EGU General Assembly 2011
Programme Group Programme
CR – Cryospheric Sciences

Monday, 04 April
CR1.10
CR1.30
CR3.10
CR3.20
SM1.7/CR11.10/GI-18
CR11.20
HS2.12
HS2.13

Tuesday, 05 April
CR1.40
CR1.60
CR10.10
ESSI7
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GM9.2
HS6.7

Wednesday, 06 April
CR4.10
CR4.20
CR4.30
CR10.20

Thursday, 07 April
BG5.1
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CR5.30

Friday, 08 April
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EGU General Assembly 2011
Monday, 04 April

CR1.10 – Open Topics in Cryospheric Research – Orals
Convener: David Vaughan | Co-Conveners: Carmen de Jong
Room: 5
Chairperson: David Vaughan and Carmen de Jong

08:30–08:45 EGU2011-5654
Thomas Mölg and Georg Kaser
Unifying large-scale atmospheric dynamics and glacier scale mass balance without the need for scale bridging

08:45–09:00 EGU2011-10606
Markus Engelhardt, Thomas V. Schuler, and Bjarne Kjellmoen
Validation of gridded precipitation maps using mass balance measurements from glaciers in Norway

09:00–09:15 EGU2011-7563
Matteo Spagnolo, Adriano Ribolini, Paolo Roberto Federici, Darryl E Granger, Marta Pappalardo, and Andrew J Cyr
The expression of the Heinrich Event 1 in the Alps, evidence from the Maritime Alps

09:15–09:30 EGU2011-1955
Lionel Favier, Olivier Gagliardini, Gaël Durand, and Thomas Zwinger
Three-dimensional full-Stokes modelling of the grounding line dynamics

09:30–09:45 EGU2011-6065
Jerome Faillettaz, Didier Sornette, and Martin Funk
Climate warming and stability of cold hanging glaciers Lessons from the gigantic 1895 Altels break-off

09:45–10:00 EGU2011-10056
Paul Leclercq, Johannes Oerlemans, and Graham Cogley
Estimating the glacier contribution to sea-level rise over the past 200 years

CR1.10 – Open Topics in Cryospheric Research – Posters
Convener: David Vaughan | Co-Conveners: Carmen de Jong
Hall XL | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: David Vaughan and Carmen de Jong

XL191 EGU2011-3337
Urs H. Fischer and Wilfried Haeberli
Ice-age effects on radioactive waste disposal in Switzerland

XL192 EGU2011-6177
Jakob Abermann, Michael Kuhn, and Andrea Fischer
Glaciers in Austria - past and present

XL193 EGU2011-6195
Andrea Fischer, Jakob Abermann, Anna Haberkorn, Heralt Schneider, and Rudolf Sailer
Vertical ice flow velocity and basal melt as important contributors to volume change on Alpine glaciers

XL194 EGU2011-6812
Alastair Graham, Frank Nitsche, and Robert Larter
An improved bathymetric compilation for the Bellingshausen Sea, Antarctica, to inform ice-sheet and ocean models

XL195 EGU2011-7026
Marco Tedesco, Christine Foreman, Nick Steiner, and Tristan Schwartzman
Preliminary results on the comparison between spectral, physical and chemical properties of West Greenland and Antarctica (Dry Valleys) cryoconites

XL196 EGU2011-7613
Astrid Lambrecht, Martin Juen, Anna Wirbel, Christoph Mayer, Ulrich Küppers, Lina Seybold, and Maria Shahgedanova
Ice melt underneath a supra-glacial debris cover: interactions between meteorology and debris properties based on field experiments

XL197 EGU2011-11051
Christoph Mayer, Achim Heilig, Wilfried Hagg, and Elisabeth Mayr
Accumulation dependency of small alpine glaciers

XL198 EGU2011-12450
Denis Samyn, Carmen Vega, Dmitri Divine, and Veijo Pohjola
Assessing nitrate dynamics in Svalbard from ice core multivariate analysis
Anna Haberkorn, Andrea Fischer, and Rudolf Sailer
Special melt characteristics as an evidence for significant basal melt rates at the tongue of Hintereisferner, Ötztal, Austria

Florian Karner, Friedrich Obleitner, and Jack Kohler
Verification of re-analyses model output data in an Arctic glacier environment

CR1.30 – Ice and its microstructure: commonalities and differences – Orals
Convener: Martin Schneebeli | Co-Conveners: Maurine Montagnat, Martyn Drury, Thomas Loerting, Denis Samyn
Room: 25
Chairperson: n.n.
15:30–15:45 EGU2011-10206
Charles Fierz, Henning Loewe, and Martin Schneebeli
Snow metamorphism - past, present, and future
15:45–16:00 EGU2011-9951
Thorsten Bartels-Rausch, Fabienne Riche, Sumi Wren, Sepp Schreiber, Jamie Donaldson, Martin Schneebeli, and Markus Ammann
The Microstructure of Ice and effective Diffusion of VOCs in snow: A laboratory study
16:00–16:15 EGU2011-8856
Jane Blackford
Is ice a good substance for educating engineers about materials?
16:15–16:30 EGU2011-6127
Fanny Grennerat, Sandra Piazzo, Maurine Montagnat, Olivier Castelnau, and Paul Duval
Multi-scale characterization of strain heterogeneities and associated misorientations in laboratory deformed polycrystalline ice: Image Correlation techniques, EBSD observations and full-field modeling
16:30–16:45 EGU2011-3498
Ilka Weikusat, Atsushi Miyamoto, Gill M. Pennock, Sepp Kipfstuhl, Sérigo H. Faria, Nobuhiko Azuma, and Martyn R. Drury
Cryogenic EBSD and X-ray Laue diffraction: Data on subgrain boundaries in Antarctic ice samples
16:45–17:00 EGU2011-2341
Alessio Gusmeroli, Erin Pettit, Catherine Ritz, Joseph Kennedy, Maurine Montagnat, Eric Lefebvre, Gael Durand, Sepp Kipfstuhl, and Simon Sheldon
The relationship between climate and ice rheology at Dome C, East Antarctica: a comparison of fabric determined by borehole sonic logging and thin sections.

CR1.30 – Ice and its microstructure: commonalities and differences – Posters
Convener: Martin Schneebeli | Co-Conveners: Maurine Montagnat, Martyn Drury, Thomas Loerting, Denis Samyn
Hall XL | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: n.n.
XL201 EGU2011-2211
Carlo Carmagnola, Samuel Morin, and Florent Dominé
Towards a new representation of snow metamorphism in macroscopic snowpack models
XL202 EGU2011-3125
Margret Matzl, Martin Schneebeli, Daniel Steinfeld, and Stephen Steiner
Microtomography of layered snow samples and weak layers
XL203 EGU2011-13263
Henning Loewe and Alec van Herwijnen
A Poisson shot-noise model for snow penetration resistance
XL204 EGU2011-3390
Johannes Freitag and Sepp Kipfstuhl
The quantification of layering in polar firn: first results from core-scale microfocus X-ray-computer tomography
XL205 EGU2011-7214
Sepp Kipfstuhl and Johannes Freitag
Density, densification and the evolution of the microstructure in polar firn
XL206 EGU2011-3949
Ruzica Dadic, Light Bonnie, and Stephen G. Warren
Migration of air bubbles in ice under a temperature gradient, with application to “Snowball Earth”
XL207 EGU2011-5970
Jens Roessiger, Paul Bons, Sergio H. Faria, and Ilka Weikusat
Influence Of Air Bubbles In Ice On Grain Growth
**XL208**  EGU2011-7178
Christian Weikusat, Johannes Freitag, and Sepp Kipfstuhl
Raman spectroscopy of bubbles and microbubbles in EDML antarctic ice core

**XL209**  EGU2011-3374
Maurine Montagnat, Antonin Broquet, Pierre Schlitz, Daphné Buiron, Laurent Arnaud, and Sepp Kipfstuhl
Measurements and numerical simulation of fabric evolution along the Talos Dome ice core

**XL210**  EGU2011-12029
Ilka Weikusat, Sepp Kipfstuhl, Denis Samyn, Anders Svensson, and Nobuhiko Azuma
Folds in the NEEM ice core (Greenland)

**XL211**  EGU2011-12563
Denis Samyn, Ilka Weikusat, Anders Svensson, Nobuhiko Azuma, Maurine Montagnat, and Sepp Kipfstuhl
Micro-structure of the NEEM deep ice core: towards quantifying stratigraphic disturbances

**XL212**  EGU2011-10949
Tobias Binder, Christoph Garbe, Dietmar Wagenbach, Johannes Freitag, and Sepp Kipfstuhl
Recrystallization dynamics derived from grain boundary networks

**XL213**  EGU2011-6300
Paul Bons and Jens Roessiger
The effect of microstructure on static grain growth in ice

**XL214**  EGU2011-3614
Ilka Weikusat, D. A. Matthijs De Winter, Gill M. Pennock, Mike Hayles, Chris T. W. M. Schneijdenberg, and Martyn R. Drury
Cryogenic EBSD: a technique to preserve a stable surface in a low pressure SEM to characterize ice microstructure

**XL215**  EGU2011-10334
Sabrina Diebold, William B. Durham, Dave J. Prior, Rachel W. Obbard, Ian Baker, and Laura Stern
Deformation and microstructure of coarse- and fine-grained pure water ice

**XL216**  EGU2011-11121
Erik Thomson, John S. Wettlaüfer, and Larry A. Wilen
The contribution of grain boundary melting to the water budget of polycrystalline ice

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**CR3.10 – Remote Sensing of the Cryosphere – Orals**
Convener: Marco Tedesco | Co-Conveners: Tommaso Parrinello, Andrew Shepherd, Thomas Painter

**Room: 5**

**Chairperson:** M. Tedesco, T. Parrinello, Andrew Shepherd

13:30–13:45  EGU2011-1417
**Tommaso Parrinello**, Richard Francis, and Duncan Wingham
Cryosat: mission status, achievements and data access

13:45–14:00  EGU2011-2308
**Robert Bindschadler** and the ASAID Mapping Team
The Grounded Ice and Floating Ice Boundaries of Antarctica

14:00–14:15  EGU2011-3846
**Marilyn Kaminski**, Mary J. Brodzik, Jeffrey S. Deems, and Ted A. Scambos
Managing IceBridge airborne mission data at the National Snow and Ice Data Center

14:15–14:30  EGU2011-5945
**Aleksey Sharov**, Dmitry Nikolskiy, and Alexandra Tyukavina
Geodetic estimates of glacier mass balance in Severnaya Zemlya

14:30–14:45  EGU2011-8477
**Todd Albert**
A 35-year history of deglaciation on the Quelccaya Ice Cap, Peru from multispectral imagery

14:45–15:00  EGU2011-8497
**Nicolas Picot** and Francois Boy
LRM Processing over Ice Inland Bodies, first Analysis using Local DEM and a Comparison to ENVISAT Data.

**Chairperson:** M. Tedesco, T. Parrinello, Andrew Shepherd

15:30–15:45  EGU2011-9245
**Christopher Shuman**, Etienne Berthier, and Ted Scambos
Tributary Glacier Elevation and Mass Loss in the Larsen A and B Ice Shelf Embayments, 2001-2010

15:45–16:00  EGU2011-10185
**Juho Vehvilainen**, Juha Lemmetyinen, Jouni Puillainen, Thomas Nagler, Helmut Rott, Claude Duguay, Chris Derksen, Michael Kern, Giovanni Macelloni, and Marco Brogioni
Potential benefits of employing combined active and passive microwave observations in retrieval of snow water equivalent
16:00–16:15  EGU2011-10397
**Matias Takala,** Kari Luojus, Jouni Pulliainen, Chris Derksen, Juha Lemmetyinen, Juha-Petri Kärnä, Jarkko Koskinen, and Bojan Bojkov
Snow water equivalent processing system for northern hemisphere

16:15–16:30  EGU2011-11526
**C.k. Shum,** Hyongki Lee, Jianbin Duan, Junyi Guo, Ian Howat, Xuanyu Hu, Chungyen Kuo, and Yuchan Yi
Present-Day Antarctic Ice-Sheet Mass Balance

16:30–16:45  EGU2011-11899
Malcolm Davidson, **Dirk Schüttemeyer,** Tania Casal, and Duncan Wingham
ESA CryoSat Calibration and Validation Activities

16:45–17:00  EGU2011-13287
Richard Kelly, Josh King, Andrew Kasurak, and Claude Duguay
Scatterometer observations of snow in a forest stand in the Hudson Bay lowlands during the CAN-CSI 2010-2011 experiment

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CR3.10 – Remote Sensing of the Cryosphere – Posters
Convener: Marco Tedesco | Co-Conveners: Tommaso Parrinello, Andrew Shepherd, Thomas Painter

**Hall XL | Display Time 08:00–19:30**
Author in Attendance: 17:30–19:00
Chairperson: M. Tedesco, T. Parrinello, Andrew Shepherd

**XL217**  EGU2011-515
**Samantha Darling,** Luke Copland, Laurence Gray, and Wesley Van Wychen
Velocity Patterns Across the Kaskawulsh Glacier, Yukon Territory, Canada

**XL218**  EGU2011-881
**Elsa Rothschild,** Gérard Beltrando, and Sylvain Bigot
Analysis of snow cover variability over the Vercors mountains (French Prealps) using MODIS/Terra snow-cover products

**XL219**  EGU2011-1438
**Dirk Schüttemeyer,** Malcolm Davidson, Remo Bianchi, Tania Casal, Catherine Bouzinac, and Michael Kern
European Space Agency campaign activities in support of Earth Observation Projects: Examples for Snow and Ice

**XL220**  EGU2011-2462
**Steven Palmer,** Andrew Shepherd, Noel Gourmelen, Malcolm McMillan, Jan Lenaerts, and Michiel van den Broeke
Comparison of surface mass balance estimates of the Larsen-C ice shelf from near-surface density measurements and a regional climate model

**XL221**  EGU2011-5088
**Claude Duguay** and Kyung-Kuk Kang
Development of a 24-year time series of ice cover phenology and thickness from Great Bear Lake and Great Slave Lake derived from SSM/I brightness temperature measurements

**XL222**  EGU2011-8203
Nick Steiner and **Marco Tedesco**
An enhanced resolution QuikSCAT derived Antarctic melt record (1999-2009): development and evaluation of wavelet-based methods

**XL223**  EGU2011-9227
**Xavier Fettweis,** Marco Tedesco, and Michiel van den Broeke
Assimilation of the 1979-2009 microwave satellite data into the regional climate MAR model for studying the Greenland ice sheet melt extent

**XL224**  EGU2011-9631
**Marco Tedesco**
Toward a new AMSR-E SWE operational algorithm

**XL225**  EGU2011-9958
**Ole Baltazar Andersen**
Cryosat-2 observations for mean sea surface and mean ocean circulation studies in the Arctic

**XL226**  EGU2011-10724
**Noel Gourmelen,** Andrew Shepherd, Jeong-Won Park, and Robert Hawley
Three-dimensional ice flow in the Greenland Ice Sheet and its evolution from past and present satellite and airborne missions

**XL227**  EGU2011-13055
**Sabine Baumann,** Annette Menzel, Florian Seitz, Karin Hedman, Alka Singh, Sarah Abelen, and Susanne Schnitzer
Estimating glacier mass changes by high resolution GRACE estimates and other remote sensing data
EGU General Assembly 2011

Evaluation of different image matching methods for deriving glacier surface displacements globally

Monitoring of thin ice in the Laptev Sea Polynya

The CRYOSAT-2 Payload Data Ground Segment and Data Processing

Dual Frequency (17.2 and 9.6 GHz) Scatterometer Observations of Terrestrial Snow in a Canadian Sub-Arctic Tundra Environment

Improvements in DTU10 global ocean tide model in Polar Regions from multi-mission altimetry

CryoSat-2 post launch commissioning performance

Time-evolving mass changes of Jakobshavn Isbrae, Greenland, derived from satellite altimetry

Cryosat-2 full polarimetry capabilities for dry and wet snow analysis at C-band in Alpine regions

NASA's Wide-swath Mapping Laser Altimetry Capability and its Application to Cryospheric Sciences

The effect of snow cover roughnesses on angular structure of reflected solar radiation

Monitoring the Landscape Freeze/Thaw State by Fusion of Ku and C Band Scatterometer Data

Remote sensing of dry snow masses with GNSS-R

Creating a new Norwegian glacier inventory using Landsat imagery - methods, challenges and results

Creating a new Norwegian glacier inventory using Landsat imagery - methods, challenges and results

On the suitability of the SRTM DEM and ASTER GDEM for the compilation of topographic parameters in glacier inventories

Automated spaceborne mapping of debris-covered glaciers in high Asia

Glacier inventories and recent changes on active ice-capped volcanoes of the Chilean Southern Andes

Programme Group Programme CR
**CR3.20 – Creating glacier inventories from remote sensing data: Challenges and solutions – Posters**

