



Climate impact assessment for the German federal transport infrastructure

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Assessing the impacts of climate change and extreme weather events on the transport infrastructure and developing respective adaptation measures are crucial for securing a sustainable and resilient transport system. For Germany, these analyses and evaluations are done by the Network of Experts that has been established in 2016 by the German Federal Ministry of Transport and Digital Infrastructure (BMVI). Within this Network of Experts the BMVI has pooled the expertise and abilities of its departmental research institutes and specialized authorities in order to meet future challenges like those posed by climate change.

In the research topic „Adapting transport and infrastructure to climate change and extreme weather events“ the BMVI Network of Experts conducts an integrated climate impact assessment for the German federal transport infrastructure and proposes specific modal and intermodal adaptation measures. The climate impact assessment is done for road, rail, and waterway transport with respect to selected hazards like floods, low flows, storms and landslides. All analyses are based on coordinated datasets of climate observations and of regional climate projections that are processed for the user-specific needs. A diverse set of climate indices is calculated and climate impact model simulations are run in order to assess climate induced changes in the potential hazard occurrence. In a GIS based analysis these information are blended with information on the sensitivity and criticality of the transport infrastructure, in order to identify high priority areas for implementing climate change adaptation options.

The results of the climate impact assessment will be used for science based transport policy guidance and transferred into strategic planning and management instruments for the federal transport infrastructure. Furthermore, planners, operators and owners of the transport infrastructure are enabled to identify and prioritize adaptation needs.