

Activities of the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (2020-2025)

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Lukasz Wyrowski, secretariat

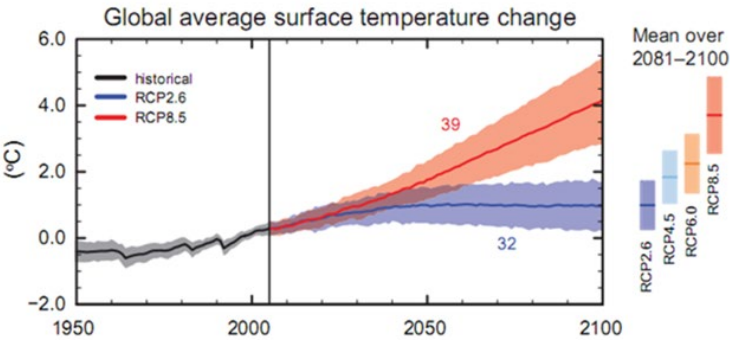


Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (2020-2025)

Focus:

- Future climate change impact analysis
- Framework for stress test to climate change hazard
- Guide for adaptation pathways
- Analysis of losses due to climate change for transport
- Guide for transport network criticality assessment (initial stage)
- Awareness-raising and knowledge sharing

Future climate change impact analysis



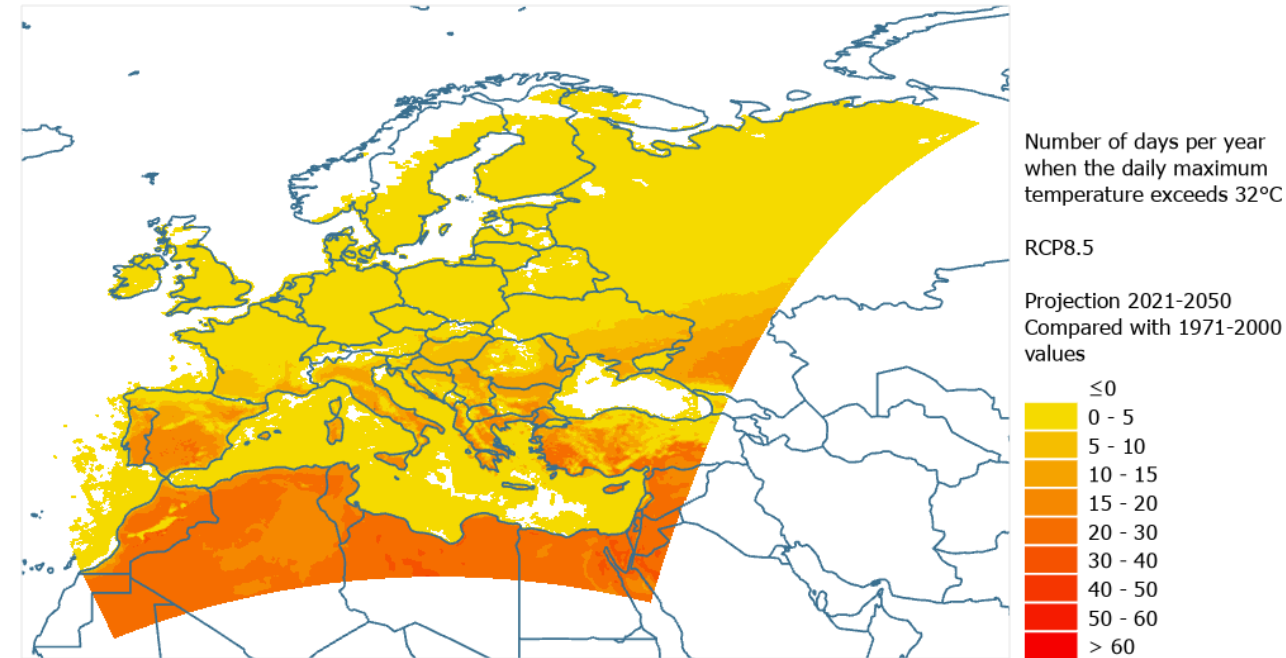
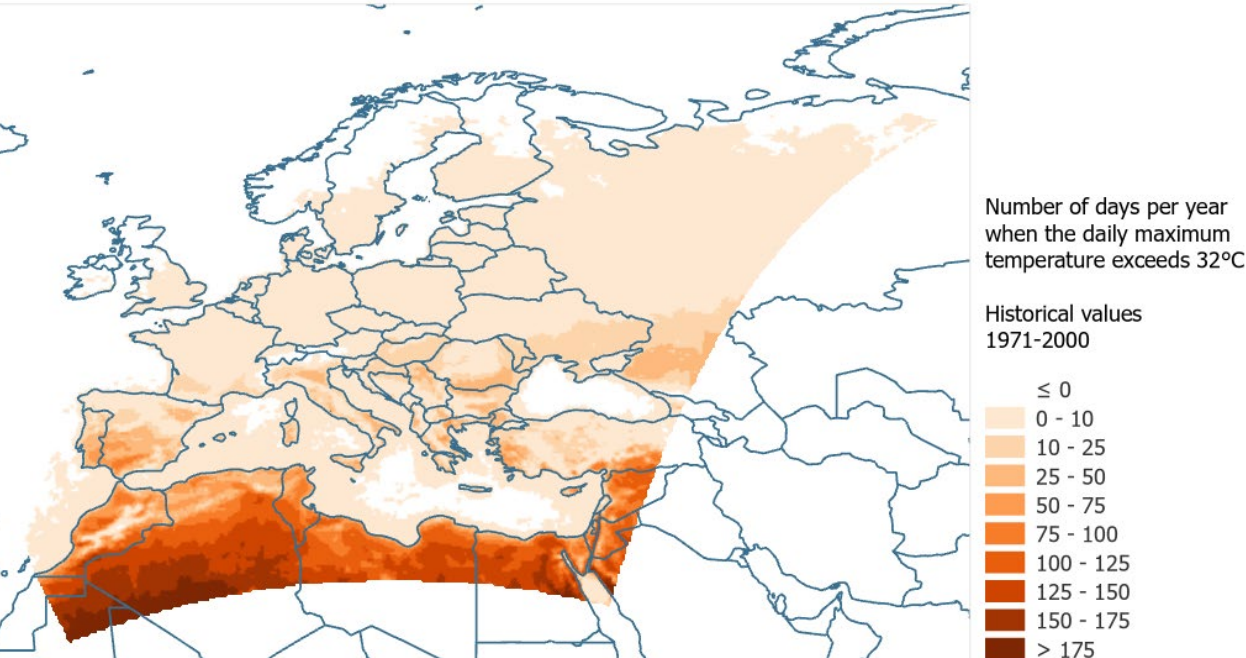
In focus:

- High temperatures
- Heavy precipitation

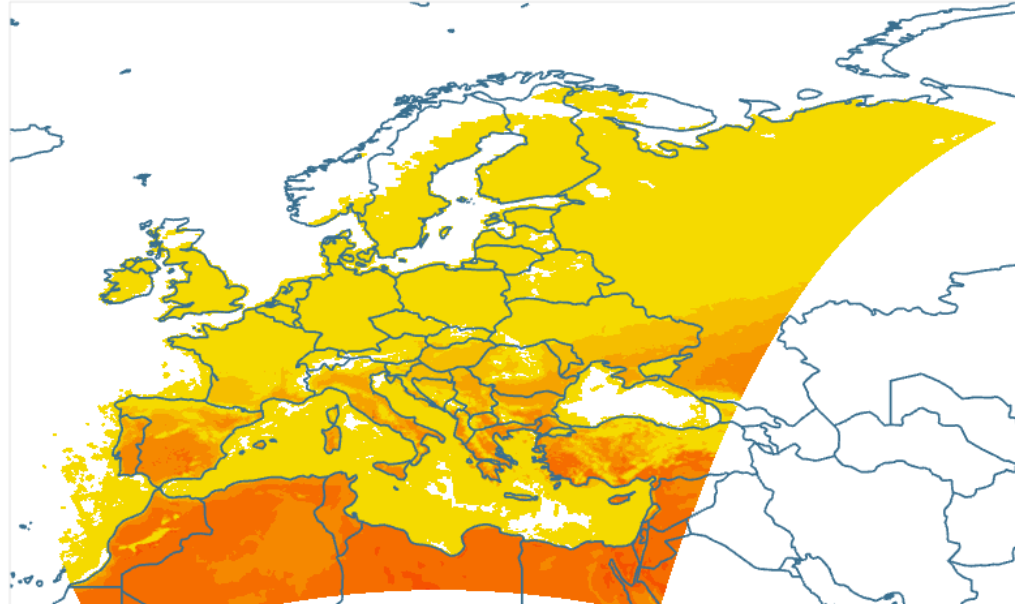
In consideration:

