Annals of Glaciology 32 2001

PROGRAMME OF SESSIONS

Monday, 22 May 2000

OPENING OF SYMPOSIUM: Ferdinand Eberle, Vice-Governor, Province of Tyrol
Eugen Sprenger, Vice-Mayor, City of Innsbruck
Werner Rachoy, Director, Institute for Avalanche and Torrent Research
Robert A. Bindschadler, President, International Glaciological Society
Horst Schaffhauser, Chairman, Local Organizing Committee
Kolumban Hutter, Chief Editor

0920–1020 h CHAIR: Robert A. Bindschadler

SESSION 1: SNOW COVER

T. Baunach, C. Fierz, P. K. Satyawali and M. Schneebeli: A model for kinetic grain growth

P. M. B. Föhn: Simulation of surface-hoar layers for snow-cover models

E. Guseva-Lozinski: Modelling snow crystal transformations within snow-cover and frozen soil as a result of surface crystal variations

1050–1230 h CHAIR: Sergey Sokratov

SESSION 2: SNOW COVER

P. Etchevers, Y. Durand, F. Habets, E. Martin and J. Noilhan: Impact of spatial resolution on the hydrological simulation of the Durance high-Alpine catchment, France

Y. Durand, G. Guyomarc'h and L. Mérindol: Numerical experiments of wind transport over a mountainous instrumented site: I. Regional scale

J.-L. Michaux, F. Naaim-Bouvet and M. Naaim: Drifting-snow studies over an instrumented mountainous site: II. Measurements and numerical model at small scale

Wei Wenshou, Qin Dahe and Liu Mingzhe: Properties and structure of the seasonal snow cover in the continental regions of China

H. H. Christiansen: Snow-cover depth, distribution and duration data from northeast Greenland obtained by continuous automatic digital photographing

1400–1520 h CHAIR: Rand Decker

SESSION 3: MODELLING SNOW COVER

S. A. Sokratov and A. Sato: The effect of wind on the snow cover

P. Bartelt and M. von Moos: Small strain, low strain-rate, microstructure-based snow viscosity and elasticity laws

O. Abe: Creep experiments and numerical simulations of very light artificial snowpacks

K. Kleemayr and S. Wieshofer: Two and three dimensional approach of snow-cover modelling

1550–1730 h CHAIR: Perry Bartelt

SESSION 4: AVALANCHE CONTROL

Á. Jónsson and E. Hestnes: The proposed open-pit protection of Bolungarvík, Iceland

G. P. Giani, S. Silvano and G. Zanon: Avalanche of 18 January 1997 on Brenva Glacier, Mont Blanc Group, Western Italian Alps: an unusual process of formation

R. Decker, R. Patterson, G. Merrill, R. Rice and L. T. Wells: Adapting Kolktalfeln for avalanche hazard reduction at the Milepost 151 avalanche, Jackson, Wyoming

N. Jensen, R. Decker and D. Howlett: Full scale measurements and analysis of snow avalanche velocities

F. Louchet: A transition in dry-now slab avalanche triggering modes

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Tuesday, 23 May 2000

0840–1020 h CHAIR: Jürg Schweizer

SESSION 5: HAZARD MAPPING

V. P. Blagoveshchenskiy and M. E. Eglit: Avalanche hazard mapping with the use of mathematical models
U. Gruber and S. Margreth: Winter 1999: a valuable test of the avalanche-hazard mapping procedure in Switzerland
M. Barbolini and F. Savi: Estimate of uncertainties in avalanche hazard mapping
C. Harbitz, A. Harbitz and F. Nadim: On probability analysis in snow avalanche hazard zoning
R. Rice, R. Decker, N. Jensen, R. Patterson, S. Singer, C. Sullivan and L. Wells: Avalanche hazard reduction for transportation corridors using real-time detection and alarms

