

The European Science Foundation (ESF) Network SEDIFLUX: Sedimentary Source-to-Sink-Fluxes in Cold Environments (2004 – 2006) - Introduction and Contact

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Climate change will cause major changes in the Earth surface systems and the most dramatic changes are expected to occur in the cold climate environments of the Earth. Cold climate landscapes are some of the last wilderness areas containing specialized and diverse plants and animals as well as large stores of soil carbon. Geomorphological processes, operating at the Earth's surface, transferring sediments and changing landforms are dependent on climate, vegetation cover and human impacts and will be significantly affected by climate change. In this context it is a major challenge to develop a better understanding of the complex ecosystems and the mechanisms and climatic controls of sedimentary transfer processes in cold environments. More reliable modelling of sediment transfer processes operating under present-day climatic settings is needed to determine the consequences of predicted climate change. It is necessary to collect and to compare data and knowledge from a wide range of different high latitude and high altitude environments and to develop more standardized methods and approaches for future research on sediment fluxes and relationships between climate and sedimentary transfer processes. In Europe the wide range of high latitude and high altitude environments provides great potential to investigate climate-process relationships and to model the effects of climate change by using space for time substitution. The highly relevant questions to be addressed need a multidisciplinary approach and the joining of forces and expertise from different scientific fields. Especially a closer cooperation between geoscientists and biologists / ecologists is needed. The ESF Network "Sedimentary Source-to-Sink-Fluxes in Cold Environments" (SEDIFLUX, 2004 – 2006), is bringing together leading scientists, young scientists and research teams from different fields. The large number of projects run by the ESF Network participants demonstrates the high level of research activity of scientists working on sediment fluxes in different cold environments. SEDIFLUX is forming a framework for an integrated and multidisciplinary investigation of the research topic and is a catalyst for strengthening and extending contacts and exchange.

The **Steering Committee** of SEDIFLUX consists of scientists from seven countries:

Achim A. Beylich (Co-ordinator of SEDIFLUX), Trondheim, Norway;
Samuel Etienne, Clermont-Ferrand, France;
Bernd Etzelmüller, Oslo, Norway;
Vyacheslav V. Gordeev, Moscow, Russia;
Jukka Käyhkö, Turku, Finland;
(Volker Rachold) Hugues Lantuit, Potsdam, Germany;
Andrew J. Russell, Newcastle, UK;
Karl-Heinz Schmidt, Halle/S., Germany;
Þorsteinn Sæmundsson, Sauðárkrókur, Iceland;
Fiona S. Tweed, Staffordshire, UK;
Jeff Warburton, Durham, UK.

SEDIFLUX Activities include Four Science Meetings in

Sauðárkrókur, Iceland (June 18th-21st, 2004),
Clermont-Ferrand, France (January 20th-22nd, 2005),
Durham, UK (December 15th-19th, 2005) and
Trondheim (October 29th – November 01st, 2006),

Steering Committee Meetings attached to these Science Meetings,

a Session co-organized by SEDIFLUX at the 2nd European Permafrost Conference in
Potsdam, Germany (June 12th-16th, 2005),

Journal Publications (Special Issues),

Publication of Abstract Volumes,

Publication of Reports, etc.,

Publication of a SEDIFLUX Handbook,

Development of a SEDIFLUX Database,

and the Diffusion and Dissemination of SEDIFLUX Activities and Outputs by using
electronic media (Webpages, Newsletters, etc.).

A strong monitoring and operational data collection and more standardized methods
will provide a baseline for the development of reliable models and for future research in
the changing cold environments. Apart from further collaborations and collaborative
research activities project and programme applications both at national and at the
European level are be discussed and initiated.

Please see also <http://www.esf.org/sediflux> and please contact the SEDIFLUX Co-
ordinator Achim.Beylich@ngu.no for further information.