



DELIVERABLE D2.7
Compilation of
FARCLIMATE Case Studies v2

Due date of submission:
31/03/2025

Actual submission date:
27/06/2025



Funded by
the European Union

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

Table of contents

Table of contents	2
List of acronyms	4
Project information.....	5
Deliverable details	6
Executive summary	7
1. Introduction	9
2. Selection criteria for the case studies	9
2.1. Relevance of the case for Climate Change Adaptation	9
2.2. Actual implementation.....	10
2.3. Accessibility and relevance of information	10
2.4. Thematic coverage	10
2.5. Avoiding maladaptation	10
2.6. Local and sub-national scales	10
2.7. Multi-sectorial approaches	10
2.8. Relationship with FARCLIMATE partners and willingness to participate	11
2.9. Quality of content	11
3. Climate change risk mapping.....	11
3.1. Objective and methodology	11
3.2. Database presentation.....	13
3.2.1. Fishery.....	13
A. Potential environmental impact of climate change	13
B. Percentage of coast regarding the perimeter of the region	14
C. Percentage of employment corresponding to the fishery sector (NUTS2)	15
D. Percentage of the coast included as Marine Protected Area	17
E. Adaptive capacity to climate change	18
F. Key biogeographic regions	19
3.2.2. Agriculture.....	20
A. Potential environmental impact of climate change	20
B. Potential economic impact of climate change on agriculture and forestry	22
C. Percentage of agricultural lands	23
D. Percentage of GDP corresponding to the agricultural sector (NUTS2)	24
E. Percentage of protected areas	25
F. Adaptive capacity to climate change	26

G. Key biogeographic regions	27
3.2.3.Forestry	28
A. Potential environmental impact of climate change	28
B. Potential economic impact of climate change on agriculture and forestry	28
C. Percentage of forests	29
D. Percentage of forests (using it as equivalence of employment in forests)	30
E. Percentage of protected areas	31
F. Adaptive capacity to climate change	31
G. Key Biogeographic Regions	31
3.3. Results and interpretation	31
3.3.1.Fishery.....	31
3.3.2.Agriculture.....	33
3.3.3.Forestry	35
4. Selection of case studies	37
5. Description of the selected case studies	46
References	88
Annex 1. Full list of potential case studies considered	89
Annex 2. Form designed for preliminary collection of case study information	97
Annex 3. Application of the established criteria to the potential case studies	108
Annex 4. Key lessons learned from the case study candidate selection process and engagement.....	120

List of acronyms

CC	Climate change
CCLM	COSMO model in CLimate Mode, where COSMO means CONSortium for Small-scale MOdelling
CDDA	Common Database on Designated Areas
EEA	European Environment Agency
EU	European Union
GALP	Fisheries Local Action Group (Grupo de Acción Local de Pesca, in Spanish)
GDP	Gross domestic product
IPCC	Intergovernmental Panel on Climate Change
IPCC SRES	IPCC Special Report on Emissions Scenarios
LL	Living Lab
NA	Not available
NUTS	Nomenclature of territorial units for statistics
RSC	Regional Sea Convention
SAC	Special Area of Conservation
SCI	Site of Community Importance

See acronyms of the participating partners in the table below.

Project information

Project full title: Moving ForwARd to achieving CLIMATE-resilient and sustainable European regional economic systems - FARCLIMATE

Acronym: FARCLIMATE

Call: HORIZON-MISS-2022-CLIMA-01

Topic: HORIZON-MISS-2022-CLIMA-01-04 - Transformation of regional economic systems for climate resilience and sustainability

Start date: October 1st, 2023

Duration: 48 months

List of participants:

Partner No.	Organisation Name Acronym
1 (Coord.)	UNIVERSIDAD DE VIGO UVIGO
2	CONTACTICA S.L. CTA
3	INTERNATIONAL UNION FOR CONSERVATION OF NATURE IUCN
4	C4G - CONSULTING AND TRAINING NETWORK, LDA C4G
5	INVIALBLE LIFE CYCLE THINKING S.L. INV
6	MUNICIPIO DO FUNDAO FUNDAO
7	GREEN GROWTH GENERATION GGG
8	UNIVERSITE DE LIEGE ULIEGE
9	FUNDACION CENTRO DE SERVICIOS Y PROMOCION FORESTAL Y DE SU INDUSTRIA DE CASTILLA Y LEON CESEFOR
10	UNIVERSIDADE NOVA DE LISBOA UNL
11	FUNDACIÓN PARA LA PESCA Y MARISQUEO FUNDAMAR FUNDAMAR
12	European Network of Living Labs ENOLL
13	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS CERTH
14	Laurea University of Applied sciences LAUREA

Deliverable details

Document Number:	D2.7
Document Title:	Compilation of FARCLIMATE Case Studies v2
Dissemination level	PU – Public
Period:	PR2
WP:	WP2
Task:	T2.2
Author(s):	Helena Clavero Sousa, Dario Pollicino, Alberto Martín Sánchez (IUCN) José Carlos Porto Rodríguez, Tomás Sánchez Pellicer (Cesefor) Aitor Couce Vieira (UV)
Abstract:	The FARCLIMATE project tackles the multifaceted challenges of fostering climate resilience across Europe by implementing innovative solutions. Deliverable 2.7. provides the description and results of the first 18 months of work of Task 2.2. Selection of case studies, and in it the criteria to be applied for the selection of the case studies, the results of the geospatial climate change risk analysis to define priority areas, the compilation and a brief description of the case studies selected for the project are presented.

Version	Date	Description
Draft_V0.1	15/03/2025	First draft
Draft_V0.2	21/03/2025	Second draft
Draft_V0.3	16/04/2025	Third draft
Draft_V0.4	26/06/2025	Compilation of FARCLIMATE case studies: Criteria and definitions of the 20 case studies. This document describes the process defined in the first months and followed to make the selection of at least 20 case studies for the project, including the definition of criteria and the selection of the first and second group of cases. Version 2.
Version_V1.0	27/06/2025	Initial version

Executive summary

This document describes the process defined in the first months and followed to make the selection of at least 20 case studies for the project, including the definition of criteria and the selection of the first and second group of cases. The deliverable provides the description of the 9 criteria applied for the selection of the case studies, the results of the geospatial climate change risk analysis to define priority areas, the compilation of potential case studies and the list and brief description of the 25 case studies selected for the project, in the first and second phase.

The defined criteria include: 1) Relevance of the case for Climate Change Adaptation, 2) Actual implementation, 3) Accessibility and relevance of information, 4) Thematic coverage, 5) Avoiding maladaptation, 6) Local and sub-national scales, 7) Multi-sectorial approaches, 8) Relationship with FARCLIMATE partners and willingness to participate, and 9) Quality of content.

Regarding the results of the climate risk mapping, in the fishery sector, regions with the highest climate change (CC) risk, particularly in Southern Europe, are identified due to the combination of variables related to climate impacts and adaptive capacity. Notable areas include Northern Spain, Southern Portugal, Southern France, Northern Italy, and others with a high percentage of protected areas. Similarly, the agricultural sector in Southern Europe faces significant CC risks, with countries like Spain, Portugal, Romania, and others highlighted due to their key agricultural importance and vulnerability. In the forestry sector, Southern Europe and Northern Europe stand out for CC risks, with countries like Portugal, Spain, France, Italy, Poland, and Germany containing high-risk regions.

For the first phase (March 2024; presented in Deliverable 2.2), 22 potential case studies were identified by the project partners, from which 11 were pre-selected. Of these, 8 were integrated into the project after a negotiation phase, discarding 3 of them due to a lack of demonstrated interest. Five case studies are located in Spain, and one each in the following countries: Portugal, Poland, and Italy. Two are focused on the agricultural sector, one on the forestry sector, two on the fishery sector, and two are focused on both the forestry and agricultural sectors.

For the second selection phase, 50 new potential case studies from various regions have been proposed and contacted, of which a total of 17 have been selected and integrated, in order to reach the total number of at least 20. From these, five are located in Italy, two in Spain, two in Finland, two in Portugal, and one each in France, Slovenia, Albania, Sweden, Greece and Romania. Of these, seven are focused on forestry, six on the agricultural sector, two on fishery, one works in both the forestry and agricultural sectors and one in the three sectors.

Thus, for the time being, 25 case studies have been selected and integrated, in phases 1 and 2, to develop living labs with the support of FARCLIMATE thanks to the collaboration of the project partners and in some cases to complex negotiation phases. Of the other potential cases that have been contacted, some have been definitively discarded, others are still under consideration, and it is possible that some more may be included in the coming months.

The process and a brief description of these cases are compiled here in this Deliverable D2.7 – Compilation of FARCLIMATE case studies v2.



Additionally, Annex 4 details key lessons learned from the FARCLIMATE case study candidate selection process. These insights have refined our approach and outlined our experience in negotiating and interacting with potential candidates.

1. Introduction

"D2.7 Compilation of FARCLIMATE case studies v2" is one of the main results of Task T.2.2 Selection of case studies. The document begins by providing a description of the nine criteria established for the selection of the case studies (Section 2). The methodology, data, results, and conclusions from the geospatial climate change risk analysis are included in Section 3. The selection process is explained in Section 4 and finally, Section 5 includes a brief description of the 25 selected case studies.

The full list of potential case studies that have been contacted and negotiated with by project partners to offer participation is also included (Annex 1) The selection of these cases was based on minimal information collected from them, using a form shown in Annex 2 (the process is explained in detail in Section 4, as already mentioned). The application of the established criteria to the potential case studies is detailed in Annex 3. And finally Annex 4 describes key lessons learned from the selection and negotiation process with potential case studies.

2. Selection criteria for the case studies

Nine criteria have been defined for selecting and including case studies for FARCLIMATE, with the first five being considered as the main inclusion/exclusion criteria (eligibility criteria) and the other four considered as qualifying criteria. All criteria are meant to support the overall quality and consistency of case studies and develop an overall catalogue covering diverse climate change impacts, sectors, and European regions. The criteria have been developed based on Climate-ADAPT criteria (https://climate-adapt.eea.europa.eu/en/knowledge/tools/case-studies-climate-adapt/criteria_09082023.pdf).

2.1. Relevance of the case for Climate Change Adaptation

According to the Climate-ADAPT criteria, the cases have been developed in response to climate change challenges. In this manner, maps have been produced as a result of the data geoprocessing showing the European regions with a higher climate risk (see Section 3). This means, most vulnerable, most affected, and least adapted until now to climate change impacts, and therefore more of a priority for this analysis (Ara Begum et. al., 2022). Thus, these regions constitute a good reference point for selecting the case studies within them, even though this is not an exclusion criterion. Some case studies may be identified and selected outside of these priority areas through data geoprocessing, as they may address or respond to specific climate change challenges, with an approach that offers novelty, innovation, or relevance to other regions. In this case, detailed information will be provided to demonstrate and justify their suitability for participation in the project.

Spatial climate risk criteria for the geoprocessing at NUTS3¹ follow the Sixth Assessment Report (AR6)² risk-framework of the IPCC, incorporating the role of responses to climate change in modulating the determinants of risk (Figure 1).

¹ NUTS3 is the most detailed level of the NUTS classification (Nomenclature of territorial units for statistics), a hierarchical system for dividing up the economic territory of the EU (and the UK).

² Sixth Assessment Report (AR6) of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC, 2023)



Figure 1. The IPCC Risk-Framework. Source: Simpson et al., 2022.

2.2. Actual implementation

The selected cases must present already ongoing adaptation measures/initiatives that could be of interest to the project or be willing to design and test new ones.

2.3. Accessibility and relevance of information

FARCLIMATE case studies aim to share knowledge and practical experience for peer-to-peer learning across Europe. Information on the cases should therefore be easily accessible and (re-) assessment and evaluation should be feasible.

2.4. Thematic coverage

The selection process should aim at including an equal number of case studies from these three different sectors: agriculture, fishery, and forestry. Activities related with extensive live-stock farming could be also included.

2.5. Avoiding maladaptation

Case studies must not refer to initiatives of maladaptation. In this sense, initiatives described in case studies to address vulnerability of one location must not increase the vulnerability of other locations. Moreover, adaptation measures should not further increase emissions of greenhouse gasses (strengthening the causes of climate change), damage the most vulnerable groups of population, create disproportions among different social groups, and conflict with environmental and sustainability policy goals.

2.6. Local and sub-national scales

Sub-national and local are the scales of specific interest since sub-national and local authorities, and cities, are the main intended end users of the information to be obtained and capitalised from the case studies.

2.7. Multi-sectorial approaches

Adaptation initiatives described in case studies will seek to focus on a specific economic sector or on several ones. Cases including a multi-sectorial, or an ecosystem-based approach should be considered with particular interest.

2.8. Relationship with FARCLIMATE partners and willingness to participate

Having direct contact with one or more people working for the institution/organisation who could potentially be involved and wish to participate in the project, and who acts as an intermediate with a community/region is considered an advantage.

Their willingness to apply the Living Lab (LL) methodology can also be taken into account in this criterion, as a point in favour of choosing the case study.

2.9. Quality of content

Case studies with a complete description of all the aspects of the adaptation process are preferred. Description should include for example: information on sufficient stakeholders' participation, clear identification of the reference scenario(s) considered, clear consideration of the relevant legal and institutional frameworks, evidence of multi-benefits beyond adaptation, contribution to the sustainable development and transformative approach to adaptation.

3. Climate change risk mapping

3.1. Objective and methodology

The aim of this section is to explain the geospatial analysis of the data for the three economic sectors of interest - fisheries, agriculture and forestry - carried out in order to highlight the regions (NUTS3) with the highest risk of climate change (CC). As it was introduced in Section 2 for the eligibility of the study cases, the IPCC risk-framework was taken as a basis for this analysis. Therefore, data related to the four components of the risk - hazards, vulnerabilities, exposures and responses - was included in the analysis. These data were divided according to economic sector to obtain separate maps (Figure 2). Additionally, the database Key Biogeographic Regions was included in the analysis, as an auxiliary layer, to know the bioregion of the regions NUTS3 to ensure geographical balance in the selection of the study cases.

	FISHERY	AGRICULTURE	FORESTRY
Hazard	Potential environmental impact of CC	Potential environmental impact of CC Potential economic impact of CC on agriculture and forestry	Potential environmental impact of CC Potential economic impact of CC on agriculture and forestry
Exposure	Percentage of coast regarding the perimeter of the region	Percentage of agricultural lands	Percentage of forests
Vulnerability	Percentage of employment corresponding to the fishery sector (NUT2) Percentage of the coast included as Marine Protected Area	Percentage of GDP corresponding to the agricultural sector (NUT2) Percentage of protected areas	Percentage of forests (using as equivalence of employment in forests) Percentage of protected areas
Response	Adaptive capacity to CC	Adaptive capacity to CC	Adaptive capacity to CC
Auxiliary layer	Key Biogeographic Regions	Key Biogeographic Regions	Key Biogeographic Regions

Figure 2. Compilation of the databases used in the geospatial analysis of the climate change risk. In rows, databases are grouped by role of the IPCC risk-framework and the auxiliary layer. In columns, databases grouped by economic sectors of interest for the analysis. Note that the number of databases can be different depending on the sector and role, due to data availability. Source of databases: EEA geospatial data catalogue, ESPON toolbox, Eurostat.

Once selected the databases, the CC risk was obtained through the weighting of the different roles (Figure 3). The weighting values were derived from practical considerations and output analysis, ensuring that the selected values were both suitable and reflective of the most important factors.

	FISHERY	AGRICULTURE	FORESTRY	
Hazard x 0.4	Potential environmental impact of CC	Potential environmental impact of CC Potential economic impact of CC on agriculture and forestry	Potential environmental impact of CC Potential economic impact of CC on agriculture and forestry	} mean
	+	+	+	
Exposure x 0.15	Percentage of coast regarding the perimeter of the region	Percentage of agricultural lands	Percentage of forests	
	+	+	+	
Vulnerability x 0.3	Percentage of employment corresponding to the fishery sector (NUT2) Percentage of the coast included as Marine Protected Area	Percentage of GDP corresponding to the agricultural sector (NUT2) Percentage of protected areas	Percentage of forests (using as equivalence of employment in forests) Percentage of protected areas	} mean
	-	-	-	
Response x 0.15	Adaptive capacity to CC	Adaptive capacity to CC	Adaptive capacity to CC	
	=	=	=	
	Climate Change Risk in Fishery	Climate Change Risk in Agriculture	Climate Change Risk in Forestry	

Figure 3. Weighted values corresponding to each database, including the processes applied for each of them to obtain the final output independently for the given economic sector of interest.

3.2. Database presentation

Note that regions with Not available (NA) values in any of the datasets, will present NA values in the main output. These NA values depend on the geographical extent of the dataset.

3.2.1. Fishery

A. Potential environmental impact of climate change

Definition: Potential impact of changes in summer and winter precipitation, annual mean temperature and annual mean evaporation on the environment.

Methodology: Impact calculated as a combination of regional exposure to climatic changes and recent data on regional sensitivity. Climatic changes derived from comparison of 1961-1990 and 2071-2100 climate projections from the CCLM (COSMO model in CLimate Mode, where COSMO means CONsortium for Small-scale MOdelling) model for the IPCC SRES (Intergovernmental Panel on Climate Change - Special Report on Emissions Scenarios) A1B scenario.

Release date: 2006.

Source: [Indicator: Potential environmental impact of climate change | ESPON Database Portal](#)

This dataset was obtained from the mean of four sub-datasets:

- Potential impact of climate change on soil organic carbon content: Potential impact of changes in summer and winter precipitation, annual mean temperature and annual mean evaporation on soil organic carbon content.
- Potential impact of changes in heavy rainfall on soil erosion: Potential impact of changes in heavy rainfall days on soil erosion sensitive areas.
- Potential impact of climate change on Natura 2000 protected areas: Potential impact of changes in summer and winter precipitation, heavy rainfall days, annual mean temperature, summer days, frost days, snow cover days and annual mean evaporation on Natura 2000 protected areas.
- Potential impact of climate change on forest fires: Potential impact of changes in summer days and summer precipitation on forests prone to fire.

This dataset, on which the climate change risk analyses were based, is the same for all three sectors. To conduct the analysis, it was decided to use these general variables and a general climate risk indicator for all three sectors, based on land-based data due to availability. In any case, it is considered a valid approximation model for the needs of this task, and although the impact on land is measured, the average land temperature is also a proxy for sea temperature.

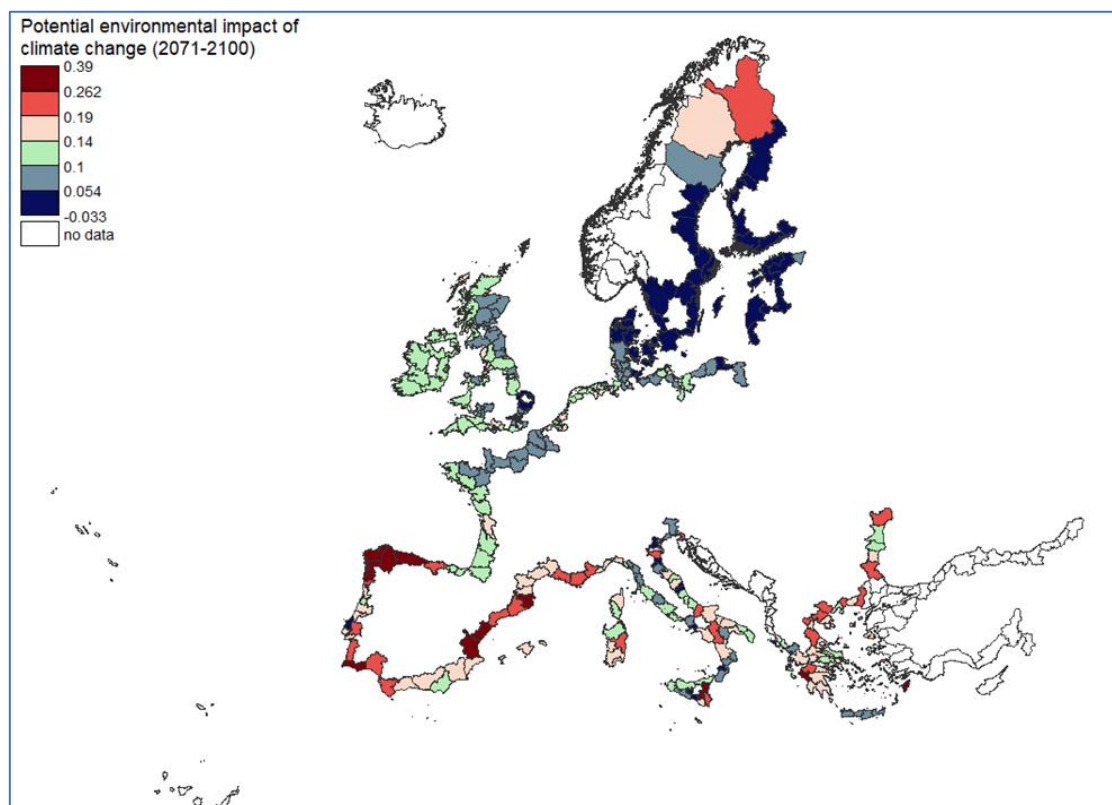


Figure 4. Map of the potential environmental impact of climate change on the coastal regions at NUTS3 level.

POTENTIAL ENVIRONMENTAL IMPACT OF CC			
NUTS3	COUNTRY	REGION	Value
EL633	EL	Ileia	0.39
PT150	PT	Algarve	0.34
ES120	ES	Asturias	0.333
ES111	ES	A Coruña	0.326
PT111	PT	Alto Minho	0.317
...	...	...	...
SE110	SE	Stockholms län	0
SE214	SE	Gotlands län	-0.003
SE321	SE	Västernorrlands län	-0.012
FI196	FI	Satakunta	-0.017
FI195	FI	Pohjanmaa	-0.033

Table 1. Maximum and minimum values of the dataset of potential environmental impact of CC in the coastal region. Where the higher the value, the higher the impact.

B. Percentage of coast regarding the perimeter of the region

Definition: Percentage of coastline in comparison with the total perimeter of the NUTS3 region, under the 2021 NUT version.

Methodology: Obtained only the coastal regions of the European Union (EU) at NUTS3 level, the lines corresponding to the coastline were split using GIS processes. Then, the distance of the coastline in meters for each region, was compared with the perimeter of the given region in meters. As a result, the percentage was obtained.

Release date: 2021.

Source: Own elaboration using the data published in [NUTS - GISCO - Eurostat \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

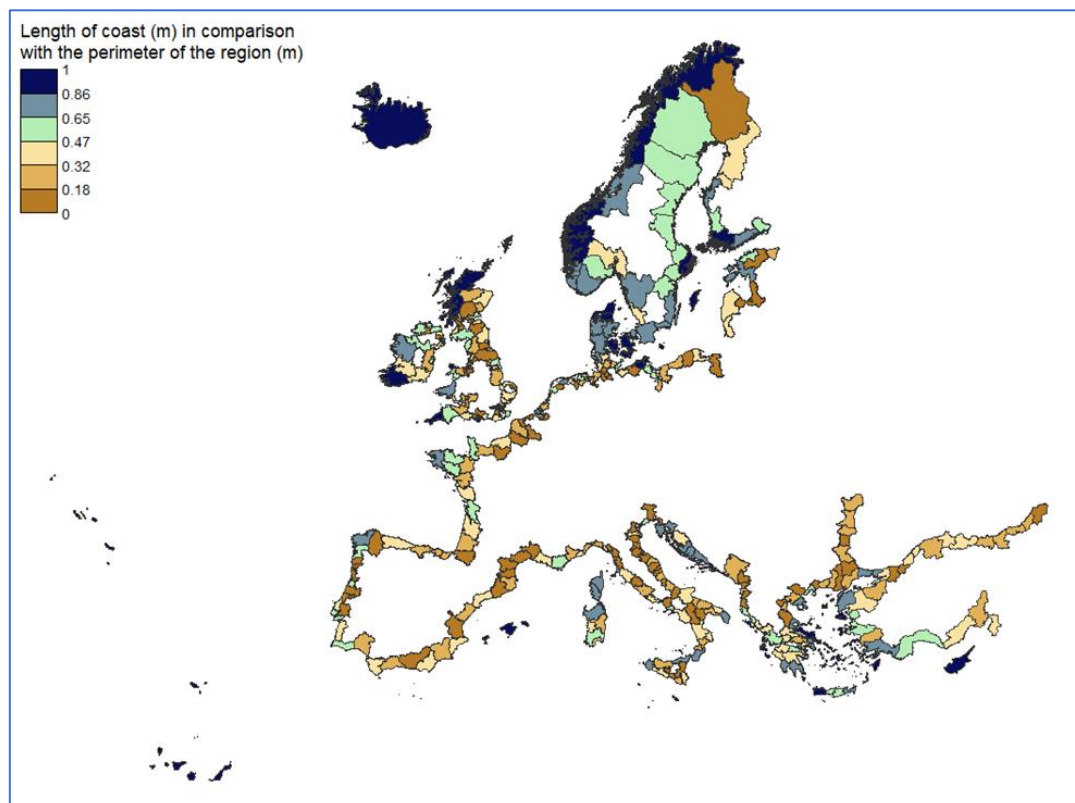


Figure 5. Map of the percentage of coast regarding the perimeter of the region at NUTS3 level.

PERCENTAGE OF COAST REGARDING THE PERIMETER OF THE REGION			
NUTS3	COUNTRY	REGION	Value
ES706	ES	La Gomera	1
CY000	CY	Kýpros	1
ES707	ES	La Palma	1
ES708	ES	Lanzarote	1
ES709	ES	Tenerife	1
...	...	...	...
BE211	BE	Arr. Antwerpen	0.026
EL521	EL	Imathia	0.025
PT185	PT	Lezíria do Tejo	0.02
UKJ46	UK	West Kent	0.01
BE236	BE	Arr. Sint-Niklaas	0.005

Table 2. Maximum and minimum values of the dataset of the percentage of coast regarding the perimeter of the region at NUTS3 level. Where 1 means that the total perimeter is coastline (in the islands); and close to 0 means that the coastline is minimal.

C. Percentage of employment corresponding to the fishery sector (NUTS2)

Definition: Employment in Fisheries, 2009.

Methodology: Employment in fisheries is presented for all EU28+4 coastal regions as a percentage of total employment. The values are grouped into five classes, ranging from 0.22-0.52% up to 1.20-8.27%. The data for fisheries includes employees working in Fishing and aquaculture (marine and freshwater), Processing and preserving of fish etc., Production of oils and fat, Manufacture of prepared meals and dishes, Manufacture of cordage, rope, twine and netting, Manufacture of machinery for food, beverage and tobacco processing, Repair of other equipment, Wholesale of other food, included fish, crustaceans and molluscs, Retail sale of fish, crustaceans and molluscs in specialised stores, Technical testing and analyses, Research and experimental development on natural sciences and engineering.

Release date: 2009.

Source: Own elaboration through visual interpretation from the figure published in [Employment in Fisheries, 2009 | Map Finder \(espon.eu\)](#). Values of this database were normalized in order to a better performance in the analysis.

Comments: Note that the values are the same for every NUTS3 region under the same NUTS2 region, since the maximum accuracy of this database was NUTS2.