- Windstorms

Analysis is done looking at weather phenomena thresholds such as 25, 32 and 43°C (for temperatures) and 50, 100 and 150mm (for precipitation) to relate it to infrastructure relevant



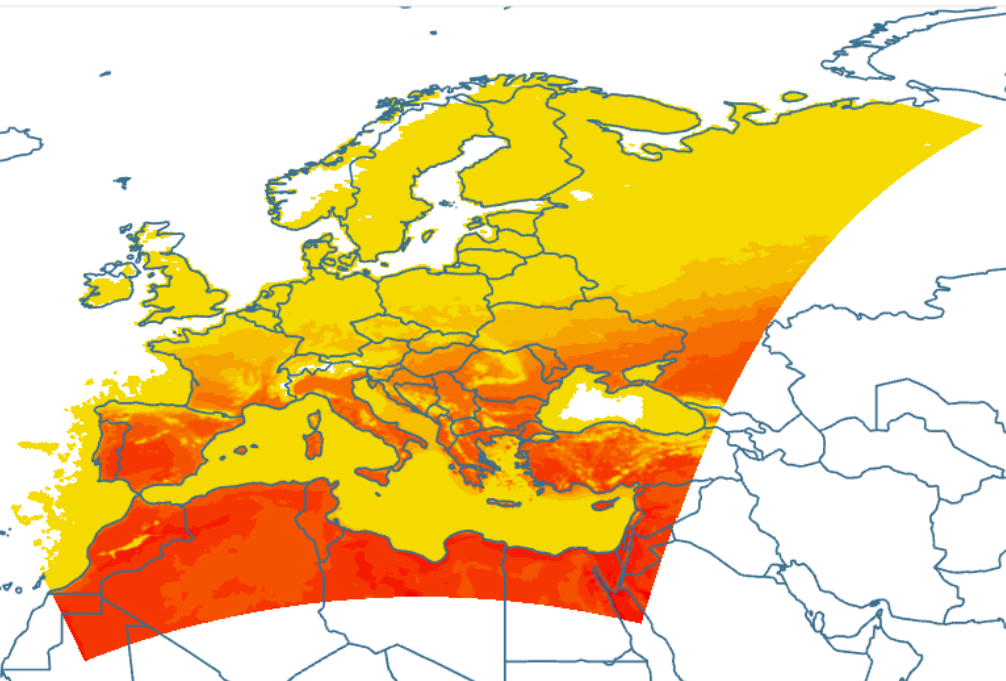
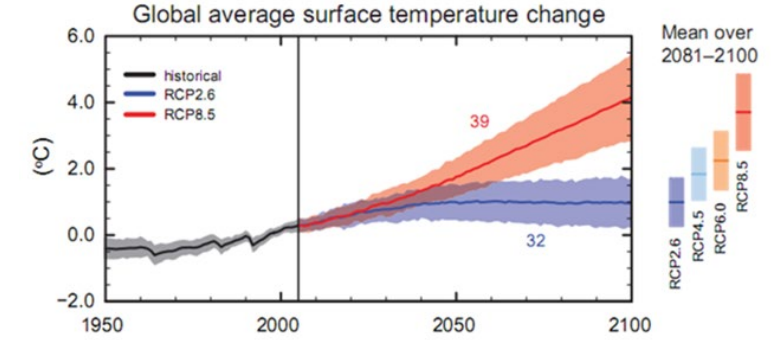
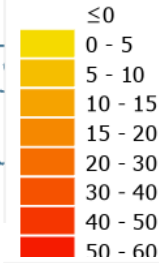
Future climate change impact analysis



