Clarity

The climate impact assessment marketplace

Data, tools and services for the efficient check of urban infrastructure

The CLARITY Climate Services Information System

- providing hazard characterisation at European scale -

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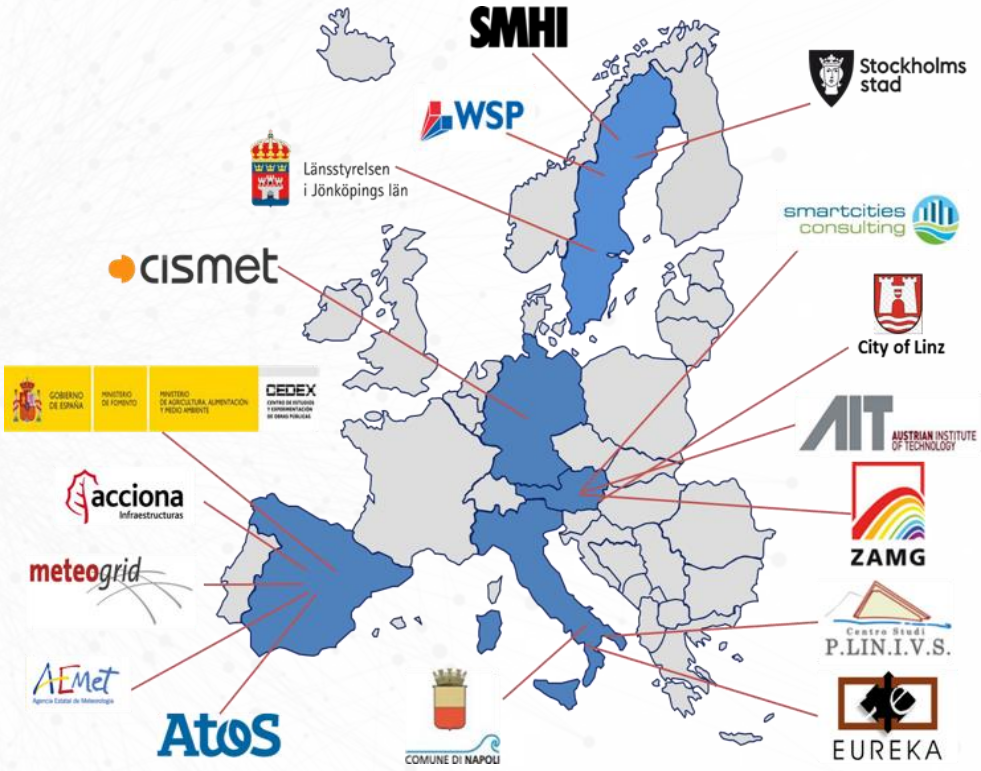
Photography encouraged

- Development of a **Climate Services Information System (CSIS)** to support climate change adaptation planning in urban areas and transport infrastructure projects
- **Co-creation** with suppliers, purveyors and end-users
- Demonstration and validation of added value in **4 pilots**



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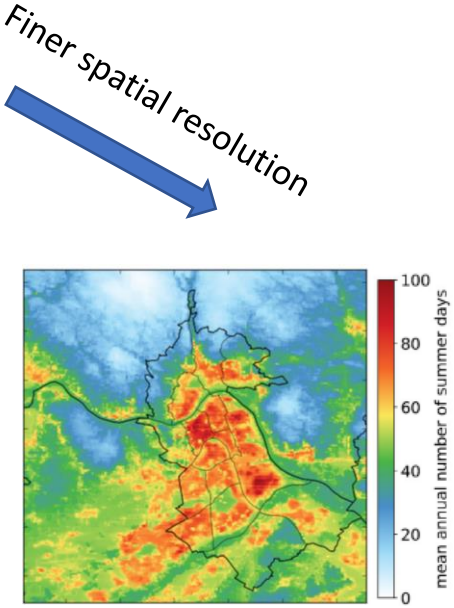
Climate Services Information System (CSIS) – Online Screening Tool

- Screening of potential hazards, exposed elements at risk, general adaptation options, ..
- Based on available open data (e.g. EURO-CORDEX, Urban Atlas)
- EU Level

Marketplace

- Project owners are offered relevant Expert Services and Solutions based on results of the screening
- Expert Studies in pilot sites (Naples, Linz, Sweden, Spain) showcase the benefit

https://euro-cordex.net/



Urban climate modelling: Linz

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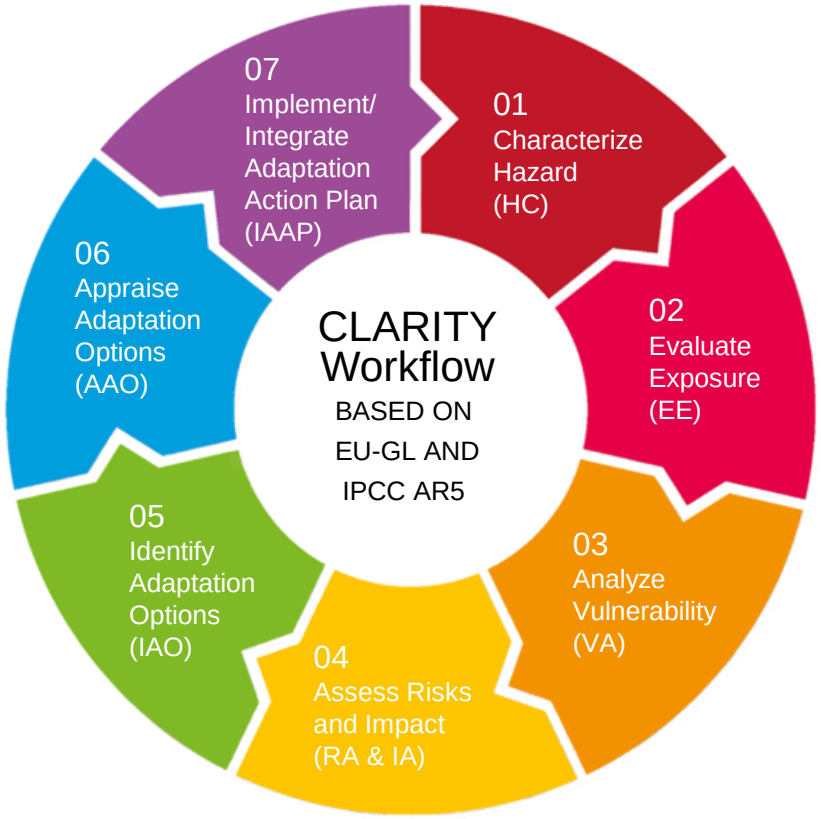

For more details about the EU-GL method please check:
http://climate-adapt.eea.europa.eu/metadata/guidances/non-paper-guidelines-for-project-managers-making-vulnerable-investments-climate-resilient/guidelines-for-project-managers.pdf

