



## **IAG DENUCHANGE Annual Report 2021**

### ***Denudation and Environmental Changes in Different Morphoclimatic Zones***

#### **DENUCHANGE**

**<http://www.geomorph.org/denuchange-working-group/>**

The IAG Working Group DENUCHANGE (Denudation and Environmental Changes in Different Morphoclimatic Zones) was approved during the 9<sup>th</sup> International Conference on Geomorphology (9<sup>th</sup> ICG) in New Delhi, India, 6-11 November 2017, for a four-year period (2017-2021). This DENUCHANGE Annual Report 2021 informs about relevant DENUCHANGE activities and outputs since the previous DENUCHANGE Annual Report 2020 (25 March 2020).

#### **1. Activities since March 2020**

- DENUCHANGE scientific session *GM4.5 Pathways of water and sediment from source-to-sink under changing climate, anthropogenic impacts and other disturbances (co-sponsored by IAG)* at EGU 2020: Sharing Geoscience Online, 3-8 May 2020:  
<https://meetingorganizer.copernicus.org/egu2020/session/37493>
- Virtual DENUCHANGE business and planning meetings on 13 October 2020 and 11 February 2021 (summary reports below under 2. and 3.)
- Virtual DENUCHANGE Round Table during the International Geomorphology Week (1-7 March 2021) on 4 March 2021 (summary report below under 4.)

## 2. Summary report from the virtual DENUCHANGE business and planning meeting on 13 October 2020

*Business meeting participants:* Achim A. Beylich (Norway), Antonio Cendrero (Spain), Piotr Cienciala (USA), Luis M. Forte (Argentina), Jasper Knight (South Africa), Katja Laute (Norway), Małgorzata Mazurek (Poland), Ana Navas (Spain), Olimpiu T. Pop (Romania), Juan Remondo (Spain), Nurit Shtober-Zisu (Israel), Zbigniew Zwoliński (Poland)

### *Welcome and introduction of business meeting participants*

Achim A. Beylich opened the meeting and welcomed all business meeting participants, particularly the three new DENUCHANGE core group members Antonio Cendrero, Luis M. Forte and Juan Remondo. All meeting participants introduced themselves briefly.

### *Approval of the agenda*

Achim A. Beylich presented the meeting agenda. The meeting agenda was approved by the meeting participants.

### *Third DENUCHANGE Workshop, 2021, Haifa, Israel*

The Third DENUCHANGE Workshop was originally scheduled to take place 12-14 October 2020 in Haifa, Israel. Due to the ongoing COVID-19 pandemic the workshop was in early summer postponed until 2021. The workshop organizer Nurit Shtober-Zisu informed that the workshop shall take place as early as possible in 2021. The development of the global COVID-19 crisis is monitored and the decision on the new dates for the workshop will be taken as soon as the global situation will allow it. Information on the workshop and the connected field trips is available at the workshop webpage under <https://denuchange.wixsite.com/denuchange2020>

### *Upcoming DENUCHANGE publications*

Katja Laute informed about the status of the upcoming DENUCHANGE Virtual Special Issue (VSI) to the journal *Geomorphology* (Elsevier). The theme of the VSI is *Denudational processes and landscape responses to global environmental changes* and the VSI is edited by Katja Kaute (Managing Guest Editor), Ana Navas (Guest Editor) and Achim A. Beylich (overseeing Editor-in-Chief). The VSI includes selected paper contributions from the EGU General Assembly, 7-12 April 2019, Vienna, Austria, session GM7.2 on *Denudational hillslope and fluvial processes, sedimentary budgets, and landscape responses to global environmental changes*, from the Second IAG DENUCHANGE Workshop held in Calpe, Spain, 12-14 September 2019, and from the Session S04 on *Denudation in the Mediterranean Zone* at the IAG Regional Conference on Geomorphology in Athens, Greece, 19-21 September 2019. Eleven scientific papers are selected for the VSI after the peer-review process. The VSI also includes an editorial and an introductory paper on the IAG DENUCHANGE working group. The VSI is finally compiled in the end of October 2020.

Achim A. Beylich informed about the status of a Special Issue to the journal *Water*. The theme of this special issue is *Fluvial Processes and Denudation* and the special issue is edited by Achim A. Beylich.

The special issue shall include invited feature papers from several DENUCHANGE core members and members. The special issue is still open for manuscript submissions and the final deadline for submission of manuscripts to this special issue is *31 January 2021*.

