



EEA related products on Climate Change hazards, impacts and exposure

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3rd Workshop on the Global Goal on Adaptation/ 18 October 2022

European Environment Agency



European Environment Agency

- EEA **gathers** data and information from across Europe and **translates** them into assessments and knowledge to **inform** policy and decision-making
- Support key EU policies and initiatives

- Agency of the European Union
- 32 member + 6 collaborating countries

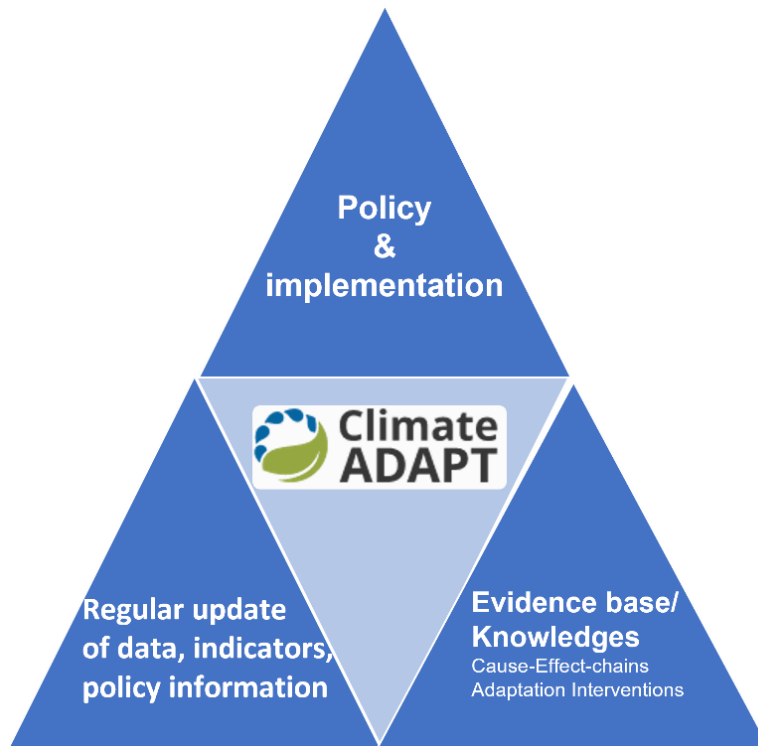
EEA Climate Change Impacts & Adaptation

- Provide actionable knowledge on climate change hazards and impacts to policy-makers in Europe
- Support development and implementation of (sub-)national adaptation strategies



The role of EEA on Climate Change Adaptation

- Need for Climate Change Indicators and Adaptation Indicators:
- *Hazards, impacts*
- *Social aspects* -> Vulnerability and exposure of population
- *Natural ecosystems* -> Land use and land cover
- *Economic aspects* -> Economic losses and damages



Climate-ADAPT: European adaptation platform

Climate ADAPT SHARING ADAPTATION INFORMATION ACROSS EUROPE

Search Climate-ADAPT | [Help](#) [News](#) [Events](#) [Newsletter](#)

ABOUT - **EU POLICY -** **COUNTRIES, TRANSNATIONAL REGIONS, CITIES -** **KNOWLEDGE -** **NETWORKS**

Case study explorer
The case study explorer visualises the geographic location and distribution of Climate-ADAPT case studies. ... [» READ MORE](#)

New feature
[Search the Database](#) [EU Sector Policies](#) [Country Profiles](#) [Case Studies](#) [Adaptation Support Tool](#)

European Climate Data Explorer
The European Climate Data Explorer provides interactive access to many climate indices from the Copernicus Climate Change Service in support of climate change adaptation.
[Go to the European Climate Data Explorer](#)

European Climate and Health Observatory
The European Climate and Health Observatory provides access to a wide range of relevant publications, tools, websites and other resources related to climate change and health.
[Go to the European Climate and Health Observatory](#)