CLARITY WORKFLOW

- Based on “Non-paper guidelines for project managers: making vulnerable investments climate resilient”
- Updated to comply with the 5th Assessment Report of the IPCC to promote integrated modelling approach for Disaster Risk Reduction and Climate Change Adaptation

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AT EUROPEAN SCALE

- Calculation of climate indices (ETCCDI, ECA&D)
- Based on 16 Global Climate Model – Regional Climate Model combinations from EURO-CORDEX simulations (spatial resolution: 12.5 km)
- Temperature and preciptation will be bias corrected using E-OBS data
- Representative Concentration Pathways RCP: RCP2.6, RCP4.5, RCP8.5
- Reference Period: 1971 – 2000
- Future Periods: 2011 – 2040,

  2041 – 2070,

  2071 - 2100

https://euro-cordex.net/

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HAZARDS

Heat Waves / Heat

Consecutive summer days (Tmax > 25 °C)
Consecutive days Tmax > 75th percentile (Apr-Sept)
Summer days (Tmax > 25 °C)
Hot days (Tmax > 30 °C)
Tropical nights (Tmin > 20 °C)

Extreme Cold

Consecutive frost days (Tmin < 0°C)
Frost days (Tmin < 0°C)
Ice days (Tmax < 0 °C)
Percentage of days when Tmin < 10th percentile

Thermal Stress

Extreme temperature range

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HAZARDS

Extreme Precipitation

RX1day - highest 1 day precipitation amount
RX5day - highest 5 day precipitation amount
Snow days
R20mm – number of days with daily precipitation > 20 mm

Storms

Wind98p – 98th percentile of daily max wind speed

Drought

CDD - Consecutive dry days (RR < 1mm)

Other hazards: River flooding, forest fires, landslides

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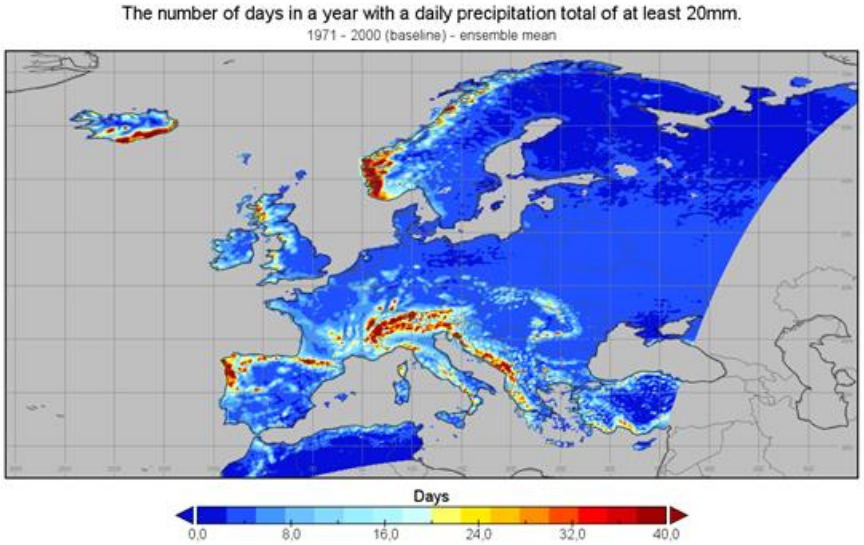
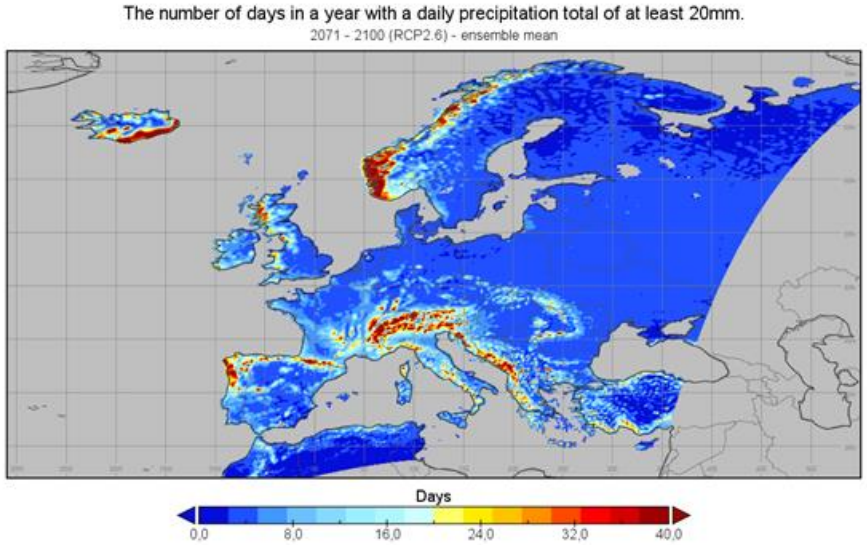
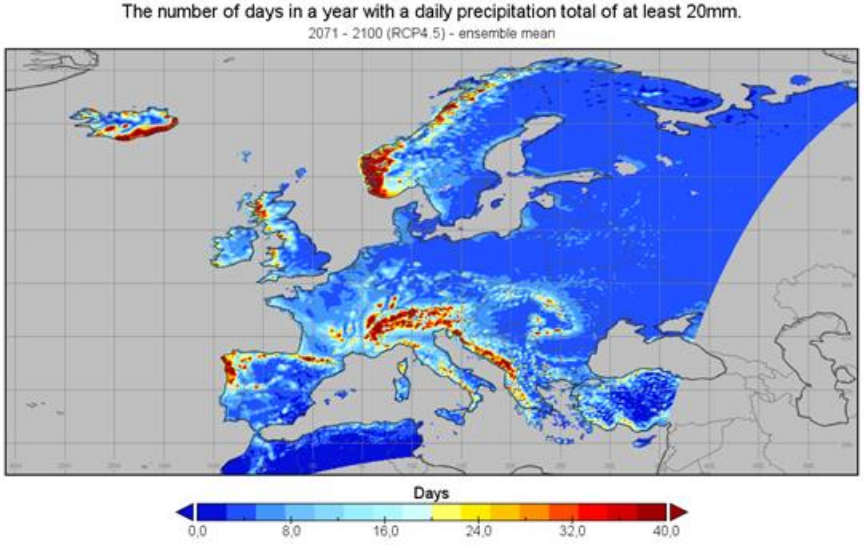
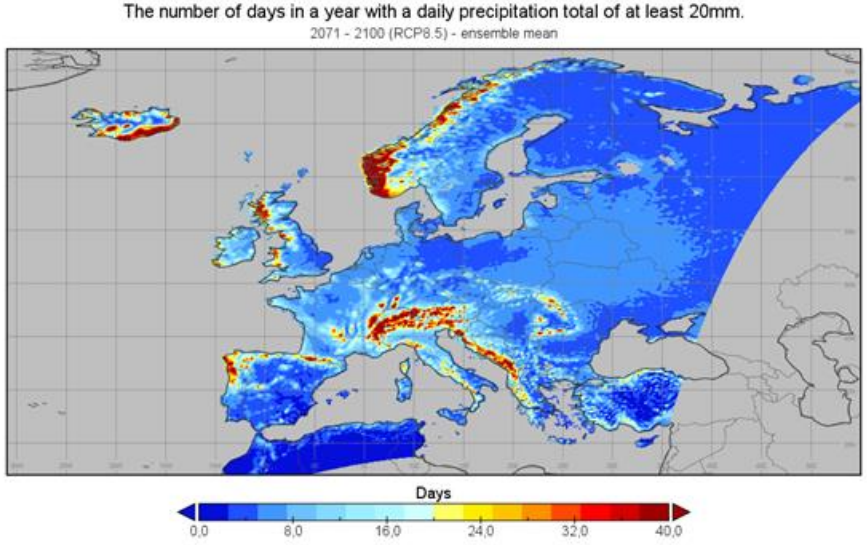
DIFFERENT SCENARIOS









