



Taking Ambitious  
Climate Action  
Decarbonizing Inland  
Transport by 2050

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

WORKING PARTY ON TRANSPORT  
TRENDS AND ECONOMICS (WP.5)

- Preparation of final report
- Stress tests of transport systems to climate change hazard
- Promotion of adaptation pathways approach
- Analysis of losses due to climate change for transport
- Guide for transport network criticality assessment (in development)

# WP.5/GE.5

## Preparation of final report



### Towards climate change resilient transport systems

- Report for policy makers (summary report)
  - Technical report
    - A. Background
    - B. Introduction (including on costs and benefits of adaptation)
- Part 1
- Prescription of action on adaptation of transport to climate change
- Part 2
- Case studies on specific action in countries

# WP.5/GE.5

## Preparation of final report



### Towards climate change resilient transport systems

#### Part 1

- Climate Variability and Change – observed changes and projected trends
- Existing international and national policies and legislation for acting on adaptation of climate change in transport
- Methodologies for assessing climate change hazards on transport systems
- Effective adaptation of transport systems and assets to climate change
- Lessons learned and recommendations

#### Part 2

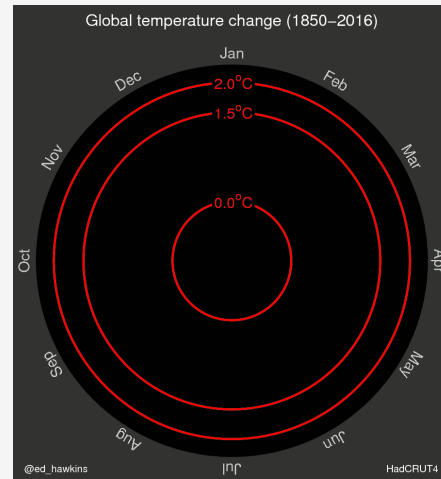
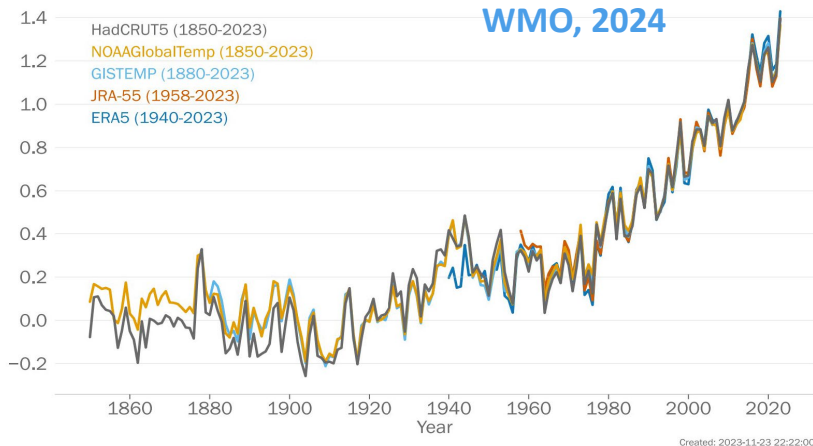
- Application of methodologies for assessing climate change hazards on transport systems
- Application of adaptation measures