Number of days per year when the daily maximum temperature exceeds 32°C

RCP8.5

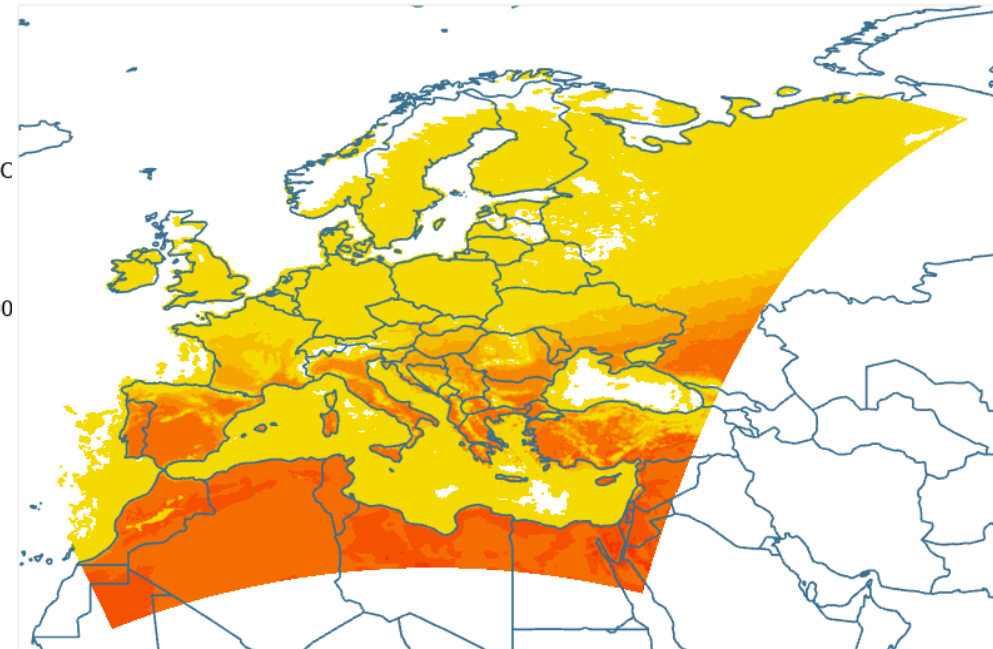
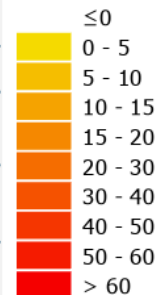
Projection 2021-2050
Compared with 1971-2000 values



Number of days per year when the daily maximum temperature exceeds 32°C

RCP8.5

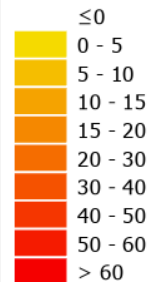
Projection 2051-2080
Compared with 1971-2000 values