Preliminary results!

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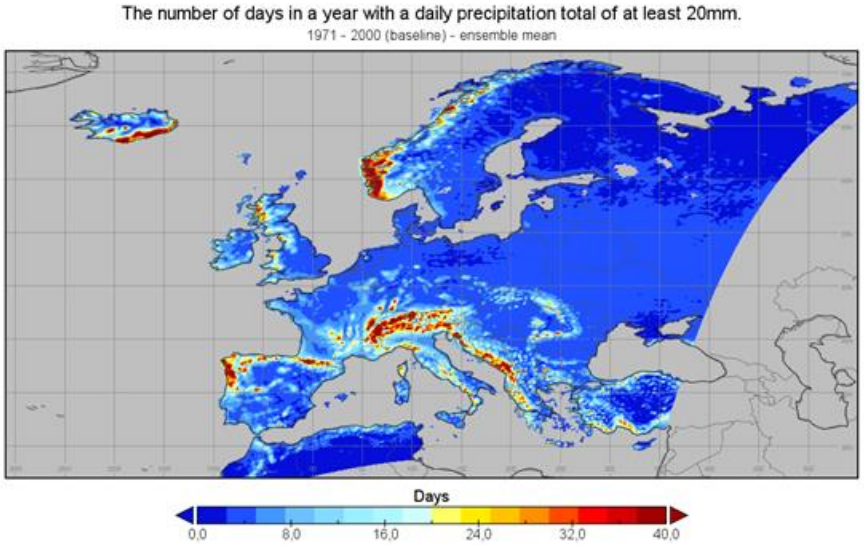
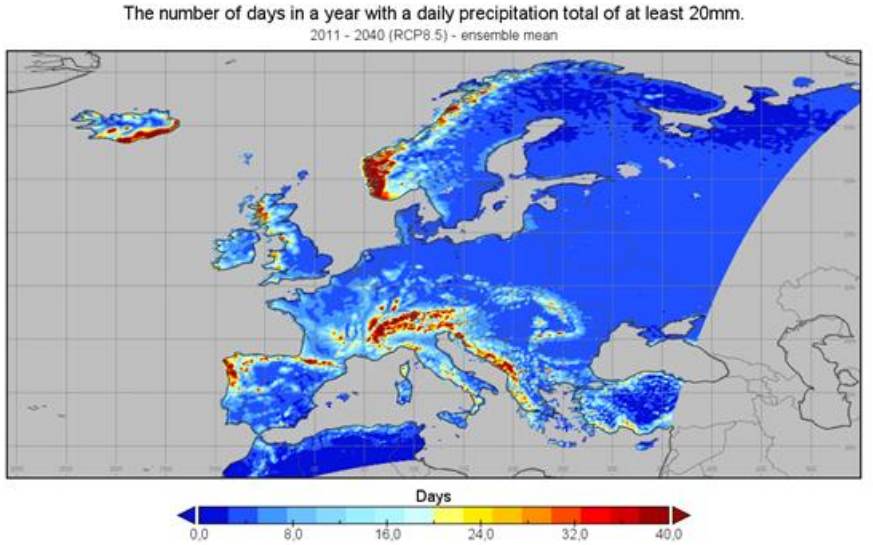
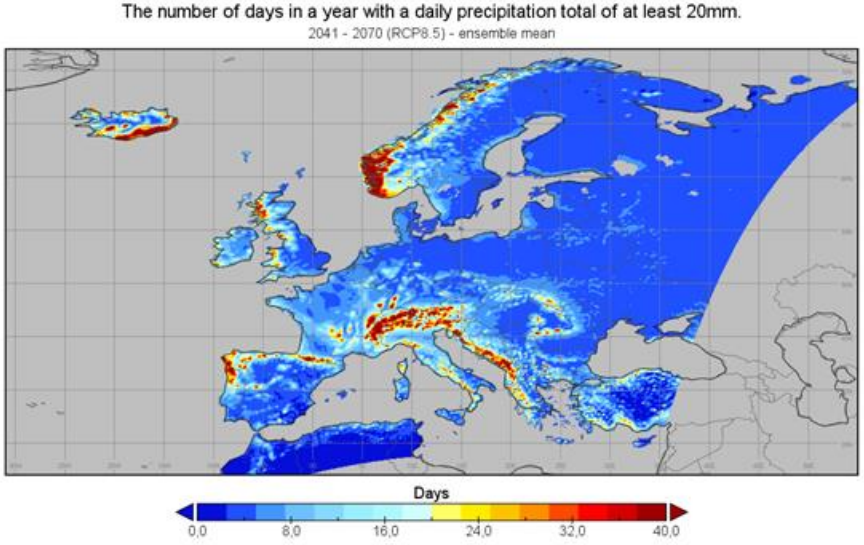
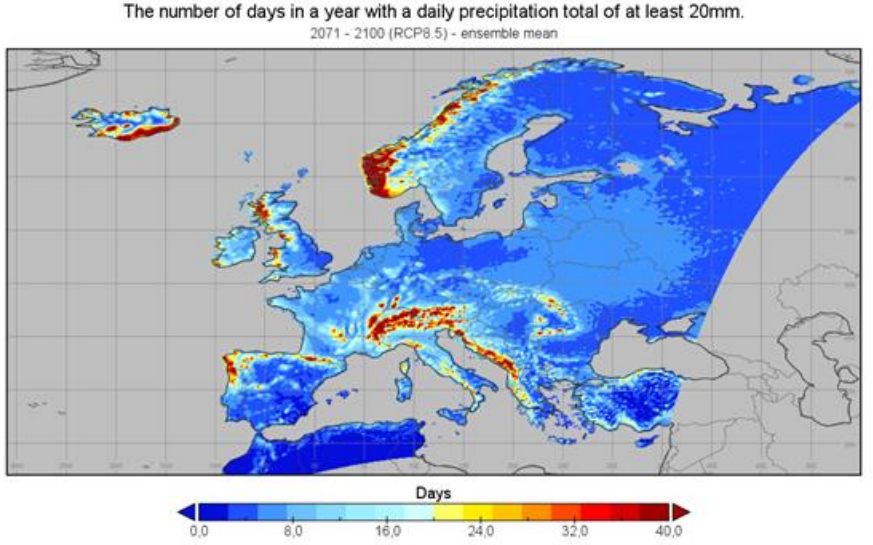
DIFFERENT TIME PERIODS (RCP8.5)









Preliminary results!

