I.A.G./A.I.G. SEDIBUD Annual Report for 2006

(by Achim A. Beylich, January 2007)

I.A.G./A.I.G. SEDIBUD
Sediment Budgets in Cold Environments

Chair:

Assoc. Professor Achim A. Beylich (Trondheim, Norway)

Vice-Chair:

Assoc. Professor Scott Lamoureux (Kingston, Canada)

Secretary:

Dr. Armelle Decaulne (Clermont-Ferrand, France)

Core Members:

Professor John C. Dixon (USA)

Professor Brigitta Erschbamer (Austria)

Dr. Samuel Etienne (France)

Professor Bernd Etzelmüller (Norway)

Dr. Vyacheslav V. Gordeev (Russia)

Professor Jukka Käyhkö (Finland)

PhD student Hugues Lantuit (Germany)

Professor Ulf Molau (Sweden)

Dr. John F. Orwin (New Zealand)

Dr. Andrew J. Russell (UK)

Professor Karl-Heinz Schmidt (Germany)

Dr. Þorsteinn Sæmundsson (Iceland)
Dr. Ola M. Sæther (Norway)
Dr. Fiona S. Tweed (UK)
Dr. Jeff Warburton (UK)
Professor Xiaoping Yang (China)

Invited External Experts:
Professor Nel Caine (USA)
Professor Lothar Schrott (Austria)

Contact Person

Assoc. Professor Achim A. Beylich
Geological Survey of Norway (NGU)
Landscape & Climate Group
Leiv Eirikssons vei 39
N-7491 Trondheim, NORWAY
Email: Achim.Beylich@ngu.no
Phone: ++47 73 90 4117
Fax: ++47 73 92 1620
http://www.ngu.no/landscape
&
Department of Geography
Norwegian University of Science and Technology (NTNU)
Dragvoll
N-7491 Trondheim, NORWAY
http://www.svt.ntnu.no/geo/eng

Activities for the year to date and int ended main output for the group

Polar and mountainous regions are among the most sensitive regions to climate change. The ESF SEDIFLUX Network (2004-2006) (http://www.ngu.no/sediflux) has been analysing the impact of climate change on landforms in high-latitude and high-altitude cold environments, via the mobilisation, movement and deposition of sediments by slope processes, rivers, glaciers, coastal processes and wind.

SEDIFLUX has over the last years evolved into a coordinated multidisciplinary and multinational effort to monitor the changing structure of landforms in cold environments and has led to a series of coordinated research initiatives. The efforts conducted within the SEDIFLUX network were urgently needed, given the critical importance of studying the impact of projected climate change on the land structure of such sensitive cold environments. There is especially strong synergy with the International Tundra Experiment (ITEX), whose focus is to determine the relationship between changing climate and circumpolar plant species. The impact of climate on plant species would be mediated partly through changes in land structure brought about by sediment transfers. SEDIFLUX has established a sustainable framework for long-term research to coordinate multinational, interdisciplinary monitoring networks, a first in the field of geomorphology. SEDIFLUX is now providing the basis for further research. One of the major outcomes produced by the SEDIFLUX group will be the SEDIFLUX Manual, which will provide guidelines and protocols for monitoring and sediment budget studies in key cold environment key test catchments worldwide. These long-term monitoring campaigns will apply unified approaches and standardized methods to generate comparable datasets from different cold environments for the development of the SEDIBUD metadata database and for modelling the impact of climate change on sediment transfers and sediment budgets. SEDIFLUX (2004 – 2006) will continue and be extended through the I.A.G./A.I.G. SEDIBUD programme (http://www.geomorph.org/wg/wgsb.html) which was formally started with an initial kick-off meeting at the Third SEDIFLUX Science Meeting in Durham, UK, December 16th – 19th, 2005. All SEDIFLUX members – more than 300 scientists from 35 countries worldwide - will participate in the SEDIBUD programme. The first SEDIBUD Workshop was held jointly with the Fourth ESF SEDIFLUX Science Meeting, in Trondheim, Norway, October 29th – November 02nd, 2006 (http://www.ngu.no/sediflux/sciencemeeting_index.html). With the experience gained from SEDIFLUX and the scientific products from SEDIFLUX we now have within SEDIBUD the framework to carry out major multidisciplinary research into the impact of climate change on sediment budgets in sensitive high-latitude and high-altitude cold environments.

SEDIBUD

Participants of the First I.A.G./A.I.G. SEDIBUD Workshop in Trondheim, Norway, October 29th – November 02nd, 2006

Statement on how Euro 500 was used in 2006

The amount of 500 € provided by I.A.G./A.I.G. for the year 2006 was used for the organisation of the First I.A.G./A.I.G. SEDIBUD Workshop in Trondheim (NGU), Norway, October 29th – November 02nd, 2006.

Plans for 2007

Meetings:

- SEDIBUD Planning Meeting in Trondheim (NGU), Norway, March 28th-April 01st, 2007 (Participants: Achim A. Beylich, Scott Lamoureux, Armelle Decaulne)
- Proposed Thematic Session on *Sediment fluxes and sediment budgets in changing polar and alpine environments – Session supported by I.A.G./A.I.G. SEDIBUD* at the Second Nordic Geographers Meeting in Bergen, Norway, June 15th – 17th, 2007 (http://www.uib.no/ngm)
- SEDIBUD Seminar on *Sediment Budgets in Permafrost Regions* at the I.A.G./A.I.G. Regional Conference on Geomorphology – Geodiversity of polar landforms – in Longyearbyen, Spitsbergen, August 2-5, 2007 (see: http://www.geomorph.org)
- Second SEDIBUD Workshop, Abisko, Sweden, September 15th-19th, 2007 (http://www.geomorph.org/wg/wgsb.html)

Dissemination:

- SEDIBUD Newsletters 2007 A – 2007 C
- Further development and frequent updating of the I.A.G./A.I.G. SEDIBUD website (http://www.geomorph.org/wg/wgsb.html)

Key Activities:

- Further definition and development of the relevant *Science Questions* to be addressed within SEDIBUD

- Finalization of the SEDIFLUX Manual (First Edition)
- Publication of Special Issues (Norsk Geografisk Tidsskrift-Norwegian Journal of Geography and Zeitschrift für Geomorphologie) arising from the Fourth SEDIFLUX and First SEDIBUD Workshop in Trondheim, Norway, October 29th – November 02nd, 2006
- Selection of 30 – 40 globally distributed SEDIBUD Key Test Sites for long-term monitoring/investigations – following guidelines and protocols given in the SEDIFLUX Manual (selection will be based on proposals submitted by SEDIFLUX/SEDIBUD Members)
- Start of the development (concept) of the SEDIBUD Metadata Database, which will contain comparable datasets from different cold environments worldwide for modelling of the impact of projected climate change on sediment transfers and sediment budgets