#### *Upcoming and planned DENUCHANGE conference sessions*

Achim A. Beylich informed about the upcoming DENUCHANGE session at the EGU General Assembly, 25-30 April 2021. The topic of the session is *Denudational hillslope and fluvial processes, source-to-sink fluxes and sedimentary budgets under changing climate, anthropogenic impacts and other disturbances* and the session is convened by Achim A. Beylich, Katja Laute, Ana Navas, Olimpiu T. Pop and Zbigniew Zwoliński. The session is co-sponsored by IAG. Antonio Cendrero kindly accepted the invitation to provide a solicited talk in this session.

Achim A. Beylich informed about a proposed DENUCHANGE session at the 10<sup>th</sup> IAG International Conference on Geomorphology, 6-10 September 2021, Coimbra, Portugal. The scientific session on *Denudation and Environmental Changes in Different Morphoclimatic Zones (DENUCHANGE)* shall be convened by Achim A. Beylich, Luca Mao and Zbigniew Zwoliński.

Dependent on the question if the IAG Regional Conference on Geomorphology in Mashhad, Iran (originally scheduled to take place in October 2020 and postponed until 2021), can take place in 2021, the DENUCHANGE working group is planning to contribute to this conference (e.g., in form of a proposed conference session).

#### *DENUCHANGE Test Site Fact Sheets: Status and further steps*

Achim A. Beylich gave a detailed overview over the process of developing the DENUCHANGE Test Site Fact Sheets, the distribution of the DENUCHANGE Test Site Fact Sheets to the global community and the feedback received by today. Building on the DENUCHANGE Working Group Objective (defined, formulated and published on 20 November 2018), the DENUCHANGE Test Site Fact Sheets were developed to their current form during the Second DENUCHANGE Workshop in Calpe, Spain, 12-14 September 2019 (Fact Sheets Table 1 compiled by Achim A. Beylich and Fact Sheets Table 2 compiled by Joanna Gudowicz, Małgorzata Mazurek and Zbigniew Zwoliński) and were distributed to DENUCHANGE members and the global geomorphology community (through Geomorphlist) shortly after the workshop. The deadline for the submission of completed DENUCHANGE Test Site Fact Sheets was 30 September 2020. By today, completed and accepted DENUCHANGE Test Site Fact Sheets with catchment information and quantitative data from 18 catchment systems have been received. It was decided during the business meeting that the call for contributions to the DENUCHANGE Test Site Fact Sheets shall be renewed. Several DENUCHANGE core group members indicated during the meeting that they could contribute to the fact sheets with additional data. The current fact sheets include requests for information/data on both contemporary denudation rates and longer-term rates (e.g., based on information on natural or artificial storage elements/sediment sinks within the drainage basin systems). Jasper Knight suggested adding requests for other types of data on denudation (e.g., remote sensing data) to the existing fact sheets. Piotr Cieniala suggested adding a request for information on environmental change (kind of environmental changes; e.g., nature of climatic changes and the dominant types of land use) to the existing fact sheet data tables. Achim A. Beylich has made these additions to Table 1 of the current fact sheets and Zbigniew Zwoliński has revised (shortened) Table 2 of the fact sheets. Achim A. Beylich prepares an additional

call for contributions to the revised DENUCHANGE Test Site Fact Sheets with a due date in early February 2021.

#### *Further steps and directions with DENUCHANGE*

There was general agreement during the business meeting that DENUCHANGE (2017-2021) shall apply for a prolongation of the working group by four more years (2021-2025). The working group has significantly developed during the last three years and a number of new core group members have been integrated in the group during this time. The prolongation of the working group by four more years will give the opportunity to continue, further expand and finish the activities that have been started during the first three years (since 2017) of the working group.

Possible key outputs/products of the working group were suggested by Achim A. Beylich and discussed by the group, including a potential DENUCHANGE synthesis book (an invitation from Elsevier for a possible book project was received earlier this year), one or more DENUCHANGE synthesis paper(s) (being focussed on relevant scientific key issues related to the theme of the working group), and one or more review papers (e.g., review paper(s) being (partly) based on the material collected with the DENUCHANGE Test Site Fact Sheets (Tables 1 and 2) and being focussed on evaluating (e.g., modelling – SWAT, see Table 2) the key drivers of contemporary denudation and the effects of ongoing and accelerated environmental changes on contemporary denudation in different morphoclimatic settings – see also the defined DENUCHANGE Working Group Objective (see above) and DENUCHANGE Test Site Fact Sheets Tables 1 and 2).

