

MED9



SLOVENIA 2025

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Mediterranean agriculture at tipping point

How climate risks are putting the society under pressure

Informal Meeting of MED9 Agriculture Ministers
6 October 2025, Portorož, Slovenia

Dr. Blaž Kurnik, head of climate risk and resilience unit
European Environment Agency

European Environment Agency



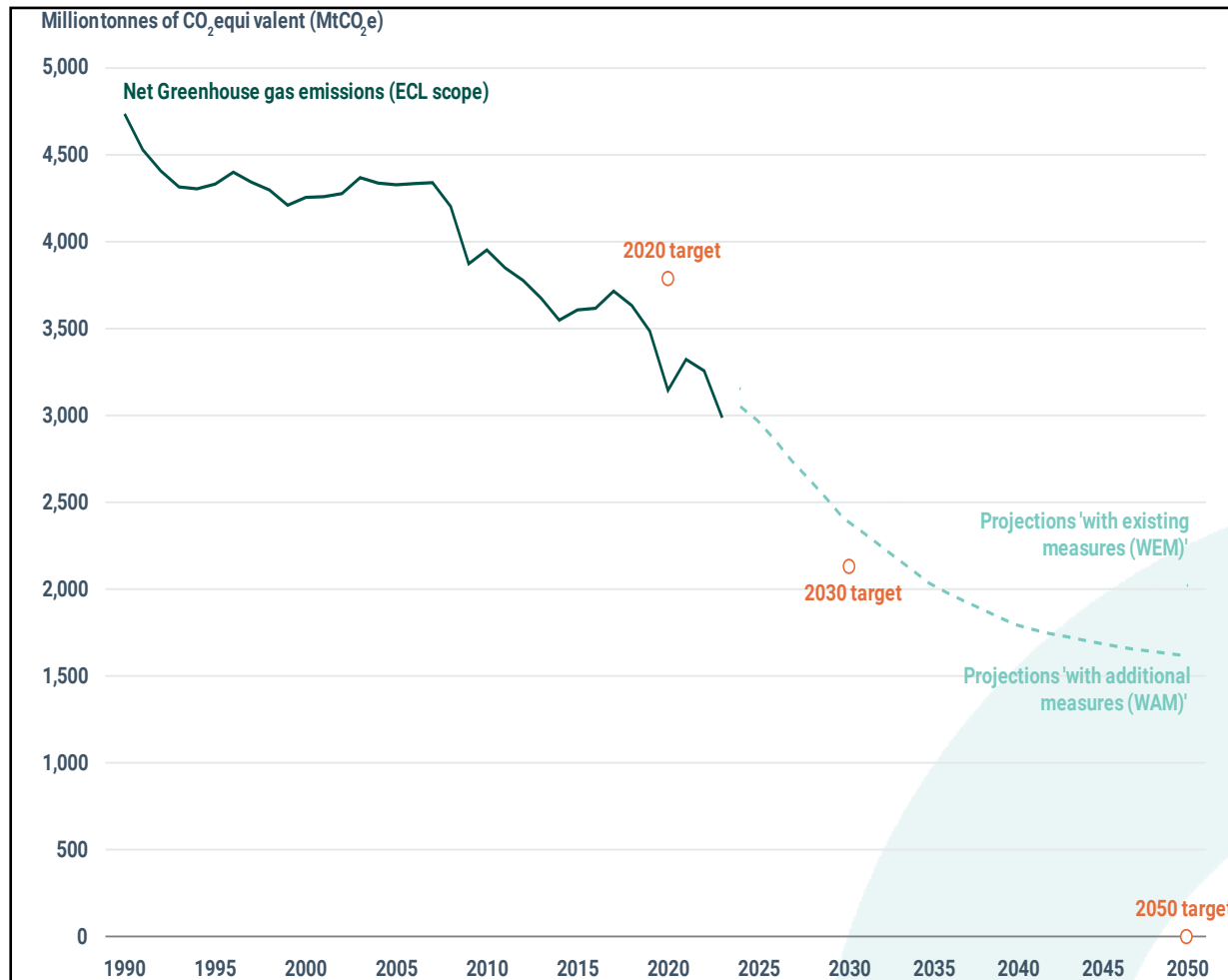


Europe is not prepared

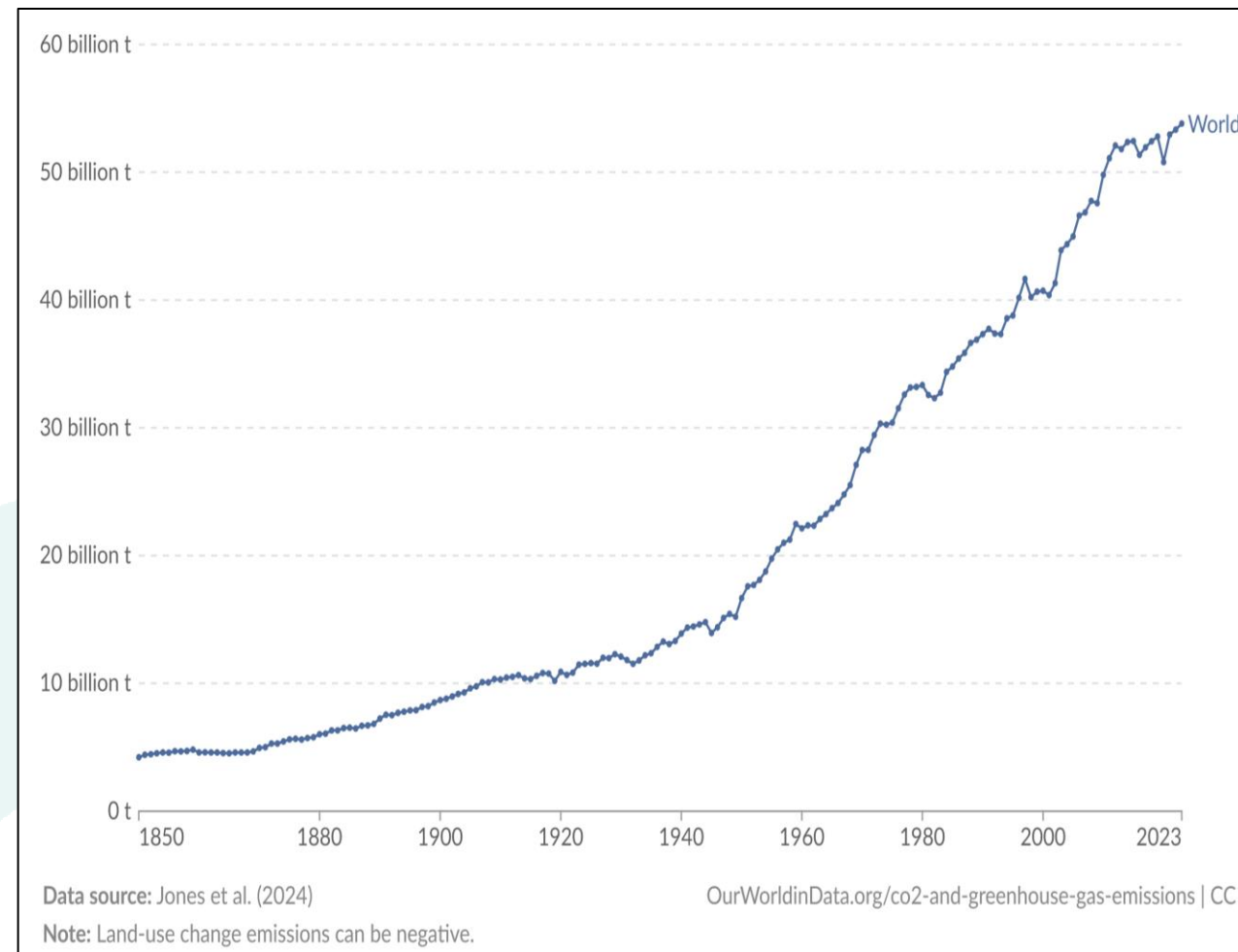
- Europe is the fastest warming continent in the world
- Climate risks are growing rapidly as we exceed 1.5 degrees C global warming.
- Climate risks are threatening energy and food security, ecosystems, infrastructure, financial stability, and people's health

