Regions4Climate

Building resilient communities

01.01.2023 – 31.12.2027

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What is the Regions4Climate (R4C) project?
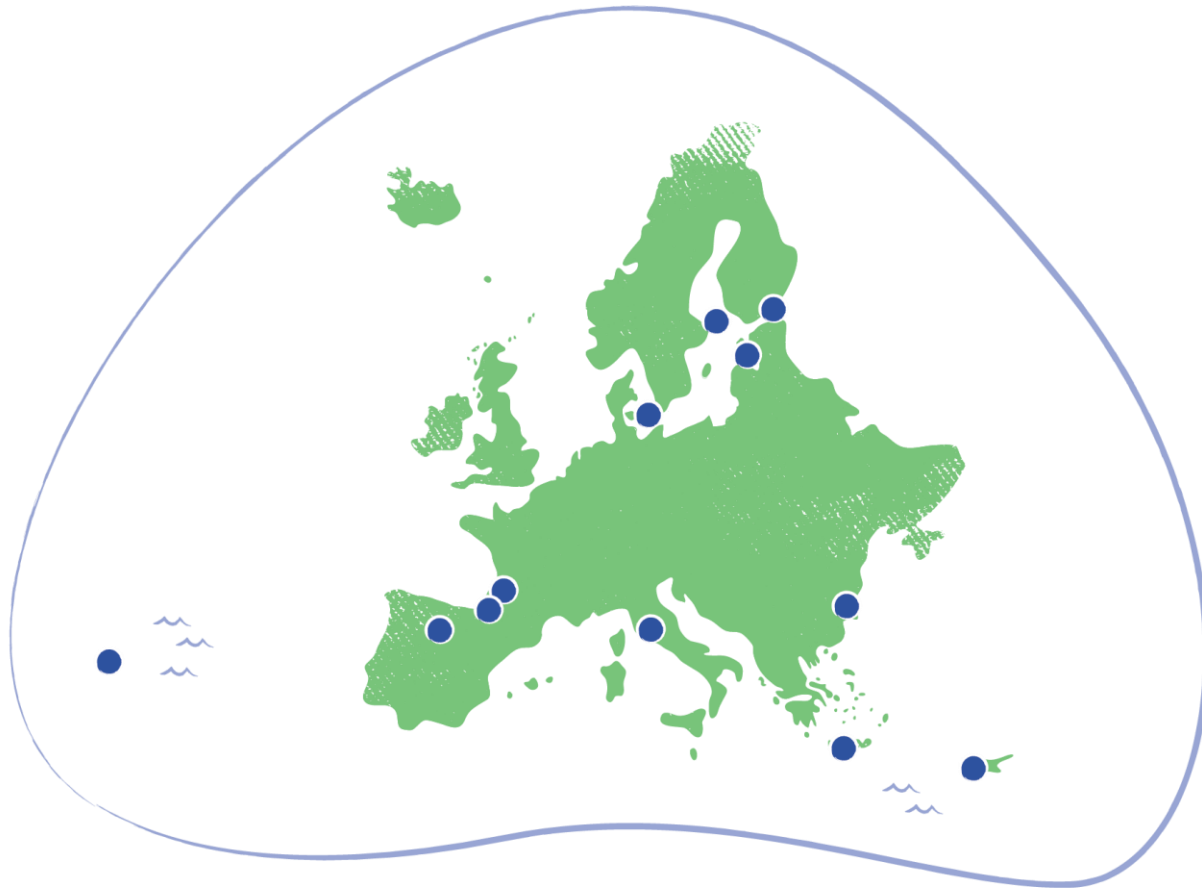
Topic(s): HORIZON-MISS-2021-CLIMA-02-04 - Large scale demonstrators of climate resilience creating cross-border value

Call for proposals: HORIZON-MISS-2021-CLIMA-02

The **Regions4Climate project** will plan and implement real **climate resilient innovations** created by and for people in response to the **EU mission Adaptation to Climate Change.**

Climate change presents a threat to our livelihoods, well-being and environment. A **transition** towards resilience has become urgent and mandatory.