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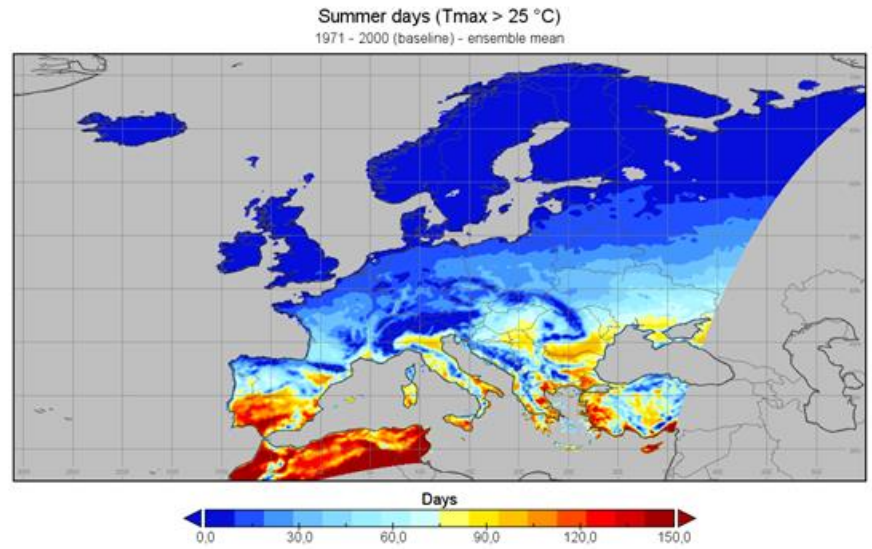
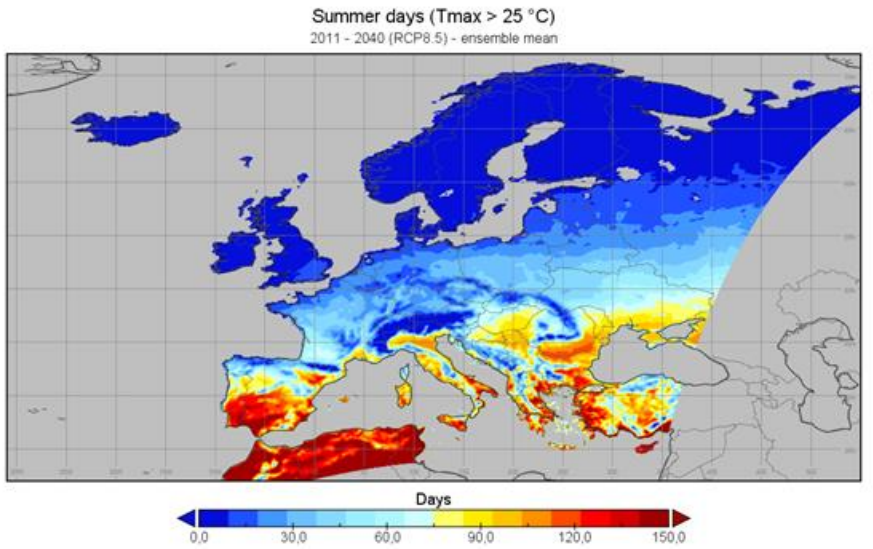
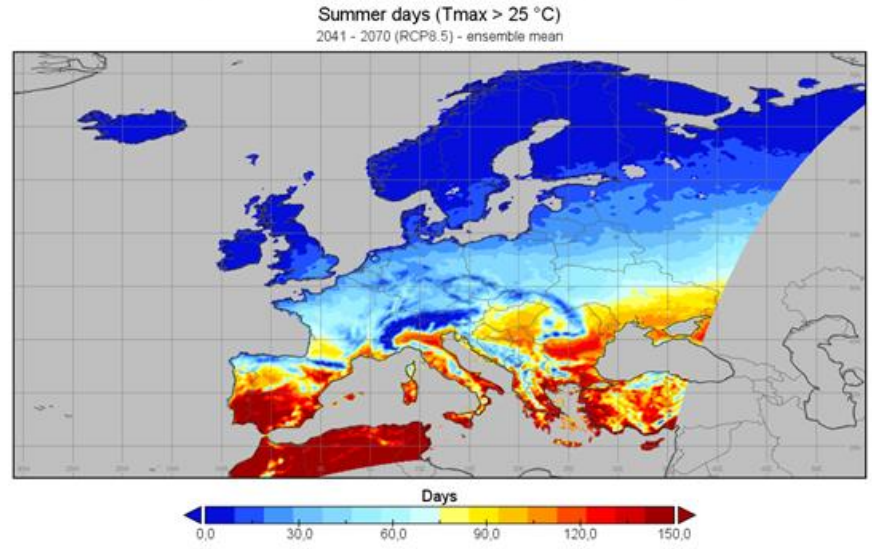
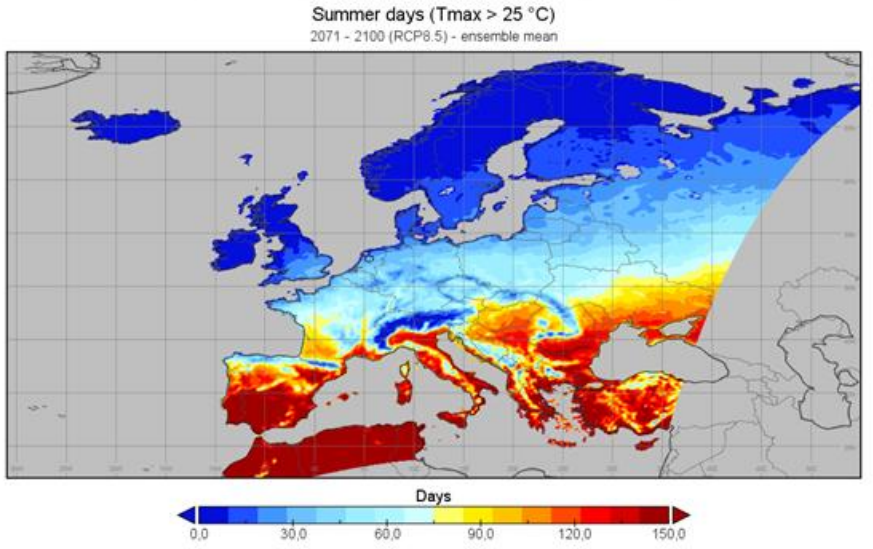
SUMMER DAYS (RCP8.5)









Preliminary results!

