



The I.A.G. / A.I.G. Working Group DENUCHANGE (2017-2021): Denudation and Environmental Changes in Different Morphoclimatic Zones

Achim A. Beylich (1), Luca Mao (2), and Zbigniew Zwolinski (3)

(1) Geomorphological Field Laboratory (GFL), Selbustrand / Trondheim, Norway (achim.beylich@gmail.com), (2) Department of Ecosystems and Environments, Pontificia Universidad Catolica de Chile, Santiago, Chile, (3) Department of Geoinformation, Institute of Geocology & Geoinformation, Adam Mickiewicz University, Poznan, Poland

There is a general agreement that global environmental changes will have significant effects on Earth surface systems. The question on how global environmental changes will affect our landscapes and the way we will interact with it is therefore of the highest importance. Denudation, driven by both chemical and mechanical processes, is of high relevance for Earth surface and landscape development and the transfer of solutes and sediments from headwater systems through main stem of drainage basin systems to the world oceans. Denudation is controlled by a range of environmental drivers and can be significantly affected by human activity.

A better understanding of possible effects of ongoing and accelerated environmental changes on present-day denudation systems requires systematic and quantitative studies (including monitoring) on the actual drivers of denudational processes in differentiated landscape controls. Only if we improve our current knowledge of drivers, mechanisms and rates of contemporary denudational surface processes across a range of different selected climatic environments, possible effects of global environmental changes on denudation can be better assessed. Special focus must be given to selected morphoclimatic zones that react particularly sensitive to ongoing climatic changes and human activities, especially in extreme zones like polar or dry hot ones.

Environmental drivers and rates of solute and solid fluxes in largely undisturbed cold climate environments have been analyzed in the I.A.G./A.I.G. Working Group SEDIBUD (2005-2017). However, a systematic geomorphologic comparison of present-day denudation rates in different defined climatic zones combined with a coordinated analysis and compilation of the respective key controls of denudation that is presently occurring in the different selected morphoclimatic settings is still largely missing and urgently needed.

The new I.A.G./A.I.G. Working Group on Denudation and Environmental Changes in Different Morphoclimatic Zones (DENUCHANGE) (2017-2021) can help to close this still existing key knowledge gap and shall contribute to a better understanding of the possible effects of global environmental changes on contemporary metamorphosis of the Earth surface systems.

The Steering Committee and initial Core Group members of DENUCHANGE include scientists from seven different countries: Achim A. Beylich (Norway) (Chair), Piotr Cienciala (USA), Marta Della Seta (Italy), John C. Dixon (USA), Joanna Gudowicz (Poland), Jasper Knight (South Africa), Katja Laute (Norway), Luca Mao (Chile) (Co-Chair), Malgorzata Mazurek (Poland), David Morche (Germany), Zbigniew Zwolinski (Poland) (Co-Chair). More information on I.A.G./A.I.G. DENUCHANGE is found at <http://www.geomorph.org/denuchange-working-group/>.