

## **ES01: Forms and Processes of bedrock erosion in fluvial and glacial landscapes**

**Conveners:** Eva Kwooll<sup>1</sup>, Jeremy Venditti<sup>2</sup>, and Flavien Beaud<sup>3</sup>

**Co-chairs:** Eva Kwooll<sup>1</sup>, Jeremy Venditti<sup>2</sup>, and Flavien Beaud<sup>3</sup>

<sup>1</sup> Department of Geography, SFU, Burnaby, BC, V5A 1S6  
Phone: 778 681 6565, E-mail: [eva\\_kwooll@sfu.ca](mailto:eva_kwooll@sfu.ca)

<sup>2</sup> Department of Geography, SFU, Burnaby, BC, V5A 1S6  
Phone: 604 767 2247, E-mail: [jeremy\\_venditti@sfu.ca](mailto:jeremy_venditti@sfu.ca)

<sup>3</sup> Department of Earth Sciences, SFU, Burnaby, BC, V5A 1S6  
Phone: 778 232 6953, E-mail: [fbeaud@sfu.ca](mailto:fbeaud@sfu.ca)

### **Session Description**

The erosion of bedrock in mountain terrain is one of the key processes determining the evolution of landscapes over time. In these settings, hillslope, glacial and fluvial processes act to carve out steep mountain valleys with distinct land forms. Bedrock erosion occurs through a variety of processes from plucking of entire rock blocks, abrasion by sediment load, chemical solution and rock fall. The relative magnitude of each process depends on the geological setting and the underlying mechanism, namely the flow of water or ice or the stability of a rock wall. In this interdisciplinary session, we aim to bring together fluvial and glacial geomorphologists / glaciologists / hydrologists working on bedrock erosion in mountain landscapes. We invite novel contributions across the variety of spatial and temporal scales inherent to these complex systems. Studies will include state of the art field projects, laboratory experiments and numerical models. We particularly invite contributions aimed to disentangle the relative importance of individual bedrock erosion processes and resulting sediment yield.

**Primary Affiliation:** CGU / Earth Surface Processes

## **ES02: Hazards and landscape response in the high mountains**

**Conveners:** Dan H. Shugar<sup>1</sup>, Jeffrey S. Kargel<sup>2</sup>, Marten Geertsema<sup>3</sup>

**Co-chairs:** Dan H. Shugar<sup>1</sup>, Jeffrey S. Kargel<sup>2</sup>, Marten Geertsema<sup>3</sup>

<sup>1</sup> School of Interdisciplinary Arts and Sciences, University of Washington Tacoma, WA, 98405, USA; Phone: 253-692-4926 E-mail: [dshugar@uw.edu](mailto:dshugar@uw.edu)

<sup>2</sup> Department of Hydrology and Water Resources, University of Arizona, Tucson, AZ, 85721, USA; Phone: 520-780-7759 E-mail: [jeffreyskargel@hotmail.com](mailto:jeffreyskargel@hotmail.com)

<sup>3</sup> Ministry of Forests, Lands and Natural Resource Operations, Government of British Columbia, Prince George, BC, V2N 4W5, USA; Phone: 250-565-6923 E-mail: [Marten.Geertsema@gov.bc.ca](mailto:Marten.Geertsema@gov.bc.ca)

### **Session Description**

Glacial thinning and retreat drives the destabilization of mountain systems, often resulting in catastrophic geomorphic processes and sediment cascades that can impact people and infrastructure downstream. Glacier debuitressing can lead to landslides and rock avalanches, thawing permafrost can destabilize slopes, and proglacial lakes can drain. The frequency of many of these geohazards seems to be increasing globally, suggesting a link to climate change. This session highlights studies that address issues of landscape change in high mountains that lead to geohazards. We welcome modeling, remote sensing, field, or theoretical studies, and from anywhere in the world.