## Observed changes and projected trends

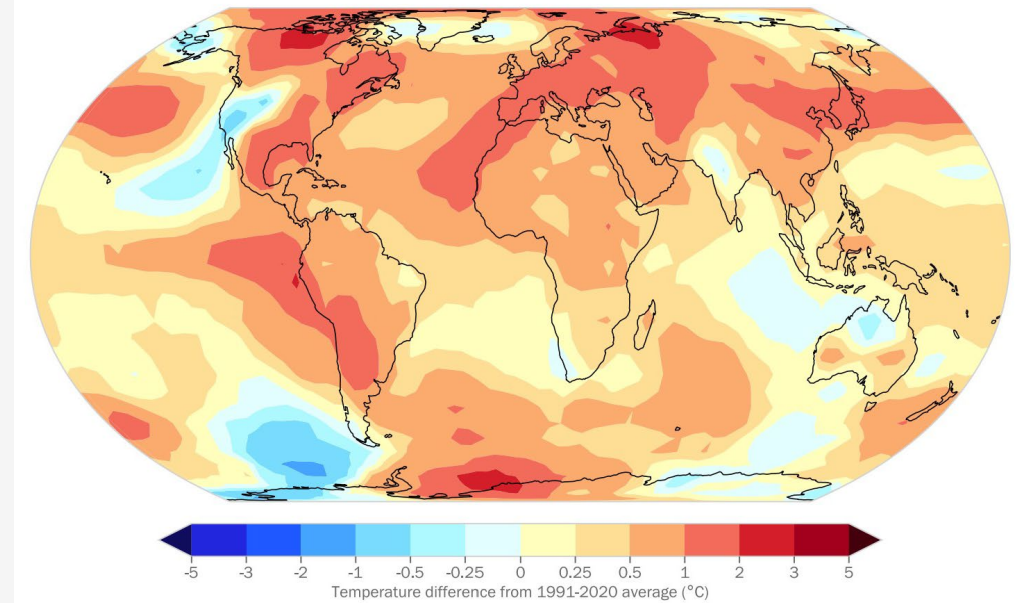


Global Mean Temperature Difference (°C)  
Compared to 1850-1900 average

WMO, 2024



Annual Temperature Anomalies 2023

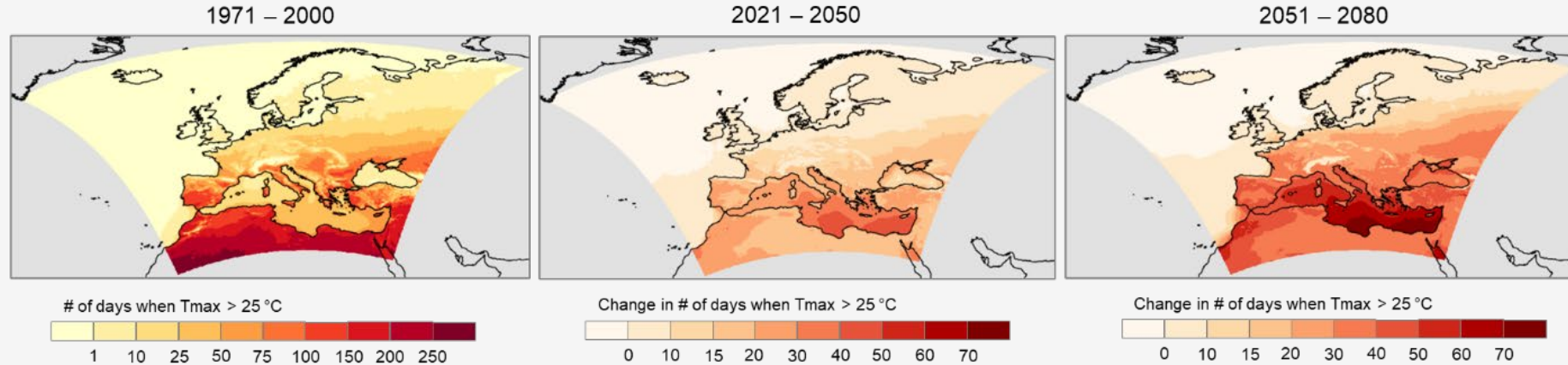


## Observed changes and projected trends



### Mean annual change in the number of days when daily maximum temperature > 25°C

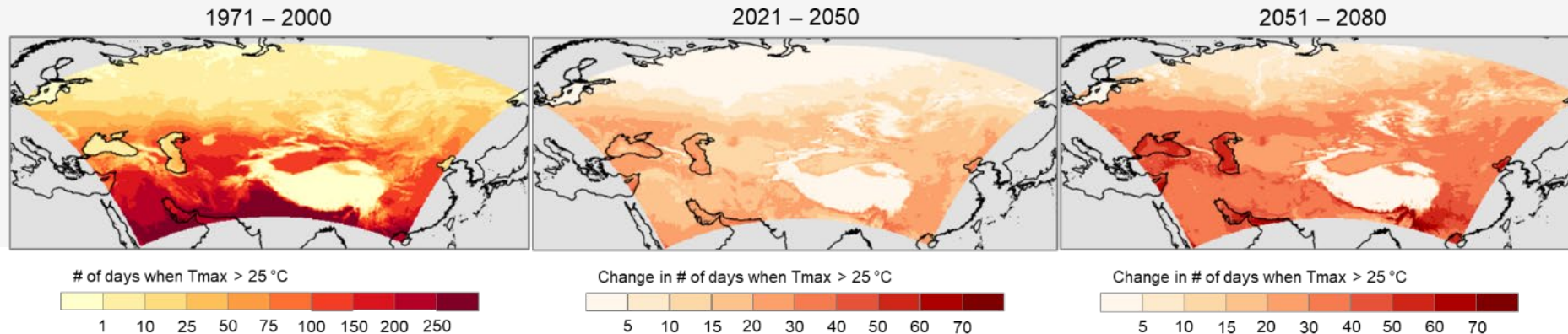
RCP8.5



Other thresholds:  
> 32°C  
> 43°C

Other hazards:  
- precipitation  
- windstorms

RCP8.5



Focus:  
- Europe  
- Central Asia  
- North America



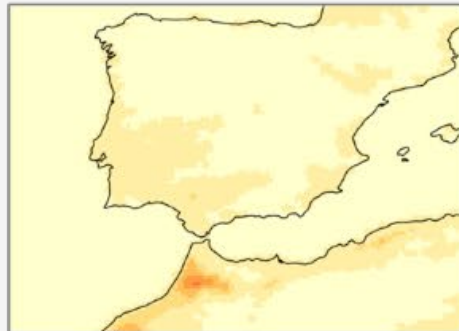
## Observed changes and projected trends



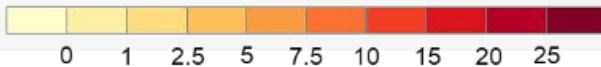
Mean annual change in the number of days when daily maximum temperature > 43°C

