

# **SEDIBUD Annual Report 2012**

**I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments)**

<http://www.geomorph.org/wg/wgsb.html>

## **Main SEDIBUD Activities in 2012**

### ***Seventh SEDIBUD Workshop and SEDIBUD Summer School, Trondheim and Loen, Norway, September 10-17, 2012***

The Seventh SEDIBUD Workshop with the theme "*Towards an integrated analysis of environmental drivers and rates of contemporary solute and sedimentary fluxes in changing cold climate environments – From coordinated field data generation to integration and modeling*" was held in Trondheim, Norway. The workshop was combined with a Summer School for doctoral students held in Loen, Norway, which had the theme "*Quantitative analysis of geomorphologic processes: Field methods, experimental techniques and modeling*".

The 30 participants came from 10 different countries and provided 33 presentations including scientific talks, posters and summer school lectures. The workshop and summer school programme, all accepted abstracts, field guides for the arranged excursions in Loen (Nordfjord, western Norway) and a SEDIBUD synthesis paper

*Beylich, A.A.: Major controls of mass transfers and relief development in four cold-climate catchment systems in Eastern Iceland, Swedish Lapland and Finnish Lapland*

are published in

*Beylich, A.A. & K. Laute (Eds.) (2012): Seventh I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) Workshop Towards an integrated analysis of environmental drivers and rates of contemporary solute and sedimentary fluxes in changing cold climate environments – From coordinated field data generation to integration and modeling and SEDIBUD Summer School Quantitative analysis of geomorphologic processes: Field methods, experimental techniques and modeling. September 10 – 17, 2012, Trondheim and Loen, Norway. NGF Abstracts and Proceedings of the Geological Society of Norway, 1. 160pp.*

Detailed information on the *Workshop and Summer School objective and programme* and the *Minutes of the SEDIBUD Steering Committee Meeting* held on September 12, 2012 in Trondheim are available on the SEDIBUD website under <http://www.geomorph.org/wg/wgsb.html>.

### **Defined SEDIBUD Key Tasks**

The following SEDIBUD key tasks for the coming years were defined:

- The continued generation and compilation of comparable longer-term datasets on contemporary sedimentary fluxes and sediment yields from SEDIBUD key test sites worldwide,
- The continued extension of the SEDIBUD metadata database with these datasets,
- The testing of defined SEDIBUD hypotheses by using datasets continuously compiled in the SEDIBUD metadata database,
- The publishing of a SEDIBUD book: *SEDIBUD Synthesis Book* including chapters integrating scientific work of SEDIBUD members and integrating generated data sets on contemporary geomorphic process rates from defined SEDIBUD key test sites (see *call for annual data from SEDIBUD key test sites* from November 14, 2011).

### **SEDIBUD Website**

The SEDIBUD website at <http://www.geomorph.org/wg/wgsb.html> is frequently updated and contains all relevant SEDIBUD documents and materials as well as detailed information on activities and achievements (SEDIBUD workshops and conference sessions, SEDIBUD presentations, list of SEDIBUD key test sites (44 SEDIBUD key test sites by January 2013), SEDIBUD key test site database (by January 2013), SEDIBUD publications (by January 2013), SEDIBUD annual reports, etc.) of the SEDIBUD group.

## SEDIBUD Publications, Reports and Materials (by January 2013)

The SEDIBUD publications, reports and materials reflect activities from 2005 until today and include (i) overview papers and overview abstracts, (ii) meeting reports, (iii) abstract volumes, (iv) journal special issues arising from SEDIBUD workshops and conference sessions, (v) synthesis papers and book chapters, and (vi) data bases and other online documents.

**Beylich, A.A. (Ed.) (2006):** Fourth ESF SEDIFLUX Science Meeting & First Workshop of I.A.G. / A.I.G. SEDIBUD: Source-to-Sink-Fluxes and Sediment Budgets in Cold Environments. October 29 – November 2, 2006. Trondheim, Norway. *NGF Abstracts and Proceedings of the Geological Society of Norway*, **4**, 2006. 85pp.

**Beylich, A.A. (Ed.) (2006):** Fourth ESF SEDIFLUX Science Meeting & First Workshop of I.A.G. / A.I.G. SEDIBUD. *NGU Report 2006.069*. 85pp.

**Beylich, A.A. (2008):** Sediment Budgets in Cold Environments. Editorial. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, **62**(2): 49.

**Beylich, A.A. (Ed.) (2008):** Sediment Budgets in Cold Environments. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, **62**(2).