**Primary Affiliation:** Earth Surface Processes

### **ES03: Steep landscapes from source to sink**

**Conveners:** David Reid<sup>1</sup>, and Lucy Mackenzie<sup>2</sup>

**Co-chairs:** David Reid<sup>1</sup>, and Lucy Mackenzie<sup>2</sup>

<sup>1</sup> Department of Geography, UBC, Vancouver, BC, V6T 1Z2  
Phone: 604-763-2353, E-mail: david.reid@geog.ubc.ca

<sup>2</sup> Department of Geography, UBC, Vancouver, B.C., V6T 1Z2,  
Phone: 778-689-2416 E-mail: lucy.mackenzie@geog.ubc.ca

#### **Session Description**

Landscapes are seldom static: from mountain divides to coastlines, features are shaped continuously by an interrelated set of “natural” and anthropogenic processes. In mountain environments, equilibrium is rarely, if ever achieved, and many earth surface forms and processes remain challenging to characterize or predict. Activities such as logging, mining, and agriculture, and disturbances such as climate change, fire, insect outbreak, and extreme events continue to modify steep terrain and alter processes in ways which challenge our present understanding of them. As pressure upon steepland regions increases through growing populations and elevated rates of resource extraction, new research and insight is needed to advance our understanding of how mountain landscapes are shaped, maintained, and impacted, at a wide range of spatial and temporal scales. The broad objective of this session is to combine interdisciplinary perspectives and expertise from those studying how steep landscape surfaces change over time and space, and how we are influencing that change. Submissions related to geomorphology, glaciology, hydrology, oceanography, and limnology are encouraged.

**Primary Affiliation:** Earth Surface Processes

## ES04: Morphodynamics of River Systems

**Conveners:** Jeremy Venditti<sup>1,3</sup>, and Brett Eaton<sup>2,4</sup>

**Co-chairs:** Lucy MacKenzie<sup>2,5</sup>, Dan Haught<sup>1,6</sup>, and Ryan Bradley<sup>1,7</sup>

<sup>1</sup> Department of Geography, Simon Fraser University, Burnaby, BC, V5A 1S6

<sup>2</sup> Department of Geography, University of British Columbia, Vancouver, BC, V6T 1Z2

<sup>3</sup> Phone: 604 767 2247, E-mail: jeremy\_venditti@sfu.ca

<sup>4</sup> Phone: 604 354 0079, E-mail: brett.eaton@.ubc.ca

<sup>5</sup> Phone: 778 689 2416, E-mail: lucy.mackenzie@geog.ubc.ca

<sup>6</sup> Phone: 604 715 0690, E-mail: daniel.haught@gmail.com

<sup>7</sup> Phone: 778 847 9407, E-mail: rwbradle@sfu.ca

### Session Description

The interaction of fluid flow, sediment movement and topographic change in river systems give rise to a wide range of channel morphologies and patterns. It is widely thought that the morphology of rivers is invariant with scale, but there is emerging evidence that many of the world's largest river systems exhibit behaviors and morphologies that differ from smaller scale channels. While the physics of fluid flow and sediment transport must be scale invariant, the dominant processes appear to vary across rivers of different sizes. This has important implications for predicting the behavior of river systems as well as understanding sediment deposits and the rock record. The goal of this session is to draw together geomorphologists, sedimentologists, and river engineers to explore the dynamics of rivers across all scales. Topics may include alluvial river channel dynamics, morphodynamics of fans and deltas, bedform dynamics, scale effects on flow and sediment transport processes, external forcing (geological or climate) on river dynamics and controls on the architecture of river channel and floodplain deposits. We welcome studies that use field, experimental, theoretical and numerical approaches to understand the morphodynamics of rivers.

**Primary Affiliation:** CGU Earth Surface Processes

## **ES05: The interaction between climate and tectonics in Late Cenozoic landscape evolution**

**Conveners:** John Gosse<sup>1</sup>, and Lindsay M. Schoenbohm<sup>2</sup>

**Co-chairs:** Lindsay M. Schoenbohm<sup>2</sup>, and John Gosse<sup>1</sup>

<sup>1</sup> Department of Earth Sciences, Dalhousie University, Halifax, NS, B3H 4R2  
Phone: 902-494-6632, E-mail: john.gosse@dal.ca

<sup>2</sup> Department of Earth Sciences, University of Toronto, Toronto, ON, M5S 3B1  
Phone: 905-569-4400, E-mail: Lindsay.schoenbohm@utoronto.ca