Good progress on GHG emissions in Europe, but not yet globally

EU domestic GHG emissions -37% since 1990



Source: [EEA, 2025](#)



Data source: Jones et al. (2024)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC

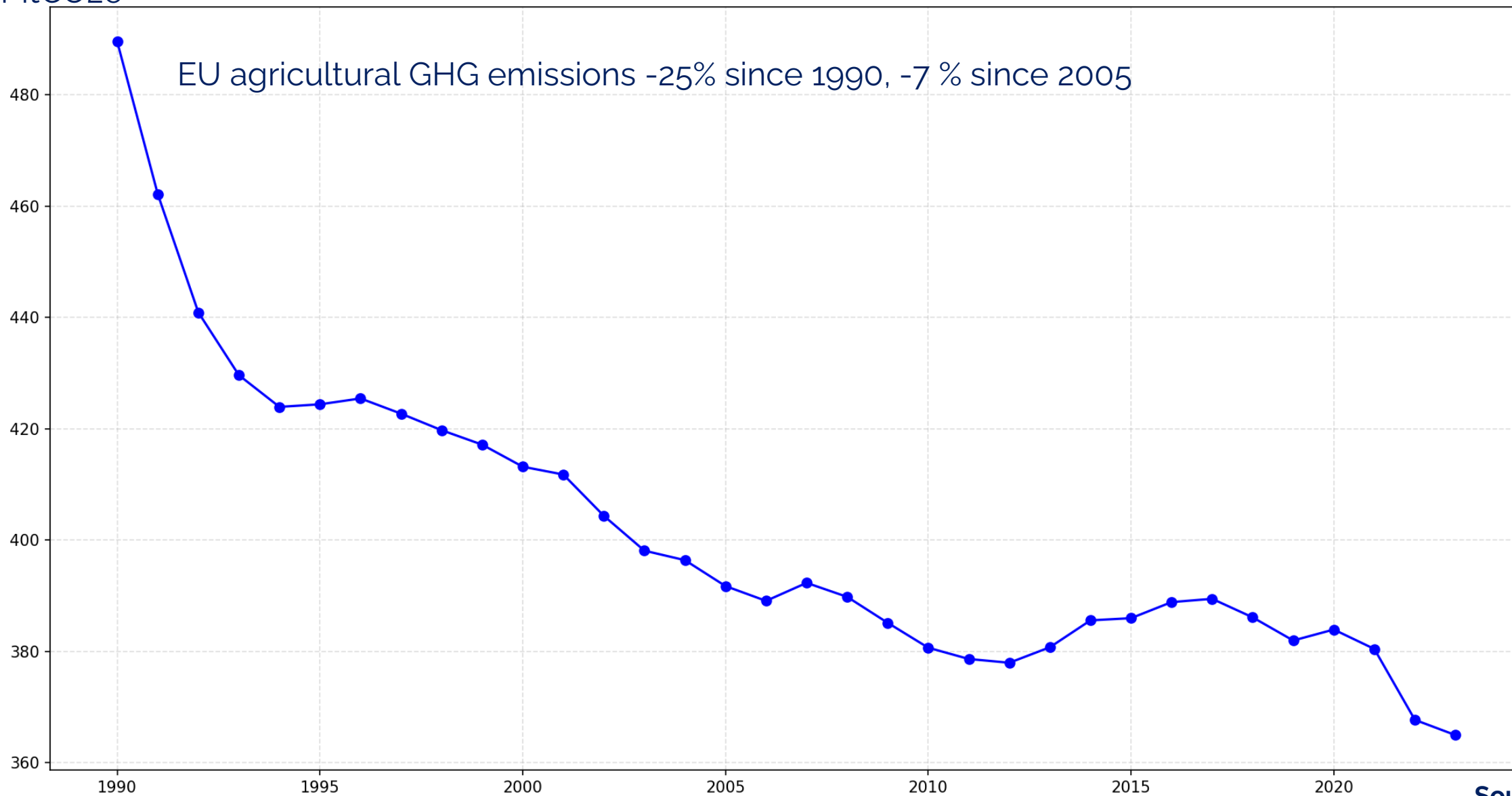
Note: Land-use change emissions can be negative.

Source: Jones et al. (2024)