**Convener:** Frank Paul  |  **Co-Conveners:** Bruce Raup, Tatiana Khromova, Graham Cogley, Tobias Bolch

**Hall XL | Display Time 08:00–19:30**

**Author in Attendance:** 17:30–19:00

**Chairperson:** n.n.

**XL242** EGU2011-1275

**Vladimir Konovalov**  
Hydrological Regime of Continental Glaciers on the Earth

**XL243** EGU2011-3942

**Shiyin Liu,** Wanqin Guo, Junli Xu, and Donghui Shangguan  
Status of Glacier inventories in China

**XL244** EGU2011-7007

**Holger Frey,** Frank Paul, and Tazio Strozzi  
Compilation of a glacier inventory for the western Himalayas from satellite data: challenges and results

**XL245** EGU2011-8906

**Frank Paul,** Holger Frey, and Raymond Le Bris  
A new glacier inventory for the European Alps from Landsat TM scenes of 2003: Challenges and analysis

**XL246** EGU2011-9798

**Marie Gardent** and Philip Deline  
Stages of glacial retreat in the French Alps since the termination of the Little Ice Age

**XL247** EGU2011-12038

**Alison Cook,** Tavi Murray, David Vaughan, Adrian Luckman, Andrew Fleming, and Nick Barrand  
Changes in glacier extents on the Antarctic Peninsula, 2000-2010, mapped from a range of multispectral and radar imagery

**XL248** EGU2011-12670

**Tobias Bolch**  
Challenges with the compilation of multi-temporal glacier inventories from different sources

**XL249** EGU2011-13192

**Philipp Rastner,** Tobias Bolch, and Frank Paul  
2011 ... final steps towards the first complete glacier inventory for Greenland

**XL250** EGU2011-13223

**Philipp Rastner,** Steve Kass, Tobias Bolch, and Frank Paul  
Mapping Greenland's glaciers and icecaps with object based image analysis

**SM1.7/CR11.10/GI-18 – Challenges of Polar Seismology: Logistics and technology, glacial and tectonic events (co-organized) – Orals**

**Convener:** Trine Dahl-Jensen  |  **Co-Conveners:** Vera Schlindwein, Meredith Nettles

**Room:** 26  
**Chairperson:** n.n.

15:30–15:45  
**EGU2011-13538**

**Douglas A. Wiens,** David Heeszel, Xinlei Sun, Amanda Lough, Andrew Nyblade, Sridhar Anandakrishnan, Richard C. Aster, Audrey Huerta, and Paul Winberry  
Seismic structure and sources of the Antarctic continent determined from large-scale year around deployment of broadband seismographs

15:45–16:00  
**EGU2011-4112**

**Galina Antonovskaya** and Felix Yudakhin  
About necessity of carrying out seismogeodynamic monitoring of the Russian Federation's Arctic zone

16:00–16:15  
**EGU2011-2493**

**Trine Dahl-Jensen** and the GLISN Team  
The GreenLand Ice Sheet monitoring Network (GLISN)

16:15–16:30  
**EGU2011-5505**

Morten Langer Andersen, **Tine B. Larsen,** and Meredith Nettles  
Detection and spectral characterization of calving related seismic signals, Helheim Glacier, South East Greenland

16:30–16:45  
**EGU2011-8322**

**Elena Kozlovskaya** and the POLENET/LAPNET Working Group Team  
Analysis of glacial seismic events from Greenland recorded by the POLENET/LAPNET experiment during the IPY 2007-2009
SM1.7/CR11.10/GI-18 – Challenges of Polar Seismology: Logistics and technology, glacial and tectonic events (co-organized) – Posters
Convener: Trine Dahl-Jensen | Co-Conveners: Vera Schlindwein, Meredith Nettles
Halis X/Y | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: n.n.

XY680  EGU2011-12765
Elena Kozlovskaya, Alexander Kozlovsky and the POLENET/LAPNET Working Group Team
Problem of misinterpretation of geomagnetic pulsations recorded by broadband seismometers as seismic signals: possible solutions

XY681  EGU2011-10457
Bela Assinovskaya and Vladimir Karpinsky
Unusual Earthquake July 31, 2010 in Lake Ladoga

XY682  EGU2011-2458
Vera Schlindwein and Christine Läderach
Seismology on drifting ice floes

XY683  EGU2011-10457
Myrto Pirri, Johannes Schweitzer, Tormod Kværnø, and the IPY Project Consortium
A year of seismic swarm activity on the Mohns - Knipovich Ridge Bend

XY684  EGU2011-8589
Andreas Köhler, Anne Chapuis, Christopher Nuth, and Christian Weidle
Searching for glacier-induced seismic events using a combined approach of STA/LTA triggering and unsupervised pattern recognition

XY685  EGU2011-9206
Jason Amundson, John Clinton, Martin Luethi, Emile Okal, Doug MacAyeal, and Marco Olivieri
Long-period glaciogenic ocean waves revealed by coastal broadband seismometers near Jakobshavn Isbrae, Greenland

XY687  EGU2011-12191
Giuseppe Falcone, Giuditta Marinaro, Giovanni Battista Cimini, Paolo Favali, Francesco Frugoni, Stephen Monna, and Caterina Montuori
Seismological observations of the experiment in Antarctica with MABEL seafloor multidisciplinary observatory

XY688  EGU2011-6325
Fabian Walter, Debi Kilb, Nicolas Deichmann, Martin Funk, and Helen Amanda Fricker
Surface Seismicity on Gornergletscher, a Swiss Alpine Glacier

CR11.20 – Ice deposits in caves: formation, evolution and climate-environment assessment – Posters
Convener: Valter Maggi | Co-Conveners: Aurel Per?oiu, Christiane Grebe
Hall XL | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Valter Maggi, Christiane Grebe, Aurel Persoiu

XL251  EGU2011-946
Christiane Grebe and Andreas Pflitsch
Historical data in the light of modern ice cave research

XL252  EGU2011-1423
Derek Ford
Ice in Canadian Caves

XL253  EGU2011-3104
Jure Kosutnik
Temperature Monitoring in Slovene Ice Caves - Can less tell more?

XL254  EGU2011-4056
Anchel Belmonte Ribas, Carlos Sancho Marcén, and Ana Moreno
Chronology of a Pyrenean subsurface ice deposit (A294 cave, Cotiella massif, Spain)
EGU General Assembly 2011

XL255  EGU2011-5188
Bogdan P. Onac, Jonathan G. Wynn, and Michele Citterio
Ikaite in the Scărișoara Ice Cave (Romania): origin and significance

XL256  EGU2011-5577
Christiane Grebe and Andreas Pfützsch
Ice cave research in Germany - past, present and future?

XL257  EGU2011-7556
Zoltán Kern, István Fórizs, László Palcsu, Michael Behm, Helmut Hausmann, and Rudolf Pavuza
Isotope hydrological and geophysical studies on the perennial cave ice deposit of Saarhaile (Mammuthöhle, Dachstein Mts, Austria)

XL258  EGU2011-7839
Nenad Buzjak, Dalibor Paar, and Darko Bakšić?
Snow and ice in speleological features of Dinaric Mountains in Croatia

XL259  EGU2011-10177
Valter Maggi, Stefano Turri, Alfredo Bini, Barbara Stenni, and Roberto Udisti
Cave-ice interaction in Moncodeno ice cave (Italy)

XL260  EGU2011-10142
Valter Maggi, Stefano Turri, Aurel Perșoiu, Alfredo Bini, Bogdan Onac, Roberto Udisti, and Barbara Stenni
Two millennia of ice accumulation in Focul Viu ice cave, Romania

XL261  EGU2011-12886
Friedrich Obleitner and Christoph Spötl
Temperature profiles in an Alpine ice cave (Eisriesenwelt, Austria)

XL262  EGU2011-13892
Hi-Ryong Byun
Use of ice cave for the storage of water resources

HS2.12 – Mountain hydrology: Observations, processes and models (co-listed) – Orals
Convener: Daniel Viviroli | Co-Conveners: Carmen de Jong, Paola Allamano
Room: 36
Chairperson: Daniel Viviroli, Carmen de Jong

08:30–08:45  EGU2011-2618
Walter Immerzeel and Marc Bierkens
Quantifying the Water Tower of the Third Pole: State of the Art and Research Challenges

08:45–09:00  EGU2011-10325
Adina Racoviteanu, Guleid Artan, Mandira Shrestha, Samjwal Bajracharya, Pradeep Mool, Giriraj Amarnath, Molly Brown, Shahid Habib, Maria Tzortziou, and Hua Ouyang
HIMALA: Understanding the contribution of glacier and snowmelt in the Himalaya using a spatially-distributed energy balance model and remotely sensed data

09:00–09:15  EGU2011-4495
Hendrik Wulf, Bodo Bookhagen, and Dirk Scherler
Differentiating rainfall, snow and glacial melt in the Sutlej Valley (western Himalaya) by distributed hydrological modeling

09:15–09:30  EGU2011-3047
Bettina Schäppi, Peter Molnar, and Paolo Burlando
Precipitation gradients along hillslopes estimated from rain gauge transects

09:30–09:45  EGU2011-7799
Matei Domnișa, Augustin Ionuț Crăciun, Ionel Haidu, and Okke Batelaan
GIS Methodology for determination of the flash flood hydrograph in small scale mountainous catchments

09:45–10:00  EGU2011-5458
Iris Stewart, Darren Ficklin, and Edwin Maurer
How will projected climate change impact stream temperature and water quality in the Sierra Nevada (CA)?

COFFEE BREAK

Chairperson: Carmen de Jong, Paola Allamano

10:30–10:45  EGU2011-8601
Matthias Huss
Present and future contribution of glaciers to runoff from macroscale drainage basins in Europe
### 10:45–11:00
**EGU2011-5838**  
**Arnout van Soesbergen**  
**Modelling climate change impacts on water resources of dams**

### 11:00–11:15
**EGU2011-13155**  
**Alberto Pistocchi** and **Attilio Castellarin**  
**An analysis of change in alpine annual maximum discharges: implications for the selection of design discharges**

### 11:15–11:30
**EGU2011-2959**  
**Ulrich Strasser**, **Andreas Gobiet**, **Johann Stötter**, **Hannes Kleindienst**, **Friedrich Zimmermann**, **Karl Steininger**, and **Franz Pretenthaler**  
**CC-Snow: an interdisciplinary project to investigate climate change effects on future snow conditions and winter tourism in Tyrol and Styria (Austria)**

### 11:30–11:45
**EGU2011-7054**  
**Robert Steiger**  
**The impact of climate change on water demand of snowmaking**

### 11:45–12:00
**EGU2011-11760**  
**Cécile Picouet** and **Fréderic Gottardi**  
**Snow accumulation submodel: how to estimate the phase of precipitations and the snow correction factor?**

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### HS2.12 – Mountain hydrology: Observations, processes and models (co-listed) – Posters

**Convener: Daniel Viviroli** | **Co-Conveners: Carmen de Jong, Paola Allamano**

**Hall A** | **Display Time 08:00–19:30**

**Author in Attendance: 17:30–19:00**

**Chairperson: Daniel Viviroli, Carmen de Jong, Paola Allamano**

| A295 | EGU2011-1369 | **Roland Koeck** and Eduard Hochbichler | Soil moisture dynamics in the montane beech-fir-spruce forest belt within karstic headwaters |
| A296 | EGU2011-2253 | **Chiang Wei**, Ping-Shih Yang, and Pei-Ling Tian | Evaluating the ecohydrology of microhabitat in an experimental watershed of Central Taiwan |
| A298 | EGU2011-4131 | **Frank Herrmann**, Georg Berthold, Johann-Gerhard Fritsche, Florian Jenn, Ralf Kunkel, Hans-Jürgen Voigt, and Frank Wendland | Large-scale conceptual modelling of groundwater piezometric surfaces in low mountain range landscapes of Central Europe |
| A299 | EGU2011-5574 | **Thierry Barth**, Georges-Marie Saulnier, and Emmanuel Malet | Monitoring hydrometeorology in mountain catchment, the example of the Vorz (Belledonne, France) |
| A300 | EGU2011-6738 | **Abdallah Alsoufi**, Matthias Müller, Christine Alewell, Susanne Lagger, and Rolf Weingartner | Impact of land use changes on soil hydrology in the Ursern Valley, Switzerland |
| A301 | EGU2011-7247 | **Pablo García-Estríngana**, Jérôme Latron, Pilar Llorens, and Francesc Gallart | Spatial and Temporal dynamics of soil moisture in a Mediterranean mountain area |
| A302 | EGU2011-7409 | Jérôme Latron, **Pilar Llorens**, Pablo García-Estríngana, and Francesc Gallart | Looking at hydrological variability in a Mediterranean mountain area to infer potential effects of climate change on water resources |
| A303 | EGU2011-7634 | **Giuseppe Formetta**, Silvia Franceschi, Andrea Antonello, Ricardo Mantilla, and Riccardo Rigon | The JGrass-NewAge System for Forecasting and Managing the Hydrological Budgets at the Basin Scale |
| A304 | EGU2011-8592 | **Anna Kuentz**, Thibault Mathevet, Christian Perret, and Vazken Andreassian | Uncertainty estimation of historical streamflow records of mountainous watersheds |
| A305 | EGU2011-9241 | **Gertraud Meißl**, Clemens Geitner, Romed Ruggenthaler, Alexandra Mätzler, Markus Tusch, and Erwin Meyer | Influence of soil characteristics and earthworm activity on the hydrologic response of Alpine pasture sites to precipitation events |
A306  EGU2011-9813  
Doris Duethmann, Janek Zimmer, Sergiy Vorogushyn, Andreas Güntner, and Abror Gafurov  
Evaluation of the precipitation input for hydrological modeling of a mountainous catchment in Kyrgyzstan

A307  EGU2011-9817  
Michael Kuhn  
Monthly mean vertical gradients of precipitation, temperature and glacier mass balance adjusted to measured runoff from high alpine basins

A308  EGU2011-9911  
Armando Molina, Gerard Govers, and Veerle Vanacker  
Restoration of hydrological services through exotic plantations and natural revegetation on abandoned badlands

A309  EGU2011-10100  
Christina Delaney and Klaus Katzensteiner  
Modelling leaf area carrying capacity for site adapted sustainable forest management in the Northern Limestone Alps

A310  EGU2011-10117  
Paul Dobesberger, Antonia Zeidler, and Georg Wohlfahrt  
Calibration and Comparison of three SVAT (\textbf{S}urface-\textbf{V}egetation-\textbf{A}tmosphere \textbf{T}ransfer) models.