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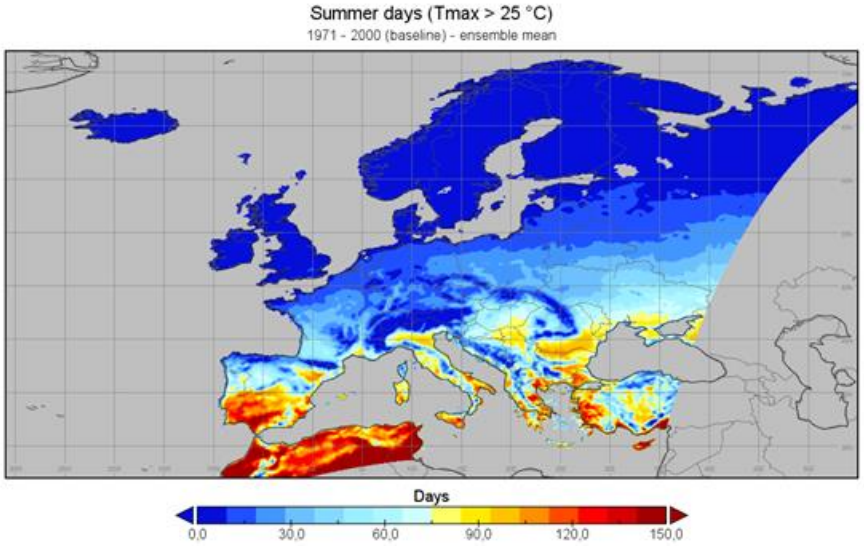
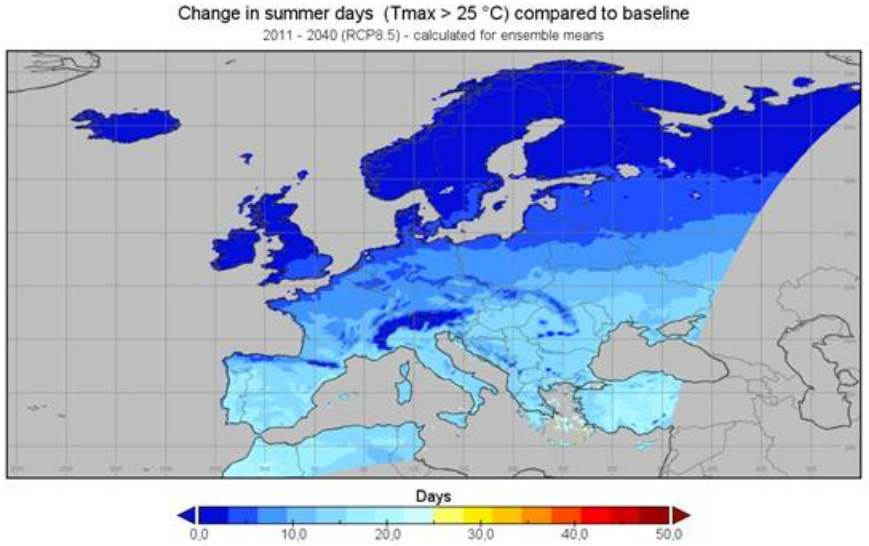
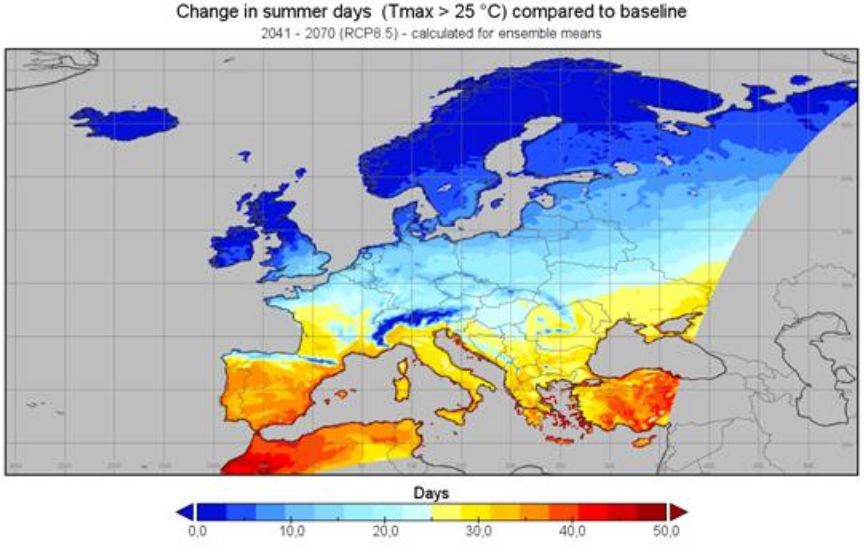
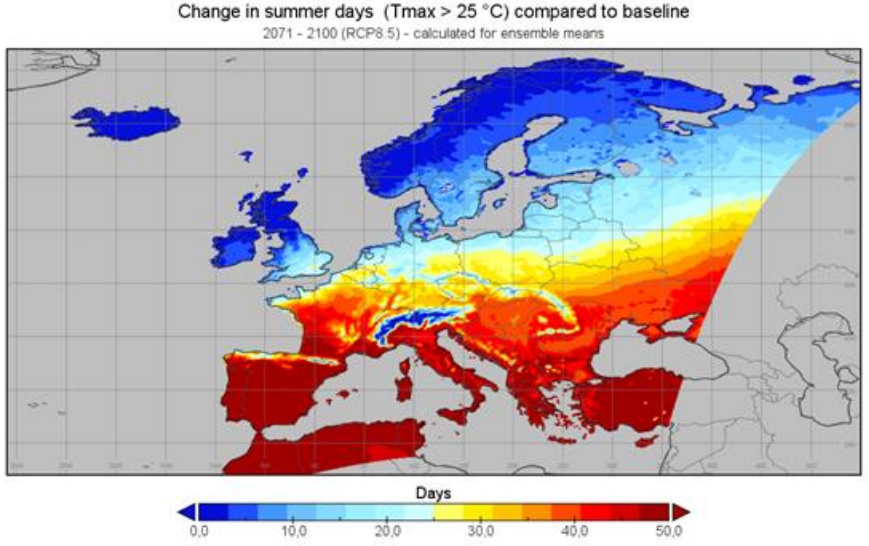
FUTURE SCENARIOS vs. BASELINE









Preliminary results!