GHG emissions from the agriculture sector are decreasing

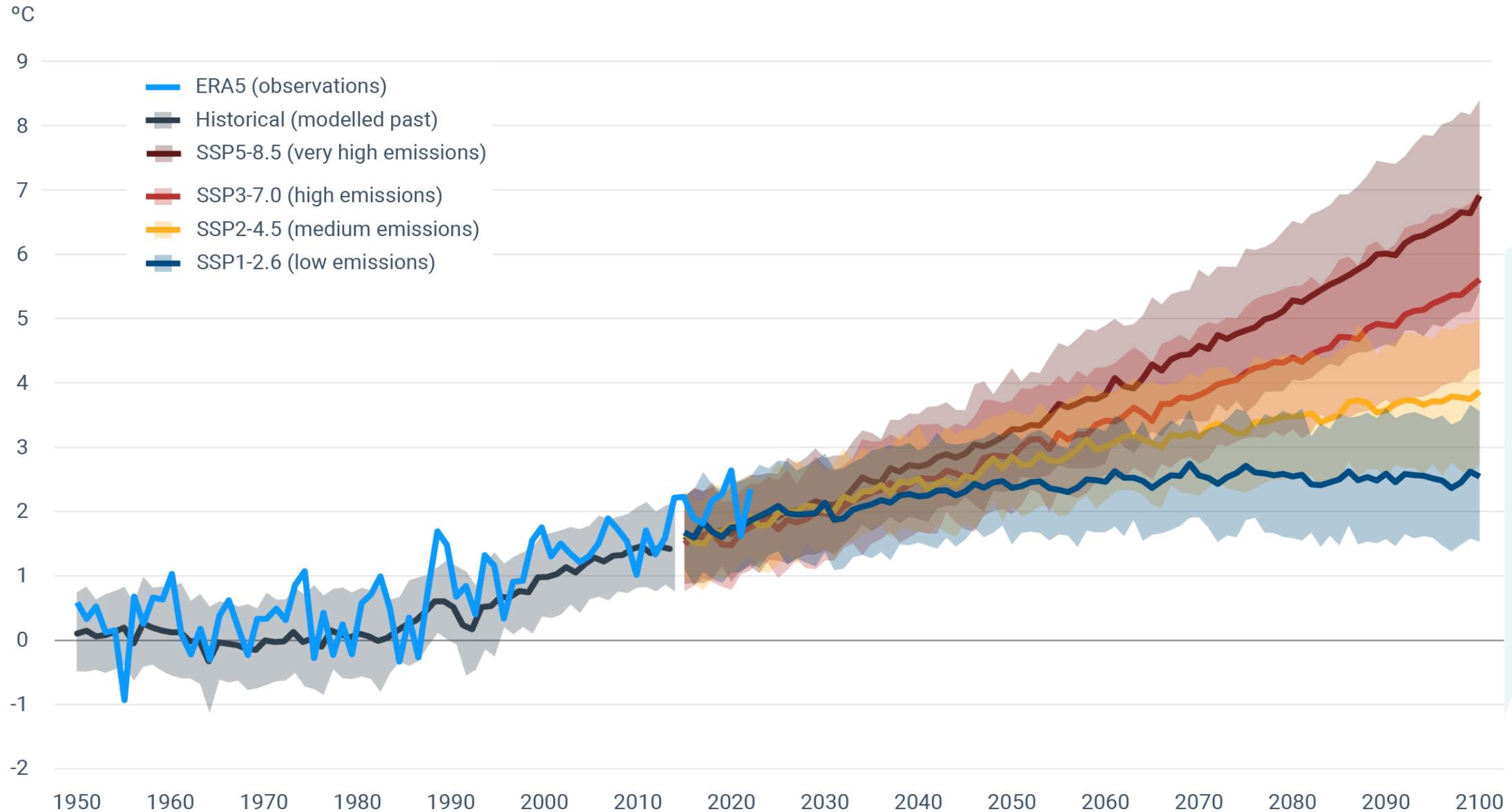
MtCO₂e

EU agricultural GHG emissions -25% since 1990, -7 % since 2005



Source: EEA (2024)

European warming projected to increase, but by how much?



Source: Observed and projected temperature increase over European land area, Copernicus climate change service based on CMIP6

Climate risk drivers are accelerating in all regions

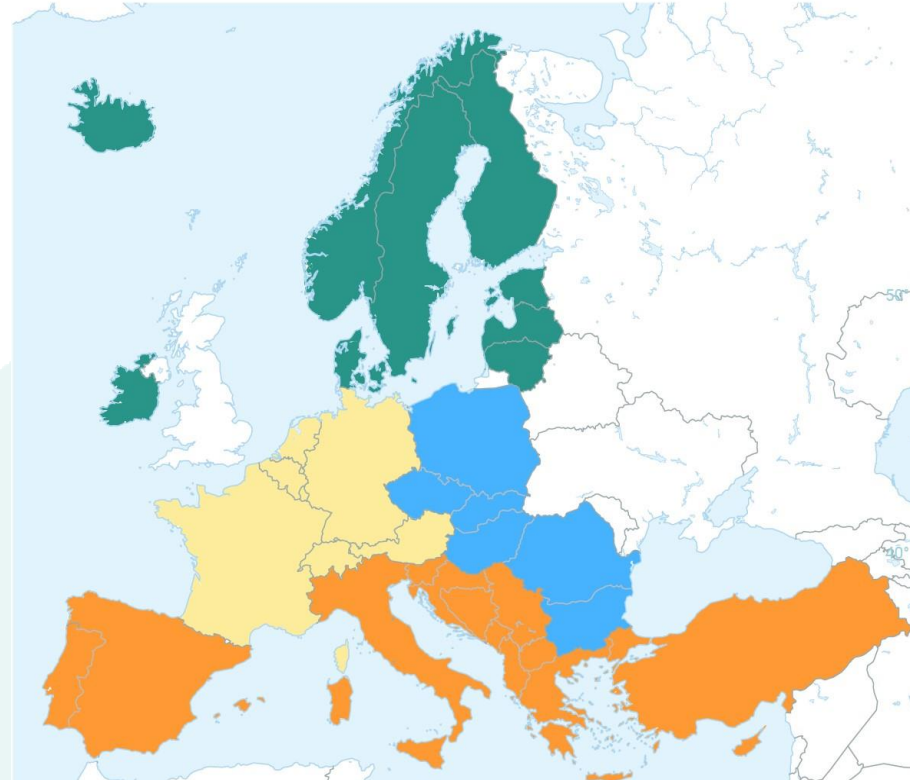
Europe is facing more and stronger climatic risk drivers

Most climate risk drivers in Europe will further increase during the 21st century and climate risks will reach critical levels

Southern Europe is the most impacted macro-region

Agri-food sector with the highest exposure

Land regions	Northern Europe			Western Europe			Central-Eastern Europe			Southern Europe			European regional seas		
	Past	Future		Past	Future		Past	Future		Past	Future			Past	Future
		Low	High		Low	High		Low	High		Low	High			
Mean temperature	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	Sea surface temperature	↗	↗
Heat wave days	☐(*)	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	Sea level	↗	↗
Total precipitation	↗	↗	↗	↗	↘	↘	↗	↗	↘	↘	↘	↘			
Heavy precipitation	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗			
Drought	↗	↘	↘	↗	↘	↗	↗	↘	↗	↗	↗	↗			



Legend

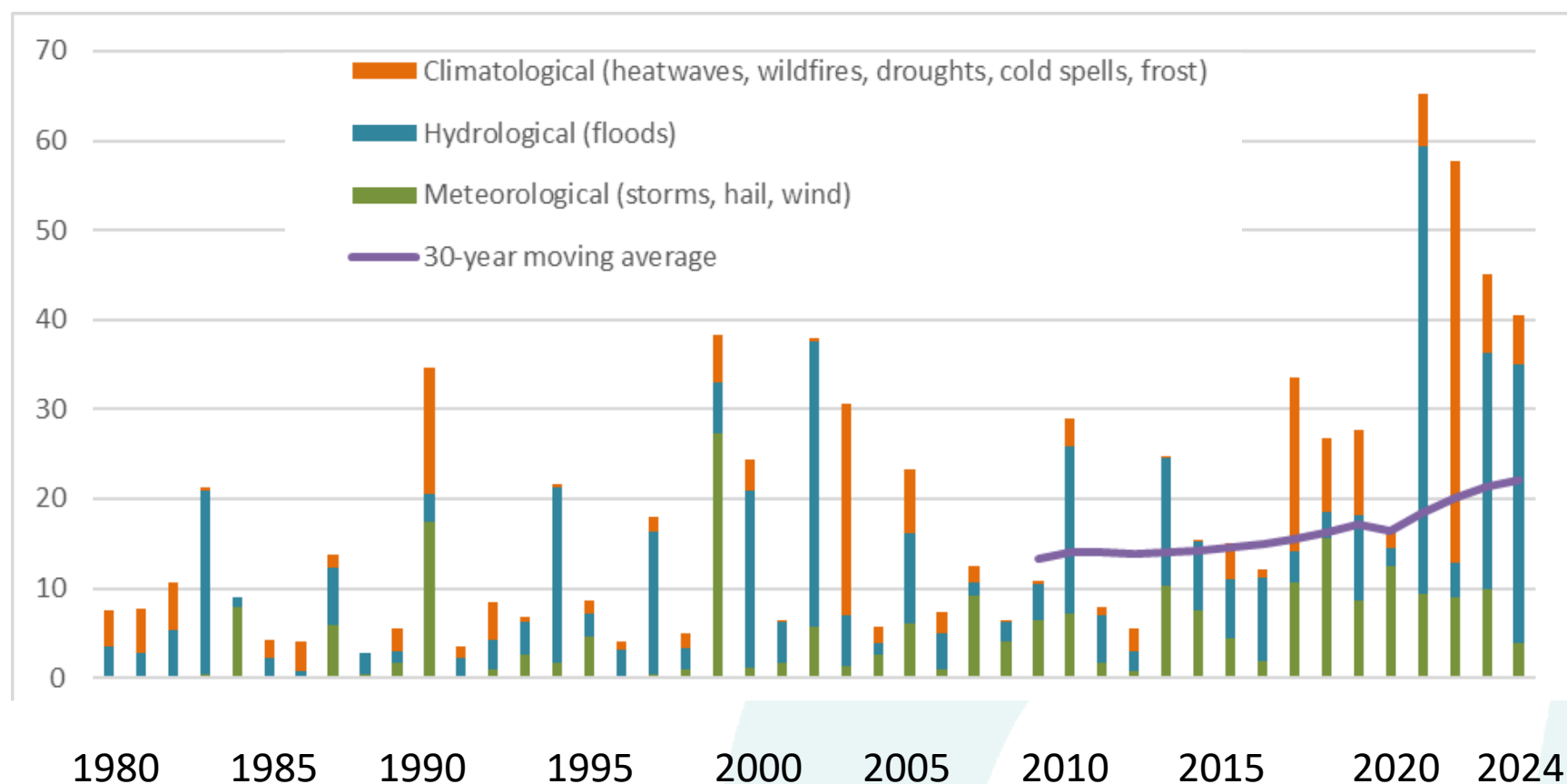
- ↗ Increase
- ↗ Increase (limited agreement between models, datasets or indices)
- ↘ Decrease
- ↘ Decrease (limited agreement between models, datasets or indices)
- ↗ Low confidence in direction of change
- No change