A311  EGU2011-10154  
Romed Ruggenthaler, Gertraud Meißl, Clemens Geitner, and Friedrich Schöberl  
Determination of the influence of soil moisture on infiltration capacity

A312  EGU2011-10847  
Laura Anna Boscarello, Giovanni Ravazzani, and Marco Mancini  
Assessing the impact of climate change on the flow regime of the Rhone river basin using a distributed hydrological model: first results

A313  EGU2011-11430  
Martina Kauzlarc, Bruno Schädler, and Rolf Weingartner  
Distributed water balance modelling in a highly complex mountain catchment in the Swiss Alps: identifying the relevant parameter set

A314  EGU2011-11751  
Lukas Jacka, Jirka Pavlasek, and Pavel Pech  
Estimated values of the saturated hydraulic conductivity of podzolic soils in the central part of the Šumava National Park - comparison of methods

A315  EGU2011-11976  
Florian Kobierska, Tobias Jonas, Jan Magnusson, Massimiliano Zappa, Mathias Bavay, Thomas Bosshard, and Stefano Bernasconi  
Climate change effects on snow melt and discharge of a partly glacierized watershed in Central Switzerland

A316  EGU2011-12368  
Cara Tobin, Bettina Schaefl, Ludovico Nicotina, Marc B. Parlange, and Andrea Rinaldo  
The impact of temperature distributions and snowmelt rates on runoff production; a case study in the Swiss Alps

A317  EGU2011-13548  
Rory Cowie and Mark Williams  
Use of isotopic and geochemical tracers to identify source waters, flow paths, and residence times of headwater catchments in Boulder Creek Watershed, Colorado

HS2.13 – Mountain Hydrology: Monitoring and modeling of snow (co-listed) – Orals
Convener: Juraj Parajka | Co-Conveners: Michael Lehning, David Gustafsson
Room: 36
Chairperson: J. Parajka

13:30–13:45  EGU2011-4305  
Martyn Clark  
Representing Spatial Variability of Snow Water Equivalent in Hydrological and Land-surface Models: A Review

13:45–14:00  EGU2011-7806  
Kari Luojus, Jouni Pulliainen, Matias Takala, Juha Lemmetyinen, Mwaba Kangwa, Tuomo Smolander, Juho Vehviläinen, Chris Derksen, Sari Metsämäki, and Bojan Bojkov  
Investigating Snow Accumulation on Northern Hemisphere Using Globsnow Snow Water Equivalent Data

14:00–14:15  EGU2011-11475  
Mathias Bavay, Thomas Grünewald, Jan Magnusson, and Michael Lehning  
Modeling the climate change impact on snow and runoff in the alpine space
14:15–14:30  EGU2011-1362  
**Thomas Nester** and Robert Kirnbauer  
Evaluating the snow component of a runoff forecasting model

14:30–14:45  EGU2011-823  
**Gokcen Uysal**, Aynur Sensoy, Ali Arda Sorman, and Ali Unal Sorman  
Forecasting Daily Discharge in the Upper Euphrates Basin Using Snowmelt Runoff Model with Estimated Snow Depletion Curves

14:45–15:00  EGU2011-13673  
**Noah Molotch**, Ernesto Trujillo, and Keith Musselman  
Vegetation-snowpack feedbacks from plot to regional scales

Chairperson: M. Lehning

15:30–15:45  EGU2011-10169  
**Johannes Schöber**, Stefan Achleitner, Katrin Schneider, Rudolf Sailer, Friedrich Schöberl, Johann Stötter, and Robert Kirnbauer  
The potential of airborne laser scanning driven snow depth observations for modelling snow cover, snow water equivalent and runoff in high alpine catchments

15:45–16:00  EGU2011-5585  
**Thierry Barth**, Georges-Marie Saulnier, and Emmanuel Malet  
Modelling the snow from high spatial and temporal temperatures and snow cover maps

16:00–16:15  EGU2011-4045  
**Michael Warscher**, Thomas Marke, Florian Hanzer, Ulrich Strasser, Harald Kunstmann, Bernhard Hynek, Marc Olefs, Wolfgang Schönler, Rudolf Sailer, and Johann Stötter  
A terrain-based parameterization for the effect of wind-induced snow redistribution in Alpine terrain

16:15–16:30  EGU2011-12164  
**Hendrik Huwald**, Chad W. Higgins, Holly J. Oldroyd, Steven A. Drake, Anne W. Nolin, and Marc B. Parlangé  
Turbulence-induced pressure fluctuations in snow and their effect on heat and moisture transport

16:30–16:45  EGU2011-5543  
**Rebecca Mott**, Mathias Bavay, and Michael Lehning  
Typical errors when calculating snow ablation in mountains

16:45–17:00  EGU2011-7846  
**Gro Lilbaek** and John Pomeroy  
Compositional Change of Meltwater Infiltrating Frozen Ground

**HS2.13 – Mountain Hydrology: Monitoring and modeling of snow (co-listed) – Posters**

Convener: Juraj Parajka | Co-Conveners: Michael Lehning, David Gustafsson

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Author in Attendance: 17:30–19:00

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A318  EGU2011-2156  
**Kay Helfricht**, Bernd Seiser, Ulrich Strasser, Michael Kuhn, Rudolf Sailer, Johann Stötter, Eric Veulliet, and Helmut Schönlaub  
Modelling of snow- and icemelt contribution to Alpine streamflow at different scales in the Ötztal Alps (Tirol, Austria): the alpS MUSICALS project

A319  EGU2011-2916  
**Florian Ortner**, Philipp Schajer, Florian Hanzer, Thomas Marke, and Ulrich Strasser  
Snow cover trends in Tyrol and Styria (Austria) over the last decades

A320  EGU2011-2940  
**Florian Hanzer**, Ulrich Strasser, Thomas Marke, Michael Warscher, Bernhard Hynek, Marc Olefs, and Wolfgang Schönler  
Latest developments of the Alpine snow cover model AMUNDSEN: new modules, projects and perspectives

A321  EGU2011-4900  
**Marily Xigaki**  
Mapping and Monitoring Snow cover and its changes over a 40 years period for the White Mountains of Crete, Greece

A322  EGU2011-10273  
**Stefan Pohl**, Leo Stoeckl, Jakob Garvelmann, and Markus Weiler  
Detailed Spatial and Temporal Observations of Snow Covers in Mountainous Watersheds Using Numerous Low-Cost Standalone Sensors

A323  EGU2011-11653  
**Mathias Bavay** and Thomas Egger  
MeteoIO: A Meteorological Data Pre-Processing Library for Numerical Models
Matthias Rieckh, Andreas Kellerer-Pirklbauer, and Michael Avian
Evaluation of spatial variability of snow cover duration in a small alpine catchment using automatic photography and terrain-based modeling

Raphael Mutzner, Hendrik Huwald, Sian R. Williams, Anne W. Nolin, and Marc B. Parlange
Fiber-optic distributed temperature sensing of alpine snow packs

Ali Arda Sorman and Egemen Yamankurt
Modified Satellite Products on Snow Covered Area in Upper Euphrates Basin, Turkey

Antonio Reppucci, Xavier Banque, Laura Moreno, Maria Jose Escorihuela, Miquel Aran, David Velasco, and F. Javier Busto
Characterization of Snow Pack Over Pyrenees Using Remote Sensed Data for Runoff Modeling

Frederic Gottardi and Cécile Picouet
Using MODIS snow cover data to detect the best model hypotheses for snow-dominated watershed

Miriam Carpintero García, Vanessa Piña Bueno, Javier Herrero Lantarón, Cristina Aguilar Porro, and María José Polo Gómez
Estimation of the snow cover by application of a two-layered model of accumulation and snowmelt in the Sierra Nevada Natural Park (Spain)

Jannes Stolte, Geoffrie Kramer, and Helen French
Snowmelt driven spring discharge: measuring and modeling results for a small catchment in Norway
Tuesday, 05 April

CR1.40 – Projections of the cryospheric contribution to sea-level rise over the next century: progress in modelling and related observations – Orals
Convener: Tony Payne | Co-Conveners: Sophie Nowicki
Room: 5
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08:30–08:45 EGU2011-8989
Robert Bindschadler
SeaRISE: Final Course Set

08:45–09:00 EGU2011-3136
Johannes Oerlemans
The GlacMod2010-project: estimating the glacier contribution to sea-level change with dynamic glacier models

09:00–09:15 EGU2011-8399
Fabien Gillet-Chaulet, Olivier Gagliardini, Maelle Nodet, Catherine Ritz, Gael Durand, Thomas Zwinger, Hakime Seddik, and Ralph Greve
Full-Stokes finite element modelling of the Greenland ice-sheet using inverse methods

09:15–09:30 EGU2011-5961
Michiel van den Broeke and Jan van Angelen
The changing melt regime of the Greenland ice sheet

09:30–09:45 EGU2011-811
Cécile Agosta, Vincent Favier, Christophe Genthon, Hubert Gallée, and Gerhard Krinner
21st century high-resolution downscaling of the Antarctic surface mass balance from global circulation models

09:45–10:00 EGU2011-10555
Aimée Slangen, Caroline Katsman, Roderik van de Wal, Bert Vermeersen, and Riccardo Riva
Towards regional projections of twenty-first century sea-level change using IPCC SRES scenarios

CR1.40 – Projections of the cryospheric contribution to sea-level rise over the next century: progress in modelling and related observations – Posters
Convener: Tony Payne | Co-Conveners: Sophie Nowicki
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Author in Attendance: 17:30–19:00
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XL57 EGU2011-4685
Johannes Fürst, Heiko Goelzer, Oleg Rybak, and Philippe Huybrechts
Effect of fast dynamics on the centennial mass loss of the Greenland Ice Sheet

XL58 EGU2011-12584
Tobias Bolch, Philipp Rastner, and Frank Paul
Where is the boundary of the Greenland Icesheet?

XL59 EGU2011-12021
Jamie Rae, Gudfinna Adalgeirsdottir, Xavier Fettweis, Jonathan Gregory, Helene Hewitt, Jason Lowe, Philippe Lucas-Picher, Jeff Ridley, Willem Jan van de Berg, and Michiel van den Broeke
Intercomparison and validation of Greenland ice sheet surface mass balance calculated with three regional climate models

XL60 EGU2011-10207
Ralph Timmermann, Hartmut H. Hellmer, and Frank Kauker
Simulated Southern Ocean response to forcing with climate model output

XL61 EGU2011-10958
Sarah Shannon, Tamsin Edwards, and Anthony J. Payne
A method for obtaining initial conditions for the Antarctic ice sheet

XL62 EGU2011-5648
Fjo De Ridder, Oleg Rybak, Johannes Fürst, and Philippe Huybrechts
An improved implementation of grounding-zone dynamics in a 3D coupled ice-sheet ice-shelf model

XL63 EGU2011-3119
Miren Vizcaíno, William H. Lipscomb, and Michiel Van den Broeke
21st century changes in surface mass balance of the Greenland ice sheet as simulated by the Community Earth System Model
CR1.60 – State of the cryosphere: observations and modelling – Orals
Convener: Jonathan L. Bamber | Co-Conveners: Peter Lemke, Frank Pattyn, Stephan Gruber, Michiel Van den Broeke
Room: 5
Chairperson: Jonathan Bamber

10:30–10:45 EGU2011-6892

**Michael Zemp**, Karl Austnes, Hans-Martin Füssel, Isabelle Gärtner-Roer, Christian Huggel, Christoph Marty, Jakob Rhyner, and Thomas Voigt
Impacts of climate change on snow, ice, and permafrost in Europe: a review on observed trends, future projections, and socio-economic relevance

10:45–11:00 EGU2011-6885

**Gudfinna Adalgíisdóttir**, Sverrir Gudmundsson, Helgi Björnsson, Finnur Pálsson, Tómas Jóhannesson, Hrafnhildur Hannesdóttir, Sven P. Sigurðsson, and Etienne Berthier
Modeling of the 20th and 21st century evolution of Hoffellsjökull, a southeast outlet glacier of Vatnajökull ice cap, Iceland

11:00–11:15 EGU2011-9258

**Xavier Fettweis**, Michiel van den Broeke, Willem Jan van de Berg, Marco Tedesco, Alexandre Belleflamme, Bruno Franco, and Michel Erpicum
Explanation of the extreme low surface mass balance over the Greenland ice sheet in 2010 with the help of a regional climate model and a circulation type classification.

11:15–11:30 EGU2011-10857

**Adrian Luckman** and Dana Floricioiu
Petermann Glacier dynamics before and after the 2010 calving event

11:30–11:45 EGU2011-12454

**Eric Larour**, Eric Rignot, Dimitris Menemenlis, Michael Schodlok, Helene Seroussi, and Mathieu Morlighem
Sensitivity studies of ice flow acceleration in response to increased ice shelf melting in the region of Pine Island Glacier.
Eric Rignot, Jeremie Mouginot, and Bernd Scheuchl
Ice motion, grounding-line position, and ice discharge of the entire Antarctic continent from InSAR data

CR1.60 – State of the cryosphere: observations and modelling – Posters
Convener: Jonathan L. Bamber | Co-Conveners: Peter Lemke, Frank Pattyn, Stephan Gruber, Michiel Van den Broeke
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XL73 EGU2011-1919
Andreas Preußer, Günther Heinemann, and Clemens Drüe
Investigation of the dynamics of the North Water polynya for 1996-2010 using satellite data

XL74 EGU2011-1723
Sascha Willmes, Susanne Adams, David Schröder, and Günther Heinemann
Spatiotemporal variability of polynya dynamics and ice production in the Laptev Sea between the winters of 1979/80 and 2007/08

XL75 EGU2011-11807
Martin Scherler, Christian Hauck, and Martin Hoelzle
Projection of permafrost and snow cover evolution under climate change scenarios

XL76 EGU2011-11799
Matthias Huss, Daniel Farinotti, and Martin Funk
Ice thickness distribution of all mountain glaciers around the globe using the GLIMS database and SRTM/ASTER DEMs

XL77 EGU2011-8679
Etienne Cossart
Glacier variation in the Massif des Écrins during the 20th century: spatial and temporal patterns

XL78 EGU2011-12027
Rune Strand Oedegaard, Atle Nesje, Ketil Isaksen, and Trond Eiken
Perennial ice patch studies - preliminary results from a case study in Jotunheimen, southern Norway

XL79 EGU2011-3246
Marco Möller

XL80 EGU2011-12167
Anja Wendt, Francisca Bown, Andres Rivera, Rodrigo Zamora, Gino Casassa, Claudio Bravo, Mathias Frische, and Reinhard Dietrich
Ice velocity and ice elevation changes at Fleming Glacier, Antarctic Peninsula

XL81 EGU2011-7415
Charlotte Lang, Xavier Fettweis, and Michel Erpicum
Modelling of the surface mass balance in Svalbard with the regional climate MAR model over 1958-2010.

XL82 EGU2011-11853
Cameron Rye, Ian Willis, Neil Arnold, and Jack Kohler
Regional modelling of Svalbard glacier mass balance

XL83 EGU2011-10808
Matt Leppärinta, Elina Jaatinen, Yu Yang, Lauri Arvola, and Anniina Kiiltomäki
Investigations in ice-covered Lake Vanajavesi

XL84 EGU2011-10613
A. Malin Johansson, Peter Jansson, and Ian A. Brown
Birth and demise of lakes on the Greenland Ice Sheet

XL85 EGU2011-7651
Marco Tedesco, Xavier Fettweis, Michiel van den Broeke, Roderik van de Wal, Paul Smeets, Willem Jan van de Berg, Mark Serreze, and Jason Box
The role of albedo and accumulation in the 2010 melting record in Greenland.

XL86 EGU2011-7801
Ingo Sasgen, Zdenék Martinec, Bert Wouters, Michiel van den Broeke, Jonathan Bamber, and Louise Sandberg-Sørensen
Greenland ice-mass balance from satellite gravimetry: re-assessing the influence of glacial-isostatic adjustment

XL87 EGU2011-5844
Valentina R. Barletta, Andrea Bordoni, and Riccardo E.M. Riva
Seasonal variability over Antarctica in GRACE data: what is the main driver and is there a fast response to climate changes?
Antarctic interannual accumulation signals consistently monitored by GRACE satellite gravimetry and ENVISAT radar altimetry

CR10.10 – Climate change impacts on glaciers, permafrost and related hazards – Orals
Convener: Christoph Schneider | Co-Conveners: Andreas Kääb, Bruce Raup, Christian Huggel, Bruce Molnia, John Reynolds
Room: 5
Chairperson: n.n.

13:30–14:00 EGU2011-4926
Jon Ove Hagen, Jack Kohler, Geir Moholdt, Christopher Nuth, and Thomas Vikhamar Schuler
Svalbard glacier changes

14:00–14:15 EGU2011-3858
Inga Bergmann, Guillaume Ramillien, and Frédéric Frappart
Climate impact on the ice mass balance in Greenland for the recent period

14:15–14:30 EGU2011-11343
Andres Rivera, Felipe Napoleoni, Rodrigo Zamora, and Jorge Clavero
Thermal anomalies at Volcan Villarrica and their possible effects on glacier behaviour

14:30–14:45 EGU2011-7893
Andreas Linsbauer, Matthias Künzler, Frank Paul, Holger Frey, and Wilfried Haeberli
Future glacier lakes in the Swiss Alps: Modelling of overdeepenings in current glacier beds

14:45–15:00 EGU2011-10595
Sina Schneider, Martin Hoelzlze, and Christian Hauck
Mountain Permafrost - a useful indicator for climate change?
Chairperson: n.n.

