



INLAND TRANSPORT COMMITTEE



# Report of the Group of Experts on Climate Change Impacts and Adaptation for Transport Networks and Nodes

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## Climate Change Impacts and Adaptation for Transport Networks and Nodes



# The Report

## Publication

Report by the Group of Experts on Climate Change Impacts and Adaptation for Transport Networks and Nodes

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## Climate Change Impacts and Adaptation for Transport Networks and Nodes



# The Report

## Content

### Part I. Main ECE transport infrastructure networks and nodes exposed to potential impacts from climate change

Chapter 1 Main transport networks and nodes in the ECE region

Chapter 2 Climate Variability and Change: Observed changes and projected trends

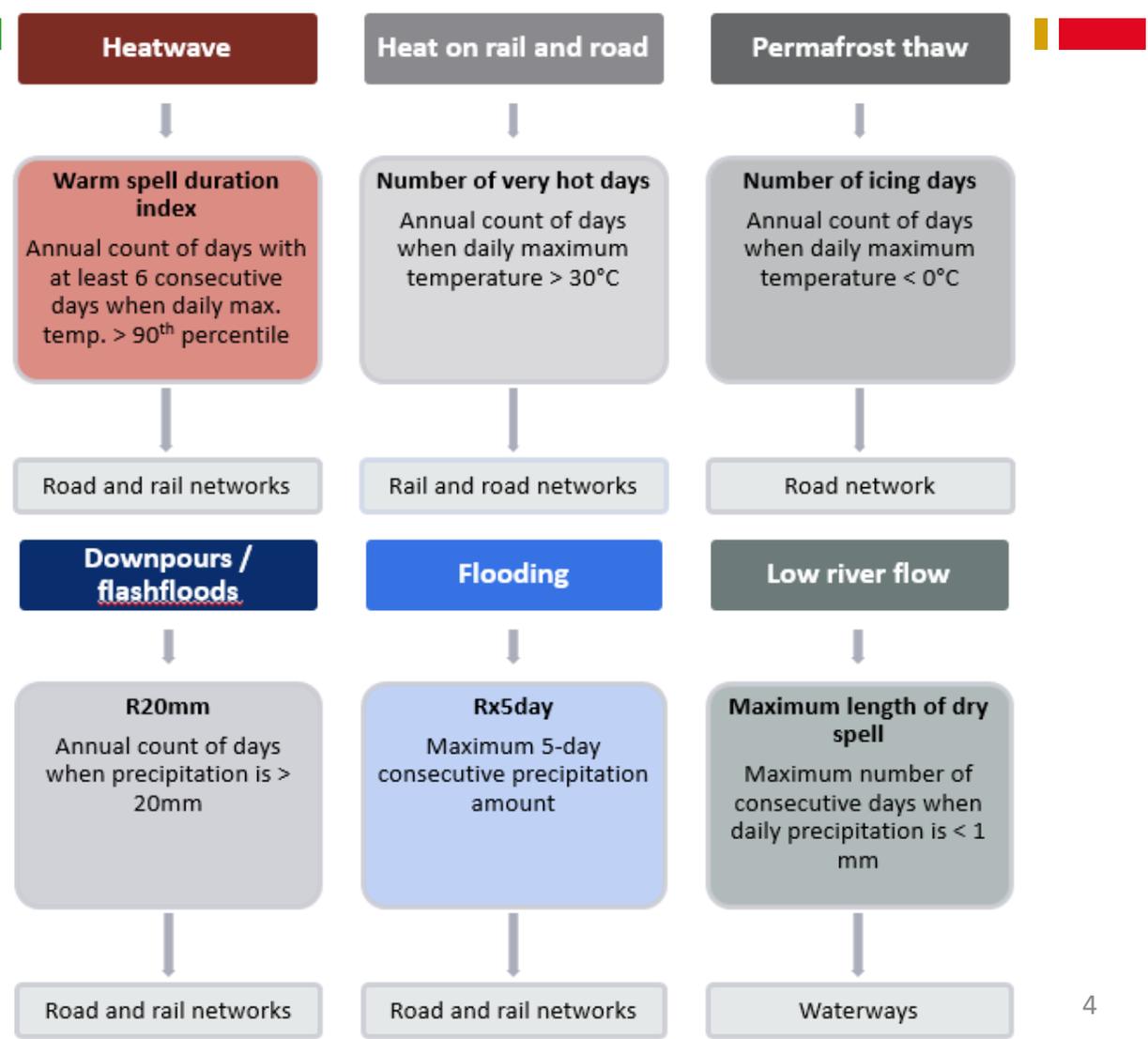
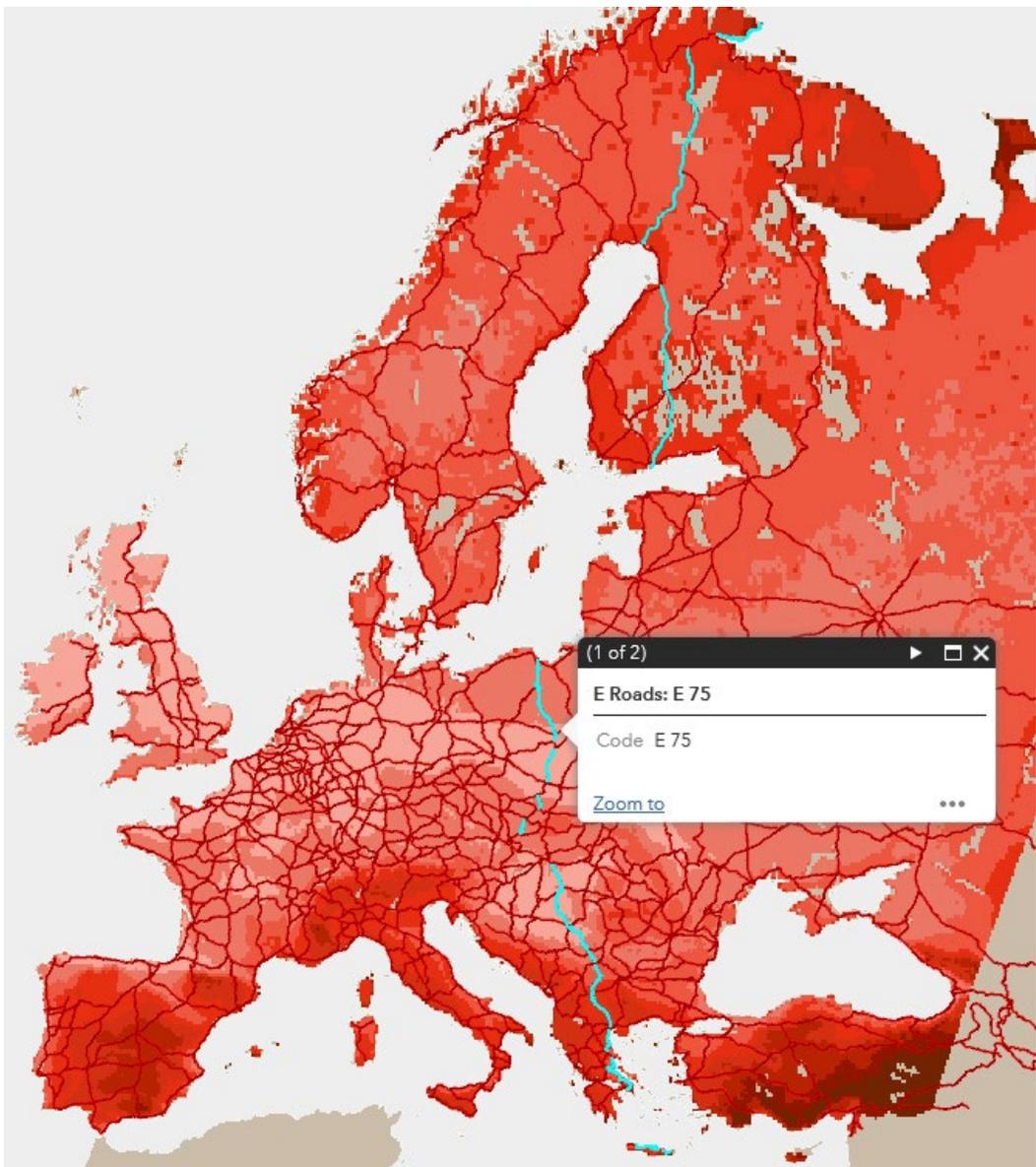
Chapter 3 Analysing future climate impacts

