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CLIMATE ADAPTATION AND RESILIENCE
DEMONSTRATED IN THE MEDITERRANEAN REGION

Nature-based Solutions: nature is not new, is it?

Tadej Stepišnik Perdih

National Technical University of Athens

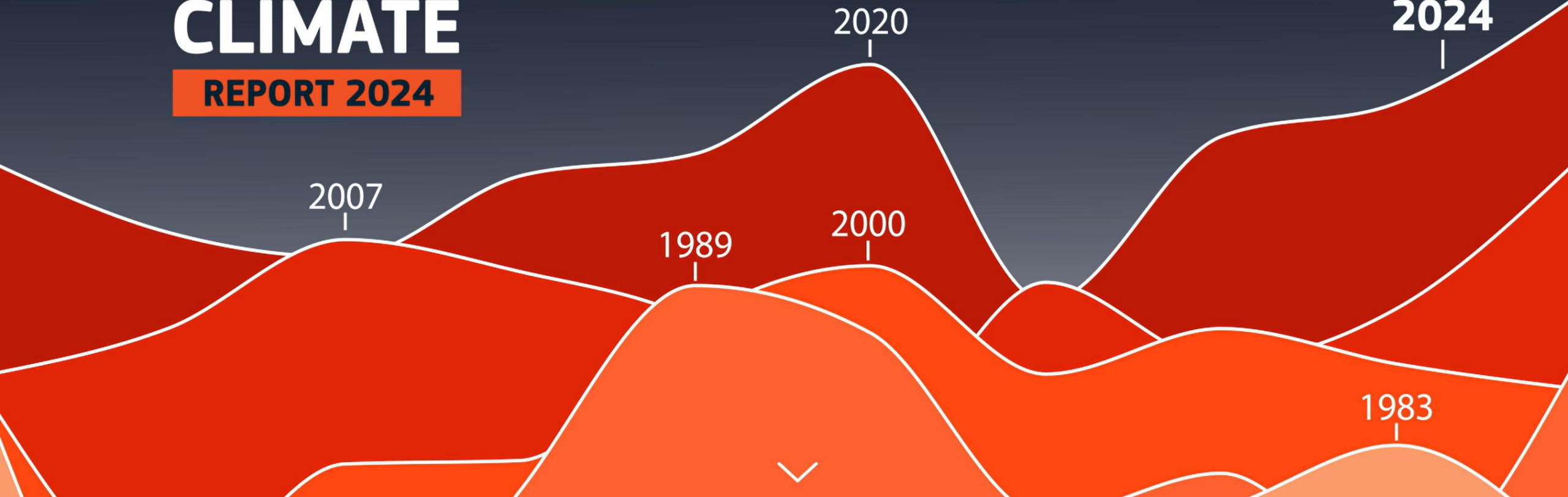
12.06.2025

Weather went nuts - European state of the climate



Temperatures in Europe are increasing faster than the global average

EUROPEAN STATE OF THE CLIMATE REPORT 2024