15:30–15:45 EGU2011-5201
John Clague, Christian Huggel, Bill McGuire, and Xuebin Zhang
Impacts of climate change on hazardous processes in high mountains

15:45–16:00 EGU2011-2812
Koji Fujita and Takayuki Nuimura
Inhomogeneous wastage distribution of Himalayan glaciers

16:00–16:15 EGU2011-609
Felix Pithan
Glacier regime and climate sensitivity of Chhota Shigri glacier in western Himalaya explored by energy-balance modelling

16:15–16:30 EGU2011-6460
Alejandro Dussaillant
Cachet 2 Glacial-Lake Outburst Floods in the Colonia valley, Patagonia

16:30–16:45 EGU2011-5646
Wilfried Haeberli, Huggel Christian, and Portocarrero Cesar
Impact waves from rock/ice avalanches into new glacial lakes: lessons learned from the Nevada Hualcán/Laguna 513 event of 11 April 2010

16:45–17:00 EGU2011-9864
Wang Xin, Shi-Yin Liu, Xiao-Jun Yao, and Wan-Qin Guo
An approach for estimating the breach probabilities of glacial lakes in the Chinese Himalayas using remote-sensing data
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<td>Meteorological data and mass balance measurements on Davies Dome and Whisky Glacier in 2006-2010, James Ross Island, Antarctica</td>
<td>Kamil Láska, Daniel Nývlt, Zbyn?k Engel, and Veronika Kopa?ková</td>
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<td>XL92</td>
<td>Modelling volcano, climate and permafrost interactions on Deception Island, Maritime Antarctic</td>
<td>Antoine Marmy, Gonçalo Vieira, Miguel Ramos, and Christian Hauck</td>
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<td>XL93</td>
<td>Large velocity fluctuations of Biafo Glacier, central Karakoram, between 2000 and 2009, at high spatial and temporal resolution from optical satellite images</td>
<td>Dirk Scherier and Manfred Strecker</td>
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<td>XL94</td>
<td>The Adamello Glacier (Central Alps): areal and volumetric variation since the Little Ice Age</td>
<td>Carlo Baroni, Maria Cristina Salvatore, Andrea Tamburini, and Alberto Carton</td>
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<td>XL95</td>
<td>Rapid decline of the ice volume of tropical Lewis Glacier, Mount Kenya, during the last half-century</td>
<td>Rainer Prinz, Andreas Fischer, Lindsey Nicholson, Stefanie Gruber, and Georg Kaser</td>
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<td>XL96</td>
<td>Oblique photography for short-term monitoring of glacier mass balance</td>
<td>Matthias Huss, Mazzal Stokvis, and Martin Hoelzle</td>
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<td>XL97</td>
<td>Statistical modelling of climate related future mass balance changes of maritime mountain glaciers in Norway</td>
<td>Sebastian Mutz, Heiko Paeth, and Stefan Winkler</td>
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<td>XL98</td>
<td>Rapid topographic changes in a glacierised and permafrost-affected high-mountain flank caused by large slope failures</td>
<td>Luzia Fischer, Christian Huggel, Andreas Klåab, and Wilfried Haeberli</td>
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<td>XL99</td>
<td>Remobilization of Alpine Holocene debris fans: do climate change impacts increase debris flow hazards?</td>
<td>Christian Huggel, Brian McCarrdell, Thomas Scheuner, Wilfried Haeberli, Markus Stoßel</td>
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<td>XL100</td>
<td>The existence of warm permafrost in unstable rock slopes in western and northern Norway</td>
<td>Kjetil Isaksen, Lars Harald Blåker, and Trond Eiken</td>
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<td>XL101</td>
<td>Impact of climate change on flood frequency in glaciated versus non-glaciated sub-arctic catchments</td>
<td>Jean F. Schneider and Martin Mergili</td>
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<td>XL102</td>
<td>Integration of geomorphological field surveys and geomatics methodologies for natural hazards assessment in glacial and periglacial areas of the Piemonte Region (NW-Italy)</td>
<td>Marta Chiarle, Stefania Bertotto, Gianfranco Fioraso, Marco Giardino, Giovanni Mortara, Guido Nigrelli, and Luigi Perotti</td>
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<td>XL103</td>
<td>Impact of climate change on flood frequency in glaciated versus non-glaciated sub-arctic catchments</td>
<td>Helen Dahlke, Steve Lyon, Jery Stedinger, Gunhild Rosqvist, and Peter Jansson</td>
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<td>XL104</td>
<td>How Central Himalayan water towers respond to climate change? A particular emphasis on glacial lakes as useful index</td>
<td>Franco Salerno, Sudeep Thakury, Carlo D'Agata, Claudio Smiraglia, and Gianni Tartari</td>
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<td>XL105</td>
<td>Future hydrological regimes of the upper Indus basin: a preliminary assessment</td>
<td>Andrea Soncini, Claudia Mihalcea, Carlo D'Agata, Christoph Mayer, Astrid Lambrecht, Guglielmina Dolaiuti, Daniele Bocchiola, Claudio Smiraglia, and Renzo Rosso</td>
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<td>XL106</td>
<td>Spatial distribution of glacier area changes in the Himalaya using remote sensing and regression trees: a case study from Sikkim</td>
<td>Adina Racoviteanu, Mark Williams, and Noah Molotch</td>
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<td>XL107</td>
<td>Formation condition of debris-covered glaciers in the Bhutan Himalaya derived by satellite data</td>
<td>Hiroto Nagai, Koji Fujita, and Takayuki Nuimura</td>
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<td>Re-evaluation of potential risk of glacial lake outburst flood in the Himalayas</td>
<td>Koji Fujita, Akiko Sakai, Arzhan B. Surazakov, Tsutomu Yamanokuchi, and Shuhei Takenaka</td>
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<td>XL109</td>
<td>Spatial distribution of glacier area changes in the Himalaya using remote sensing and regression trees: a case study from Sikkim</td>
<td>Martin Mergili, Christian Kopf, Bernhard Müllebner, and Jean F. Schneider</td>
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Bohumir Jansky, Michal ?erný, Miroslav Šobr, Zbyn?k Engel, Jan Kocum, John M. Reynolds, and Sergeuei Yerokhin
Impact of the climate change on the Petrov Lake evolution (Tien Shan mountains, Kyrgyzstan)

XL111  EGU2011-9756
Yao Xiaojun, shiyin liu, junfeng wei, and wanqin guo
Reservoir Capacity Calculation and Variation of Moraine-dammed Lakes in the North Himalayas: A Case Study of Longbasaba Lake

XL112  EGU2011-11790
Petteri Alho, Victor Baker, and Larry Smith
Computational fluid dynamics of paleoglacial lake: reconstruction of Glacial Lake Missoula

XL113  EGU2011-1929
Olivier Gagliardini, Fabien Gillet-Chaulet, Gaël Durand, Christian Vincent, and Paul Duval
Operational ice-flow modelling at Tête Rousse glacier, French Alps

ESSI7 – Earth System Modeling: Strategies and Software (co-listed) – Posters
Convener: Reinhard Budich | Co-Conveners: Dan Lunt

Hall XL | Display Time 08:00–19:30
Author in Attendance: 15:30–17:00
Chairperson: n.n.

XL159  EGU2011-3358
Sven Kralisch, Peter Krause, and Christian Fischer
JAMS - a Software Framework for Integrated Environmental Modelling

XL160  EGU2011-5803
Paolo Mazzetti, Stefano Nativi, Mattia Santoro, and Gary Geller
The GEO Model Web Initiative for Environmental Model Access Interoperability

XL161  EGU2011-9753
Oliver Schmitz, Derek Karsenberg, Kor de Jong, and Jean-Luc de Kok
Constructing integrated models: a scheduler to execute coupled components

XL162  EGU2011-8459
Sarah Callaghan, Mark Morgan, Eric Guilyardi, Sophie Valcke, Charlotte Pascoe, Bryan Lawrence and the METAFOR Project Team
Supporting the climate community by providing common metadata for climate modelling digital repositories: the METAFOR project.

XL163  EGU2011-10324
Alessandro Spinuso, Luca Trani, Malcolm Atkinson, and Michelle Galea
Infrastructure for Data-Intensive Seismology: Cross-correlation of distributed seismic traces through the ADMIRE framework

XL164  EGU2011-11152
Raffaele Guarino and Mirko Albani
LTDP/FIRST Earth Science User Requirements

XL165  EGU2011-8307
Lars Hoffmann, Paul Gibbon, Ole Kirner, and Stefan Versick
Simulation Laboratories for Climate Sciences and Environmental Research

XL166  EGU2011-9128
Arnaud Caubel, Yann Meurdesoif, Alexis Canévet, Marie-Alice Foujols, Olivier Marti, Sebastien Masson, and Sophie Valcke
Parallel optimization of IPSL climate model

XL167  EGU2011-12320
Claudio Schifani, Rudy Rossetto, and Iacopo Borsi
Open Source GIS tools for Water Resources Management

XL168  EGU2011-6341
Thomas Jung, Sergey Danilov, Kerstin Fieg, Wolfgang Hiller, Jens Schroeter, Dmitry Sidorenko, and Qiang Wang
Towards a coupled climate model with a finite-element sea ice-ocean representation

XL169  EGU2011-7726
Jon Hill and the Applied Modelling and Computation Group Team
Fluidity - an open-source, next-generation, fluid dynamics framework

GM7.4 – River and slope responses to climate change in steep landscapes (co-listed) – Orals
Convener: John Jansen | Co-Conveners: Etienne Cossart, Pierre Valla, Monique Fort, Romain Delunel
Room: 22
Chairperson: John Jansen
13:30–13:45  EGU2011-3620
Kevin Norton, Fabien van den Berg, Sara Savi, Mirjam Dürst Stucki, and Fritz Schlunegger
After the ice: Geomorphic processes and rates in Alpine settings following deglaciation

13:45–14:00  EGU2011-11826
Dirk Scherler
Climate variability and glacial dynamics in the Himalaya and potential impacts on rivers

14:00–14:15  EGU2011-7865
Christophe Corona, Lopez Saez Jérôme, Edouard Jean-Louis, Rovéra Georges, and Berger Frédéric
Impact of climate change on snow avalanche activity: contribution of a continuous 1338-2010 dendrogeomorphic reconstruction (Queyras massif, French Alps)

14:15–14:30  EGU2011-7276
Florian Kober, Kristina Hippe, Bernhard Salcher, Susan Ivy-Ochs, Peter W. Kubik, and Sean D. Willett
On the influence of debris flows and river restoration on cosmotogenically derived catchment wide denudation rates

14:30–14:45  EGU2011-8472
Ludovic Ravanel and Philip Deline
Rockfalls and climate in the permafrost-affected rockwalls of the Mont Blanc massif

14:45–15:00  EGU2011-11543
Calligaris Chiara, Ceccone Giulio, Dini Michela, Liuzzi Franco, Poretti Giorgio, and Zini Luca
Can climate changes influence the triggering of a DGSD? A possible example in northern Italy.

GM7.4 – River and slope responses to climate change in steep landscapes (co-listed) – Posters
Convener: John Jansen | Co-Conveners: Etienne Cossart, Pierre Valla, Monique Fort, Romain Delunel
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Pierre Valla

A126  EGU2011-181
Katja Laute, Achim A. Beylich, and Louise Hansen
Late Holocene hillslope dynamics in two paraglacial valley systems, Western Norway

A127  EGU2011-1613
Diether Sanders and Marc Ostermann
From Late-Glacial aggradation to Holocene incision of talus: Examples from the Northern Calcareous Alps (Austria).

A128  EGU2011-2593
Chenet Marie and Roussel Erwan
Evaluation of a paraglacial crisis on slopes deglaciated since the Little Ice Age in South-east Iceland

A129  EGU2011-7157
Benoit Bovy, Alain Demoulin, and Jean Braun
A new numerical model to study the influence of climate on hillslope sediment supply: first results

A130  EGU2011-12969
Marco Giardino, Sara Ratto, Mauro Palomba, and Walter Alberto
Static and dynamic controls on slope instabilities: the interplay of litho-structural conditions and climate change in the Aosta Valley Region (Western Alps, Italy)

A131  EGU2011-12682
Stephan Gruber
Thermal regime and permafrost conditions within bedrock slopes

A132  EGU2011-12825
Kerry Leith, Jeff Moore, Florian Amann, and Simon Loew
Effect of glacial ice cover on fracturing in critically stressed bedrock

A133  EGU2011-8268
Bernhard Salcher, Florian Kober, and Sean Willett
Contemporary erosion rates above and below the Alpine LGM ELA

A134  EGU2011-8100
Esperanza Muñoz-Salinas, Paul Bishop, David Palacios, Miguel Castillo, David Sanderson, Tim Kinnaird, and Javier Marcos
Unravelling fluvioglacial and post-glacial debris flows on Gredos mountain range, Central Spain, using OSL

A135  EGU2011-12604
Veronica Ochoa-Tejeda, Victor Hugo Garduño, Jean-François Parrot, and Monique Fort
Devastation caused by mud flow in a narrow valley. Simulation of the event that affected in 2010 the town of Angangueo, Michoacan State, Mexico.

GM9.1 – Cold regions geomorphology (co-listed) – Orals
Convener: Isabelle Gärtner-Roer | Co-Conveners: Sven Lukas, Matteo Spagnolo
Room: 21  
Chairperson: Isabelle Gärtner-Roer, Sven Lukas

08:30–08:45  EGU2011-1619  
**Bernd Etzelmüller** and Ivar Berthling  
Cryo-conditioning of landform and landscape development - suggestions and examples from northern Europe

08:45–09:00  EGU2011-5997  
**Karianne S. Lilleøren**, Bernd Etzelmüller, Kjersti Gisnáas, and Thomas V. Schuler  
Estimating depth and spatial distribution of Holocene permafrost in Norway

09:00–09:15  EGU2011-13327  
**Alexander Bast** and Christof Kneisel  
The surface in the subsurface? - Towards small-scale permafrost distribution and quasi-3D resistivity imaging

09:15–09:30  EGU2011-10874  
**Martin Kirkbride**  
What do glacial moraine chronologies really tell us about climate?

09:30–09:45  EGU2011-189  
**Clare Boston**, Sven Lukas, and Simon Carr  
Patterns of ice retreat and plateau icefield dynamics in the Monadhliath Mountains, Scotland

09:45–10:00  EGU2011-87  
**Matt Strzelecki**  
Paraglacial processes operating on High Arctic coastal margins - recent advances from Svalbard.

**GM9.1 – Cold regions geomorphology (co-listed) – Posters**  
Convener: Isabelle Gärtner-Roer | Co-Conveners: Sven Lukas, Matteo Spagnolo  
Hall A | Display Time 08:00–19:30  
Author in Attendance: 17:30–19:00  
Chairperson: Matteo Spagnolo

A145  EGU2011-1779  
**Michael Dietze**, Manfred Buchroithner, and Arno Kleber  
The Valle de Barrancas Blancas: landscape evolution of a hyper arid, high-altitude basin in the Atacama Andes

A146  EGU2011-11465  
**Adrien Moulin**, Lucilla Benedetti, Jérôme Van der Woerd, Ata Elias, Pierre-Henri Blard, Robert Finkel, Regis Braucher, Jérôme Lavé, Didier Bourles, Mathieu Daeron and the Paul Tapponnier Team  
LGM glaciers on Mount Lebanon? New insights from 36Cl exposure dating of moraine boulders

A147  EGU2011-11416  
**Matteo Spagnolo**, Isabelle Gärtner-Roer, and Sven Lukas  
Linking glacial, periglacial and paraglacial processes: the challenge of cold regions geomorphology

A148  EGU2011-13040  
**Sven Lukas**, Sandro Coray, and Andreas Graf  
The influence of using mixed lithologies in clast shape measurements on its discriminatory power - a case study from a temperate Alpine glacier

A149  EGU2011-2537  
**Maarten Krabbendam** and Neil Glasser  
Bedrock properties and glacial erosion: hardness and joint spacing, abrasion and plucking

A150  EGU2011-6069  
**Karianne S. Lilleøren**, Isabelle Gärtner-Röer, Bernd Etzelmüller, and Agust Guðmundsson  
A new assessment of rock glacier distribution in Tröllaskagi peninsula, northern Iceland

A151  EGU2011-9741  
Lorenzo Rieg, Erik Bollmann, Tobias Huber, Karl Krainer, Volkmar Mair, Rudolf Sailer, Maximilian Sproß, and Johann Stötter  
Multivariate statistical analyses of the south-tyrolean rockglacier inventory

A152  EGU2011-9758  
**Lorenzo Rieg**, Erik Bollmann, Rudolf Sailer, Maximilian Sproß, and Johann Stötter  
Vegetation on alpine rockglaciers in relation to surface velocity and surface structure

A153  EGU2011-13037  
**Andreas Kellere-Pirkbauer**  
Potential and limitations of the Schmidt-hammer as a relative age dating tool for rock glacier surfaces

A154  EGU2011-11173  
**Michèle Curtaz**, Marco Vagliasindi, Stéphanie Letey, Umberto Morra di Cella, and Paolo Pogliotti  
A new rock glaciers inventory in the North-Western Alps
A155  EGU2011-11643
Riccardo Scotti, Francesco Brardinoni, Giovanni Battista Crosta, Paolo Frattini, and Elena Valbuzzi
Rock glacier inventory in the Orobie Alps and the Livigno Valley, central Italian Alps

GM9.2 – Glacial landforms and palaeoclimatic interpretation (co-listed) – Orals
Convener: Stefan Winkler | Co-Conveners: Tim Davies, Lasafam Iturrizaga, Martin Kirkbride
Room: 21
Chairperson: Stefan Winkler

10:30–10:45  EGU2011-9961
Philip Deline
Influences of rock avalanches on glacier behaviour and moraine formation in the Western European Alps

10:45–11:00  EGU2011-1808
Rosa M. Carrasco, Javier de Pedraza, and David Dominguez-Villar
The supraglacial debris supply in Cuerpo de Hombre paleoglacier (Spanish Central System). Reconstruction and interpretation of a rock avalanche event

11:00–11:15  EGU2011-202
Natalya V. Reznichenko
A criterion for recognising rock avalanche sediments in glacial moraines

11:15–11:30  EGU2011-8669
Lasafam Iturrizaga
End moraine systems in the context of catastrophic and gradual processes in the Central Andes (33°-34°S)

11:30–11:45  EGU2011-5327
Martin Brook, Vince Neall, Bob Stewart, Rob Dykes, and Derek Birks
Recognition and palaeoclimatic implications of Late Holocene glaciation on Mt Taranaki, North Island, New Zealand

11:45–12:00  EGU2011-4084
Anna Agatova, Andrei Nazarov, Roman Nepop, and Liubov' Orlova
The late Holocene climatic variations in Russian Altai (Central Asia) on the basis of glaciations radiocarbon chronology

GM9.2 – Glacial landforms and palaeoclimatic interpretation (co-listed) – Posters
Convener: Stefan Winkler | Co-Conveners: Tim Davies, Lasafam Iturrizaga, Martin Kirkbride
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Lasafam Iturrizaga

A156  EGU2011-13828
Stuart Dunning, John Woodward, Andrew Turner, and Tim Davies
Landslides onto glaciers - absence of evidence is not evidence of absence

A157  EGU2011-13830
James Shulmeister, Daniel Santamaria-Tovar, Natalya Reznichenko, and Tim Davies
Classical Moraine, Non-classical Cause: The Waiho Loop, New Zealand

A158  EGU2011-2770
Samuel McColl and Timothy Davies
Rock avalanche demolishes palaeoclimatic evidence in New Zealand: ‘The Hillocks’

A159  EGU2011-13833
Martin Brook and Stefan Winkler
Moraine formation at advancing temperate maritime glaciers: Fox and Franz Josef Glaciers, Southern Alps, New Zealand

A160  EGU2011-13831
John A. Matthews and Stefan Winkler
Recent terminal moraine formation at Jostedalsbreen, South Norway, and its palaeoclimatic implication

A161  EGU2011-13832
Daniel Jäger and Stefan Winkler
The potential of lateral moraines on alpine glacier forelands for reconstructing Holocene glacier chronologies - some examples

A162  EGU2011-13852
Jianwei Lin, Shihjeng Chyi, Lide Ho, Shanshan Chang, Chen Chu, Huayu Lu, and Shuangwen Yi
Late Pleistocene to early Holocene glacial landforms of Yushan area, Taiwan

A163  EGU2011-9340
Regina Reber, Naki Akgar, Susan Ivy-Ochs, Peter W. Kubik, and Christian Schlüchter
New exposure ages from Erratic-boulders in the lower Reuss-valley (Switzerland)
A164  EGU2011-10853
Martin Kirkbride and Andrew Dugmore
Tephrochronology and the status of the Little Ice Age glacial maximum in Iceland.