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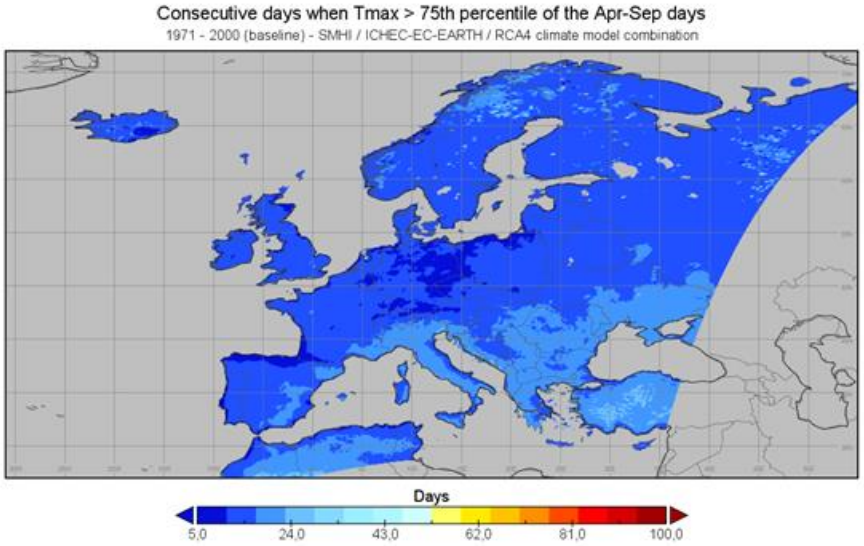
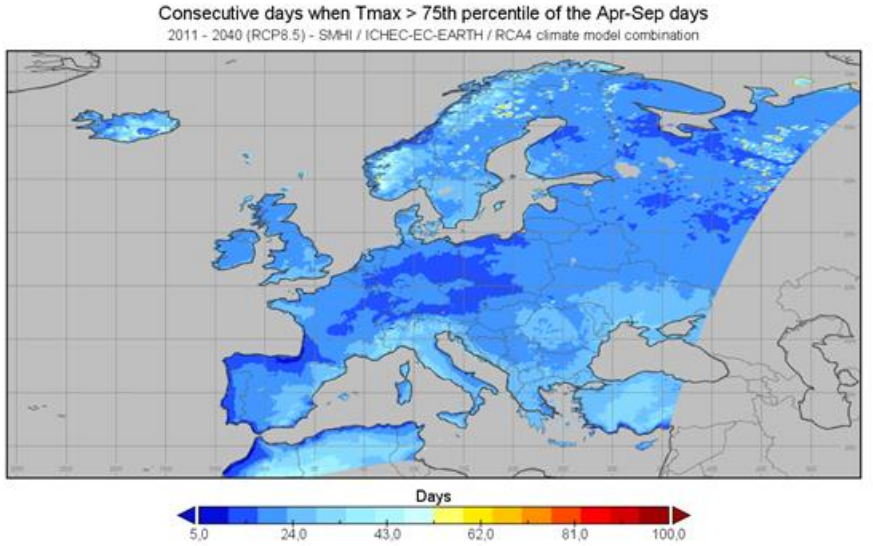
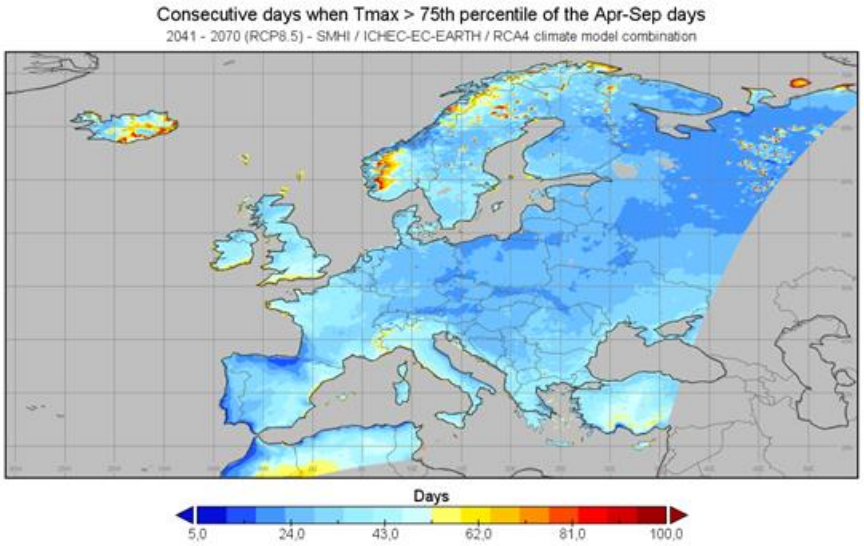
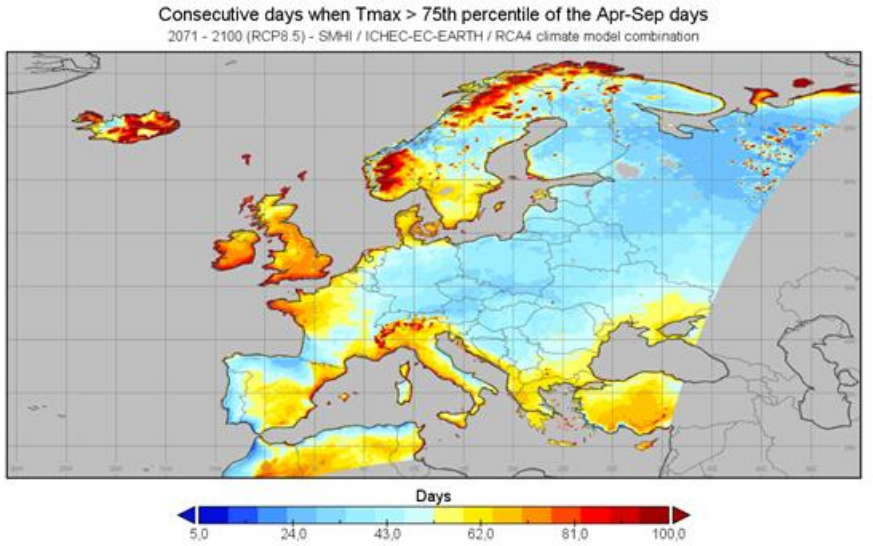
Tmax > 75th PERCENTILE (RCP8.5)









Preliminary results!

