



5th EARSeL Workshop

Remote Sensing of Snow and Glaciers Changing Climate – Changing Cryosphere

11 - 13 February 2008
Department of Geography, University of Berne,
Switzerland



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UNIVERSITÄT
BERN

Monday, 11 February 2008

9:30 – 10:50	<i>Registration / Coffee</i>	
10:50 – 11:00	Welcome	Stefan Wunderle
	Why we should use remote sensed data – or why not?	Chair: Stefan Wunderle
11:00 – 11:30	Potential and limits of satellite data for climate issues Abstract Presentation	Hans v. Storch ¹ (invited), Mathias Zahn ^{1,2} , Anne Blechschmidt ² , Stig Wilkenskjeld ¹ , Heinz Günther ¹ , Stephan Bakan ^{2,3} 1 Institute for Coastal Research, GKSS Research Centre, Germany 2 Meteorological Institute of the University of Hamburg, Germany 3 Max-Planck Institute of Meteorology, Germany
11:30 – 12:00	Assessment of snow cover of northern Eurasia for climate model validation and related GMES snow monitoring services Abstract	Jouni Pulliainen ¹ , Matias Takala ¹ , Panu Lahtinen ¹ , Anna Kontu ¹ , Jarkko Koskinen ¹ , Heikki Järvinen ¹ , Sari Metsämäki ² , Miia Eskelinen ² , Yriä Sucksdorff ² , Juha-Petri Kärnä ³ , Kari Luojus ³ 1 Finnish Meteorological Institute 2 Finnish Environment Institute 3 Helsinki University of Technology
12:00 – 12:30	Arctic Sea Ice in 2007: A Year to Remember Abstract Presentation Paper	Julienne C. Stroeve ¹ , Sheldon Drobot ¹ , James Maslanik ¹ , Walter Meier ¹ , Ted Scambos ¹ , Mark Serreze ¹ 1 NSIDC, University of Colorado
12:30 – 14:00	Lunch	
	A step forward – new sensors and new missions	Chair: Rune Solberg
14:00 – 14:30	New Missions of ESA's Living Planet Programme in the context of the IGOS-Cryo Theme Abstract Presentation (for further information please contact M.Drinkwater (Mark.Drinkwater@esa.int) directly)	Mark Drinkwater ¹ (invited) 1 European Space Agency
14:30 – 15:00	CoReH ₂ O – A dual-frequency SAR mission for improved snow and ice observations	Helmut Rott ¹ , Donald Cline, Christian Haas, Claude Duguay, Richard Essrey, Giovanni Macelloni, Eirik Malnes, Jouni Pulliainen, Helge Rebhan, Simon Yueh 1 University of Innsbruck