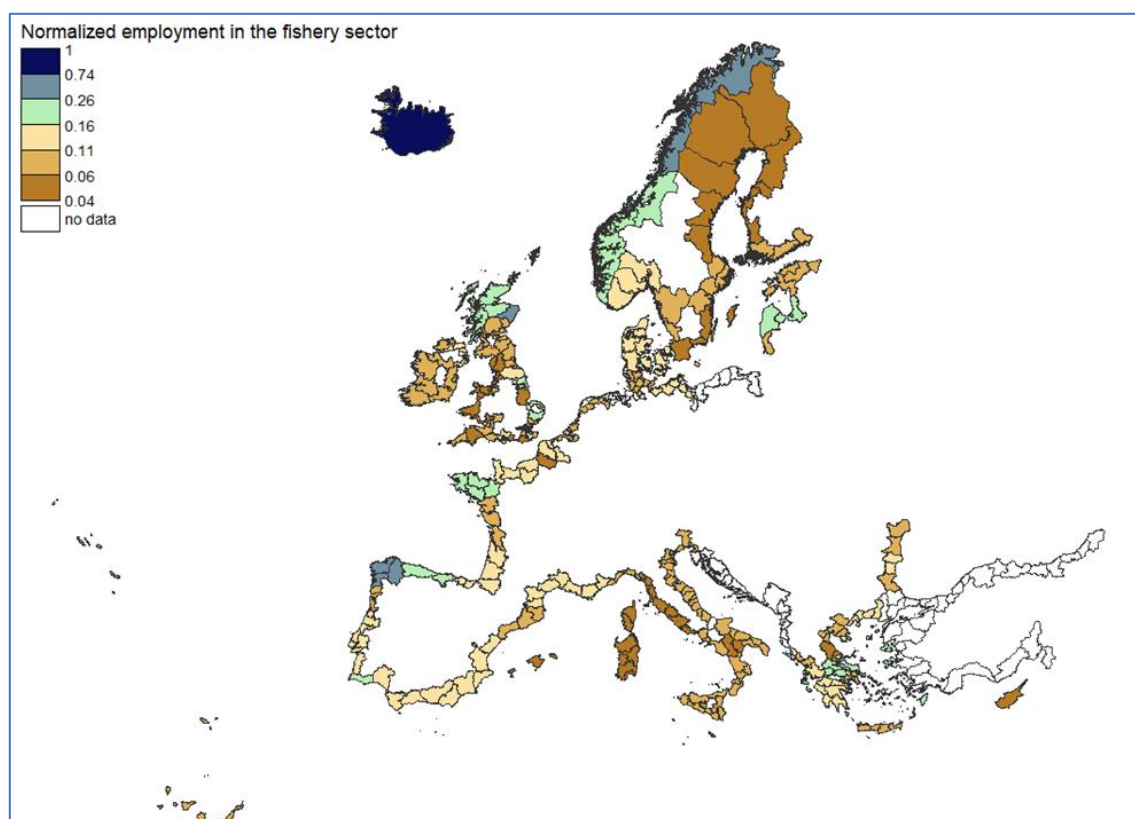


Figure 6. Map of the percentage of employment normalized corresponding to the fishery sector (NUTS2).

PERCENTAGE OF EMPLOYMENT CORRESPONDING TO THE FISHERY SECTOR (NUT2) - normalized			
NUTS3	COUNTRY	REGION	Value
IS002	IS	Landsbyggð	1
IS001	IS	Höfuðborgarsvæði	1
UKM50	UK	Aberdeen City and Aberdeenshire	0.47
ES111	ES	A Coruña	0.458
ES114	ES	Pontevedra	0.458
...	...	...	...
IT117	IT	Pisa	0.043
FI1D7	FI	Lappi	0.043
UKD47	UK	Chorley and West Lancashire	0.043
IT111	IT	Massa-Carrara	0.043
ITF51	IT	Potenza	0.043

Table 3. Maximum and minimum values of the dataset of the percentage of employment normalized corresponding to the fishery sector (NUTS2). Where each value corresponds to the comparison of the percentage of each given region to the region with the maximum percentage.

D. Percentage of the coast included as Marine Protected Area

Definition: Percentage of the coastline of each NUTS3, which is included in a buffer of 1 km around the Marine Protected Areas.

Methodology: Having the coastline for each NUTS3 region version 2021, a buffer of 1 km was applied in the Marine Protected Areas. The coastline included in this buffer was considered as a coast under protection status. Finally, the percentage of protected coast in comparison with the coastline of each region was obtained. The Marine Protected Areas are those established under the framework of the EU Nature directives (Natura 2000), Nationally designated areas (Common Database on Designated Areas -CDDA-), and the Regional Sea Conventions (RSC) as reported in the respective official spatial and tabular databases.

Release date: 2022.

Source: Own elaboration through the data published in [EEA geospatial data catalogue \(europa.eu\)](https://europea.europa.eu)

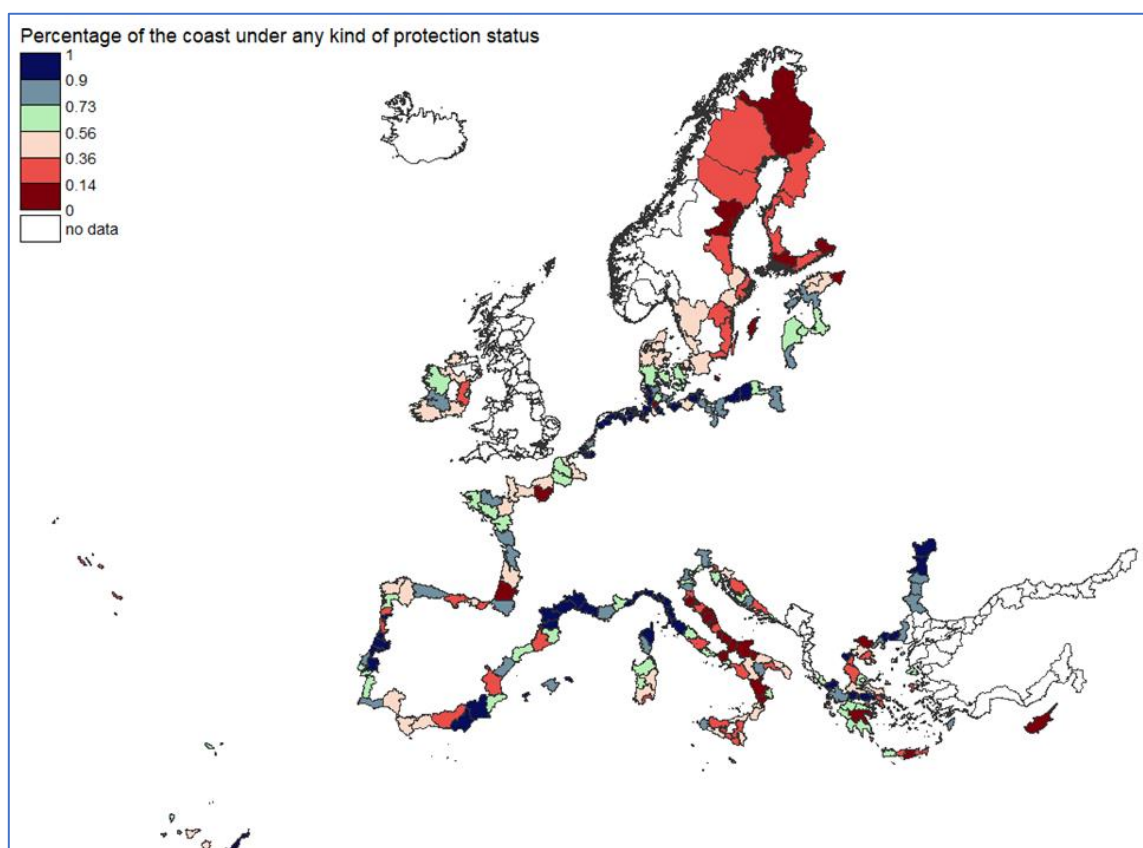


Figure 7. Map of the percentage of the coast included as Marine Protected Area for each NUTS3 region.

PERCENTAGE OF THE COAST INCLUDED AS MARINE PROTECTED AREA			
NUTS3	COUNTRY	REGION	Value
DE947	DE	Aurich	1
DE94A	DE	Friesland (DE)	1
DE94H	DE	Wittmund	1
PL426	PL	Koszaliński	1
DE94C	DE	Leer	1
...	...	...	...
NL323	NL	IJmond	0
NL324	NL	Agglomeratie Haarlem	0
EL302	EL	Dytikos Tomeas Athinon	0
ITI35	IT	Fermo	0
ITI33	IT	Macerata	0

Table 4. Maximum and minimum values of the dataset for the percentage of coastline included as a Marine Protected Area for each NUTS3 region. Where 1 means that all of the coastline is protected and 0 means that none of the coastline is protected.

E. Adaptive capacity to climate change

Definition: Combination of economic, infrastructural, technological, institutional capacity and knowledge and awareness of climate change.

Methodology: Weighted combination of economic capacity (weight 0.21), infrastructure capacity (0.16), technological capacity (0.23), knowledge and awareness (0.23) and institutional capacity (0.17). Weights are based on a Delphi survey of the ESPON Monitoring Committee.

Release date: 2005.

Source: [Indicator: Adaptive capacity to climate change](#) | [ESPON Database Portal](#)

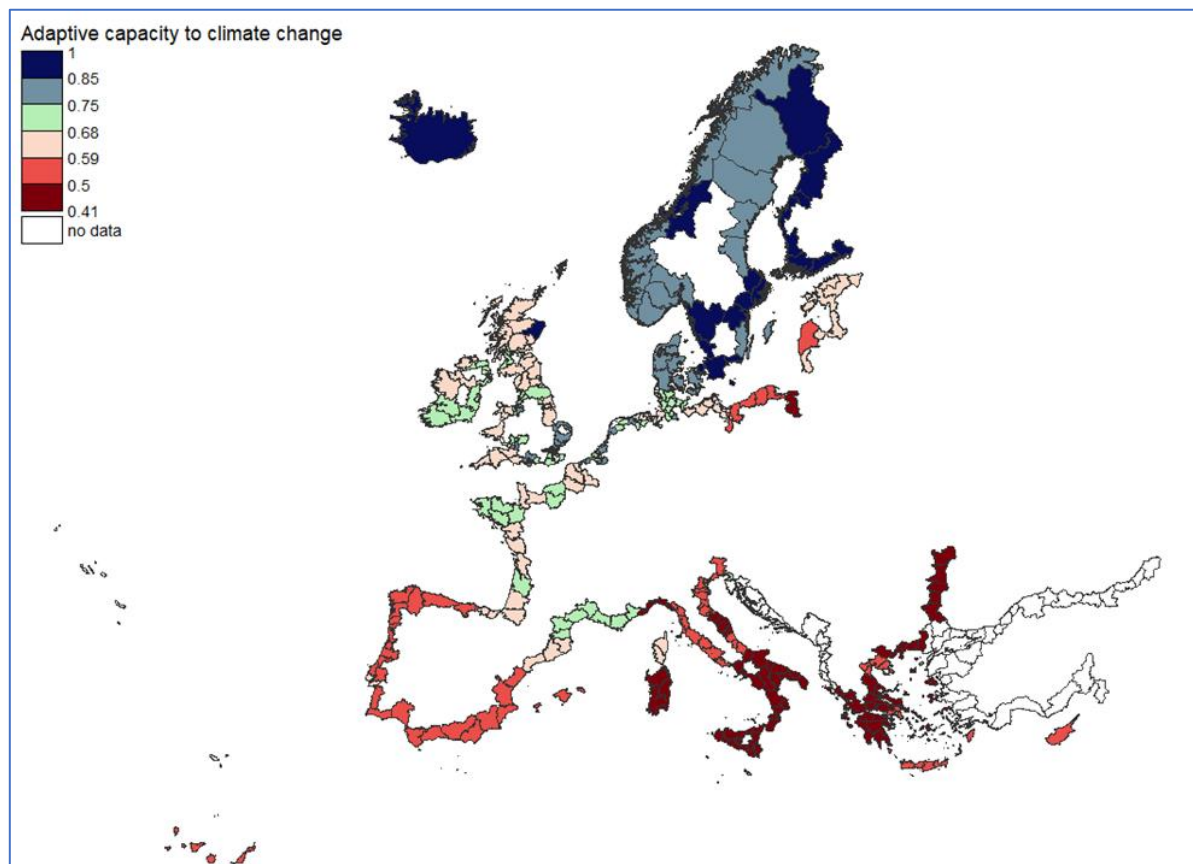


Figure 8. Map of the percentage of the adaptive capacity to climate change on the coastal regions, for each NUTS3 region.

ADAPTIVE CAPACITY TO CC			
NUTS3	COUNTRY	REGION	Value
DK011	DK	Byen København	1
DK012	DK	Københavns omegn	0.982
DK013	DK	Nordsjælland	0.971
SE110	SE	Stockholms län	0.959
DK014	DK	Bornholm	0.957
...	...	...	...
ITF63	IT	Catanzaro	0.423
ITF65	IT	Reggio di Calabria	0.42
ITF61	IT	Cosenza	0.42
ITF64	IT	Vibo Valentia	0.418
EL645	EL	Fokida	0.409

Table 5. Maximum and minimum values of the climate change adaptive capacity dataset for each NUTS3 region. The higher the value (up to 1), the higher the adaptive capacity.

F. Key biogeographic regions

Definition: Biogeographical regions.

Methodology: The biogeographical regions dataset contains the official delineations used in the Habitats Directive (92/43/EEC) and for the EMERALD Network set up under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). Biogeographical boundaries were obtained from the EU Member States and from the Emerald Network countries. These were merged together to produce a European wide map of the biogeographical regions independent of political boundaries. A number of the regions were updated during the work under Article 17 of the Habitats Directive (92/43/EEC) and in 2010 the Standing Committee to the Bern Convention adopted a number of changes according to progress in the setting-up of the Emerald Network.

Release date: 2023.

Source: [Biogeographical regions \(europa.eu\)](https://europea.eu)

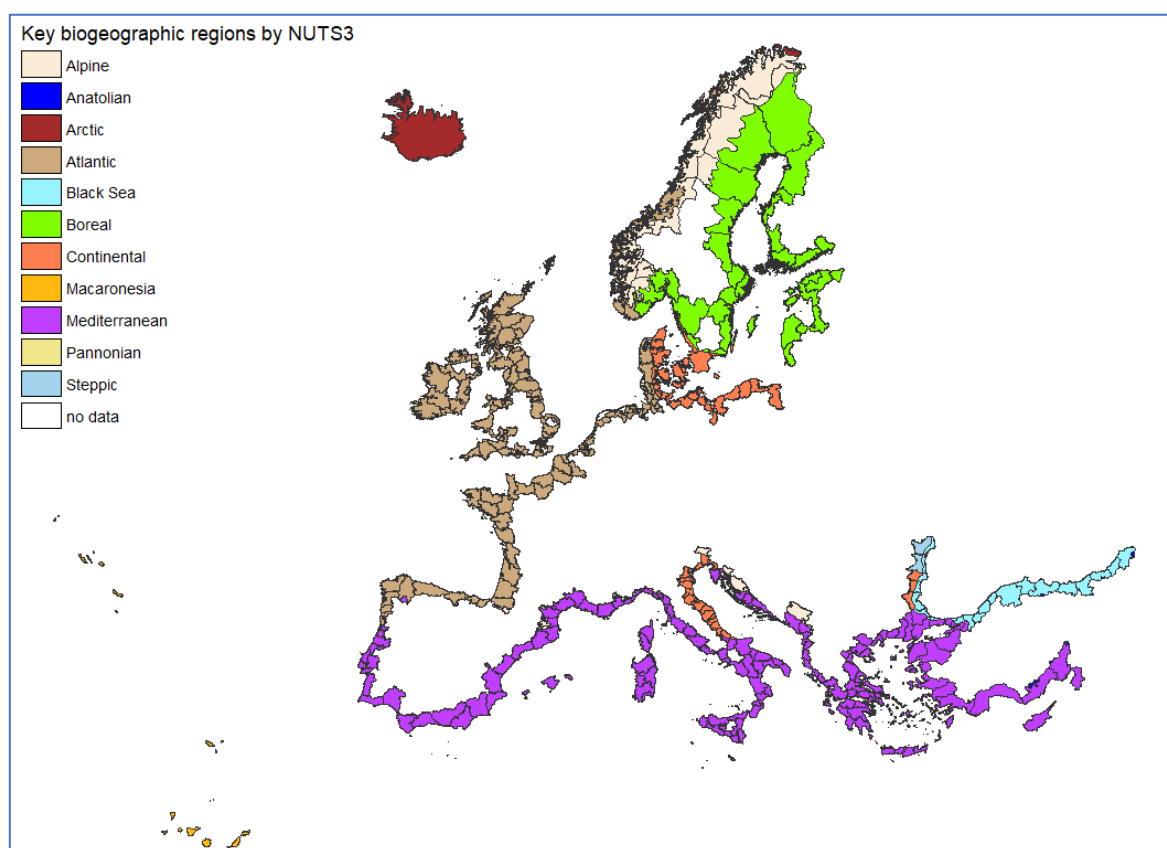


Figure 9. Map of the Key Biogeographic regions in the coast at NUTS3 level.

3.2.2. Agriculture

A. Potential environmental impact of climate change

Definition: Potential impact of changes in summer and winter precipitation, annual mean temperature and annual mean evaporation on the environment.

Methodology: Impact calculated as a combination of regional exposure to climatic changes and recent data on regional sensitivity. Climatic changes derived from comparison of 1961-1990 and 2071-2100 climate projections from the CCLM model for the IPCC SRES A1B scenario.

Release date: 2006.

Source: [Indicator: Potential environmental impact of climate change](#) | [ESPON Database Portal](#)

It was obtained from the mean of four sub-datasets:

- Potential impact of climate change on soil organic carbon content: Potential impact of changes in summer and winter precipitation, annual mean temperature and annual mean evaporation on soil organic carbon content.
- Potential impact of changes in heavy rainfall on soil erosion: Potential impact of changes in heavy rainfall days on soil erosion-sensitive areas.
- Potential impact of climate change on Natura 2000 protected areas: Potential impact of changes in summer and winter precipitation, heavy rainfall days, annual mean temperature, summer days, frost days, snow cover days and annual mean evaporation on Natura 2000 protected areas.
- Potential impact of climate change on forest fires: Potential impact of changes in summer days and summer precipitation on forests prone to fire.

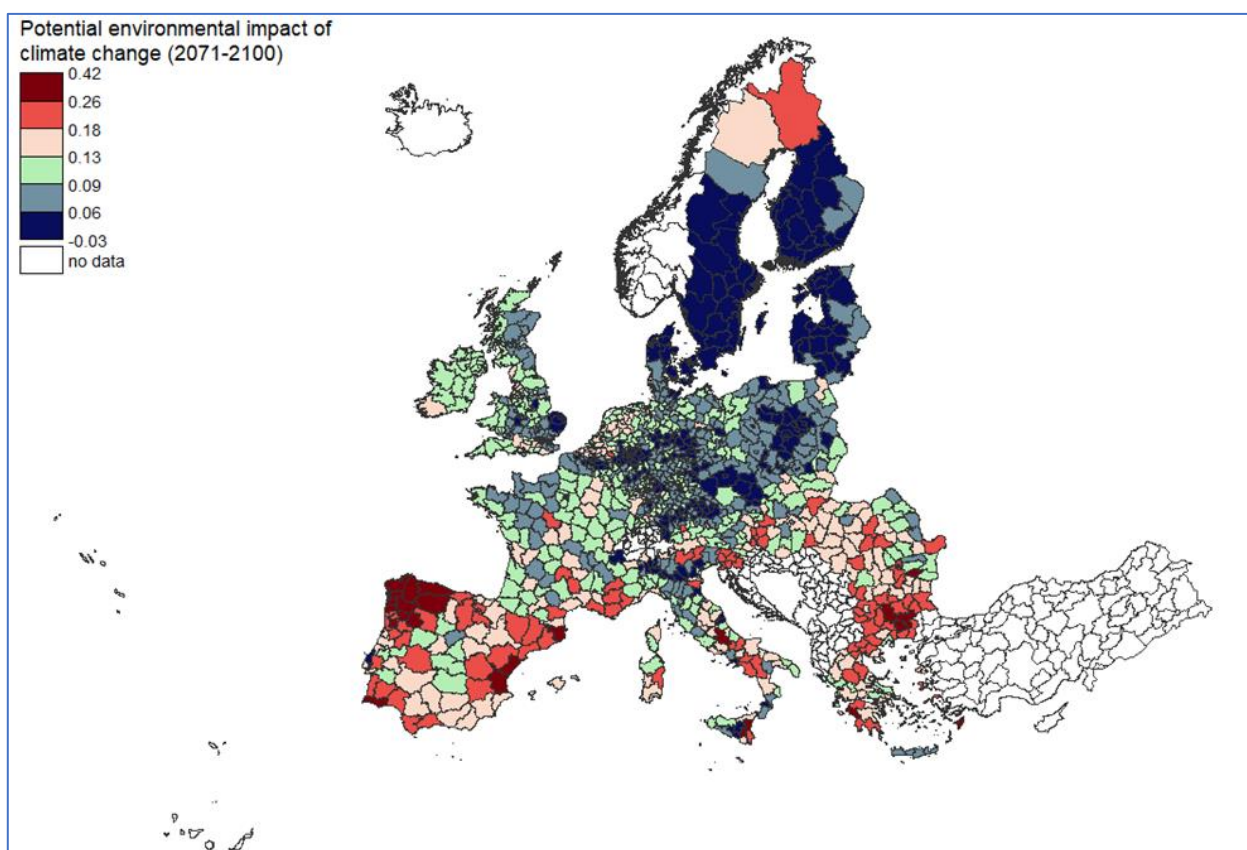


Figure 10. Map of the potential environmental impact of climate change at NUTS3 level regions.

POTENTIAL ENVIRONMENTAL IMPACT OF CC			
NUTS3	COUNTRY	REGION	Value
ES113	ES	Ourense	0.421
EL633	EL	Ileia	0.39
ES413	ES	León	0.376
PT150	PT	Algarve	0.34
ES120	ES	Asturias	0.333
...	...	...	...
FI194	FI	Etelä-Pohjanmaa	-0.001
SE214	SE	Gotlands län	-0.003
SE321	SE	Västernorrlands län	-0.012
FI196	FI	Satakunta	-0.017
FI195	FI	Pohjanmaa	-0.033

Table 6. Maximum and minimum values of the dataset of potential environmental impact of CC. The higher the value, the higher the impact.

B. Potential economic impact of climate change on agriculture and forestry

Definition: Potential impact of climate change on agriculture and forestry.

Methodology: Impact calculated as combination of regional exposure to climatic changes and recent data on regional sensitivity. Climatic changes derived from comparison of 1961-1990 and 2071-2100 climate projections from CCLM model for the IPCC SRES A1B scenario.

Release date: 2006.

Source: [Indicator: Potential impact of climate change on agriculture and forestry | ESPON Database Portal](#)

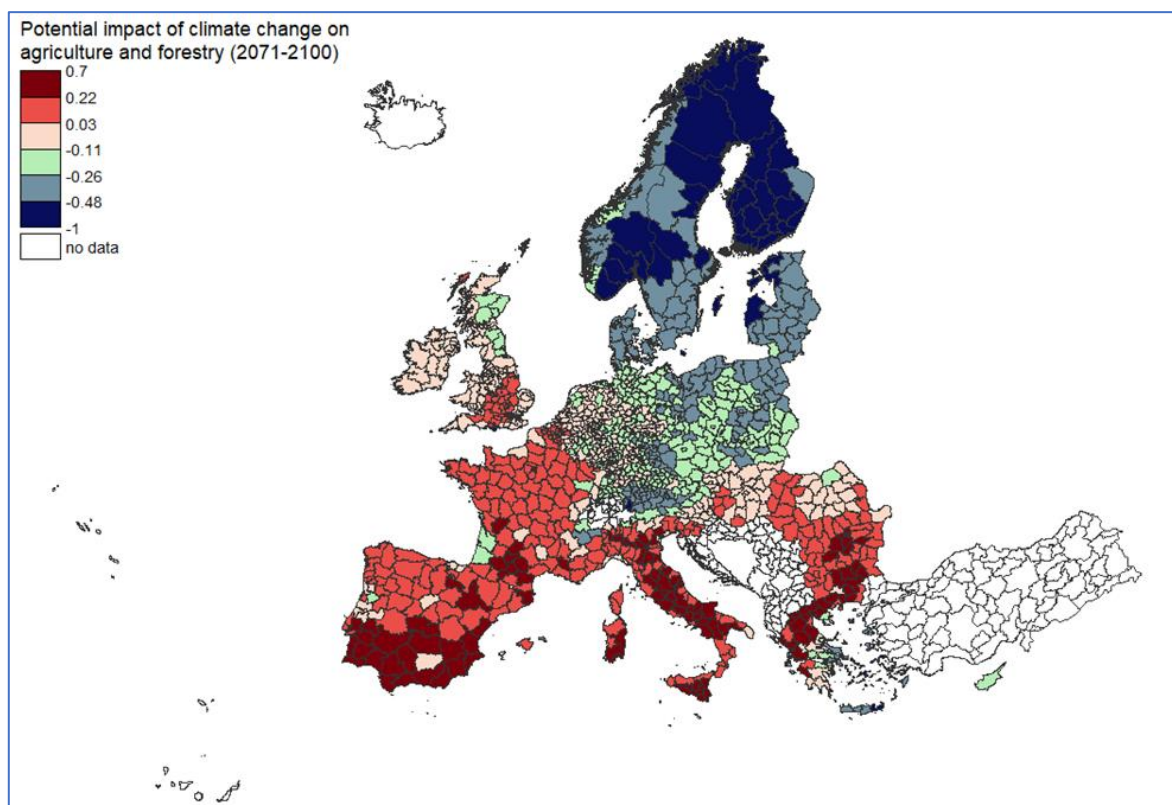


Figure 11. Map of the potential economic impact of climate change on agriculture and forestry at NUTS3 level regions.

POTENTIAL ECONOMIC IMPACT OF CC ON AGRICULTURE AND FORESTRY			
NUTS3	COUNTRY	REGION	Value
ITG18	IT	Ragusa	0.697
EL523	EL	Kilkis	0.645
EL524	EL	Pella	0.616
ITG17	IT	Catania	0.595
EL521	EL	Imathia	0.571
...	...	...	...
FI1D5	FI	Keski-Pohjanmaa	-0.747
FI196	FI	Satakunta	-0.785
FI1D7	FI	Lappi	-0.822
FI195	FI	Pohjanmaa	-0.905
FI200	FI	Åland	-1

Table 7. Maximum and minimum values of the dataset of potential economic impact of climate change on agriculture and forestry at NUTS3 level regions. The higher the value, the higher the negative impact, being the values under zero considered as positive impact.

C. Percentage of agricultural lands

Definition: Percentage share of agricultural areas in 2018.

Methodology: Percentage share of agricultural areas per NUTS3 region in 2018 Corine classes: agriculture: all 200 (211, 212, 213, 221, 222, 223, 231, 241, 242, 243, 244).

Release date: 2018.