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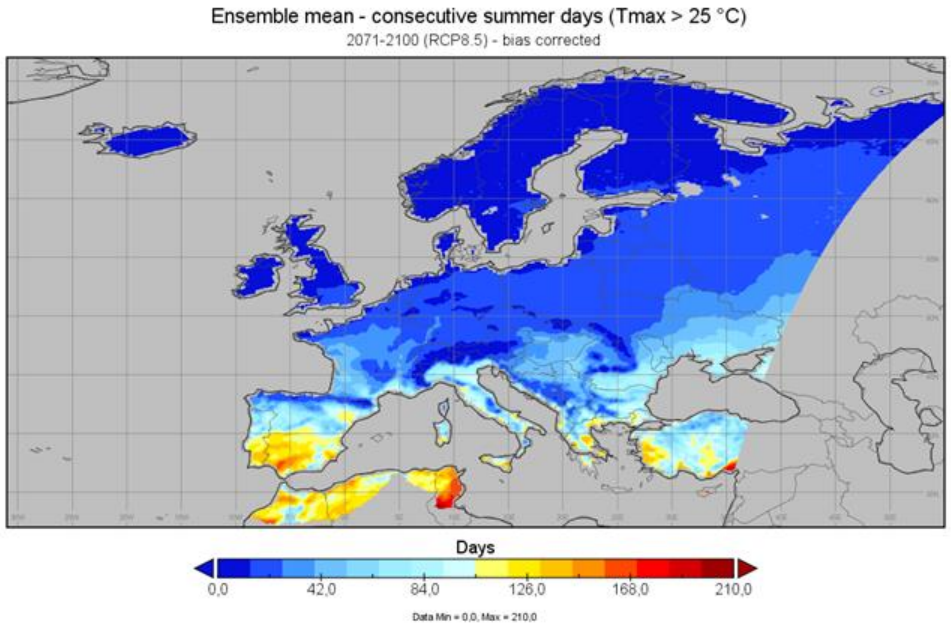
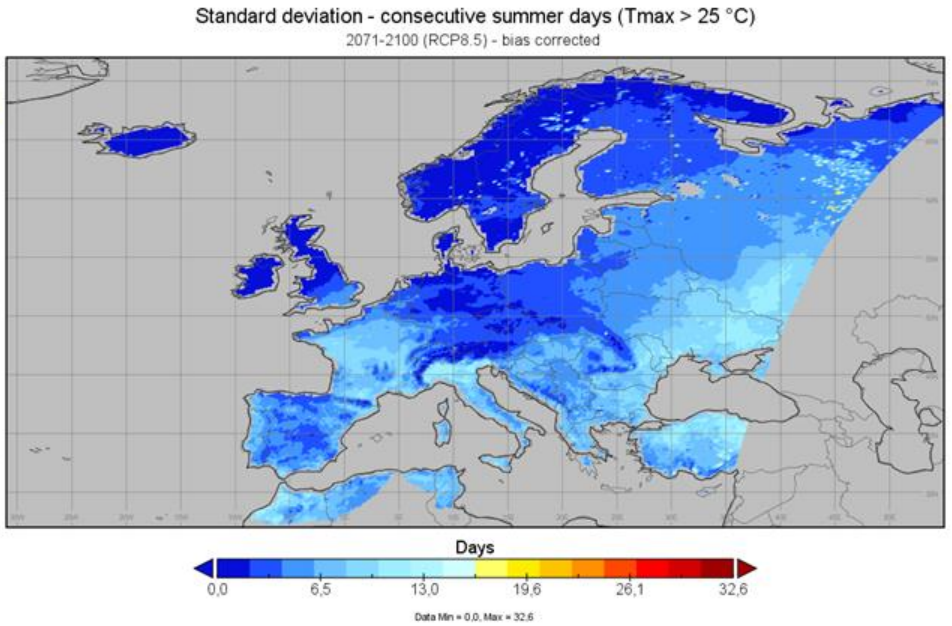
INTER-MODEL VARIABILITY





Preliminary results!

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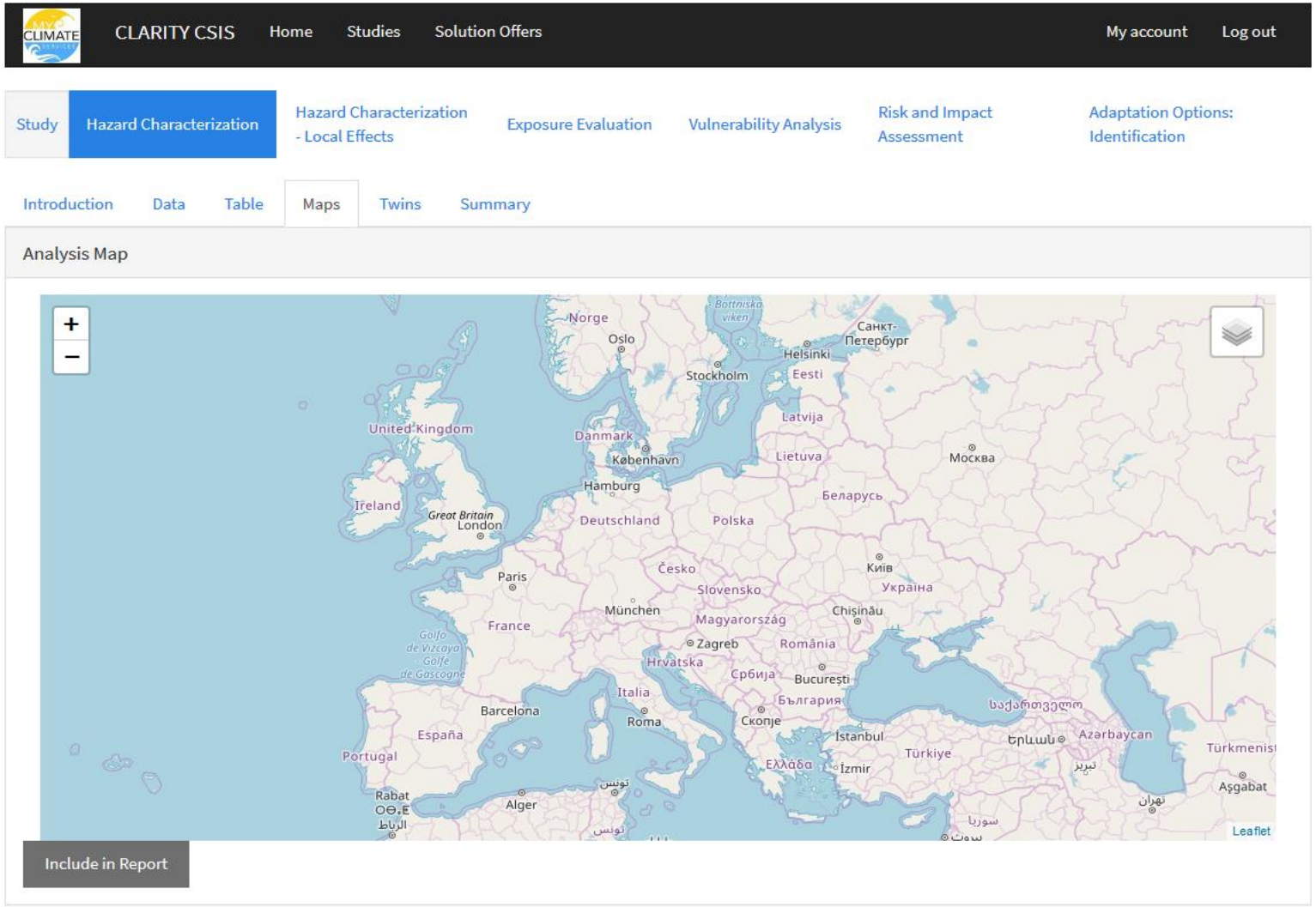
CLARITY CLIMATE SERVICES INFORMATION SYSTEM (CSIS)