Note

(*) Other heatwave indices show an increase for the past

Fatalities and economic losses cause significant burden to society

EUR billion



EU - 27 countries (total 1980-2024)

441 000 fatalities

EUR 822 billion economic losses

Mediterranean countries (MED9) (total 1980-2024)

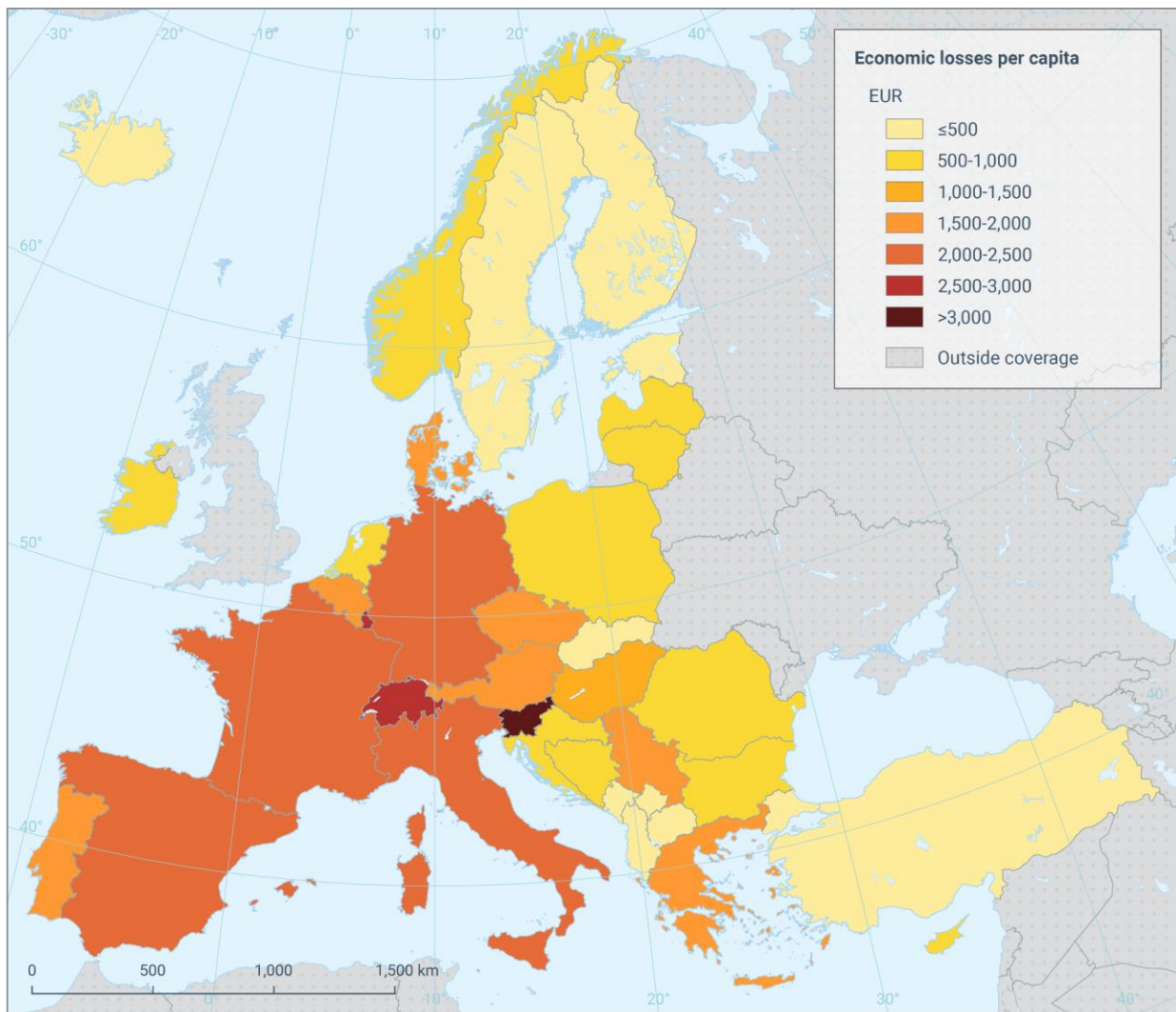
277 000 fatalities

EUR 462 billion economic losses

Source: EEA indicator Economic losses from weather and climate-related extremes in Europe – 8th EAP