### **Session Description**

Earth's surface is shaped by both the constructive force of tectonics—which builds mountains, and the destructive force of erosion by rivers, glaciers and landslides—which tear mountains down. Mantle dynamics and lithospheric loading further modifies Earth's topography. Tectonic Geomorphology in its broadest sense, explores these interactions through remotely sensed data (GPS, InSAR, lidar), paleoseismology, geochronology and thermochronology, landscape morphometrics, and numerical and analogue modeling. Two decades of research have shown that rivers, glaciers and landslides are powerful enough as erosive forces to change the mass balance of an uplifting mountain range, and therefore change the pattern and rate of tectonic deformation, all the way at least to the mantle lithosphere. Other research demonstrates the utility of tectonic geomorphology in understanding active tectonic processes in increasingly greater detail, to help establish, for example, strain partitioning and fault kinematics in a tectonically active area, or interrogating the earthquake cycle and constraining seismic hazards. Meanwhile, climate-controlled sediment availability will dictate the rates and styles of sedimentation in various tectonic basins. This session seeks to bring together emerging and established researchers in Canada and abroad to discuss their work around the world on neotectonics, large-scale landscape evolution, and late Cenozoic mountain building.

**Primary Affiliation:** CGU: Earth Surface Processes and Quaternary Sciences / Geophysics  
Solid Earth

## **ES06: Professional Geoscience 1: River Restoration in Canada, from Planning to Effectiveness Monitoring**

**Conveners:** Marwan Hassan<sup>1</sup>, Shawn Chartrand<sup>2</sup> and David Luzi<sup>3</sup>

**Co-chairs:** Marwan Hassan<sup>1</sup>, Shawn Chartrand<sup>2</sup> and David Luzi<sup>3</sup>

<sup>1</sup> Department of Geography, University of British Columbia, Vancouver, BC, V6T 1Z2  
Phone: 602 822 5894, E-mail: [Marwan.hassan@geog.ubc.ca](mailto:Marwan.hassan@geog.ubc.ca)

<sup>2</sup> Department of Geography, University of British Columbia, Vancouver, BC, V6T 1Z2  
Phone:, E-mail: [shawn.chartrand@geog.ubc.ca](mailto:shawn.chartrand@geog.ubc.ca)

<sup>2</sup> Stantec, Vancouver, BC,

Phone:, E-mail: [David.Luzi@stantec.com](mailto:David.Luzi@stantec.com)

River restoration (RR) is in the middle of its fifth decade of practice. In this relatively short period, RR has grown into a global enterprise, involving all if not most of the world's largest engineering consultancy's, and an annual budget which has grown into the billions of dollars. Despite this somewhat rapid growth, RR practice continues to face many basic challenges, which limits the abilities of any one practitioner or team of practitioners to envision, develop, plan and implement effective RR projects, as measured in ecological and physical terms. For example, continuous simulation of 1-dimensional channel evolution from the basis of proposed RR designs are often difficult to interpret or understand due to a lack of adequate boundary condition information, such as rates of water and sediment supply. Climate change and the behavior of aquatic species in decline unfortunately complicates these challenges. Furthermore, coordinating and guiding RR efforts amongst many different project members and stakeholders toward a defensible design plan is a daunting task for even the most capable of managers. In many ways, RR is the contemporary litmus test of our collective abilities to successfully apply science and engineering to address the often conflicting issues of property and infrastructure protection, and ecological function. To promote a dialogue of learning, the RR community needs to convene and air successes and failures so that the approaches taken build upon our knowledge base, and push us further along the curve of meaningful restorative actions. This session invites presentations from all scales of RR with a clear focus on (1) approaches to planning for RR under fast-paced, and more traditional project timelines, (2) technical analysis pursued to support design development given the overall project objectives, or the regulatory criteria which define aspects of expected project effectiveness (e.g. fish passage performance), (3) contingency or adaptive planning in light of conditions that preclude explicit analysis (e.g. future climate and associated patterns of sediment erosion and deposition), and (4) particular successes, failures or difficulties that would help us achieve the goal of continual improvement of RR actions. One to two invited talks from leading practitioners and/or researchers will be sought.