15:00 – 15:30	<p>Poster session (4 minutes/3 slides per poster)</p> <p>Thin Sea-ice Thickness as inferred from Passive Microwave and In Situ Observations</p> <p>Abstract</p> <p>Rapid avalanche detection using optical remote sensing data</p> <p>Abstract Presentation</p> <p>Retrieval of snow physical parameters using ground-based spectral pyranometer</p> <p>Abstract Presentation</p> <p>Effect of sun-crust on spectral reflectance on snow</p> <p>Abstract</p> <p>Quantitative high-resolution stratigraphy of snow</p> <p>Abstract Presentation</p> <p>Simulation of spaceborne microwave radiometer measurements of snow cover from in-situ data and emission models</p> <p>Abstract Presentation Paper</p>	<p>Chair: Rune Solberg</p> <p>Kazuhiro Naoki¹, Jinro Ukita, Fumihiko Nishio¹, Masashige Nakayama</p> <p><small>1 Center for Environmental Remote Sensing, Chiba University, Chiba, Japan</small></p> <p>Yves A. Buehler¹, Tobias W. Kellenberger¹</p> <p><small>1 RSL Department of Geography, University of Zurich</small></p> <p>Katsuyuki Kuchiki¹, Teruo Aoki¹, Etsuko Tanaka, Hiroki Motoyoshi, Tomonori Tanikawa</p> <p><small>1 Meteorological Research Institute, Tsukuba</small></p> <p>Tomonori Tanikawa¹, Teruo Aoki², Konosuke Sugiura, Akihiro Hachikubo¹, Hiroyuki Enomoto¹</p> <p><small>1 Kitami Institute of Technology 2 Meteorological Research Institute, Tsukuba</small></p> <p>Martin Schneebeli¹</p> <p><small>1 Swiss Federal Institute for Snow and Avalanche Research SLF</small></p> <p>Anna Kontu¹, Jouni Pulliainen¹</p> <p><small>1 Finnish Meteorological Institute</small></p>
15:30 – 16:30	<p>Poster presentation / Coffee break</p>	
16:30 – 17:00	<p>A step forward – new sensors and new missions II</p> <p>Microwave Backscattering Measurements of Alpine Snowcover - Ground based microwave measurements of snow in support of the CoRe-H2O mission</p> <p>Abstract</p>	<p>Chair: Teruo Aoki</p> <p>Andreas Wiesmann¹, Tazio Strozzi, Christian Mätzler, Charles Werner, Urs Wegmüller</p> <p><small>1 GAMMA Remote Sensing</small></p>
17:00 – 17:30	<p>X- and Ku-band Snow Backscatter Signatures from the SARALPS-2007 Campaign; SARALPS-2007</p> <p>Abstract Presentation</p>	<p>Keith Morrison¹, Helmut Rott², Thomas Nagler², Helge Rebhan, Patrick Wursteisen⁴</p> <p><small>1 Cranfield University 2 University of Innsbruck 3 ENVEO, Austria 4 European Space Agency</small></p>
18:30 – 21.30	<p>Ice breaker</p> <p>University main building (Kuppelsaal) Hochschulstrasse 4 Ch-3012 Bern</p>	

Tuesday, 12 February 2008

08:30 – 9:00	<p>Continental Snow Cover</p> <p>The onset of snow melt estimated from SMMR and SSM/I data in Eurasia</p> <p>Abstract Presentation Paper</p>	<p>Chair: Thomas Nagler</p> <p>Mathias Takala¹, Jouni Pulliainen¹</p> <p>¹ Finnish Meteorological Institute</p>
09:00 – 09:30	<p>Diurnal thaw and refreeze during spring snowmelt from QuikScat over entire Siberia - A sensitivity and time series analyses</p> <p>Abstract Presentation Paper</p>	<p>Annett Bartsch¹, Richard A Kidd, Wolfgang Wagner</p> <p>¹ Vienna University of Technology</p>
09:30 – 10:00	<p>Mapping Arctic albedo and cryosphere from MODIS for the International Polar Year at the Canada Centre for Remote Sensing</p> <p>Abstract</p>	<p>Alexander P. Trishchenko¹, Yi Luo¹, Konstantin V. Khlopenkov¹, William M. Park¹</p> <p>¹ Canada Centre for Remote Sensing</p>
10:00 – 10:40	<p>Poster session (4 minutes/3 slides per poster)</p> <p>Glacier Monitoring by remote sensing and GIS techniques in open source environment</p> <p>Abstract</p> <p>Snow Cover Monitoring using Multi-temporal ENVISAT/ASAR Data</p> <p>Abstract Presentation Paper</p> <p>Using Satellite Product Snow Cover Maps in Snowmelt Runoff Modeling and Impact Studies in the Eastern Part of Turkey</p> <p>Abstract</p> <p>Firmline detection of the Northern Patagonia Icefield using ERS-1 data - An example from San Rafael Glacier</p> <p>Abstract Presentation Paper</p> <p>EuroCryoClim: A new initiative for the development of an operational cryospheric climate monitoring system</p> <p>Abstract Presentation</p> <p>Towards combined spectrodirectional reflectance measurements and detailed snow microstructure studies</p> <p>Abstract Presentation</p> <p>Snow influences on shrub occurrence in an Alaskan tundra inferred from remotely sensed data</p> <p>Abstract</p> <p>Impact of Climate Change on Himalayan Glaciers and Glacial Lakes</p> <p>Abstract Presentation</p>	<p>Chair: Teruo Aoki</p> <p>Eva S. Malinverni¹, Claudia Croci, Fabrizio Sgroi</p> <p>¹ Dardus – Universita'Politecnica Marche</p> <p>Linda Valenti¹, David Small, Erich Meier</p> <p>¹ Remote Sensing Laboratories - University of Zürich</p> <p>Emrah Pekkan¹, Aynur Sensoy¹, Arda Sorman¹, A. Unal Sorman</p> <p>¹ Anadolu University</p> <p>Masamu Aniya¹, Gonzalo Barcaza</p> <p>¹ University of Tsukuba</p> <p>Rune Solberg¹, Lars-Anders Breivik, Rune Engeset, Stein Tronstad</p> <p>¹ Norwegian Computing Centre</p> <p>Stefan Rey¹, Jürg T. Schopfer¹, Martin Schneebeli², Mathias Kneubühler¹, Klaus H. Itten¹</p> <p>¹ RSL Department of Geography, University of Zurich ² Swiss Federal Institute for Snow and Avalanche Research SLF</p> <p>Keiji Kushida¹</p> <p>¹ Institute of Low Temperature Science, Hokkaido University, Japan</p> <p>Pradeep Mool¹, Samjwal Bajracharya¹, Deo Raj Gurung¹, Basanta Shrestha¹</p> <p>¹ ICIMOD, Nepal</p>