Chapter 4 Lessons learned and recommendations

### Part II. Case studies

# The Report

## Outcomes

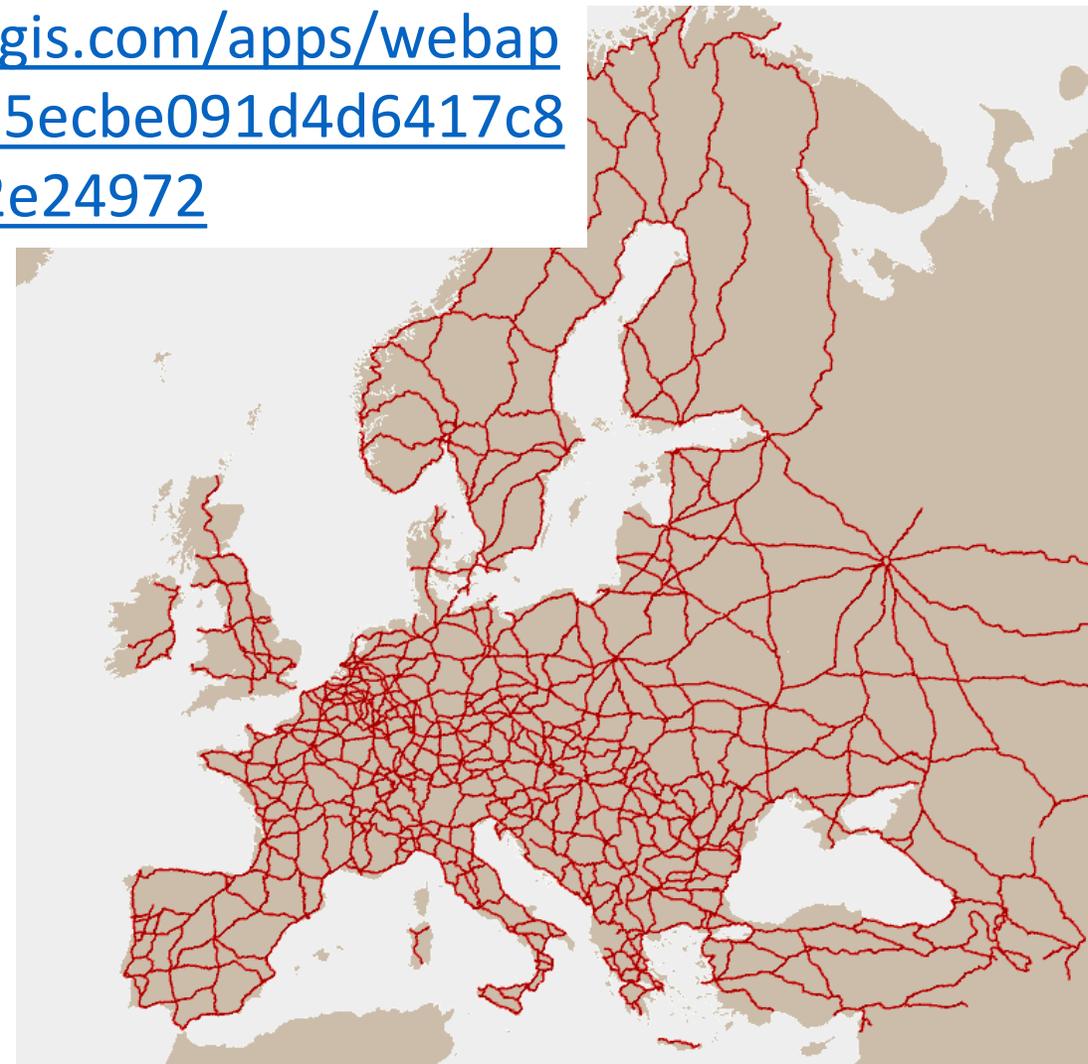
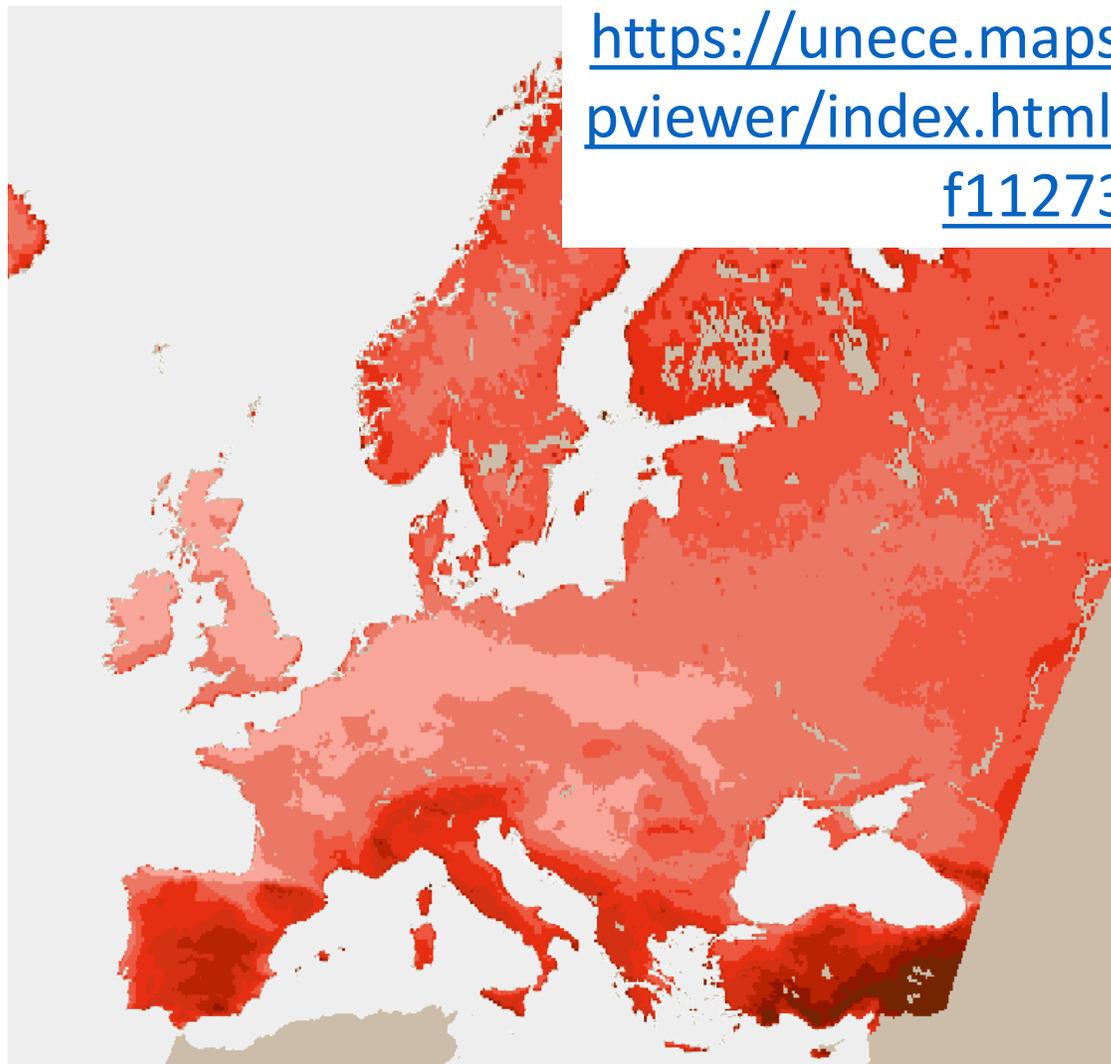


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## Outcomes

### GIS:

<https://unece.maps.arcgis.com/apps/webappviewer/index.html?id=5ecbe091d4d6417c8f11273762e24972>



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## Outcomes - knowledge in case studies



### Part II. Case studies

*This part of the report consists of two chapters:*

**Chapter 1** contains case studies which present approaches, practices, methodologies and tools developed and applied by countries for analysing current and future climate change impacts on transport systems and/or for testing transport adaptation options. The case studies often include information about the policies that provide the necessary basis for such work.

