CLIMATE CHANGE AND SLOPES
head in the sand or adapt?

A CLIFF*S* Symposium

disseminating essential knowledge about key climate change issues relevant to effective long-term slope asset management

Tuesday 5th February 2008
Sir Denis Rooke Building, Holywell Science Park
Loughborough University LE11 3TU

It is a challenging task to quantify the variations in slope stability that result from changes in climate conditions. This symposium disseminates the most important outcomes from four highly successful CLIFF*S* workshops that addressed themes relevant to climate change impact forecasting for slopes in the UK. This unique event brings together key speakers and a broad audience of researchers and stakeholders from many different disciplines. Don't miss it!

Speakers

Geoff Jenkins MetOffice
Roger Street UKCIP
Michelle Colley acclimatise
Mike Winter TRL Scotland
Fleur Loveridge MottMacdonald
Roger Moore Halcrow
Neil Dixon Loughborough University
Stephanie Glendinning University of Newcastle
Derek Clarke University of Southampton
David Shilston Atkins Geotechnics
Martin Culshaw British Geological Survey
Robin McInnes Coastal and Geotechnical Services

This symposium will

- inform you of the latest in climate change modelling
- provide you with links to key information sources
- disseminate the latest research on the effects of a changing climate on the stability of slopes, both natural and constructed
- illustrate opportunities for multi-disciplinary communication

To register: (e) cliffs@lboro.ac.uk, (t) 01509 222637, (f) 01509 223981, (w) cliffs.lboro.ac.uk

CLIFF*S* - climate impact forecasting for slopes - an EPSRC-funded network based at Loughborough University

EPSRC Engineering and Physical Sciences Research Council

Loughborough University

Climate Change and Slopes 2008

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CLIFF*S* – climate impact forecasting for slopes

CLIFF*S *is an EPSRC-funded network based at Loughborough University aiming to bring together academics, R&D agencies, stakeholders, consultants and climate specialists to improve forecasting of slope instability in the context of progressive climate change

Topography, geology, climatic conditions and human modification of the landscape result in slope processes that have an important impact on the built environment and infrastructure in the UK. Many tens of thousands of people live with continuing slope instability or the threat of instability of actively eroding coastlines and unstable inland slopes. Thousands of kilometres of transport links and utilities are located in areas susceptible to slopes failure. How this unstable landscape will respond to changes in climate is far from certain. As a consequence we need to think carefully about the long-term management of any assets that may be affected by changes in slope stability over the coming decades.

The aim of the network is to stimulate an integrated research response to address this intricately linked problem of forecasting, monitoring, design, management and remediation of climate change induced variations in slope instability. The size of the task, the complexity and multi-disciplinary nature require active participation of a wide group to assess the magnitude of the resulting impact on UK society and to identify appropriate management, adaptation and remediation strategies.

If you are interested in participating in this network in general, and you are not a member yet, please drop us a line on cliffs@lboro.ac.uk

Who should attend this Symposium

This symposium aims to reach all stakeholders who are, or may become, affected by changes in the stability of slopes as climate change progresses. Professionals who should attend this meeting include geotechnical engineers, contractors, local authorities, geoenvironmental engineers, consulting engineers, asset managers (infrastructure, urban), planners, insurers, geographers, geomorphologists, and engineering geologists.

Top five reasons to attend

- **Get an essential update on climate change forecasting**
- **Become informed about the relevant information and assistance that is available**
- **Learn about up-to-date research developments targeting UK climate change and slope stability**
- **Find out about the issues involved in incorporating climate change information in long-term slope asset management**
- **It is a unique opportunity for interaction between stakeholder and research communities**

Delegate registration

To register, please fill in and detach the delegate registration form, and send this to:
Dr Tom Dijkstra (CLIFFS Network Coordinator)
Department of Civil and Building Engineering, Loughborough University
Ashby Road, Loughborough, Leicestershire, LE11 3TU

Early registration fee is only £150. After 15 January 2008 the registration fee will be £180.

