

CR 4.1 Evolution of glacial-periglacial-paraglacial landscapes and debris-covered glaciers

Co-organized by GM7

Convener: Johannes Buckel^{ECS} | Co-conveners: Adina Racoviteanu, Evan Miles^{ECS}, Lindsey Nicholson, Tobias Bolch, Anne Voigtlander^{ECS}, Jasper Knight, Darren Jones

General structure:

- Please note that the order and number of presentations has been changed as some authors could not attend under the circumstances. At first all authors will present the abstracts **with displays**, afterwards the abstract without displays will be discussed. Please check the adjusted display schedule in the session description or in the uploaded session material.
- We will try to stick to the schedule and make sure the session doesn't end in some chaos!
- Convener will introduce the presenter by display #. Presenter who should then briefly introduce their display in a couple of sentences or bullet points. Thereafter, the stage is open for discussion. When the time is up we will move to the next presenter. Please consider using the comment function at the display pages for further discussion until the end of May.

First part of our session (Wednesday, 6 May 2020, 08:30–10:15 CEST)

Chairpersons: Johannes Buckel, Anne Voigtlander

We have 10 displays and 8 abstracts to discuss, respectively. The display will be presented first because a fixed attendance is confirmed by the authors.

We have 6 min per display including chat discussion

RUNNING ORDER OF DISPLAYS

08:30 – 08:34

Sign in and introduction to the session

08:35 – 08:41

D2498 | EGU2020-18360

Post-glacial dynamics of alpine Little Ice Age glacitectonized frozen landforms (Swiss Alps)

Julie Wee, Reynald Delaloye, and Chloé Barboux

08:41 – 08:47

D2499 | EGU2020-9509

Paraglacial adjustment of sediment-mantled slopes through landslide processes in the vicinity of the Austre Lovénbreen glacier (Ny-Ålesund, Svalbard)

Erik Kuschel, Christian Zangerl, Alexander Prokop, Eric Bernard, Florian Tolle, and Jean-Michel Friedt

08:47 – 08:53

D2502 | EGU2020-9201

Use of Convolution Neural Networks and Object Based Image Analysis for Automated Rock Glacier Mapping

Benjamin Aubrey Robson, Tobias Bolch, Shelley MacDonell, Daniel Hölbling, Philip Rastner, and Nicole Schaffer

08:53 – 08:59

D2507 | EGU2020-976

Structure and englacial debris content of a Himalayan debris-covered glacier revealed by an optical televiewer

Katie Miles, Bryn Hubbard, Duncan Quincey, Evan Miles, and Ann Rowan

08:59 – 09:05

D2509 | EGU2020-5057

Satellite remote sensing of ice cliff migration

Bas Altena and Andreas Kääb

09:05 – 09:11

D2511 | EGU2020-17912

Geomorphological mapping of an alpine rock glacier with multi-temporal UAV-based high density point cloud comparison

Francesca Bearzot, Roberto Garzonio, Biagio Di Mauro, Umberto Morra Di Cella, Edoardo Cremonese, Paolo Pogliotti, Paolo Frattini, Giovanni B. Crosta, Roberto Colombo, and Micol Rossini

09:11 – 09:17

D2512 | EGU2020-10373

60 years of rock glacier displacements and fluxes changes over Laurichard Rock glacier, French Alps.

Diego Cusicanqui, Antoine Rabatel, and Xavier Bodin

09:17 – 09:23

D2513 | EGU2020-1605

Creating a rock glacier inventory of the northern Nyainqêntanglha range (Tibetan Plateau) based on InSAR time-series analysis

Eike Reinosch, Johannes Buckel, Markus Gerke, Jussi Baade, and Björn Riedel

09:23 – 09:29 D2514 | EGU2020-8159

Pushing the limits of electrical resistivity tomography measurements on a rock glacier at 5500 m a.s.l. on the Tibetan Plateau: Successes and Challenges

Nora Krebs, Anne Voigtlander, Matthias Bücker, Andreas Hördt, Ruben Schroeckh, and Johannes Buckel

09:29 – 09:35 D2515 | EGU2020-7266

What makes a rock glacier? Insights into the structure and dynamics of an active rock glacier on the Tibetan Plateau

Johannes Buckel, Eike Reinosch, Nora Krebs, Anne Voigtlander, Michael Dietze, Ruben Schroeckh, Matthias Bücker, and Andreas Hördt

RUNNING ORDER OF ABSTRACTS (5 Min per display)

09:35 – 09:40

D2497 | EGU2020-19935

Geomorphic feedbacks on the moraine record

Leif Anderson and Dirk Scherler

09:40 – 09:45

D2501 | EGU2020-1065

Reconstruction of Early Holocene jokulhlaups along the Hvita River and Gullfoss waterfall, Iceland

Greta Wells, Þorsteinn Sæmundsson, Sheryl Luzzadder-Beach, Timothy Beach, and Andrew Dugmore

09:45 – 09:50

D2503 | EGU2020-12571

A landsystems approach to understanding the evolution of ice-cored topography and distribution of retrogressive thaw slumps, western Canadian Arctic

Peter Morse, Stephen Wolfe, and Steve Kokelj

09:50 – 09:55

D2504 | EGU2020-17710

Quantifying contemporary debris supply in a debris-covered glacier catchment using high-resolution repeat terrestrial LiDAR

Rebecca Stewart, Matthew Westoby, Stuart Dunning, Francesca Pellicciotti, and John Woodward

09:50 – 09:55

D2505 | EGU2020-382

Debris cover growth, ensuing changes in morphology and impact on glacier processes at Pensilungpa Glacier, western Himalaya, India