European state of the climate



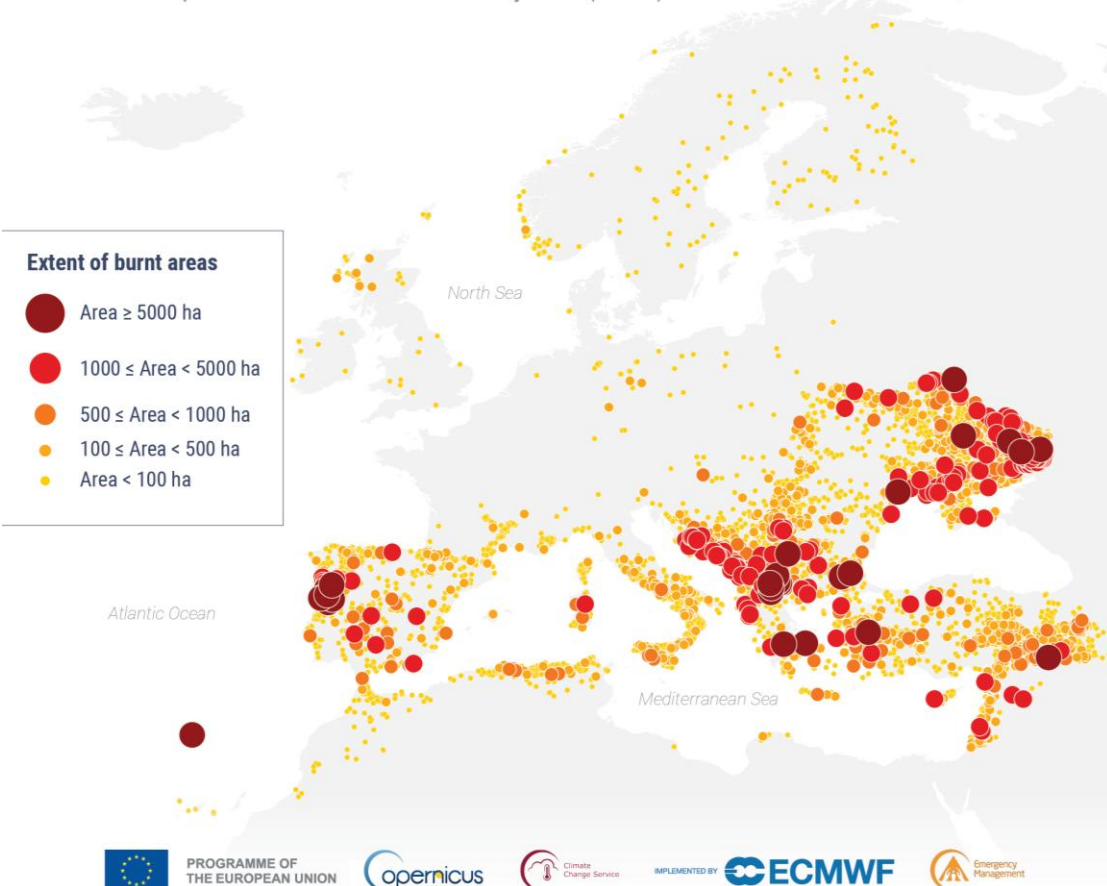
Wildfires



European Union, Copernicus Sentinel-2 imagery

Burnt areas across Europe and the Mediterranean in 2024

Data: European Forest Fire Information System (EFFIS) • Credit: EFFIS/CEMS/C3S/ECMWF



European state of the climate



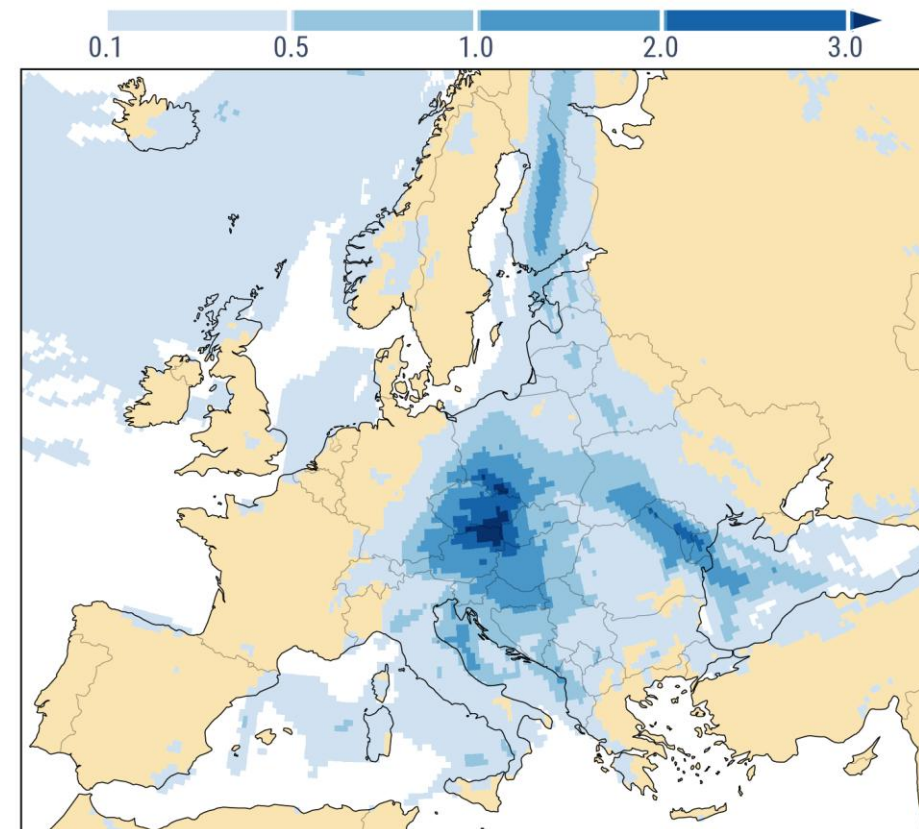
Floods



European Union, Copernicus Sentinel-2 imagery

How many months' worth of rain fell on 12–16 September?

