# INDEX

## Vol. 51 No. 172-175, 2005

Ahlström, A.P., J.J. Mohr, N. Reeh, E.L. Christensen and R.LeB. Hooke, (paper: Controls on the basal water pressure in subglacial channels near the margin of the Greenland ice sheet) 443–450

Aizen, E., see Aizen, V.B. and others

Aizen, V., see Nakazawa, F. and others

Aizen, V.B., E. Aizen, K. Fujita, S.A. Nikitin, K.J. Kreutz and L.N. Takeuchi (paper: Stable-isotope time series and precipitation origin from firn-core and snow samples, Altai glaciers, Siberia) 637–654

## Alaska:

- Analysis of meteorological data and the surface energy balance of McCall Glacier, Alaska, USA, 451–461
- Record negative glacier balances and low velocities during the 2004 heatwave in Alaska, USA: implications for the interpretation of observations by Zwally and others in Greenland, 663–664
- Spatial and temporal evolution of rapid basal sliding on Bench Glacier, Alaska, USA, 49-63

Variegated Glacier, Alaska, USA: a century of surges, 399-406

Albedo:

Validation of AVHRR- and MODIS-derived albedos of snow and ice surfaces by means of helicopter measurements, 37–48

Alley, R.B., see Das, S.B. and others

Alley, R.B., see DiPrinzio, C.L. and others

Alps:

- An enhanced temperature-index glacier melt model including the shortwave radiation balance: development and testing for Haut Glacier d'Arolla, Switzerland, 573–587
- Debris transport in a temperate valley glacier: Haut Glacier d'Arolla, Valais, Switzerland, 139–146
- Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos, 183–185
- Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change, 561–572

The application of a non-linear back-propagation neural network to study the mass balance of Grosse Aletschgletscher, Switzerland, 313–324

Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002, 539–546

Anderson, P.S., (paper: Ice-shelf microtopography observed using satellite thermal imagery) 528–538

Anderson, R.S., see MacGregor, K.R. and others

Andreassen, L.M., see Rasmussen, L.A. and L.M. Andreassen

Antarctica:

- Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records, 343–352
- Application of micro-X-ray fluorescence to chemical mapping of polar ice, 325–332
- Borehole imagery of meteoric and marine ice layers in the Amery Ice Shelf, East Antarctica, 75–84
- Changes in the ice plain of Whillans Ice Stream, West Antarctica, 620-636
- Characterization and formation of melt layers in polar snow: observations and experiments from West Antarctica, 307-313

Decadal-scale variations in ice flow along Whillans Ice Stream and its tributaries, West Antarctica, 147–158

Fabric and texture at Siple Dome, Antarctica, 281-290

- Ice-shelf microtopography observed using satellite thermal imagery, 528–538
- Influx of meltwater to subglacial Lake Concordia, East Antarctica, 96–104
- Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002, 509–527
- Model experiments on large tabular iceberg evolution: ablation and strain thinning, 363–372
- Non-climate influences on stable isotopes at Taylor Mouth, Antarctica, 248-258
- Signal variability in replicate ice cores, 462-468
- South Polar in situ radio-frequency ice attenuation, 231-238
- Spatial and temporal variability of snow accumulation in East Antarctica from traverse data, 113–124
- Strain-induced phase changes within cold basal ice from Taylor Glacier, Antarctica, indicated by textural and gas analyses, 611–619
- Stratigraphic variation within polar firn caused by differential accumulation and ice flow: interpretation of a 400 MHz short-pulse radar profile from West Antarctica, 407–422
- Structure of southeastern Antarctic Peninsula ice shelves and ice tongues from synthetic aperture radar imagery, 373–376
- Surface morphology and internal layer stratigraphy in the downstream end of Kamb Ice Stream, West Antarctica, 423–431 The retreat of Jones Ice Shelf, Antarctic Peninsula, 555–560
- Arcone, S.A., V.B. Spikes and G.S. Hamilton, (paper: Stratigraphic variation within polar firn caused by differential accumulation and ice flow: interpretation of a 400 MHz short-pulse radar profile from West Antarctica) 407–422

