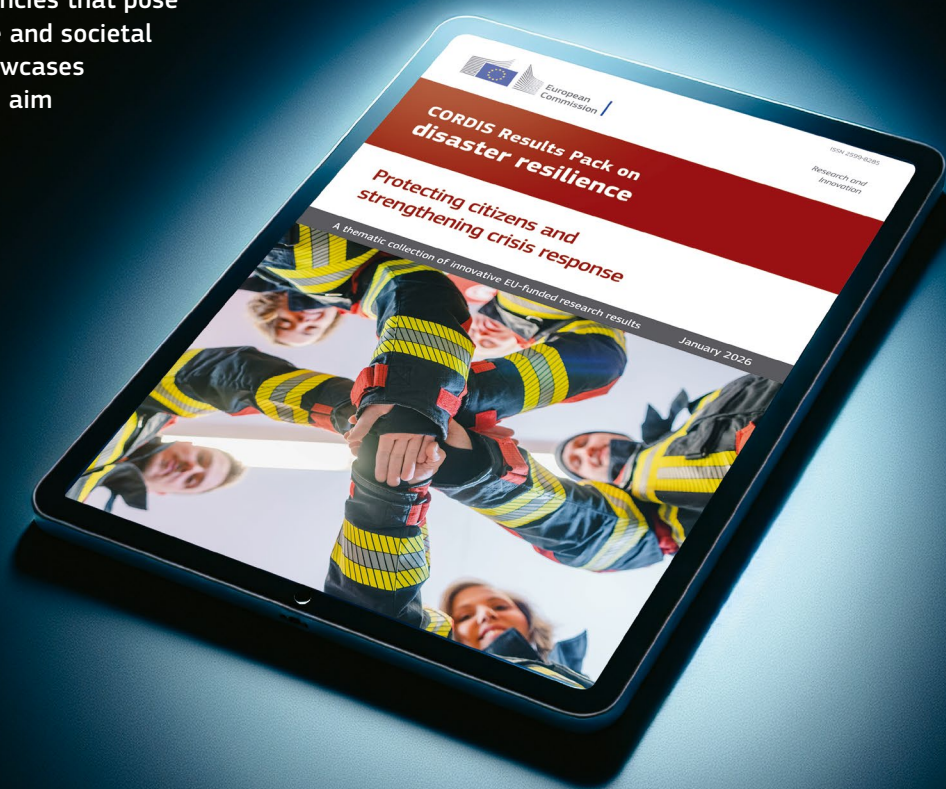
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Europe faces increasing threats from natural hazards, climate extremes and complex emergencies that pose significant risks to lives, infrastructure and societal stability. This CORDIS Results Pack showcases 10 EU-funded projects with the shared aim of better anticipating, managing and recovering from such crises.



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