**Chapter 2** presents case studies which discuss diverse socioeconomic impacts and implications from climate change on various transport infrastructure, as studied in several countries.

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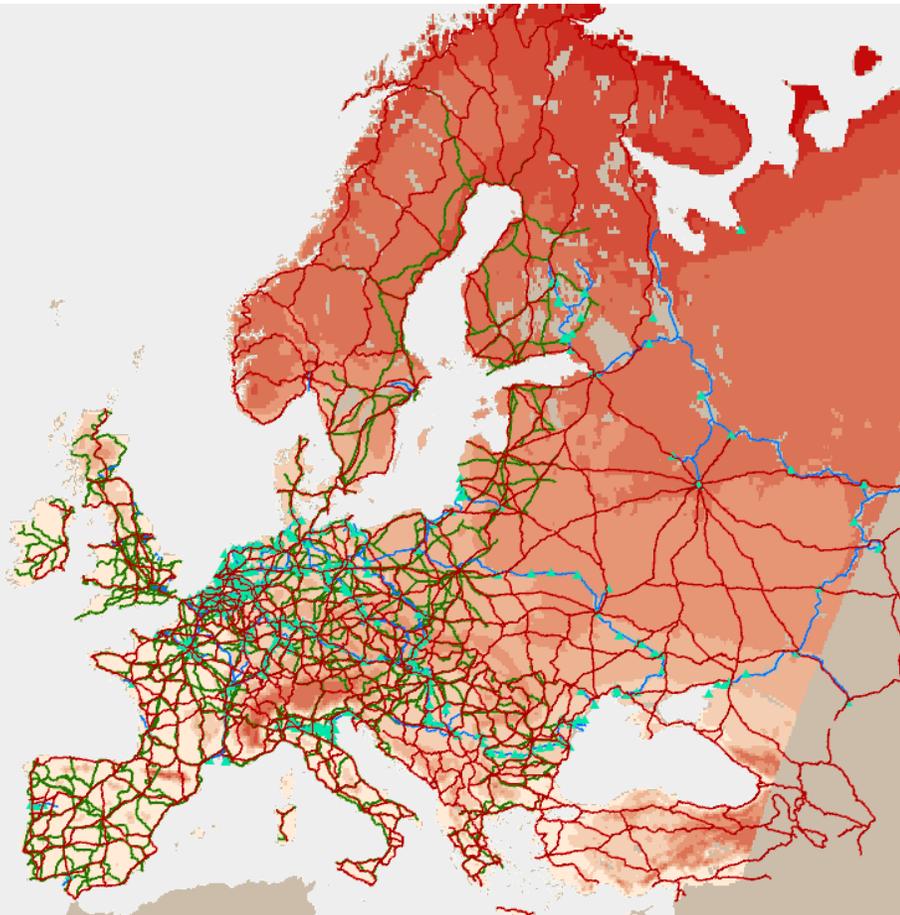
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## Lessons learned (1/3)

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- Complex tasks
- Limited experience in countries (some countries as forerunners)
- Data limitations
  - on transport infrastructure (geocoded) and on usage data (traffic volumes, freight processed)
  - no one climatic data set for UNECE region