Argentina:

Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112

- Arnold, N.S., see Rippin, D.M. and others
- Asano, S., see Matsuura, S. and others

Avalanches:

Dissipated work, stability and the internal flow structure of granular snow avalanches, 125–138

Bailey, R., see Winchester, V. and others

Baker, I., see Song, M. and others

- Baker, R., see Morel Fourcade, M.C. and others
- Bamber, J., see Rivera, A. and others
- Bamber, J.L and A.J. Payne, (review: Bamber, J.L and A.J. Payne. 2004. Mass balance of the cryosphere: observations and modelling of contemporary and future changes) 169
- Barnes, P.R.F., see Wolff, E.W. and others
- Barnola, J.M., see Morel Fourcade, M.C. and others
- Bartelt, P., O. Buser and M. Kern, (paper: Dissipated work, stability and the internal flow structure of granular snow avalanches) 125–138
- Barwick, S., D. Besson, P. Gorham and D. Saltzberg, (paper: South Polar in situ radio-frequency ice attenuation) 231–238

Becagli, S., see Frezzotti, M. and others

Beckley, M.A., see Zwally, H.J. and others

- Behar, A., see Craven, M. and others
- Bell, R.E., see Tikku, A.A. and others

- Bender, G.A., see Eisen, O. and others
- Benham, T.J., see Burgess, D.O. and others
- Bentley, C., (review: Herzfeld, U.C. 2004. Atlas of Antarctica: topographic maps from geostatistical analysis of satellite radar altimeter data) 503–504
- Besson, D., see Barwick, S. and others
- Bindschadler, R. and P. Vornberger, (correspondence: Guiding the South Pole Traverse with ASTER imagery) 179–180
- Bindschadler, R., P. Vornberger and L. Gray, (paper: Changes in the ice plain of Whillans Ice Stream, West Antarctica) 620–636
- Bingham, R.G., P.W. Nienow, M.J. Sharp and S. Boon, (paper: Subglacial drainage processes at a High Arctic polythermal valley glacier) 15–24

Blackford, J.R., see Marmo, B.A. and others

Boon, S., see Bingham, R.G. and others

Boreholes:

Borehole imagery of meteoric and marine ice layers in the Amery Ice Shelf, East Antarctica, 75–84

Hydrogeological analysis of slug tests in glacier boreholes, 269-280

Bowman, L.N., see Bueler, E. and others

Brand, R., see Craven, M. and others

Brenner, A.C., see Zwally, H.J. and others

Brinkhaus, M., see Rippin, D.M. and others

Brock, B., see Pellicciotti, F. and others

Brown, G.H., see Kulessa, B. and others

- Bueler, E.C.S. Lingle, J.A. Kallen-Brown, D.N. Covey and L.N. Bowman, (paper: Exact solutions and verification of numerical models for isothermal ice sheets) 291–306
- Bull, C., (review: Bull, C. 2005. Innocents in the Arctic: the 1951 Spitsbergen expedition) 506
- Burgess, D.O., M.J. Sharp, D.W.F. Mair, J.A. Dowdeswell and T.J. Benham, (paper: Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada) 219–230
- Burlando, P., see Pellicciotti, F. and others
- Buser, O., see Bartelt, P. and others

CaCO<sub>3</sub>:

- An experimental study of incongruent dissolution of CaCO<sub>3</sub> under analogue glacial conditions, 383–390
- Calov, R. and R. Greve, (correspondence: A semi-analytical solution for the positive degree-day model with stochastic temperature variations) 173–175
- Calving:
  - Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada, 219–230
- Canada:
  - Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada, 219–230
  - Subglacial drainage processes at a High Arctic polythermal valley glacier, 15–24
- Carsey, F., see Craven, M. and others
- Casassa, G., see Raymond, C. and others
- Casassa, G., see Rivera, A. and others
- Castelnau, O., see Gillet-Chaulet, F. and others
- Catania, G.A., H. Conway, C.F. Raymond and T.A. Scambos, (paper: Surface morphology and internal layer stratigraphy in the downstream end of Kamb Ice Stream, West Antarctica) 423–431