**Primary Affiliation:** CGU Earth Surface Processes

## **ES07: Professional Geoscience 2: From Natural Science to Regional Practices in Canada**

**Conveners:** Roger T.J. Phillips<sup>1</sup>, and Joanna Eyquem<sup>2</sup>

**Co-chairs:** Roger T.J. Phillips<sup>1</sup>, and Joanna Eyquem<sup>2</sup>

<sup>1</sup> Geography Department, Western University, London, ON, N6A 5C2  
Phone: 519-661-2111 ext. 80161 E-mail: roger.phillips@uwo.ca

<sup>2</sup> AECOM, Montreal, QC, H2X 3P4  
Phone: 514-287-8500 ext. 8638 E-mail: joanna.eyquem@aecom.com

### **Session Description**

Many natural sciences—including hydrology, geomorphology, and biogeoscience—are also active areas of applied environmental science, with practitioners working in a wide range of environmental settings across Canada. The purpose of this session is to draw together environmental scientists and geoscience practitioners working within different physiographic and economic regions to explore how natural science is translated into professional practice. Contributions are welcome from all aspects of environmental science and are encouraged to address key themes in applied practice, including Environmental Assessment, natural hazard assessment, and ecological habitat restoration/rehabilitation. Connections to engineering practices for hazard mitigation and/or habitat restoration may also be explored where the scientific foundations are well-defined to arrive at practical solutions. Under these key themes, the session aims to highlight common threads in professional geoscience practice, as well as potential regional differences. Exploring the translation between science and practice across a variety of landscapes is especially relevant to professional ethics given that scientific foundations can be weakened by oversimplification and practical limitations within interdisciplinary projects. This session will also provide an opportunity to discuss professional regulation of environmental geoscience in Canada—beyond its traditions in geology and relative to other disciplines such as engineering and biology.

**Primary Affiliation:** CGU Earth Surface Processes Section and the Canadian Geomorphology Research Group

## ES08: Professional Geoscience 3: Toward Responsible Geoscience

**Conveners:** Leonora King<sup>1,2</sup>, Lucy MacKenzie<sup>1,3</sup>, David Reid<sup>1,4</sup> and Marc Tadaki<sup>1,5</sup>

**Co-chairs:** Lucy MacKenzie<sup>1,3</sup>, and Marc Tadaki<sup>1,5</sup>

<sup>1</sup> Department of Geography, University of British Columbia, Vancouver, BC, V6T 1Z2  
Fax: 604 822 6150

<sup>2</sup>Phone: 778 378 6009, E-mail: lkinggeo@gmail.com

<sup>3</sup>Phone: 778 689 2416, E-mail: lucy.mackenzie@geog.ubc.ca

<sup>4</sup>Phone: 604 763 2353 , E-mail: 00.dave.reid@gmail.com

<sup>5</sup>Phone: 604 442 5004, E-mail: m.tadaki@gmail.com

### Session Description

As human processes increasingly drive change in the form and function of biogeophysical systems, the roles of geoscientists are also changing. The task of the geoscientist these days involves more than just producing rigorous and valid knowledge of the biophysical world; it involves ‘being responsible’ to and for invested human communities, both public and private. In addition, the institutional positions of geoscientists are diverse; while many geoscientists may still be found in government institutes and university departments, increasing numbers are also present in consultancies, non-governmental organizations and private corporations. Given this diversity of roles, is there any coherent way in which geoscientists might think about ‘responsibility’? This session considers what might define a responsible geoscience, and therefore how geoscientists might be responsible to their field, the biophysical systems they study, and the communities that depend on those systems. The conduct and application of geoscience has, through its very nature, material impacts on the world through the exploitation and management of natural resources. Given Canada’s abundant resources and strong resource sector, there are many examples of geoscience companies embroiled in challenging social and ethical situations both domestically (e.g. the construction of hydroelectric dams in traditional First Nations territory) and internationally (e.g. the alleged use of forced labour in overseas mining projects). These conflicts raise important and timely questions about the ethics of the practice of geoscience in Canada. Beyond applied geoscience, who produces scientific knowledge of the earth, which systems we study and how we study them are all questions imbued with values that go beyond scientific considerations. In this session, we aim to explore the diverse contexts and meanings of ‘responsibility’ in geoscience: what kinds of outcomes are we as scientists responsible *for*, and to what communities are we responsible *to*?