RCP8.5

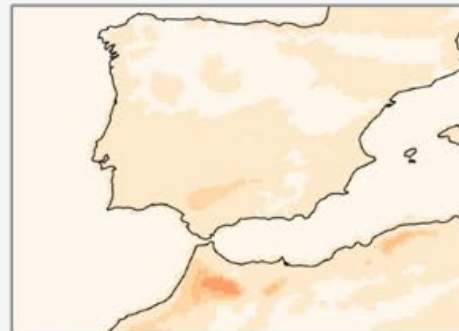
1971 – 2000



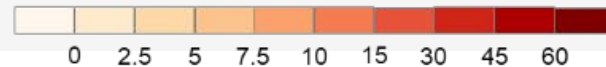
# of days when Tmax > 43 °C



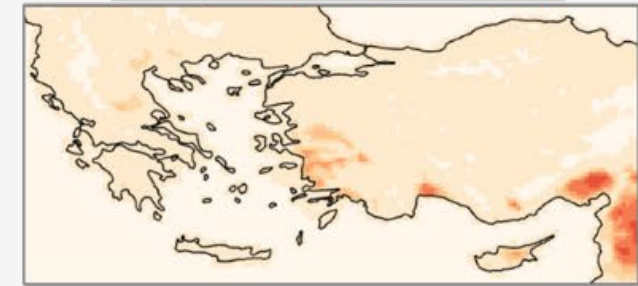
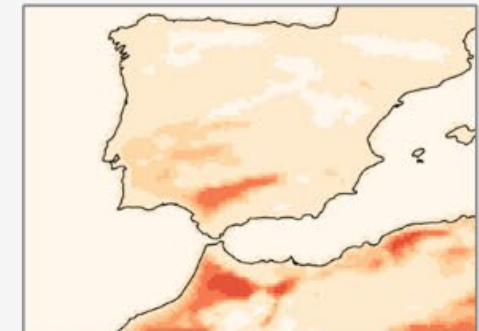
2021 – 2050



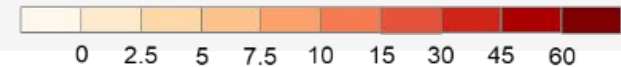
Change in # of days when Tmax > 43 °C



2051 – 2080



Change in # of days when Tmax > 43 °C



## Stress test / good practice sharing



**UNECE**

**Stress test framework  
for evaluating the resilience  
of transport systems**



  
UNITED NATIONS

 **Koleje Trans europejskie – TER**  
Trans-European Railway – TER  
Europejska Komisja Gospodarcza Organizacji Narodów Zjednoczonych (EKG ONZ)  
United Nations Economic Commission for Europe (UNECE)



