

01.12

PROJECT IN A NUTSHELL

STARTED IN 2009 WE ARE NOW
ENTERING THE FINAL PROJECT
PHASE

VULNERABILITY ASSESSMENT

MOST COSTLY ARE THE IMPACTS
OF FLOODS AND HARSH WINTERS

EMERGENCY MANAGEMENT

TRAINING, INFORMATION AND
CO-OPERATION ARE ESSENTIAL

ADAPTATION RESEARCH CLUSTER

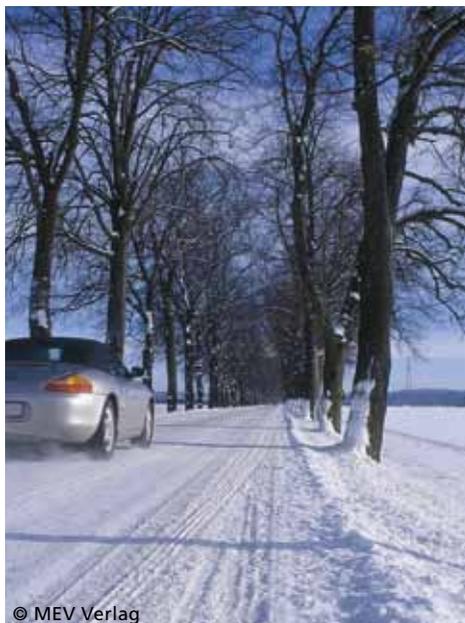
EUROPEAN TRANSPORT FACES
THE NEED FOR ACTION

NEXT STEPS

NEW REPORTS AVAILABLE SOON



#1



PROJECT IN A NUTSHELL

Climate change is beginning to be measurable and, no matter what we do to mitigate it, an increase in global temperature by 2°C to 4°C within this century is no longer avoidable. The consequences will be more extreme events such as hot and dry summers, heavy winter storms, storm surges, floods and landslides. The need for adaptation to these events is recognised, but the magnitudes and consequences of these changes in the weather system are not yet well understood. The WEATHER project aims at analysing the economic costs of climate change for transport systems in Europe and explores ways to reduce these in the context of sustainable policy design.

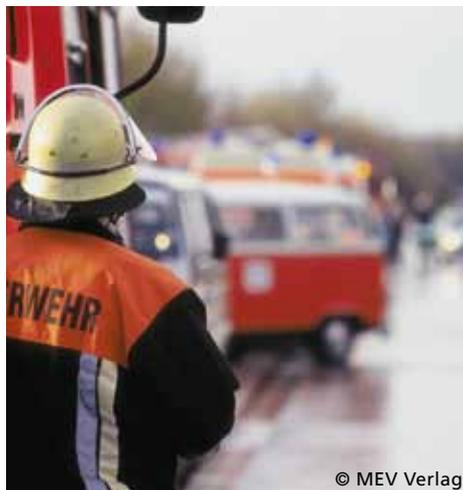
The research, which is being funded under the 7th Framework Programme of the EC, is being carried out by an international team of eight European institutes, led by the Fraunhofer Institute for Systems and Innovation Research (ISI). The project will run for 30 months in total, from November 2009 until April 2012. More information on the research streams, the consortium, events and publications is given on the project website.

Link: www.weather-project.eu

VULNERABILITY ASSESSMENT

The first public report of the WEATHER project was issued in June 2011. Deliverable 2 provides a first estimate of the economic losses due to weather extremes over the past decade. The cost assessment considered six business and social categories of damages for each mode of transport: infrastructure assets and operations, vehicle assets and service operations, user time and safety implications. The research focussed on singular weather events which clearly exceed the long-term average of comparable meteorological activities over the annual mean or related to the specific season and which had considerable negative impacts on assets and operations, or affected human health or lives.

