

RECONNECTing with Nature – Short Policy Brief

Executive Summary

This policy brief introduces the RECONNECT project, funded by the European Union's Horizon 2020 programme, which focuses on enhancing the European reference framework for Nature-Based Solutions (NbS) to reduce hydro-meteorological risks such as floods, droughts, and landslides. RECONNECT demonstrates, references, and scales up large-scale NbS in rural and natural areas, providing valuable insights and tools for their broader application across Europe. This brief outlines the project's key results and provides policy recommendations to further advance the integration of NbS into climate resilience strategies.

Background

RECONNECT-ECOsystems with **Regenerating Nature-based solutions** for hydro-meteorological risk **rEDuCTION**.

European Union's Horizon 2020 project.

Starting date: 1 September 2018,
Ending date: 31 August 2024.

RECONNECT aims to rapidly enhance the European reference framework for Nature-Based Solutions (NbS) in hydro-meteorological risk reduction by demonstrating, referencing, upscaling, and exploiting large-scale NbS in rural and natural areas.

The RECONNECT consortium brings together an unprecedented transdisciplinary partnership of researchers, industrial partners (SMEs and large consultancies), and local and regional authorities/agencies, all fully dedicated to achieving the project's desired outcomes.

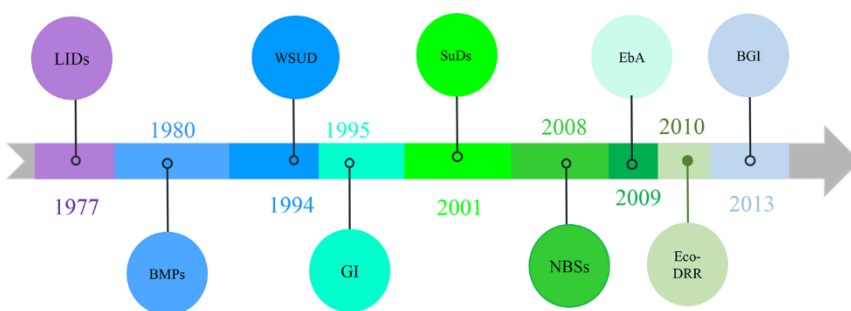
<http://www.reconnect.eu/>

What is the issue?

The escalating impacts of climate change, including more frequent and severe hydro-meteorological hazards such as floods, droughts, and landslides, cause significant risks to both natural and human systems. Traditional approaches to risk reduction are proving inadequate in addressing these complex challenges, leading to increased vulnerability, particularly in rural and natural areas.

Why is this important?

Addressing hydrometeorological risks through Nature-Based Solutions (NbS) is crucial not only for mitigating immediate threats but also for ensuring long-term resilience. As Europe's natural capital faces unprecedented pressures, integrating NbS into land-use planning and development is essential. There is an urgent need for innovative, sustainable solutions that can effectively reduce these risks while supporting ecosystem services.



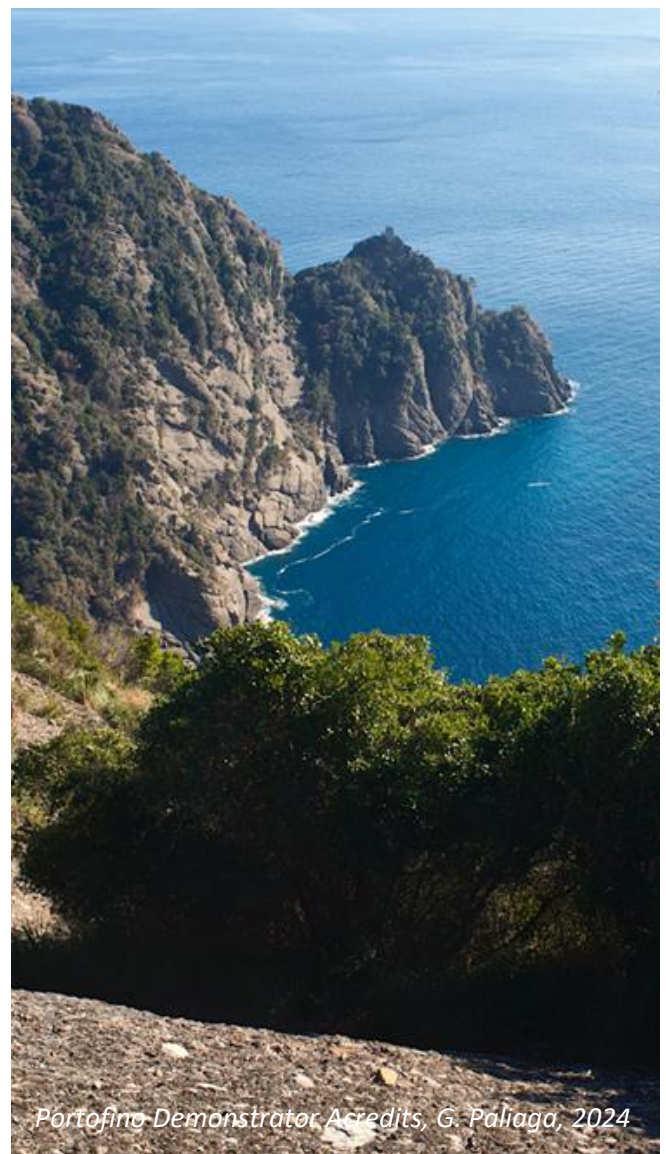
Timeline and year of origin of each term (L. Ruanpan et al., 2020)