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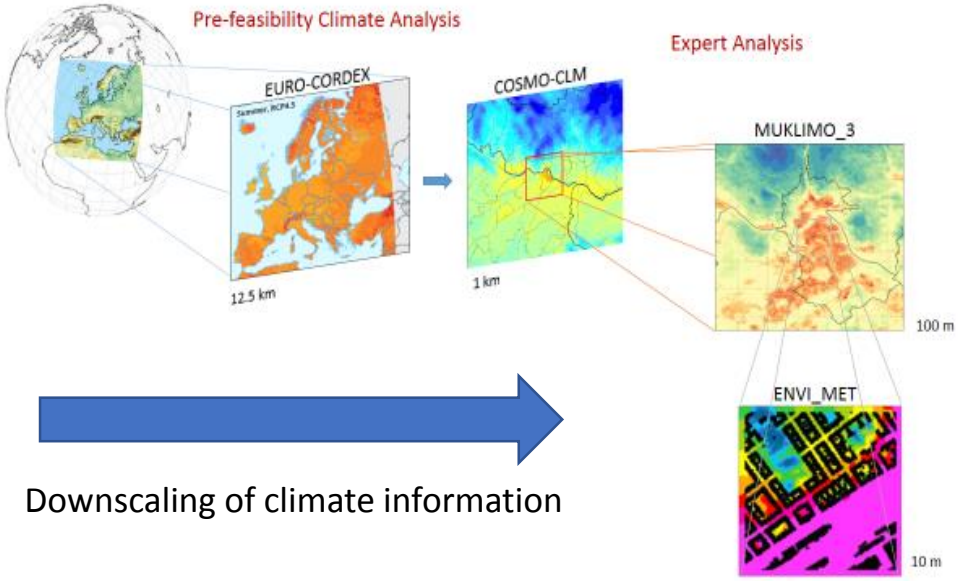
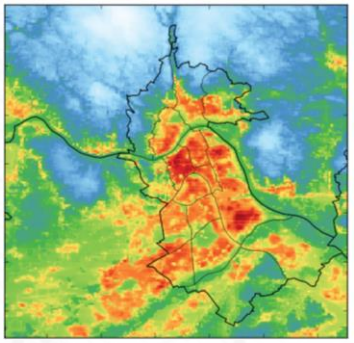
LOCAL HAZARD ANALYSIS

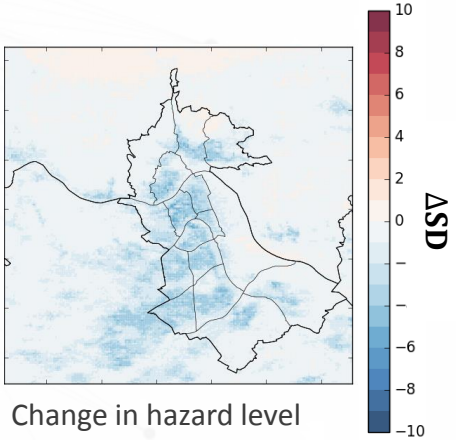


Downscaling of climate information

Assessment of specific adaptation options: Demonstration case Linz



Reference simulation



Change in hazard level

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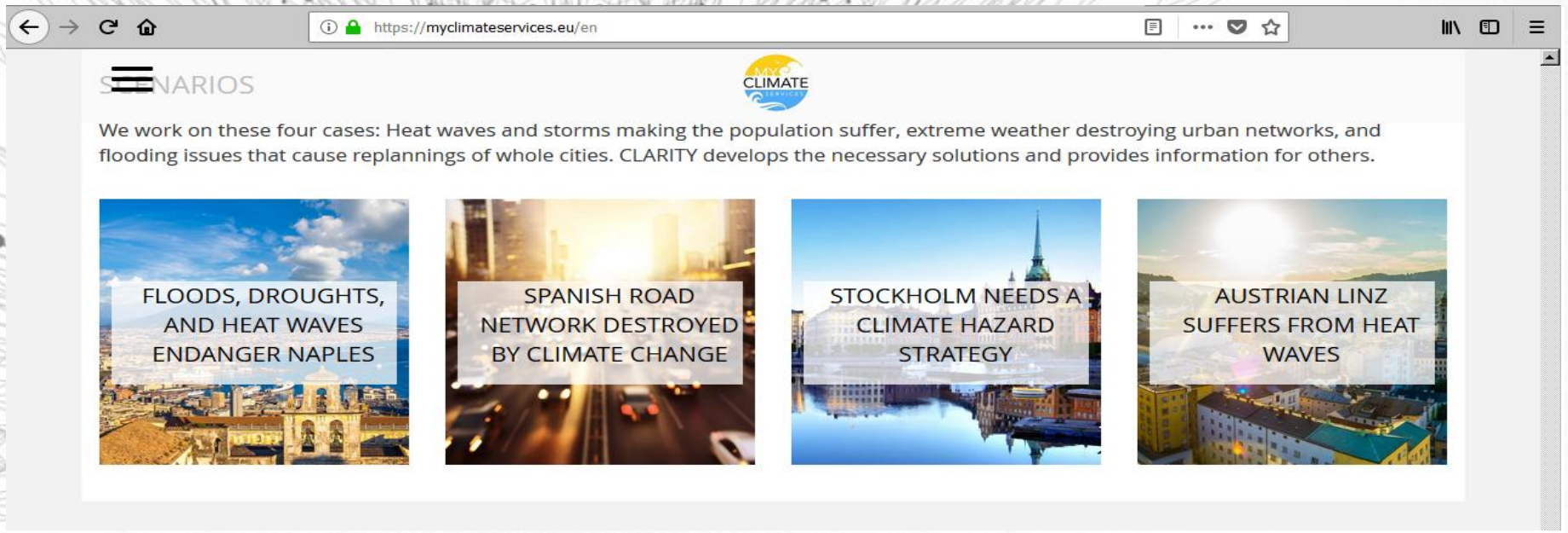

- Information about the demonstration cases
- Information about CSIS and Climate Services in general
- Link to CSIS
- Link to Marketplace: brings together Climate Service providers and CSIS users who want to order expert studies

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THANK YOU!

CLARITY Project

http://clarity-h2020.eu/

Climate Services Information System (CSIS) & Marketplace :

https://myclimateservices.eu/en

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