

COST Action TU1202
Impact of climate change on engineered slopes for infrastructure
2nd WG4 Meeting

Bucharest, Romania

22-23 October 2013


attending:

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meeting notes/minutes
Updates

On MC Meeting held 21 October, report was given by WG co-leader Karlo Martinovic on WG4 work done so far and planned future activities, which MC approved. Most of objectives drawn on last WG Meeting were accomplished or underway: gathering of contributions for the state of the art report, successfully established STSM (Short Term Scientific Mission), and bringing new members with climatology background. WG4 member (Tom Dijkstra, UK) is also in charge of the creation of Action's web page.

At plenary session held on morning 22 October, WG leader Ken Gavin presented the work, objectives and outputs of WG4 to members of other WGs.

WG Meeting 1st day (22 October, 13:30 – 17:00)

WG leader welcomed the participants. Due to a number of new members, all participants shortly presented themselves.

First presentation was given by Chris Wooff from Network Rail [UK], in which he continued on the work of David Hutchinson (also Network Rail) from the last WG Meeting in Newcastle (March 2013). Network Rail's landslide database was presented, along with their own risk matrix, description of asset condition index and risk condition index. Network Rail's response to weather processes, determination of trigger levels and examples of damages on the infrastructure were also among the things shown.

WG leader noted that the steps and procedures in the development of risk matrix are a valuable input for WG. They are to be included in Chris Wooff's further contribution to WG4 state of the art paper. It should also apply to all other contributions sent, wherever applicable (i.e. it is arranged also with Constantina Filipciuc).

Presentation was given by Dr Ibrahim Sonmez, a meteorologist from Ondokuz Mayis University in Turkey, about satellite use in wild fire monitoring.

Kristine Flesjo from Norwegian Public Road Administration [NO] gave a presentation on Preparedness and emergency systems used by NPRA. It also included an overview of advanced Norwegian web portal (www.xgeo.com) serving, among other, as a provider of multiple layers (weather data, associated risk, etc.) of real-time information. It is also connected with future urban and transport infrastructure planning. Kristine also presented a road-owner point of view of risk assessment methodologies.

A work on the *state of the art report* started with the presentation of Karlo Martinovic on the work done through the course of his STSM (University of Zagreb to University College Dublin) which was currently at the half way through. One of the tasks in STSM consists of a collation of contributions sent by WG members regarding risk assessment methodologies (RAMs), in addition to research of general literature. Both gathered contributions and general literature findings were presented and discussed. The desired scope of detailness of the general overview of risk assessment methodologies, paper structure and gaps (i.e. lack of RAMs aimed specifically at engineered slopes) were discussed and defined by all participants. The need of obtaining more information was defined for the:

- official RAMs used in EU countries,
- official RAMs used worldwide,
- RAMs used by stakeholders, and
- recent RAM-related research projects.

All participants agreed to get the further information, for their own respective countries for the start. General composition of the paper was also discussed, and the preparation of one wider report that will later be distilled to journal paper sized report was agreed.

After a general discussion in which all WG members participated, the session was closed.

WG Meeting 2nd day (23 October, 09:00 – 10:30)

Connection with WG3 was established through participation of its member Herbert ter Maat [NL], a climate change and land-atmosphere interaction researcher, who gave a presentation on influence of climate change on infrastructure networks. Project on climate change effect on Dutch road infrastructure was presented and discussed among participants.

Connection with WG2 was established as Haris Saroglou [GR] and Stanislav Lenart [SI], initially from WG2, joined the WG4. They shortly presented their scope of work related to WG4 (risk management for rockfalls / risk mitigation), got acquainted with WG4 running work, and are now in the process of contributing to WG4.

In the subsequent discussion, other **activities to be done** (apart of described needs for the state of the art report), along with some conclusions, were agreed:

- Focus of risk assessment frameworks considered should be only on RAFs for rock slopes and soil slopes
- Exact hazards relevant to these RAFs are to be identified and described
- Available datasets with data used for creating statistical distributions should be defined (also related to WG3)
- Possible mitigation and remediation measures are to be identified and described
- Suitable idea for case study is to be found

Since on the MC meeting of 21 October it was decided that WG meetings should be held separately from each other once a year (and once year together), Meho Sasa Kovacevic [HR] offered to host a WG4 meeting on 13-14 February 2014 (planned) in Zagreb. The meeting will be expanded with participation of stakeholders and additional researchers, and it was also offered that papers derived from presentations given by WG4 members will be published in a book. MS Kovacevic to provide more details subsequently.

WG leader reported the wrapped up conclusions of this WG meeting on the subsequent link-up of all four WGs.

Addition:

Steps towards determination of target journal where SOTA reviews are to be published were made by the MC. It was agreed that the MCs preference for publishing SOTA reviews Earth Science Reviews as a first choice, Quarterly Journal of Engineering Geology and Hydrogeology as second choice and Natural Hazards and Earth Systems Science as third choice.