Climate-ADAPT key tools: health observatory, climate data explorer, urban tools



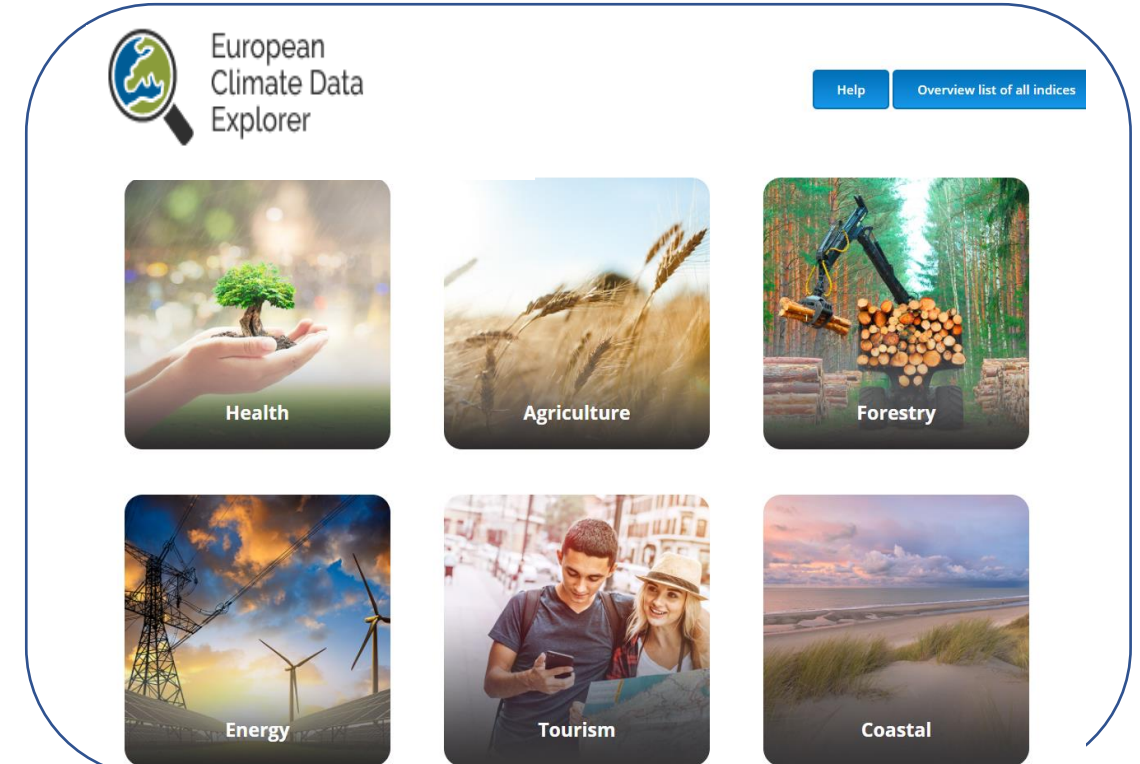
European Climate and Health Observatory

Climate ADAPT SHARING ADAPTATION INFORMATION ACROSS EUROPE

About - Policy context - Evidence on climate and health - Resource catalogue - Publications and outreach -

European Climate and Health Observatory

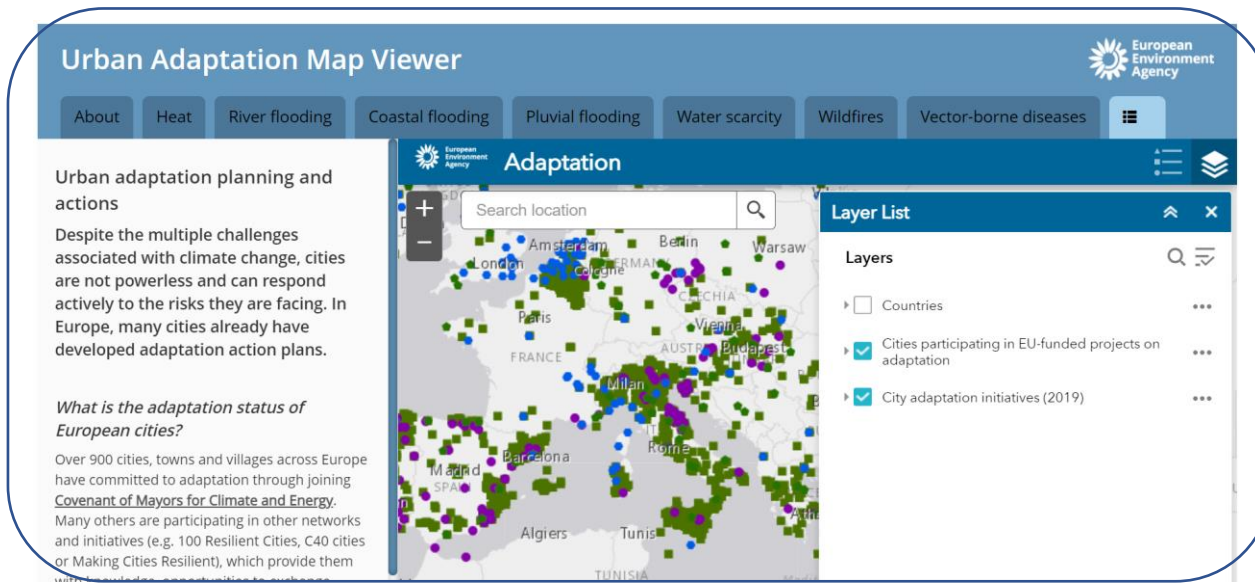
We provide easy access to a wide range of relevant publications, tools, websites and other resources related to climate change and health.



