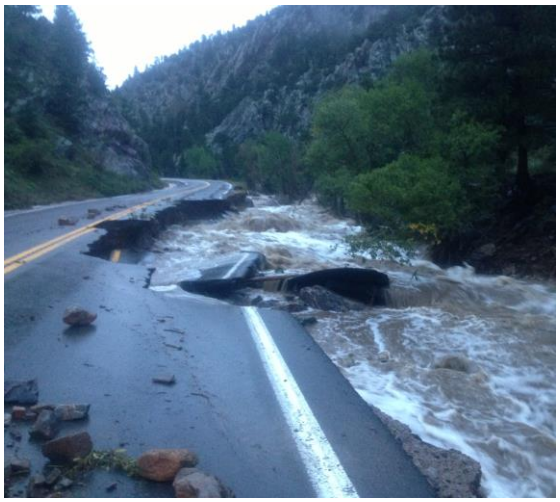
Course: Climate change risk assessments and adaptation for roads

Introduction

Infrastructures are the backbone of our society. Citizens, companies and governments have come to rely on and expect uninterrupted availability of the road network. Extreme weather is an important factor for the reliability of the road network. In the same time it is generally understood that the climate is changing and that this will have significant effects on the road infrastructure. Since road infrastructure is vital to society, climate change calls for timely adaptation. Immediately, questions arise how to deal with the large uncertainties involved in both the projections of future climate, how to assess their effects on the road infrastructure and related socio-economic developments, and how to integrate adaptation into decision making and development of the road transport system.



This course will familiarize those involved in climate change adaptation for roads with the ROADAPT tools in order to answer these questions. The ROADAPT project was granted under the CEDR Call 2012 'Road owners adapting to climate change'. The ROADAPT project answers to the call objective of prioritizing adaptation measures in order to maximize availability within reasonable costs. It adopts a risk based approach using the RIMAROCC framework (Risk Management for Roads in a Changing Climate) that was developed within ERA NET ROAD in 2011. The approach addresses cause, effect and consequence of weather related events to identify the top risks that require action with mitigating measures..

ROADAPT has further developed the RIMAROCC framework into practical and useful methods for road owners and road operators. Output of the ROADAPT project is one ROADAPT-RIMAROCC integrating guideline containing different parts:

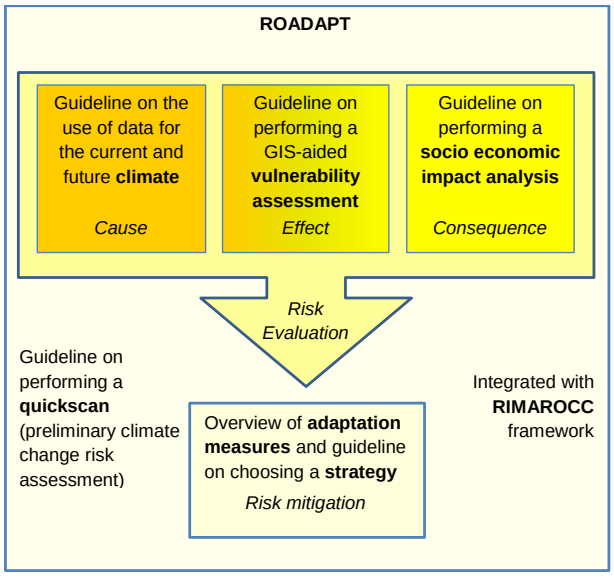
A. Guidelines on the use of climate data for the current and future climate
B. Guidelines on the application of a QuickScan on climate change risks for roads
C. Guidelines on how to perform a detailed vulnerability assessment
D. Guidelines on how to perform a socio economic impact assessment
E. Guidelines on how to select an adaptation strategy

Course objectives

- to increase awareness of effects of extreme weather and climate change on road infrastructure
- to introduce a risk based approach for assessing and adapting to the accompanying risks
- to train the participants in using the ROADAPT/RIMAROCC methodology and tools

Who should attend?

The course will be beneficial for a broad range of professionals, including road engineers (geotechnics, hydraulics, pavements, traffic management), asset managers, climate change adaptation professionals, innovation managers and project managers.



Participants might be employed at road owners and operators, engineering firms, contractors and research institutes. Although the course focusses on roads, the topics and methodology are applicable for other infrastructural assets like railways or electricity networks as well.

Course subjects:

1. Risk management principles related to climate change effects on roads
    a. Introduction of RIMAROCC and ROADAPT
    b. Gaining familiarity with ROADAPT quick scan methodology
2. Extreme weather and climate change regarding roads
    a. Understanding of basic climate and climate change principles
    b. Overview of relation between climate change and threats for roads
    c. Introduction of user requirements
3. Effects and consequences of climate change induced weather events
    a. Gaining familiarity with ROADAPT vulnerability assessment method
    b. Gaining familiarity with ROADAPT Socio Economic Impact assessment method
4. Risk mitigation of unacceptable climate change risks
    a. Overview of adaptation measures
    b. Gaining familiarity with ROADAPT methodology to find a good adaptation strategy

Course date

Monday October 20th from 12.00 until Tuesday October 21st 17.00 2014.

Lecturers

The lecturers are researchers and consultants from the ROADAPT partners who were involved directly in the development of the ROADAPT methodology. They will address the background, lessons learned and best practices which will help participants to gain profound knowledge about the course subjects.

Venue and transportation

The course is organized at Deltares, Delft in the Netherlands. From Schiphol airport a train is leaving every 15 minutes in the direction of Delft. Travelling time is approximately 45 minutes. Hotel accommodation is available in the historic city centre of Delft.

No fee

This course is developed as part of the ROADAPT project and as such no fee is required to participate. Participants need to take care for transport and hotel accommodations themselves. Lunch will be provided.

Registration and more information

All presentations and discussions will be in English. For registration or more information please contact Thomas Bles (ROADAPT coordinator, +31 (0)88 335 7531 or Thomas.bles@deltares.nl).

ROADAPT project

The funding for the research is provided by the national road administrations of the Netherlands, Denmark, Germany and Norway. The ROADAPT consortium consists of the following partners: Deltares (the Netherlands, coordinator), SGI (Sweden), Egis (France) and KNMI (the Netherlands).