The DENUCHANGE core group members were invited to provide feedback on how they could (in addition to their already ongoing activities and contributions) contribute with ideas and concrete actions to one or more of these possible DENUCHANGE key outputs/products. By today, comments and concrete suggestions for contributions have been formulated by Antonio Cendrero, Luis M. Forte, Juan Remondo, Małgorzata Mazurek, Zbigniew Zwoliński, Katja Laute, Piotr Cieniala and Jasper Knight.

Olimpiu T. Pop presented the idea of developing a possible funding proposal for a defined DENUCHANGE research project and evaluates the general possibilities for that.

#### *Next DENUCHANGE core group member business meeting*

The next DENUCHANGE core group member business meeting will take place as a virtual meeting in February 2021. Achim A. Beylich will invite to this meeting in December. The goal of this upcoming DENUCHANGE core member business meeting in February 2021 is to take further the discussions and to monitor concrete actions and progress. First preliminary outlines for three (or more) defined and multi-authored DENUCHANGE synthesis and/or review key papers will be presented and discussed during the business meeting.

### **3. Summary report from the virtual DENUCHANGE business and planning meeting on 11 February 2021**

*Business meeting participants:* Achim A. Beylich (Norway), Irene Bollati (Italy), Antonio Cendrero (Spain), Piotr Cienciala (USA), Francesco Comiti (Italy), Marta Della Seta (Italy), John C. Dixon (USA), Monique Fort (France), Daniel Germain (Canada), Małgorzata Kijowska-Strugala (Poland), Jasper Knight (South Africa), Waldemar Kociuba (Poland), Katja Laute (Norway), Dongfeng Li (Singapore), Luca Mao (UK), Małgorzata Mazurek (Poland), Ana Navas (Spain), Eliza Płaczkowska (Poland), Olimpiu T. Pop (Romania), Juan Remondo (Spain), Nurit Shtober-Zisu (Israel), Bruno Testa (Italy), Gianluca Tronti (Italy), Francesca Vergari (Italy), Zbigniew Zwoliński (Poland)

#### *Welcome and introduction of meeting participants*

Achim A. Beylich (Norway) opened the meeting and welcomed all business meeting participants. In total 25 participants from 12 different countries participated in the business meeting. All business meeting participants introduced themselves briefly.

#### *Approval of the business meeting agenda*

Achim A. Beylich presented the meeting agenda. The meeting agenda was approved by the meeting participants.

#### *Information from the IAG Council Meeting on 19 January 2021*

Achim A. Beylich informed about the relevant decisions taken during the virtual IAG Council Meeting on 19 January 2021. It was decided at the IAG Council Meeting that (i) the 10<sup>th</sup> International Conference on Geomorphology in Coimbra, Portugal is postponed to 12-16 September 2022, (ii) the Regional Conference on Geomorphology in Mashhad, Iran is postponed to spring 2022, (iii) the term of the current IAG Executive Committee is accordingly extended until September 2022, and (iv) the term of current IAG Working Groups is accordingly extended until September 2022.

The current term of IAG DENUCHANGE will therefore continue until September 2022.

#### *DENUCHANGE test site fact sheets: Outcome of the call for catchment data/information and information on forthcoming steps*

Achim A. Beylich provided a brief overview over the process of defining the DENUCHANGE working group objective (as a main output of the First DENUCHANGE Workshop held in Storkowo-Szczecinek,

Poland, 25-27 September 2018) and developing the DENUCHANGE test site fact sheets (as a main outcome of the Second DENUCHANGE Workshop held in Calpe, Spain, 12-14 September 2019). He presented a summary report on the outcome of the call for DENUCHANGE catchment data/information through DENUCHANGE test site fact sheets (Tables 1 and 2) being sent to all DENUCHANGE colleagues and distributed worldwide through Geomorph-list in the years 2019 and 2020.