A165  EGU2011-1106
Stefan Winkler
Application of Schmidt-hammer exposure-age dating (SHD) to improve numerical age dating of Holocene moraines

A166  EGU2011-13829
Martin Brook and Jacob Williams
Recognition of a pronival ("protalus") rampart in the Tararua Range, North Island, New Zealand

HS6.7 – SMOS Data Exploitation: Beyond soil moisture and ocean salinity (co-listed) – Posters
Convener: Susanne Mecklenburg | Co-Conveners: Lars Kaleschke, Jouni Pulliainen, Matthias Drusch
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: n.n.

A384  EGU2011-4975
Lars Kaleschke, Xiangshan Tian-Kunze, and Nina Maaß
Sea ice thickness temporal evolution during the Arctic freeze-up as seen by SMOS

A385  EGU2011-8409
Alok Sahoo, Eric Wood, Justin Sheffield, Ming Pan, Ahmad Albitar, Delphine Leroux, and Yann Kerr
A strategy for global drought monitoring using SMOS soil moisture observations

A386  EGU2011-6102
Nina Maass, Lars Kaleschke, Xiangshan Tian-Kunze, and Marko Mäkynen
Sea ice thickness retrieval in the Baltic Sea using SMOS

A387  EGU2011-10248
Joaquin Muñoz-Sabater, Patricia de Rosnay, Mohamed Dahoui, and Matthias Drusch
Monitoring SMOS data at ECMWF

A388  EGU2011-12623
Kimmo Rautiainen, Jouni Pulliainen, Juha Lemmetyinen, Juho Vehviläinen, and Anna Kontu
Boreal Soil Measurements Using L-band Radiometers, SMOS and ELBARA-II

A389  EGU2011-14099
Roger Oliva, Rita Castro, Jose Barbosa, Yann Kerr, Manuel Martin-Neira, and Elena Daganzo
Dealing with Radio Frequency Interference in SMOS Data
**Wednesday, 06 April**

**CR4.10 – Open Session on Permafrost – Orals**
Convener: Stephan Gruber | Co-Conveners: Jeannette Noetzli
Room: 5
Chairperson: S. Gruber, J. Noetzli

08:30–09:00  EGU2011-11021
The borehole 2Alpes-3065 - a pilot installation for fiber optic DTS measurements in permafrost

09:00–09:15  EGU2011-13101
**Hugues Lantuit**, Hans-Wolfgang Hubberten, and Hanne Christiansen
The Global Terrestrial Network for Permafrost (GTN-P): Where do we go from there?

09:15–09:30  EGU2011-5636
**Thomas Grunewald**, Erick Mendez, Urs Roos, Carlo Danioth, and Marcia Phillips
Monitoring infrastructure stability in alpine permafrost

09:30–09:45  EGU2011-3537
**Yuko Yamamoto** and Sarah M. Springman
Triaxial tests on artificial frozen soil samples at temperatures close to 0°C

09:45–10:00  EGU2011-4165
**Sebastien Monnier**, Christophe Kinnard, Rodrigo Saéz, Roberto Garrido, Christian Camerlynck, and Fayçal Rejiba
The internal structure and the cryologic importance of the rock glaciers of the Los Pelambres mine (Upper Choapa Valley, Semi-arid Andes of Chile)

**COFFEE BREAK**

Chairperson: S. Gruber, J. Noetzli

10:30–10:45  EGU2011-1028
**Erika Grechishcheva** and Rimma Motenko
Experimental research of joint influence of salinization and petroleum pollution on thermal properties of frozen kaolinitic clay

10:45–11:00  EGU2011-11410
**Poul Christoffersen**, Toby Benham, and Julian Dowdeswell
Lake-change trends and permafrost thaw on the Arctic coastal plain of Alaska

11:00–11:15  EGU2011-5353
**Paolo Pogliotti**, Stephan Gruber, Marco Giardino, Matteo Dall’Amico, Edoardo Cremonese, and Umberto Morra di Cella
Influence of snow cover on MAGST over complex morphologies

11:15–11:30  EGU2011-5589
**Herman Farbrot**, Ketil Isaksen, Bernd Etzelmüller, Karianne Lilleørren, Christian Hauck, Christin Hilbich, Antoni Lewkowicz, and Jan Steinar Rønning
Two-dimensional distribution of ground temperatures at Iskoras, northern Norway

11:30–11:45  EGU2011-10885
**Tanja Blome** and Stefan Hagemann
Simulations of Siberian climate using REMO with changed soil parameterizations: Influence of permafrost-relevant processes

11:45–12:00  EGU2011-601
**Guillaume Levavasseur**, Mathieu Vrac, Didier Roche, Didier Paillard, Armel Martin, and Jeff Vandenbergh
Present and LGM permafrost from climate simulations : contribution of statistical downscaling
Jan-Christoph Otto, Magdalena Rupprechter, Joachim Götz, Matthias Marbach, Felix Keller, and Lothar Schrott
Changing permafrost distribution in the Glatzbach catchment, Austrian Alps - A response to 20 years of climate change?

Jacopo Gabrielli, Andrea Crepaz, Anselmo Cagnati, Anna Galuppo, and Carlo Barbante
Geochemistry and isotopic composition of a rock glacier outflow in the Dolomites, Eastern Italian Alps

Julien Fouché, Michel Allard, Jean Paul Ambrosi, and Catherine Keller
Global Warming Impacts on the Biogeochemical Functioning of the Arctic Cryosols in the Salluit region, Nunavik (Québec, CANADA).

Maria Cherbunina and Lev Khrustalev
Choosing optimal decisions on laying pipelines in permafrost in terms of the reliability theory.

Elena Kuznetsova and Rimma Motenko
The influence of ice and unfrozen water content on the thermal conductivity of frozen volcanic ashes (Kamchatka)

Pavel Kotov
The study of deformation characteristics of thawing soils of Vankor oilfield

Georg Schwamborn
Sediment move into the 3.6 Mya old El'gygytgyn Crater Lake, NE Russian Arctic, as recorded by frozen alluvial fan deposits

Michaela Ferbar and Leif Sorbel
Palsa monitoring in Dovrefjell, Southern Norway

Ute Wolßschläger, Xicai Pan, Jens Weismüller, Qihao Yu, and Kurt Roth
Weather and active layer dynamics of a high-altitude, arid permafrost site, Tianshuihai Lake region, W-Tibetan Plateau

Paulo Maciel Amaral, António Correia, Gonçalo Vieira, Miguel Ramos, and Alexandre Trindade
Physical properties of rocks from a 15 m deep borehole in Reina Sofia Mountain, Livingston Island, Maritime Antarctica

Ludovic Ravanel, Philip Deline, Florence Magnin, Emmanuel Malet, and Jeannette Noetzli
The first year of borehole measurements in the rock permafrost at Aiguille du Midi (3842 m a.s.l., Mont Blanc massif)

Andreas Kellerer-Pirklbauer
Thermal regime of ground surfaces in different alpine areas of Central and Eastern Austria between 2006 and 2010

Andrea Crepaz, Anselmo Cagnati, Anna Galuppo, Laura Magnabosco, and Valentina Defendi
The borehole of Piz Boè (Dolomites, Eastern Italian Alps): first results

Andrea Crepaz, Anselmo Cagnati, Anna Galuppo, Federico Carollo, Francesco Marinoni, Laura Magnabosco, and Valentina Defendi
Geophysical measurements on Piz Boè rock glacier (Dolomites, Eastern Italian Alps)

Julie Kaestl and Christof Kneisel
Permafrost dynamics within the Muragl glacier forefield (Swiss Alps) - Characterization by a geophysical and photogrammetrical approach

Robert Supper, Axl Römer, and Birgit Jochum
Permanent geoelectrical monitoring in a permafrost region (Mölltaler Glacier)

Sarah Verleysdonk and Michael Krautblatter
Rock permafrost at the Piz Corvatsch - A multi-method instability analysis

Jeffrey Moore, Valentin Gischig, Maren Katterbach, and Simon Loew
Convective air venting from deep fractures and the temperature field of an alpine rock slope (Randa, VS)
Instabilities in alpine Permafrost: Characterisation, Monitoring and Modelling of Active Rock Glaciers

Developing a monitoring expert system for hazardous rock walls in high mountain areas - concept and preliminary results, Kitzsteinhorn (3203 m), Hohe Tauern, Austria

The PermaNET project: a multi-disciplinary approach to map permafrost and assess related mass-movements.

Spatial extent of Permafrost in the Southern Alps: Modeling from spring water temperature sources and topoclimatic factors.

Quantification of air driven heat transfer within the active layer of rock glacier Murtèl-Corvatsch

Variability of active layer thickness prediction from a climate model forced permafrost model

Regional scale distribution of permafrost in Norway based on two equilibrium models.

Analyses of a hierarchy of frozen soil models for cold region study—The justification, ability, and uncertainty

Non-isothermal, three-phase simulations of near-surface flows in a model permafrost system under seasonal variability and climate change

Impact of permafrost development on underground flow patterns: results from a numerical study considering freezing cycles on a 2D vertical cut through a river-plain system

Size matters - very high resolution permafrost simulations on the 4 km scale in Northeast European Russia

CRYOSUB: a concept for continental modelling of cryospheric processes at sub-grid scales in high mountain regions

An inventory of permafrost evidences for the European Alps
XL131  EGU2011-9720
Lorenz Boeckli, Stephan Gruber, Jeannette Noetzli, and Alexander Brenning
An alpine-wide permafrost distribution map

XL132  EGU2011-12313
Bruce Stevens, Hugo Beltrami, J. Fidel Gonzalez-Rouco, Juan Jose Gomez Navarro, and Juan Pedro Montavez
Validation of ERA40/ECHO-G-dynamically downscaled MM5 with applications in permafrost modelling

XL133  EGU2011-11399
Ruth Mugford, Poul Christoffersen, Julian Dowdeswell, and Toby Benham
Validation of the GEOtop Model for a Continuous Permafrost Basin in the Arctic

XL134  EGU2011-13620
Stefano Endrizzi, Stephan Gruber, Matteo Dall'Amico, and Riccardo Rigon
The GEOtop model as a tool to describe the energy and water balance in permafrost or seasonally-frozen soils

XL135  EGU2011-11801
Jeannette Noetzli, Edoardo Cremonese, Philip Deline, Stefano Endrizzi, Stephan Gruber, Stefanie Gubler, Florence Magnin, Umberto Morra di Cella, Paolo Pogliotti, and Ludovic Ravanel
Towards the simulation of a transient 3-dimensional temperature field of the Aiguille du Midi (Mont Blanc massif)

XL136  EGU2011-11466
Matthias Huss, Martin Scherler, Sina Schneider, Martin Hoelzle, and Christian Hauck
Future water yield from melting mountain permafrost: A fully distributed modelling approach

XL137  EGU2011-550
Alex Matveev, Laxmi Sushama, Rene Laprise, Hugo Beltrami, and Andrey Martynov
Development of a Thermokarst Lake Model for the Canadian RCM to study coupled interactions (Thermokarst Lake-Permafrost-Climate) in the Arctic

XL138  EGU2011-8741
Altug Ekici, Christian Beer, Stefan Hagemann, Tanja Blome, and Christian Hauck
Effects of soil thermal dynamics on the carbon balance in high-latitude permafrost regions: a modeling study with Jobach

Convener: Reginald Muskett | Co-Conveners: Claude Duguay, Julia Boike
Room: 5
Chairperson: Reginald R. Muskett

15:30–15:45  EGU2011-3821
Ko van Huissteden, Cinzia Berrittella, Yanjiao Mi, Frans-Jan Parmentier, Han Dolman, and Trofim C. Maximov
A landscape scale model of thaw lake development and its implications for Arctic methane emission.

15:45–16:00  EGU2011-3879
Reginald Muskett and Vladimir Romanovsky
ICESat-Derived Surface Changes Across the Permafrost Zones of Eurasia and North America

16:00–16:15  EGU2011-3990
Lyudmila Lebedeva and Olga Semenova
Active layer depth as a key factor of runoff formation in permafrost: process analysis and modelling using the data of long-term observations

16:15–16:30  EGU2011-10342
Birgit Heim, Annett Bartsch, Julia Boike, Claude Duguay, Kirsten Elger, Moritz Langer, Hugues Lantuit, and Sina Muster
ESA DUE PERMAFROST: Evaluation of geophysical remote sensing products for permafrost applications

16:30–16:45  EGU2011-11773
Aiman Soliman, Claude Duguay, Sonia Hachen, William Saunders, and Kyung-Kuk Kang
Estimating thermal offset between land surface and screen height air temperature over the pan-Arctic region using operational satellite images

16:45–17:00  EGU2011-12162
Christian Hauck, Martin Hoelzle, Martin Scherler, Sina Schneider, and Christin Hilbich
On the use of water content monitoring to study the evolution of mountain permafrost

Convener: Reginald Muskett | Co-Conveners: Claude Duguay, Julia Boike
Assessment of the sensitivity of mountain permafrost to climate change: A comparison between southern Norway and the Swiss Alps

Anna Maria Trofaier, William Gareth Rees, Annett Bartsch, Daniel Sabel, and Stefan Schlaffer
Thermokarst lake dynamics on the Yamal Peninsula, Siberia

Increased greenhouse gas emission from thaw ponds in Siberian arctic tundra on continuous permafrost.

Yanjiao Mi and Ko van Huissteden
Future methane emission from arctic thaw lakes modelled for different climate scenarios.

Thomas Echelard, Jean-Michel Krysiecki, Chloé Barboux, Michel Gay, and Philippe Schoeneich
Movement detection by InSAR in permafrost area, Queyras Natural Regional Park, Hautes-Alpes, France.