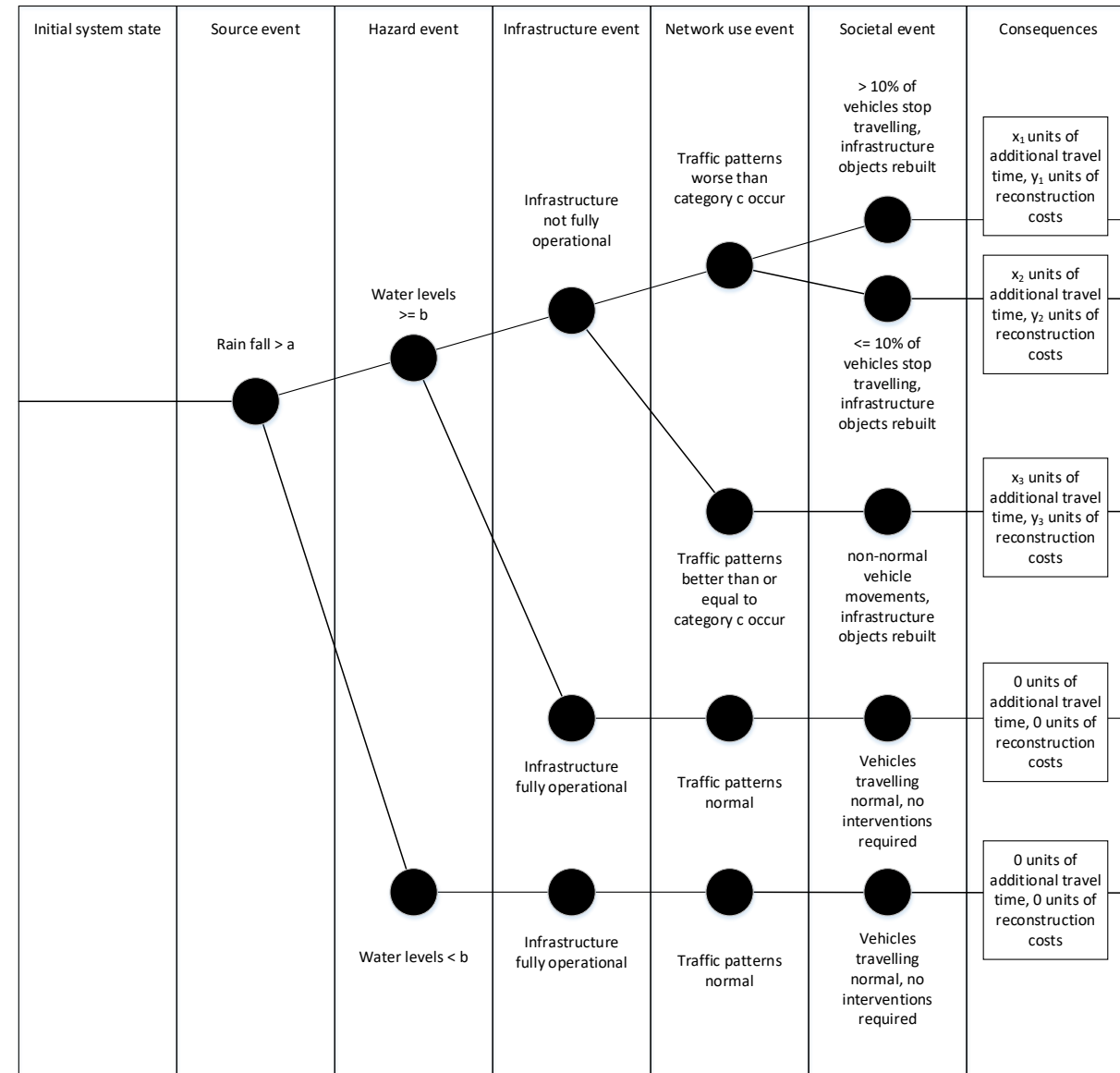
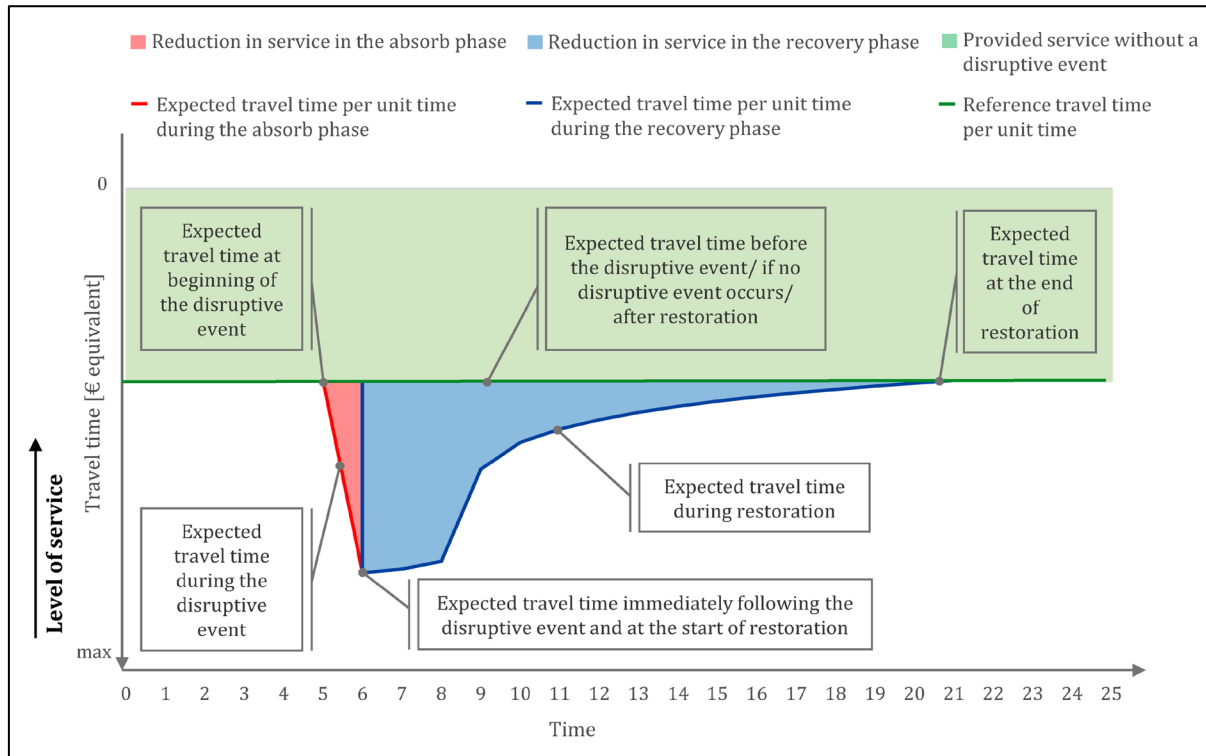
Number of days per year when the daily maximum temperature exceeds 32°C