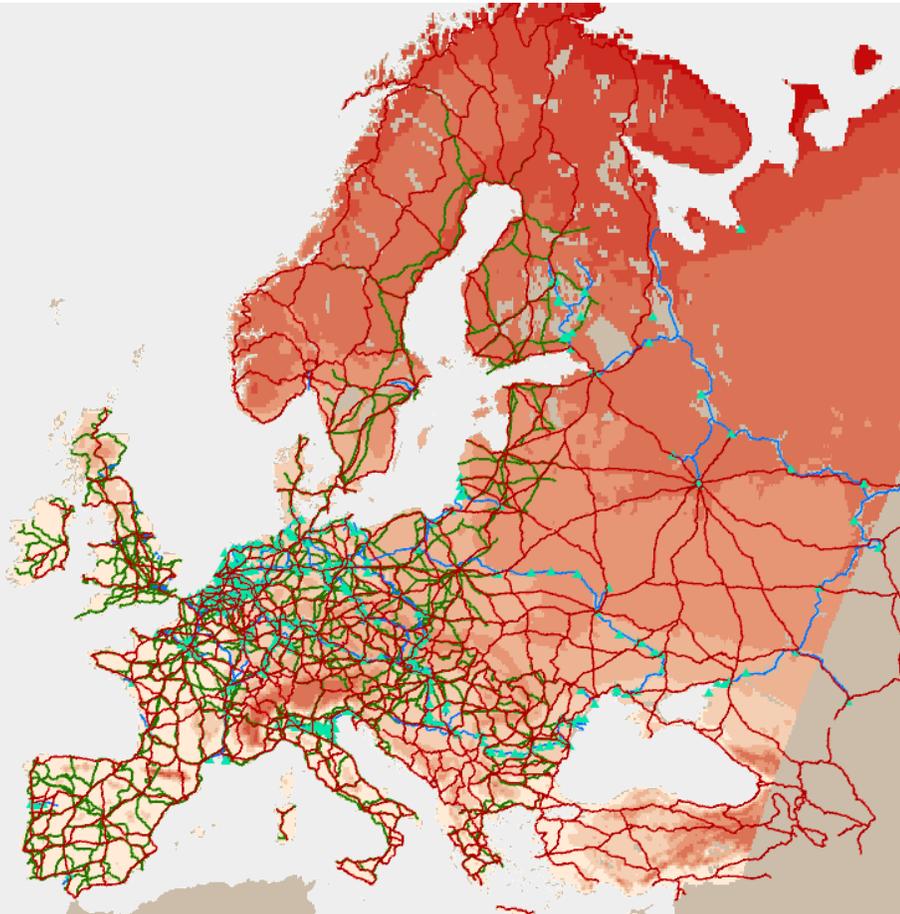
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## Lessons learned (2/3)

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- First step analysis as a good basis – exposure identified
- First step analysis insufficient / complementary analysis needed (natural and anthropogenic factors, characteristics of specific asset, downscaling of projections, impact modelling....)



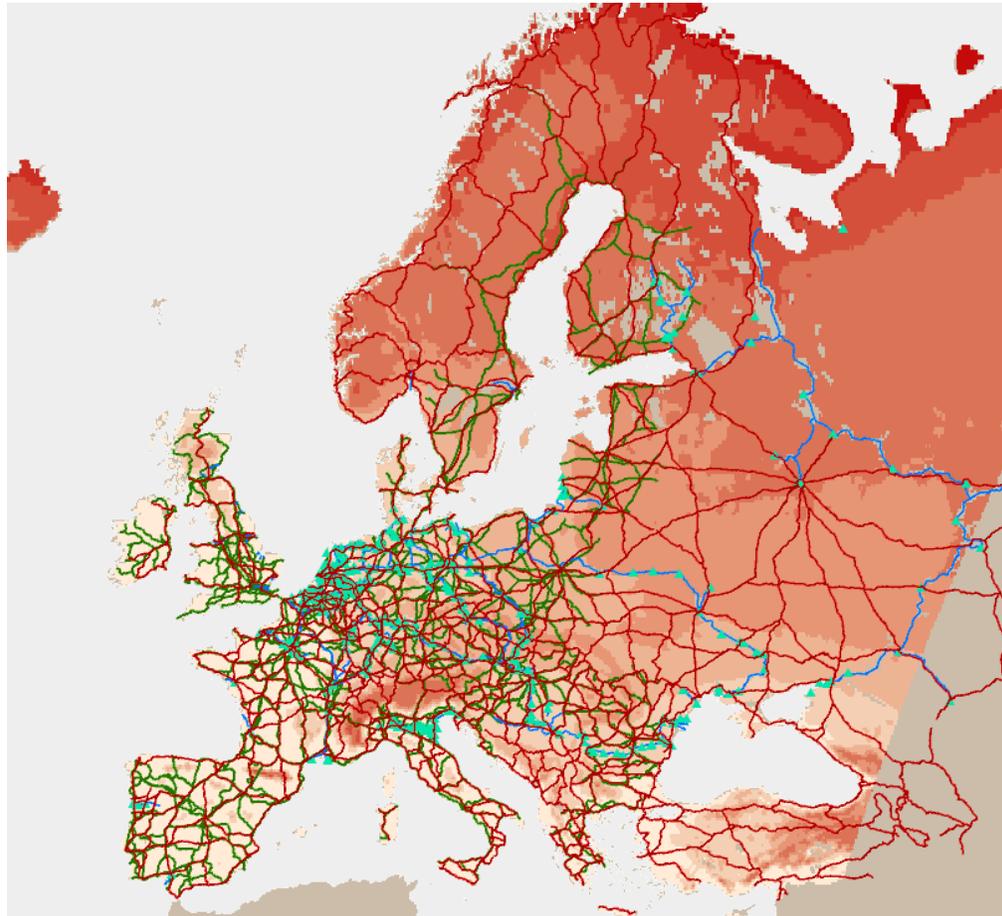
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Lessons learned (3/3)