Ratio between 5-day total precipitation and monthly average total during 1991–2020



Data: ERA5 • Credit: C3S/ECMWF



PROGRAMME OF
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Traditional *grey* infrastructure



Photo by Egor Myznik on Unsplash



Photo by Marcus Woodbridge on Unsplash



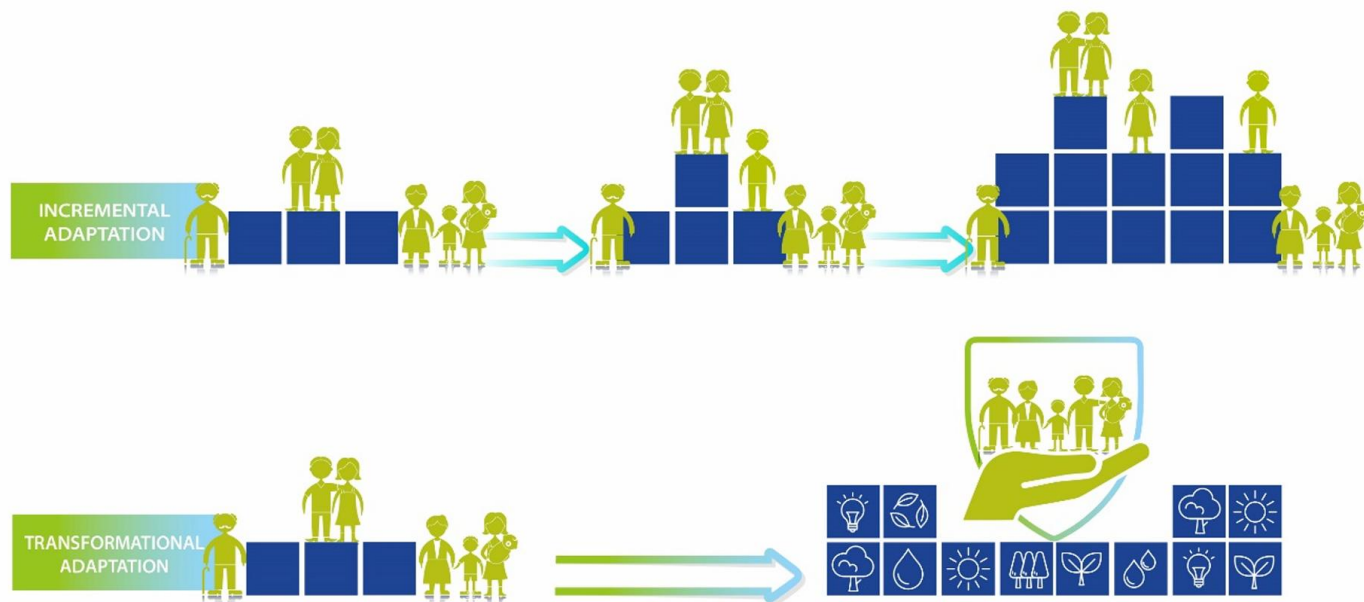
Photo by Alexey Golubev on Unsplash

Transformational adaptation concept



Intergovernmental Panel on Climate Change (IPCC) Assessment Report 6

“Actions aiming at adapting to climate change resulting in significant changes in structure or function that go beyond adjusting existing practices.”



[Transformational Adaptation: New Approach To Climate Resilience](#)

Examples of Nature-based Solutions



Urban & peri urban areas

- *Green roof & green wall*
- ***Rain garden***
- *Bioswales*
- *Unsealing soil*
- *Micro-forest*
- *Green corridor*
- *Pond*
- *Pocket park*



Photo by CARDIMED

Examples of Nature-based Solutions



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Photo by CARDIMED

Examples of Nature-based Solutions



Rural and agricultural areas

- ***Constructed wetlands***
- *Agroforestry*
- *Composting*
- *Native fauna*
- *Riparian buffer*
- *Lagoon restoration*
- *Terracing*
- *Protection forests*



Photo by CARDIMED

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Photo by CARDIMED

Examples of Nature-based Solutions



Coastal areas and sea

- *Dunes*
- *Coral reefs*
- ***Seagrass meadows***
- ***Beach nourishment***
- *Salt marshes*
- *Mangroves*



Photo by Benjamin L. Jones on Unsplash



Photo by David Slaager on Unsplash

Examples of Nature-based Solutions



CARDIMED NbS catalogue



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CLIMATE ADAPTATION AND RESILIENCE DEMONSTRATED IN THE MEDITERRANEAN REGION



Deliverable
2.1

Landscape report of NBS

Catalogue of NBS solutions for demo sites, discussing their applicability for climate resilience

NetworkNature



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Definition of Nature-based Solutions

Definition of NbS by the European Commission

“Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions.

Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services.”

The European Water Resilience Strategy 2025

EU Adaptation Strategy 2021

Definition of NbS by IUCN



CARDIMED at glance

34 different types of Nature-based Solutions through >80 interventions on 18 locations across 10 European Regions.



Nature-based
Solutions



Digital
Technologies



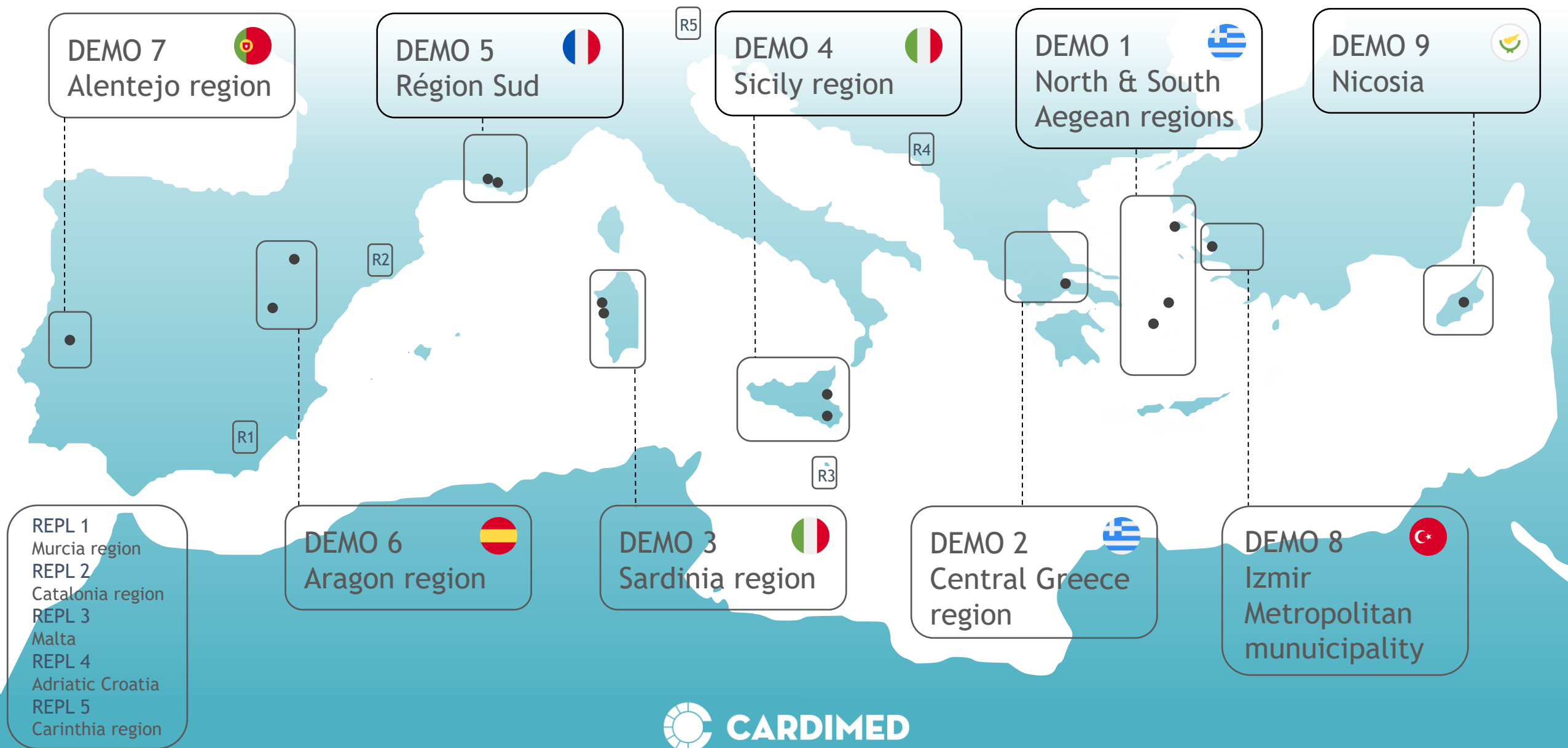
Socio-economic
Resilience



WEFE
nexus



CARDIMED demonstration sites





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