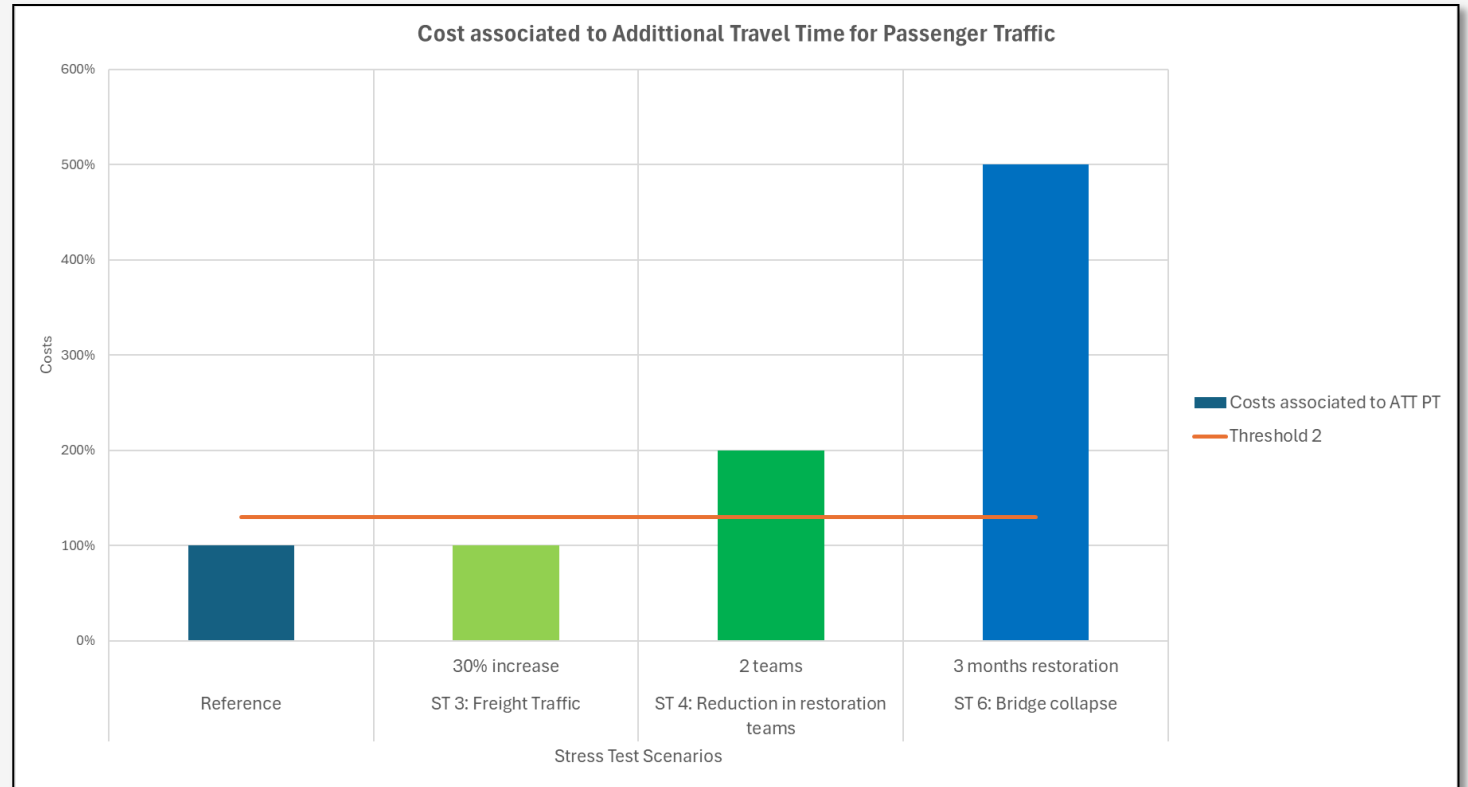
**Warsztaty nt. testów odporności infrastruktury kolejowej  
na czynniki klimatyczne**  
Workshop on the resilience of railway assets  
to climate change