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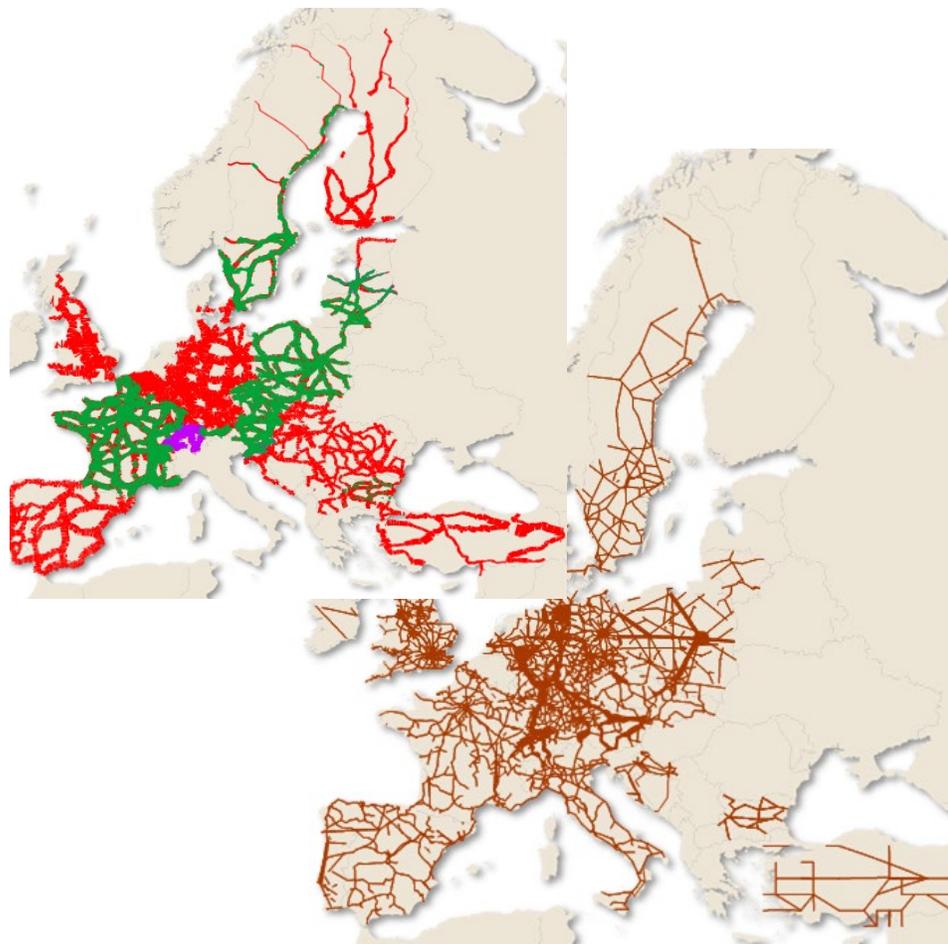
- Sharing country experience key to identification and prioritization of transport adaptation needs
- Intermodal, cross-sectoral interactions and transboundary impacts key to avoid maladaptation