By 19 February 2021, data and information for 27 defined DENUCHANGE test sites (catchment systems) have been received, including 27 test sites with Table 1 of the DENUCHANGE test site sheets being completed, 9 test sites with Table 2 of the DENUCHANGE test site sheets being completed and 13 test sites with Table 2 of the DENUCHANGE test site sheets being partly or “not yet” completed. Accepted DENUCHANGE test sites and test site fact sheets have been collected from Achim A. Beylich (Norway), Irene Bollati (Italy), Francesco Comiti (Italy), Małgorzata Kijowska-Strugala (Poland), Dongfeng Li (Singapore), Luca Mao (UK), Ana Navas (Spain), Eliza Placzowska (Poland), Olimpiu T. Pop (Romania), and Zbigniew Zwoliński (Poland). It is still possible to submit completed DENUCHANGE test site fact sheets to Achim A. Beylich ([achim.beylich@gmail.com](mailto:achim.beylich@gmail.com)). Responsible colleagues providing data and information from defined and accepted DENUCHANGE field test sites are invited to contribute with their data and information to multi-authored DENUCHANGE synthesis/review papers on (i) drivers of contemporary denudation rates in different morphoclimates (Beylich et al.) and (ii) the quantitative analysis of contemporary denudation using SWAT modelling (Gudowicz/Mazurek/Zwoliński et al.). In addition, it is planned that DENUCHANGE will offer a possible framework for the coordinated quantitative analysis of denudational processes (including the application of unified methods/techniques for selected measurements of denudational processes) at defined DENUCHANGE test sites where field measurements are still ongoing, have recently started or will start soon.

Irene Bollati (Italy) and Dongfeng Li (Singapore) provided brief introductions to their DENUCHANGE test sites in the western Italian Alps and the central Tibetan Plateau, China. More DENUCHANGE field test sites will be introduced during the virtual DENUCHANGE round table on 4 March 2021 (see below). During this virtual round table the discussions on the DENUCHANGE test sites and synthesis/review papers including data and information collected from these field test sites will be continued. Also the development of a DENUCHANGE field test site database will be discussed and initiated.

*DENUCHANGE synthesis/review papers: Presentation and discussion of initial manuscript outlines and preliminary manuscript drafts*

Antonio Cendrero (Spain) gave a presentation on the DENUCHANGE synthesis paper draft developed by him, Juan Remondo (Spain) and Luis Forte (Argentina). A first draft of this synthesis paper was sent by Antonio Cendrero to all DENUCHANGE colleagues on 13 January 2021 and first comments and contributions - e.g., from John C. Dixon (USA) - were received. The synthesis paper by Cendrero, Remondo, Forte et al. is dealing with the relative importance of climate change and anthropogenic activities for relevant increases of denudation detected during the Anthropocene in different regions. Also this DENUCHANGE synthesis paper is intended to become a multi-authored paper and contributions from all DENUCHANGE colleagues are invited. The paper draft by Cendrero, Remondo and Forte was discussed and an updated draft version of the synthesis paper will soon be sent to all DENUCHANGE colleagues for further commenting and further contributions. The discussions on this synthesis paper will also be continued during the virtual DENUCHANGE round table on 4 March 2021.

Jasper Knight (South Africa) circulated an outline (structure) for a possible DENUCHANGE synthesis paper on Denudation under global change in the Anthropocene to all DENUCHANGE colleagues on 20 January 2021.

*DENUCHANGE virtual round table on 4 March 2021, 15:00-17:00 CET*

The DENUCHANGE round table will be organized as a public virtual event on 4 March 2021, 15:00-17:00 CET. The round table is part of the International Geomorphology Week 2021 (<http://www.geomorph.org/international-geomorphology-week-2021/>) and will include discussions on (i) presented DENUCHANGE field test sites, field activities and measurements at these field sites, and planned synthesis/review papers including field data and information from DENUCHANGE field test sites, (ii) the DENUCHANGE synthesis paper by Cendrero, Remondo, Forte et al., and (iii) possible other DENUCHANGE synthesis or review papers.

All DENUCHANGE colleagues are invited to participate and contribute, together with external colleagues that are interested in this public virtual event. Achim A. Beylich has sent information on this virtual event during the International Geomorphology Week 2021 to IAG and will send invitations to this virtual event.

*Information on Special Issues*

Katja Laute (Norway) informed about the recently published DENUCHANGE Virtual Special Issue (VSI) on Denudational processes and landscape responses to global environmental changes (journal

Geomorphology). All relevant information on this VSI is available at

<https://www.sciencedirect.com/journal/geomorphology/special-issue/10P2X98DS2K>.

Achim A. Beylich (Norway) informed about a Special Issue on Fluvial Processes and Denudation (journal Water). This Special Issue includes a number of invited feature papers from DENUCHANGE members. For this Special Issue the deadline for submission of manuscripts is 30 June 2021 and all relevant information is found at

[https://www.mdpi.com/journal/water/special\\_issues/Fluvial\\_Processes\\_Denudation](https://www.mdpi.com/journal/water/special_issues/Fluvial_Processes_Denudation).