Kraków, 16 maja 2024 r.  
Cracow, 16 May, 2024

 **Ministerstwo  
Infrastruktury**  
 **PKP POLSKIE LINIE KOLEJOWE S.A.**  
Zarządca narodowej sieci linii kolejowych  
 **ETH zürich**  
 **Ministry of  
Infrastructure**  
 **PKP POLSKIE LINIE KOLEJOWE S.A.**  
The manager of the national railway network



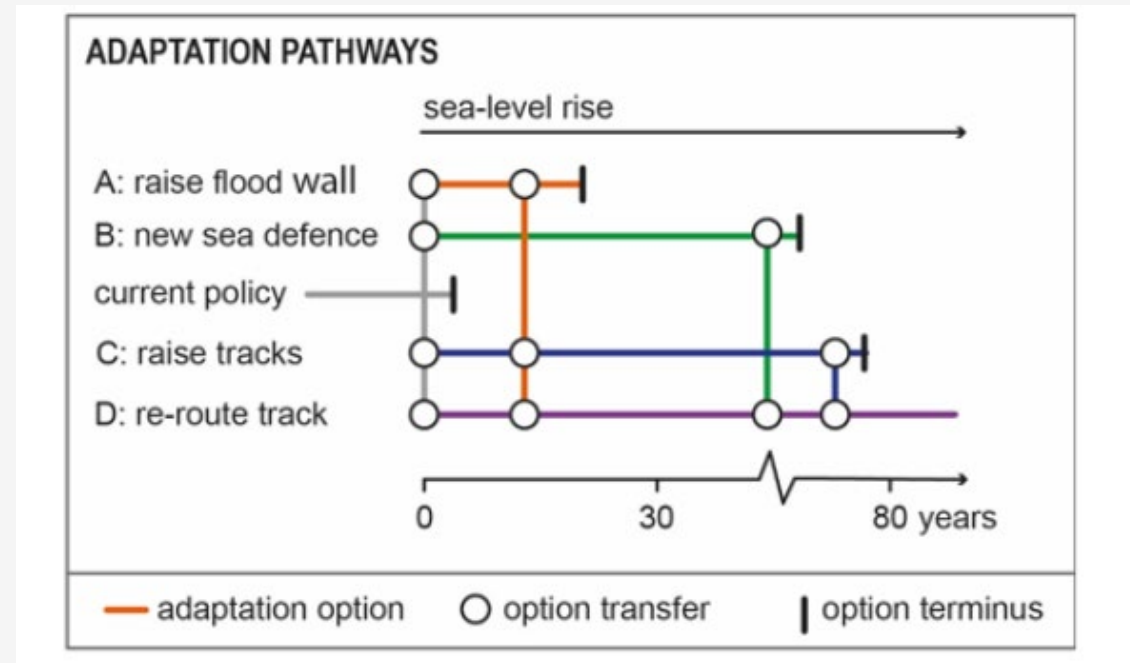
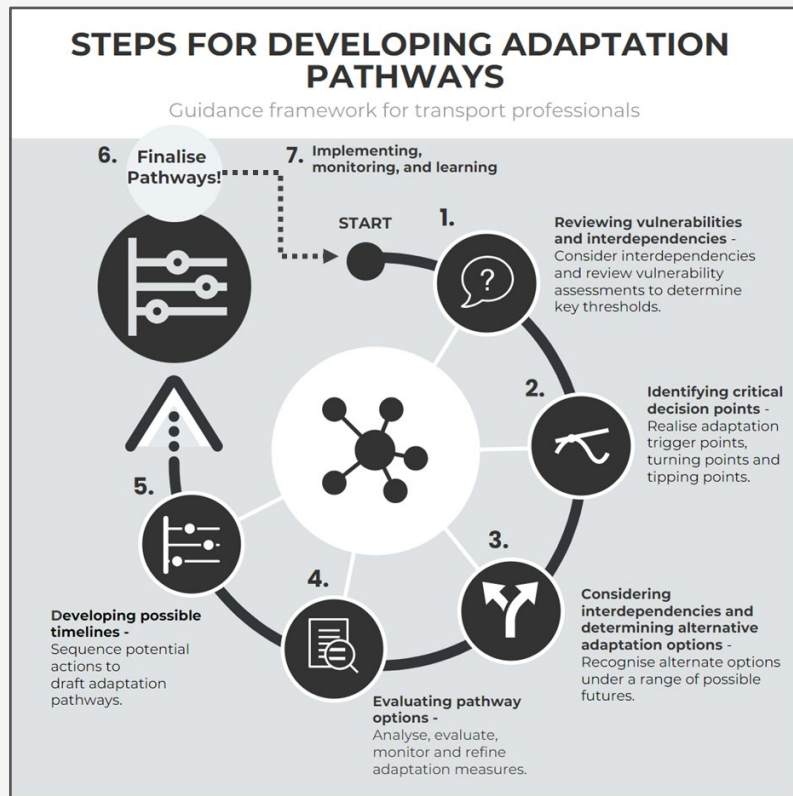
## Stress test / good practice sharing