	Glacier Lake Outburst Flood Hazard Mapping – Imja Tsho Case Study	Birendra Bajracharya ¹ , Deoraj Gurung ¹ , Lokap Rajbhandari, Basanta Shrestha ¹
	Abstract Presentation	¹ ICIMOD, Nepal
	Monitoring Daily Snow Cover over the Western Arctic using AVHRR and MODIS Imagery	Richard Fernandes ¹ , Konstantin Khlopenkov ¹ , Alexander Trishchenko ¹
	Abstract Paper	¹ Canada Centre for Remote Sensing
10:40 – 11:30	Poster presentation / Coffee break	
	Spectral characteristics of snow and ice	Chair: Helmut Rott
11:30 – 12:00	Physically based snow albedo model and satellite retrieved snow parameters	Teruo Aoki ¹ , Taichu Tanaka ¹ , Etsuko Tanaka ¹ , Katsuyuki Kuchiki ¹ , Hiroki Motoyoshi ¹ , Tomonori Tanikawa
	Abstract	¹ Meteorological Research Institute, Tsukuba
12:00 – 12:30	The behaviour of snow and snow-free surface reflectance in the boreal forest area	Miia Eskelinen ¹ , Jouni Pulliainen ¹ , Anna Kontu ¹ , Hanne Suokanerva, Sari Metsämäki ¹
	Abstract Presentation Paper	¹ Finnish Environment Institute
12:30 – 13:00	Snow cover change detection with laser scanning range and brightness measurements	Sanna Kaasalainen ¹ , Harri Kaartinen, Antero Kukko, Henri Niitymäki
	Abstract Presentation	¹ Finnish Geodetic Institute
13:00 – 14:00	Lunch	
	Multisensoral / multitemporal snow and ice	Chair: Jouni Pulliainen
14:00 – 14:30	Time-series fusion of optical and SAR data for snow cover area mapping	Rune Solberg ¹ , Ragnar B. Huseby ¹ , Hans Koren ¹ , Eirik Malnes
	Abstract Presentation Paper	¹ Norwegian Computing Centre
14:30 – 15:00	Multi-sensor remote sensing observations of the near past and present structure and dynamics of Wilkins Ice Shelf (Antarctic Peninsula)	Matthias Braun ¹ , Angelika Humbert, Albert Moll
	Abstract	¹ Center for Remote Sensing of Land Surfaces, University of Bonn
15:00 – 15:30	Coffee break	