**Primary Affiliation:** CGU Earth Surface Processes



**ES09: In honour of John Clague, one of Canada's foremost Earth Scientists'**

**Conveners:** Brent Ward<sup>1</sup>, and Brian Menounos<sup>2</sup>

**Co-chairs:** Brent Ward<sup>1</sup>, and Brian Menounos<sup>2</sup>

<sup>1</sup> Earth Sciences Dept., Simon Fraser University, Burnaby, BC, V5A 1S6

Phone: 778-782-4229 Fax: 778-782-2456, E-mail: [bcward@sfu.ca](mailto:bcward@sfu.ca)

<sup>2</sup> Geography Program and Natural Resources and Environmental Studies Institute, University of Northern British Columbia, Prince George, BC, V2N 4Z9 Phone: 250-960-6266 Fax: 50-960-6533, E-mail: [menounos@unbc.ca](mailto:menounos@unbc.ca)

**Session Description**

Over the last 40 years John Clague substantially advanced Earth sciences both in Canada and within many mountainous countries. John's major contributions lie within the sub-disciplines of Quaternary Geoscience, Geomorphology and Environmental Change. To celebrate John's recent retirement we invite scientists to contribute either review or original papers that focus on aspects of Quaternary research (geomorphology, geochronology, landslides and seismicity). We especially encourage scientist who worked closely with John or were his former students.

**Primary Affiliation:** Biogeosciences / Earth Surface Processes / Hydrology

## **ES10: Ice–rock interactions in the cryosphere**

**Conveners:** Jeff Crompton<sup>1</sup>, and Gwenn Flowers<sup>2</sup>

**Co-chairs:** Jeff Crompton<sup>1</sup>, and Gwenn Flowers<sup>2</sup>

<sup>1,2</sup>Department of Earth Sciences, Simon Fraser University, Burnaby, BC, V5A 1S6

<sup>1</sup>Phone: 778-782-5387 Fax: 778-782-4198, E-mail: [jcrompto@sfu.ca](mailto:jcrompto@sfu.ca)

<sup>2</sup>Phone: 778-782-6638 Fax: 778-782-4198, E-mail: [gflowers@sfu.ca](mailto:gflowers@sfu.ca)

### **Session Description**

Understanding the cryosphere requires knowledge of how ice interacts with other materials including water, air and rock or soil, and thus depends on our ability to adequately characterise these materials. The complexity of ice–rock interactions is often parceled into boundary conditions on a macroscopic scale through variables such as temperature, stress, pressure and velocity. This is largely because processes operating in the subsurface can be challenging to observe, and are influenced by the heterogeneity of material properties across a range of scales. In this session we aim to bring together cryospheric scientists working on processes at the ice–rock or ice–soil interface, from microscopic to macroscopic scales. We welcome contributions related to glacial, periglacial and permafrost environments, studied from the perspectives of field observation, remote sensing, theory, modelling and laboratory experiments. Topics may include, but are limited to, subglacial processes, chemical and biological processes in cold regions, ice avalanches, frost heave, patterned ground and debris covered/rock glaciers.

**Primary Affiliation:** Earth Surface Processes

## **ES11: Glacial geology, Geomorphology, and Modelling of Past Glaciers and Ice Sheets**

**Conveners:** Olav B. Lian<sup>1</sup>, and Tracy A. Brennand<sup>2</sup>

**Co-chairs:** Olav B. Lian<sup>1</sup>, and Tracy A. Brennand<sup>2</sup>

<sup>1</sup> Dept. of Geography and the Environment, University of the Fraser Valley, Abbotsford, BC,  
V2S7M8

Phone: 604-504-7441 Fax: 604-855-7558, E-mail: olav.lian@ufv.ca

<sup>2</sup> Dept. of Geography, Simon Fraser University, Burnaby, BC, V5A1S6 Phone: 778-782-3321  
Fax: 778-782-5841, E-mail: tabrenna@sfu.ca

### **Session Description**

With the recognition of global warming there has been increasing interest about the activity of the Greenland and Antarctic ice sheets. To this end, much research has been conducted at the beds of former glaciers and ice sheets, and models developed, to better understand and predict glacial processes as a function of thermal regime. This session will present talks and posters on sedimentological and geomorphological research being done to better understand the physical processes that governed the nature of glacial advance and decay during the last glaciation, and on the development and testing (against field evidence) of predictive models.