Source: [Indicator: Percentage share of agricultural areas in 2018](#) | [ESPON Database Portal](#)

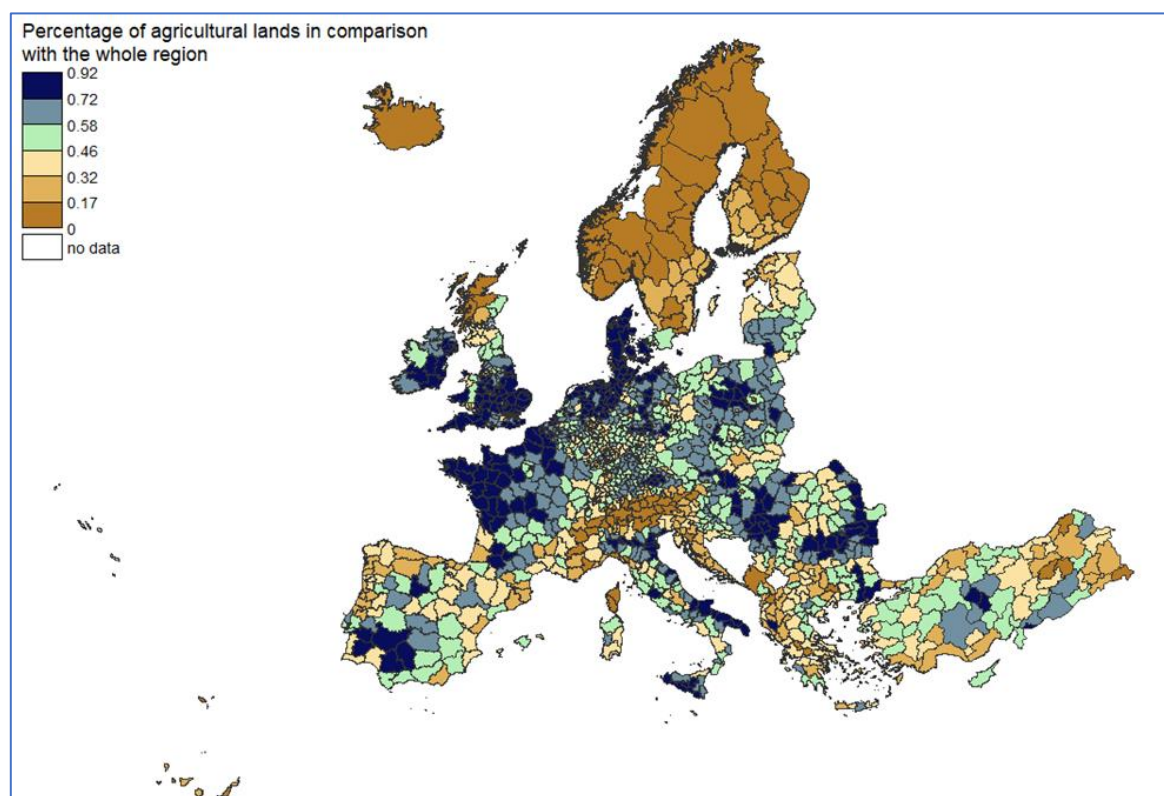


Figure 12. Map of the percentage of agricultural lands at NUTS3 regions.

PERCENTAGE OF AGRICULTURAL LANDS			
NUTS3	COUNTRY	REGION	Value
UKN07	UK	Armagh City, Banbridge and Craigavon	0.917
ITF44	IT	Brindisi	0.915
UKF30	UK	Lincolnshire	0.914
ITH56	IT	Ferrara	0.913
BE252	BE	Arr. Diksmuide	0.911
...	...	...	...
UKI31	UK	Camden and City of London	0
UKI32	UK	Westminster	0
UKI33	UK	Kensington & Chelsea and Hammersmith & Fulham	0
UKI34	UK	Wandsworth	0
FR105	FR	Hauts-de-Seine	0

Table 8. Maximum and minimum values of the dataset of percentage of agricultural lands at NUTS3 level regions. The higher the value, the higher the percentage.

D. Percentage of GDP corresponding to the agricultural sector (NUTS2)

Definition: Ratio between the agricultural production and the total Gross domestic product (GDP) of a given NUTS2 region.

Methodology: On the one hand, the GDP at current market prices by NUTS 2 regions is obtained; on the other hand, the output of the agricultural industry, which means the total number of hours worked in agriculture during the calendar year (in millions of €). This last dataset is obtained from the Economic accounts for agriculture by NUTS 2 regions. Once obtained the ratio, the values were normalized to a better performance in the analysis.

Release date: from 2010 to 2021 depending on data availability.

Source: Own elaboration through data obtained from [Statistics | Eurostat \(europa.eu\)](#) and [Statistics | Eurostat \(europa.eu\)](#)

Note that the values are the same for every NUTS3 region under the same NUTS2 region, since the maximum accuracy of this database was NUTS2.

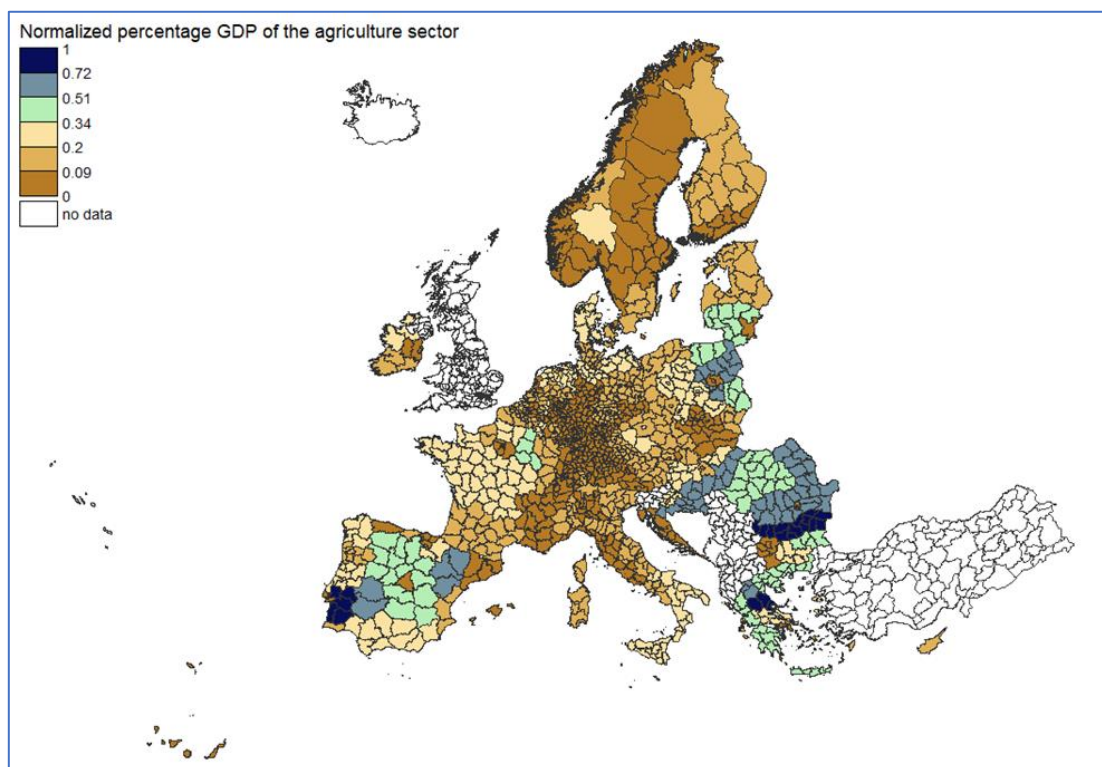


Figure 13. Map of the percentage of GDP corresponding to the agricultural sector (NUTS2) normalized.

PERCENTAGE OF GDP CORRESPONDING TO THE AGRICULTURAL SECTOR (NUT2) - normalized			
NUTS3	COUNTRY	REGION	Value
BG315	BG	Lovech	1
BG311	BG	Vidin	1
BG312	BG	Montana	1
BG313	BG	Vratsa	1
BG314	BG	Pleven	1
...	...	...	...
DE300	DE	Berlin	0
PL911	PL	Miasto Warszawa	0
ES640	ES	Melilla	0
PL912	PL	Warszawski wschodni	0
PL913	PL	Warszawski zachodni	0

Table 9. Maximum and minimum values of the dataset of percentage of GDP corresponding to the agricultural sector (NUTS2) normalized. Each value corresponds to the comparison of the ratio of each given region to the region with the maximum ratio.

E. Percentage of protected areas

Definition: Share of protected areas in NUTS3 regions.

Methodology: Share of NUTS3 containing protected area according to the World Database on Protected Areas (WDPA).

Release date: 2019.

Source: [Indicator: Share of protected areas in NUTS3 regions](#) | [ESPON Database Portal](#)

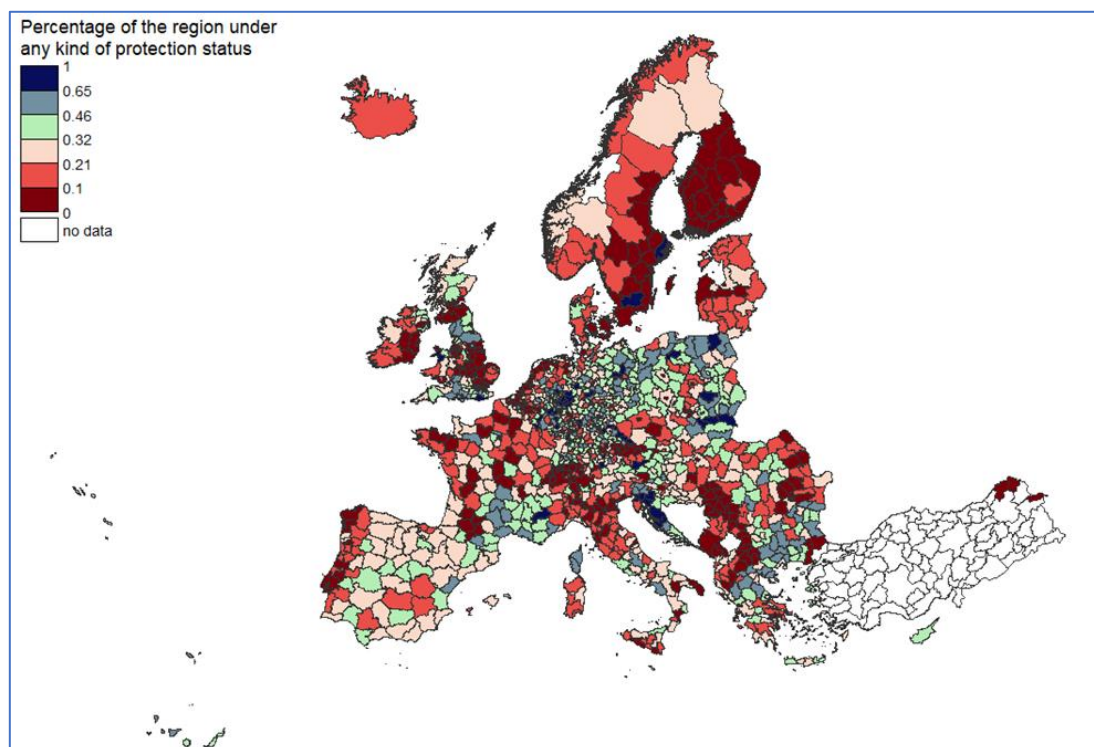


Figure 14. Map of the percentage of protected areas by NUTS3 regions.

PERCENTAGE OF PROTECTED AREAS			
NUTS3	COUNTRY	REGION	Value
HR033	HR	Zadarska županija	1
SE110	SE	Stockholms län	1
HR032	HR	Ličko-senjska županija	0.95
DEB12	DE	Ahrweiler	0.948
BE345	BE	Arr. Virton	0.917
...	...	...	...
TRA24	TR	Ardahan	0
RS227	RS	Podunavska oblast	0
NL111	NL	Oost-Groningen	0
FR105	FR	Hauts-de-Seine	0
FR107	FR	Val-de-Marne	0

Table 10. Maximum and minimum values of the dataset of percentage of protected areas by NUTS3 regions.

F. Adaptive capacity to climate change

Definition: Combination of economic, infrastructural, technological, institutional capacity and knowledge and awareness of climate change.

Methodology: Weighted combination of economic capacity (weight 0.21), infrastructure capacity (0.16), technological capacity (0.23), knowledge and awareness (0.23) and institutional capacity (0.17). Weights are based on a Delphi survey of the ESPON Monitoring Committee.

Release date: 2005.

Source: [Indicator: Adaptive capacity to climate change | ESPON Database Portal](#)

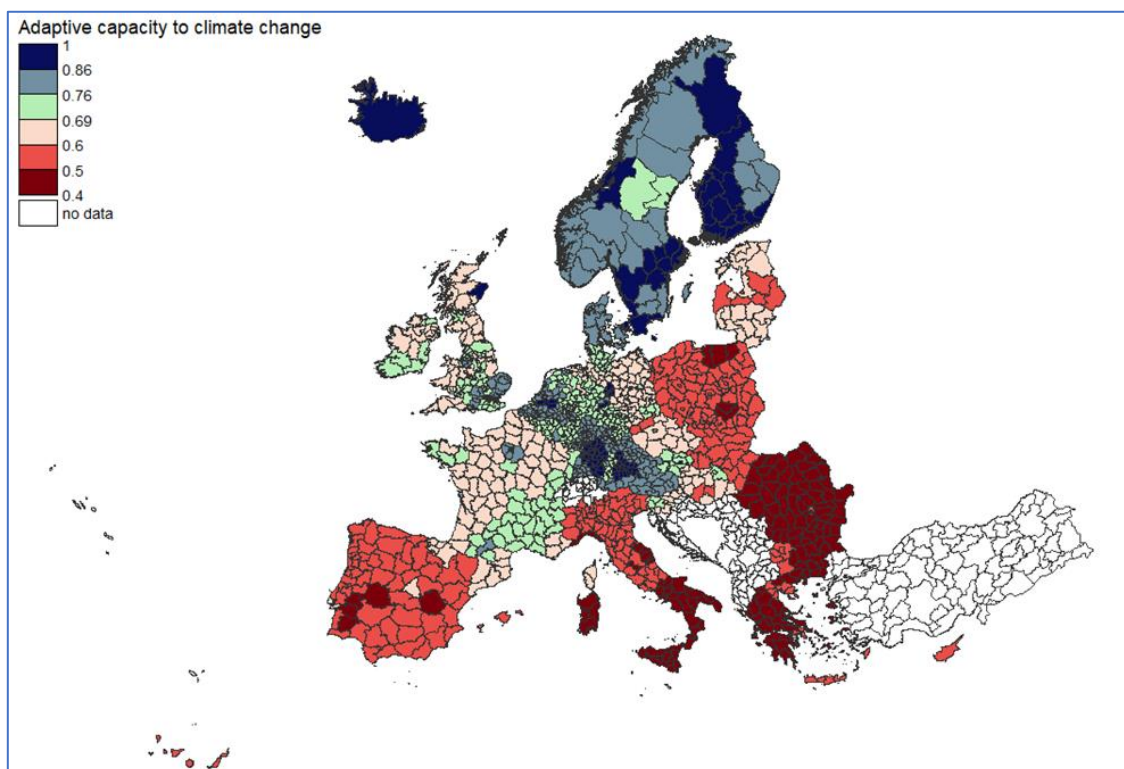


Figure 15. Map of the percentage of the adaptive capacity to climate change for each NUTS3 region.

ADAPTIVE CAPACITY TO CC			
NUTS3	COUNTRY	REGION	Value
DK011	DK	Byen København	1
DK012	DK	Københavns omegn	0.982
DE21H	DE	München, Landkreis	0.971
DK013	DK	Nordsjælland	0.971
DE111	DE	Stuttgart, Stadtkreis	0.966
...	...	...	...
ITF64	IT	Vibo Valentia	0.418
RO314	RO	Giurgiu	0.415
EL645	EL	Fokida	0.409
RO317	RO	Teleorman	0.408
EL643	EL	Evrytania	0.395

Table 11. Maximum and minimum values of the dataset of the adaptive capacity to climate change for each NUTS3 region. The higher the value, the higher the adaptive capacity.

G. Key biogeographic regions

Definition: Biogeographical regions.

Methodology: The biogeographical regions dataset contains the official delineations used in the Habitats Directive (92/43/EEC) and for the EMERALD Network set up under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). Biogeographical boundaries were obtained from the EU Member States and from the Emerald Network countries. These were merged to produce a European-wide map of the biogeographical regions independent of political boundaries. Several of the regions were updated during the work under Article 17 of the Habitats Directive (92/43/EEC) and in 2010 the Standing Committee to the Bern Convention adopted a number of changes according to progress in the setting-up of the Emerald Network.

Release date: 2023.

Source: [Biogeographical regions \(europa.eu\)](https://europa.eu/biogeographical-regions)

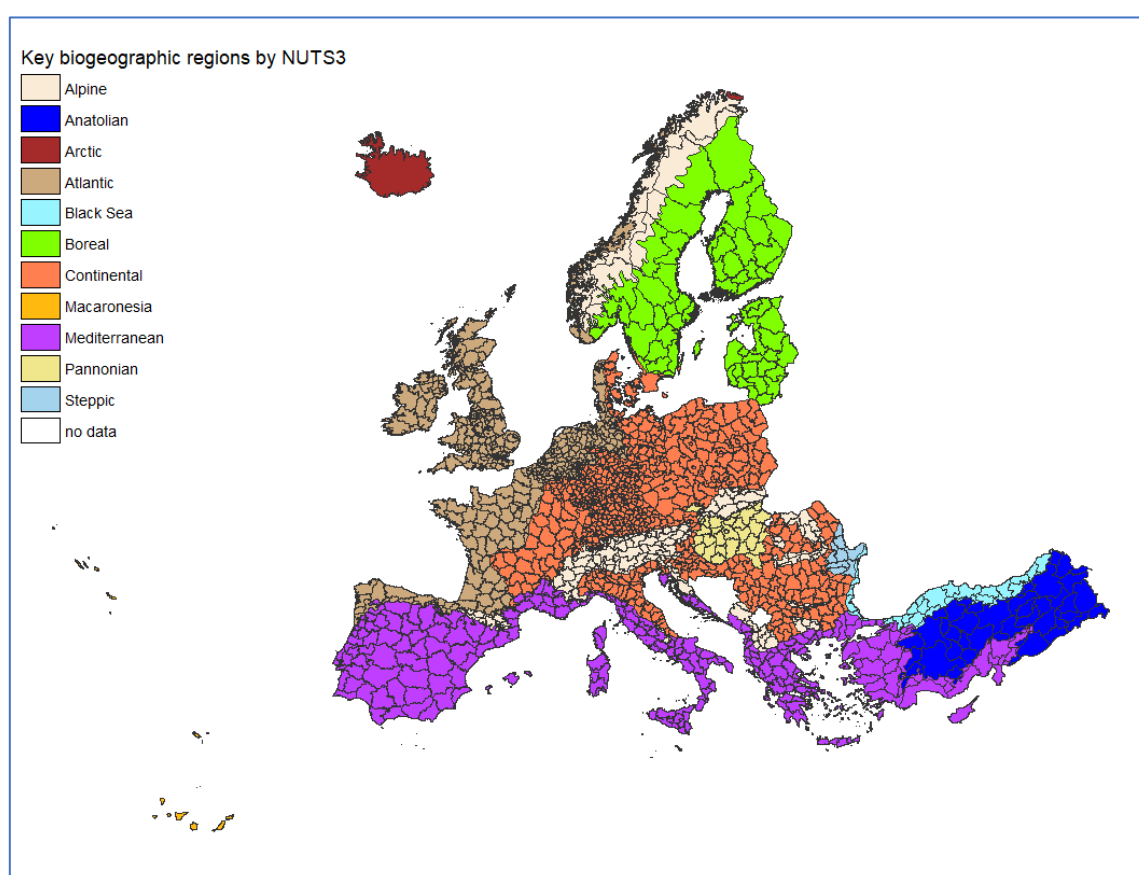


Figure 16. Map of the Key Biogeographic regions in the coast at NUTS3 level.

3.2.3.Forestry

A. Potential environmental impact of climate change

The same as presented in section 3.2.2.A.

B. Potential economic impact of climate change on agriculture and forestry

The same as presented in section 3.2.2.B.

C. Percentage of forests

Definition: Share of Forests.

Methodology: Share of Forests (Corine Land Cover nomenclature).

Release date: 2006.

Source: [Indicator: Share of Forests](#) | [ESPON Database Portal](#)

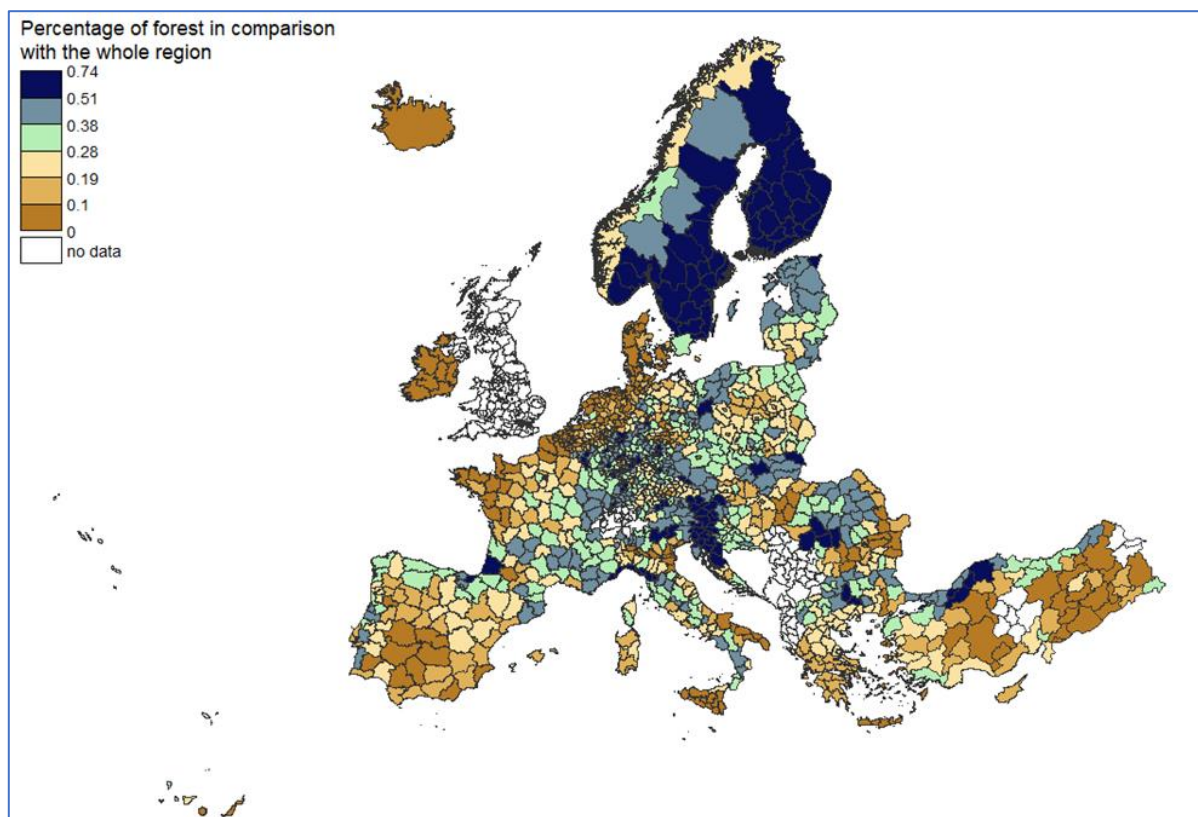


Figure 17. Map of the percentage of forests at NUTS3 regions.

PERCENTAGE OF FORESTS			
NUTS3	COUNTRY	REGION	Value
SE221	SE	Blekinge län	0.741
AT223	AT	Östliche Obersteiermark	0.72
SE212	SE	Kronobergs län	0.7
BG424	BG	Smolyan	0.696
DEG04	DE	Suhl, Kreisfreie Stadt	0.686
...	...	...	...
DE94G	DE	Wesermarsch	0.002
BE256	BE	Arr. Roeselare	0.001
ES704	ES	Fuerteventura	0.001
TRC21	TR	Şanlıurfa	0.001
ES708	ES	Lanzarote	0

Table 12. Maximum and minimum values of the dataset of percentage of forests at NUTS3 level regions. The higher the value, the higher the percentage.

D. Percentage of forests (using it as equivalence of employment in forests)

Definition: Share of Forests.

Methodology: Share of Forests (Corine Land Cover nomenclature). From this dataset, the values were normalized, to a better performance of the analysis.

Release date: 2006.

Source: [Indicator: Share of Forests | ESPON Database Portal](#)

Comments: This dataset was used since it was not possible to find any data related with the economic relevance of forestry in each region, not at NUTS2 nor NUTS3. Then, this way was the only one that was found until now, considering that the more forest in a region should mean the more forest-related industry. Although it is known that this is not true for every region. Then, limitations of this information will be considered when analysing the results. In a second version of this geospatial analysis, a better dataset concerning the economic relevance of forestry in each region will be included if found.

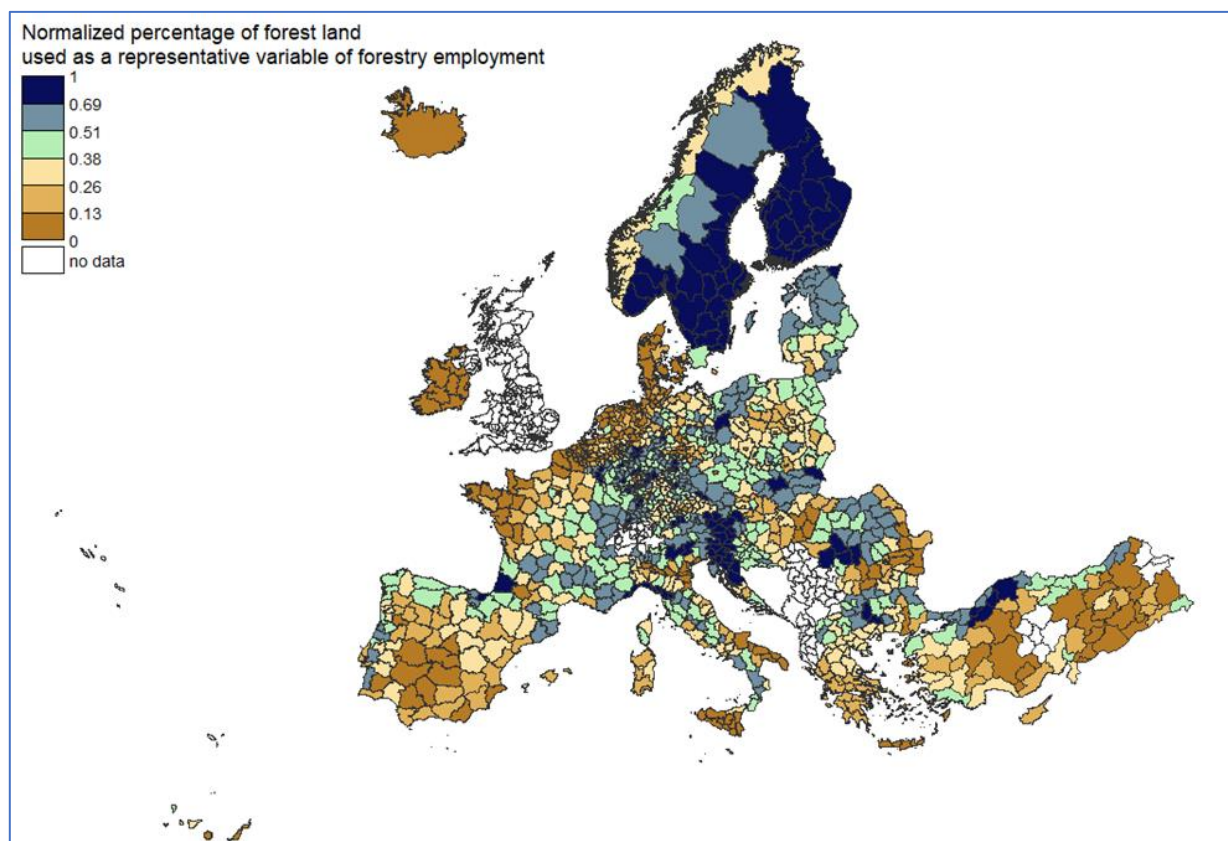


Figure 18. Map of the percentage forests normalized.

PERCENTAGE OF FORESTS (used as equivalence of forestry employment) - normalized			
NUTS3	COUNTRY	REGION	Value
SE221	SE	Blekinge län	1
AT223	AT	Östliche Obersteiermark	0.972
SE212	SE	Kronobergs län	0.944
BG424	BG	Smolyan	0.939
DEG04	DE	Suhl, Kreisfreie Stadt	0.925
...	...	...	...
DE94G	DE	Wesermarsch	0.002
BE256	BE	Arr. Roeselare	0.001
ES704	ES	Fuerteventura	0.002
TRC21	TR	Şanlıurfa	0.001
ES708	ES	Lanzarote	0.001

Table 13. Maximum and minimum values of the dataset of percentage of forests. Where each value corresponds to the comparison of the ratio of each given region to the region with the maximum ratio.

E. Percentage of protected areas

The same as presented in section 3.2.2.E.