	Snow hydrology	Chair: Jouni Pulliainen
15:30 – 16:00	Demonstration activities for snow cover monitoring and hydrology using satellite data	Thomas Nagler ¹ , Helmut Rott ¹ , Florian Mueller ¹ , Petra Malcher ¹
	Abstract	¹ ENVEO, Austria
16:00 – 16:30	AWARE project - the geo-service for snowmelt runoff modelling in Alpine environment	Anna Rampini ¹ , Paola Carrara ¹ , Monica Peppe ¹ , Massimo Antoninetti ¹
	Abstract	¹ IREA-CNR
16:30 – 17:00	Assimilation of snow melt information from SAR in the water balance and runoff model PROMET	Bach Heike ¹ , Florian Appel ¹ , Natali Ohl, Monika Prasch, Ulrich Strasser, Wolfram Mauser
	Abstract	¹ Vista Remote Sensing in Geosciences
17:00 – 17:30	Temporal Evaluation Of Snow Depletion Curves Derived By Optical Satellite Data For Simulating Snowmelt Runoff in Turkey	Gokhan Marim ¹ , Aynur Sensoy ² , Unal Sorman ³
	Abstract	¹ Middle East Technical University, Department of Geodetic and Geographic Information Technologies
	Presentation	² Anadolu University
		³ METU Geodetic and Geographic Information Technologies
19:30 – 23.30	Conference Dinner Haus der Universität Schlösslistrasse 5 CH-3008 Bern	

8:30 – 9:00	<p>Snow monitoring in mountains</p> <p>Snow Cover Mapping over the mountainous areas in Europe with MSG-Seviri</p> <p>Abstract Presentation Paper</p>	<p>Chair: Alexander Trishchenko</p> <p>Serdar Surer¹, Orhan Gokdemir, Zuhail Akyurek¹, Unal Sorman¹</p> <p>¹ METU Geodetic and Geographic Information Technologies</p>
9:00 – 9:30	<p>Analysis of short-term trends in snow cover variability in the European Alps - based on operational sub-pixel snow mapping with NOAA AVHRR data</p> <p>Abstract Presentation</p>	<p>Fabia Huesler¹, Stefan Wunderle¹, Nando Foppa²</p> <p>¹ Remote Sensing Research Group, University of Bern ² Federal Office of Meteorology and Climatology Meteowiss</p>
9:30 – 10:00	<p>Alpine Snow Cover Climatology – a Swiss GCOS Pilot Project</p> <p>Abstract Presentation Paper</p>	<p>Gabriela Seiz¹, Andreas Asch¹, Nando Foppa¹</p> <p>¹ Federal Office of Meteorology and Climatology Meteowiss</p>
10:00 – 10:30	<p><i>Coffee break</i></p>	
10:30 – 11:00	<p>Glacier monitoring</p> <p>Mapping Little Ice Age glacier maximum in Jotunheimen, Norway, using aerial photography and LANDSAT imagery</p> <p>Abstract Presentation Paper</p>	<p>Chair: Alexander Trishchenko</p> <p>Sabine Baumann¹, Liss A. Andreassen, Stefan Winkler¹</p> <p>¹ University of Wuerzburg</p>
11:00 – 11:30	<p>Topography of glaciers and ice caps with Spot 5 HRS devices</p> <p>Abstract</p>	<p>Jérôme Korona¹, Etienne Berthier¹, Marc Bernard, Frédérique Rémy¹</p> <p>¹ OMP-LEGOS</p>
11:30 – 13:00	<p>Lunch</p>	
13:00 – 13:30	<p>Glacier monitoring II</p> <p>Measurements of the Rhone Glacier velocity and topography using in-situ real-aperture RADAR</p> <p>Abstract Presentation</p>	<p>Chair: Stefan Wunderle</p> <p>Charles Werner¹, Tazio Strozzi¹, Andreas Wiesmann¹, Andreas Bauder, Urs Wegmüller¹</p> <p>¹ Gamma Remote Sensing AG</p>
13:30 – 14:00	<p>Satellite radar interferometry and feature tracking for measuring Everest region glacier recession</p> <p>Abstract Presentation</p>	<p>Duncan J. Quincey¹, Adrian Luckman¹</p> <p>¹ Centre for Glaciology, Aberystwyth University</p>
14:00 – 14:30	<p>GlobGlacier: Mapping the worlds glaciers and icecaps from space for improved climate change impact assessment</p> <p>Abstract</p>	<p>Frank Paul¹, Andreas Kaab¹, Helmut Rott², Andrew Shepherd, Tazio Strozzi</p> <p>¹ Department of Geography, University of Zurich ² University of Innsbruck</p>
14:30 – 14:40	<p>Closing session</p>	

Further information is available at:
<http://www.geography.unibe.ch/lenya/giub/live/research/remotesensing.html>
 or from Fabia Huesler (huesler@giub.unibe.ch)
 or Stefan Wunderle (swun@giub.unibe.ch)