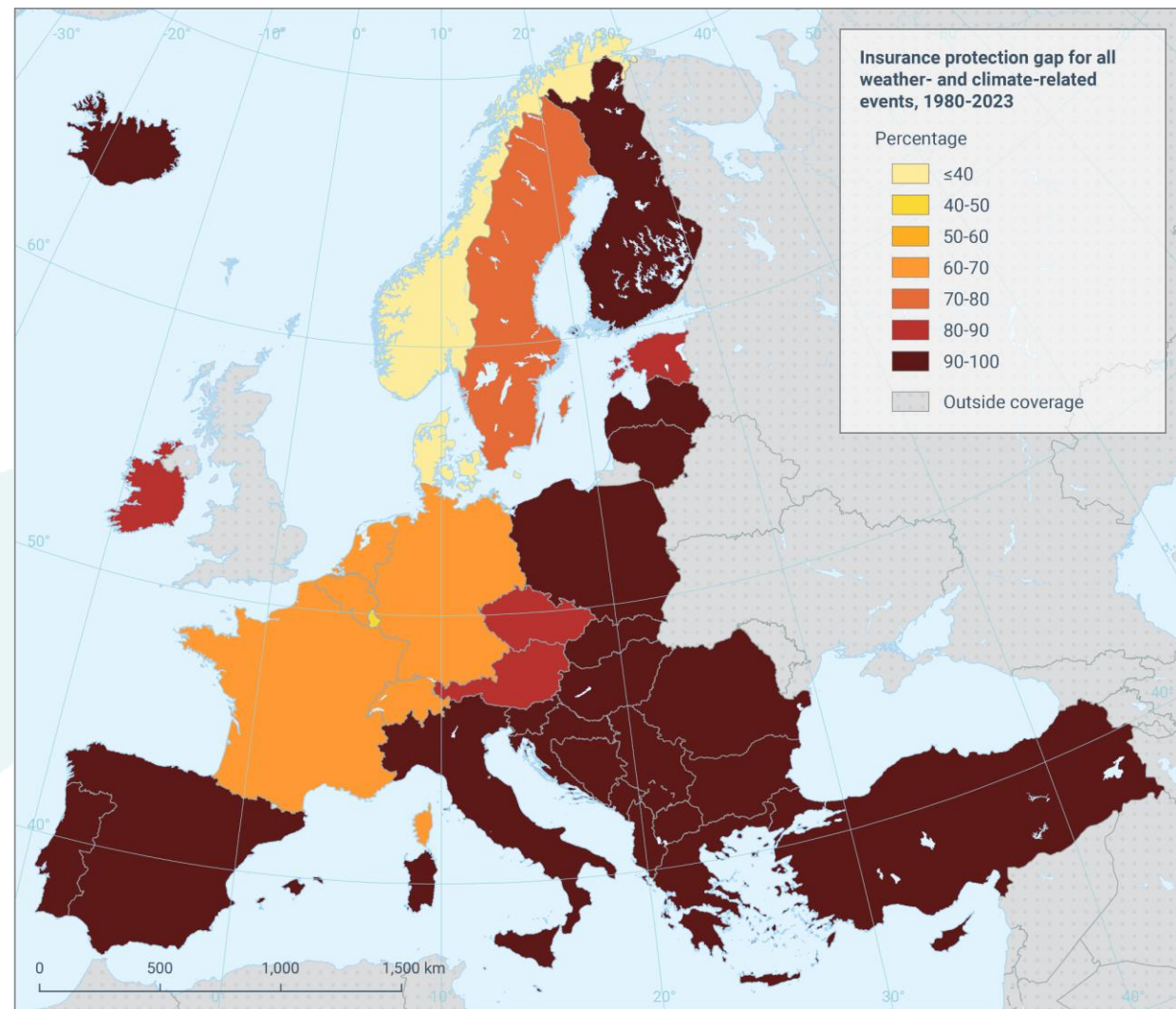
Insurance protection gap is still wide

Total economic losses from climate change per capita 1980-2024



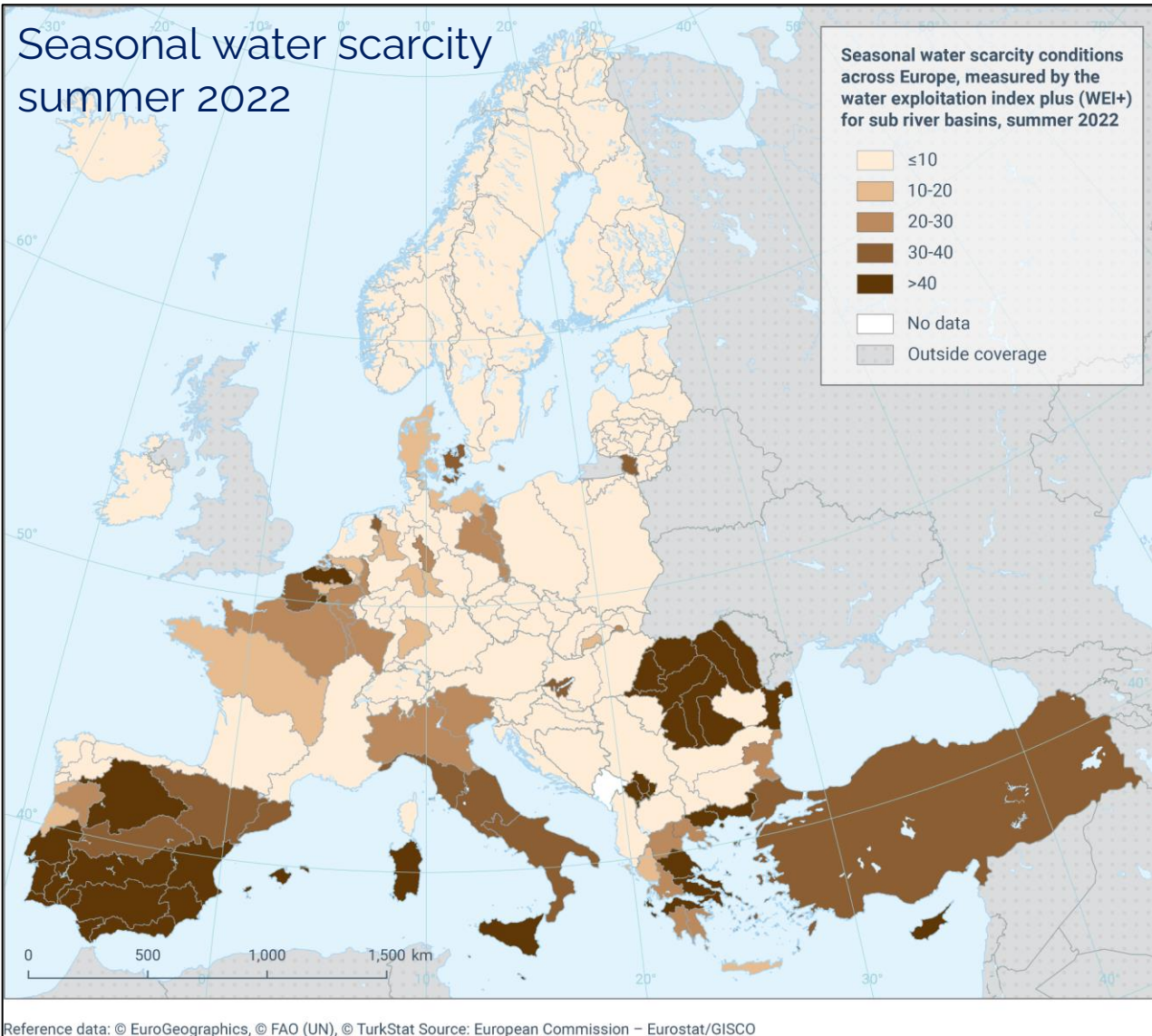
Reference data: © EuroGeographics, © FAO (UN), © TurkStat Source: European Commission – Eurostat/GISCO