European Climate Data Explorer

Help Overview list of all indices

Health Agriculture Forestry Energy Tourism Coastal



Urban Adaptation Map Viewer

European Environment Agency

About Heat River flooding Coastal flooding Pluvial flooding Water scarcity Wildfires Vector-borne diseases

Adaptation

Search location

Layer List

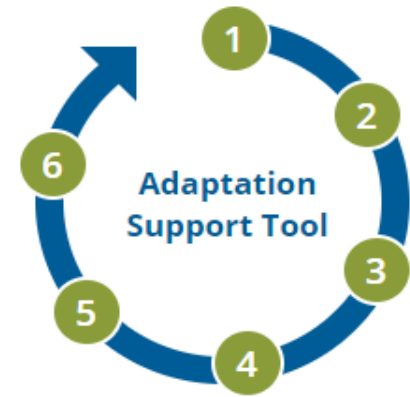
- Countries
- Cities participating in EU-funded projects on adaptation
- City adaptation initiatives (2019)

Urban adaptation planning and actions

Despite the multiple challenges associated with climate change, cities are not powerless and can respond actively to the risks they are facing. In Europe, many cities already have developed adaptation action plans.

What is the adaptation status of European cities?

Over 900 cities, towns and villages across Europe have committed to adaptation through joining Covenant of Mayors for Climate and Energy. Many others are participating in other networks and initiatives (e.g. 100 Resilient Cities, C40 cities or Making Cities Resilient), which provide them



EEA interactive report on Europe's changing hazards

Chapters of the **Europe's changing climate hazards** report

- [What will the future bring when it comes to climate hazards? — Overview](#)
- [Europe's changing climate hazards — about the report](#)
- **Explore the hazards and the indices related to the six categories:**
 1. [Heat and cold](#)
 2. [Wet and dry](#)
 3. [Wind](#)
 4. [Snow and ice](#)
 5. [Coastal](#)
 6. [Open ocean](#)
- [National and transnational climate atlases in Europe](#)



Consult an overview of Europe's **16 hazards with their 32 indices** grouped into **six hazard types** as identified by the Intergovernmental Panel on Climate Change (IPCC) in its Sixth Assessment Report, by clicking on the image:



EEA interactive report on Europe's changing hazards

Projected changes in climate-related hazards across Europe during the 21st century

Category	Hazard	Index name	Northern Europe	Central Europe	Southern Europe
Heat and cold	Mean air temperature	Mean temperature	↗	↗	↗
		Growing degree days	↗	↗	↗
		Heating degree days	↘	↘	↘
		Cooling degree days	↗	↗	↗
	Extreme heat	Tropical nights	↗	↗	↗
		Hot days	↗	↗	↗
		Warmest three-day period	↗	↗	↗
		Heatwave days based on apparent temperature	↗	↗	↗
		Climatological heatwave days	↗	↗	↗
		Days with Universal Thermal Climate Index (UTCI) above a threshold	This index has increased in recent decades in central and southern Europe whereas no robust trend was detected for northern Europe. Projections are not currently available.		
Frost	Frost days	↘	↘	↘	
Wet and dry	Mean precipitation	Total precipitation	Annual: ↗ Summer: ↘	Annual: ↘ Summer: ↘	Annual: ↘ Summer: ↘
	Heavy precipitation and pluvial flood	Maximum consecutive 5-day precipitation	↗	↗	↘
		Extreme precipitation total	↗	↗	→
		Frequency of extreme precipitation	↗	↗	→
	River flood	River flood index using runoff	↘	↗	↘
	Aridity	Aridity actual	↗	↘	↗
		Consecutive dry days	→	↗	↗
	Drought *	Duration of meteorological droughts	↘	↘	↗
		Magnitude of meteorological droughts	↘	↗	↗
		Duration of soil moisture droughts	Increasing soil moisture droughts are projected for southern Europe. Constant or increasing droughts are projected for central Europe, and constant or decreasing droughts are projected for northern Europe.		
Fire weather	Days with fire danger exceeding a threshold	→	↗	↗	
Wind	Mean wind speed	Mean wind speed	→	→	→
	Severe wind storm	Extreme wind speed days	Increasing frequency and intensity of storms is projected for northern and central Europe; decreasing storm frequency but increasing intensity is projected for southern Europe.		

Snow and ice	Snow, glacier and ice sheet	Snowfall amount	↘	↘	↘
		Period with snow water equivalent above threshold	↘	↘	↘
Coastal	Relative sea level	Relative sea level rise	↗ **	↗	↗
	Coastal flood	Extreme sea level	↗ **	↗	↗
Open ocean	Mean ocean temperature	Sea surface temperature	↗	↗	↗
	Marine heatwave	Duration of marine heatwaves	Projected increase in all European regional seas		
	Dissolved oxygen	Dissolved oxygen level	Most stations exhibit no robust trends in recent decades, but some stations in the Baltic Sea and the Greater North Sea show decreasing oxygen levels. Projections are not available.		
	Ocean acidity	Ocean pH level	Surface ocean pH levels are projected to decline (i.e., the water becomes more acidic) both in the open ocean and in enclosed seas.		