F. Adaptive capacity to climate change

The same as presented in section 3.2.2.F.

G. Key Biogeographic Regions

The same as presented in section 3.2.2.G.

3.3. Results and interpretation

3.3.1. Fishery

The results of the geospatial analysis for the fisheries sector are as follows:

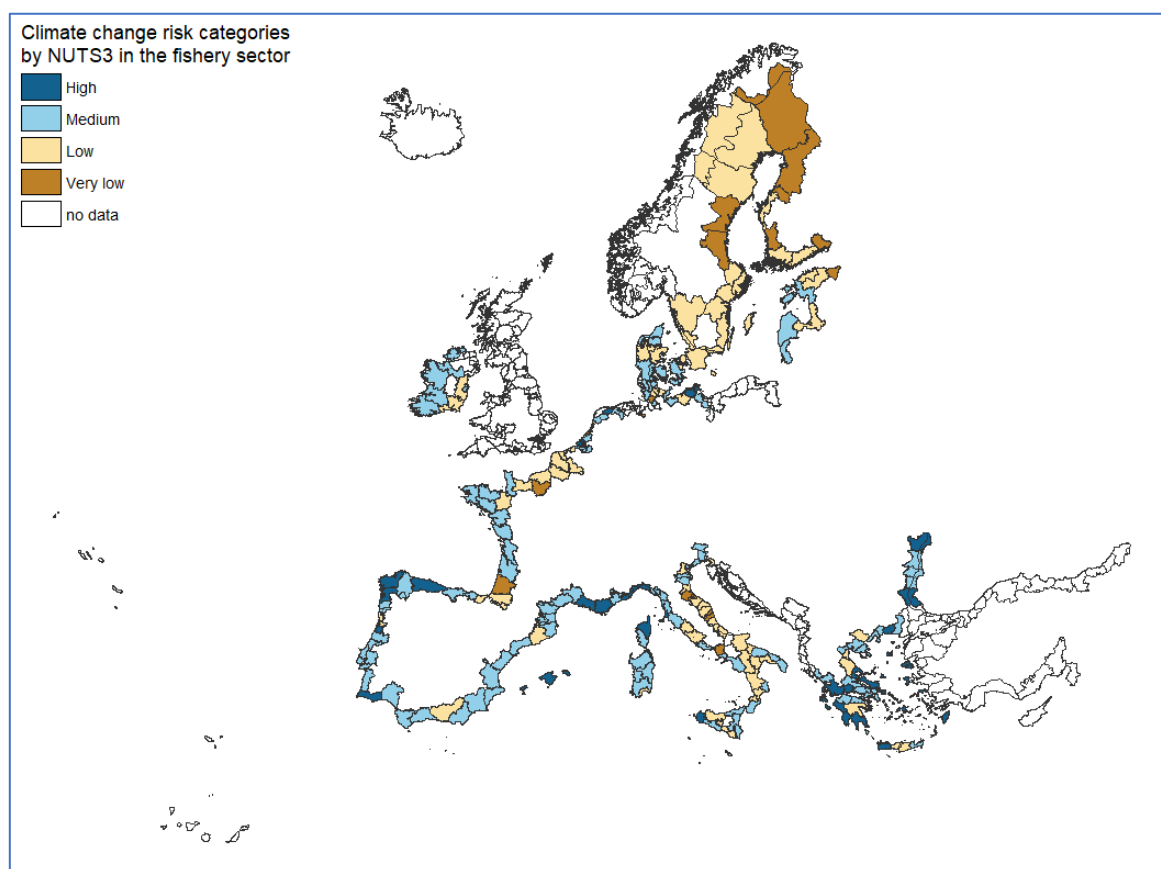


Figure 19. Map of CC risk categorized for the Fishery sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

CC RISK IN THE FISHERY SECTOR BY KEY BIOREGION					
NUTS3	COUNTRY	REGION	Value	Category	BIOREGION
EL421	EL	Kalymnos, Karpathos, Kasos, Kos, Rodos	0.325	High	Mediterranean
ES111	ES	A Coruña	0.308	High	Atlantic
PT150	PT	Algarve	0.304	High	Mediterranean
EL621	EL	Zakynthos	0.295	High	Mediterranean
EL624	EL	Lefkada	0.294	High	Mediterranean
...	...	...	...	...	...
FRD21	FR	Eure	-0.04	Very low	Atlantic
FI1D5	FI	Keski-Pohjanmaa	-0.046	Very low	Boreal
DEF02	DE	Kiel, Kreisfreie Stadt	-0.054	Very low	Continental
DEF0E	DE	Steinburg	-0.055	Very low	Atlantic
DK012	DK	København omegn	-0.063	Very low	Continental

Table 14. Maximum and minimum values of the CC risk categorized for the Fishery sector at NUTS3 level. High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

As it was mentioned in the methodology, different variables were considered when obtaining the CC risk in the fishery sector. In this sense, these variables are directly related with the obtained output. Looking at Figure 19, most of the regions with higher risk are in Southern Europe, including Atlantic, Mediterranean and Black Sea regions. Having in mind that these regions are the ones more affected by the climate change impact and with the lower climate change adaptive capacity, it makes sense. While the economic impact of fishery varies across these areas, it is particularly significant in Northern Spain and Central Greece. Nevertheless, it is because of the percentage of protected areas that the risk increases. Then, the coast corresponding to Northern Spain, Southern Portugal, Southern France, Northern Italy, Balearic Islands, Sardinia, Corsica, Bulgaria and Romania seem areas to put interest on them.

Focusing on the rest of Europe, one region situated in the Netherlands and two more in Germany call for attention. Same as before, the combination of the variables results in values to put interest on them. Also, with less importance, but still relevant for being Northern Europe, some regions in Estonia, Atlantic France and Ireland are highlighted.

Once this geospatial analysis is completed, the results can be used to select case studies. This is not only to select the regions with the highest risk of CC in each sector, in this case the fishing sector, but also to select cases in different biogeographic regions that can serve as pilot studies for other regions. In this sense, we are focusing our efforts on covering regions with high and medium risk, but there is also a limitation due to the level of interest of local institutions in participating in the project. Therefore, regions with lower risks are being included if other criteria are met.

3.3.2. Agriculture

The results of the geospatial analysis for the agricultural sector are as follows:

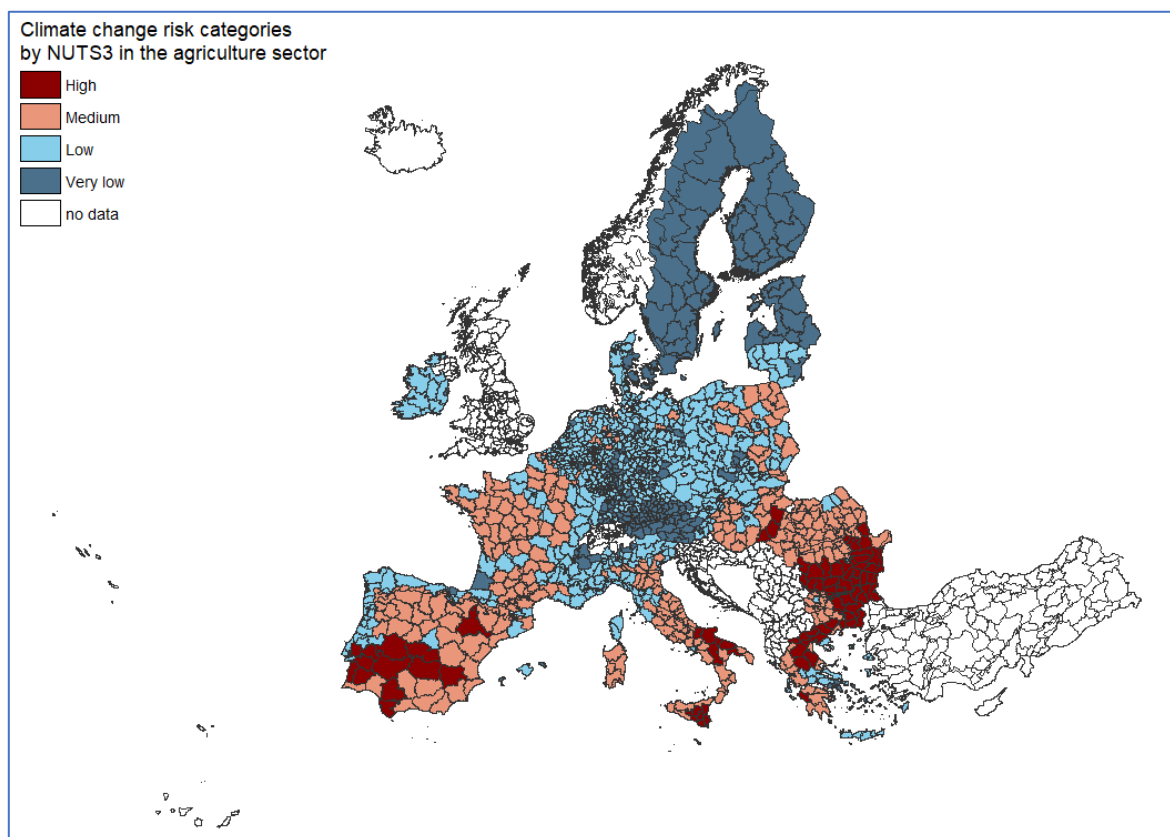


Figure 20. Map of CC risk categorized for the Agriculture sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

CC RISK IN THE AGRICULTURE SECTOR BY KEY BIOREGION					
NUTS3	COUNTRY	REGION	Value	Category	BIOREGION
BG325	BG	Silistra	0.361	High	Continental
BG325	BG	Silistra	0.361	High	Steppic
BG323	BG	Ruse	0.359	High	Continental
PT184	PT	Baixo Alentejo	0.354	High	Mediterranean
BG314	BG	Pleven	0.323	High	Continental
...	...	...	...	...	...
FI196	FI	Satakunta	-0.235	Very low	Boreal
FI1D9	FI	Pohjois-Pohjanmaa	-0.241	Very low	Boreal
FI1D5	FI	Keski-Pohjanmaa	-0.242	Very low	Boreal
FI195	FI	Pohjanmaa	-0.269	Very low	Boreal
FI200	FI	Å...land	-0.272	Very low	Boreal

Table 15. Maximum and minimum values of the CC risk categorized for the Agriculture sector at NUTS3 level. High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

Looking at Figure 20, most of the regions with higher risk in the agricultural sector are in Southern Europe, including in the Mediterranean, Continental, Black Sea and Steppe biogeographic regions. Same as in the previous sector, having in mind that Southern Europe is the most affected by the climate change impact and with the lowest climate change adaptive capacity, it makes sense. Even more when the dataset focused on the impact on forestry and agriculture completely highlights this area. Also, countries such as Spain, Portugal, Romania, Greece, Romania, Bulgaria, Hungary and Poland stand out as countries where the agricultural sector is key. As a result, these already mentioned countries, adding France and Italy, are the ones with the highest risk. These last two countries are important also because agriculture areas are large there. Not to mention the regions with a high percentage of protected areas that, of course, are considered too.

Focusing on the rest of Europe, included as medium risk regions, several are distributed along Germany, the Netherlands, Belgium, Austria and Slovakia. As before, the combination of the variables results in values to focus on. It is worth mentioning that the Atlantic biogeographic region is also included here.

Once this geospatial analysis is completed, the results can be used to select case studies. This is not only to select the regions with the highest risk of CC in the agriculture sector, but also to select cases in different biogeographic regions that can serve as pilot studies for other regions. In this sense, we are focusing our efforts on covering regions with high and medium risk, but there is also a limitation due to the level of interest of local institutions in participating in the project. Therefore, regions with lower risks are being included if other criteria are met.

3.3.3. Forestry

The results of the geospatial analysis for the forestry sector are as follows:

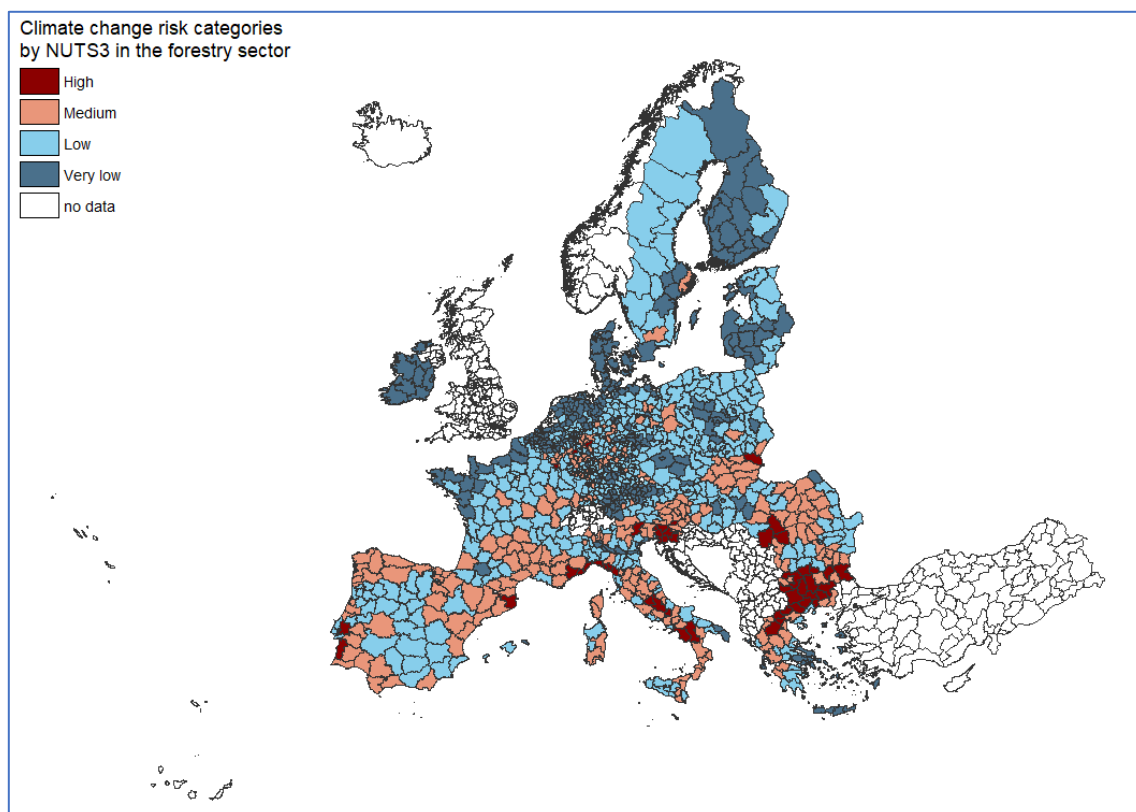


Figure 21. Map of CC risk categorized for the Forestry sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

CC RISK IN THE FORESTRY SECTOR BY KEY BIOREGION					
NUTS3	COUNTRY	REGION	Value	Category	BIOREGION
SI038	SI	Primorsko-notranjska	0.324	High	Alpine
SI038	SI	Primorsko-notranjska	0.324	High	Continental
SI038	SI	Primorsko-notranjska	0.324	High	Mediterranean
SI037	SI	Jugovzhodna Slovenija	0.301	High	Alpine
SI037	SI	Jugovzhodna Slovenija	0.301	High	Continental
...	...	...	...	...	...
DE273	DE	Kempton (Allgäu), Kreisfreie Stadt	-0.163	Very low	Continental
LV006	LV	Rīga	-0.164	Very low	Boreal
DK012	DK	Københavns omegn	-0.171	Very low	Continental
DK011	DK	Byen København	-0.179	Very low	Continental
DK014	DK	Bornholm	-0.199	Very low	Continental

Table 16. Maximum and minimum values of the CC risk categorized for the Forestry sector at NUTS3 level. High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

Looking at Figure 21, as in the previous sectors most of the regions with higher risk in the forestry sector are in Southern Europe, but not only. Focusing first on this region, Southern Europe is known to be the most affected and with the lowest adaptive capacity to the impact of climate change, and to have the greatest impact on forestry and agriculture. In addition, these southern countries have large areas of forests, some of which are largely protected. As a result, countries such as Portugal, Spain, France, Italy, Slovenia, Greece, Bulgaria and Romania contain most of the regions with high and medium CC risk.

But also, Northern Europe is important in terms of CC risk in forestry. Countries such as Poland, Germany and Belgium have High risk areas, while other countries such as Sweden, Slovakia, Hungary and Austria also have medium risk regions. Maybe the impact of CC here is not as high as in Southern Europe, but given the large extent of forest, and the large number of protected areas, they are also included.

Based on this geospatial analysis of the forestry sector, there are several case studies that are eligible for selection, representing almost all biogeographical regions under medium or high CC risk. The Atlantic, Mediterranean, Continental, Alpine, Boreal, Black Sea, Pannonian and Steppe regions are included. Only Macaronesia, Arctic and Anatolia are excluded. This ensures the selection of case studies in this sector in different biogeographical regions. As already mentioned, we are focusing our efforts on covering regions with high and medium risk, but there is also a limitation due to the level of interest of local institutions in participating in the project. Therefore, regions with lower risks are being included if other criteria are met.

However, it should be noted that in this analysis, the economic impact of the forestry sector has been derived directly from the percentage of forested areas in the region. These results are therefore not completely reliable.

OUTPUT RESOURCES EXPLANATION

As a result of the geospatial analysis, the following resources were generated:

- Maps. Every variable included in the analysis is included, in addition to the main output (Risk impact of CC of the given sector and Risk categories) and the auxiliary variable showing the KeyBioRegions. All are available in image format (.png).
- Csv and Shapefiles. They contain the numeric information of every variable included in the analysis. In those, the values can be checked more in detail, and a vectorial layer (.shp) is available.

4. Selection of case studies

The selection of case studies, in accordance with the project schedule, has been carried out in two phases. In the first phase (until March 2024, corresponding to the process described in deliverable 2.2. -D2.2.) the first potential cases to be part of the project were identified, and those who showed interest and possibility were involved to start working on the LL methodology. At the same time, in the following months, until May 2025, work was carried out in the second selection phase to complete the group of case studies. The process is described in more detail below.

For the identification of case studies, a preliminary list of potential cases has been compiled using the networks of FARCLIMATE partners (the complete list is included in Annex 1), who identified and proposed them. For each preliminary case study, the sector, country, geographic location, and internal and external focal points were identified. In this regard, the internal focal points are entities that are project partners or associated partners of the FARCLIMATE projects, and the external focal points are local entities, not partners/associates of FARCLIMATE, that will facilitate the case study.

In the first phase, a total of 22 potential case studies were identified (see Annex 1), and of these, 11 were pre-selected (including the 2 that are project partners; D2.2.). This first pre-selection of cases included cases with sufficient information, with relevant adaptation actions already underway or imminent, with interest and possibility to participate, with already initiated or solid contact with a project partner, covering the sectors of interest for the project, and, as far as possible, covering the widest possible variety of approaches, scales (national and sub-national) and different territories. The rest were left as potential cases for the second phase, as they were not ready to be integrated at that time.

The preliminary information needed to know and assess the cases has been provided by the case study managers themselves or local entities - external focal points - preferably, and if not possible, by the FARCLIMATE partner familiar with and in contact with the case study (internal focal point). To collect the necessary background information, an online questionnaire or e-survey has been developed and sent out (a first version, which was updated and improved for phase 2; see Annex 2). The responses to the form v1 provided by the cases can be found in [this table](#) (personal information has been omitted to protect privacy and personal data).

Those case studies that the partners saw the most potential to be integrated in this first stage were contacted by email briefly introducing the FARCLIMATE project (including the brochure presenting the project), explaining that the case could be relevant as an example of adaptation and inviting them to fill in the online form to give us more information if the collaboration would be of interest to them. The majority (along with the cases that were already FARCLIMATE partners) showed great interest and were included in the shortlist in the first phase (11; see D2.2). Some others went through a negotiation phase (led by UVIGO) to provide them with more detailed information about the opportunities, benefits, or commitment required. After this, some were discarded (it was not possible to establish a case), and finally, a total of 8 were included in this first group (see table in Annex 1, column 4), starting to work afterwards in establishing the Living labs.

The 8 case studies finally selected in the phase 1 are listed in Table 17 (see more details in Section 5 and Annex 1).

#	Case study name	Organisation	Country	Geographic location	Internal Focal Point	Sector/s
1 (No. 7 in D2.2)	Ría de Pontevedra	Ría de Pontevedra FLAG	Spain	Ria de Pontevedra	UVIGO, FUN-DAMAR	Fishery
2 (No. 6 in D2.2)	Ría de Arousa	Ría de Arousa FLAG	Spain	Ria de Arousa	UVIGO, FUN-DAMAR	Fishery
3 (No. 14 in D2.2)	Mediterranean rural Spain	Fundación Savia	Spain	Huelva/Sevilla province, Andalusia (TBC)	IUCN	Agriculture Forestry
4 (No. 5 in D2.2)	Fundão	Fundão Municipality	Portugal	Fundão	Fundão	Agriculture Forestry
5 (No. 1 in D2.2)	Torino	GGG	Italy	Turin Municipality	CERTH, GGG	Agriculture
6 (No. 3 in D2.2)	Tarczyn	Development Policy Foundation	Poland	Tarczyn Municipality	LAUREA	Agriculture
7 (No. 17 in D2.2)	Málaga province	Diputación de Málaga	Spain	Malaga province	IUCN	Agriculture, Forestry (TBC)
8 (No. 9 in D2.)	Rebollo Castilla y León Region	CESEFOR, Government of Castilla y Leon	Spain	Riaza region	ENoLL, CESEFOR	Forestry

Table 17. List of the 8 case studies selected in phase 1.

The potential case Dehesa San Francisco in Huelva Province Spain (No. 16) has been integrated into the “Mediterranean rural Spain” case study. Those that were not discarded but due to lack of information about them, lack of time to engage them etc., were not selected in phase 1, were left to see if they could be selected in phase 2.

For the second phase, the same procedure was followed, adding new potential cases from various regions to the list and resuming negotiations with some of those identified in the first phase but not selected, in order to reach the total number of at least 20. Thus, 50 new potential cases were added to the list and contacted or otherwise considered for interest in and for FARCLIMATE.

As in the previous phase, the minimum information necessary to understand the context of the case and the potential to participate was collected through the on-line questionnaire, which was updated and extended to better collect the necessary information from the case studies (version 2: [FARCLIMATE-Case Study Identification Questionnaire v2](#); see in Annex 2). The responses to the form v2 provided by the cases can be found in [this table](#) (personal information has been omitted to protect privacy and personal data).

For potential cases, their compliance with the established criteria was assessed (Annex 3); a more detailed information and negotiation phase was initiated by the internal focal points regarding the role, benefits of being part of FARCLIMATE, and the methodology to be followed as a LL.

Again, some showed interest in participating immediately and were considered for integration if they were relevant to the project according to the selection criteria. For others, more specific and complex negotiations had to be carried out to raise interest, to better define the potential case or to support them in raising the interest of necessary third parties in the case. In other cases, due to various reasons such as lack of interest, lack of own funding or logistical and time constraints, some of the cases could not be integrated and have been definitely discarded after initial exchanges (e.g. Enoros and the Center for Social Innovation (Ltd) in Cyprus or Landes and two other locations in the Aquitaine region of France). Some of the potential cases are still under negotiation to see if they will be integrated into the project. This information can be found in Annex 1, as mentioned above, with the list of the 72 potential cases considered in phase 1 and 2, indicating those that have been finally selected during both phases. So far 17 new cases have been selected and confirmed in this phase 2 , which, added to the previous 8, brings the total to 25.

The 17 case studies selected in the phase 2 are listed in Table 18 (see more details in Section 5 and Annex 1).

#	Case study name	Organisation	Country	Geographic location	Internal Focal Point	Sector/s
9 (No. 2 in D2.2)	Gorenjska Region	LEAG (Local Energy Agency of Gorenjska)	Slovenia	Gorenjska region	ENoLL	Forestry
10 (No. 4 in D2.2)	Vlore Municipality	Vlore Municipality	Albania	Vlore city	UVIGO, FUNDAMAR	Agriculture Forestry Fishery
11 (new)	Sicily	Fondazione Comunitaria de Agrigento e Trapani - Prisma	Italy	Agrigento, Trapani	UVIGO	Agriculture
12 (new)	Finland/Savonia	Savonia University of Applied Sciences	Finland	TBC	LAUREA	Agriculture
13 (new)	Future of radiata pine in the Basque Country	Cesefor & Neiker	Spain	Basque Country	CESEFOR	Forestry
14 (new)	Kaem	American Farm School	Greece	Messenia	CERTH	Agriculture
15 (new)	EXO	EXO research	Italy	Basilicata	ENoLL	Agriculture
16 (new)	Mälardalens universitet	Mälardalens universitet	Sweden	TBC	CTA	Agriculture
17 (new)	Alcornocales Natural park	Junta de Andalucía	Spain	Alcornocales Natural Park, Cadix, Andalusia	IUCN, CESEFOR	Forestry
18 (new)	Sustainable Grass Production Living Lab (SUSGRASS)	Natural Resources Institute Finland Maaninka	Finland	North Savo, Kuopio	LAUREA	Agriculture
19 (new)	Porto Santo	Porto Santo Municipality	Portugal	Porto Santo, Madeira	UVIGO	Agriculture Forestry
20 (new)	Vaia Storm case	BlueBiloba	Italy	Trentino-Alto Adige region	CESEFOR	Forestry
21 (No. 12 in D2.2)	Emilia-Romagna Region	Mariscadoras srl benefit	Italy	Emilia-Romagna region	FUNDAMAR	Fishery
22 (new)	Setubal Region	Adrepes-GAL Costeiro	Portugal	Setubal region	FUNDAMAR	Fishery
23 (new)	Aleppo pine in Provenza	Association Forêt Modèle de Provence	France	Provenza region	CESEFOR	Forestry
24 (new)	Abruzzo	Associazione Foresta Modello Valle Aterno	Italy	Abruzzo region; Fontecchio municipality	CESEFOR	Forestry
25 (new)	Romania, Focșani	National Institute for Research and Development in Forestry "Marin Dracea"	Romania	Vrancea County, Vrancea Subcarpathians area, Brasov	CESEFOR	Forestry

Table 18. List of the 17 case studies selected in phase 2.

The following Figures 22, 23 and 24 show the locations of the selected case studies crossed with the maps developed in the climate change risk analysis (section 3), for the agriculture, the forestry and the fishery sectors (the case studies that will address aspects related to each sector are indicated on each map).

Section 5 provides a brief description of the 25 case studies selected to participate in FARCLIMATE (phase 1 and 2), based on the responses to the online form and the partners' own knowledge of the cases. This information has been used for the application of the criteria described in section 2 to check the compliance of the pre-selected cases, which is summarised in the table in Annex 3.

In parallel with the confirmation of the current case studies, the FARCLIMATE consortium has been actively engaging with several other organisations that have expressed strong interest in participating in the project. These negotiations are ongoing, and we are optimistic that additional candidates may be formally added to our case studies in the upcoming months. There are currently 32 potential case studies under negotiation or in the early stages of engagement.

This proactive engagement serves a dual purpose. Primarily, it aims to onboard these new partners in time for the official start of the second-wave activities in autumn 2025, in order to have more than 20 case studies. Secondly, it allows us to explore the long-term potential for continuing the FARCLIMATE approach, laying the groundwork for future exploitation, replication of our methodologies and synergistic collaborations with both existing and new initiatives beyond the project's current lifecycle.

Further updates on the progress of these discussions will be documented and presented in WP2's next deliverable, D2.5, scheduled for September 2025.