Purushottam Kumar Garg, Aparna Shukla, Vinit Kumar, and Manish Mehta

09:55 – 10:00

D2506 | EGU2020-10593

A comparison of the drainage systems of two High Asian debris-covered glaciers

Catriona Fyffe, Evan Miles, Marin Kneib, Reeju Shrestha, Rebecca Stewart, Stefan Fugger, Matthew Westoby, Thomas Shaw, Wei Yang, and Francesca Pellicciotti

10:00 – 10:05

D2508 | EGU2020-20006

Characteristics and interannual changes of ice cliffs on the debris-covered glaciers of HMA

Marin Kneib, Evan Miles, Pascal Buri, and Francesca Pellicciotti

10:05 – 10:10

D2510 | EGU2020-8475

Improving geomorphological process understanding of complex glacier surfaces using aerial robotics

Matt Westoby, David Rounce, Thomas Shaw, Catriona Fyffe, Peter Moore, Rebecca Stewart, and Ben Brock

10:10 – 10:15 Summary and open discussion

Second part (Wednesday, 6 May 2020, 10:45 – 12:30 CEST)

Chairperson: Adina E. Racoviteanu

We will discuss 9 displays and 8 abstracts.

RUNNING ORDER OF DISPLAYS (6 Min per display)

10:45 – 10:49

Sign in and introduction

10:49 – 10:55

D2516 | EGU2020-19637

Occurrence and characteristics of ice-debris landforms in Poiqu basin (central Himalaya)

Tobias Bolch, Philipp Rastner, Jan Bouke Pronk, Atanu Bhattacharya, Lin Liu, Yan Hu, Guoqing Zhang, and Tandong Yao

10:55 – 11:01

D2519 | EGU2020-5050

Pore water pressure dynamics in a rock slope adjacent to a retreating valley glacier

Marc Hugentobler, Simon Loew, and Clément Roques

11:01 – 11:07

D2521 | EGU2020-21253

Bedload dynamics in the rapidly changing paraglacial zone of a high alpine catchment

Clemens Hiller, Kay Helfricht, Gabriele Schwaizer, Severin Hohensinner, Kerstin Wegner, Florian Haas, and Stefan Achleitner

11:07 – 11:12

D2523 | EGU2020-19854

Ice thickness measurements of the debris covered Ngozumpa glacier, Nepal

Lindsey Nicholson, Fabien Maussion, Christoph Mayer, Hamish Pritchard, Astrid Lambrecht, Anna Wirbel, and Christoph Klug

11:12 – 11:18

D2525 | EGU2020-5954

The geomorphology of debris-covered Ponkar Glacier, Nepal

Neil Glasser, Adina Racoviteanu, Stephan Harrison, Matthew Peacey, Rakesh Kayastha, and Rijan Bhakta Kayastha

11:18 – 11:24

D2526 | EGU2020-22638

The debris cover surface of Ponkar glacier: a laboratory for learning

Adina E. Racoviteanu, Neil F. Glasser, Smriti Basnett, Rakesh Kayastha, and Stephan Harrison

11:24 – 11:30

D2528 | EGU2020-20062

Glaciological controls on the spatial variability of supraglacial debris extent and thickness in the eastern Himalayas

Karla Boxall and Ian Willis

11:30 – 11:36

D2532 | EGU2020-11290

Estimating the style and duration of former glaciation in the mountains of Britain and Ireland

Iestyn Barr, Jeremy Ely, Matteo Spagnolo, Ian Evans, and Matt Tomkins

11:36 – 11:42

D2534 | EGU2020-11220

Inland dune field and deposits at Dviete: evidences of the late Pleistocene aeolian morphogenesis and landscape evolution during transition from glacial to post-glacial conditions in South-eastern Latvia

Juris Soms and Zane Egle

RUNNING ORDER OF ABSTRACTS (5 Min per display)

11:42 – 11:47

D2517 | EGU2020-8967

Post-Little Ice Age retreat of glaciers triggered rapid paraglacial landscape transformation in Sørkapp Land (Spitsbergen)

Justyna Dudek and Mateusz Czesław Strzelecki

11:47 – 11:52

D2518 | EGU2020-17195

Paraglacial Cirque Headwall Instability - Regional Scale Assessment Of Preconditioning Factors

Andreas Ewald and Jan-Christoph Otto

11:52 – 11:57

D2522 | EGU2020-685

Linking glacial lake expansion with glacier dynamics: An assessment of the South Lhonak lake, Sikkim Himalaya

Saurabh Kaushik, Pawan Kumar Joshi, Tejpal Singh, and Anshuman Bhardwaj

11:57 – 12:02

D2527 | EGU2020-16328

The challenge of non-stationary feedbacks within the response of debris-covered glaciers to climate forcing

Anna Wirbel, Lindsey Nicholson, Christoph Mayer, and Astrid Lambrecht

12:02 – 12:07

D2529 | EGU2020-6650

Spatial distribution of debris cover and its impacts in the Hunza River Basin

Yong Zhang, Shiyin Liu, and Xin Wang

12:07 – 12:12

D2530 | EGU2020-11588

Carbon gas cycling in supraglacial debris covers

Ben Brock, Grace Brown, Paul Mann, and Stuart Dunning

12:12 – 12:17

D2531 | EGU2020-10825

A catastrophic Late Pleistocene debris flow sourced in the glaciated High Atlas of Morocco

Madeleine Hann, Jamie Woodward, Philip Hughes, and Edward Rhodes

12:17 – 12:22

D2533 | EGU2020-13381

Coastal morphodynamics in an Arctic fluvial-tidal transition zone in the deglaciated Dicksonfjord, Svalbard

Dohyeong Kim, Joohee Jo, and Kyungsik Choi

12:22 – 12:30

Open discussion / session summary