Legend:

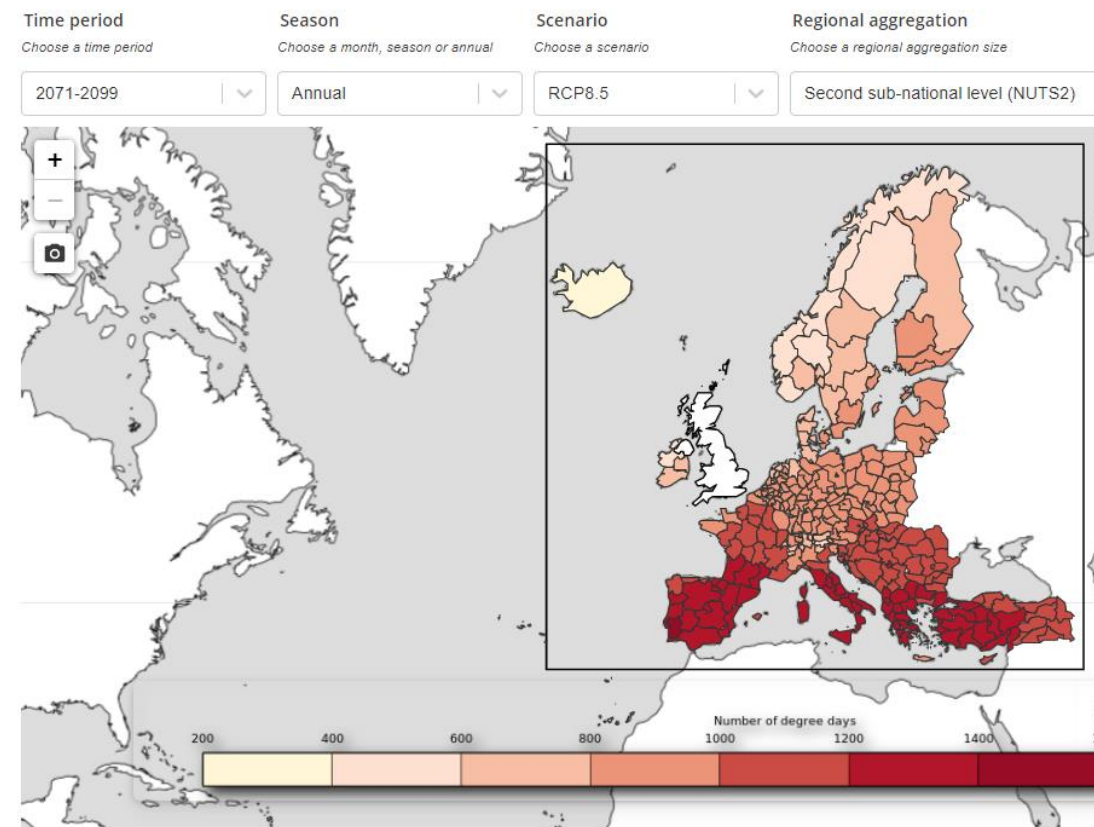
↗	Increase throughout most of a region / Europe
↘	Decrease throughout most of a region / Europe
↘↗	Increases as well as decreases in a region / Europe
→	No significant changes from the current situation
⬜	Direction of change deviates from a high confidence projection in IPCC AR6 Table 12.7 ***
⬜	Direction of change deviates from a medium or low confidence projection in IPCC AR6 Table 12.7 ***
⬜	Index computed and visualized based on a consistent climate projection dataset from the ETC/CCA
⬜	Index computed and visualized based on projections from the Copernicus Climate Change Service
⬜	Index visualized based on regularly updated EEA indicators
⬜	Index without quantitative projections; summary assessment based on the IPCC AR6, the European Climate Data Explorer or an EEA indicator

European Climate Data Explorer

Collaboration between the Copernicus Climate Change Service & EEA.