This need requires that we simultaneously address social inequalities and implement **cross-sectoral innovations** to simultaneously build social, economic and environmental **resilience** to extreme events.

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Objectives

**Develop a comprehensive operational framework.**

Why?

To guide and support a wide range of local and regional stakeholders to co-create, test, optimise, and replicate scalable, cost-effective, locally-attuned, multi-sectoral and cross-border solutions for enhanced regional resilience to the impacts of climate change.

Scale up and deploy innovative socio-technological climate resilience solutions.

How?

Through collaboration among and "twinning" between European regions vulnerable to similar climate change risks and impacts.
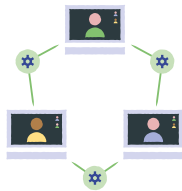
Generate and validate suitable solutions for just societal transformation and building of climate resilience at the regional and local level.

How?

Through generation and validation of a suite of tailor-made, user-centered tools and frameworks matching local needs.

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Work Packages

WORK PACKAGE 1
Project Management, Ethics & RRI

WORK PACKAGE 2
Just Transition & Social Equity

WORK PACKAGE 3
Climate Resilience Diagnostics

WORK PACKAGE 4
Smart Specialisation for Sustainability

WORK PACKAGE 5
Regional Innovation Actions for Climate Resilience

WORK PACKAGE 6
Innovation Management & Exploitation

WORK PACKAGE 7
Dissemination & Communication

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Societal innovation at a glance
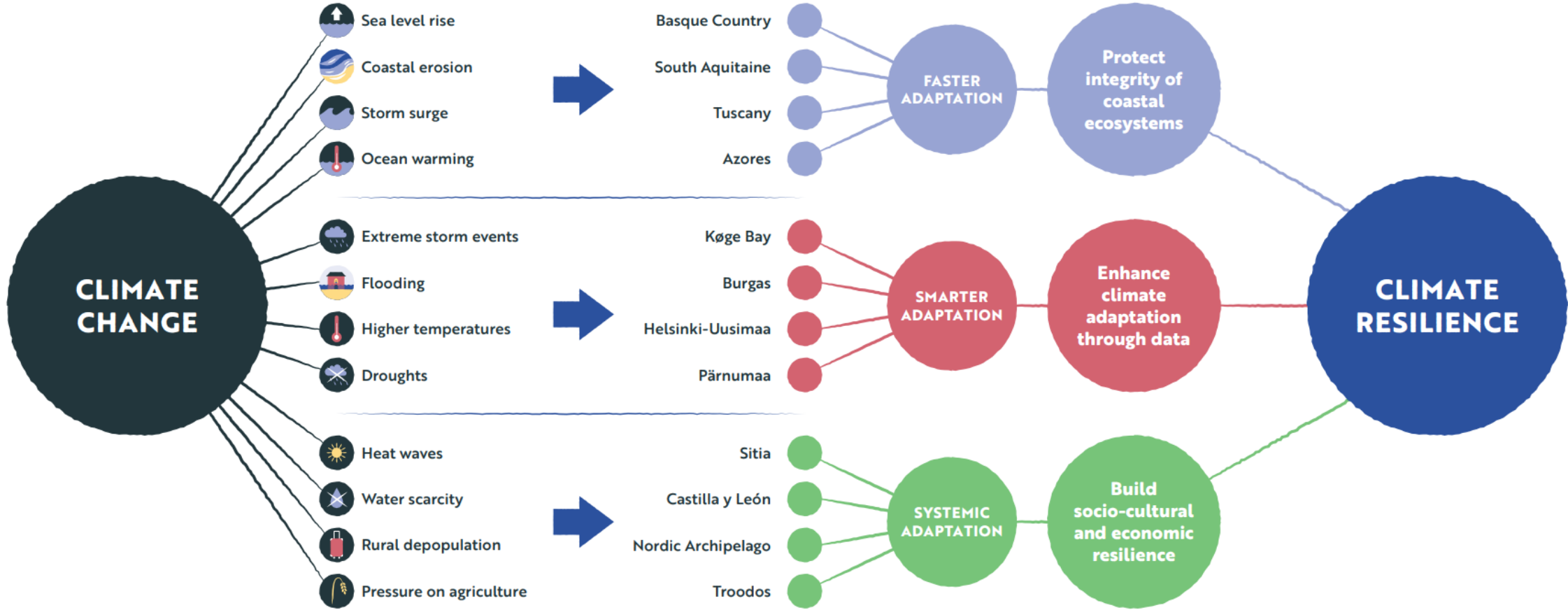
3 societal innovation themes