Study cases in the agriculture sector

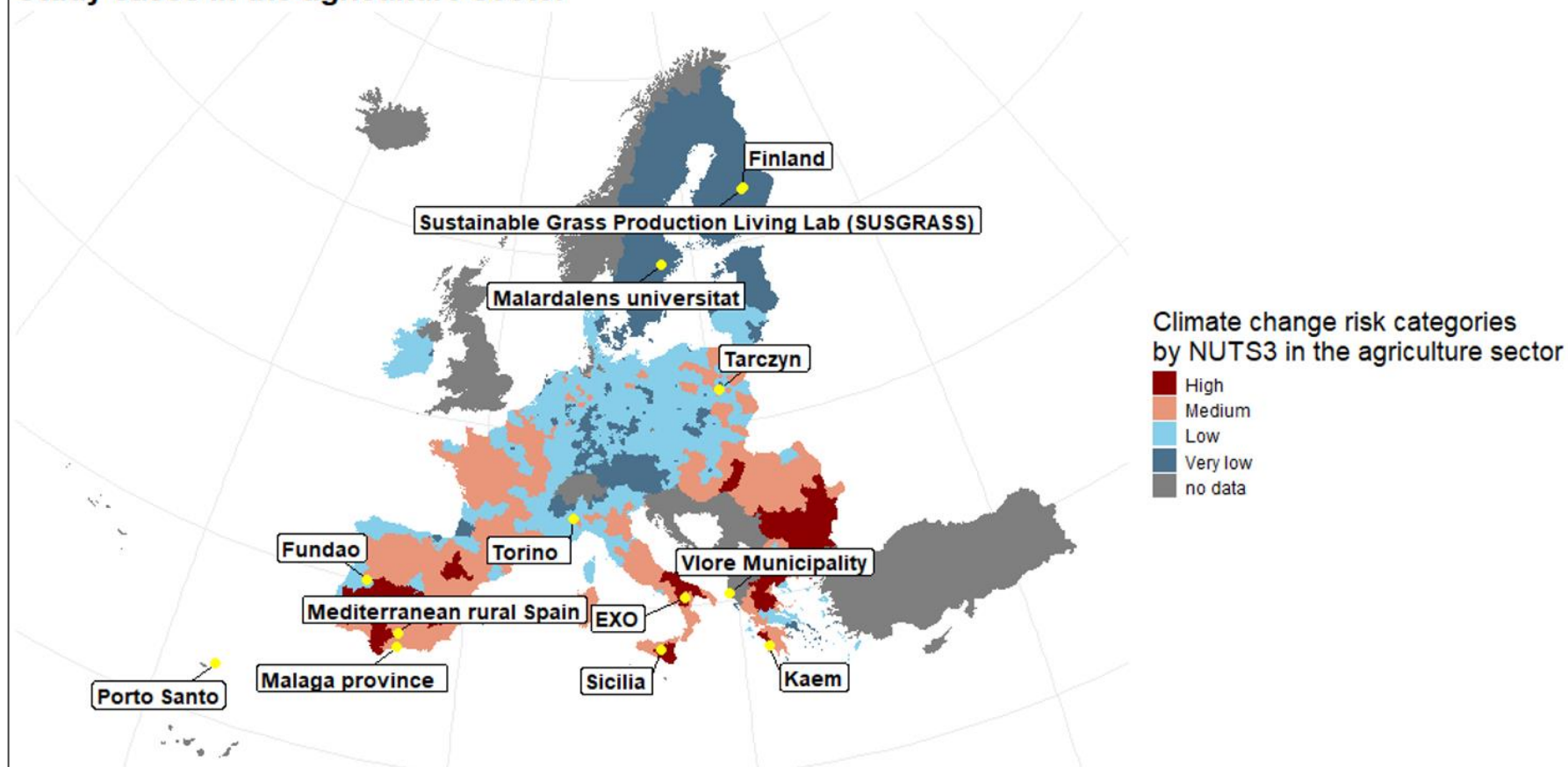


Figure 22. The location of the FARCLIMATE selected case studies indicated (yellow points) on the map of CC risk categorized for the agriculture sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

Study cases in the forestry sector

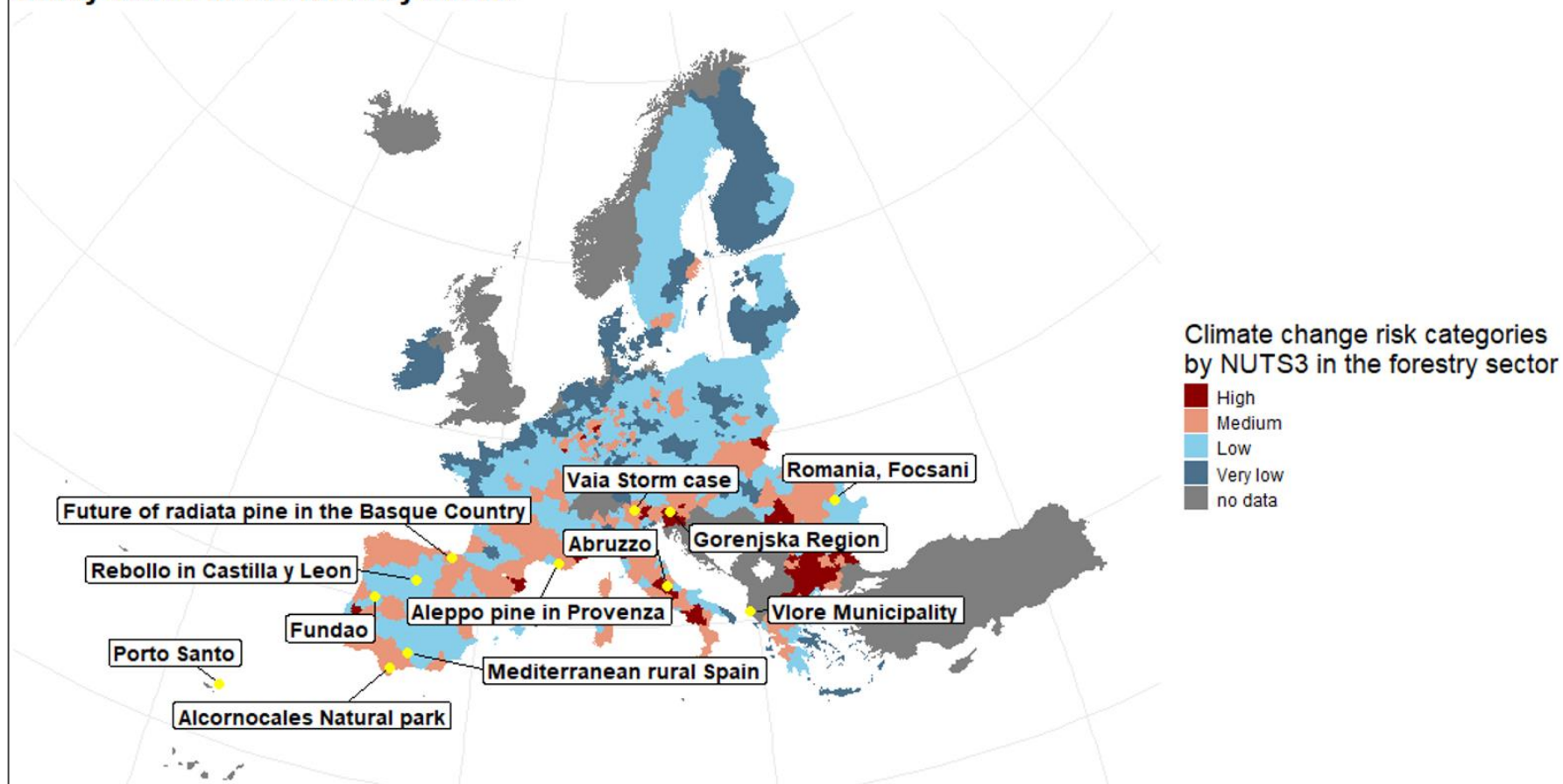


Figure 23. The location of the FARCLIMATE selected case studies indicated (yellow points) on the map of CC risk categorized for the forestry sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

Study cases in the fishery sector

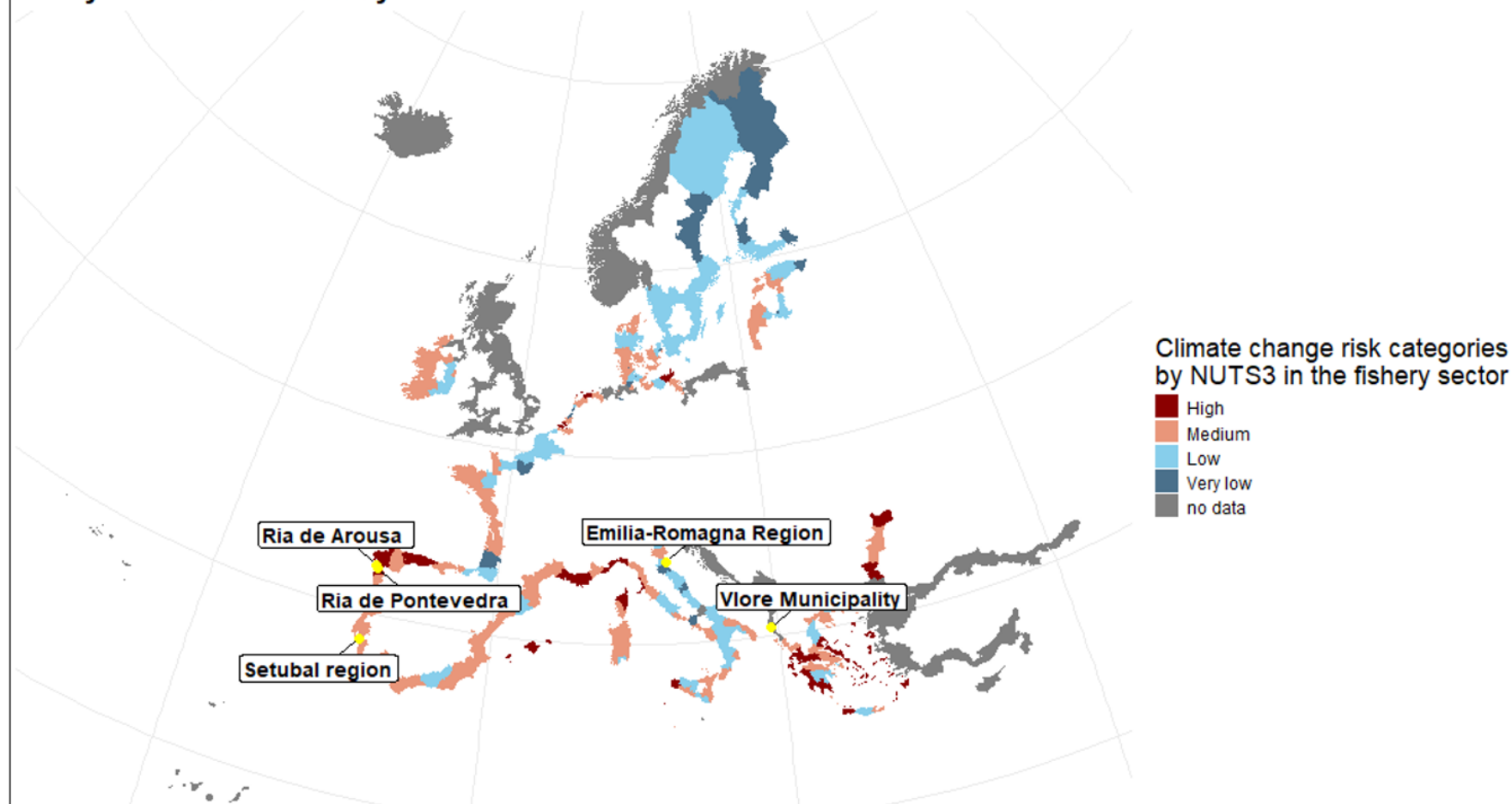


Figure 24. The location of the FARCLIMATE selected case studies indicated (yellow points) on the map of CC risk categorized for the forestry sector at NUTS3 level. Legend: High: values above 0.2; Medium: values between 0.1 and 0.2; Low: values between 0 and 0.1; Very low: values below 0.

5. Description of the selected case studies

This section includes a brief description of each of the 25 case studies that have been selected to be part of the project, in the first and second phases.

From the 8 cases selected in the first phase, five case studies are located in Spain, and one each in Portugal, Poland and Italy. Two are focused on the agricultural sector, one on the forestry, two on the fishery sector, and three aim to work in both the forestry and agricultural sectors.

From the 17 additional case studies selected in the second phase, five are located in Italy, two in Spain, two in Finland, two in Portugal, and one each in France, Slovenia, Albania, Sweden, Greece and Romania. Of these, seven are focused on forestry, six on the agricultural sector, two on fishery, one works in both the forestry and agricultural sectors and one in the three sectors.

A summary table or fact sheet for each case is included below, with the information used for the selection. The quality and quantity of information is variable, as it depends mainly on what the cases have provided through the online form. The summary sheets of the 8 cases selected in the first phase have in general less information than those of the second phase as the information collection process has been improved (the online form has been updated and extended). The summary sheets of the cases selected of the second phase are in general more complete as the online form was updated and more initial information was requested. Each fact sheet contains brief information on the sector that would be targeted and its characteristics in the case study, on the climate change challenges it faces, and on measures implemented or planned to address them.

For some of the last case studies added, it has not yet been possible to collect all the information in a homogeneous and more complete way through the form and their factsheets are not included here for the moment. This is the case of the following cases: Case study 12 - Finland/Savonia, Case study 16 - Mälardalens Universitet, Case study 22 - Setubal Region, Case study 23 - Aleppo pine in Provenza. The selection has been made on the basis of internal focal points' knowledge and interest in participating of the cases.

CASE STUDY 1 - Ría de Pontevedra	
General information	
Institution/organisation	University of Vigo (internal contact point) for GALP Pontevedra
Location	Spain Ría de Pontevedra (several municipalities in an estuary)
Sector	Fishery
Specific information	
Main characteristics of the sector	
The Ría de Pontevedra stands out for its greater socio-economic diversity and urbanization compared to other areas. Nevertheless, the <i>ría</i> and its associated economic activities remain pivotal for regional cohesion. It boasts the highest concentration of ports along the Galician coast, with fishing and shellfish farming playing significant roles in towns like Campelo and Bueu. Tourism is also a major contributor, with Sanxenxo serving as a prominent tourist destination in northern Spain. Additionally, industrial activity is notable, with facilities such as a pulp mill and the Port of Marín handling containers. Geographically, the fishing area of these municipalities covers 292 km² and is inhabited by 77,279 people, representing nearly half of the total population. Protected areas within the <i>ría</i> and its islands include the National Park of Illas Atlánticas, Spanish Special Conservation Areas, and Special Areas for Bird Protection. The fishing sector comprises 268 businesses, employing 6.27% of the total workforce affiliated with social security in the fishing and aquaculture sector.	
Climate change challenges the sector currently faces	
According to the local development strategy in the GALP Pontevedra, fisheries resources and biodiversity are affected by climate change. Alterations in marine ecosystems may disrupt the availability of fish and other marine resources, potentially reducing fishing yields and economic returns. Furthermore, such changes can lead to shifts in the distribution of marine species, making it challenging for fishermen to target traditionally caught species. Extreme weather events associated with climate change, such as heatwaves and increased rainfall, can negatively affect shellfish resources in the <i>ría</i> (estuary), resulting in decreased populations of commercially valuable species and subsequent economic ramifications for the local economy. Additionally, the occurrence of new or intensified marine events like algae blooms or invasive species can disrupt fishing operations and damage fishing infrastructure. Changes in salinity and temperature due to climate-induced variations in weather patterns can induce thermohaline stress in marine organisms, impacting their growth, reproduction, and behaviour, thereby contributing to a decline in shellfish stocks. Moreover, events in adjacent ecosystems, such as alterations in river systems or the effects of wildfires on the local marine environment, can also have significant repercussions. Through dialogue with stakeholders within the GALPs, a lack of understanding regarding the implications of climate change on the natural environment and marine resources has been identified.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	



No initiatives beyond those integrated into the production plans of fishers' guilds or the acquisition of machinery for sustainable fishing practices and marine ecosystem restoration are currently known. However, interspecific interactions, such as seagrass meadows covering shellfish nursery areas, can alleviate environmental stress. These interactions promote climate mitigation and coastal system resilience while enhancing fishing productivity. The functional coherence of GALP de Pontevedra is exemplified by a group of "cofradías" jointly managing fishing and shellfish resources in the Ría through coordinated exploitation plans outlined in the General Plan for Shellfish Exploitation 2021-2023. For instance, Bueu, Portonovo, and Aldán-Hío collaborate on shellfish exploitation, while Pontevedra, Lourizán, Raxó, and Marín have a joint plan for vessel management. Similarly, Pontevedra, Lourizán, and Raxó share a plan for regulating on-foot shellfish harvesting.

CASE STUDY 2 - Ría de Arousa	
General information	
Institution/organisation	University of Vigo (internal focal point) for GALP Arousa
Location	Spain Ría de Arousa (several municipalities in an estuary)
Sector	Fishery
Specific information	
Main characteristics of the sector	
The fishery sector in Galician <i>rias</i> (estuaries) is renowned for its rich marine ecosystem, fostering a thriving fishing and aquaculture industry that positions Galicia as a leader in European fisheries. Beyond its economic significance, this industry profoundly influences the socio-economic structure of the region, shaping demographics, culture, and institutions. The Ría de Arousa stands out as the widest and shallowest of the Galician rias, boasting diverse intertidal ecosystems and wetlands that support various maritime activities. Its strong socioeconomic reliance on the sea is evident through its thriving fishing sector, characterized by inshore fishing, shell-fishing, and extensive mussel cultivation. Home to one of Spain's largest fishing fleets, mainly comprised of artisanal boats, the region's coastal towns like Ribeira and Cambados serve as key fishing ports. Despite its maritime focus, the Ría de Arousa also benefits significantly from tourism, capitalizing on its natural beauty and protected areas like the Illas Atlánticas National Park. With 465 businesses in the fishing sector and a substantial portion of the local labour force affiliated with fishing and aquaculture, around 22.12% of the total, the industry plays a pivotal role in the region's economy and social fabric.	
Climate change challenges the sector currently faces	
As outlined in the local development strategy of the Fisheries Local Action Group (GALP) Arousa and through consultations with the industry, there exists uncertainty regarding the impacts of climate change on the marine environment and its resources. Alterations in marine ecosystems may disrupt the availability of fish and other marine resources, potentially reducing fishing yields and economic returns. Furthermore, such changes can lead to shifts in the distribution of marine species, making it challenging for fishers to target traditionally caught species. Extreme weather events associated with climate change, such as heatwaves and increased rainfall, can negatively affect shellfish resources in the ría, resulting in decreased populations of commercially valuable species and subsequent economic ramifications for the local economy. Additionally, the occurrence of new or intensified marine events like algae blooms or invasive species can disrupt fishing operations and damage fishing infrastructure. Changes in salinity and temperature due to climate-induced variations in weather patterns can induce thermohaline stress in marine organisms, impacting their growth, reproduction, and behaviour, thereby contributing to a decline in shellfish stocks. Moreover, events in adjacent ecosystems, such as alterations in river systems or the effects of wildfires on the local marine environment, can also have significant repercussions. Through dialogue with stakeholders within the GALPs, a lack of understanding regarding the implications of climate change on the natural environment and marine resources has been identified.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	
There are currently no recognized initiatives addressing this issue apart from those incorporated within the production plans of fishers' guilds or investments in equipment for sustainable fishing practices or the restoration of marine ecosystems. Nevertheless, interspecific interactions, such as those observed in seagrass meadows covering shellfish nursery habitats, can aid in alleviating the impacts of environmental stress. These interactions contribute to climate mitigation and enhance the resilience of coastal systems, ultimately leading to improvements in fishing productivity.	

CASE STUDY 3 - Mediterranean rural Spain	
General information	
Institution/organisation	Fundación Savia por el Compromiso y los Valores
Location	Spain Sevilla / Huelva province (TBC)
Sector	Agriculture and forestry
Specific information	
Main characteristics of the sector	
Rising average temperatures, reduced water availability and the abandonment of traditional agricultural, livestock and forestry techniques are leading to the loss of biodiversity and the abandonment of rural villages. The dehesa is a unique agrosilvopastoral system, a form of agroforestry, found in the Iberian Peninsula, specifically in Spain and Portugal. It's characterized by a low-density forest of evergreen oaks (like holm and cork oaks) interspersed with pastureland and used for extensive livestock farming. Dehesas are highly biodiverse, providing various goods and services including livestock grazing, timber, cork, hunting, and even honey One of the challenges these ecosystems face is the loss of extensive livestock farming, which has multiple benefits (sustainable land management, population fixation, maintenance of native breeds, fire prevention, seed dispersal and biodiversity, etc.). The problem is that it is less competitive in commercial and economic terms. This type of livestock farming cannot compete on equal terms with industrial livestock farming. In addition, the impacts of climate change on the sector further weaken it. The benefits of extensive livestock farming for the rural world, for ecosystems, etc. are not being taken into account in prices and what farmers earn. The Foundation works with owners of dehesas (productive ecosystems in Spain and Portugal, with Quercus trees in open woodland and livestock) to promote their sustainability and resilience.	
Climate change challenges the sector currently faces	
Climate challenges facing the agriculture and forestry sectors in the dehesas include biodiversity/habitat loss, temperature extremes, land use changes and water management problems. These challenges lead to drought, depopulation, contamination of aquifers, loss of indigenous breeds and loss of ecosystems. Despite its resilience, the dehesa faces challenges such as rural depopulation, diseases like oak decline, and the effects of climate change. To protect this ecosystem, it is essential to implement sustainable management policies that preserve its biodiversity and promote the local economy.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	
Enhancement of the Dehesa ecosystem, defence of extensive livestock farming, proposal for the creation of the "Defender of Future Generations" figure.	

CASE STUDY 4 - Fundão	
General information	
Institution/organisation	Municipality of Fundão
Location	Portugal Fundão
Sector	Agriculture and forestry
Specific information	
Main characteristics of the sector	
The municipality of Fundão boasts a flourishing agribusiness sector, with 3,235 companies operating in various sectors. Agriculture, animal production, hunting, forestry and fishing stand out, accounting for 21% of the total number of companies. This sector has also emerged as the third largest employer, highlighting its central role in the local economy. The region's diverse terrain supports the production of high-quality endogenous products, such as cherries, wine, cheese, olive oil, honey and mushrooms, which contribute to an annual turnover of around EUR 100 million. Noteworthy is the production of Fundão cherries, which accounts for about 60% of national production and generates EUR 20 million per year for the local and national economy. In addition, the municipality focuses on food processing and marketing, promoting local specialties such as Beira Baixa cheese, sausages, fruit juices and jams. Initiatives such as Casa do Mel support the beekeeping heritage, while investments in almond and cannabis production signal the modernisation and innovation of agriculture. Regarding forested areas, the Serra da Gardunha of Fundão is of considerable ecological importance, designated as a Site of Community Importance (SCI) within the Natura 2000 network and recognised as a Special Area of Conservation (SAC) under the Habitats Directive (92/43/EEC). This designation derives from its rich biodiversity, hosting species and plant communities of exceptional conservation value. Fundão's commitment to sustainability and circular economy principles is evident through public and private investments, partnerships with entities such as CTT for digital sales channels and initiatives to promote the local gastronomic heritage. Despite the challenges posed by climate change, the municipality positions itself as a Living Lab for sustainable development, promoting innovation, collaboration and inclusive policies for a resilient future.	
Climate change challenges the sector currently faces	

The municipality faces various climate impacts and vulnerabilities, including high temperatures that cause dehydration and metabolic disorders, while cold waves lead to an increase in cold-related illnesses. Excessive rainfall causes flooding, traffic disruptions and infrastructure damage, while forest fires damage plantations and infrastructure. Extreme weather events are intensifying, accompanied by changes such as reduced frost hours, higher minimum temperatures and fewer days of precipitation, leading to soil erosion and reduced water availability in inland areas.

These changes pose a significant threat to the primary and forestry sectors, affecting fruit and livestock production. Future projections indicate potential crop losses within two decades, prompting consideration of adaptation or crop diversification. Rising temperatures alter phenology, affecting the life cycles of plants and animals and potentially increasing pests and diseases. This could reduce crop and livestock yields and ecosystem services.

Climate change also affects water availability in inland waters, with unpredictable rainfall patterns and intense storms. Fluctuations in water temperature impact the health of aquatic ecosystems, affecting the viability of aquatic organisms. These interconnected challenges highlight the urgent need for adaptation strategies, including crop diversification, infrastructure resilience and ecosystem management, to mitigate climate risks and safeguard livelihoods and biodiversity.

Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.

The AgroTech Centre in Fundão serves as a dynamic hub for agricultural innovation, with the objective of transforming the territory into a living laboratory for the technological advancement of rural activities. Through a diversified service structure, it facilitates business incubation, acceleration programmes and the experimentation of IoT technologies.

The Seminary's Experimental Farm is a testing ground for start-ups and community projects, with a focus on cherries, olives and grapes, and also offers training programmes in agro-forestry. Collaborations with academic institutions such as the Biotech Plant Lab and the Biocant Park further enhance research into plant biotechnology and the promotion of economic activities.

The installation of LoRa technology enables the deployment of IoT solutions throughout Fundão, supporting the Fundão Intelligent City programme.

The Smart Farming initiative aims to anticipate and effectively control pests, while the Quinta Ciência Viva das Cerejas e das Ideias promotes sustainable tourism and collaboration between producers, researchers and entrepreneurs.

Through this network of partnerships and continuous innovation, the centre aims to transfer knowledge to the market and promote the circular economy, ensuring the sustainable development of Fundão's agri-food sector.

CASE STUDY 5 - Torino	
General information	
Institution/organisation	Orme orti metropolitani torinesi
Location	Italy Torino
Sector	Agriculture
Specific information	
Main characteristics of the sector	
ORME ETS - ORTI METROPOLITANI is an association that operates as a network of urban gardens, farms, third sector associations, cooperatives and citizens focusing on horticulture and urban agriculture in Turin and its metropolitan area. The urban gardens considered relevant to the project are located in districts 6 and 7, i.e. Aurora and Barriera di Milano, due to their history and structure. This is an industrial and marginalised area, heavily polluted and lacking green spaces. Orme's presence aims to revitalize these areas, providing not just agricultural opportunities but also fostering social inclusion, environmental education, and job placement and promoting more sustainable models of urban living. The association facilitates participatory processes to empower members and citizens, constructing resilient communities and solidarity networks for equitable food access. Due to the scale and nature of urban gardens, a short agricultural value chain is implemented, which is vulnerable to climate change. The area and the short supply chain are affected by climate change, especially during periods of continuous rainfall, in summer and winter, due to the absence of adequate covers and plant protection systems. During spring, the region experiences prolonged periods of rainfall, which can hinder the growth of new crops and planting due to inadequate drainage. In summer, high temperatures and limited rainfall lead to soil dryness, posing challenges for the irrigation system.	
Climate change challenges the sector currently faces	
Climate change presents several challenges that impact both ecosystems and communities. Biodiversity and habitat loss is a significant problem, as changing weather patterns disrupt ecosystems, leading to habitat loss and endangering species. Temperature extremes exacerbate these challenges, with scorching summers causing soil desiccation and winter frosts halting planting efforts. Vulnerable communities struggle to manage and cope with these changes, finding it difficult to adapt to alternating periods of drought and flooding due to inadequate drainage systems. As climate change intensifies, addressing these challenges becomes imperative to ensure the resilience and sustainability of natural environments and human communities.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	
NA	

CASE STUDY 6 - Tarczyn	
General information	
Institution/organisation	Municipality of Tarczyn & Development Policy Foundation
Location	Poland Tarczyn Municipality
Sector	Agriculture
Specific information	
Main characteristics of the sector	
Sub-case study 1: the intensive apple farms in Tarczyn and the adjacent municipalities: the individual farm scope, certified BIO, and conventional farms.	
Sub-case study 2: the "largest apple orchard in Europe": the area's scope/landscape conservation.	
Climate change challenges the sector currently faces	
Loss of biodiversity/habitats, Droughts, Extreme temperatures, Fires, Changes in agricultural uses, Water Management Challenges, Social innovation Culture and agricultural food traditions, landscape management & stewardship.	
We are keen to host the living lab on-farm climate change adaptation, which is scoped on the apple orchard/s. Exploring:	
1. How to mitigate/curb the loss of pollinators & ensure the pollination ratio under unpredictable spring weather: e.g. cover crops /early blossoming inter rows/reintroduction of bumblebees/ co-operation with apiculture;	
2. To enhance soil-based water retention, limiting the impact of dry spells and prolonged droughts, the local cover crops mix;	
3. To limit the impact of uneven, unpredictable patch precipitation: 70% under the hyper-intensive outpours: requiring costly re-spraying: propagation of integrated pest management practices/ e.g. pheromone traps + new training / trellising systems of the orchards and beyond.	
Sub-case study 1: The climate-related challenges include: 1. Cumbersome and uneven pollination patterns due to the loss of pollinators and the late frosts; 2. Low soil-based water retention, dry spells and prolonged droughts; 3. Uneven, unpredictable patch precipitation: 70% under the hyper-intensive outpours/storms.	
Sub-case study 2: The climate-related + intensive horticulture-related challenges include: 1. Low soil-based water retention, dry spells and prolonged droughts threaten the inter-field ponds' sustainability/drying out ; 3. Uneven, unpredictable patch precipitation: 70% under the hyper-intensive outpours/ storms, causing heavy erosion and massive surface runoffs/ containing the pesticides; 4. Loss of habitats of the birds/amphibians/ reptiles; 5. Fragmentation / Loss of ecological corridors due to extreme edge / balk plough + fencing + loss of idle land + inter-field bushes, etc.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	

1. Piloting cover crops /early blossoming inter rows/reintroduction of bumblebees; 2. Testing the adjusted pheromone traps.