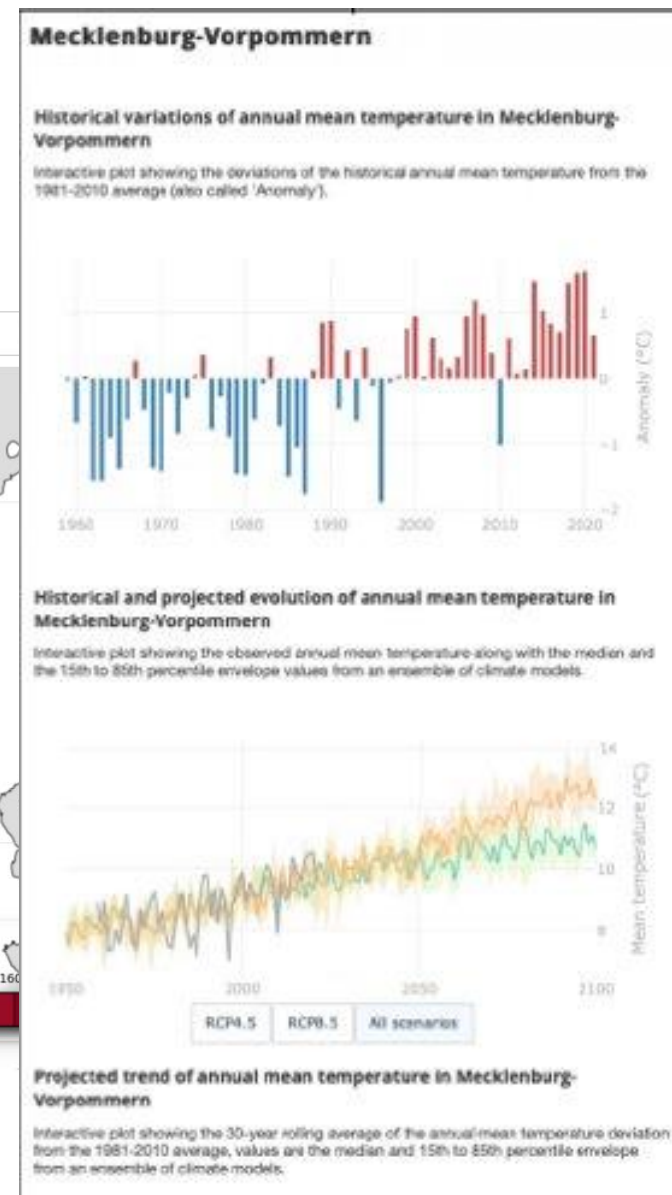
Interactive access to many (quality assured) C3S climate information

Projected change in biologically effective degree days - Explore index



An important tool that supports activities for:

- EU Adaptation Strategy: Smarter and Faster adaptation
- Integration with EEA web report [Europe's changing climate hazards](#)
- Support adaptation efforts at different levels
- Increasingly replace 'static' EEA indicators