Although we find that the overall annual costs of about 2.3 billion euros across Europe are manageable, there are several hot spots of weather events, regions and modes which deserve special attention. Data from the past 12 years for a number of sample



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countries suggest that harsh winters are one such hot spot, which occur with highly varying annual intensity from the UK to Eastern Europe and affect all transport modes. Of the same order of magnitude are floods and landslides across the entire continent, which cause damage to infrastructure assets. The most affected regions are mountainous and coastal areas and the most vulnerable mode appears to be rail transport. Of all the transport sector elements, damages to infrastructure assets entailing repair and replacement costs, and time losses for travellers and goods forwarders make up the biggest share of economic losses.

The weather website has links to Deliverable 2 "Vulnerability Assessment" and its numerous annexes, as well as the presentations of the associated project workshop 1, held in September 2010 in Brussels.

Link: <http://www.weather-project.eu/weather/inhalte/deliverables.php>

EMERGENCY MANAGEMENT

Deliverable 3 explored the core aspects of the interrelationship between policy structures in Emergency Management, the use of new and innovative technologies and the resulting organisational challenges. The analysis centred on the transport networks' operation and efficiency. Two broad categories of critical aspects are described:

Technological aspects: The use of Intelligent Transport Systems (ITS) makes it possible either to devise new strategies for transport network operations or improve existing strategies. ITS also provide a greater quantity and diversity of information, thus allowing users (motorists, commercial operators and public transport customers) to make informed travel decisions and reduce their travel time by having access to real time information. **Organisational aspects:** Different organisations are involved in transport network operations depending on the network hierarchy and the type of service (safety, information, etc). Effective network operations require functional, organisational and inter-jurisdictional coordination, cooperation, integration and interoperability within a geographic region.

A roadmap is provided with general policy guidelines and best practices for transportation professionals and policymakers responsible for the organisation of Emergency Transport Management in cases of extreme events. The analysis was accompanied by the second WEATHER workshop on Emergency Management issues, held on February 28th 2011 in Brussels. The weather website

features a link to Deliverable 3 “Innovative Crises and Emergency Management Procedures” as well as the workshop presentations.

Link: <http://www.weather-project.eu/weather/inhalte/deliverables.php>

THE CLIMATE ADAPTATION RESEARCH CLUSTER

Under its 7th Framework Programme, the European Commission is funding a family of research activities on the vulnerability and adaptation of transport systems to climate change and weather extremes. The EWENT project, co-ordinated by VTT (Helsinki), is structured along common risk assessment guidelines. In Deliverable 1, threshold levels are defined for airports, port, rail and road nodes and corridors with respect to wind, snow, blizzards, heavy precipitation, cold spells, heat waves and reduced visibility. Deliverable 2 then provides tables of changes in the probability of extreme phenomena for the 2020s and 2050s for selected infrastructures. The ECCONET project, which is co-ordinated by TML (Leuven), deals with these questions exclusively for European inland navigation networks.

Links:

<http://www.wmo.int/pages/prog/dra/eur/EwentProject.php>

<http://www.tmlleuven.be/project/ecconet/home.htm>



NEXT STEPS

The EC's Climate Research Cluster will hold a joint session on transport vulnerability and adaptation to climate change at the 91st Annual Meeting of the Transportation Research Board (TRB) on January 22nd 2012 in Washington D.C., USA. This event is intended to exchange project results and establish a global research network.

Over the past months, the WEATHER team held one more workshop on adaptation strategies on May 20th 2011 in Rotterdam, and has submitted two more deliverables to the EC: Deliverable 1 on Weather Scenarios and Wider Economic Impacts and Deliverable 4 on Adaptation Strategies in the Transport Sector. Further activities include finalising the reports on policy and innovation to implement long-term adaptation strategies (Deliverable D5) and the WEATHER Case Studies (Deliverable D6). Both reports are due in January 2012. Once they have been accepted by the EC they will be made available to the public via the WEATHER website.

Imprint

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Contractor

Seventh Framework Programme for
Research and Technological Development

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