We are discussing the measures and looking for funding to address them. Considering the above enlisted, we would be happy to host the living lab in the area of cooperative-spirit landscape conservation/ stewardship + praxis of tailored climate change adaptation toolkits as per : 1. Low soil-based water retention, dry spells and prolonged droughts threaten the inter-field ponds' sustainability/drying out ; 2. Uneven, unpredictable patch precipitation: 70% under the hyper-intensive out-pours/ storms, causing heavy erosion and massive surface runoffs/ containing the pesticides; 3. Loss of habitats of the birds/amphibians/ reptiles; 4. Fragmentation / Loss of ecological corridors due to extreme edge / balk plough + fencing + loss of idle land + inter-field bushes/ wind breakers etc.

CASE STUDY 7 - Málaga province	
General information	
Institution/organisation	Diputación de Málaga
Location	Spain Málaga Province
Sector	Agriculture and forestry (TBC)
Specific information	
Main characteristics of the sector	
Málaga Provincial Council (<i>Diputación</i>) works mainly with municipalities of less than 20.000 inhabitants of this province. Its role is to support them in the development of the services they must provide to citizens. The Climate Change Department works closely with these municipalities, which are highly affected by climate change. Malaga Provincial Council published in 2023 the Malaga Province Climate Change Adaptation Plan (AdaptaMálaga Plan). Also, the Regional Government of Andalucía is working together with all the Andalusian Provincial Councils on Municipal Climate Change Plans (mitigation and adaptation) for those municipalities of less than 50.000 inhabitants. The main sectors in which we are involved are: rural environment; depopulation due to climate issues; bio economy, circular economy and biomass linked with forestry (forest environment); tourism and climate shelters. Diputación de Málaga has been working since 2016 on the Málaga Viva Strategy to implement climate change adaptation measures.	
Climate change challenges the sector currently faces	
Various climate-related challenges, including: • Loss of biodiversity due to lack of water, fires and extreme temperatures. • Consequences of droughts for biodiversity, agriculture and climate comfort of citizens • Health consequences in population due to extreme temperatures • Floods • Changes in tourism demand • Reduction of CO2 emissions and promotion of energy efficiency through circular economy in forest environments and through innovative sustainable mobility measures and plans.	
Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.	

Relevant initiatives:

-Since 2016, Málaga Viva Strategy is developing its Climate Change adaptation measures. In its mission to fight climate change, it has established three strategic objectives:

- Improve the environment, guaranteeing the maintenance of the province's biodiversity as well as the reduction of atmospheric emissions.
- Contribute to rising awareness of existing environmental problems and, therefore, to the dissemination to all territories of best environmental practices that contribute to combating climate change.
- Build networks of associations, companies and individuals who share the common goal of combating climate change to unify resources, disseminate knowledge and promote the exchange of experiences and good practices.

-Málaga Viva Action Plan, with nine strategic axes:

- Territorial planning and coordination
- Energy efficiency
- Sustainable management of solid urban waste
- Sustainable management of water
- Renaturalisation and CO2 capture
- Sustainable mobility
- Training, community sensitization and awareness raising
- Social Innovation
- Best practices in Málaga Provincial Council internal functioning

-Malaga Province Climate Change Adaptation Plan (AdaptaMálaga Plan)

-Plan Bio+A Málaga: objective: to promote circular economy around bioeconomy sector in forest environments in Málaga Province, through sustainable forest management, promoting biodiversity, protection of ecosystems and the use of biomass in the province for heating. Diputación de Málaga is working in this strategy since 2020 and has recently received the approval to develop some of the activities with funds from Next Generation EU (from Fundación Biodiversidad). We are also working in installing biomass heaters.

- Studies for the creation of a provincial network of climate shelters for the population during extreme temperature episodes.

- Sustainable Mobility Plans for municipalities of less than 20.000 inhabitants.

- Diputación de Málaga is also currently working on the creation of the Environmental Experimentation Centre for Climate Change 'Malaga Viva Lab', the first research, awareness and dissemination centre on Climate Change at regional level. The Málaga Viva LAB will provide an immersive experience that invites reflection on climate change and sustainability, and is designed to inspire and transform visitors by creating awareness and motivation to take action against the environmental challenges we are facing.

The creation of a living lab aims to contribute to the latter, helping with the outreach efforts, to building a stronger stakeholder network or in the design of education activities.

CASE STUDY 8 – Rebollo in Castilla y León

General information

Institution/organisation	Cesefor & Junta de Castilla y León (Regional Government)
Location	Spain Castilla y León region
Sector	Forestry

Specific information

Main characteristics of the sector

The Pyrenean oak (*Quercus pyrenaica*), known as “rebollo” in Spanish, is a species of low economic value in Castile and León and throughout much of Spain. Due to its strong resprouting ability, it has traditionally been managed as coppice woodland for silvopastoral purposes. Its main uses have included firewood production, forage for livestock, and, historically, charcoal production—although the latter is now largely obsolete. Additionally, thanks to its high tannin content and favourable wood structure, Pyrenean oak is used in the manufacture of barrels for the wine industry, although in low number. Castile and León accounts for 716,000 hectares of Pyrenean oak forests, representing 64% of the national total. In recent years, significant efforts have been made to enhance the value of this species, with successful initiatives such as the LIFE Rebollo project. The expectations for this species are twofold: first, to develop higher-value timber products — such as wine barrels and structural wood — and second, to improve forest management practices to ensure sustainability and adaptation to climate change.

Climate change challenges the sector currently faces

The Pyrenean oak faces significant challenges due to its historical management practices and the limited profitability of its traditional uses. Historically, these forests were managed through clear-cutting, with regeneration relying on stump resprouting, primarily for firewood and livestock forage. This approach has led to overly dense, aging stands with low ecological maturity, increased susceptibility to wildfires, and signs of decline that threaten their long-term sustainability. Although current forest management has shifted toward practices that encourage structural development—such as light thinning—many stands still receive no silvicultural treatment because of their low economic return. Compounding this issue is the species' vulnerability to climate change, particularly the anticipated increase in summer drought conditions. As temperatures continue to rise, the Pyrenean oak may experience an upward shift in its altitudinal range. Indeed, several studies predict a significant contraction of its potential distribution in Castile and León, driven by changes in temperature and precipitation patterns.

Provide some information on the most relevant climate change adaptation initiatives/measures that are currently being implemented.

From an ecological perspective, the main challenge facing *Quercus pyrenaica* forests is the lack of silvicultural treatment. To improve the management of these forests, it is essential to develop new timber uses that increase their economic value. Strengthening collaboration among forest owners, managers, primary harvesters, and processing industries is also crucial to achieving this goal. The adoption of close-to-nature forestry techniques offers multiple benefits. These light interventions not only enhance the quality of forest products but also help forests adapt to climate change. Furthermore, studies have shown that mixed-species stands, as opposed to monocultures, are more resilient to climate-related stresses and contribute to improved ecological stability.

CASE STUDY 9 - Gorenjska Region	
General information	
Institution/organisation	LEAG (Local Energy Agency of Gorenjska)
Location	Slovenia Gorenjska region
Sector(s)	For the LL: Forestry Others: Water management, Education and awareness, Climate change adaptation
Geographical and thematic scope	
Geographical scale of implementation	
Regional (sub-national level)	
Main characteristics of the site and the sector concerned	
The Gorenjska region is a mountainous area in north-western Slovenia characterised by the diversity of its natural landscape. The region includes significant parts of the Julian Alps and the Karavanke mountain ranges, making it one of the most environmentally sensitive regions in the country. Its geography is marked by high mountain areas, valleys and extensive forest cover, which together define its climatic and environmental challenges. In the Gorenjska region, located in north-western Slovenia, approximately 210,747 people lived in 2022. This population represents about 10% of the national total, and the region has a population density of 98.6 persons per square kilometre, slightly below the national average. Economically, the region shows relative stability, with a labour force participation rate of 71.7%, which is above the Slovenian average of 68.6%. Unemployment is remarkably low (2.8%), indicating sound labour market conditions. However, a significant part of the labour force - 28.9% of employed residents - commutes outside the region for work, mainly to the Osrednjeslovenska region.	
Main activities of the project/initiative (ongoing/planned)	
As part of the FARCLIMATE project, the aim would be to develop a Climate Adaptation Strategy for the Gorenjska region with a specific focus on the forestry sector. While the currently prepared regional adaptation strategy already includes ten climate-sensitive sectors, including forestry, FARCLIMATE will allow for a deeper focus on forestry, which plays a crucial role in Gorenjska, where forests cover most of the region. Forestry is a major focus, recognising the essential ecosystem services provided by the region's extensive forest cover, such as carbon sequestration, water regulation and protection against floods and landslides. Efforts will focus on promoting sustainable forest management to address the increasing risks of drought, pests and other climate stressors. Particular attention will be given to safeguarding riparian and mountain forests, which are vital for protecting infrastructure and communities in vulnerable areas.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Floods, Heat stress, Increase in species harmful to production (invasive species, pests, etc.) or diseases, Fires, Loss of biodiversity/habitats, Soil erosion/degradation, Increased vulnerability of local communities. Climate change is significantly affecting the forestry sector in the Gorenjska region, where forests cover the majority of the landscape and represent a key natural resource. Rising temperatures, changes in precipitation patterns, and more frequent and intense extreme weather events (such as droughts, storms, and ice damage) are increasing the risks to forest health and stability. Main challenges and risks are droughts, bark beetle outbreaks, windthrow and ice damage, threats to riparian and water protection forests etc.	
Specific value chains affected by climate change	
Research needed to be able to answer.	

Most relevant climate change adaptation initiatives/measures currently in place

Some climate change adaptation measures are already being implemented in the Gorenjska region, including in the forestry sector. The most relevant ones include:

- Project GIFT (Green Infrastructure for Forest Territories): Focuses on enhancing green infrastructure with an emphasis on the importance of trees and forests.
- Project JeloviZA: Aims at the conservation and restoration of forests, particularly in the Jelovica area.

These measures are funded through various EU-funded projects

Potential future innovative solutions for climate change adaptation

Research needed to be able to answer.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Public institutions, ministries, municipalities, NGOs, schools and forestry sector.

Community engagement or participatory activities carried out: Co-design / co-creation workshops, Educational programmes.

Additional stakeholders to be engaged: More experts in the field of forestry.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains.

CASE STUDY 10 - Vlore Municipality	
General information	
Institution/organisation	Municipality of Vlore
Location	Albania Municipality of Vlore
Sector(s)	For the LL: Agriculture, forestry and fishery
Geographical and thematic scope	
Geographical scale of implementation	
Municipal	
Main characteristics of the site and the sector concerned	
The predominant agricultural features of the municipality of Vlore include vineyards covering 30 %, olive groves occupying 60 %, and vegetables accounting for 10 % of the territory. Significant challenges arise within the viticultural sector, primarily attributed to climate change. Numerous vineyards face abandonment and removal due to damages incurred and the diminished profitability of selling the produce.	
Main activities of the project/initiative (ongoing/planned)	
Potential activities to be defined.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main climate change challenges the sector currently faces are: Changes in Agricultural Practices and Water Management Over the years, there has been a tendency to plant foreign cultivars that are not suited to the local soil and climate, especially in response to climate change. In addition, there have been cases of drought, vineyard damage and decreased production due to hailstorms that occurred at inopportune times.	
Potential future innovative solutions for climate change adaptation	
No measures have been taken to support climate change adaptation. We are drafting and will formalize the Local Climate Change Adaptation Plan.	

CASE STUDY 11 – Sicily	
General information	
Institution/organisation	Fondazione Comunitaria de Agrigento e Trapani – Prisma University of Bordeaux
Location	Italy Sicily, Provinces of Agrigento and Trapani
Sector(s)	For the LL: Agriculture
Name of initiative/project (if any)	STIV: leveraging artificial intelligence to manage a Sustainable Transition In Viticulture
Geographical and thematic scope	
Geographical scale of implementation	
Regional (sub-national level)	
Main characteristics of the site and the sector concerned	
La zona del proyecto abarca las provincias de Agrigento y Trapani, en Sicilia, al sur de Italia. Esta región es predominantemente rural, intercalada con pequeños y medianos centros urbanos. Agrigento y Trapani son conocidas por su rico patrimonio histórico, sus yacimientos arqueológicos y sus paisajes costeros. Las provincias se enfrentan a importantes retos socioeconómicos, como las altas tasas de desempleo, sobre todo entre los jóvenes, y la dependencia económica de la agricultura, el turismo y la pequeña industria. Los problemas medioambientales, como la escasez de agua, la degradación del suelo y la vulnerabilidad al cambio climático, son también grandes preocupaciones. A pesar de estos problemas, la región tiene fuertes lazos comunitarios y una vibrante identidad cultural, lo que ofrece un gran potencial para las iniciativas comunitarias y el desarrollo sostenible.	
Main activities of the project/initiative (ongoing/planned)	

About the STIV project: STIV represents an innovative approach to combine artificial intelligence, sustainable viticulture and vocational training to strengthen rural resilience to climate change. By connecting digital innovation with traditional agricultural knowledge, STIV empowers local communities, improves environmental practices and supports economic diversification through eco-tourism.

All project outputs - including the Green and Digital Skills Handbook, the Toolkit for vocational education and training (VET) Providers, the EU Winegrower Cooperation Protocol and the online AI for Viticulture Platform - will be freely available online to ensure maximum transferability and long-term impact.

Further information: <https://fcagrigenotrapani.it/>
<https://stiv-project.eu/>

Main activities:

Development of Educational Materials: Partners collaborate to produce a Handbook that compiles green and digital skills applied to sustainable viticulture and a Toolkit tailored for vocational education and training (VET) providers. The Handbook covers digital agriculture techniques, eco-friendly viticulture practices, and methods to diversify farmers' income, such as wine tourism. The Toolkit focuses on flexible training delivery, open-access resources, gamification techniques, and innovative curriculum development for VET institutions. A Protocol for Cooperation among European winemakers is also created to encourage collaboration and standardize good practices.

Creation of an Online Platform: An interactive online platform is developed to train users in the application of artificial intelligence (AI) in viticulture. It provides access to big data resources (weather records, soil maps, satellite imagery) and AI-driven insights for vineyard management. The platform supports farmers and VET educators in adopting new technologies through learning-by-doing experiences.

Pilot Programs Implementation: Small-Scale Pilots: Organized locally in France, Italy, Spain, and Serbia, involving small groups of participants to test and provide feedback on the Handbook, Toolkit, and Online Platform. These pilots allow for the fine-tuning of the educational materials and digital tools.

Large-Scale Pilots: Following the refinement based on small-scale feedback, broader pilot sessions are held in each partner country, engaging more participants to fully test the functionality, usability, and effectiveness of the project outputs.

International Trainings: Two intensive one-week training events take place in Spain and Italy, using a Challenge-Based Learning methodology. Participants are trained directly in applying the tools developed, working collaboratively on practical, real-world cases related to viticulture's ecological and digital transition.

Climate change impacts and adaptation

Main climate change-related impacts, challenges or risks (current or expected)

The main impacts to be addressed are: Decrease in production, Water scarcity and drought, Heat stress, Increase in species harmful to production (invasive species, pests, etc.) or diseases, Extreme weather events, Loss of biodiversity/habitats, Soil erosion/degradation, Increased vulnerability of local communities, Impacts on the economy/job losses

In the provinces of Agrigento and Trapani (Sicily) and throughout the Mediterranean wine sector, climate change is already causing major problems. Decreased rainfall and prolonged droughts are leading to water shortages, affecting vine health, grape yields and soil quality. Heat stress during critical growing periods reduces grape quality and accelerates ripening, destabilising traditional harvest cycles.

The sector also faces an increased spread of pests and diseases, favoured by milder winters and fluctuating seasonal patterns. Extreme weather events, such as storms and sudden temperature changes, are becoming more frequent, causing physical damage to vineyards and further threatening the stability of production. In addition, the hardening of climatic conditions intensifies erosion and soil degradation, reducing the fertility of agricultural land in the long term.

These environmental changes are accompanied by socio-economic risks: small and medium-sized winemakers face greater economic vulnerability, leading to potential loss of employment and abandonment of rural areas. The cumulative effect of these factors endangers not only the local economy but also the preservation of biodiversity, traditional agricultural practices, and rural cultural heritage.

Specific value chains affected by climate change

The viticulture and winemaking value chain is directly impacted by climate change. This chain includes grape cultivation, wine production, distribution, and related services such as wine tourism. Climate-related challenges like drought, heat stress, and the spread of pests are threatening vineyard productivity and wine quality, leading to disruptions across the entire production and commercialization cycle.

Additionally, agrifood supply chains connected to viticulture, such as local processing, packaging, and export services, are increasingly vulnerable. These impacts also extend to rural development activities, including eco-tourism and agro-tourism, which rely heavily on the environmental health and attractiveness of the landscape.

Through the STIV project, efforts are being made to adapt and strengthen these interconnected value chains by promoting sustainable practices, integrating digital technologies like artificial intelligence, and fostering resilient rural economies.

Most relevant climate change adaptation initiatives/measures currently in place

Any

Potential future innovative solutions for climate change adaptation

The initiative plans to implement several innovative solutions for climate change adaptation in the near future, including:

Artificial Intelligence Platforms for Viticulture:

Using AI-driven tools to analyse big data (satellite imagery, soil and climate data) for predictive modelling of yields, pest risks, and drought impact, allowing farmers to make smarter, faster, and more sustainable decisions.

Challenge-Based Learning (CBL) for Farmers and Educators:

Introducing hands-on, real-world problem-solving training that helps agricultural practitioners build resilience skills directly applicable to the climate challenges they face.

Development of a European Protocol for Sustainable Cooperation:

Establishing a formal cooperation framework among winemakers across Europe to share best practices, innovations, and joint responses to climate change.

Gamification of Sustainable Agricultural Training:

Using game-based learning to make the transfer of digital and green skills more attractive, especially for younger generations entering the viticulture sector.

Promotion of Wine Tourism Linked to Environmental Protection:

Diversifying rural economies by creating sustainable wine tourism initiatives, blending environmental conservation with local economic resilience.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Municipalities, NGOs, VET centres, companies, agricultural associations, local farmers and rural communities

Community engagement or participatory activities carried out: Co-design / co-creation workshops, Educational programmes, Events and awareness campaigns, Cultural initiatives

Additional stakeholders to be engaged: Research centres and universities specialized in climate-smart agriculture and viticulture; Farmers' cooperatives and agricultural associations from other EU regions to expand the cooperation network; Tourism boards and eco-tourism initiatives to strengthen the link between sustainable agriculture and rural tourism.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Networking with other similar European initiatives

CASE STUDY 13 – Future of radiata pine in the Basque Country	
General information	
Institution/organisation	CESEFOR & Servicio de Montes de la Diputación Foral de Álava
Location	Spain Basque Country
Sector(s)	For the LL: Forestry
Name of initiative/project (if any)	Resilience of forests in the Basque Country
Geographical and thematic scope	
Geographical scale of implementation	
Regional (sub-national level)	
Main characteristics of the site and the sector concerned	
Rural area	
Main activities of the project/initiative (ongoing/planned)	
To be defined and implemented.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Decrease in production, Water scarcity and drought, Floods, Heat stress, Increase in species harmful to production (invasive species, pests, etc.) or diseases, Fires, Extreme weather events, Loss of biodiversity/habitats, Soil erosion/degradation, Increased vulnerability of local communities	
The main challenge is related to the big outbreak of forest diseases.	
Specific value chains affected by climate change	
The forestry sector and related activities.	
Most relevant climate change adaptation initiatives/measures currently in place	
REINFFORCE; REINFFORCE2, GOConíferas+ (all 3 funded); The forest sector is changing species (<i>Pinus pinaster</i> , <i>Sequoia</i> , <i>Cryptomeria</i>). The industrial sector is funding the plantation of <i>Pinus pinaster</i>	
Potential future innovative solutions for climate change adaptation	
To be defined by the main stakeholders of the sector.	
Stakeholders and engagement	
Main stakeholders, community engagement or participatory activities (existing and desired)	
Main stakeholders involved: Private actors and Administration Additional stakeholders to be engaged: BaskEgur, Forest Owners Associations, Tantai, Forest Administration, Society	
Potential for collaborating with FARCLIMATE	
The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology	

CASE STUDY 14 – Kaem	
General information	
Institution/organisation	American Farm School
Location	Greece Messenia
Sector(s)	For the LL: Agriculture
Name of initiative/project (if any)	Use of smart farming in olive groves to tackle climate change effects
Geographical and thematic scope	
Geographical scale of implementation	
National (country level), Regional (sub-national level)	
Main characteristics of the site and the sector concerned	
The work focuses on olive trees which is the main crop in Messenia but also the most abundant crop in Greece being cultivated in 50 of the 52 prefectures of Greece. Rural population welfare depends directly on the sustainability of the olive oil sector. However, we have recently witnessed the severe impact of climate change on the sustainability of the sector.	
Main activities of the project/initiative (ongoing/planned)	
Application of smart agriculture focusing on irrigation protocols under water scarcity. The aim is to control soil moisture levels and apply precision irrigation. All this, combined with plant pest and disease monitoring and alert notification.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Decrease in production, Water scarcity and drought, Heat stress, Loss of biodiversity/habitats, Loss of population/abandonment of rural areas.	
We have observed heat stress, soil water limitation, effects on flowering, quality issues etc.	
Specific value chains affected by climate change	
Olive oil	
Most relevant climate change adaptation initiatives/measures currently in place	
None being implemented at the moment. Efforts are being made to develop the first concrete, well-designed and tested adaptation measures, mainly through the adoption of novel cultivation techniques and methods.	
Potential future innovative solutions for climate change adaptation	
Combination of deficit irrigation with sub-terranean equipment.	
Stakeholders and engagement	
Main stakeholders, community engagement or participatory activities (existing and desired)	
Main stakeholders involved: Local farmers and farmer groups, Captain Vasislis foundation, local authorities, local university, cooperatives, citizens and the American Farm School as coordinator and innovation facilitator.	
Community engagement or participatory activities carried out: Co-design / co-creation workshops, Volunteering activities, Educational programmes, Events and awareness campaigns.	
Additional stakeholders to be engaged: Civil society organisations	
Potential for collaborating with FARCLIMATE	



The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives.

CASE STUDY 15 – EXO	
General information	
Institution/organisation	EXO research
Location	Italy Basilicata
Sector(s)	For the LL: Agriculture Others: Forestry, Livestock farming, Biodiversity and green spaces, Community development, Climate change adaptation, Climate change mitigation
Name of initiative/project (if any)	Living Lucania - Laboratorio Rurale
Geographical and thematic scope	
Geographical scale of implementation	
District / Province / Protected area	
Main characteristics of the site and the sector concerned	
Basilicata is one of the smallest Italian regions, characterised by a predominantly rural environment and a population that, in recent years, has been steadily declining. This includes a growing rate of depopulation in rural areas in favour of urban centres, and an increasingly frequent phenomenon of brain drain even from the latter to economically and socially more promising contexts, both in Italy and abroad. The Living Lab is intended to operate mainly in some rural centres in the province of Potenza, areas rich in environmental and cultural potential that are home to Regional and National Parks. The aim is to valorise these valuable assets and to raise the awareness of the communities living there, so that their own rural identity becomes a driving force for the future.	
Main activities of the project/initiative (ongoing/planned)	
Engagement of population Engagement of other relevant stakeholders Co-creation of nature-based solutions Raising awareness on climate change and climate adaptation Promotion of sustainable practices in agriculture, animal husbandry and forestry Knowledge and Technology transfer Digitalisation	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	

The main impacts to be addressed are: Floods, Fires, Extreme weather events, Soil erosion/degradation, Increased vulnerability of local communities, Loss of population/abandonment of rural areas, Impacts on the economy/job losses.

Climate change is significantly affecting Basilicata, a region already marked by hydrogeological fragility and a sensitive rural economy.

The main impacts include:

Prolonged drought and water crisis: The region has been facing severe water shortages, with a significant drop in reservoir levels, due both to climate change and inadequate maintenance of water infrastructure.

Extreme weather events: Summers are becoming increasingly hot and dry, with frequent heat-waves and intense storms, posing risks to agriculture and territorial safety.

Increased territorial vulnerability: The combination of adverse climatic conditions and structural weaknesses makes Basilicata particularly prone to landslides and floods, requiring in-depth territorial knowledge to prevent critical events.

These phenomena exacerbate the socio-economic challenges of rural areas, contributing to depopulation and the loss of human and cultural resources.

Specific value chains affected by climate change

Livestock, agriculture and forestry

Potential future innovative solutions for climate change adaptation

To be defined

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Regional governments, secondary schools, University of Basilicata, National Park authority

Community engagement or participatory activities carried out: Co-design / co-creation workshops

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains.

CASE STUDY 17 - Alcornocales Natural park

General information

Institution/organisation	Consejería de Sostenibilidad y Medio Ambiente Junta de Andalucía
Location	Spain Los Alcornocales Natural Park, Cádiz/Málaga, Andalusia
Sector(s)	For the LL: Forestry Others: Biodiversity and green spaces, Climate change adaptation, Climate change mitigation
Name of initiative/project (if any)	PROYECTO LIFE CO2RK: gestión de los bosques de Crecimiento lento como herramienta de mitigación del cambio climático

Geographical and thematic scope

Geographical scale of implementation
Regional (sub-national level) / Protected area
Main characteristics of the site and the sector concerned
A protected natural area of 168,000 hectares spread over 17 municipalities. The population is mainly rural. The area is part of the Intercontinental Biosphere Reserve of the Mediterranean, and has been declared as Special Area of Conservation (SAC) and Special Protection Area (SPA) for birds. It is characterised by large formations of <i>Quercus suber</i> and <i>Quercus canariensis</i> , with an important cork and livestock activity (extensive).
Main activities of the project/initiative (ongoing/planned)

The general objectives of the project are:

1.- To build and test a legal and financial architecture to mobilise investments for the recovery of the cork oak ecosystem from companies interested in offsetting their CO2 emissions towards forestry estates that certify silvicultural management that the project will have scientifically proven to generate additionality, i.e. maximum CO2 sequestration above that under current conditions.

2.- To promote CO2 offsetting by raising awareness and facilitating agreements between companies with emissions and forest owners, developing a scientifically endorsed CO2 sequestration certification methodology, and registering offsetting agreements in the SACE (Andalusian Emissions Offsetting System).