1050–1230 h CHAIR: Yasuaki Nohguchi

SESSION 6: AVALANCHE DYNAMICS

E. Suriñach, G. Furdada, F. Sabot, B. Biescas and J. M. Vilaplana: On the characterization of seismic signals generated by snow avalanches for monitoring purposes
B. Sovilla, F. Sommavilla and A. Tomaselli: Measurements of mass balance in dense snow avalanche events
M. Schaer and D. Issler: Particle densities, velocities and size distributions in large avalanches from impact-sensor measurements
T. Nagasaki, K. Izumi, S. Kobayashi and T. Yamada: Prediction of avalanche paths deviated from the stream by centre-of-mass model
Y. C. Tai, S. Noelle, J. M. N. T. Gray and K. Hutter: An accurate shock-capturing finite-difference method to solve the Savage–Hutter equations in avalanche dynamics

1400–1730 h CHAIR: Kolumban Hutter

SESSION 7: POSTERS

N. Maeda, S. Kobayashi, K. Izumi, S. Kohno and M. Amenomori: Prediction of rainfall and snowfall by a neural network method
B. Kohl, M. Fuchs, G. Markart and G. Patzelt: Heavy rain on snow cover
M. Ishizaka: An evaluation of precipitation efficiency of densely rimed snowflakes in falling snow particles
A. Hachikubo: Numerical modelling of sublimation on snow and comparison with field measurements
I. Takei and N. Maeno: The low-frequency conductivity of snow near the melting temperature
C. Pielmeier, M. Schneebeli and T. Stucki: Snow texture: a comparison of empirical versus simulated texture index for Alpine snow
Y. Nohguchi and K. Kawashima: Self-organized dirt slope by snowmelt
M. Schneebeli and G. Krüsi: Three-dimensional reconstruction of snow using serial sections
D. Daudon, E. Flavigny and D. Peyrede: A way of studying snow-slab stability by numerical modelling
A. Mishra, L. Singh, D. N. Sethi and B. R. Kaushik: A uniaxial constitutive law based on delayed elasticity accounting for grain size effect and multi-step loading
R. Bintanja, H. Lilienthal and H. Tüg: Observations of snowdrift over Antarctic snow and blue-ice surfaces
Y. Takeuchi, S. Kobayashi, T. Sato, K. Izumi, K. Kosugi, Wang Xin, Zhang Jiapin and Peng Yongheng: The effect of wind direction on drift control by snow fences
D. Font, T. Sato, K. Kosugi, A. Sato and J. M. Vilaplana: Mass-flux measurements in a cold wind tunnel: comparison of the mechanical traps with a snow-particle counter
D. Font, G. Furdada and J.M. Vilaplana: Aeolian susceptibility maps: methodology and applications
C. Jaedicke and T. Thiis: Acoustic snowdrift measurements: experiences and results from the FLOWCAPT^{TM} instrument
D. Marks, T. Link, A. Winstral and D. Garen: Simulating snowmelt processes during rain-on-snow over a semi-arid mountain basin
P.-E. Mellander and K. Bishop: Snow cover, soil frost and spring water stress on a plot scale manipulation in a young Scots pine stand
S. Ikeda, R. Nitta and K. Sekino: The fir trees surviving surface avalanches
H. Schaffhauser, P. Sampl and R. Sailer: Simulation of Galtür avalanche 1999: 2D and 3D coupled simulation with SAMOS
J. McElwaine and K. Nishimura: Ping-pong ball avalanche experiments
J. Marturiá, P. Oller, A. de Paz and G. Martí: Automatic avalanche mapping for large areas
G. Volk and K. Kleemayr: Application of a 2D model on several well-documented events of Feb. 1999 in Austria
E. Martin, G. Giraud, Y. Lejeune and G. Boudart: Impact of a climate change on avalanche hazard
M. Christen, P. Bartelt, U. Gruber and D. Issler: AVAL-1D: an avalanche dynamics program for the practice
Y. C. Tai, J. M. N. T. Gray, K. Hutter and S. Noelle: Flow of dense avalanches past obstructions
R. Sailer, F. Daschek, P. Sampl and H. Schaffhauser: The sensitivity of SAMOS (Snow Avalanche MOdelling and Simulation) to changes in the resolution of DEMs
M. N. Petrooshina: Landscape structure as an indicator of avalanche activity
Y. Nohguchi and H. Ozawa: Similarity on the shape of granular avalanches
A. N. Bozhinsky, A. N. Nazarov and P. A. Chernouss: Avalanches: a probabilistic approach to modelling
N. Mihnevski and T. Andreeva: Heightened risk of avalanches and atmospheric circulation in Bulgarian mountains