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## Recommendations (1/3)

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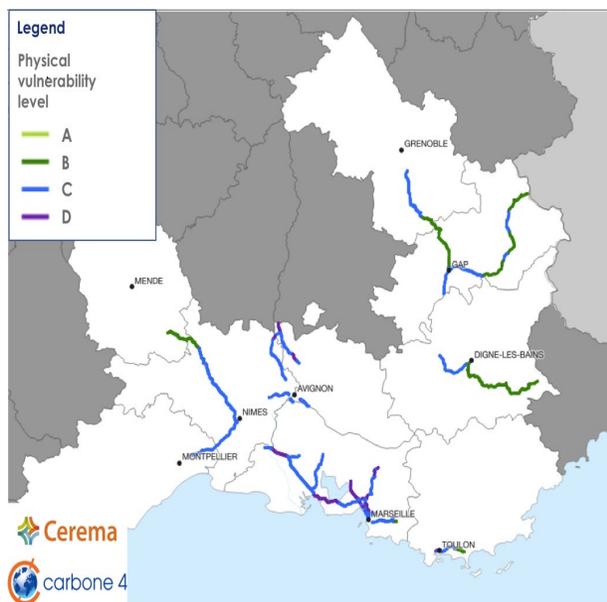


- Create awareness and understanding of urgency
- Disseminate approaches, tools and methodologies
- Improve availability of geocoded networks and nodes data (call to WPs managing the infrastructure agreements)
- Geocode networks and nodes data and present them in GIS

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## Recommendations (2/3)

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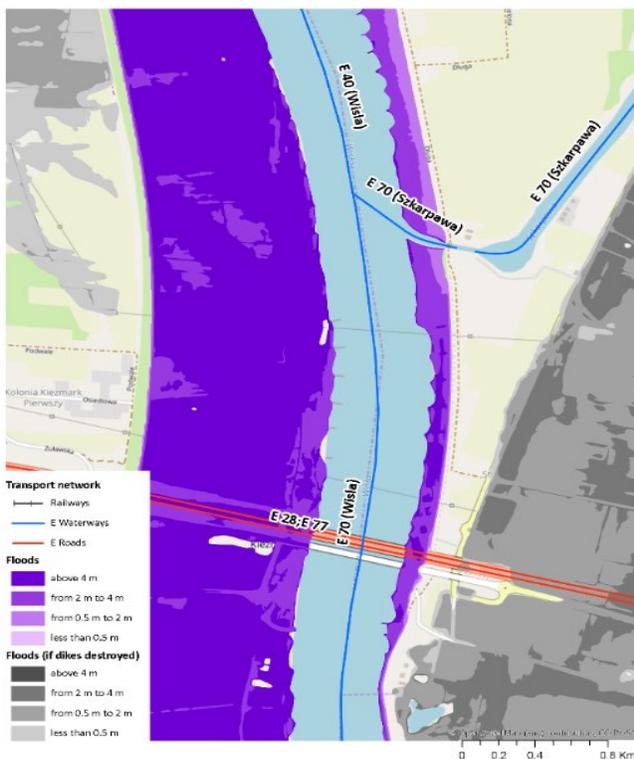


- Share data on use (census by WP.6)
- Attempt to obtain consistent data projections for UNECE region (through CORDEX-Core project)
- Expand the analysis on climate impacts (absolute/relative terms, additional indices)
- Implement national projects (with assistance where necessary) to better understand vulnerability to climate change of transport systems

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## Recommendations (3/3)

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- Establish a knowledge database with
  - features and conditions that make a section of a network or a node vulnerable to climate change
  - adaptation measure and their cost-effectiveness
- Elaborate guidance and /or mechanisms for better integration of climate change impacts and projections into planning and operational processes



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**Thank you!**