Insurance protection gap for weather/climate-related events 1980-2024

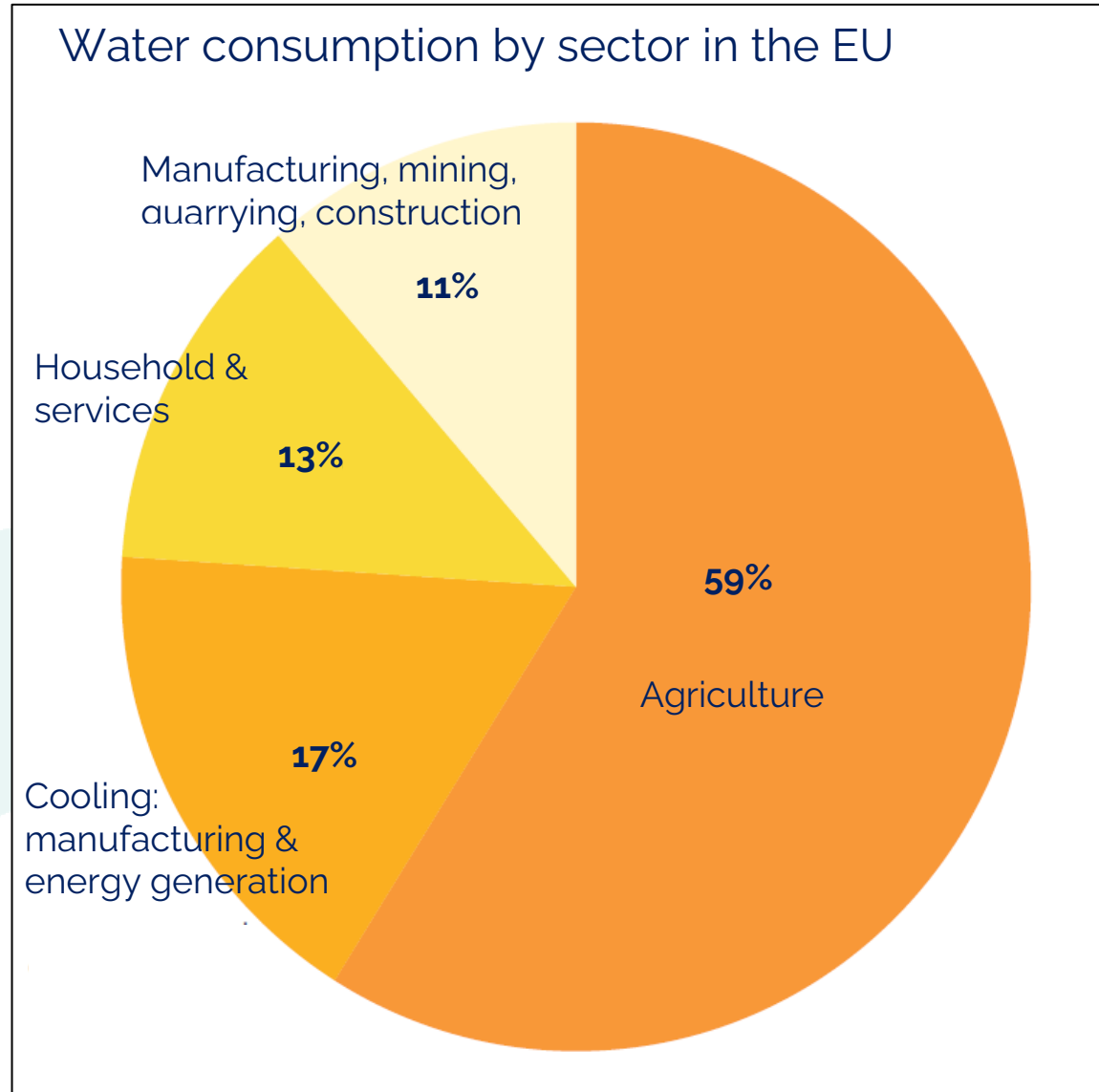


Reference data: © EuroGeographics, © FAO (UN), © TurkStat Source: European Commission – Eurostat/GISCO

Water resources under pressure in the Mediterranean



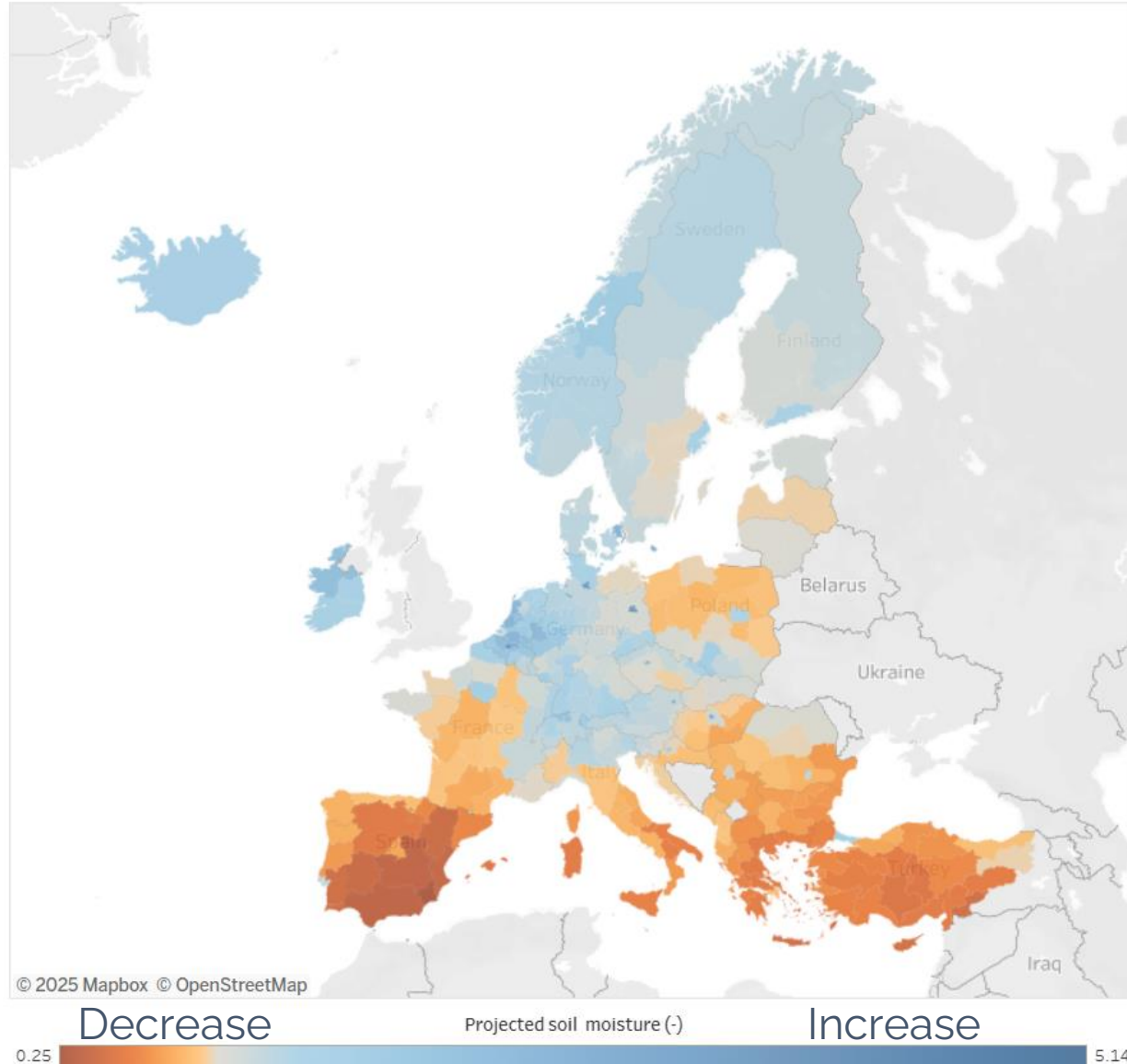
Source: [EEA, 2025](#)