**Primary Affiliation:** Earth Surface Processes

## **ES12: Coastal sediment dynamics and morphological response: Advances in observation and prediction**

**Conveners:** Bernie Bauer<sup>1</sup>, Alex Hay<sup>2</sup>, [Chris Houser](mailto:chouser@uwindsor.ca)<sup>3</sup>, Ryan Mulligan<sup>4</sup>, Phil Osborne<sup>5</sup>

**Co-chairs:** Ryan Mulligan, Chris Houser

<sup>1</sup>Earth and Environmental Sciences, University of British Columbia ([b.bauer@ubc.ca](mailto:b.bauer@ubc.ca))

<sup>2</sup>Department of Oceanography, Dalhousie University ([alex.hay@dal.ca](mailto:alex.hay@dal.ca))

<sup>3</sup>Earth and Environmental Science, University of Windsor ([chouser@uwindsor.ca](mailto:chouser@uwindsor.ca))

<sup>4</sup>Department of Civil Engineering, Queens University ([ryan.mulligan@queensu.ca](mailto:ryan.mulligan@queensu.ca))

<sup>5</sup>Golder Associates Ltd ([Phil\\_Osborne@golder.com](mailto:Phil_Osborne@golder.com))

### **Session Description**

The dynamic response of mobile sediments in coastal environments can be observed, monitored and modeled across a range of spatial and temporal scales, from the transgression of barrier islands over the Holocene to salt marsh erosion and small-scale exchanges of sediment amongst the nearshore beach and dune. The varied coastlines of North America have the potential to undergo significant changes over the next century in response to natural and anthropogenic forcing including sea level rise, melting of the coastal permafrost and the Arctic ice pack, increased storm frequency and magnitude, impacts from tsunamis generated by earthquakes or landslides, emplacement of coastal protection structures and tidal power generation stations. The goal of the session is to draw together geophysical coastal scientists and engineers to share recent findings and advance our ability to observe and predict coastal response to natural and anthropogenic forcing. The session will include studies based on field observations, the application and development of models, investigations of sedimentary deposits, and physical experiments. Submissions based on results from interdisciplinary investigations are encouraged.

**Primary Affiliation:** Joint / CSAFM / Biogeosciences / Earth Surface Processes

## **ES13: Computer models and statistical methods in Earth sciences**

**Conveners:** Gwenn Flowers<sup>1</sup>, and Derek Bingham<sup>2</sup>

**Co-chairs:** Gwenn Flowers<sup>1</sup>, and Derek Bingham<sup>2</sup>

<sup>1</sup>Department of Earth Sciences, Simon Fraser University, Burnaby, BC, V5A 1S6  
Phone: 778-782-6638 Fax: 778-782-4198, E-mail: [gflowers@sfu.ca](mailto:gflowers@sfu.ca)

<sup>2</sup>Department of Statistics and Actuarial Science, Simon Fraser University, Burnaby, BC, V5A 1S6  
Phone: 778-782-3426 Fax: 778-782-4368, E-mail: [dbingham@sfu.ca](mailto:dbingham@sfu.ca)

### **Session Description**

Complex computer models are increasingly used to understand geophysical processes, in many cases replacing experiments or enabling experiments that are physically or logistically impossible. Increases in computing power have made computational tools widely applicable to large-scale problems in Earth and environmental sciences, while developments in uncertainty quantification and computer model calibration, validation and prediction have begun to target these applications. This session is intended to bring together statisticians interested in Earth, ocean and atmospheric sciences with geoscientists of all stripes interested in using computational models and physical data to make inferences about complex systems. We invite contributions that focus on (1) using computational models and physical data for parameter estimation and prediction in complex systems within Earth sciences; (2) quantifying uncertainty in projections made from geophysical models; (3) inference for multi-model ensembles; (4) geophysical problems that require or lend themselves to statistical/computational methods and (5) emergent research at the intersection of statistics and Earth sciences.

**Primary Affiliation:** Earth Surface Processes / Geophysics

## **ES14: Advances in Earth Surface Processes**

**Conveners:** Jaclyn Cockburn<sup>1</sup>, TBA

**Co-chairs:** Jaclyn Cockburn<sup>1</sup>, and TBA

<sup>1</sup> Geography Dept., University of Guelph, Guelph, ON, N1G 2W1

<sup>2</sup> Phone: 519-824-4120 ext 53498, E-mail: [jaclyn.cockburn@uoguelph.ca](mailto:jaclyn.cockburn@uoguelph.ca)

### **Session Description**

Earth Surface Processes are an important subdiscipline of geosciences. It addresses, past, present and future challenges within geosciences and includes the influence of human activities on the Earth's surface. We invite oral and poster contributions that focus on scientific results and/or their applications to exploring earth surface processes at regional, national and international scales and would be suitable for work that does not fit any approved specialist sessions.

**Primary Affiliation:** CGU / Earth Surface Processes / Geodesy / Hydrology / Solid Earth / Biogeosciences