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Y. Sventek, T. Glazovskaya, Y. Seliverstov, A. Soloviev, Yu. Soloviev and A. Suchilin: Mapping of territories prone to avalanches and slushflows in the GIS Khibiny project
E. Troshkina, T. Glazovskaya, N. Kondakova and V. Sokolov: Zoning of snowiness and avalanching in the mountains of western Transcaucasia
K. Kleemayr and A. Moser: Regional avalanche prediction in Austria
D. Issler, U. Gruber and N. M. Dawes: Doppler radar and video measurements of avalanche velocities at the Vallée de la Sionne test site
P. Baumgartner: Avalanche events February 1999
P. Ferrer, G. Furdada and J. M. Vilaplana: Snow avalanche cadastre organisation in Andorra, central Pyrenees
K. Kawashima, T. Endo, S. Iikura, T. Fujii and S. Kobayashi: Observation of heterogeneous structure of snow cover in melt season
T. Nagler and H. Rott: Synergistic use of synthetic aperture radar and optical satellite images for monitoring the Alpine snow cover
S. Marshall, R. J. Oglesby and A. W. Nolin: Effect of western U.S. snow cover on climate
A. Cagnati, M. Valt, R. Casacchia, F. Lauta and R. Salvatori: Radiometric investigation on different snow covers at Ny-Ålesund (Svalbard) and at Terra Nova Bay (Antarctica)
V. Sapunov, G. G. Sapunov, T. Glazovskaya and Y. Seliverstov: Landscape differentiation in distribution of snow cover in Subarctic mountains (Khibina mountains)
C. Genthon, M. Fily and E. Martin: Numerical simulations of Greenland snowpack and comparison with passive microwave spectral signatures
M. Shimizu and O. Abe: Recent fluctuation of snow cover on mountainous areas in Japan

Wednesday, 24 May 2000

0840–1020 h CHAIR: Yih-Chin Tai

SESSION 8: AVALANCHE DYNAMICS

H. Schreiber, W. L. Randeu, H. Schaffhauser and L. Rammer: Avalanche dynamics measurement by pulsed Doppler radar
S. H. Haraldsdóttir, H. Olafsson, Y. Durand, L. Mérindol and G. Giraud: SAFRAN-Crocus snow simulations in an unstable and windy climate
M. Clément-Rastello: A study on the size of snow particles in powder-snow avalanches
M. A. Kern, L. Vulliet and W. J. Ammann: Inverse grading as function principle of the avalanche airbag
J. Schweizer and C. Camponovo: The skier's zone of influence in triggering slab avalanches

1050–1230 h CHAIR: Richard Bintanja

SESSION 9: SNOW COVER

M. Stähli, A. Papritz, P. Waldner and F. Forster: Time–space linear regression analysis of the snow cover in a pre-Alpine semi-forested catchment
M. J. Tribbeck, R. J. Gurney, E. M. Morris and D. Pearson: Modelling the influence of vegetation on the seasonal snowcover
B. Brabec and R. Meister: A nearest-neighbor model for regional avalanche forecasting
K. W. Birkeland, C. J. Mock and J. J. Shinker: Avalanche extremes and atmospheric circulation patterns
J. Vallet, U. Gruber and F. Dufour: Photogrammetric avalanche volume measurements at Vallée de la Sionne, Switzerland