3.- To halt the decline of the Fagaceae forest masses, especially those of Cork oak and Holm oak. The use of forest products will be encouraged, as only their (sustainable) exploitation provides the necessary profitability for owners to invest in appropriate forest management that guarantees their health and future. Special mention to cork, one of the few products that sequester CO2 during a very long useful life as a stopper in the best wines, insulating material in construction and industries...

The main actions of the project are:

1.- To produce a Carbon Forestry Manual: Guide with the forest management that obtains the highest CO2 fixation for each type of cork oak forest, so that forest managers can plan silvicultural itineraries in any cork oak forest and it is easily adaptable to other Fagaceae (beech, oak, chestnut, holm oak).

2.- To develop a web application that will allow a landowner to measure the surface of the stand he is interested in, indicate the typology, and choose the carbon forestry practices that fit with his productive purposes to maximise sequestration, or simply to make it compatible with the exploitation of cork, livestock, hunting... and to accurately estimate the UDAs (Absorption Units) that he would achieve and can offer as a basis for a compensation agreement or contract.

3.- Through dissemination events and personalised consultancy work, CO2RK will promote mutual knowledge and the signing of agreements between companies interested in offsetting their emissions and forest managers.

Climate change impacts and adaptation

Main climate change-related impacts, challenges or risks (current or expected)

The main impacts to be addressed are: Loss of biodiversity/habitats

The increase in temperatures and changes in rainfall, together with other factors, is causing an increase in the incidence of the phenomenon known as 'la seca' in cork oak stands. As a result of the extension of the summer period, there has been an increase in cork oak mortality in September/October. This loss is estimated at around 15% of cork oak stands every 10 years.

Specific value chains affected by climate change

Forestry activity is affected, in particular cork activity.

Most relevant climate change adaptation initiatives/measures currently in place

Actions are being carried out to improve the state of the forest stands, as well as studies to see the effects of the lack of insectivores on pests.

Potential future innovative solutions for climate change adaptation

The feasibility of promoting a global change observatory in Los Alcornocales NP is being promoted and studied.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Public institutions (Junta de Andalucía), University of Cordoba, forest owners, town councils and companies in the diffuse sector.

Community engagement or participatory activities carried out: Educational programmes. Compensation projects and participation in the future 'Expert Group'.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives

CASE STUDY – 18 – Sustainable Grass Production Living Lab (SUSGRASS)	
General information	
Institution/organisation	Natural Resources Institute Finland Maaninka
Location	Finland North Savo, Kuopio
Sector(s)	For the LL: Agriculture Others: Livestock farming, Biodiversity and green spaces, Water management, Waste / Circular economy, Climate change adaptation, Climate change mitigation
Name of initiative/project (if any)	Nurmi Living Lab / SUSGRASS FINLAND
Geographical and thematic scope	
Geographical scale of implementation	
National (country level), Regional (sub-national level), Farm/private land	
Main characteristics of the site and the sector concerned	
Northern Savo (Pohjois-Savo) is a region in eastern Finland of about 20,000 km² and 240,000 inhabitants. The landscape is characterised by thousands of lakes, wooded hills and a cool, humid climate. The regional centre is Kuopio, a city that combines services, education and research. The economy of North Savo is diverse, with key sectors such as health and welfare technology, food production, forestry, manufacturing and services. In terms of agriculture, North Savo is one of Finland's key areas for milk and fodder production. Farms tend to focus on grazing livestock, supported by fine-textured mineral soils (such as loamy and silty soils) and reliable rainfall. Agriculture employs approximately 5-7% of the region's working population and is vital to the vitality of rural communities. The area is also home to important agricultural research and innovation, particularly in sustainable rangeland management, nutrient runoff control and climate-smart agricultural practices.	
Main activities of the project/initiative (ongoing/planned)	
Nurmi LL (SUSGRASS Finland) initiative is a Finnish Living Lab focused on sustainable grassland management and forage production. It serves as a collaborative platform where farmers, researchers, and policymakers work together to develop and implement sustainable agricultural practices. The Nurmi LL aims to bridge the gap between research and practical application, ensuring that sustainable practices are both scientifically sound and practically feasible for local farmers. https://www.youtube.com/watch?v=8qLWBaIQebs&list=PLLiSq4pLlOECDyd6ZeS8P8ERY-oAoi2E55&index=14	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Decrease in production, Extreme weather events, Loss of biodiversity/habitats, Soil erosion/degradation, Loss of population/abandonment of rural areas In Pohjois-Savo, climate change is bringing more variable weather, including frequent heavy rains and occasional droughts. These conditions pose risks to grass production by causing soil wetness, yield fluctuations, and increased nutrient leaching. While longer growing seasons may offer some benefits, the unpredictability makes forage planning more difficult. Farmers need to adapt through improved drainage, resilient grass species, flexible harvest timing, and strategies to secure feed supply in poor years. These challenges also affect rural livelihoods and communities, increasing economic uncertainty for farms and putting pressure on the resilience of local food systems and advisory services.	
Specific value chains affected by climate change	

Pohjois-Savo is a region of national importance for dairy and meat production. Climate change introduces challenges such as increased weather variability, which affects crop yields and livestock productivity. These disruptions can lead to instabilities in the supply chain, affecting the processing, distribution and market availability of food products. Efforts are being made to increase resilience through improved nutrient recycling, carbon sequestration in croplands and the development of climate-smart agricultural practices.

Most relevant climate change adaptation initiatives/measures currently in place

3 examples of agricultural adaptation measures:

- Enhanced Drainage Systems: To combat increased rainfall and prevent waterlogging, investments have been made in improving field drainage infrastructure.
- Diversification of Crop Varieties: Farmers are adopting more mixed grass lays and resilient grass species and adjusting cultivation practices to align with shifting growing seasons, aiming to optimize forage yields.
- Soil Management Practices: Techniques such as new techniques and lighter machinery for manure spreading and soil amendments are being employed to maintain soil health and mitigate the effects of compaction and acidification due to changing precipitation patterns.

These measures are part of a broader regional effort to enhance resilience against climate-related challenges, ensuring the sustainability of Pohjois-Savo's agricultural sector.

Potential future innovative solutions for climate change adaptation

Examples of possible solutions could include:

Weather-smart forage planning tools

Digital decision-support tools that use real-time weather data and forecasts to optimize the timing of grass sowing, fertilizing, and harvesting—helping reduce climate-related risks and losses.

Controlled traffic farming (CTF)

Implementing CTF systems to minimize soil compaction from machinery, especially important under wetter conditions caused by climate change.

Grass cultivar trials for climate resilience

Testing and selecting forage grass varieties with better drought tolerance, winter hardiness, and multi-cut performance under varying weather conditions.

Farm-scale nutrient cycling innovations

Closing nutrient loops more tightly with local organic fertilizers (e.g. digestate, compost, slurry separation methods) and precision spreading technologies to reduce runoff and improve resilience to extreme weather.

These innovations aim to enhance both productivity and sustainability, while helping farmers adapt to increasingly unpredictable conditions.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved:

Participants from all 4 quadruple helix groups:

Natural resources Institute Finland (Luke Maaninka)

Savonia university of applied sciences

ProAgria Eastern Finland (Advisory organization)

Union of Agricultural Producers and Forest Owners (MTK Pohjois-Savo)

The Finnish Organic Research Institute FORI

Water Protection Association of Savo-Karelia (SKVSY)

Private farmers

Community engagement or participatory activities carried out: Co-design / co-creation workshops, Volunteering activities, Educational programmes, Events and awareness campaigns

Additional stakeholders to be engaged: Nature protection organization(s), Citizen organizations

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains

CASE STUDY 19 – Porto Santo	
General information	
Institution/organisation	Porto Santo Municipality
Location	Portugal Porto Santo, Madeira
Sector(s)	For the LL: Agriculture & forestry Others: Biodiversity and green spaces, Education and awareness, Landscape management & stewardship, Climate change adaptation
Name of initiative/project (if any)	Florestação de áreas com coberto vegetal degradado e sujeitas a erosão
Geographical and thematic scope	
Geographical scale of implementation	
Municipal	
Main characteristics of the site and the sector concerned	
The project will be carried out on the island of Porto Santo (42 km²), with a population of about 5,000 inhabitants (which increases during the summer period to about 25,000 inhabitants). It is an island whose main economic activity is tourism, which is very much based on bathing, due to the existence of a golden sandy beach that stretches along the entire south coast of the island. Porto Santo is particularly sensitive to the scarcity of water resources and erosion phenomena, which could worsen with climate change, with lower average rainfall and an increase in episodes of heavy rainfall, accentuating erosion and putting at risk the populations and infrastructures close to the water lines.	
Main activities of the project/initiative (ongoing/planned)	
Biophysical recovery of soils in order to reduce water torrentiality and erosion phenomena; introduction of species adapted to local conditions, preferably native species that retain soil and contain erosion; production of plants for introduction into the intervention areas; improvement of the capacity to utilise and store rainwater for irrigation of the introduced species.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Water scarcity and drought, Floods, Heat stress, Loss of biodiversity/habitats, Soil erosion/degradation The main challenges and risks are related to: Scarce water resources and degraded soils vulnerable to erosion may be exacerbated by climate change.	
Specific value chains affected by climate change	
Forest ecosystem services (general), nature tourism services.	
Most relevant climate change adaptation initiatives/measures currently in place	
There are some afforestation works underway.	
Potential future innovative solutions for climate change adaptation	
To be defined	
Stakeholders and engagement	
Main stakeholders, community engagement or participatory activities (existing and desired)	

Main stakeholders involved: Madeira Regional Government, Schools, Military, Community Groups, Hotel Groups, Tourist Agents.

Community engagement or participatory activities carried out: Co-design / co-creation workshops, Volunteering activities, Educational programmes, Events and awareness campaigns, Cultural initiatives.

Additional stakeholders to be engaged: Partnerships with local public entities, namely government entities.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Sharing good practices, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains.

CASE STUDY 20 - Vaia Storm case	
General information	
Institution/organisation	BlueBiloba / CESEFOR
Location	Italy Trentino-Alto Adige region
Sector(s)	For the LL: Forestry Others: Landscape management & stewardship, Climate change adaptation, Response to extreme damage events in forests
Name of initiative/project (if any)	
Geographical and thematic scope	
Geographical scale of implementation	
Regional (sub-national level)	
Main characteristics of the site and the sector concerned	
The project site is located in the Trentino-Alto Adige region of northern Italy, an alpine area known for its dense forests, mountainous terrain and rich biodiversity. Predominantly rural, the region combines small towns and scattered settlements with vast natural landscapes. The area was severely affected by storm Vaia in 2018, which caused extensive forest destruction and ecological disruption. Forestry plays a vital socio-economic role here, supporting local livelihoods, tourism and environmental sustainability. The region has a strong tradition of land stewardship and community forestry management.	
Main activities of the project/initiative (ongoing/planned)	
The project will start by assessing the immediate and long-term impacts of storm Vaia on forest resources in Trentino Alto Adige. This includes ecological, economic and social dimensions. We will analyse the response measures taken by public authorities to manage the aftermath, assessing their effectiveness and extracting the main lessons learned, both successes and shortcomings. Based on this knowledge, we will identify and map the main forestry-related actors in the region, including public institutions, private landowners, local communities and environmental organisations. Through participatory activities, we will share our findings and gather stakeholder perspectives on the current situation and challenges. Where current problems or fragmentation are identified, we will facilitate dialogue and foster collaboration to jointly design solutions and strengthen the regional forest network.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Water scarcity and drought, Increase in species harmful to production (invasive species, pests, etc.) or diseases, Extreme weather events, Soil erosion/degradation Climate change is significantly impacting the Trentino-Alto Adige region, posing challenges to its forestry sector. Rising temperatures and altered precipitation patterns have led to increased frequency of extreme weather events, such as the Vaia Storm in 2018, which devastated vast forest areas with winds exceeding 200 km/h and heavy rainfall. The region's forests are experiencing varied effects: lower-montane areas and dry valleys face drought-induced tree mortality, while subalpine forests may benefit from longer growing seasons. Additionally, melting glaciers threaten water availability, affecting both ecosystems and hydroelectric power generation.	
Specific value chains affected by climate change	

The forest value chain is directly affected by climate change in this initiative. Storm Vaia and subsequent climate-related events have disrupted timber production, damaged forest infrastructure and increased vulnerability to pests and diseases such as bark beetle outbreaks. These effects have reduced the economic viability of traditional forest holdings and affected downstream industries such as sawmills, wood processing and bioenergy. In addition, changes in forest composition and health threaten ecosystem services such as carbon sequestration, water regulation and tourism.

Most relevant climate change adaptation initiatives/measures currently in place

Several climate change adaptation measures are currently in place in the Trentino-Alto Adige region. Following the Vaia Storm, regional authorities and forestry institutions have implemented actions to restore damaged forests and increase their resilience. Some of them are:

- Diversifying tree species to promote mixed and climate-resilient forests instead of monocultures vulnerable to windthrow and pests.
- Improved forest management practices, such as selective thinning, soil conservation, and natural regeneration support, to enhance forest structure and stability.
- Monitoring and early warning systems for pests (e.g., bark beetles) and extreme weather events.

They are carried out by local entities.

Potential future innovative solutions for climate change adaptation

Close-to-nature silviculture as an approach to improve climate change adaptation of forests.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Currently, the main stakeholders involved are private actors. We are in the process of engaging public institutions that have influence in the region, with the aim of involving them in the next phases of the initiative.

Community engagement or participatory activities carried out: Any activity carried out yet

Additional stakeholders to be engaged:

We would like to involve public institutions or organizations based in the study area that can help strengthen and support our initiative.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Dissemination and awareness, Designing and implementing nature-based solutions for climate change adaptation

CASE STUDY 21 - Emilia-Romagna Region	
General information	
Institution/organisation	Mariscadoras srl benefit
Location	Italy Emilia Romagna Region
Sector(s)	For the LL: Fishery Others: Biodiversity and green spaces, Education and awareness, Community development, Landscape management & stewardship, Climate change adaptation, Climate change mitigation, Tourism
Name of initiative/project (if any)	Blueat la pescheria sostenibile
Geographical and thematic scope	
Geographical scale of implementation	
Regional (sub-national level), Municipal, Province, Protected area	
Main characteristics of the site and the sector concerned	
The proposed case study is located along the coastal and lagoon areas of the Emilia-Romagna region, Italy. This territory includes three distinct yet interconnected zones: The northern Po Delta lagoon area, characterized by rich biodiversity, wetlands, and a sensitive ecological balance under pressure from climatic and anthropogenic factors. The industrial port of Ravenna, which represents a major hub for maritime trade and infrastructure, influencing the local marine environment. The southern coastline, heavily anthropized and intensely exploited for mass tourism, contributing to environmental stress and ecosystem fragmentation. This diversity creates a complex socio-ecological system with multiple pressures and stakeholders, ranging from traditional fisheries and aquaculture to tourism, port industries, and nature conservation entities.	
Main activities of the project/initiative (ongoing/planned)	
The initiative, led by Blueat – Mariscadoras Srl Benefit, aims to launch a regional dialogue and participatory process to address the issue of invasive alien species (IAS), particularly in the Northern Adriatic. Key activities include: Awareness-raising events involving local communities and economic actors. Stakeholder consultations and roundtables with fishermen, FLAGs (Fisheries Local Action Groups), recreational boating associations, tourism operators, and scientists. Surveys and interviews to gather local knowledge, perceptions, and proposals. Co-design workshops aimed at identifying locally adapted solutions for the management and valorisation of IAS, replicating successful approaches such as the valorisation of blue crabs. These activities are based on the Living Lab methodology and aim to foster knowledge sharing and collaborative innovation.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	

The main impacts to be addressed are: Decrease in production, Increase in species harmful to production (invasive species, pests, etc.) or diseases, Loss of biodiversity/habitats, Increased vulnerability of local communities, Loss of population/abandonment of rural areas, Impacts on the economy/job losses.

One of the most visible and impactful effects of climate change in the northern Adriatic Sea is the increase in invasive alien species, facilitated by:

Rising sea temperatures, which favours the proliferation of non-native species over native ones.

Hydrological changes and altered salinity levels, especially in lagoon systems.

Human-driven vectors, such as ballast water from shipping and aquaculture escapes.

A recent emblematic case is the Blue Crab (*Callinectes sapidus*), whose sudden expansion has significantly disrupted traditional fishing practices, damaged equipment, and threatened local biodiversity. This phenomenon has exposed the vulnerability of marine and lagoon ecosystems and the need for adaptive management and innovative economic responses.

Specific value chains affected by climate change

The fisheries and aquaculture value chains are directly affected by climate change in this initiative. Specifically:

- Traditional fisheries are impacted by the decline of native species due to invasive competitors or predators.
- Aquaculture systems face increasing operational risks from ecosystem changes.
- Seafood valorisation chains (e.g., local gastronomy, processing industries) are disrupted by the unpredictability of available species.

Through this project, Blueat also explores innovative valorisation of invasive species, turning a problem into an economic opportunity. This includes developing new market niches (e.g., gastronomy, cosmetics, pet food) for species like the blue crab, supporting both environmental management and local economic diversification.

Most relevant climate change adaptation initiatives/measures currently in place

There are at least three relevant measures:

Experimental fishing and valorisation of the blue crab: Initiatives have been launched to turn this invasive species into a resource, by exploring gastronomic uses and integrating it into the local seafood economy. (Partially supported by regional or national funds.)

Awareness campaigns and public events: Local institutions and associations have carried out educational events to inform the public and professionals about climate impacts on marine biodiversity. (Often supported by EU/local programs like FLAG or GALPA.)

Research collaborations: Partnerships with universities and marine research centres to monitor biodiversity and track the impact of climate change. (Usually project-based funding.)

Potential future innovative solutions for climate change adaptation

Blueat aims to implement the following innovative measures:

Living Lab participatory methodology to co-design adaptive responses with stakeholders in real-life contexts.

New value chains for alien species: Develop sustainable supply chains that include processing, marketing and education around invasive seafood (e.g. blue crab).

Marine and coastal ecosystem restoration projects, integrating nature-based solutions to improve biodiversity resilience.

Digital participatory tools (e.g. web-based surveys, citizen science platforms) to monitor perceptions and impacts of climate change among local communities

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: Local fishers and aquaculture operators, FLAG/GALPA Emilia-Romagna (Local Action Groups for Fisheries), Environmental NGOs and associations, Recreational boating and diving associations, Tourism and hospitality operators, Research institutions and universities, Regional public authorities and coastal municipalities

Community engagement or participatory activities carried out: Co-design / co-creation workshops, Educational programmes, Events and awareness campaigns, Cultural initiatives, citizen science activities and surveys and interviews

Additional stakeholders to be engaged: very interested in expanding the stakeholder network, in particular to include:

Climate experts and adaptation planners

EU and national policymakers working on marine climate adaptation strategies

Technology providers for biodiversity monitoring or marine ecosystem restoration

Schools and youth organizations, to integrate climate education in the process

Chefs and food entrepreneurs, to innovate in sustainable gastronomy with alien species

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains.

In developing this initiative, it will also draw on the experience, networks and methodologies developed by Fondazione Cetacea, an NGO actively engaged in marine conservation and climate resilience in the northern Adriatic. As a member of this organisation, the external focal point can build on years of applied work using stakeholder consultation methodologies, including participatory workshops, co-design processes and science-policy dialogues. Fondazione Cetacea has developed a solid reputation for engaging fishers, policymakers, scientists, and civil society in discussions around marine biodiversity, climate threats, and sustainable innovation. These methods will be adapted and integrated into the Blueat initiative to ensure inclusive and effective participation

CASE STUDY 24 - Abruzzo	
General information	
Institution/organisation	Association Foresta Modello Valle Aterno
Location	Italy Abruzzo region; Fontecchio municipality
Sector(s)	For the LL: Forestry Others: Biodiversity and green spaces, Energy, Education and awareness, Landscape management & stewardship, Climate change adaptation
Name of initiative/project (if any)	Living Labs in Valle Aterno Model Forest
Geographical and thematic scope	
Geographical scale of implementation	
Municipal	
Main characteristics of the site and the sector concerned	
Rural area; 300 municipality inhabitants; heavily depopulated area; rural mosaic landscape with semi-abandoned forests and mismanaged artificial pine plantations;	
Main activities of the project/initiative (ongoing/planned)	
Reducing the artificial public pine forests density in order to face the increasing risk of wildfires and facilitate the re-growth of autochthone trees & shrubs species	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Fires, Loss of biodiversity/habitats, Loss of population/abandonment of rural areas	
Summer wildfire risk is increasing while abandoned artificial pine plantations are easy fire baits.	
Specific value chains affected by climate change	
Forest log + non-wood products loss Destruction on truffle oaks orchards	
Most relevant climate change adaptation initiatives/measures currently in place	
Anti-wildfire plan by the regional natural park (not implemented by our association)	
Potential future innovative solutions for climate change adaptation	
1) reduction of artificial pine plantations in favour of the autochthone forest; 2) truffle oak trees cultivation managed as fire-break strips	
Stakeholders and engagement	
Main stakeholders, community engagement or participatory activities (existing and desired)	
Main stakeholders involved: Public institutions (municipality, university), private actors (farmers, logging companies etc)	
Community engagement or participatory activities carried out: Co-design / co-creation workshops, Volunteering activities, Educational programmes, Events and awareness campaigns, Cultural initiatives	
Additional stakeholders to be engaged: University, farmer, truffle producers, local schools	
Potential for collaborating with FARCLIMATE	



The initiative could contribute to or benefit from the FARCLIMATE project through: Participating in co-creation of local solutions, through the 'Living lab' methodology, Hosting or co-organising events/workshops, Sharing good practices, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains

CASE STUDY 25 - Romania, Focșani	
General information	
Institution/organisation	National Institute for Research and Development in Forestry "Marin Dracea"
Location	Romania Vrancea County, Vrancea Subcarpathians area, Brasov
Sector(s)	For the LL: Forestry Others: Water management, Climate change adaptation, Climate change mitigation
Name of initiative/project (if any)	Innovative management solutions for stands installed on degraded lands, in the context of climate change
Geographical and thematic scope	
Geographical scale of implementation	
District, Protected area	
Main characteristics of the site and the sector concerned	
The study site is home to a rural population with high expectations for environmental sustainability and socio-economic well-being. It is degraded land of approximately 35.1 hectares with artificial Scots pine and black pine plantations. It is intensively monitored through research activities and is subject to climate-related risks. In addition to their protective functions, the forests contribute significantly to the local economy.	
Main activities of the project/initiative (ongoing/planned)	
The main project activities would include: - Implementing an innovative method to support and monitor both the ecological restoration and natural regeneration on degraded lands, using advanced silvicultural approaches - Promoting the regeneration of species corresponding to the natural forest type in artificial stands installed on degraded lands exposed to climatic hazards - Engaging key stakeholders in all stages of project implementation to ensure public involvement and transparency - Applying sustainable and innovative management practices to develop climate-resilient forest stands, aligned with projected climate scenarios.	
Climate change impacts and adaptation	
Main climate change-related impacts, challenges or risks (current or expected)	
The main impacts to be addressed are: Decrease in production, Water scarcity and drought, Floods, Heat stress, Extreme weather events, Loss of biodiversity/habitats, Soil erosion/degradation, Increased vulnerability of local communities.	
Specific value chains affected by climate change	
The current stands were installed on degraded lands 50-70 years ago and provide mainly protection services (soil, water, and so on), but also carbon storage or biomass production. Due to climate challenges, the stability of these stands is affected, and the quality of bioprotective and bio-productive ecoservices is reduced, which affects the quality of the environment and the landscape, but also the activities of the inhabitants of the area. Under the combined pressure of climate change and ongoing soil degradation, the forestry value chain remains an overlooked issue that requires continuous monitoring and control, especially in sectors where stands are at risk of decline.	
Most relevant climate change adaptation initiatives/measures currently in place	
Any	
Potential future innovative solutions for climate change adaptation	

Assisted natural regeneration (ANR) – Supporting the recovery of native vegetation by protecting sprouts and managing competition.

Watershed restoration – Reforesting and stabilizing riparian zones to regulate flow and reduce erosion.

Climate-resilient tree species – Introducing or promoting species/genotypes better adapted to drought, pests, or temperature extremes.

Implementation of new methods for stimulating and protecting seedlings.

Stakeholders and engagement

Main stakeholders, community engagement or participatory activities (existing and desired)

Main stakeholders involved: The main stakeholders involved are the public institutions.

Community engagement or participatory activities carried out: Volunteering activities, Educational programmes, Cultural initiatives

Additional stakeholders to be engaged: State-Owned or Private Forest Administrators, the local councils.

Potential for collaborating with FARCLIMATE

The initiative could contribute to or benefit from the FARCLIMATE project through: Sharing good practices, Dissemination and awareness, Designing and implementing innovative measures to address climate risks, Designing and implementing nature-based solutions for climate change adaptation, Networking with other similar European initiatives, Developing new resilient value chains.

This initiative is expected to generate innovative methodologies that support the development of natural value chains in forestry from high-risk areas. These can be adapted and replicated in comparable contexts, contributing to sustainable forest management through forward-looking, innovation-based practices. In the area, plantations have also been carried out on degraded lands, especially with pine, which have reached the age of over 70 years and are affected by severe tree drying phenomena. The proposed arboretums are under the administration of INCDS "Marin Dracea", within their contents being installed in 13 research plots (in which the biometric characteristics of the trees were monitored), two points for collecting climatic data (air temperature, precipitation, soil humidity and temperature), 11 points for collecting data on slope runoff, with only five functional. Monitoring activities were carried out over 40 years.

References

- Ara Begum, R., R. Lempert, E. Ali, T.A. Benjaminsen, T. Bernauer, W. Cramer, X. Cui, K. Mach, G. Nagy, N.C. Stenseth, R. Sukumar, and P. Wester (2022). 'Point of Departure and Key Concepts'. In: H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 121–196. [doi:10.1017/9781009325844.003](https://doi.org/10.1017/9781009325844.003)
- Intergovernmental Panel on Climate Change (IPCC) (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Core Writing Team, H. Lee and J. Romero (eds.). IPCC, Geneva, Switzerland, 184 pp. [doi:10.59327/IPCC/AR6-9789291691647](https://doi.org/10.59327/IPCC/AR6-9789291691647).
- Simpson, N.P., Orr, S.A., Sabour, S., Clarke, J., Ishizawa, M., Feener, M., Ballard, C., Mascarenhas, P.V., Pinho, P., Bosson, J.B., Morrison, T., Zvobogo, L (2022). *ICSM CHC White Paper II: Impacts, vulnerability, and understanding risks of climate change for culture and heritage: Contribution of Impacts Group II to the International Co-Sponsored Meeting on Culture, Heritage and Climate Change*. Charenton-le-Pont & Paris, France: ICOMOS & ICSM CHC. ISBN: 978-2-918086-72-7.