RCP4.5

Projection 2051-2080
Compared with 1971-2000 values



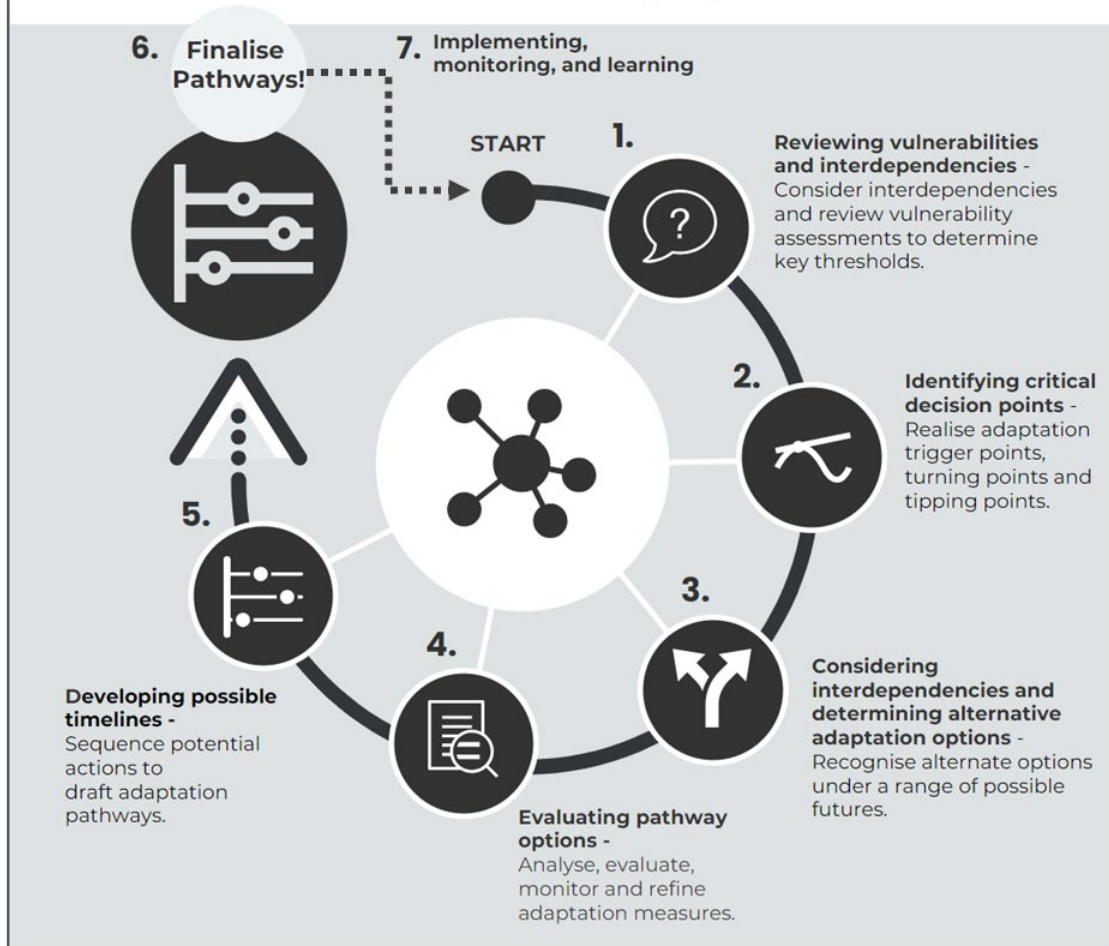
Framework for stress test to climate change hazard