Cecil, L.D. and others, (review: Cecil, L.D. and others. 2004. Earth paleoenvironments: records preserved in mid- and low-latitude glaciers) 333–335

Che, T., see Jin, R. and others

Chile:

- A 2.5 kyr luminescence date for a terminal moraine in the Leones valley, southern Chile, 186–188
- Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112
- Retreat of Glaciar Tyndall, Patagonia, over the last half-century, 239–247
- Chinn, T.J., C. Heydenrych and M.J. Salinger, (paper: Use of the ELA as a practical method of monitoring glacier response to climate in New Zealand's Southern Alps) 85–95

Christensen, E.L., see Ahlström, A.P. and others

Clarke, G.K.C., see Tikku, A.A. and others

Climate change:

- A 2.5 kyr luminescence date for a terminal moraine in the Leones valley, southern Chile, 186–188
- Changes in the ice plain of Whillans Ice Stream, West Antarctica, 620-636
- Different mass balances for climatic and hydrologic applications, 176
- Glacier area changes in the Pumqu river basin, Tibetan Plateau, between the 1970s and 2001, 607–610
- Global variations of local asymmetry in glacier altitude: separation of north-south and east-west components, 469-482
- Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112
- Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002, 509–527
- Record negative glacier balances and low velocities during the 2004 heatwave in Alaska, USA: implications for the interpretation of observations by Zwally and others in Greenland, 663–664
- Retreat of Glaciar Tyndall, Patagonia, over the last half-century, 239-247
- Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change, 561–572
- The retreat of Jones Ice Shelf, Antarctic Peninsula, 555-560
- Use of the ELA as a practical method of monitoring glacier response to climate in New Zealand's Southern Alps, 85–95

Cole, D.M., see Song, M. and others

## Colorado:

Kinematics of Spruce Creek rock glacier, Colorado, USA, 259-268

- Conway, H., see Catania, G.A. and others
- Cook, E., see Wolff, E.W. and others
- Cornejo, H.G., see Zwally, H.J. and others
- Corripio, J., see Pellicciotti, F. and others
- Covey, D.N., see Bueler, E. and others
- Cox, L.H., see Harrison, W.D. and others
- Cox, N.J., see Evans, I.S. and N.J. Cox
- Craven, M., F. Carsey, A. Behar, J. Matthews, R. Brand, A. Elcheikh, S. Hall and A. Treverrow, (paper: Borehole imagery of meteoric and marine ice layers in the Amery Ice Shelf, East Antarctica) 75–84

Crevasse detection:

- Guiding the South Pole Traverse with ASTER imagery, 179-180
- D'Agata, C., C. Smiraglia, A. Zanutta and F. Mancini, (correspondence: Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos) 183–185
- Dansgaard, W., (review: Dansgaard, W. 2004. Frozen annals: Greenland ice sheet research) 170

De Angelis, M., see Morel Fourcade, M.C. and others

Debris transport:

Debris transport in a temperate valley glacier: Haut Glacier d'Arolla, Valais, Switzerland, 139–146

- Dedieu, J.P., see Gerbaux, M. and others
- Dedieu, J-P., see Rabatel, A. and others
- DiPrinzio, C.L., L.A. Wilen, R.B. Alley, J.J. Fitzpatrick, M.K. Spencer and A.J. Gow, (paper: Fabric and texture at Siple Dome, Antarctica) 281–290
- Dowdeswell, J.A., see Burgess, D.O. and others
- Dronning Maud Land (Antarctica):
  - Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records, 343–352
- Durand, G., see Morel Fourcade, M.C. and others
- Duval, P., see Morel Fourcade, M.C. and others