Xicai Pan, Ute Wollschläger, Qihao Yu, and Kurt Roth
Thermal characterization of two contrasting active layers in the warm permafrost region on the Qinghai-Tibet Plateau

Erik Bollmann, Christoph Klug, Karl Krainer, Lorenzo Rieg, Rudolf Sailer, Maximilian Spross, and Johann Stötter
Combination of photogrammetry and airborne laser scanning to derive horizontal flow velocities and volume changes of rockglaciers
XL146  EGU2011-5898
Malou Maris and Hans Oerlemans
The effect of different climate states on the Antarctic Ice Sheet

XL147  EGU2011-12717
Jorge Alvarez-Solas, Marisa Montoya, Catherine Ritz, Sylvie Charbit, Gilles Ramstein, and Christophe Dumas
Simulating the effects of oceanic variability on millennial-scale iceberg discharges: focus on Heinrich events

XL148  EGU2011-9919
Dirk Barbi, Gerrit Lohmann, Malte Thoma, and Klaus Grosfeld
The impact of ice sheet dynamics on ocean circulation in a coupled Earth system model

XL149  EGU2011-10022
Heiko Goelzer, Ives Janssens, Johanna Nemec, and Philippe Huybrechts
A dynamic continental runoff routing model applied to the last Northern Hemisphere deglaciation

XL150  EGU2011-2448
Maria Hakuba, Doris Folini, Martin Wild, and Christoph Schär
Greenland in a changing climate: topographic feedback on snow accumulation

XL151  EGU2011-10726
Florian Ziemen, Christian Rodehacke, Andreas Chlond, and Uwe Mikolajewicz
Simulating Heinrich Events in a Complex Climate Model

XL152  EGU2011-7035
Sylvie Charbit, Christophe Dumas, Masa Kageyama, Catherine Ritz, and Didier Roche
Investigating the impact of the ablation parameterization on simulated ice sheets over the last glacial cycle

XL153  EGU2011-3410
Suchithra Sundaram, Qiuzhen Yin, Andre Berger, and Helene Muri
Ice sheet induced North Atlantic Oscillation mode during an interglacial 500,000 years ago and its impact on East Asian Summer Monsoon

XL154  EGU2011-7858
Aurélien Quiquet, Ralf Greve, and Catherine Ritz
Modelling the Greenland Ice Sheet through the last glacial-interglacial cycle: climatic constraints and climatic uncertainties

XL155  EGU2011-10873
Martin Stendel, Sebastian Mernild, Jens Hesselbjerg Christensen, Glen E. Liston, Christopher A. Hiemstra, Bent Hasholt, Gudfinna Adalgeirsdottir, Philippe Lucas-Picher, and Ruth Mottram
High resolution modelling of surface mass balance in Western Greenland

XL156  EGU2011-484
David Naafs, Jens Hefter, Patrizia Ferretti, Ruediger Stein, and Gerald Haug
What controlled the onset of Hudson Strait Heinrich(-like) events in the Mid-Pleistocene (~640 ka)?

XL157  EGU2011-13818
Oleg Rybak and Philippe Huybrechts
Ensemble simulations of the minimum configuration of the Greenland ice sheet during the Last Interglacial constrained by ice-core data
Thursday, 07 April

**BG5.1 – Integration of Environmental, Socio-Economic and Climatic Change Studies in Northern Eurasia (co-listed) – Orals**

**Convener:** Pavel Groisman | **Co-Conveners:** Amber Soja, Alexey V. Eliseev, Chaba Mátyás

**Room:** 23

**Chairperson:** n.n.

08:30–08:45 EGU2011-5341

**Evgeny Gordov**, Vasily Bogomolov, Elena Genina, Igor Okladnikov, Tamara Shulgina, and Alexander Titov

Characteristics of on-going changes of Siberia climate

08:45–09:00 EGU2011-12740

**Eric Wood**, Tara Troy, Ming Pan, Michael Rawlins, and Xiaogang Shi

Documenting the uncertainty of the terrestrial water cycle across NESSPI and its effect on trend and attribution studies

09:00–09:15 EGU2011-4422

**Olga Zolina**, Clemens Simmer, and Sergey Gulev

Extreme precipitation characteristics over Eurasian continent: uncertainties of estimation and climate variability

09:15–09:30 EGU2011-12523

**Terry Callaghan**, Stef Bokhorst, Ross Brown, Pavel Y. Groisman, Cecilia Johansson, Margareta Johansson, Niklas Labba, Vladimir Radionov, and Jan Åge Riseth

Winter snow melt events in the Eurasian Arctic: consequences analysed from scientific and indigenous knowledge

09:30–09:45 EGU2011-3882

**Reginald Muskett** and Vladimir Romanovsky

Permafrost Ecosystem Changes Across Eurasia and North America Using Multi-Satellite Measurements

09:45–10:00 EGU2011-9665

**Vladimir Alexeev**

Tundra fires and sea ice in the Arctic

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**COFFEE BREAK**

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**Chairperson:** Csaba Mátyás, Alexey Eliseev

10:30–10:45 EGU2011-9564

**Dennis Lettenmaier**, Ted Bohn, Shamil Maksyutov, and Qianlai Zhuang

Understanding the interaction of carbon and water budgets in the Eurasian Arctic

10:45–11:00 EGU2011-1515

**Alexey V. Eliseev**

Uncertainty of climate and carbon cycle changes in North Eurasia due to uncertainty in values of terrestrial biota governing parameters

11:00–11:15 EGU2011-13014

**Qianlai Zhuang**, Jerry Melillo, David Kicklighter, John Reilly, Sergey Paltsev, Andrei Sokolov, Yongxia Cai, Anatoly Shvidenko, Nadejda Tchebakova, Andrey Sirin and the Anna Peregon and Guangsheng Zhou Team

Changes of land use and land cover, biogeochemistry, and their feedbacks to climate in northern Eurasia

11:15–11:30 EGU2011-11686

**Anatoly Shvidenko**, Dmitry Schepaschenko, and Ian McCallum

Productivity of Russian forests during recent decades (1960-2010s)

11:30–11:45 EGU2011-9646

**Nadja Tchebakova**, Elena Parfenova, Galina Lysanova, Evgeni Shvetsov, and Amber Soja

An agroclimatic potential in southern Siberia in a changing climate during the XXI century

11:45–12:00 EGU2011-5582

**Mikhail Yu. Arshinov** and Boris D. Belan

New particle formation events in the Siberian boreal zone

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**CR1.20 – Applied Geophysics in Cryosphere Sciences – Posters**

**Convener:** Christian Hauck | **Co-Conveners:** Olaf Eisen, Christof Kneisel, Bernd Kulessa
XY226 EGU2011-1946
Valenti Turu i Michels
NMR Magnetic Resonance Sounding, a New Approach to Assess Englacial and Subglacial water content: A Pilot Study on Hansbreen Polythermal Glacier (SW Spitsbergen, Norway)

XY227 EGU2011-2671
Herman Farbrot, Christian Hauck, Christin Hilbich, Bernd Etzelmüller, Tobias Hipp, Ketil Isaksen, and Michael Krautblatter
Repeated electrical resistivity tomography measurements of permafrost in the mountains of southern Norway

XY228 EGU2011-8020
Kaspar Merz, Marian Hertrich, Hansruedi Maurer, and Sarah Springman
Geophysical Characterization of a Rock Glacier in the Turtmann Valley, Switzerland

XY229 EGU2011-8549
Oliver Kuras, Paul Wilkinson, Phil Meldrum, Michael Krautblatter, Julian Murton, and Richard Ogilvy
Monitoring the thermal state of permafrost by automated time-lapse capacitive resistivity imaging

XY230 EGU2011-10674
Roberto Rege and Alberto Godio
Geophysical investigation for mechanical properties of a glacier

XY231 EGU2011-12302
Michael Krautblatter
Laboratory methods for quantitative geophysics in permafrost bedrock

XY232 EGU2011-13995
Christin Hilbich and Christian Hauck
Estimated ice and water contents from geophysical measurements, and their relationships to resistivity, seismic velocity and temperature in permafrost regions

XY233 EGU2011-12785
Daniel Draebing and Michael Krautblatter
Raw data analysis and sensitivity to initial model velocities of 2.5D seismic refraction tomographies of permafrost in steep bedrock

XY234 EGU2011-7754
Louise Sime, Richard Hindmarsh, Hugh Corr, and Gisela Hiess
Automated Processing to derive Dip Angles of Englacial Radar Reflectors in Ice Sheets

XY235 EGU2011-10986
Deriving the internal ice layer architecture from Radio-Echo Sounding data of Rutford Ice Stream, Subglacial Lake Ellsworth and Fletcher Promontory

XY236 EGU2011-13220
José Uribe, Rodrigo Zamora, and Andrés Rivera
Ice thickness and snow accumulation radar measurements at Union Glacier, West Antarctica

XY237 EGU2011-12436
Christin Hilbich, Marcia Phillips, Frank Raphael, and Christian Hauck
Monitoring of rapid ground ice degradation in an alpine talus slope at Flüela Pass, Swiss Alps with geophysical surveys and borehole temperature measurements

XY238 EGU2011-4682
Adam Booth, Bernd Kulessa, Alessio Gusmeroli, Sam Doyle, Christine Dow, Glenn Jones, Tavi Murray, Roger Clark, and Alun Hubbard
Seismic characterisation of subglacial media around a supraglacial meltwater lake, Russell Glacier, West Greenland

CR5.10 – Modeling ice sheets and glaciers – Orals
Convener: Frank Pattyn | Co-Conveners: Eric Larour, Gudfinna Adalgeirsdottir, Olivier Gagliardini
Room: 5
Chairperson: Frank Pattyn

08:30–08:45 EGU2011-1786
Jeremy Bassis
New approximations for large-scale ice sheet flow: Towards a happy marriage between the shallow-ice and shelly-stream approximations
08:45–09:00 EGU2011-3149
Anne-Sophie Drouet, Gael Durand, Lionel Favier, Vincent Peyaud, Olivier Gagliardini, Catherine Ritz, Thomas Zwinger, and Emmanuel Le Meur
Testing the validity of the boundary layer flux-thickness relationship at the grounding line

09:00–09:15 EGU2011-12477
Alexander Jarosch
A numerical meltwater-channel evolution model for glaciers

09:15–09:30 EGU2011-11073
Olga Sergienko and Douglas MacAyeal
Basal control of supraglacial lakes

09:30–09:45 EGU2011-12959
Marco Tedesco, Nicholas Steiner, Konrad Steffen, Xavier Fettweis, Balazs Fekete, Jason Gulley, and Nicholas Bayou
Hydrofracture analysis and spatio-temporal evolution of a supraglacial lake in West Greenland from observational and modeling tools.

09:45–10:00 EGU2011-9882
Martin O’Leary, Poul Christoffersen, Alun Hubbard, and Richard Bates
Modelling frontal melt rates on West Greenlandic tidewater glaciers

COFFEE BREAK

Chairperson: Eric Larour

10:30–10:45 EGU2011-4986
Andreas Vieli, Stewart Jamieson, Stephen Livingstone, Colm O’Cofaigh, Chris Stokes, and Claus-Dieter Hillenbrand
Understanding long-term grounding line retreat and stability from combining numerical modelling with the palaeo record of a marine ice stream

10:45–11:00 EGU2011-9058
Jessica Lundin, Ed Waddington, Howard Conway, and Edward Brook
Interpolating an ice core depth-age relationship from sparse data using an inverse approach

11:00–11:15 EGU2011-10262
Carlos Martin and Hilmar Gudmundsson
Effects of nonlinear rheology and anisotropy on the relationship between age and depth at ice divides

11:15–11:30 EGU2011-907
Rob Briggs, Dave Pollard, and Lev Tarasov
Bayesian calibration of a 3D Glacial Systems Model for the past evolution of the Antarctic Ice Sheet

11:30–11:45 EGU2011-5168
Patrick Applegate and Nina Kirchner
The effects of parametric uncertainty on modeled Greenland Ice Sheet behavior

11:45–12:00 EGU2011-8102
Nathan Martin, Jérôme Monnier, Jitendra Singh, Ronan Madec, and Olivier Gagliardini
Sensitivity analysis using the variational data assimilation software DassFlow-Ice

CR5.10 – Modeling ice sheets and glaciers – Posters
Convener: Frank Pattyn | Co-Conveners: Eric Larour, Gudfinna Adalgeirsdottir, Olivier Gagliardini
Halls X/Y | Display Time 08:00–19:30

Author in Attendance: 17:30–19:00
Chairperson: Olivier Gagliardini

XY239 EGU2011-4413
Andy Aschwanden
On the importance of accurate initial conditions for ice sheet modeling

XY240 EGU2011-7211
Melanie Raymond Pralong and G. Hilmar Gudmundsson
Bayesian estimation of basal conditions on Rutford Ice Stream, West Antarctica, from surface data

XY241 EGU2011-7423
G. Hilmar Gudmundsson
Ice-stream response to ocean tides and the form of the basal sliding law

XY242 EGU2011-427
Bertrand Bonan, Maelle Nodet, and Catherine Ritz
To which extent can global ice volume records provide information on past ice sheets evolution and the climate that drove them?
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<th>XY243</th>
<th>EGU2011-3915</th>
<th>David Pollard and Robert DeConto</th>
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<td>Numerical improvements and extensions in a hybrid ice sheet-shelf model</td>
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<td>XY244</td>
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<td>Andreas Vieli, Antony Payne, Anne LeBrocq, and Gwendolyn Leysinger Vieli</td>
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<td>Towards a model of rheological weakening in lateral margins of ice streams and ice shelves: the case of Pine Island Glacier, West Antarctica.</td>
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<td>Martin Rückamp, Norbert Blindow, and Angelika Humbert</td>
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<td>Flow dynamics and temperature regime of the main King George Island ice cap, Antarctica.</td>
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<td>A three-dimensional dynamical model of Amundsenisen icefield, Svalbard</td>
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<td>XY247</td>
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<td>Robert Fausto, Andreas Ahlström, and Dirk van As</td>
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<td>Using improved surface boundary conditions for mass balance modelling in large-scale ice sheet models of Greenland</td>
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<td>A Mountain Glacier Scheme for Regional Climate Model and its Preliminary Results</td>
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<td>Using radar layers to infer ice temperature and to interpret basal conditions across the West Antarctic Ice Sheet Divide</td>
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<td>Denis Callens, Kenichi Matsuoka, Howard Conway, and Frank Pattyn</td>
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<td>Modelling the spatial variability of accumulation across ice rises in Dronning Maud Land, Antarctica</td>
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<td>Modelling tidewater glacier dynamics: the case of Columbia Glacier, Alaska</td>
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<td>Application of a wavelet-based, adaptive-grid, multigrid solver to simulate the migration of an ice sheet grounding line.</td>
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<td>Yuri Konovalov and Oleg Nagornov</td>
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<td>Basal friction coefficient reconstruction for fast flowing ice streams in the Academy of Sciences Ice Cap</td>
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<td>Calibrated prediction of future Pine Island Glacier behaviour</td>
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<td>Sophie Nowicki and Olga Sergienko</td>
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<td>The effect of ice rheology on contact problems</td>
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<td>Modeling the evolution of crystal fabric and its link to climate and ice sheet history</td>
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<td>Sebastian H. Mernild and Glen E. Liston</td>
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<td>Melt and runoff simulations from the Greenland Ice Sheet and glaciers peripheral to the Ice Sheet</td>
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<td>Modelling the retreat of Great Aletschgletscher in a changing climate</td>
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<td>Incorporating horizontal membrane stresses into calculations of balance velocities</td>
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<td>Unstructured Grid Discontinuous Galerkin Methods for Glacial Modeling at Large Space and Time Scales</td>
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CR5.20 – Ice shelves - dynamics, interactions, observations, modelling – Orals
Convener: Angelika Humbert | Co-Conveners: Adrian Jenkins, Andreas Vieli
Room: 5
Chairperson: n.n.

13:30–13:45 EGU2011-3820
Fiamma Straneo, David Sutherland, Ruth Curry, Gordon Hamilton, Claudia Cenedese, Kjetil Vaage, and Leigh Stearns
Impact of ocean stratification and glacial run-off on submarine melting of Greenland’s glaciers

13:45–14:00 EGU2011-12836
Finlo Cottier, Tavi Murray, Mark Inall and the Swansea-SAMS Ocean-Glacier Team
Oceanography of SE Greenland fjords: observations of interannual warming, circulation, mixing and the response of the calving front

14:00–14:15 EGU2011-5038
Frank Pattyn, Kenichi Matsuoka, Denis Callens, Howard Conway, David Docquier, Mathieu Depoorter, Bryn Hubbard, Denis Samyn, and Jean-Louis Tison
A multidisciplinary approach to identify thermohaline circulation under an East-Antarctic ice shelf

14:15–14:30 EGU2011-12487
Richard C.A. Hindmarsh
Force Balance of Narrow Ice Shelves

14:30–14:45 EGU2011-3639
Sam Pegler and Grae Worster
The dynamics of viscous grounding lines

14:45–15:00 EGU2011-1289
Carolin Plate, Dietmar Gross, Angelika Humbert, and Ralf Müller
Fracture Mechanical Analysis and Finite Element Simulations of different Crack Scenarios in Ice Shelves

CR5.20 – Ice shelves - dynamics, interactions, observations, modelling – Posters
Convener: Angelika Humbert | Co-Conveners: Adrian Jenkins, Andreas Vieli
Halls X/Y | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: n.n.