**Beylich, A.A. (2008):** Sediment budgets in cold environments: The global SEDIBUD programme. *33<sup>rd</sup> International Geological Congress 2008, Oslo, Norway. Abstracts*.

**Beylich, A.A. (2010):** The global SEDIBUD (Sediment Budgets in Cold Environments) Programme: Coordinated studies of sedimentary fluxes and budgets in changing cold climate environments. *The Open Geology Journal*, **2010**, **4**: 59-61.

**Beylich, A.A. (2012):** Major controls of mass transfers and relief development in four cold - climate catchment systems in Eastern Iceland, Swedish Lapland and Finnish Lapland (Synthesis Paper). *NGF Abstracts and Proceedings of the Geological Society of Norway*, **1**: 87-123.

**Beylich, A.A. (2013):** Coordinated and integrated geomorphologic analysis of mass transfers in cold climate environments – The SEDIBUD (Sediment Budgets in Cold Environments) Programme. *Chapter in: Mass Transfer, INTECH Book Publication*.

**Beylich, A.A. and the SEDIBUD Team (2006):** The I.A.G. / A.I.G. Working Group SEDIBUD – Sediment Budgets in Cold Environments: Introduction and Overview. *NGF Abstracts and Proceedings of the Geological Society of Norway*, **4**: 26-27.

**Beylich, A.A. and the SEDIBUD Team (2008):** The global SEDIBUD program: Sediment budgets in cold environments. *Náttúrustofa Norðurlands vestra NNV-2008-002, April 2008: 79-80.*

**Beylich, A.A. and the SEDIBUD Team (2006):** The I.A.G. / A.I.G. Working Group SEDIBUD – Sediment Budgets in Cold Environments: Introduction and Overview. *NGU Report 2006.069: 26-27.*

**Beylich A.A. and the SEDIBUD Team (2008):** Sediment Budgets in Cold Environments: The global SEDIBUD programme. *3. Mitteleuropäische Geomorphologietagung, Salzburg, 23.-28.09.2008. Abstracts.*

**Beylich, A.A. and the SEDIBUD Team (2009):** Sediment Budgets in Cold Environments – the SEDIBUD programme. *NGF Abstracts and Proceedings, 1, 2009: 8-9.*

**Beylich, A.A. and the SEDIBUD Team (2009):** Quantitative analysis of sediment budgets in cold environments: The global SEDIBUD programme. *Geophysical Research Abstracts, Vol. 11, EGU2009, 2009.*

**Beylich, A.A. and the SEDIBUD Team (2009):** Sediment Budgets in Cold Environments – The SEDIBUD Programme. *Turku University Department of Geography Publications B 14: 192.*

**Beylich, A.A. and the SEDIBUD Team (2010):** The global I.A.G. / A.I.G. Sediment Budgets in Cold Environments (SEDIBUD) Programme: Coordinated analysis and quantification of sedimentary fluxes and budgets in changing cold environments. *NNV-2010-007, September 2010: 18-19.*

**Beylich, A.A. and the SEDIBUD Team (2012):** The SEDIBUD (Sediment Budgets in Cold Environments Programme: Ongoing activities and relevant tasks for the coming years. *Workshop zur Hydro – Klimatologie von Gebirgsräumen. 1. und 2. März 2012, UFS Schneefernerhaus. Abstracts.*

**Beylich, A.A., Decaulne, A., Dixon, J.C., Lamoureux, S.F., Orwin, J.F., Otto, J.-Ch., Overeem, I., Sæmundsson, Th., Warburton, J. & Z. Zwolinski (2012):** The global I.A.G. / A.I.G. Sediment Budgets in Cold Environments (SEDIBUD) Programme: Coordinated efforts to quantify sedimentary fluxes and budgets in changing cold environments. *Zeitschrift für Geomorphologie N.F., 56, Supplementary Issue 1: 3-8.*

**Beylich, A.A., Decaulne, A. & S.F. Lamoureux (Eds.) (2012):** Sedimentary fluxes and budgets in natural and anthropogenically modified landscapes – Effects of climate change and land-use change on geomorphic processes. *Geomorphology, 167-168.*

**Beylich, A.A., Decaulne, A. & S.F. Lamoureux (2012):** Sedimentary fluxes and budgets in natural and anthropogenically modified landscapes – Effects of climate change and land-use change on geomorphic processes. Editorial. *Geomorphology*, **167-168**: 1.