Echelmeyer, A., see Raymond, C. and others

- Echelmeyer, K.A., see Eisen, O. and others
- Eisen, O., W.D. Harrison, C.F. Raymond, K.A. Echelmeyer, G.A. Bender and J.L.D. Gorda, (paper: Variegated Glacier, Alaska, USA: a century of surges) 399–406
- Elcheikh, A., see Craven, M. and others
- Elsberg, D.H., see Harrison, W.D. and others
- Etchevers, P., see Gerbaux, M. and others
- Eurasian Arctic:
  - Glaciochemical reconnaissance of a new ice core from Severnaya Zemlya, Eurasian Arctic, 64–74
- Evans, I.S. and N.J. Cox. (paper: Global variations of local asymmetry in glacier altitude: separation of north–south and east–west components) 469–482
- Fairchild, I.J., see McGillen, M.R. and I.J. Fairchild
- Ferraccioli, F., see Tikku, A.A. and others
- Fily, M., see Frezzotti, M. and others

## Firn:

- Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records, 343–352
- Dating of seasonal snow/firn accumulation layers using pollen analysis, 483-490
- Fabric and texture at Siple Dome, Antarctica, 281-290
- Stable-isotope time series and precipitation origin from firn-core and snow samples, Altai glaciers, Siberia, 637-654
- Stratigraphic variation within polar firn caused by differential accumulation and ice flow: interpretation of a 400 MHz shortpulse radar profile from West Antarctica, 407–422
- Fischer, H., see Karlöf, L. and others
- Fischer, H., see Weiler, K. and others
- Fitzpatrick, J.J., see DiPrinzio, C.L. and others
- Fitzsimons, S.J., see Samyn, D., and others
- Flora, O., see Frezzotti, M. and others
- Fox, A.J and D.G. Vaughan, (paper: The retreat of Jones Ice Shelf, Antarctic Peninsula) 555–560

France:

Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change, 561–572

- Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002, 539–546
- Frezzotti, M., M. Pourchet, O. Flora, S. Gandolfi, M. Gay, S. Urbini, C. Vincent, S. Becagli, R. Gragnani, M. Proposito, M. Severi, R. Traversi, R. Udisti and M. Fily, (paper: Spatial and temporal variability of snow accumulation in East Antarctica from traverse data) 113–124
- Fritzsche, D., see Weiler, K. and others
- Fujiki, T., see Nakazawa, F. and others
- Fujita, K., see Aizen, V.B. and others
- Fujita, K., see Nakazawa, F. and others
- Funk, M., see Pellicciotti, F. and others
- Gagliardini, O., see Gillet-Chaulet, F. and others
- Gandolfi, S., see Frezzotti, M. and others
- Gay, M., see Frezzotti, M. and others
- Genthon, C., see Gerbaux, M. and others
- Geothermal heat:
  - Strong influence of geothermal heat on the physical properties of glacier ice in the Tibetan Plateau, 177–178
- Gerbaux, M., C. Genthon, P. Etchevers, C. Vincent and J.P. Dedieu, (paper: Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change) 561–572
- Gillet-Chaulet, F., O. Gagliardini, J. Meyssonnier, M. Montagnat and O. Castelnau, (paper: A user-friendly anisotropic flow law for ice-sheet modelling) 3–14

Ginot, P., see Zagorodnov, V. and others

- Giovinetto, M.B., see Zwally, H.J. and others
- Glacier debris:
  - Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos, 183–185
- Glacier dynamics:
  - Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada, 219–230
  - Kinematics of Spruce Creek rock glacier, Colorado, USA, 259–268 Recumbent folding of divide arches in response to unsteady ice-
  - divide migration, 201–209 Spatial and temporal evolution of rapid basal sliding on Bench Glacier, Alaska, USA, 49–63
- Glacier surges:

Variegated Glacier, Alaska, USA: a century of surges, 399-406

#### Glaciers:

- A semi-analytical solution for the positive degree-day model with stochastic temperature variations, 173–175
- A time constant for hemispheric glacier mass balance, 353-362
- An enhanced temperature–index glacier melt model including the shortwave radiation balance: development and testing for Haut Glacier d'Arolla, Switzerland, 573–587
- An experimental study of incongruent dissolution of CaCO<sub>3</sub> under analogue glacial conditions, 383–390
- Analysis of meteorological data and the surface energy balance of McCall Glacier, Alaska, USA, 451–461
- Debris transport in a temperate valley glacier: Haut Glacier d'Arolla, Valais, Switzerland, 139–146
- Glacier area changes in the Pumqu river basin, Tibetan Plateau, between the 1970s and 2001, 607–610
- Global variations of local asymmetry in glacier altitude: separation of north–south and east–west components, 469–482
- Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112
- Kinematics of Spruce Creek rock glacier, Colorado, USA, 259-268

Glaciers: (cont.)

- Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos, 183–185
- Record negative glacier balances and low velocities during the 2004 heatwave in Alaska, USA: implications for the interpretation of observations by Zwally and others in Greenland, 663–664
- Retreat of Glaciar Tyndall, Patagonia, over the last half-century, 239-247
- Spatial and temporal evolution of rapid basal sliding on Bench Glacier, Alaska, USA, 49-63
- Spatial and temporal variations in surface velocity and basal drag across the tongue of the polythermal glacier midre Lovénbreen, Svalbard, 588–600
- Stable-isotope time series and precipitation origin from firn-core and snow samples, Altai glaciers, Siberia, 637–654
- Strong influence of geothermal heat on the physical properties of glacier ice in the Tibetan Plateau, 177–178
- Subglacial drainage processes at a High Arctic polythermal valley glacier, 15–24
- Use of the ELA as a practical method of monitoring glacier response to climate in New Zealand's Southern Alps, 85–95 Variegated Glacier, Alaska, USA: a century of surges, 399–406

Glasser, N.F., see Goodsell, B. and others

- Godtliebsen, F., see Karlöf, L. and others
- Goodsell, B., M.J. Hambrey and N.F. Glasser, (paper: Debris transport in a temperate valley glacier: Haut Glacier d'Arolla, Valais, Switzerland) 139–146
- Gorda, J.L.D., see Eisen, O. and others
- Gorham, P., see Barwick, S. and others
- Gow, A.J., see DiPrinzio, C.L. and others
- Gragnani, M., see Frezzotti, M. and others
- Gray, L., see Bindschadler, R. and others
- Greene, A.M., (paper: A time constant for hemispheric glacier mass balance) 353–362
- Greenland:
  - Controls on the basal water pressure in subglacial channels near the margin of the Greenland ice sheet, 443–450
  - Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002, 509–527
  - Record negative glacier balances and low velocities during the 2004 heatwave in Alaska, USA: implications for the interpretation of observations by Zwally and others in Greenland, 663–664
  - Validation of AVHRR- and MODIS-derived albedos of snow and ice surfaces by means of helicopter measurements, 37–48
- Greuell, W. and J. Oerlemans, (paper: Validation of AVHRR- and MODIS-derived albedos of snow and ice surfaces by means of helicopter measurements) 37–48
- Greve, R., see Calov, R. and R. Greve
- Grootes, P.M., see Neumann, T.A. and others
- Gundestrup, N., see Karlöf, L.E. and others
- Hall, S., see Craven, M. and others
- Hambrey, M.J., see Goodsell, B. and others
- Hambrey, M. and J. Alean, (review: Hambrey, M. and J. Alean. 2004. Glaciers) 171
- Hamilton G.S., see Arcone, S.A. and others
- Harrison, S., Winchester, V. and others
- Harrison, W.D., D.H. Elsberg, L.H. Cox and R.S. March, (correspondence: Different mass balances for climatic and hydrologic applications) 176
- Harrison, W.D., see Eisen, O. and others
- Harrison, W.D., see Truffer, M. and others