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Programme

08:30 **Registration and refreshments**

09:00 **Opening address from the chair**
Neil Dixon Professor of Geotechnical Engineering
Loughborough University

Session 1 - Climate: managing change

- outline of climate change knowledge - UKCIP08
- the role of UKCIP and risk-based asset management

09:15 **Geoff Jenkins** Manager of Climate Scenarios **MetOffice/Hadley Centre**
09:40 **Roger Street** Technical Director **UK Climate Impacts Programme (UKCIP)**
10:05 **Michelle Colley** Risk Manager **acclimatise**

10:30 ***Discussion - session 1***

10:45 *Morning Refreshments*

Session 2 - Constructed slopes

- current research on embankments and cuttings
- implications for infrastructure asset management

11:15 **Derek Clarke** Teaching Fellow **Southampton University**
11:40 **Stephanie Glendinning** Reader in Environmental Geotechnics **Newcastle University**
12:05 **Fleur Loveridge** Geotechnical Engineer **MottMacdonald**

12:30 ***Discussion – session 2***

12:45 *Lunch*

Session 3 - Natural Slopes

- current research on inland and coastal instability
- implications for management-based solutions

13:50 **Neil Dixon** Professor of Geotechnical Engineering **Loughborough University**
14:10 **Mike Winter** Regional Director Scotland **TRL Scotland**
14:35 **Roger Moore** Director (Engineering Geomorphology) **Halcrow**

15:00 ***Discussion - session 3***

15:15 *Afternoon Refreshments*

Session 4 – Communication and risk

- communicating geohazards; needs, solutions, synergies
- what are the risks?

15:45 **Prof Martin Culshaw** Director Environment and Hazards, **BGS**
16:10 **Robin McInnes** Director **Coastal and Geotechnical Services**
16:35 **David Shilston** Technical Director (Engineering Geology) **Atkins Geotechnics**

17:00 ***Discussion - session 4***
17:15 **Closing remarks**
Tom Dijkstra CLIFFS Network Coordinator
Loughborough University
17:30 **End of symposium**

Delegate Registration Form (please complete in BLOCK CAPITALS) conference code: 61381

Title		First Name		Surname	
Organisation					
Address					
Post Code					
Telephone		Fax		email	
Signature				date	

Delegate Fee: £150 if paid before 15 January 2008; £180 thereafter

The registration fee includes symposium attendance, all day refreshments, hot lunch and a CD containing all presentations. Please fill in the relevant details on the reverse of this tear-off slip.
More forms are available for download on cliffs.lboro.ac.uk

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Venue Details

The symposium venue is the Sir Denis Rooke Building, Holywell Science Park at Loughborough University.
The venue offers high quality specialist conference facilities.

Loughborough University

Directions

By Car From the North/South/West use junction 23 of the M1, head toward Loughborough on the A512 and turn right after 1 mile at the roundabout toward Holywell Science Park, straight on at the next roundabout and visitor parking is on the left after the security barrier. From the East travel around Loughborough on the ring road, following to signs for the M1, and go past the University Campus (on your left) and turn left at the roundabout toward Holywell Science Park, straight on at the next roundabout and visitor parking is on the left after the security barrier.

By Rail Regular Intercity services operate between Loughborough and other main line towns - including over 40 trains daily to and from London St Pancras 90 minutes away. Once at Loughborough's railway station you are just ten minutes away from the campus. From here there is a regular bus service which operates every ten minutes during term time. Taxis are normally available from the station and the journey should cost around £5 - £6.

By Air Nottingham East Midlands Airport is only 20 to 25 minutes from Loughborough University and many budget air liners operate from there including www.ryanair.com and www.easyjet.com. Taxi fare from the airport to the university campus is normally in the region of £15 - £20.

Accommodation

Burleigh Court offers accommodation a short walking distance from the venue at Holywell Park, at a discounted rate for conference attendees of £64.50 inc VAT. To book a room please email beds@welcometoimago.com or call 01509 228104 and remember to quote reference number **61381** for the reduced rate. Alternatively, the Quality Inn is a short walking distance from the venue (www.qualityhotelloughborough.co.uk). There are many other hotels and guest houses available in Loughborough; contact us at cliffs@lboro.ac.uk for more information.

Registration Fee

I enclose a cheque for £ _____ Cheques are to be made payable to "Loughborough University"

Please debit £ _____ to my Switch*/ Delta / Visa / MasterCard (delete as appropriate):

Card Number _____

Card Start Date __ / __ Card End Date __ / __ Issue Number (*Switch Only) __

Card Security Code (last 3 digits on the card signature strip) ___ Signed _____

Card Holders Name and Address:
(if different from delegate details) _____

Post Code _____

Confirmation of your registration for the conference will be sent directly via e-mail (or via post where no e-mail is given)

Please note: Fees are payable in advance and places will only be reserved when payment, together with registration forms, have been received.
Please send this registration form to: Dr Tom Dijkstra (CLIFFS Network Coordinator)
Department of Civil & Building Engineering, Loughborough University, Ashby Road, Loughborough, Leicestershire , LE11 3TU, UK.
Bookings made after 15-01-2008 are non-refundable, after this date no cancellations are accepted, although substitutions are permitted.