**Beylich, A.A., Gärtner-Roer, I., Decaulne, A. & D. Morche (Eds.) (in review):** Sediment Flux and Sediment budget Studies in Cold Environments: New Approaches and Techniques. *Geomorphology, special issue*.

**Beylich, A.A. & S.F. Lamoureux (Eds.) (2010):** Sedimentary Fluxes and Budgets in Changing Cold Environments: Quantitative Analysis and Scaling Issues. *Geografiska Annaler, A. Special Issue 92A* (2).

**Beylich, A.A. & S.F. Lamoureux (2010):** The Third Workshop of the I.A.G. / A.I.G. SEDIBUD Programme – Sediment Budgets in Cold Environments: Sediment Fluxes and Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments. Editorial. *Geografiska Annaler*, **92A** (2): 149-150.

**Beylich, A.A. & S.F. Lamoureux (2010):** Coordinated analysis and quantification of sedimentary fluxes and budgets in cold environments: The SEDIBUD Programme. *Geophysical Research Abstracts*, Vol. **12**, EGU2010-1212, 2010.

**Beylich, A.A. & S.F. Lamoureux (2010):** The Global SEDIBUD Programme: Coordinated Study and Quantification of Sedimentary Fluxes and Budgets in Changing Cold Climate Environments. *International Polar Year Oslo Science Conference, Polar Science – Global Impact, 8-12 June 2010*. Oral Presentation, Conference Abstracts.

**Beylich, A.A. & S.F. Lamoureux (2011):** Sedimentary fluxes and budgets in cold climate environments: The SEDIBUD (Sediment budgets in cold environments) Programme. *Geophysical Research Abstracts*, Vol. **13**, EGU2011-1033, 2011.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2007):** Coordinated quantitative studies on sediment fluxes and sediment budgets in changing cold environments – examples from three SEDIBUD key test areas in Canada, Iceland and Norway. *Landform Analysis*, Vol. **5**: 11-12.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2007):** Sediment fluxes and sediment budgets in changing cold environments – examples from coordinated quantitative studies in three SEDIBUD key test areas in Canada, Iceland and Norway. *NGU Report*, **2007.052**: 26-27.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (Eds.) (2007):** Second Workshop of I.A.G. / A.I.G. SEDIBUD – Sediment Budgets in Cold Environments: Sediment Fluxes and Sediment Budgets in Changing High-Latitude & High-Altitude Cold Environments. *NGU Report*, **2007.052**. 57pp.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2008):** SEDIBUD – Sediment budgets in cold environments: Introduction. *Zeitschrift für Geomorphologie N.F.*, **52** (1): 1-2.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2008):** Quantitative analysis of source-to-sink-fluxes and sediment budgets in changing cold environments – the global SEDIBUD program. *Geophysical Research Abstracts*, Vol. **10**, EGU2008-A-01652, 2008.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2008):** The global I.A.G./A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) programme: Introduction and overview. *Norsk Geografisk Tidsskrift -Norwegian Journal of Geography*, **62**(2): 50-51.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (Eds.) (2008):** Third I.A.G. / A.I.G. SEDIBUD Workshop, Boulder, U.S.A.: Sediment Fluxes and Sediment budgets in Changing High-Latitude and High-Altitude Cold Environments. *NGU Report*, **2008.058**: 41pp.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (Eds.) (2009):** Special Section – Including Selected Presentations from the Second SEDIBUD Workshop, Abisko, Sweden, September 2007. *Arctic, Antarctic and Alpine Research*, **41**(1): 1-87.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2009):** Sediment budgets in cold environments – The SEDIBUD Program. Introduction. *Arctic, Antarctic and Alpine Research*, **41**(1): 1-2.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2011):** Developing frameworks for studies on sedimentary fluxes and budgets in changing cold environments. *Quaestiones Geographicae*, **30**(1): 5-18.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2009):** Quantitative analysis of sediment budgets in cold environments: The I.A.G./A.I.G. SEDIBUD programme. *7<sup>th</sup> International Conference on Geomorphology, 6 – 11 July 2009, Melbourne, Australia. Conference Abstracts*.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (Eds.) (2009):** Fourth I.A.G. / A.I.G. SEDIBUD Workshop, Kingston, Ontario, Canada: Quantitative analysis of sedimentary fluxes and budgets in changing cold environments: Scaling issues, new techniques, modelling and data management. *NGU Report* **2009.050**. 41pp.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2011):** The SEDIBUD (Sediment Budgets in Cold Environments) Programme: Overview of ongoing activities and relevant tasks for the coming years. *Sixth SEDIBUD Workshop, Zakopane, Poland. Abstract Volume*: 7-9.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2012):** The SEDIBUD (Sediment Budgets in Cold Environments) Programme: Ongoing activities and selected key tasks for the coming years. *Geomorphology*, **167-168**: 2-3.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2012):** The SEDIBUD (Sediment Budgets in Cold Environments) Programme: Overview of ongoing activities and relevant tasks for the coming years. *IPY Conference 2012, Montreal*. Abstracts.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2012):** The SEDIBUD (Sediment Budgets in Cold Environments) Programme: Current activities and future key tasks: *Geophysical Research Abstracts*, Vol. **14**, EGU2012.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2012):** The I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) Programme: Ongoing activities and selected tasks for the coming years. *BSG Annual Conference 2012, Nottingham, UK*. Abstracts: 60.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2012):** Towards a coordinated and integrated analysis of environmental drivers and rates of contemporary solute and sedimentary fluxes in changing cold climate environments – the SEDIBUD Programme as an approach. *NGF Abstracts and Proceedings of the Geological Society of Norway*, **1**: 17-20.