What can be done?

To effectively tackle the urgent challenges caused by hydro-meteorological risks, it is essential to accelerate the research, implementation, and scaling of Nature-Based Solutions (NbS). Projects like RECONNECT, alongside others in the EU, demonstrate the immense potential of NbS in mitigating these risks while supporting sustainable development. To enhance their impact, we need to increase financing for these solutions, leveraging both public and private sector investments, and promote stronger partnerships across all sectors. Furthermore, the uptake of results from ongoing and future projects must be prioritised, ensuring that proven NbS are integrated into mainstream land-use planning and development strategies. By doing so, we can build more resilient communities and ecosystems in the face of climate change.

Who are the actors of change?

- ⇒ **Policy and Decision Makers:** National and local officials responsible for land planning, policy formulation, and risk management.
- ⇒ **Government Agencies:** Agencies tasked with security, planning, environmental sustainability, and public health.
- ⇒ **Expert Practitioners:** Professionals such as engineers, land use planners, and biologists who can apply science-based evidence to enhance their practices, design NbS, and promote sustainable interventions.
- ⇒ **Industry and Private Sector:** Entities that generate revenue or enhance their commercial image through sustainability practices, including NbS implementation.
- ⇒ **Public and Private Stakeholders:** Landowners and those whose activities are impacted by NbS. Their support and positive attitude toward NbS are critical for successful implementation and maintenance, as well as for promoting these solutions within broader communities.
- ⇒ **Scientific Community:** Researchers and academics who can build results, validate findings, and further develop the evidence base for NbS.
- ⇒ **EU Networks, Communities, and Initiatives:** Various networks and communities are instrumental in disseminating and promoting broader adoption and development of NbS across Europe and internationally.



Portofino Demonstrator Credits, G. Paliaga, 2024

Which results hold the key to progress?

RECONNECT project results with potential for future exploitation include a holistic ecosystem-based framework that integrates monitoring and evaluation tools to support the effective implementation and upscaling of Nature-Based Solutions (NbS) across Europe. The project has also produced comprehensive guidelines for the design, construction, and maintenance of NbS, offering practical insights drawn from diverse real-world applications. Additionally, the ICT Service Platform provides multiple tools for real-time monitoring and co-creation support. RECONNECT has also developed a business model and investment strategy framework to enhance the financial viability and scalability of NbS projects, complemented by standardised practices for project management. These results present a foundation for advancing NbS, with opportunities for exploitation in policy-making, industry application, and further research.

Demonstrating NbS

Holistic Ecosystem-Based Framework

The framework is designed to support the implementation and evaluation of large-scale Nature-Based Solutions (NbS) in rural and natural areas, focusing on reducing hydro-meteorological risks. What sets the RECONNECT framework apart is its structured approach to grouping challenges into three interconnected pillars: WATER, NATURE, and PEOPLE.

- **WATER:** This pillar focuses on the management and movement of water within the natural and human-altered landscapes, addressing issues such as flood risks, water quality, and availability. The framework evaluates how NbS can mitigate these risks over different spatial and temporal scales.
- **NATURE:** This pillar emphasises the role of ecosystems and biodiversity in sustaining natural processes and providing ecosystem services. The framework assesses how NbS can enhance biodiversity, restore ecosystems, and offer co-benefits such as carbon sequestration and habitat provision.
- **PEOPLE:** The third pillar integrates the social dimension, recognising that human systems—comprising social structures, behaviours, and governance—interact with natural systems. The framework evaluates how NbS can be co-created with stakeholders to deliver societal benefits, including improved public health, economic opportunities, and social well-being.