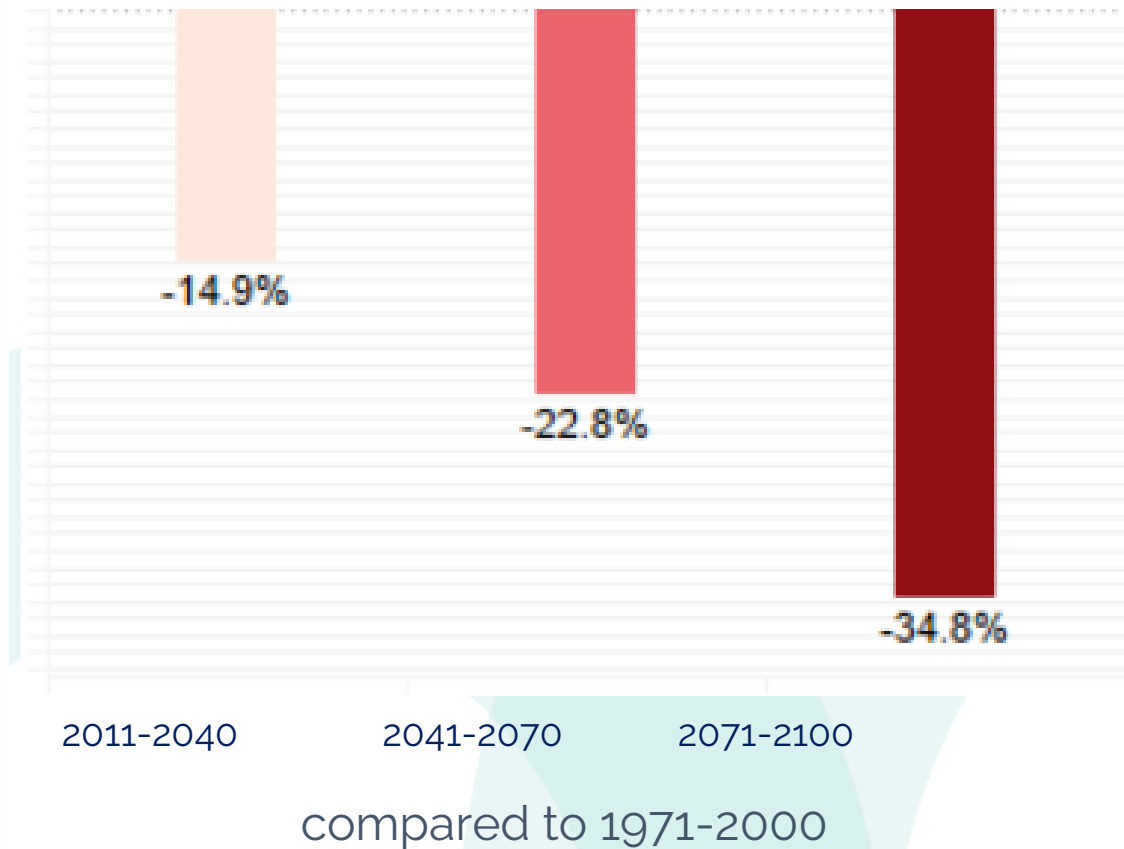
Source: [EEA, 2024](#)

Droughts to become more frequent, severe and longer

Projected soil moisture at the mid of the century



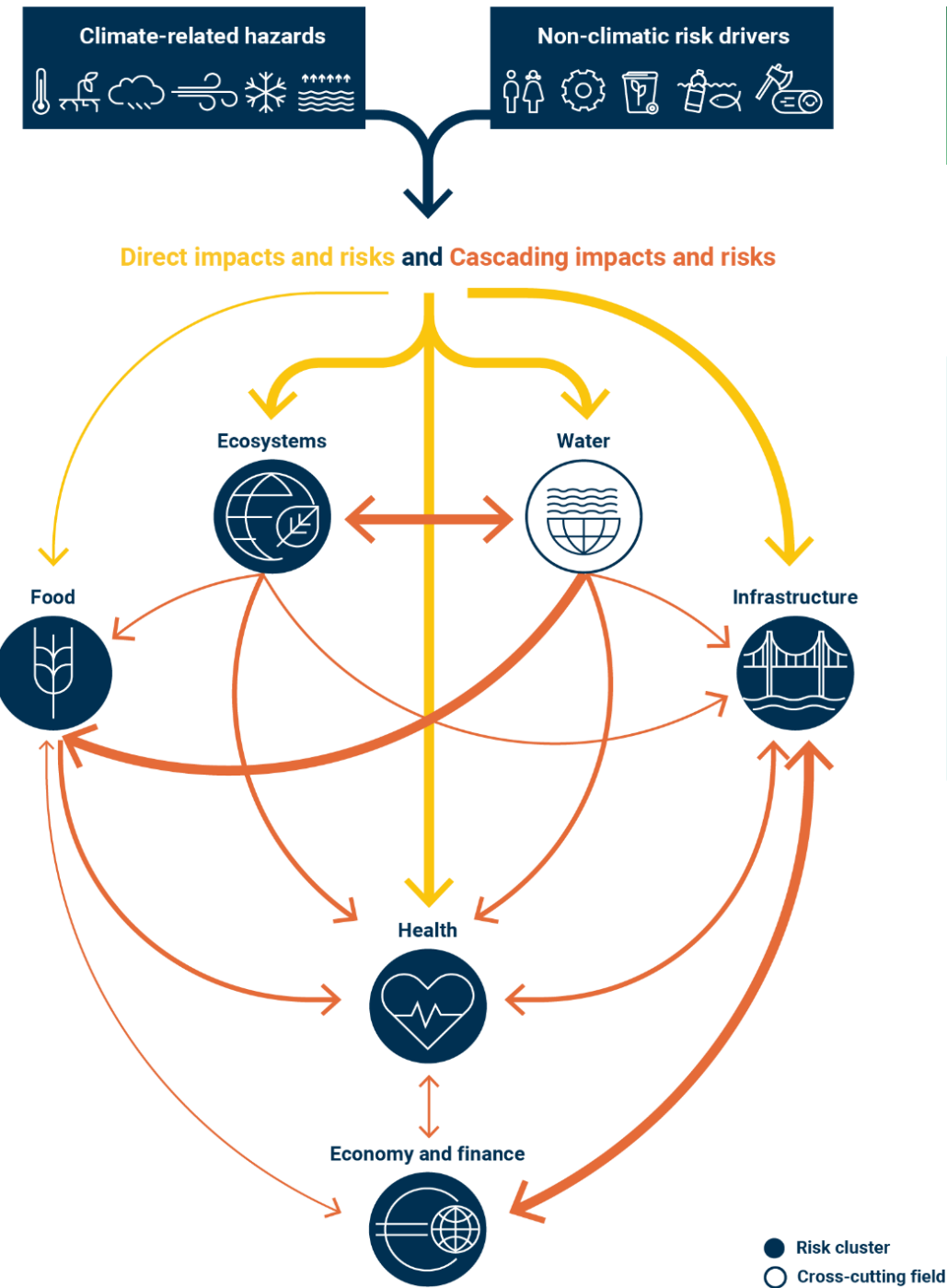
Change in soil moisture in Region
of Murcia, Spain
Compared to 1990-2010 period



Source: [EEA, 2025](#)