Annex 1. Full list of potential case studies considered

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
1	7	First	First	Ria de Pontevedra	Ría de Arousa FLAG	Spain	UVIGO, FUNDAMAR	Fishery	Ria de Pontevedra
2	6	First	First	Ria de Arousa	Ría de Pontevedra FLAG	Spain	UVIGO, FUNDAMAR	Fishery	Ria de Arousa
3	14	First	First	Mediterranean rural Spain	Fundación Savia	Spain	IUCN	Agriculture Forestry	Parque Natural de Aracena y Picos de Aroche or Sierra Morena de Sevilla, Andalusia (TBC)
4	5	First	First	Fundão	Fundão Municipality (project partner)	Portugal	CIMBSE	Agriculture Forestry	Fundão
5	1	First	First	Torino	GGG (project partner)	Italy	CERTH, GGG	Agriculture	Turin Municipality
6	3	First	First	Tarczyn	Development Policy Foundation	Poland	LAUREA	Agriculture	Tarczyn Municipality
7	17	First	First	Málaga province	Diputación de Málaga	Spain	IUCN	Agriculture Forestry (TBC)	Malaga province
8	9	First	First	Rebollo Castilla y León Region	CESEFOR, Government of Castilla y Leon	Spain	ENoLL, CESEFOR	Forestry	Riaza region
9	2	First	Preselected in phase 1 but finally engaged in the second phase	Gorenjska Region	LEAG (Local Energy Agency of Gorenjska)	Slovenia	ENoLL	Forestry	Gorenjska region

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
10	4	First	Second	Vlore Municipality	Vlore Municipality	Albania	UVIGO, FUNDAMAR	Agriculture Forestry Fishery	Vlore city
11	8	First	Under negotiation	Roman metropolitan area	Rome City Hall	Romania	UVIGO	Agriculture Forestry	Roman metropolitan area
12	10	First	Under negotiation	Tejo Estuary		Portugal	FUNDAMAR	Fishery	Tejo Estuary
13	11	First	Under negotiation	Campania Region		Italy	GGG	Agriculture	Campania Region
14	12	First	Second	Emilia-Romagna Region	Mariscadoras srl benefit	Italy	FUNDAMAR	Fishery	Emilia-Romagna region
15	13	First	Discarded	Inland Galicia		Spain	CESEFOR		
16	15	First	Discarded	Fundación Aula del Mar Mediterráneo	Fundación Aula del Mar Mediterráneo	Spain	IUCN	Fishery	Malaga coast
17	16	First	Pre-selected in phase 1 but finally discarded	Dehesa San Francisco in Huelva Province Spain	Fundación Monte Mediterráneo	Spain	IUCN	Agriculture	
18	18	First	Discarded	Diputación de Sevilla	Diputación de Sevilla	Spain	IUCN		Seville province
19	19	First	Pre-selected in phase 1 but finally discarded	Kotor	Environmental Protection Agency of Montenegro	Montenegro	IUCN	Forestry	Kotor bay
20	20	First	Discarded	Aube	Camara Agricultura Aube Troyes Champagne Métropole	France	UVIGO	Agriculture	Aube Troyes Champagne Métropole
21	21	First	Under negotiation	ILVO (Marine Living Lab)		Belgium	ENoLL	Fishery	

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
22	22	First	Discarded	Fundación Lonxanet	Fundación Lonxanet	Spain	IUCN	Fishery	
23	—	Second	Under negotiation	Szeged Chamber of Commerce	CSKIK	Hungary	UVIGO	Agriculture	
24	—	Second	Second	Sicilia	Fondazione Comunitaria de Agrigento e Trapani - Prisma	Italy	UVIGO	Agriculture	Agrigento, Trapani
25	—	Second	Discarded	Cyprus	ENOROS	Cyprus	UVIGO		
26	—	Second	Under negotiation	Mainland Greece	ANKO	Greece	UVIGO	Agriculture	
27	—	Second	Second	Finland/Savonia	Savonia University of Applied Sciences	Finland	LAUREA	Agriculture	TBC
28	—	Second	Under negotiation	Madeira	Horarios de Funchal	Portugal	UVIGO		
29	—	Second	Discarded	CSICY	Center for Social Innovation (Ltd)	Cyprus	UVIGO		
30	—	Second	Discarded	Denmark	Centre for Blue Governance (CBG), Aalborg University	Denmark	UVIGO	Fishery	
31	—	Second	Second	Future of radiata pine in the Basque Country	CESEFOR & Neiker	Spain	CESEFOR	Forestry	Basque Country
32	—	Second	Discarded	Landes	Parc naturel régional des Landes de Gascogne	France	UVIGO	Forestry	Landes de Gascogne
33	—	Second	Discarded	Aquitania-Vineyards		France	UVIGO	Agriculture	
34	—	Second	Discarded	Aquitania	Arcacho	France	UVIGO	Fishery	

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Fo- cal Point	Sector(s)	Geographic lo- cation
35	—	Second	Under nego- tiation	ALDA	ALDA – European Association for Lo- cal Democracy	France	UVIGO		
36	—	Second	Second	Kaem	American Farm School	Greece	CERTH	Agriculture	Messenia
37	—	Second	Second	EXO	EXO research	Italy	ENoLL	Agriculture	Basilicata
38	—	Second	Under nego- tiation	B4C	Bioeconomy for Change	France	CTA	Agriculture	
39	—	Second	Under nego- tiation	RBA	Rural bioeconomy Alliance		CTA	Agriculture	
40	—	Second	Under nego- tiation	University of Tartu	Agricultural Science University of Tartu	Estonia	CTA	Fishery	
41	—	Second	Under nego- tiation	Swedish Univer- sity of Agricul- tural Sciences	Swedish University of Agricultural Sci- ences	Sweden	CTA	Fishery	
42	—	Second	Under nego- tiation	Marine Institute in Gdansk	Marine Institute in Gdansk	Poland	CTA	Fishery	
43	—	Second	Under nego- tiation	Latvian Institute of Aquatic Ecol- ogy	Latvian Institute of Aquatic Ecology	Letonia	CTA	Fishery	
44	—	Second	Under nego- tiation	GEOMAR	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany	CTA	Fishery	
45	—	Second	Under nego- tiation	Institute of Sea Fisheries	Institute of Sea Fisheries	Germany	CTA	Fishery	
46	—	Second	Under nego- tiation	Bluebio	Bluebio Alliance	Portugal	CTA	Fishery	
47	—	Second	Under nego- tiation	FREMER	L'institut Français De Recherche Pour	France	CTA	Fishery	

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
					L'exploitation De La Mer				
48	—	Second	Under negotiation	Maritime Cluster Northern Germany	Maritime Cluster Northern Germany	Germany	CTA	Fishery	
49	—	Second	Under negotiation	Blauwe	Blauwe Cluster	Belgium	CTA	Fishery	
50	—	Second	Under negotiation	Pôle Mer Bretagne Atlantique	Pôle Mer Bretagne Atlantique	France	CTA	Fishery	
51	—	Second	Under negotiation	AGRAREN UNIVERSITY - PLOVDIV	AGRAREN UNIVERSITY - PLOVDIV	Bulgaria	CTA	Agriculture	
52	—	Second	Under negotiation	Balkan Rural Development Network	Balkan Rural Development Network	North Macedonia	CTA	Agriculture	
53	—	Second	Discarded	Bioeconomy Cluster	Bioeconomy Cluster	Eslovaquia	CTA	Agriculture	
54	—	Second	Discarded	ÖMKI - Hungarian Research Institute of Organic Agriculture	OMKi	Hungary	CTA	Agriculture	
55	—	Second	Under negotiation	French National Research Institute for Agriculture, Food and the Environment	INRAE	France	CTA	Agriculture	
56	—	Second	Under negotiation	HOLZCLUSTER STEIERMARK GMBH	HOLZCLUSTER STEIERMARK GMBH	Austria	CTA	Forestry	

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
57	—	Second	Under negotiation	Forest-based Sector Technology Platform	Forest-based Sector Technology Platform	Belgium	CTA	Forestry	
58	—	Second	Under negotiation	Croatian Wood Cluster	Croatian Wood Cluster	Croatia	CTA	Forestry	
59	—	Second	Under negotiation	Universidade das Açores	Universidade das Açores	Portugal	CTA	Agriculture	
60	—	Second	Second	Mälardalens universitet	Mälardalens universitet	Sweden	CTA	Agriculture	TBC
61	—	Second	Under negotiation	UNIFI	University of Florence	Italy	CTA	Agriculture	
62	—	Second	Second	Alcornocales Natural Park	Junta de Andalucía	Spain	IUCN, CESEFOR	Forestry	Alcornocales Natural Park, Cadix, Andalusia
63	—	Second	Second	Sustainable Grass Production Living Lab (SUSGRASS)	Natural Resources Institute Finland Maaninka	Finland	Laurea Teemu Santonen	Agriculture	North Savo, Kuopio
64	—	Second	Second	Porto Santo	Porto Santo Municipality	Portugal	UVIGO	Agriculture, Forestry	Porto Santo, Madeira
65	—	Second	Second	Vaia Storm case	BlueBiloba	Italy	CESEFOR	Forestry	Trentino-Alto Adige region
66	—	Second	Under negotiation	Rennes		France	UVIGO		
67	—	Second	Under negotiation	Forestry school	Transilvania University of Brasov	Romania	UVIGO	Forestry	
68	—	Second	Under negotiation	Italia continental	TBC	Italy	UVIGO		

No.	No. in D2.2	Identified in phase	Engaged in phase	Case study name	Organisation	Case study country	Internal Focal Point	Sector(s)	Geographic location
69	—	Second	Second	Aleppo pine in Provenza	Association Forêt Modèle de Provence	France	CESEFOR	Forestry	Provenza region
70	—	Second	Second	Abruzzo	Associazione Foresta Modello Valle Aterno	Italy	CESEFOR	Forestry	Abruzzo region; Fontecchio municipality
71	—	Second	Second	Setubal Region	Adrepe-GAL Costeiro	Portugal	FUNDAMAR	Fishery	Setubal region
72	—	Second	Second	Romania, Focșani	National Institute for Research and Development in Forestry "Marin Dracea"	Romania	CESEFOR	Forestry	Vrancea County, Vrancea Subcarpathians area, Brasov

Annex 2. Form designed for preliminary collection of case study information

VERSION 1


FARCLIMATE

Contact Information

The purpose of this short questionnaire is to gather relevant information regarding your site in order to assess if it would benefit from participating in FARCLIMATE.
 LANGUAGE: You can answer questions using your own language.

[Iniciar sesión en Google](#) para guardar lo que llevas hecho.
 [Más información](#)

* Indica que la pregunta es obligatoria

Name of your institution/organization *

Tu respuesta

Your full name *

Tu respuesta

Geographical scope: scale of implementation *

☐ Country
☐ Regional
☐ Municipal
☐ District
☐ Province
☐ Costa dell'Emilia – Romagna
☐ Tajo estuary
☐ Ría (several municipalities in a estuary)
☐ Otro: _____

Sector *

Select the sector that would be involved in the project.

- ☐ Agriculture
- ☐ Forestry
- ☐ Fishery
- ☐ Medio Rural, Cambio Climático
- ☐ Ganadería, Desarrollo rural, biodiversidad
- ☐ Agriculture and forestry
- ☐ Landscape management & stewardship
- ☐ Otro: _____

Impact of Climate Change *

- ☐ Loss of biodiversity/habitats
- ☐ Droughts
- ☐ Floods
- ☐ Extreme temperatures
- ☐ Fires
- ☐ Cambios Usos Agrarios, Gestión Hídrica
- ☐ gestión ganadera
- ☐ Decreased crop yields, invasive species, pest etc
- ☐ Vulnerable community management and engagement
- ☐ pollution
- ☐ economic and job loss impact
- ☐ alteration of fishery ecosystems
- ☐ Social innovation Culture and agricultural food traditions
- ☐ landscape management & stewardship
- ☐ Otro: _____

INFORMATION REGARDING YOUR SITE

Describe the main characteristics of the sector (e.g., agriculture, forestry, fishery) in which you are involved and/or which is affected by climate change. *

Please, specify what are the most important value chains affected by climate change in the sector and their main characteristics.

Tu respuesta

Describe the climate change challenges the sector currently faces. *

What are they and how are they currently affecting your site?

Tu respuesta

How many initiatives/measures that aim to support climate change adaptation are you currently implementing? *

☐ None

☐ 1

☐ 2

☐ 3

☐ More than 3

☐ TBD.....

☐ Otro:

Provide some information on the most relevant initiatives/measures mentioned above.

Tu respuesta

Who are the key stakeholders that you would like to involve for the design and implementation of innovative solutions in your site? *

- ☐ Public sector
- ☐ Businesses
- ☐ NGOs
- ☐ Researchers
- ☐ Citizens
- ☐ FLAG COSTA DELL'EMILIA – ROMAGNA
- ☐ Grupo de Ação Local ADREPES Costeiro
- ☐ University of Montenegro
- ☐ FLAG (fishery local action group)
- ☐ Sectoral guilds
- ☐ Farmers
- ☐ Otro: _____

How much time do you think your institution/organization could devote to co-creating local solutions, together with FARCLIMATE, for climate change adaptation in your region/sector?

Where 1 means low commitment and 5 means high commitment.

	1	2	3	4	5	
We do not have time and budget.	☐	☐	☐	☐	☐	We would like to actively participate in the project.

VERSION 2


FARCLIMATE

Section 1 of 9

Case Study Identification Questionnaire

B *I* U [Link](#) 

We are collecting information to identify potential case studies for the [FARCLIMATE project](#). The selected initiatives will contribute to developing locally driven solutions for climate change adaptation and building climate-resilient communities.
 LANGUAGE: You can answer the questions using your own language.

GENERAL INFORMATION

Description (optional)

Title of the project/initiative *

Short answer text

Your name and role in the project/initiative *

Short answer text

Name of the organisation/institution leading or coordinating the initiative *

Short answer text

Contact email *

Short answer text

Phone number

Short answer text

GEOGRAPHICAL SCOPE


Description (optional)

What is the geographical scale of implementation?

- ☐ National (country level)
- ☐ Regional (sub-national level)
- ☐ Municipal
- ☐ District
- ☐ Province
- ☐ Protected area
- ☐ River/valley/estuary
- ☐ Farm/private land
- ☐ Other...

Please indicate the name of the country, region, city, and area (if relevant) where the initiative takes place.



Short answer text

Briefly describe the location/site and its key characteristics (e.g. urban/rural, population, environmental or socio-economic context).



Long answer text

SECTOR AND THEMATIC FOCUS


Description (optional)



...

What is the main sector or thematic area your initiative focuses on? (select one or more) *

- ☐ Forestry
- ☐ Fishery
- ☐ Agriculture
- ☐ Urban agriculture
- ☐ Livestock farming
- ☐ Biodiversity and green spaces
- ☐ Water management
- ☐ Energy
- ☐ Waste / Circular economy
- ☐ Education and awareness
- ☐ Community development
- ☐ Landscape management & stewardship
- ☐ Climate change adaptation
- ☐ Climate change mitigation
- ☐ Other...

Briefly describe the main activities of your project/initiative (ongoing or planned/to be implemented). *

Long answer text

CLIMATE CHANGE AND RESILIENCE



Description (optional)

What are the main climate change-related impacts (current or expected) that your initiative aims to address? *

- ☐ Decrease in production
- ☐ Water scarcity and drought
- ☐ Floods
- ☐ Heat stress
- ☐ Increase in species harmful to production (invasive species, pests, etc.) or diseases
- ☐ Fires
- ☐ Extreme weather events
- ☐ Loss of biodiversity/habitats
- ☐ Soil erosion/degradation
- ☐ Increased vulnerability of local communities
- ☐ Loss of population/abandonment of rural areas
- ☐ Impacts on the economy/job losses
- ☐ Other...

Briefly describe how climate change is affecting the site and the sector(s), including the main challenges or risks (current or expected) related to climate change. *

Long answer text

Are there specific value chains (e.g. food, forestry, urban services) affected by climate change in your initiative? If yes, briefly describe them.

Long answer text

Are there any climate change adaptation measures currently in place at your site? *

- ☐ No
- ☐ Yes

If yes, how many?

Please briefly describe the most relevant ones and whether they are already funded.

Long answer text

Are there any innovative solutions for climate change adaptation that you would like to implement in the future? Which one(s)?

Long answer text

STAKEHOLDERS AND COMMUNITY ENGAGEMENT



Description (optional)

Who are the main stakeholders involved in your initiative (e.g. public institutions, NGOs, schools, community groups, private actors)? *

Long answer text

What kind of community engagement or participatory activities do you carry out or exist (if any)?

- ☐ Co-design / co-creation workshops
- ☐ Volunteering activities
- ☐ Educational programmes
- ☐ Events and awareness campaigns
- ☐ Cultural initiatives
- ☐ Other...

Would you be interested in involving additional stakeholders (including through the FARCLIMATE project)? If yes, please indicate who.

Long answer text

POTENTIAL COLLABORATION WITH FARCLIMATE



Description (optional)

Would you be interested in collaborating with the FARCLIMATE project as a case study site? *

- ☐ Yes
- ☐ No
- ☐ Maybe – I'd like to know more

In which way could your initiative contribute to or benefit from the FARCLIMATE project? *

- ☐ Participating in co-creation of local solutions, through the 'Living lab' methodology
- ☐ Hosting or co-organising events/workshops
- ☐ Sharing good practices
- ☐ Dissemination and awareness
- ☐ Designing and implementing innovative measures to address climate risks
- ☐ Designing and implementing nature-based solutions for climate change adaptation
- ☐ Networking with other similar European initiatives
- ☐ Developing new resilient value chains
- ☐ Other...



How much time/capacity could your organisation dedicate to collaborate with FARCLIMATE in co-creating solutions with your community? (e.g. defining the case study, scope, objectives, actors, etc., participating in meetings, hosting visits, ...) *

- ☐ 1–2 days per month
- ☐ A few hours per month
- ☐ Occasionally, when needed
- ☐ To be defined

**ADDITIONAL COMMENTS**

Description (optional)

Please add any further information, reflections, or links you believe could support the understanding of your initiative.

Long answer text

Annex 3. Application of the established criteria to the potential case studies

Case study		Selection criteria	Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
1	Ría de Pontevedra		High	High interest in developing innovative measures	High	Fishery	Approach to be defined. We will ensure this through the FARCLIMATE approach.	Regional (sub-national) and province	Medium	High	High
2	Ría de Arousa		High	High interest in developing innovative measures	High	Fishery	Approach to be defined. We will ensure this through the FARCLIMATE approach.	Regional (sub-national) and province	Medium	High	High
3	Mediterranean rural Spain		High/Medium Medium/Low	High interest in developing innovative measures	Medium	Agriculture Forestry	Yes	Regional (sub-national) and local	High	Medium	Medium
4	Fundão		Medium/Low	Ongoing measures and interest in developing new	High	Agriculture Forestry	Approach to be defined. We will ensure this through the FARCLIMATE approach.	Municipal	High	High	High
5	Torino		Medium/Low	High interest in developing	High	Agriculture	Approach to be defined. We will ensure this	Municipal	High	High	High

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
			innovative measures			through the FAR-CLIMATE approach.				
6	Tarczyn	Medium/Low	High interest in developing innovative measures	Medium	Agriculture	Approach to be defined. We will ensure this through the FAR-CLIMATE approach.	Regional (sub-national) and local	Medium	Medium	Medium
7	Málaga province	Medium	Ongoing measures and interest in developing new	Medium	Agriculture, Forestry (TBC)	Yes	Province and local	Medium	High	Medium
8	Rebollo Castilla y León Region	Low	Ongoing measures and interest in developing new	High	Forestry	Yes	Regional (sub-national)	High	High	High
9	Gorenjska Region	High	Ongoing measures and interest in developing new	Medium	Forestry	Yes	Sub-national	High	Medium	Medium
10	Vlore Municipality	No data	High interest in developing innovative measures	Low	Agriculture, forestry and fishery	Yes	Municipal	High	High	Medium
11	Roman metropolitan area	Under negotiation								Low

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
										Information not yet available for integration
12	Tejo Estuary	Under negotiation								Low information not yet available for integration
13	Campania Region	Under negotiation								Low Information not yet available for integration
14	Emilia-Romagna Region	Low	Ongoing measures and interest in developing new	High	Fishery	Yes	Sub-national and local	High	High	High
15	Inland Galicia								No interest, discarded	
16	Fundación Aula del Mar Mediterráneo		No need or initiative that could be developed in a living lab						Discarded	
17	Dehesa San Francisco in Huelva Province Spain								No interest, discarded	

Case study		Selection criteria	Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
18	Diputación de Sevilla			No need or initiative that could be developed in a living lab						Discarded	
19	Kotor									No availability, discarded	
20	Aube									No interest, discarded	
21	ILVO (Marine Living Lab)		Under negotiation								Low Information not yet available for integration
22	Fundación Lonxanet									No availability, discarded	
23	Szeged Chamber of Commerce		Under negotiation								Low Information not yet available for integration
24	Sicilia		High	High interest in developing innovative measures	High	Agriculture	Yes	Provincial, local	High	High	High
25	Cyprus									No interest and availability, discarded	
26	Mainland Greece		Under negotiation								Low

Case study	Selection criteria	Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
										Information not yet available for integration
27	Finland/Savonia	Very low	NA	Low	Agriculture	NA	TBD	High	High	Low
28	Madeira	Under negotiation								Low Information not yet available for integration
29	CSICY								No interest, discarded	
30	Denmark		Lack of ongoing initiatives and resources						No availability, discarded	
31	Future of radiata pine in the Basque Country	Medium	Ongoing measures and interest in developing new. Own funds available	Medium	Forestry	Yes	Sub-national	High	High	Medium
32	Landes								No interest, discarded	
33	Aquitania-Vineyards								No interest, discarded	
34	Aquitania								No interest, discarded	
35	ALDA	Under negotiation								Low

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
										Information not yet available for integration
36	Kaem	Medium/High	High interest in developing innovative measures	High	Agriculture	Approach to be defined. We will ensure this through the FARCLIMATE approach.	National and sub-national	Medium	High	High
37	EXO	Medium/High	High interest in developing innovative measures	High	Agriculture	Approach to be defined. We will ensure this through the FARCLIMATE approach.	Provincial, local	Medium	High	Medium
38	B4C	Under negotiation								Low Information not yet available for integration
39	RBA	Under negotiation								Low Information not yet available for integration
40	University of Tartu	Under negotiation								Low

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
										Information not yet available for integration
41	Swedish University of Agricultural Sciences	Under negotiation								Low Information not yet available for integration
42	Marine Institute in Gdansk	Under negotiation								Low Information not yet available for integration
43	Latvian Institute of Aquatic Ecology	Under negotiation								Low Information not yet available for integration
44	GEOMAR	Under negotiation								Low Information not yet available for integration
45	Institute of Sea Fisheries	Under negotiation								Low Information not yet available for integration

Case study		Selection criteria	Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
46	Bluebio		Under negotiation								Low Information not yet available for integration
47	FREMER		Under negotiation								Low Information not yet available for integration
48	Maritime Cluster Northern Germany		Under negotiation								Low Information not yet available for integration
49	Blauwe		Under negotiation								Low Information not yet available for integration
50	Pôle Mer Bretagne Atlantique		Under negotiation								Low Information not yet available for integration
51	AGRAREN UNIVERSITET - PLOVDIV		Under negotiation								Low

Case study		Selection criteria	Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
											Information not yet available for integration
52	Balkan Rural Development Network		Under negotiation								Low Information not yet available for integration
53	Bioeconomy Cluster									No availability for the moment, discarded	
54	ÖMKi - Hungarian Research Institute of Organic Agriculture									No availability for the moment, discarded	
55	French National Research Institute for Agriculture, Food and the Environment		Under negotiation								Low Information not yet available for integration
56	HOLZCLUSTER STEIERMARK GMBH		Under negotiation								Low Information not yet available for integration

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
57	Forest-based Sector Technology Platform	Under negotiation								Low Information not yet available for integration
58	Croatian Wood Cluster	Under negotiation								Low Information not yet available for integration
59	Universidade das Açores	Under negotiation								Low Information not yet available for integration
60	Mälardalens universitet	Very low	NA	Low	Agriculture	NA	TBD	High	High	Low
61	UNIFI	Under negotiation								Low Information not yet available for integration
62	Alcornocales Natural Park	Medium	Ongoing measures and interest in developing new. Own funds available	High	Forestry	Yes	Sub-national, local	High	High	High

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
63	Sustainable Grass Production Living Lab (SUSGRASS)	Very low	NA	Low	Agriculture	NA	TBD	High	Medium	Low
64	Porto Santo	No data	Some ongoing measures and interest in developing new.	High	Agriculture Forestry	Yes	Municipal, local	High	Medium	Medium
65	Vaia Storm case	Medium	Ongoing measures and interest in developing new.	Medium	Forestry	Yes	Regional (sub-national)	High	Medium	High
66	Rennes	Under negotiation								Low Information not yet available for integration
67	Forestry school	Under negotiation								Low Information not yet available for integration
68	Italia continental	Under negotiation								Low Information not yet available for integration
69	Aleppo pine in Provenza	Medium/Low	NA	Low	Forestry	NA	NA	NA	High	Low

Selection criteria Case study		Relevance of the case for Climate Change Adaptation*	Actual implementation	Accessibility and relevance of information	Thematic coverage	Avoiding maladaptation	Local and sub-national scales	Multi-sectorial approaches	Relationship with FARCLIMATE partners and willingness to participate	Quality of content
70	Abruzzo	High	Some ongoing measures and interest in developing new. Need to find fundings.	Medium	Forestry	TBD	Municipal	Medium	Medium	Low
71	Setubal Region	Medium	NA	Low	Fishery	NA	NA	NA	High	Low
72	Romania, Focșani	Medium/Low	High interest in developing innovative measures	Medium	Forestry	TBD	District, Protected area	Medium	Medium	Medium

*According to the risk categories indicated in Figures 22, 23 and 24.

Annex 4. Key lessons learned from the case study candidate selection process and engagement

Over the past 18 months, we have gained valuable insights from our engagement with both candidates and the final selected participants for the FARCLIMATE case studies. These lessons have helped refine our process for establishing the case studies and ensuring they have a lasting impact.

This approach is crucial for empowering communities, particularly those outside conventional scientific or social innovation ecosystems, to engage decisively in the transition to climate resilience. As these hardworking communities form the backbone of European society, supporting them in overcoming their future climate-related and socioeconomic challenges is vital for Europe. We also believe these lessons will also be valuable for other social innovation initiatives that aim to engage local communities in developing social and environmental projects.

This section outlines the lessons learned from engaging with case study candidates, presenting a practical guide based on our experience on how to negotiate with potential case study candidates interested in joining the initiative.

Initial contact

- Initiate contact by providing a brief introduction to the opportunity via email (e.g., using the short email template), phone call, or face-to-face conversation.
- Once interested, follow up the conversation by providing a document with more information about the project, e.g., a one- or three-page document or the longer email template with a detailed description of the project.

Presentation of the FARCLIMATE project

- Prepare the presentation. Familiarize with the organization and main local area and sector concerns.
- Structure presentations and emails in two parts:
 - Overview of the FARCLIMATE project and consortium
 - Specifics of what is being asked from the case study (e.g., joining the Living Labs)
- Emphasize that the project offers support and capacity-building, but does not provide financial funding for adaptation actions or personnel
- Use clear, accessible language, avoiding overly technical terms, especially in the early stages of conversations.
- During the presentation, ask questions about the organization, the local community, and sector problems related to what you have explained (e.g., climate change effects that are already happening, socioeconomic challenges).
- Introduce a tentative calendar and clearly outline steps, roles and expectations. The goal is to advance the process we want to follow rather than establish strict deadlines or procedures.

Other engagement recommendations

- Tailor communication to highlight how participation may benefit their existing or future projects (capacity-building, visibility, funding opportunities).
- Use real-world examples and relevance to their local contexts (e.g., fisheries, forestry).
- Build trust through personalized communication, concise and clear emails, and follow-up calls as needed.
- Focus on quick wins and short-term benefits to build interest (e.g., stakeholder engagement support, visibility, training).
- Emphasise that implementing solutions is not mandatory, alleviating concerns over funding or feasibility.
- Leverage existing personal or professional contacts before reaching out to cold prospects.
- Stay informed through newsletters and updates from relevant EU programs to spot new prospects.

Key factors to consider about the FARCLIMATE case studies

In deliverable D2.4, we present the lessons learned from the launch of the first wave of case studies. Among these lessons, we identify several key factors to consider. The specifics of these factors are detailed in that deliverable; however, we believe it is also important to bear them in mind when engaging with candidates, since these topics may arise during conversations.

The key factors are:

1. Engagement is a key principle to steer the project.
2. The learning curve and evolving case studies.
3. Fostering flexible, bottom-up living labs.
4. Interactions with the case study communities
5. Case study's climate change adaptation actions.
6. The need for participatory approaches to innovation.
7. Case studies at different stages.