Thursday, 25 May 2000

0840–1020 h CHAIR: Paul M. B. Föhn

SESSION 10: SNOWDRIFTING

R. Bintanja: Buoyancy effects induced by drifting snow particles
J. Doorschot, N. Raderschall and M. Lehning: Measurements and one-dimensional model calculations of snow transport over a mountain ridge
J. McElwaine: Saltation modelling
M. Lehning, N. Raderschall and J. Doorschot: Preferential deposition of snow precipitation: the most important process in Alpine snow drift?
F. Naaim-Bouvet, M. Naaim and J.-C. Francais: Integration of wind and drifting snow numerical models in GIS snowdrift risk on roads: a tool for engineering

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1050–1230 h CHAIR: David M. McClung

SESSION 11: SNOWDRIFTING AND SNOWPACK

T. Sato, K. Kosugi and A. Sato: Saltation-layer structure of drifting snow observed in wind tunnel

K. Kosugi, T. Sato, A. Sato, K. Sugiura, K. Nishimura and N. Maeno: Saltation lengths of drifting snow particles over hard snow surfaces

D. Issler, M. Schaer, M. Clément-Rastello and F. Rapin: Comparison of three powder-snow avalanche models of different complexity

L. Vidal and M. Naaim: Physical modeling of snowpack stability topography influence and weak layer behaviours

P. A. Chernouss and Yu. Fedorenko: Application of statistical simulation for avalanche-risk evaluation

1400–1520 h CHAIR: Horst Schaffhauser

SESSION 12: FORESTS AND SNOW

D. M. McClung: Characteristics of terrain, snow supply and forest cover for avalanche initiation caused by logging

P. Bartelt and V. Stöckli: The influence of tree and branch fracture, overturning and debris entrainment on snow avalanche flow

P. Höller: The influence of the forest on night-time snow surface temperature

Elena Guseva-Lozinski: Modelling snow-cover parameters in mountain forest-covered area

1550–1730 h CHAIR: Dieter Issler

SESSION 13: SLUSHFLOWS AND SNOW

J. Jeník, M. Kociánová, V. Spusta and T. Frantik: Avalanche activity and vegetation of the High Sudetes

D. Scherer, L. Groebke and E. Parlow: Photogrammetric analysis of a slush torrent in the Kärkevagge, northern Sweden

T. Sidorova, N. Belaya and V. Perov: Distribution of slush flows in northern Europe and their potential change due to global warming

T. Jóhannesson: Run-up of two avalanches on the deflecting dams at Flateyri, northwestern Iceland

Friday, 26 May 2000

0840–1020 h CHAIR: Hansueli Gubler

SESSION 14: SNOW PROPERTIES

B. Jamieson and C. D. Johnston: Evaluation of the shear frame test for weak snowpack layers

W. L. Randeu, M. Schönhuber, P. Vaxevanakis and H. Schreiber: Detailed point-monitoring of snowfall properties and fine-structure by 2D-video-distrometer

C. Camponovo and J. Schweizer: Rheological measurements of the viscoelastic properties of snow

W.L. Randeu and H. Schreiber: Radar tools for reliable avalanche detection and winter road signalling and protection

C. Rixen and V. Stöckli: Vegetation and soil under artificial snow

1050–1210 h CHAIR: Kolumban Hutter

SESSION 15: SNOW PROPERTIES

C. Coléou, B. Lesaffre, J.-B. Brzoska, W. Ludwig and E. Boller: Three-dimensional snow images by X-ray microtomography

S. A. Sokratov, A. Sato and Y. Kamata: Water vapor in the pore space of snow

V. N. Golubev and A. D. Frolov: On the correlation between tensile strength and stress wave velocities of dry coherent snow based on its structural model

A. Sato and Y. Kamata: Observation of the depth hoar growth by a time lapse motion picture

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