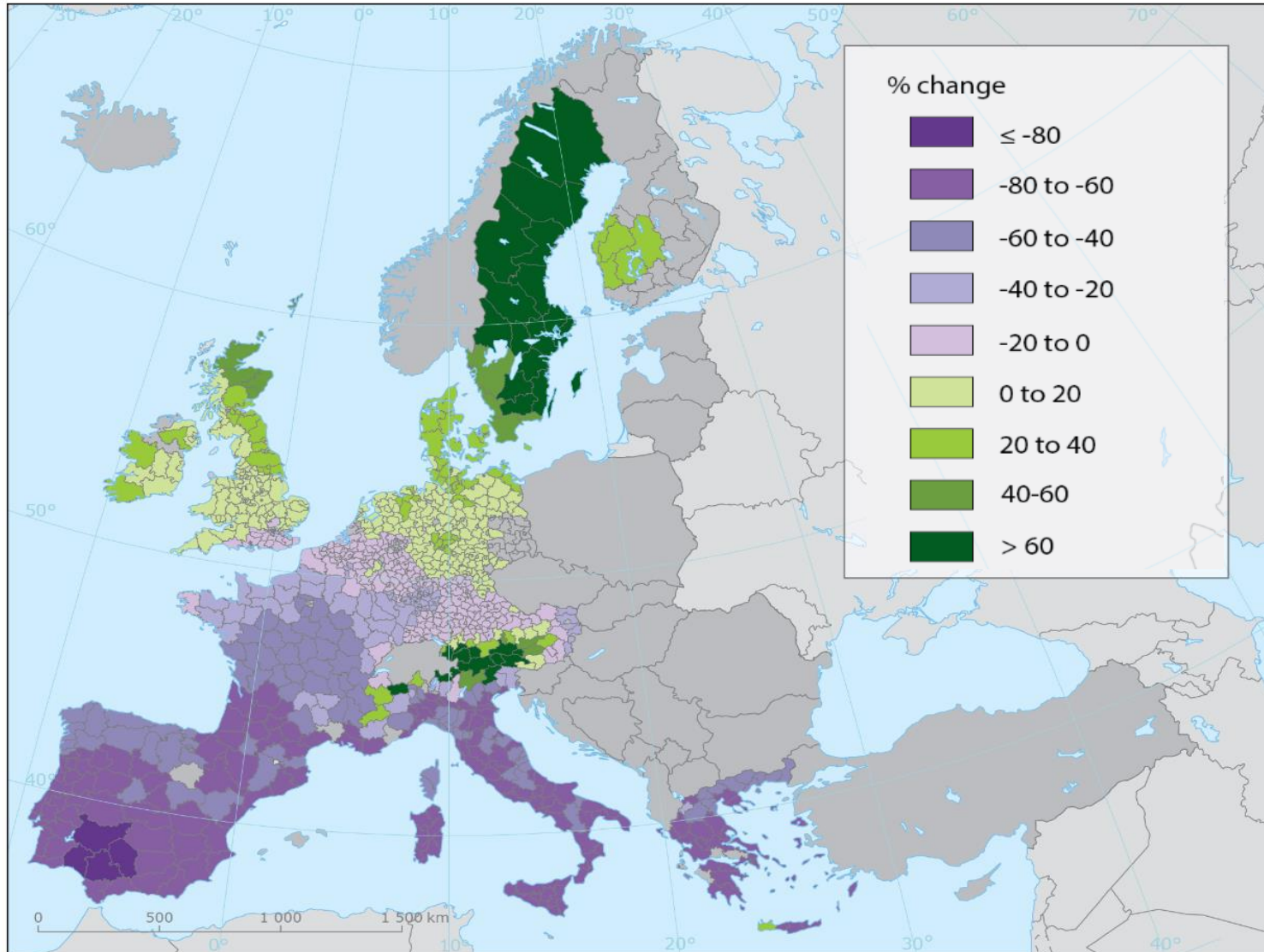
Climate risks can cascade from one system to another

- Climate risks are determined by **climate-related hazards** (heatwaves, floods, etc.), **non-climatic risk drivers** (land use, etc.) as well as how prepared we are.
- Climate change is a **risk multiplier** that can exacerbate existing risks and crises.
- Cascading climate risks** can lead to system-wide challenges affecting whole societies and economies with significant societal and economic losses.



Climate risk will affect the economy of farmers in the future

Projected change in farmland value by 2100



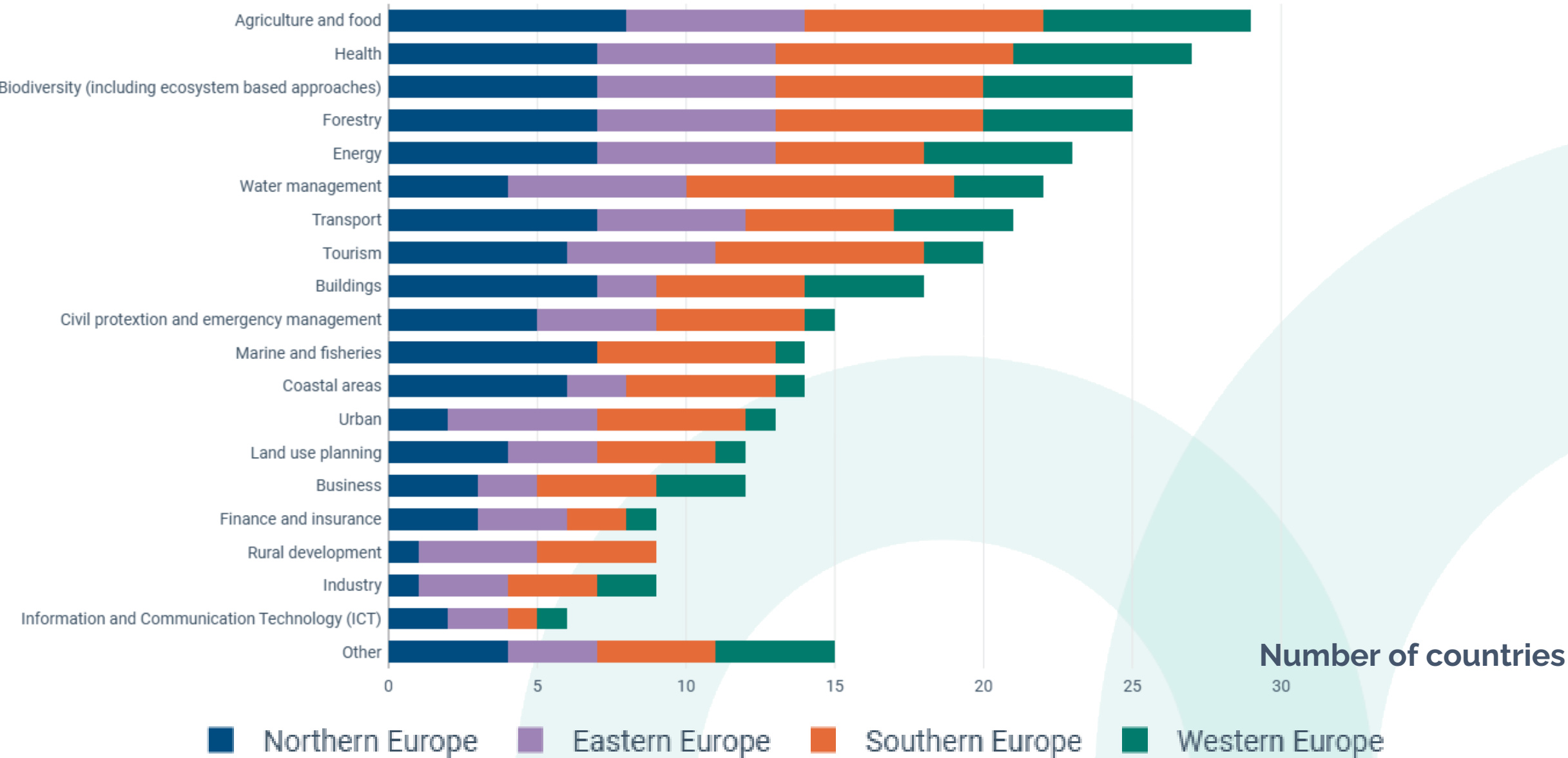
Agricultural income in Europe is projected to decrease, notably in southern Europe

Farmland values projected to decrease the most in southern Europe (mostly due to droughts/water scarcity)

Estimated costs of adaptation in the EU:
up to EUR 21 billion per year by 2100

Source: EEA, 2019, based on van Passel et al., 2017

Agriculture is recognised as key affected sector by the EU Member States



Source: EEA (2025)

Key takeaways

- **2024 was the warmest year recorded** and above 1.5 °C. Several major climate risks for Europe have already reached critical levels.
- Almost **all major climate risks could reach critical or even catastrophic levels during this century**, under a high warming scenario.
- **Risk to crop production** will reach critical levels in Europe and catastrophic level in southern Europe by the end of the century
- **Food security due to impacts outside Europe** will reach critical or catastrophic levels by the end of the century.
- Most major climate risks are co-owned by the EU and its Member States – **working together at all governance levels is essential to progress.**
- **Importance to address** the risks in systemic way, including water, crop and soil management and socio-economic aspects of sustainable farming.





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