Faster Adaptation: the story of coastal protection and restoration

Front runner region: Basque Country

Follower regions involved: South Aquitaine, Azores, Tuscany

Smarter Adaptation: the story of twin green and digital transition for climate resilience

Front runner region: Køge Bay (The Capital Region of Denmark and Region Zealand)

Follower regions involved: Burgas, Uusimaa, Pärnumaa

Systemic Adaption: the story of multi-scale, multi-sectoral adaptation to climate change

Front runner region: Sitia (Eastern Crete)

Follower regions involved: Castilla y Léon, Nordic Archipelago, Troodos

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Faster Adaptation

Core innovation pillars

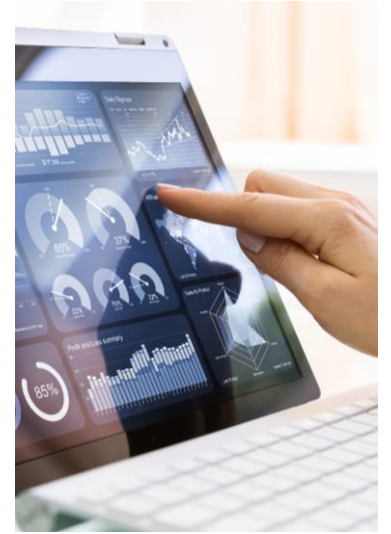1. Protect and restore the coasts
2. Examine opportunities for Blue Carbon Credits
3. Educate and engage citizens towards resilience building
4. Engage in cross-border actions

Smarter Adaptation

Core innovation pillars

1. Bridge the science-stakeholder-policy gap
2. Raise citizens' awareness
3. Improve the use of existing data

Systemic Adaptation

Core innovation pillars

1. Develop and validate green social business models
2. Collaboratively devise locally-attuned resilience strategies
3. Engage local communities in resilience building activities
4. Apply models and frameworks in support of the sustainable use of local resources

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Image source: Canva

Faster Adaptation

All the regions in this cluster are located near the coast and as climate change worsens, its impact on **coastal areas** grows. Coastal impacts of climate change include sea level rise, an increase in storm surges, and coastal erosion.

There is an urgent need for innovative actions that focus on developing and rolling out multi-scale and multi-sectoral adaptation solutions to: **reduce climate-related risk**, **increase climate protection** and **safeguard coastal ecosystem** integrity.

Core innovation pillars

1. Protect and restore the coasts

2. Examine opportunities for Blue Carbon Credits

3. Educate and engage citizens towards resilience building

4. Engage in cross-border actions

Outcomes

Multi-scale monitoring networks and multi-sectoral adaptation planning to safeguard coastal areas.

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Image source: Canva

Smarter Adaptation

Gathering the latest **data** helps to illustrate the effects of **climate change**. Data from diverse sources and its synthesis using innovative technologies can provide better **insight on climate-related risks and losses**. Innovative tools and data management protocols from Regions4Climate will contribute to Climate-ADAPT, the European platform for climate adaptation knowledge.

This will **educate citizens** and **convince policy makers** to tackle the risks of precipitation, flooding, temperature increases and drought.

Core innovation pillars

1. Bridge the science-stakeholder-policy gap

2. Raise citizens' awareness

3. Improve the use of existing data

Outcomes

Innovative evidence-based digital tools that support collaborative models of governance and cross-border climate adaptation initiatives.