## Adaptation pathways/ good practice sharing



### Guide for adaptation pathways in transport



## Analysis of losses due to climate change for transport



Discussion on ways to facilitate analysis of losses

Brainstorming on needs to develop:

- Elaboration of a glossary of common terms for data/incident reporting?
- Elaboration of a guide on thresholds?
- Elaboration of a data incident report form

# WP.5/GE.5

## Other aspects



Guide for transport network criticality assessment in preparation

Commencement of a discussion on how to continue the work on climate change adaptation – more permanent body ↔ implementation of adapt actions of the ITC climate action plan

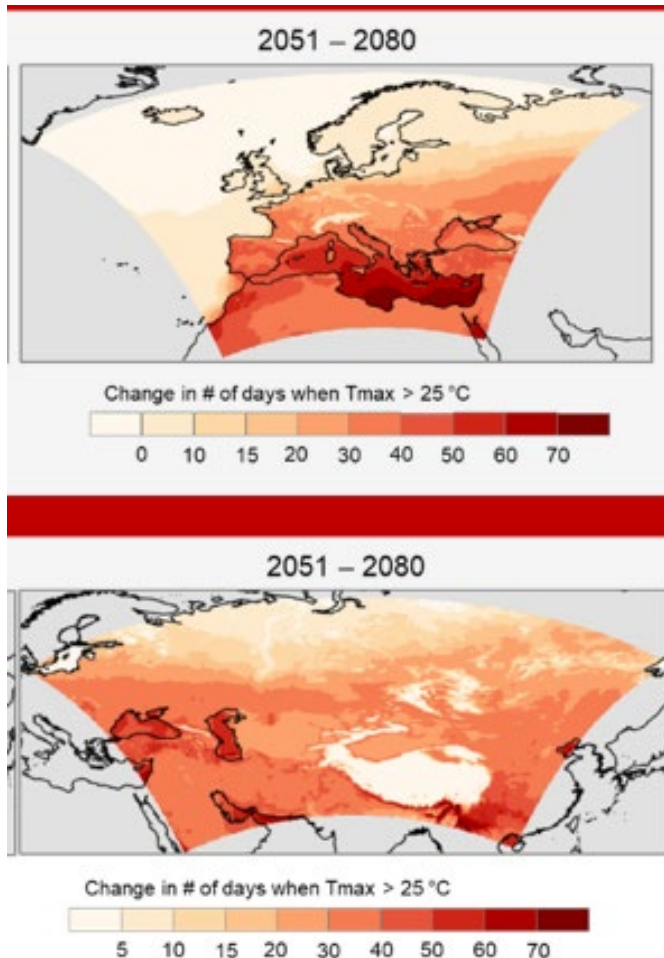
Discussion on a UN climate change transport adaptation hub

Next, 27<sup>th</sup> session on 1-2 October 2024 in Geneva



# WP.5/GE.5

## Decisions



WP.5 may wish to:

- Take note of the progress report
- Welcome the publication of the stress test framework
- Request the publication of the guide for adaptation pathways in transport
- Request formulation of a proposal for a more permanent body on transport climate change adaptation in support of the implementation of the adapt actions of the ITC Climate Action Plan