#### *Proposal for a possible extension of IAG DENUCHANGE*

DENUCHANGE has been running since 2017 and will continue until September 2022. A proposal for a possible extension of IAG DENUCHANGE for an additional four-year period (2022-2026) was suggested by Achim A. Beylich (Norway) and discussed within the group. There was general agreement among the DENUCHANGE colleagues that such a proposal should be prepared and submitted to the IAG Executive Committee in spring 2022.

#### *Development of an EC COST Action proposal related to IAG DENUCHANGE*

Olimpiu T. Pop (Romania) presented his idea to develop an EC COST Action proposal related to IAG DENUCHANGE and introduced relevant information for the preparation of such an EC COST Action proposal. He also distributed this information on the preparation of EC COST Action proposals to all DENUCHANGE colleagues. There was general agreement among the DENUCHANGE colleagues that a COST Action proposal is very useful and should be prepared. The next deadline for submission of 2021 EC COST Action proposals is 29 October 2021. The discussion on the coordination and preparation of the proposal will be taken further over the coming weeks.

#### *Third IAG DENUCHANGE Workshop, Haifa, Israel*

Nurit Shtober-Zisu (Israel) informed about her preparations of the Third DENUCHANGE Workshop that will take place in Haifa, Israel. Due to COVID-19 this Workshop, originally scheduled for October 2019, was postponed to 2021. A date for this physical workshop will be fixed as soon as the global COVID-19 situation will allow it. Detailed information on the workshop and the related field trips is available at the workshop webpage: <https://denuchange.wixsite.com/denuchange2020>.

#### *Other upcoming DENUCHANGE events*

Achim A. Beylich informed about (i) the upcoming (29 April 2021, 15:30-17:00) scientific session GM4.13 Denudation, land cover dynamics and sedimentary source-to-sink fluxes under changing



climate and anthropogenic impacts (co-organized by the IAG WG DENUCHANGE, co-sponsored by IAG, and including 20 accepted presentations with a solicited presentation by A. Cendrero, J. Remondo and L. Forte on Denudation, global change and the Anthropocene) at EGU 2021 (vEGU21 Gather Online, 19-30 April 2021, all session details can be found at <https://meetingorganizer.copernicus.org/EGU21/session/40271>), (ii) the IAG DENUCHANGE scientific session planned for the 10<sup>th</sup> IAG International Conference on Geomorphology, 12-16 September 2022, Coimbra, Portugal, and (iii) a planned IAG DENUCHANGE activity (conference session or working group meeting) at the IAG Regional Conference on Geomorphology, Mashhad, Iran, spring 2022.

#### *Next DENUCHANGE business meeting*

The next IAG DENUCHANGE business meeting will take place as a virtual meeting on 13 April 2021, 15:00-17:00 CEST. The ongoing discussions will be continued and taken further during this upcoming business meeting. Achim A. Beylich will invite to this virtual meeting in the end of March 2021.

#### **4. Summary report from the virtual DENUCHANGE Round Table on 4 March 2021**

##### *Public discussions on*

- Presented DENUCHANGE field test sites (catchment systems), field activities, field measurements, and catchment information and data from these field test sites. Selected field test sites are presented by Achim A. Beylich, Irene Bollati, Dongfeng Li, Luca Mao and Olimpiu T. Pop;
- The creation of a DENUCHANGE field test site database, field test site volume and video/multimedia presentation;
- Multi-authored DENUCHANGE synthesis papers led by (i) Achim A. Beylich and (ii) Joanna Gudowicz, Małgorzata Mazurek, Zbigniew Zwoliński (SWAT modelling) on drivers of contemporary denudation rates in different morphoclimates including field data and information from DENUCHANGE field test sites;
- The multi-authored DENUCHANGE synthesis paper on *Denudation, global change and the Anthropocene* led by Antonio Cendrero, Juan Remondo and Luis Forte;
- Possible other DENUCHANGE synthesis or review papers prepared by the group.

##### *Meeting summary*

The IAG DENUCHANGE Virtual Round Table included a range of presentations and in-depth discussions. In total 23 scientists from 12 different countries participated in this virtual event.