Source: Adey, B.T., et al., (2021), CEN/CLC/WS 018 "Guidelines for the assessment of the resilience of transport infrastructure to potentially disruptive events"

STEPS FOR DEVELOPING ADAPTATION PATHWAYS

Guidance framework for transport professionals

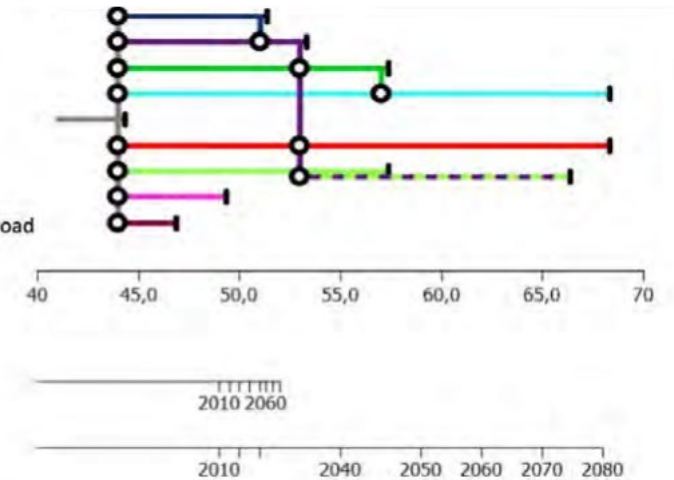


Single layer 5 cm porous asphalt
 Drainage via 7 cm porous asphalt
 Drainage via 10 cm porous asphalt
 Drainage via 18 cm porous asphalt
 Current situation
 Increase capacity of drainage system
 Install gutters rather than manholes
 Adaptive maintenance
 Guarantee flatness of longitudinal profile of the road

precipitation in 2 hours [mm]