**Beylich, A.A., Lamoureux, S.F. & A. Decaulne (2013):** The I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) Programme: Scientific key issues and future tasks. *8<sup>th</sup> IAG International Conference on Geomorphology, Paris, 27 – 31 August 2013*. Abstracts.

**Beylich, A.A., Lamoureux, S.F., & A. Decaulne (2013):** The I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) Programme: Current and future activities. *Geophysical Research Abstracts*, Vol. **15**, EGU2013.

**Beylich, A.A., Lamoureux, S.F., Decaulne, A., Dixon, J.C., Orwin, J.F., Otto, J.-Ch., Overeem, I., Sæmundsson, Th., Warburton, J. & Z. Zwolinski (2009):** Sediment Budgets in Cold Environments: The I.A.G./A.I.G. SEDIBUD programme. *NGU Report 2009.050*: 20-21.

**Beylich, A.A., Lamoureux, S.F., Decaulne, A., Dixon, J.C., Orwin, J.F., Otto, J.-Ch., Overeem, I., Sæmundsson, Th., Warburton, J. & Z. Zwolinski (2010):** Sedimentary fluxes and budgets in changing cold environments: The global I.A.G. / A.I.G. Sediment Budgets in Cold Environments (SEDIBUD) Programme. *Geografiska Annaler*, **92A** (2): 151-153.

**Beylich, A.A., Lamoureux, S.F., Decaulne, A., Dixon, J.C., Orwin, J.F., Overeem, I., Sæmundsson, P., Warburton, J. & Z. Zwolinski (2008):** Sediment Budgets in

Cold Environments: The I.A.G. / A.I.G. SEDIBUD programme. *NGU Report*, **2008.058**: 19-20

**Beylich, A.A., Lamoureux, S.F., Decaulne, A., Dixon, J.C. & Z. Zwolinski (2011):** SEDIBUD Objective. <http://www.geomorph.org/wg/wgsb.html> (October 26, 2011).

**Beylich, A.A. & K. Laute (Eds.) (2012):** Seventh I.A.G. / A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) Workshop *Towards an integrated analysis of environmental drivers and rates of contemporary solute and sedimentary fluxes in changing cold climate environments – From coordinated field data generation to integration and modelling* and SEDIBUD Summer School *Quantitative analysis of geomorphologic processes: Field methods, experimental techniques and modelling*. *NGF Abstracts and Proceedings of the Geological Society of Norway*, **1**. 160pp.

**Beylich, A.A. & K.-H. Schmidt (Eds.) (2008):** Sedimentary source-to-sink-fluxes and sediment budgets in changing cold environments. *Zeitschrift für Geomorphologie N.F.*, **52** (1).

**Beylich A.A. & J. Warburton (Eds.) (2007):** Analysis of Source-to-Sink-Fluxes and Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments. SEDIFLUX Manual. First Edition. *NGU Report*, **2007.053**. 158pp.

**Beylich, A.A. & Z. Zwolinski (Eds.) (2012):** Hydrogeomorphological processes in catchment geoecosystems. *Zeitschrift für Geomorphologie N.F.*, **56**, *Supplementary Issue 1*.

**Decaulne, A., Beylich, A.A., Dixon, J.C., Zwolinski, Z., Rachlewicz, G. & M. Strzelecki (2011):** 6<sup>th</sup> SEDIBUD Workshop Zakopane, Poland, 3-11 September 2011 on "Sedimentary fluxes dynamics in the changing mountain and polar environment – monitoring, record & consequences". *I.A.G. / A.I.G. Newsletter No. 27 (3&4/2011)*.

