

Minutes

1) Introduction of participants

Each participant gives a brief presentation about his research related to the theme of the WG3 (Climate - Vegetation - Soil interactions). The full list of the participants and some key-words related to their research are shown in the Table.

The research fields of the participants cover both Soil mechanics (unsaturated soils, slope stability) and the role of Vegetation on soil behaviour. Even if the studies presented focus on Climate -Vegetation -Soil interactions, other researchers who work on the field of Climate will be welcomed to join the WG.

About the approaches used, all the studies presented are mainly based on experimental observations (in laboratory or in field). The works aim to better understand the mechanism and to provide experimental data for numerical modelling. Further interactions with others WGs are necessary.

Several topics are of interest for several participants in the WG3 and can be identified for further actions: large-scale laboratory test, vegetation, desiccation cracking, etc.

2) Objectives

The expected outputs of the WG3 can be reminded below:

“- Improved simulation of the long-term geotechnical behaviour of engineered slopes by providing the key parameters that will need to be incorporated in coupled models for classic geotechnical numerical tools to consider the impact of climate change on engineered slopes for infrastructure.

- Suggested adaptation measures that aim to increase the resilience of existing geotechnical infrastructures and to improve future slope design. Results of these analyses will aim at selecting more resilient vegetation species, to both water stress and abundance, and for different climatic situations in Europe (Mediterranean, North Europe), as well more adequate slope properties as a function of soil type, aiming to increase slope stability.”

3) Actions

Some potential additional members are identified to fulfil the gaps concerning the topics of vegetation and climate change. They will be contacted to join the WG for the next WG Workshops.

- Institute for crop research (Dundee University)
- Roger Street (UK Climate Impacts Programme)
- Chris Kilsby (Climate scientist, Newcastle University).

For the first year (2013), two actions were identified for which STSMs and Publications can be expected:

- Develop a framework to contain data involving systematization of laboratory and field available data of the partners.
- Select experimental data from large-scale laboratory tests for numerical modelling benchmark.

4) List of participants

| Participant | Affiliation | Email | Country | Research |
|-------------------|--|--|----------------|--|
| CUI Yu-Jun | Ecole des Ponts ParisTech | yujun.cui@enpc.fr | France | Geotechnics, Unsaturated soils, Environmental Chamber |
| GENTILE Francesco | University of Bari | francesco.gentile@uniba.it | Italy | Vegetation, Slope stability |
| GOWING John | Newcastle University | john.gowing@newcastle.ac.uk | United Kingdom | Water management in agriculture, root zone salinity, lysimeter experiments |
| JOMMI Cristina | Delft Univ. of Technology | C.Jommi@tudelft.nl | Netherlands | Soil/atmosphere water exchanges, Experiments & Numerical modelling |
| KEHAGIA Fotini | Aristotle University of Thessaloniki | fkehagia@civil.auth.gr | Greece | Road design and construction, measures for stabilization of motorway |
| LOURENCO Sergio | Cardiff University | LourencoSD@cardiff.ac.uk | United Kingdom | Slopes, Wetability |
| OLIVEIRA Manuel | National Laboratory for Civil Engineering | moliveira@lnec.pt | Portugal | Modelling soil water content as a function of climate change and vegetation |
| SPRINGMAN Sarah | Swiss Federal Institute of Technology Zurich (ETH) | sarah.springman@igt.baug.ethz.ch | Switzerland | Experiments on role of vegetation on slope stability |
| STIRLING Ross | Newcastle University | r.a.stirling1@newcastle.ac.uk | United Kingdom | Cracks development, Experiments and modelling |
| TANG Anh Minh | Ecole des Ponts ParisTech | anhminh.tang@enpc.fr | France | Experiments in Environmental Chamber, Cracks |
| TOLL David | Durham University | d.g.toll@durham.ac.uk | United Kingdom | Experiments on suction and water content measurement, lysimeter |