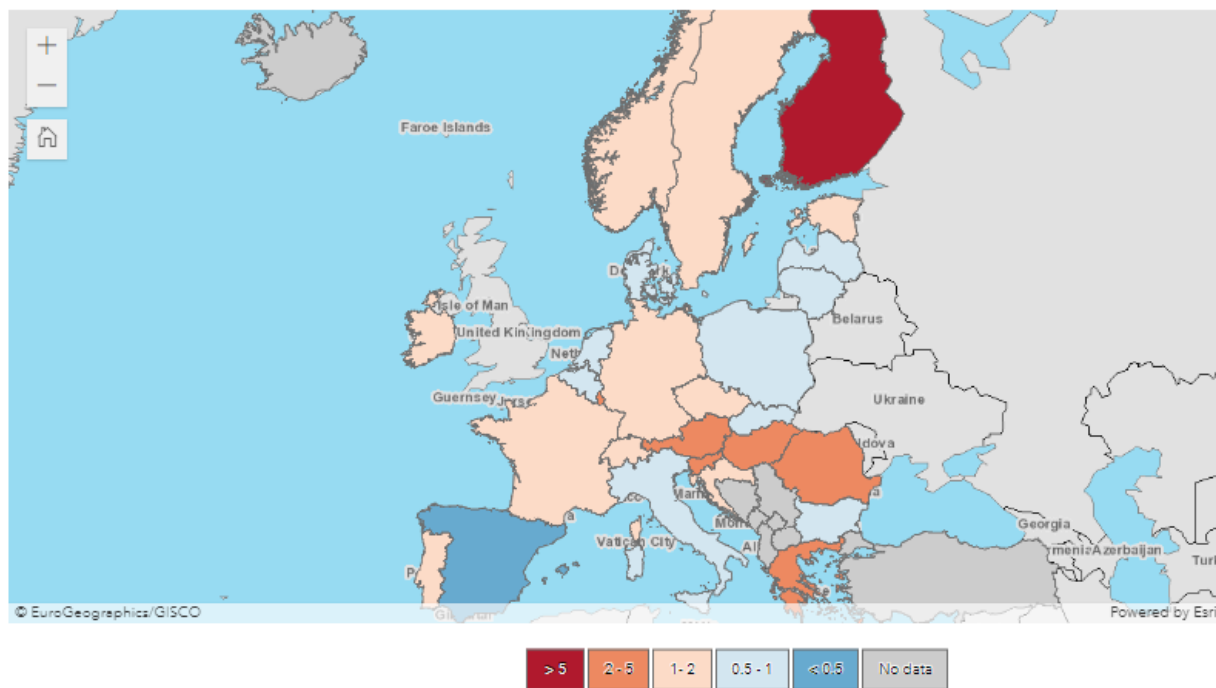


Social aspects: Vulnerability and exposure of population and facilities

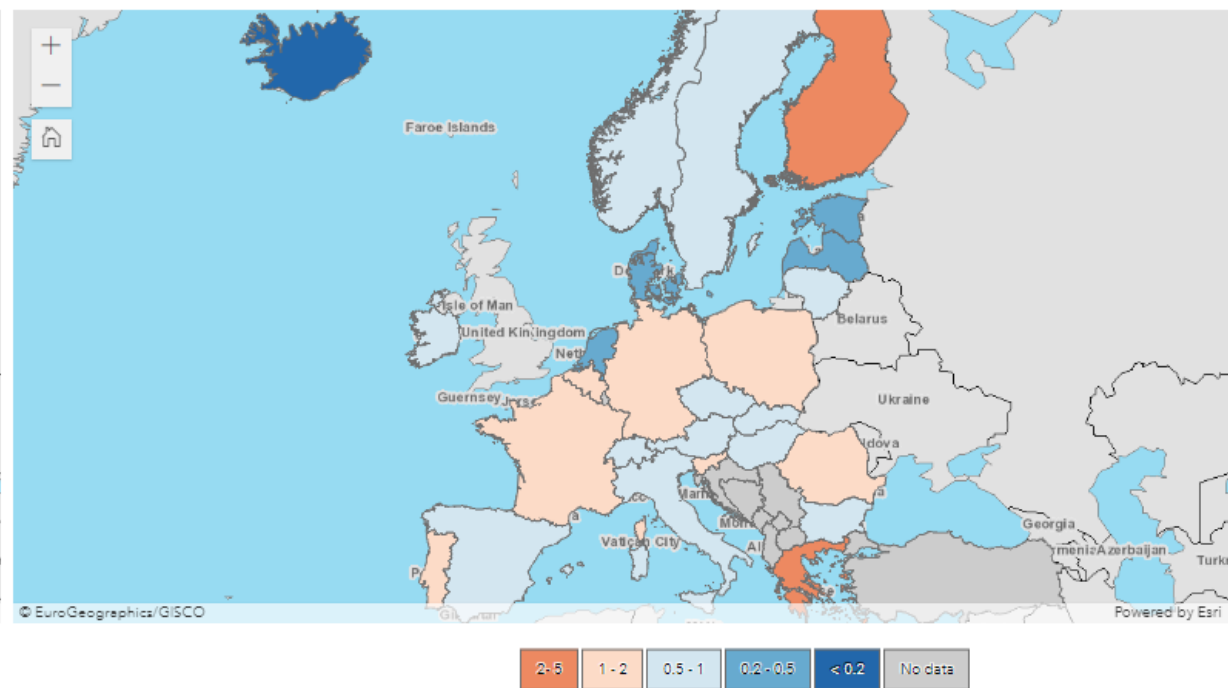
Exposure of vulnerable groups to risk of flooding

In some European countries, the administrative units with higher proportion of people over 65 years old in the population or higher unemployment rates, tend to have larger share of the unit that is a [potential flood-prone area](#). For example, within Greece and Finland, the units with the highest proportion of the elderly contained on average double the percentage of the potential flood-risk areas compared to the units with the lowest proportion of elderly people. In Finland, Luxembourg and Slovenia, the proportion of area potentially at flood risk was 3 to 5 times larger for units with the highest unemployment rate compared to the areas with the lowest unemployment rate.

Ratio of percentage area at flood risk between administrative units in Q5 (top 20%) and Q1 (bottom 20%) of unemployment rate



Ratio of percentage area at flood risk between administrative units in Q5 (top 20%) and Q1 (bottom 20%) of proportion of people over 65