Selected DENUCHANGE field test sites were presented by Achim A. Beylich (field test sites Erdalen, Bødalen and Upper Driva in Norway), Irene Bollati (field test site Alpe Veglia in Italy), Dongfeng Li (field test site Tuotuohe headwater of the Yangtze river in China), Luca Mao (field test site Estero Morales basin in Chile) and Olimpiu T. Pop (field test site Neagra catchment in Romania). The presented field sites showed examples of DENUCHANGE field test sites with existing (longer-term) data records on denudational processes (Erdalen, Bødalen, Tuotuohe headwater, Estero Morales basin) and field test sites that are either in an early stage of field measurements or where field studies on denudation are just starting (Upper Driva, Alpe Veglia, Neagra catchment).

By 6 March 2021 the following 30 DENUCHANGE field test sites have been accepted and included in the DENUCHANGE field test site network:

Alpe Veglia (Italy), Austdalur (Iceland), Hrafndalur (Iceland), Bødalen (Norway), Erdalen (Norway), Bystrzanka catchment (Poland), Chwalimski Brook catchment (Poland), Młyński Brook catchment (Poland), Upper Parsęta catchment (Poland), Parsęta drainage basin (Poland), Djankuat (Russia), Estaña catchment (Spain), Barués catchment (Spain), Barasona catchment (Spain), Estero Morales basin (Chile), Homla (Norway), Kidisjoki (Finland), Latnjavagge (Sweden), Mascarat (Spain), Quisi and Pou Roig (Spain), Neagra catchment (Romania), Selbusjøen drainage basin (Norway), Sulden/Solda river basin (Italy), Roasco d'Eita River (upper Grosina Valley) (Italy), Upper Orcia River Basin (Italy), Tuotuohe headwater of Yangtze River (China), Upper Driva (Norway), Upper Chochołowski Stream catchment (Poland), Chochołowski Stream catchment (Poland), Starorobaciański Stream (Poland)

All colleagues that participate with defined and accepted DENUCHANGE field test sites will be invited to include their submitted information and to provide further material for the creation of a DENUCHANGE field test site database, a field test site volume and a video/multimedia presentation of DENUCHANGE field test sites.

It is still possible to submit completed DENUCHANGE field test site fact sheets to Achim A. Beylich ([achim.beylich@gmail.com](mailto:achim.beylich@gmail.com)). Please submit your (additional) field test site fact sheets by 31 March 2021. Detailed information on the planned DENUCHANGE field test site database, field test site volume and video/multimedia presentation will be provided during the next IAG DENUCHANGE business meeting on 13 April 2021.

Colleagues that are contributing with defined and accepted DENUCHANGE field test sites are invited to participate with their catchment information and data in multi-authored DENUCHANGE synthesis/review papers led by (i) Achim A. Beylich (Drivers and rates of denudation in different morphoclimates) and by (ii) Joanna Gudowicz, Małgorzata Mazurek, Zbigniew Zwoliński (Results of the application of SWAT modelling to the analysis of contemporary denudation rates in the 11 DENUCHANGE field test sites (catchments) that are providing the data that are required for SWAT modelling; The use of SWAT modelling to analyze the impact of climate change on contemporary denudation rates in these 11 DENUCHANGE field test sites / catchments).

The colleagues that have submitted their completed DENUCHANGE test site fact sheets will be contacted by Joanna Gudowicz (two multi-authored synthesis papers including SWAT modelling with data from 11 DENUCHANGE field test sites) and Achim A. Beylich (multi-authored synthesis paper including catchment information and data from the 30 DENUCHANGE field test sites) soon.

A new draft of the multi-authored DENUCHANGE synthesis paper on *Denudation, global change and the Anthropocene* led by Antonio Cendrero, Juan Remondo and Luis Forte was presented and

discussed during the meeting. An updated draft of this DENUCHANGE synthesis paper and a call for further comments and inputs to this synthesis paper will be circulated by Antonio Cendrero soon.

Suggestions for additional DENUCHANGE synthesis or review papers are welcome.

The next IAG DENUCHANGE business meeting will take place on 13 April 2021, 15:00-17:00 CEST. The ongoing discussions and activities will be continued during this upcoming virtual business meeting. Achim A. Beylich will invite to this virtual business meeting in the end of March.

Further information on the IAG Working Group on Denudation and Environmental Changes in Different Morphoclimatic Zones (DENUCHANGE) is found at the DENUCHANGE website under <http://www.geomorph.org/denuchange-working-group/>.

Selbustrand (Norway), 24 March 2021

Achim A. Beylich

Chair of IAG DENUCHANGE