By incorporating these three pillars, the RECONNECT framework goes beyond traditional risk management approaches, offering a more comprehensive method for understanding and addressing the complex interactions between natural and human systems.



Thur River Basin Demonstrator B, credits: A. Marchese, 2022

⇒ **Actors of change:** Government Agencies, Industry (and private sector), Scientific Community, EU Networks, Communities and initiatives.

Influencing NbS Implementation

The RECONNECT project worked towards influencing NbS implementation across diverse environments by developing comprehensive guidelines, innovative evaluation methodologies, and standardised best practices.

- **Guidelines for Design, Construction, and Maintenance of NbS:** These guidelines serve as a crucial resource for entities seeking to implement large-scale NbS projects aimed at reducing hydro-meteorological risks, particularly in rural and natural areas. By distilling practical lessons from demonstrator projects across mountainous, riverine, and coastal areas, the document bridges theoretical knowledge with real-world applications.

⇒ **Actors of change:** Policy and Decision-makers, Government Agencies, Expert Practitioners, Public and Private Stakeholders, Scientific Community, EU Networks, Communities and initiatives.

- **Guidelines for Monitoring and Evaluation:** A new methodology has been introduced for the co-evaluation of RECONNECT demo sites, utilising a Mixed Method Appraisal Tool (MMAT). This approach allows for a comprehensive assessment of NbS projects across multiple dimensions—Water, Nature, and People—ensuring that the full spectrum of benefits and challenges are captured.

⇒ **Actors of change:** Expert Practitioners, Industry (and private sector), Public and Private Stakeholders, Scientific Community.

- **Standards for Design, Implementation, Management, and Decommissioning:** best practices from RECONNECT's outputs are consolidated into a standard that spans the entire life cycle of NbS projects, from planning and design through to monitoring and decommissioning. By offering tangible guidance based on the consensus of various stakeholders involved in RECONNECT, these standards aim to streamline the implementation process and support the upscaling of NbS.

⇒ **Actors of change:** Policy and Decision-makers, Government Agencies, Expert Practitioners, Public and Private Stakeholders, Scientific Community, EU Networks, Communities and initiatives.

RECONNECT draws upon a [network](#) of carefully selected Demonstrators and Collaborators that cover a range of local conditions, geographic characteristics, governance structures and social/cultural settings.

The RECONNECT Demonstrators are examples of large-scale Nature-Based Solutions for hydro-meteorological risk reduction which can provide proof-of-concept for their upscaling and replication.

RECONNECT Demonstrators **Type A:** Elbe Estuary-Germany, Seden Strand-Odense Denmark, Tordera River Basin-Catalonia, Portofino Natural Park-Italy.

RECONNECT Demonstrators **Type B:** IJssel River Basin-The Netherlands, Inn River Basin-Austria, Greater Aarhus-Denmark, Thur River Basin-Switzerland, Var River Basin-France, Les Boucholeurs-France.



Elbe demonstrator A, Source: D. Ackermann, LSBG

Policy recommendations

By adopting the following recommendations, policymakers can help ensure that Nature-Based Solutions are effectively integrated into Europe's strategies for climate resilience, contributing to the sustainable development of communities and the preservation of natural ecosystems.

- 1. Integrate NbS into National and Regional Land-Use Planning:** By doing so, NbS can be more effectively scaled and mainstreamed, leading to enhanced resilience against hydro-meteorological risks and supporting broader environmental and societal goals.
- 2. Increase Funding and Investment in NbS:** The development of business models and investment strategies that demonstrate the cost-effectiveness and multiple societal benefits of NbS will be crucial in securing diverse funding sources and accelerating their implementation.
- 3. Support the Development of Standardised Guidelines and Frameworks:** There is a need for the continued development and dissemination of standardised guidelines and frameworks. These should cover all phases of NbS projects, from planning and design to monitoring and decommissioning, ensuring consistency and reliability in their application.
- 4. Enhance Data Sharing and Monitoring Capabilities:** The use of ICT platforms, such as the RECONNECT Service Platform, should be expanded to improve data collection, monitoring, and evaluation of NbS.
- 5. Encourage Public Participation in NbS Projects:** Tools such as the crowdsourcing app developed by RECONNECT can be instrumental in capturing valuable local knowledge and fostering a sense of ownership among stakeholders.

The RECONNECT Consortium:



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