G_L centre

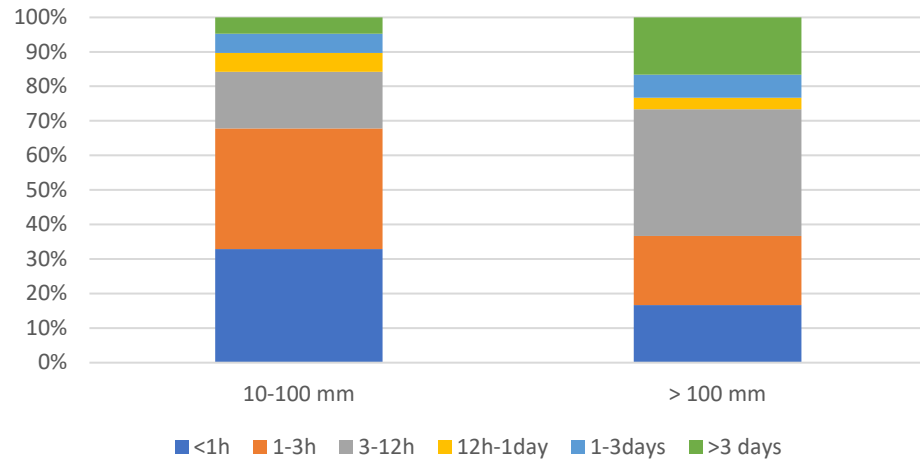
W_H upper



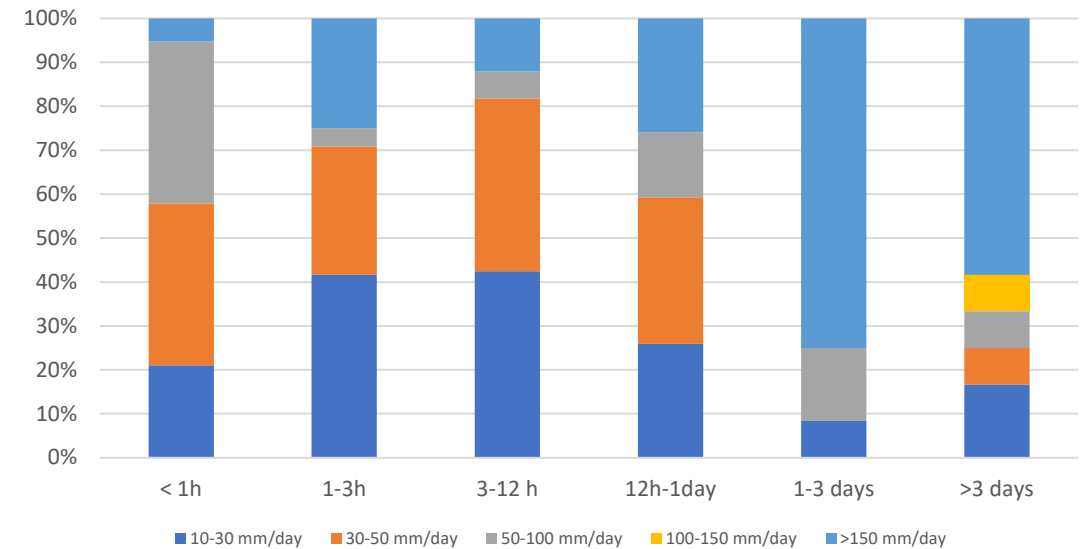
Analysis of losses due to climate change for transport



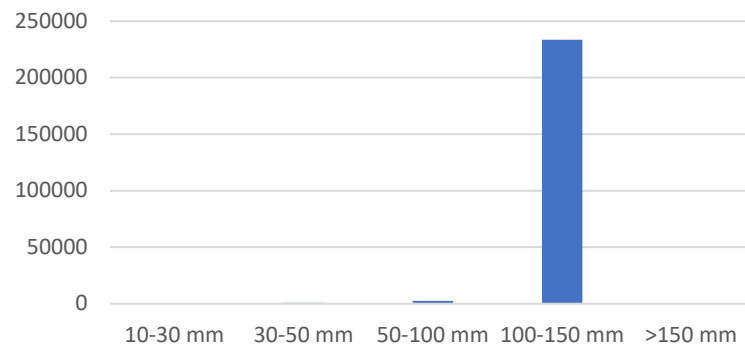
Length of disruption per intensity of precipitation



Length of disruption - Intensity of precipitation



Average cost



- France, UNECE, UNESCWA and CETMO conference on climate change and climate adaptation for the Mediterranean region



Thank you

Lukasz Wyrowski

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