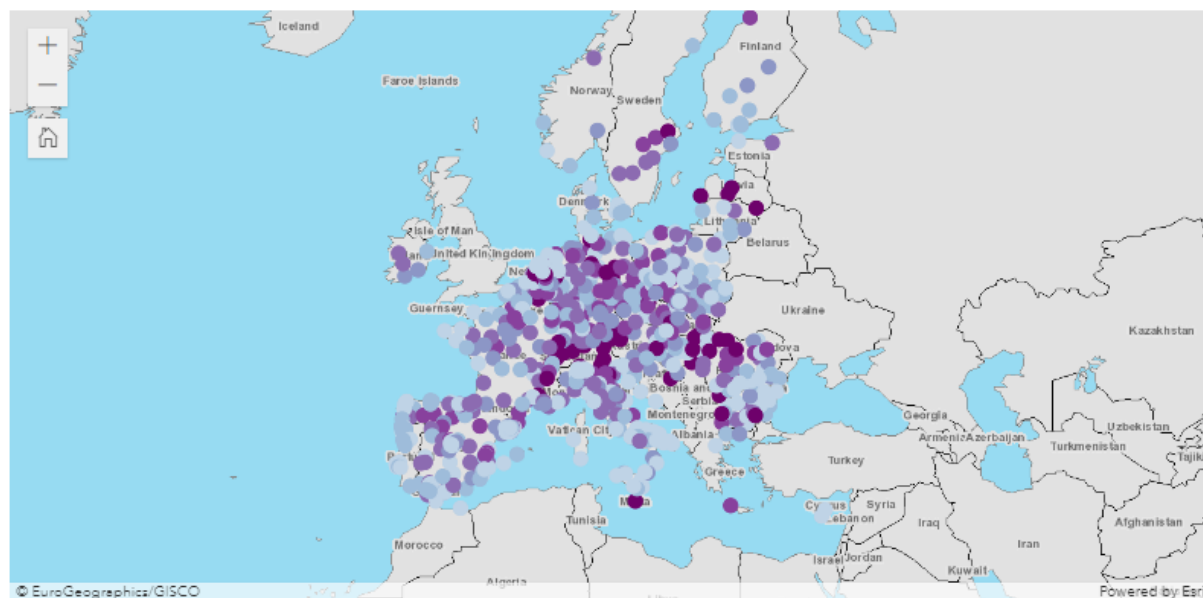


Social aspects: Vulnerability and exposure of population and facilities

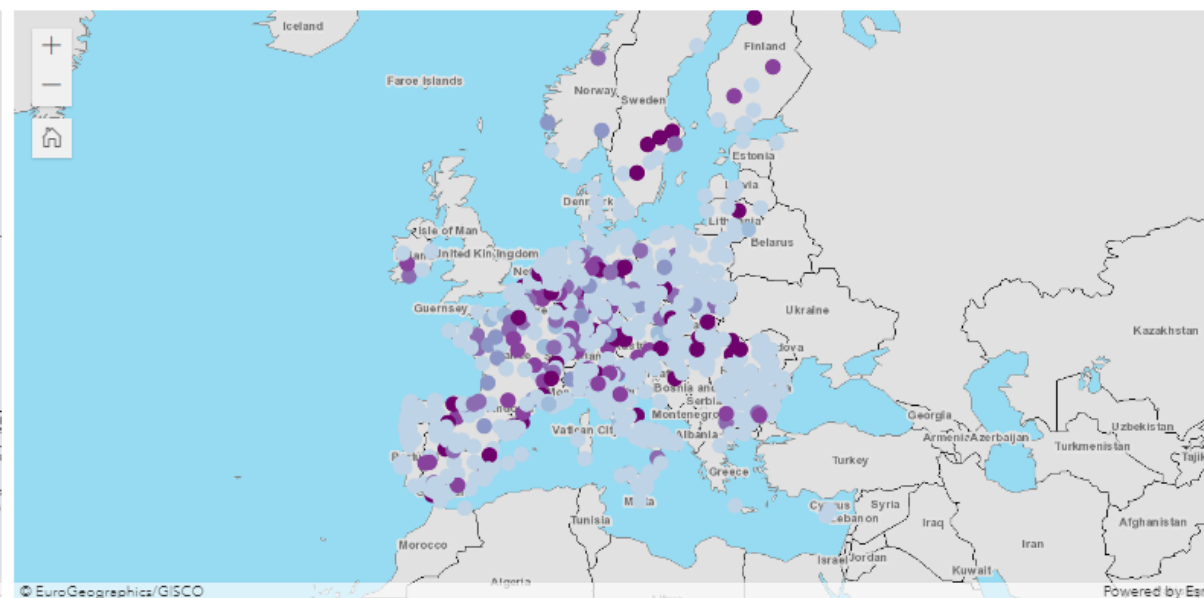
Exposure of schools and hospitals to the risk of flooding (cities)

Within European cities, 13% of urban educational facilities and 8% of healthcare facilities are located in potential flood-prone areas.

Percentage of educational facilities in potential flood-prone areas



Percentage of healthcare facilities in potential flood-prone areas



● > 40 ● 20 - 40 ● 10 - 20 ● 5 - 10 ● < 5 ● 0

Reporting on national adaptation actions under Regulation on the Governance of the Energy Union and Climate Action

The reporting platform [Reportnet 3](#) & Climate-ADAPT [Country Profiles](#)

Dataflow help
National climate change adaptation planning and strategies

Supporting documents | Web links | Dataset schemas

+ Add

Description
01a_Help and documentation file for the dataflow 'National climate change adaptation planning and strategies' - 2021
01b_Q&A for the adaptation reporting 2021
01c_Folder with all help and supporting documents for the adaptation reporting
02a_Reportnet 3 Tutorials (YouTube Channel)
02b_interactive training sessions - slides
03a_Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action
03b_Commission Implementing Regulation (EU) 2020/1208 of 7 August 2020 on structure, format, submission processes and review of information reported by Member States
04a_Practical instruction on the reporting of actions and (programmes) of measures - concept of key type measures