XY263 EGU2011-113
Peter Kuipers Munneke, Michiel Van den Broeke, and Ghislain Picard
Using a regional climate model to derive melt extent and volume at the surface of Antarctic ice shelves

XY264 EGU2011-1917
Torsten Albrecht and Anders Levermann
Fracture field for large-scale ice dynamics

XY265 EGU2011-2698
Erin Pettit, Ted Scambos, Martin Truffer, Robert Bauer, Ellen Mosley-Thompson, Victor Zargarodnov, Terry Haran, Ronald Ross, Bryan Blaire, and Ian Joughin
The Bruce Plateau Ice Cap: Upstream Dynamics of the Southern Larsen B Ice Shelf

XY266 EGU2011-6078
Rapid dynamic thinning on Upernavik Icestream, West Greenland

XY267 EGU2011-6169
Shfaqat Abbas Khan, John Wahr, Lin Liu, Ian Howat, Ian Joughin, Karina Nielsen, and T van Dam
Vertical and horizontal bedrock displacements near Jakobshavn Isbørn due to glacial ice mass loss.

XY268 EGU2011-6776
Helgard Anschütz, Anna Sinisalo, Kirsty Langley, Elisabeth Isaksson, Jon-Ove Hagen, Svein-Erik Hamran, Mats-Jørgen Øyan, Tonu Martma, Jack Kohler, and Ole-Anders Nest
Spatial and temporal accumulation variability on Fimbulisen, East Antarctica

XY269 EGU2011-8341
Malcolm McMillan, Andrew Shepherd, and Peter Nienow
Ice Shelf Tidal Motion in the Amundsen Sea - an Assessment of Tide Model Predictions using Radar Interferometry

XY270 EGU2011-8342
Thomas Kleiner, Angelika Humbert, and Manfred A. Lange
The effect of sea-level rise on the stress regime of the Brunt and Riiser-Larsen ice shelves

XY271 EGU2011-9248
Xylar Asay-Davis
Simulations of Ocean Circulation under Static and Dynamic Ice Shelves
A look at the basal mass balance of the Fimbul Ice shelf using ice penetrating radar and oceanographic borehole data

Nonlinear interaction between ocean tides and the Larsen C Ice Shelf system

Vertical and horizontal structure of Fimbulisen, Antarctica. A synthesis of TerraSAR-X imagery and ground-based radar data

Tide induced lateral movement of Ronne Ice Shelf, Antarctica

The firm air content of Larsen Ice Shelf

Ice shelves along the Western Antarctic Peninsula during the Little Ice Age: observations from the LARISSA project in Barilari Bay, Graham Land

Basal crevasses in Larsen C Ice Shelf

An investigation of the influence of subglacial drainage system evolution on fluvial sediment availability, Storglaciären, northern Sweden

Calving glacier dynamics controlled by subglacial water pressure close to ice overburden pressure in Glaciar Perito Moreno, Patagonia

A spatially distributed model for routing meltwater to the ice bed through moulins and during lake drainage events

Evidence for basal water generation and transport in the Aurora Subglacial Basin, East Antarctica

Development of a Micro Subglacial Lake Exploration Device
XY279  EGU2011-167
Lucas Zoet, Sridhar Anandakrishnan, Richard B. Alley, and Chris Marone
Field and Laboratory Observations Displaying Regularly Repeating Ruptures Beneath Glaciers

XY280  EGU2011-6179
Marion Bougamont, Steve Price, Poul Christoffersen, and Tony Payne
Ice stream modelling results from a higher-order ice sheet model with plastic bed and simplified hydrology

XY281  EGU2011-7829
Anders Damsgaard Christensen, David Lundbek Egholm, and Jan A. Piotrowski
Numerical modelling of subglacial sediment deformation

XY282  EGU2011-9259
Christopher Shuman, David Harding, Helen Cornejo, and Vijay Suchdeo
Assessment of Range Bias in the ICESat (2003-2009) Elevation Time Series and Elevation Changes at Large Subglacial Lake Sites, Antarctica

XY283  EGU2011-9371
Paul van der Vegt, Philip Gibbard, and Andrea Moscariello
Reconstructing the sedimentary processes within Pleistocene tunnel valleys from case studies

XY284  EGU2011-4882
Kenny Matsuoka, Ian Howat, Julie Markus, Matt King, Jessica Lundin, Ellyn McFadden, Bjorn Oddson, and Helgi Bjornsson
Bare-rock bed behaving softer than till-covered bed: field evidence from Breidamerkurjokull, Iceland

XY285  EGU2011-10956
Sebastian Göller, Malte Thoma, Klaus Grosfeld, and Heinrich Miller
An alternative approach to identify Antarctic subglacial lakes

XY286  EGU2011-11223
Daniel Binder, Wolfgang Schoener, Bernhard Hynek, Marc Olefs, Gernot Weyss, and Jakob Abermann
Modelling Ground Penetrating Radar data gathered in the vicinity of the vestige of a glacier-dammed lake

XY287  EGU2011-12282
Eyjólfur Magnússon, Helgi Björnsson, Páll Einarsson, Dana Floricioiu, Florian Mueller, Thomas Nagler, Finnur Pásson, Matthew Roberts, Helmut Rott, and Gunnar Sigurdsson
The 2010 jökulhlaup from Grimsvötn subglacial lake, Iceland and its effects on glacier motion

XY288  EGU2011-13098
Rodrigo Zamora, Andrés Rivera, and José Uribe
Preliminary results obtained by the most recent field campaign to the Subglacial Lake Ellsworth Area in West Antarctica

XY289  EGU2011-13346
Łukasz Stachnik
Comparison of chemical weathering in the subglacial and sub-moraine conditions of two High Arctic glaciers (Svalbard)
Friday, 08 April

BG5.1 – Integration of Environmental, Socio-Economic and Climatic Change Studies in Northern Eurasia (co-listed) – Posters
Convener: Pavel Groisman | Co-Conveners: Amber Soja, Alexey V. Eliseev, Chaba Mátyás
Poster Area BG | Display Time 08:00–17:00
Author in Attendance: 10:30–12:00
Chairperson: n.n.

BG89  EGU2011-12559  Pavel Groisman, Vladimir Kattsov, and Richard Lawford
Northern Eurasia Earth Science Partnership Initiative (NEESPI) in 2010: An Overview of the Current Status

BG90  EGU2011-12855  David McCabe, Pavel Groisman and the "Open Burning and the Arctic“ conference (St. Petersburg, Russia, Nov. 2010) Source Apportionment Team
Open Burning and the Arctic: Current Knowledge and Priorities for Future Research

BG91  EGU2011-2233  Irena Borzenkova, Pavel Groisman, Anna Mescherskaya, Olga Bulygina, and Vyacheslav Razuvaev
Extraordinary Heat Wave over European Russia in Summer 2010: What do the Data say?

BG92  EGU2011-960  Margarita Syromyatina, Igor Moskalenko, and Kirill Chistyakov
Space-time features of climate changes in the Altai Mountains and alpine landscapes response

BG93  EGU2011-1586  Alexey V. Eliseev, Maxim M. Arzhanov, and Igor I. Mokhov
Bayesian climate projection for the northern subpolar land based on ensemble of global climate models forced by SRES A1B scenario

BG94  EGU2011-170  Julia Palamarchuk and Sergiy Ivanov
Regional and local variability of precipitation in Europe

BG95  EGU2011-1601  Alexander V. Chernokulsky, Mireisd G. Akperov, Olga N. Bulygina, and Igor I. Mokhov
Changes in cloudiness and cyclonic/anticyclonic activity over Russia during last decades from observations and reanalyses data

BG96  EGU2011-4794  Yury Gurfinke
Solar activity and cardiovascular pathology

BG97  EGU2011-11524  Dmitry Schepaschenko, Anatoly Shvidenko, and Lyudmila Mukhortova
Organic carbon in Russian soils: A specified spatially explicit assessment

BG98  EGU2011-1898  Leonid L. Golubyatnikov
Model estimation of carbon flux from the soil: Russia case study

BG99  EGU2011-2796  Galina Ivanova, Susan Conard, Anna Bogorodskaja, Valery Ivanov, Natalia Kovaleva, Eugenia Krasnoshekova, Elena Kukavskaya, Pavel Tarasov, and Sergey Zhila
Estimating and Monitoring Effects of Fire Severity on Ecosystem Components of Siberian Scots pine forests

BG100  EGU2011-13171  Amber Soja, David Westberg, Paul Stackhouse, Jr, Douglas McRae, Ji-Zhong Jin, Anatoly Sukhinin, and Nadezda Tchebakova
Analysis of the Ability of Large-scale Reanalysis Data to Define Siberian Fire Danger in Preparation for Future Fire Weather

BG101  EGU2011-5161  Brian Stocks and Donald Cahoon Jr.
Reconstructing Post-1979 Forest Fire Activity and Area Burned in Russia: NOAA AVHRR Analysis

BG102  EGU2011-10479  Nadja Tchebakova, Almuth Ameth, Luca Belelli, Chiara Corradi, Julia Kurbatova, Elena Parfenova, Natalia Vygodskaya, Ernst-Detlef Schulze, and Riccardo Valentini
Energy and water exchange in various ecosystems in central Siberia (from eddy covariance measurements)

BG103  EGU2011-6931  Mihaela Laurenta Alexandrov, Razvan Doru Mateescu, Daniel Pertenatu, and Alina Spinu
The Romanian littoral - coastal geomorphologic changes during the last half of Century (1961-2011); its impact on the coastal development and solutions for protection and rehabilitation
Wolf-Christian Dullo, Boris Baranov, and Christel van den Bogaard

KALMAR: "Kurile-Kamchatka and Aleutean Marginal Sea-Island Arc Systems: Geodynamic and Climate Interaction in Space and Time" an Integrated Polar Science Approach between Russia and Germany

Carolyn Wegner, Alexandre Forest, Matthias Forwick, Karen Frey, Jeremy T. Mathis, Christine Michel, Anna Nikolopoulos, Matt O'Regan, and Marit Reigstad

The Arctic in Rapid Transition (ART) Initiative: Integrating priorities for Arctic Marine Science over the next decade

Wolf-Christian Dullo, Boris Baranov, and Christel van den Bogaard

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The Arctic in Rapid Transition (ART) Initiative: Integrating priorities for Arctic Marine Science over the next decade

Veronica Willmott Puig, Lester Lembke-Jene, Roberto Azzolini, Bonnie Wolff-Boenisch, Nicole Biebow, and Jörn Thiede

Towards a 15+ years Multidisciplinary Polar Research Strategy: the ERICON - Aurora Borealis Science Plan

Annett Bartsch and the ESA DUE Permafrost Team

Implementation of a satellite data based information system for permafrost monitoring - The ESA DUE Permafrost Project

Ingo Sasgen, Gerald Jurasinski, Jan Cermak, Annette Hey, Klaus-Holger Knorr, Phillip Kegler, Sonja Phillip, Jens Hartmann, Andres Rüggeberg, and Birte Nienaber (geb. Sprenger)

The German Young Geoscientists Group - promoting exchange and information among the next generation of geoscientists

Veronica Willmott Puig, Lester Lembke-Jene, Roberto Azzolini, Bonnie Wolff-Boenisch, Nicole Biebow, and Jörn Thiede

Towards a 15+ years Multidisciplinary Polar Research Strategy: the ERICON - Aurora Borealis Science Plan

Annett Bartsch and the ESA DUE Permafrost Team

Implementation of a satellite data based information system for permafrost monitoring - The ESA DUE Permafrost Project

Ingo Sasgen, Gerald Jurasinski, Jan Cermak, Annette Hey, Klaus-Holger Knorr, Phillip Kegler, Sonja Phillip, Jens Hartmann, Andres Rüggeberg, and Birte Nienaber (geb. Sprenger)

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CR6.10 – Mass and energy balance of snow and ice – Orals

Convener: Xavier Fettweis | Co-Conveners: Michiel Van den Broeke

Room: 5

Chairperson: n.n.

08:30–08:45 EGU2011-12322

Shelley MacDonell, Christophe Kinnard, and Stefaan Lhermitte

Environmental forcings that enable penitente development on glaciers in the high, arid Andes of Chile

08:45–09:00 EGU2011-6450

Sverrir Gudmundsson, Finnur Pálsson, Helgi Björnsson, Thröstur Thorsteinsson, and Hannes H. Haraldsson

Tephra, mass- and energy balance: the influence of the Eyjafjallajökull eruption 2010 on Icelandic ice caps

09:00–09:15 EGU2011-11633

Cameron Rye, Ian Willis, Neil Arnold, and Jack Kohler

Quantifying the predictive uncertainty of numerical mass balance models

09:15–09:30 EGU2011-2174

Jan Lenaerts, Michiel van den Broeke, Willem Jan van de Berg, Erik van Meijgaard, and Peter Kuipers Munneke

A new, high-resolution surface mass balance map of Antarctica (1989-2009) based on regional atmospheric climate modeling

09:30–09:45 EGU2011-2259

Eric Brun, DelphineSix, GhislainPicard, and VincentVionnet

Snow-atmosphere coupled simulation at Dome C, Antarctica

09:45–10:00 EGU2011-5117

Ted Scambos, Massimo Frezzotti, Terry Haran, Jennifer Bohlender, David Long, Ken Jezek, Katy Farness, Jan Lenaerts, Michiel van den Broeke, and Mary Albert

Antarctic &#8216;Wind Glaze' Extent: Multi-sensor mapping indicates large mass over-estimate for East Antarctic accumulation

COFFEE BREAK

Chairperson: n.n.
10:30–10:45 EGU2011-2152
Jonathan L. Bamber, Jason Box, Michiel van den Broeke, Xavier Fettweis, Edward Hanna, Philippe Huybrechts, and Chris Vernon
Spatial and temporal uncertainties in the surface mass balance of the Greenland ice sheet from a model intercomparison

10:45–11:00 EGU2011-6703
Bernard Sacré, Xavier Fettweis, Sebastien Doutreloup, Bruno Franco, Keith Hines, Michiel Van den Broeke, and Michel Epicum
Comparison between different Regional Climate Models applied to the present climate (1995-2005) of Greenland

11:00–11:15 EGU2011-11878
Richard Morris, Douglas Mair, Peter Nienow, Victoria Parry, Christina Bell, and Andrew Wright
Melt, refreezing and runoff at the surface of the Greenland ice sheet

11:15–11:30 EGU2011-3664
Heinz Jürgen Punge, Masa Kageyama, Gerhard Krinner, Hubert Gallée, and Aurélien Quiquet
Modelling surface mass balance on Greenland in Eemian, glacial inception and modern climate

11:30–11:45 EGU2011-4060
Amber Leeson, Andrew Shepherd, Steven Palmer, Aud Sundal, and Xavier Fettweis
Supra-glacial Lake Evolution in the Russell Glacier Catchment of the Greenland Ice Sheet

11:45–12:00 EGU2011-7945
Linling Chen and Ola M. Johannessen
Cyclone activities and associated elevation changes of the Greenland Ice Sheet

CR6.10 – Mass and energy balance of snow and ice – Posters
Convener: Xavier Fettweis | Co-Conveners: Michiel Van den Broeke

Hall XL | Display Time 08:00–17:00
Author in Attendance: 13:30–15:00
Chairperson: n.n.

XL101 EGU2011-114
Peter Kuipers Munneke, Michiel Van den Broeke, Jan Lenaerts, Mark Flanner, Alex Gardner, and Willem Jan Van de Berg
A new albedo parameterization for the use in climate models over ice sheets

XL102 EGU2011-3482
Emmanuel Thibert, Nicolas Eckert, and Christian Vincent
Mass and energy balance over 6 decades at a glacier surface: relation to local and synoptic variables

XL103 EGU2011-4451
Rianne H. Giesen, Liss M. Andreassen, Johannes Oerlemans, and Michiel R. van den Broeke
Surface energy balance and meteorology (2007-2010) in the ablation zone of Langfjordjøkelen, an ice cap in northern Norway

XL104 EGU2011-4614
Keiko Konya, Tsutomu Kadota, Furumio Nakazawa, Hironori Yabuki, Gombo Davaa, Khalzan Purevdagva, and Tetsuo Ohata
Mass balance of Potanin glacier, Mongolian Altai

XL105 EGU2011-5808
Stephan Galos and Thomas Mölg
Distributed modelling of the energy and mass balance at the surface of Langenferner, Italy using off-glacier meteorological data

XL106 EGU2011-6415
Timo Vihma, Olli-Pekka Mattila, Roberta Pirazzini, and Milla Johansson
Spatial and temporal variability in summer snow pack in Dronning Maud Land, Antarctica

XL107 EGU2011-6944
Bernhard Hynek, Rainer Unger, Wolfgang Schöner, Daniel Binder, and Gernot Weyss
Comparison of volumetric and glaciological mass balances of Goldbergkkees, Kleinfleißkkees (1998-2009) and Wurtenkees (1998-2006), Austria

XL108 EGU2011-6986
Bernhard Hynek, Wolfgang Schöner, Marc Olefs, Gernot Weyss, Ulrich Strasser, Florian Hanzer, Michael Warscher, and Thomas Marke
Modelling glacier mass balance and runoff in the Austrian Alps

XL109 EGU2011-7103
Miren Vizcaíno, William H. Lipscomb, Janneke Ettema, and Michiel Van den Broeke
Climate and surface mass balance of the Greenland ice sheet during 1850-2005 as simulated by the Community Earth System Model: model validation, trends, and physical mechanisms
**Anwesha Bhattacharya**, Tobias Sauter, and Christoph Schneider

Development and evaluation of a 1-D snowpack model for estimating energy fluxes and mass balance changes of polythermal glaciers on the Tibetan Plateau

**Holly Oldroyd**, Hendrik Huwald, Chad Higgins, and Marc Parlange

Determining thermal diffusivity of snow from highly resolved temperature measurements

**Martin Juen**, Christoph Mayr, Elisabeth Mayer, Astrid Lambrecht, Wilfried Hagg, Han Haidong, and Liu Shiyin

Ablation and runoff generation on debris covered Keqikar glacier in the upper Aksu catchment, China.