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Image source: Canva

Helsinki-Uusimaa (I)

Description of the area

The Helsinki-Uusimaa region lies along the coast of Southern Finland, with hundreds of islands, some large lakes and inland countryside.

The region has a population of 1.7 million citizens in an area of 9 568 km^2, or 178 inhabitants per km^2.

Challenges

- Loss of forests for other land uses
- Surface sealing, flooding during storm events, and excessive urban heat in summer

Goals

- Optimise investment planning and social acceptance via data analytics and collaborative planning tools
- Incorporate a human-centric digital twin approach
- Collaboratively develop plans to restore and protect urban nature

Main demonstration area: LAAJASALO

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Helsinki-Uusimaa (II)

IP A1 - Human-centric digital twin (3D) approach development (technical dev.):

- IP A1.1. The development of demo versions. Browsing through suitable data sources. Using Copernicus Services whenever possible.

- IP A1.2. Intertwine AI/ML approach with the existing digital twin development.

- IP A1.3. Advancing usability and user-friendliness of the technical approach.

IP A2 - Developing digital twin approach to help urban and regional planners to advance to adapt on climate change in socially just ways:

- IP A2.1. Contacting of stakeholders. Practicing participatory approach in socio-technological development. Discussing possible adaptation methods.

- IP A2.2. Increase understanding of urban heat island and (urban) flooding in the region.

- IP A2.3. Increase understanding of social perspectives that are connected to urban heat islands and flooding. Suggest possible adaptation methods via digital twin approach and discussions. Connections to D5.3 and D5.4 (Innovation stories & synthesis).

IP A3.- Critically assess potential scale-up to regional level. Creating a regional level approach to digital twin:

- IP A3.1. Technical approach for regional Digital Twin.

- IP A3.2. Social approach for regional Digital Twin.

- IP A3.3. Investigating the possibility to compose Digital Twin to regional level.

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Helsinki-Uusimaa (III)

Main achievements so far

Political

Created pathways for communication with key expert stakeholders in municipal government. Cooperation has started very well.

Economic

Met with experts and investigated literature into methods for modelling adaptation options in the digital twin.

Social

Came to a common understanding within the demo team about integrated risk and the dynamic interactions between the built and natural environments. Organized and implemented one stakeholder workshop so far and established a framework for future workshops.

Technological

A working version of the digital twin demo is up and running. Available data sources are well understood. A network of 10 sensors in Laajasalo are sending live temperature and humidity data to the digital twin. First demo versions of decision-making tool.

Environmental

Some elements of the natural environment, including vegetation and tree data, are already implemented in the digital twin. Integration to other WPs.

Legal

Development is committed to complying with GDPR. At the point demo group is not working with GDPR sensitive data.

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Systemic Adaptation

Local **citizens** and **SMEs** are key actors in the all-of-society transition towards **climate resilience**.

By **collaborating closely** with local businesses and citizens, particularly in rural areas, the critical **socio-cultural and economic impacts** of climate change can be addressed at all levels of society.

Core innovation pillars

1. Develop and validate green social business models

2. Collaboratively devise locally-attuned resilience strategies

3. Engage local communities in resilience building activities

4. Apply models and frameworks in support of the sustainable use of local resources

Outcomes

Sustainable socio-economic renewal, enhanced societal resilience to impacts of climate change.

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Image source: Canva

Nordic Archipelago

Description of the area

The Nordic Archipelago includes the archipelago regions of Stockholm, Uppsala, Sörmland and Östergötland, and the provinces of south-west Finland, Uusimaa and Kymenlaakso, and Åland.

The Nordic Archipelago has a population of 30 000 citizens in an area of 1 580 km^2, or 19 inhabitants per km^2.

Challenges

- Rural depopulation
- Greenhouse gas emissions from maritime transport

Goals

- Collaboratively generate a common vision for sustainable inter-regional transport and renewable energy systems
- Model renewable energy production and model inter-regional transport via a fleet of electric ferries
- Explore business models for a cross-border company to administer transport issues

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Thank you for your attention

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