Export dataset data | Delete dataset data

General information | National circumstances | Legal and policies | Strategies and plans | **Monitoring and evaluation** | Cooperation and experience | Contact

Monitoring, reporting and evaluation of adaptation actions and processes

Monitoring, reporting and evaluation (MRE) methodology related to reducing climate impacts, vulnerabilities, risks, and increasing adaptive capacity (max. 3000 characters)*

MRE methodology related to the implementation of adaptation actions (max. 2000 characters)*

Sources for monitoring, reporting and evaluation (MRE) indicators and methodologies (optional)

Austria

National circumstances relevant to adaptation actions

- BIOGEOGRAPHICAL CHARACTERISTICS
- DEMOGRAPHIC SITUATION
- ECONOMIC AND INFRASTRUCTURAL SITUATION

Reporting updated until: 2021-02-26

Summary	Assessments	Labels & policy responses	Scenarios, risks & costs	Monitoring & evaluation	Special assessments, interventions & progress	Guides
Item	Status	Links				
National adaptation strategy (NAS)	• previous NAS - superseded	• IP Austrian Adaptation Strategy				
National adaptation plan (NAP)	• previous NAP - superseded	• IP Austrian Action Plan				
National adaptation plan (NAP)						
Climate change impact and vulnerability assessments	• completed	• IP Austrian Assessment Report 2014				
Climate change impact and vulnerability assessments	• completed	• IP Austrian Special Report Health, Demography and Climate Change (SRHDC)				
Climate change impact and vulnerability assessments	• completed	• IP Special Report on Tourism and Climate Change				
Meteoological observations	• Established	• IP National Met Service (ZAMG)				
Climate projections and services	• Established	• IP OCCA Data Centre				
Climate projections and services	• Established	• IP Climate Change Centre Austria (CCC)				
Adaptation portals and platforms	• Established	• Climate Change Adaptation Portal				
Monitoring, reporting and evaluation (MRE) indicators and methodologies, reports and publications						
National communication						
Government regulation and reporting						

Choose thematic map:

- NATIONAL ADAPTION POLICY
- CLIMATE CHANGE IMPACT AND VULNERABILITY ASSESSMENTS
- ADAPTATION PORTALS AND PLATFORMS

Legend:

- Dark Blue: NAS and NAP reported as adopted
- Light Blue: Only NAP reported as adopted
- Medium Blue: Only NAS reported as adopted
- Grey: SAP reported as adopted
- White: Neither NAS nor NAP reported as adopted
- Red: No data reported

Austria

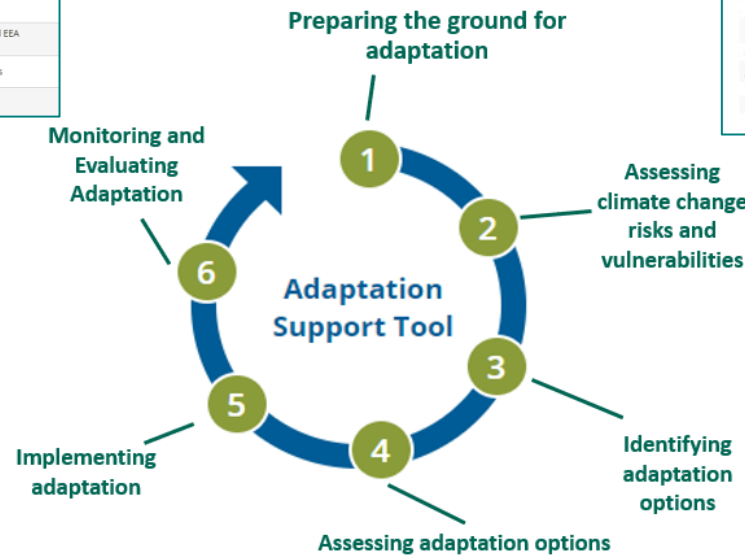
National Adaptation Strategy:

- [Austrian Adaptation Strategy](#) (previous NAS - superseded)

National Adaptation Plan:

- [Austrian Action Plan](#) (previous NAP - superseded)

[Disclaimer]



[Governance Regulation](#)
[Implementing Act](#)
[European Climate Law](#)

An aerial photograph of a winding river flowing through a dense, lush green forest. The river meanders through the landscape, creating several sharp turns and small islands. The surrounding vegetation is vibrant green, with some areas showing lighter green or yellowish hues, possibly indicating different tree species or seasonal changes. The overall scene is a beautiful natural landscape.

Thank you

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