**Christoph Mayer**, Astrid Lambrecht, Konrad Eder, Martin Juen, and Qiao Liu

Ice cliff ablation derived from high resolution surface models, based on close-range photogrammetry

**Michal Petlicki**, Carleen Reijmer, Regine Hock, and Adam Nawrot

Monte Carlo simulations of a snow model coupled to a distributed energy and mass balance model

**Michal Petlicki**, Regine Hock, Piotr Glowacki, and Adam Nawrot

Reconstruction of mass balance of Ariebreen, Hornsund, in 1983-2008

**Federica Martina**, Giorgio Boni, Fabio Castelli, Roberto Rudari, and Simone Gabellani

Surface energy and water balance for snow covered areas: formulation and validation of a four-layer model.

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**CR9.10 – Sea Ice and Sea Ice-Climate Interactions – Orals**

Convener: Daniel Feltham | Co-Conveners: Clare Postlethwaite

**Room: 7**

**Chairperson: Clare Postlethwaite**

08:30–08:45 EGU2011-2264

**Göran Björk**, Christian Stranne, and Karin Borensås

On the Response of the Arctic Ocean Ice Thickness to External Forcing Perturbations

08:45–09:00 EGU2011-899

**Julienne Stroeve**, Allan Frei, and Debjani Ghatak

Arctic Sea Ice Influences on Northern Hemisphere Precipitation

09:00–09:15 EGU2011-1674

**Daniel Pollak**, Marika Holland, and David Bailey

Understanding Changes in the Arctic Basin Sea Ice Mass Budget as Simulated by CCSM4- Implications from Melt Season Characteristics and the Surface Albedo Feedback

09:15–09:30 EGU2011-2622

**Daniela Flocco** and Daniel Feltham

Incorporation of a new melt pond scheme into a GCM sea ice model component

09:30–09:45 EGU2011-11487

**Martin Vancoppenolle**, Cecilia Bitz, Thierry Fichefet, Hugues Goosse, Christiane Lancelot, and Jean-Louis Tison

Sensitivity of a one-dimensional, multi-layer, sea ice-microalgae model

09:45–10:00 EGU2011-66

**Jiayun Zhou**, Jean-Louis Tison, Hajo Eicken, Chris Petrich, Nicolas-Xavier Geilfus, Frédéric Brabant, Gauthier Carnat, Tim Papakyriakou, Bernard Heinesch, and Bruno Delille

O2/Ar and CH4 measurements in sea ice : clues for the key status of sea ice in the climate system

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**COFFEE BREAK**

Chairperson: Daniel Feltham

10:30–10:45 EGU2011-2879

**Francois Massonnet**, Thierry Fichefet, Hugues Goosse, Martin Vancoppenolle, Pierre Mathiot, and Christof König Beatty

Importance of physics in global hindcast simulations of sea ice with NEMO-LIM

10:45–11:00 EGU2011-3471

**Jan van Angelen**, Michiel van den Broeke, and Ron Kwok

Analysis of wind driven sea ice export through Fram Strait using a high resolution climate model
11:00–11:15  EGU2011-10915  
**Aleksey Marchenko** and **Dmitry Brazhnikov**  
Characteristics of ice cover drift and structure in axially symmetric solutions of sea ice dynamics models with elastic-plastic rheology

11:15–11:30  EGU2011-9658  
**Peter Sammonds**, Ben Lishman, and **Daniel Feltham**  
Sea ice dynamics: the role of friction

11:30–11:45  EGU2011-3456  
**Michel Tsamados**, Daniel Feltham, and Alexander Wilchinsky  
Implementation of a new anisotropic rheology into a GCM sea ice component

11:45–12:00  EGU2011-10228  
**Laurent Bertino**, Tim Williams, Dany Dumont, and Alison Kohout  
A model for waves-in-ice and sea ice dynamics in the marginal ice zone

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**CR9.10 – Sea Ice and Sea Ice-Climate Interactions – Posters**  
Convener: Daniel Feltham | Co-Conveners: Clare Postlethwaite  
**Hall XL | Display Time 08:00–17:00**  
**Author in Attendance: 13:30–15:00**  
**Chairperson: Clare Postlethwaite**

- **XL117**  
  EGU2011-6970  
  **Lars H. Smedsrud**, Torge Martin, and Jens Debernard  
  Grease ice parameterisation in sea-ice ocean models

- **XL118**  
  EGU2011-2277  
  **Nikhil Radia**, Daniel Feltham, and Miguel Angel Morales Maqueda  
  Formation of frazil ice in leads and polynyas

- **XL119**  
  EGU2011-2272  
  **Harry Heorton**, Daniel Feltham, and Ann Keen  
  The role of atmospheric jets in ice edge dynamics

- **XL120**  
  EGU2011-10158  
  Alexander Wilchinsky and **Daniel Feltham**  
  Modelling Coulombic failure of sea ice with leads

- **XL121**  
  EGU2011-4095  
  **Philipp Griewank** and Dirk Notz  
  Modelling Sea-ice Desalination

- **XL122**  
  EGU2011-14193  
  **Adrian Turner**, Elizabeth Hunke, and Cecilia Bitz  
  Modeling microphysics and salinity evolution of sea ice

- **XL123**  
  EGU2011-11756  
  Olivier Lecomte, Thierry Fichefet, and Martin Vancoppenolle  
  Inclusion of a multi-layer thermodynamic snow scheme in a large scale sea-ice model

- **XL124**  
  EGU2011-10976  
  **Sergey Muzylev**, Aleksey Marchenko, and Eugene Morozov  
  Seiche Motions in Ice-Covered Lakes: Theory and Observations

- **XL125**  
  EGU2011-7025  
  **Nuala Carson**, Miguel Angel Morales Maqueda, Clare Postlethwaite, and Harry Leach  
  Fast Ice

- **XL126**  
  EGU2011-12747  
  **Kay Huebner**, Dirk Notz, and Karl-Hermann Wiener  
  Impact of Snow on Sea Ice Growth

- **XL127**  
  EGU2011-12763  
  **Kay Huebner**, Davide Zanchettin, and Johann Jungclaus  
  Multi-decadal Variability of simulated Sea Ice Cover

- **XL128**  
  EGU2011-5246  
  **Pierre Rampal**, Jérôme Weiss, Clotilde Dubois, Jean-Michel Campin, and Gaël Forget  
  IPCC climate models do not capture Arctic sea ice drift acceleration: Consequences in terms of sea ice thinning and decline

- **XL129**  
  EGU2011-10948  
  **Jan-Peter Schulz**  
  Introducing a sea ice scheme in the mesoscale NWP model COSMO-EU of the German Weather Service

- **XL130**  
  EGU2011-1923  
  **Matthieu Chevallier**, David Salas y Melia, Vincent Vionnet, Gilles Garric, Sophie Belamari, and Eric Brun  
  Sea ice-Ocean modeling at CNRM-GAME for global climate studies: recent improvements of the sea-ice component
EGU General Assembly 2011

XL131  EGU2011-9894
Andreas Born, Kerim H. Nisancioglu, Christoph C. Raible, and Thomas F. Stocker
Dynamical Impact of Changes in Arctic Sea Ice

XL132  EGU2011-4897
Svenja Kohnemann, Günther Heinemann, David Schröder, Sascha Willmes, and Cornelia Koeberle
Investigation of regional sea ice budgets in the Arctic using the sea ice/ocean model NAOSIM

XL133  EGU2011-146
Sandra Barreira
Differences between temporal (S-Mode) and spatial (T-Mode) principal component analysis of Antarctic sea ice monthly concentration anomalies: relationship with climate variables.

XL134  EGU2011-5472
Jan Sedlacek, Olivia Maritus, and Reto Knutti
Influence of the Barents Sea on the summer temperature in Europe and Asia

XL135  EGU2011-6766
Anna Luomaranta, Jari Haapala, Hilppa Gregow, Kimmo Ruosteenoja, Kirsti Jylhä, and Ari Laaksonen
The changes in the Baltic Sea ice cover by 2050

XL136  EGU2011-8061
Maddalena Bayer-Giraldi, Ilka Weikusat, and Gerhard Dieckmann
A novel antifreeze protein from sea ice diatoms and its influence on ice microstructure

XL137  EGU2011-12768
Elizabeth Weatherhead, Jim Maslanik, Peter Boveng, Michael Cameron, Robyn Angliss, Erin Moreland, and Robert Gray
New methods for analyzing sea ice and its influence on biological life

NH6.1/CR11.30 – Snow cover and avalanches (co-organized) – Orals
Convener: Florence Naaim-Bouvet | Co-Conveners: Mohamed NAAIM, Emma Surinach Cornet, Alec van Herwijnen, Jürg Schweizer, David McClung
Room: 11
Chairperson: Charles Fierz

08:30–08:45  EGU2011-1978
David McClung and Chris Borstad
Probability distribution of energetic-statistical strength size effect in alpine snow

08:45–09:00  EGU2011-14072
Ingrid Reiweger, Stephan Simioni, and Jürg Schweizer
Failure of weak snow layers

09:00–09:15  EGU2011-3190
Johan Gaume, Guillaume Chambon, Mohamed Naaim, and Nicolas Eckert
Influence of weak layer heterogeneity on slab avalanche release. Finite Element Modeling.

09:15–09:30  EGU2011-9027
Elena Klimenko
Modeling snowpack on avalanche terrain for its stability estimation

09:30–09:45  EGU2011-13916
Christoph Mitterer, Achim Heilig, Lino Schmid, Jürg Schweizer, and Olaf Eisen
Measuring wet-snow properties with ground-penetrating radar technology

09:45–10:00  EGU2011-5674
Hélène Castebrunet, Nicolas Eckert, and Gérald Giraud
Climatological study of natural avalanche activity of the past 50 years in the French Alps

COFFEE BREAK

Chairperson: Emma Suriñach

10:30–10:45  EGU2011-10414
Andrea Soncini and Daniele Bocchiola
Future snow avalanche regime under climate scenarios in the Italian Alps

10:45–11:00  EGU2011-1440
Helmut Schreiber, Klaus Lorentschitsch, Walter L. Randeu, Markus Mayerl, Alexander Podesser, and Arnold Studeregger
Avalanche measurements by the radar-based monitoring system Grimming-Multereck

11:00–11:15  EGU2011-8177
Alvaro Soruco, Emmanuel Thibert, Christian Vincent, Renaud Blanc, and Raphèle Héno
Measurement of avalanche front velocity from high-speed terrestrial digital photogrammetry
11:15–11:30  EGU2011-8448  
**Magni Hreinn Jónsson**, Eirikur Gislason, Harpa Grímsdóttir, and Tómas Jóhannesson  
Two-dimensional modeling of snow avalanches in Iceland - applications for hazard mapping and avalanche forecasting

11:30–11:45  EGU2011-9857  
**Margarita E. Egli**  
Effect of the slope curvature on an avalanche dynamics

11:45–12:00  EGU2011-2604  
**Paolo Caccamo**, Thierry Faug, Hervé Bellot, Frederic Ousset, and Florence Naaim-Bouvet  
Small-scale tests on granular avalanches against various types of flat obstacles

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**NH6.1/CRI11.30 – Snow cover and avalanches (co-organized) – Posters**  
Convener: Florence Naaim-Bouvet | Co-Conveners: Mohamed NAAIM, Emma Surinach Cornet, Alec van Herwijnen, Jürg Schweizer, David McClung  
Halls X/Y | Display Time 08:00–17:00  
Author in Attendance: 15:30–17:00  
Chairperson: Thierry Faug

**XY290**  
**EGU2011-7707**  
**Reinhard Fromm** and Peter Höller  
Ski pole test: A comparison with traditional observation techniques

**XY291**  
**EGU2011-13927**  
**Klemens Mayer**, Ingrid Reiweger, Stephan Simioni, and Jürg Schweizer  
Localisation of acoustic emission events during loading of snow samples

**XY292**  
**EGU2011-10070**  
**Charles Fierz** and Michael Lehning  
Revisiting snow settlement simulations performed with SNOWPACK

**XY293**  
**EGU2011-13929**  
**Benjamin Reuter** and Jürg Schweizer  
The effect of surface warming on snow slab stiffness and fracture propagation propensity in avalanche snowpacks

**XY294**  
**EGU2011-13923**  
**Sebastian Feick**, Stefan Brunner, Christoph Mitterer, and Jürg Schweizer  
Automated detection and analysis of gliding snow

**XY295**  
**EGU2011-13920**  
**Ingrid Reiweger**, Christoph Mitterer, and Jürg Schweizer  
2-D modelling of water flow in snow

**XY296**  
**EGU2011-10124**  
**Charles Fierz**, Pascal Haegeli, Roger Atkins, Matthias Gerber, Johannes Hörtnagl, John Kelly, Samuel Morin, Patrick Nairz, and Ian Tomm  
An International Standard for the Exchange of Snow Profile Information

**XY297**  
**EGU2011-14073**  
**David McClung**  
The strength and weight of evidence in backcountry avalanche forecasting

**XY298**  
**EGU2011-11863**  
**Igor Chiambretti**, Mauro Valt, and Stefano Pivot  
Winter season 2009-2010 - avalanche accidents in Italy

**XY299**  
**EGU2011-6477**  
**Mauro Valt** and Paola Cianfarra  
Recent snow cover and temperature variability in the Italian Alps and relations to avalanche activity

**XY300**  
**EGU2011-5717**  
**Cristina Pérez**, Emma Surinach, Ignasi Vilajosana, Arnold Kogelnig, Martin Hiller, and François Dufour  
Snow avalanche characterization by quantitative study of the generated seismic signals

**XY301**  
**EGU2011-9895**  
**Florence Naaim-Bouvet**, Hervé Bellot, Mohamed Naaim, Nishimura Kouichi, and Romain Gaucher  
Measurements of blowing snow : size distribution of snow particles at Lac blanc pass, French Alps.

**XY302**  
**EGU2011-8967**  
**Alexander Prokop** and Josef Pichler  
A high resolution approach to define extreme spatial snow heights in avalanche release zones

**XY303**  
**EGU2011-13703**  
**DynAval Team**  
A comparison between three avalanche test sites in northwestern Alps as developed in the DYNAPAVAL-Alcotra project.
Preliminary measurements and surveys at the Italian avalanche test site Punta Seehore.

Arnold Kogelnig, Cristina Pérez, Emma Suriñach, Johannes Hübl, Ignasi Vilajosana, Lambert Rammer, Martin Hiller, and Francois Dufour

On the use of infrasonic and seismic sensors to determine acoustic emissions of snow avalanches

Djebar Baroudi, Betty Sovilla, and Emmanuel Thibert

Effects of flow regime and sensor geometry on snow avalanche impact pressure

Monica Barbero, Fabrizio Barpi, Mauro Borri-Brunetto, Eloïse Bovet, Enrico Bruno, Elisabetta Ceaglio, Bernardino Chiaia, Michele Freppaz, Barbara Frigo, Oronzo Pallara, Luca Pitet, Valerio Segor, Claudio Vicari, Ermanno Zanini, and Margherita Maggioni

A new test site in Aosta Valley (northwestern Italian Alps) for measuring the effects of snow-gliding on avalanche defence structures

Valerio De Biagi, Bernardino Chiaia, Barbara Frigo, and Francesca Del Din

New design guidelines for buildings in hazardous avalanche areas.

Benoit Chanut, Thierry Faug, and Mohamed Naaim

Force from granular flows on a wall-like obstacle: contribution to snow avalanche dam design

Engelbert Gleirscher, Anna Maschek, Jan-Thomas Fischer, Martin Kern, and Markus Aufleger

Granular Experiments on the avalanche mitigation structure 'Muehlauer Klamn', Innsbruck, Tyrol.

Philomène Favier, Nicolas Eckert, David Bertrand, and Mohamed Naaim

Optimal design of snow avalanche passive defense structure using extreme value run-out models

Philipp Jörg, Matthias Granig, and Peter Sampl

Case studies with SamosAT based on several avalanche events in February and March 2009