**Decaulne, A., Beylich, A.A. & S.F. Lamoureux (2012):** The SEDIBUD (Sediment Budgets in Cold Environments) Programme, ongoing activities and relevant tasks for the coming years. *Nordic Geological Winter Meeting 2012, Reykjavik*. Abstracts.

**Decaulne, A., Beylich, A.A., Lamoureux, S.F., Caine, N.T. & I. Overeem (2008):** Sediment fluxes and sediment budgets in changing high-latitude and high-altitude cold environments. Sediment Budgets in Cold Environments (SEDIBUD) Third Workshop; Mountain Research Station, INSTAAR, Boulder, Colorado, 9-13 September 2008. *IAG/AIG Newsletter No. 24* (3/2008).

**Decaulne, A., Rachlewicz, G., Lamoureux, S.F. & A.A. Beylich (Eds.) (2013):** Sedimentary fluxes dynamics in the changing mountain and polar environment: Monitoring, record and consequences. *Zeitschrift für Geomorphologie N.F.*, *Supplementary Issue* (accepted).



**Lamoureux, S.F., Beylich, A.A. & A. Decaulne (2007):** Sediment Fluxes and Budgets in Changing High-Latitude and High-Altitude Cold Environments. Sediment Budgets in Cold Environments (SEDIBUD) Second Workshop; Abisko, Sweden, 15-19 September 2007. *EOS, Transactions, American Geophysical Union, Volume 88 (52), 25 December 2007*: 580.

**Lamoureux, S.F., Decaulne, A. & A.A. Beylich (Eds.) (2008):** SEDIBUD Test Sites: Fact Sheets. 1<sup>st</sup> Edition, June 2008. *ID 3111308, www.lulu.com*.

**Lantuit, H., Beylich, A.A. & S.F. Lamoureux (2007):** Sediment budgets in coastal settings: On the necessity to create a common framework for SEDIBUD and ACCO / Net activities during the International Polar Year (IPY). *NGU Report, 2007.052*: 41.

**Laute, K., Gintz, D. & A.A. Beylich (2013):** SEDIBUD Key Test Site Database. Available online at <http://www.geomorph.org/wg/wgsb.html> (January 2013)

**Orwin, J.F., Lamoureux, S.F., Warburton, J. & A.A. Beylich (2010):** A framework for characterising fluvial sediment fluxes from source to sink in cold environments. *Geografiska Annaler, 92A (2)*: 155-176.

**Rachlewicz, G., Beylich, A.A. & Z. Zwolinski (Eds.) (2011):** Sedimentary fluxes dynamics in the changing mountain and polar environment – monitoring, record & consequences. *Working Group on Sediment Budgets in Cold Environments SEDIBUD 6<sup>th</sup> Workshop, Zakopane – Poland, 3-11 September 2011*. Abstract Volume. 120pp.

**Sæmundsson, Þ., Decaulne, A. & A.A. Beylich (Eds.) (2010):** Qualitative and quantitative analysis of sedimentary fluxes and budgets in changing cold climate environments: Field-based approaches and monitoring. 5<sup>th</sup> I.A.G./A.I.G. SEDIBUD Workshop. Sediment Budgets in Cold Environments, Saudarkrokur, Iceland, September 19<sup>th</sup>-25<sup>th</sup>, 2010. Extended abstracts contributions. *NNV-2010-007, September 2010*. 58pp.

Please find a complete list of **SEDIFLUX Publications, Reports and Materials** at:

<http://www.ngu.no/sediflux>

## **SEDIBUD SESSION and Meeting in 2013**

***SEDIBUD Session and SEDIBUD Business Meeting at the 8<sup>th</sup> I.A.G. / A.I.G. International Conference on Geomorphology, Paris, France, August 27-31, 2013***

The conference session

*S20 – SEDIMENT BUDGETS – IAG WG covering all environments*

will be held at the 8<sup>th</sup> I.A.G. / A.I.G. International Conference on Geomorphology in Paris, France, August 27-31, 2013.

During this conference a *SEDIBUD planning meeting (business meeting)* will be organized. This business meeting will mainly be focused on the preparation of the *SEDIBUD Synthesis Book* (see above).

Trondheim, January 11, 2013

Achim A. Beylich

Chair of I.A.G. / A.I.G. SEDIBUD