- Herzfeld, U.C., (review: Herzfeld, U.C. 2004. Atlas of Antarctica: topographic maps from geostatistical analysis of satellite radar altimeter data) 503–504
- Heydenrych, C., see Chinn, T.J. and others
- Hindmarsh, R., (review: Bamber, J.L and A.J. Payne. 2004. Mass balance of the cryosphere: observations and modelling of contemporary and future changes) 169
- Hock, R. and B. Holmgren, (paper: A distributed surface energy-balance model for complex topography and its application to Storglaciären, Sweden) 25–36
- Hodson, A.J., see Rippin, D.M. and others
- Hofstede, C., see Karlöf, L.E. and others
- Hollin, J.T. (review: Bull, C. 2005. Innocents in the Arctic: the 1951 Spitsbergen expedition) 506
- Holmgren, B., see Hock, R. and B. Holmgren
- Hooke, R.LeB., see Ahlström, A.P. and others
- Hooke, R.LeB., (review: Hooke, R.LeB. 2005. Principles of glacier mechanics) 336
- Hopkins, M.A., see Johnson, J.B. and M.A. Hopkins
- Hubbard, B., see Kulessa, B. and others
- Hydrology:
  - Controls on the basal water pressure in subglacial channels near the margin of the Greenland ice sheet, 443–450
  - Different mass balances for climatic and hydrologic applications, 176
  - Hydrogeological analysis of slug tests in glacier boreholes, 269–280 Influx of meltwater to subglacial Lake Concordia, East Antarctica, 96–104
  - Subglacial drainage processes at a High Arctic polythermal valley glacier, 15–24

#### Ice:

- Application of micro-X-ray fluorescence to chemical mapping of polar ice, 325–332
- Creep of granular ice with and without dispersed particles, 210–218 Ice friction, wear features and their dependence on sliding velocity and temperature, 391–398
- Laboratory observations of debris-bearing ice facies frozen from supercooled water, 337–339
- Signal variability in replicate ice cores, 462-468
- South Polar in situ radio-frequency ice attenuation, 231-238
- Statistical techniques to select detection thresholds for peak signals in ice-core data, 655-662
- Strain-induced phase changes within cold basal ice from Taylor Glacier, Antarctica, indicated by textural and gas analyses, 611–619
- The effect of particles on dynamic recrystallization and fabric development of granular ice during creep, 377–382
- Ice cores:
  - Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records, 343–352
  - Glaciochemical reconnaissance of a new ice core from Severnaya Zemlya, Eurasian Arctic, 64–74
  - Intermediate-depth ice coring of high-altitude and polar glaciers with a lightweight drilling system, 491–502
  - Non-climate influences on stable isotopes at Taylor Mouth, Antarctica, 248–258
  - Signal variability in replicate ice cores, 462-468
  - Statistical techniques to select detection thresholds for peak signals in ice-core data, 655–662

## Ice creep:

Creep of granular ice with and without dispersed particles, 210–218 The effect of particles on dynamic recrystallization and fabric development of granular ice during creep, 377–382

## Ice flow:

- A user-friendly anisotropic flow law for ice-sheet modelling, 3–14 Decadal-scale variations in ice flow along Whillans Ice Stream and its tributaries, West Antarctica, 147–158
- Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada, 219–230

Ice sheets:

- A semi-analytical solution for the positive degree-day model with stochastic temperature variations, 173–175
- A user-friendly anisotropic flow law for ice-sheet modelling, 3-14
- Controls on the basal water pressure in subglacial channels near the margin of the Greenland ice sheet, 443–450
- Exact solutions and verification of numerical models for isothermal ice sheets, 291–306
- Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002, 509–527
- Recumbent folding of divide arches in response to unsteady icedivide migration, 201-209

## Ice shelves:

- Ice-shelf microtopography observed using satellite thermal imagery, 528-538
- Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002, 509–527
- Structure of southeastern Antarctic Peninsula ice shelves and ice tongues from synthetic aperture radar imagery, 373–376
- The retreat of Jones Ice Shelf, Antarctic Peninsula, 555-560

## Ice spikes:

An exploratory study of ice-cube spikes, 191-200

## Ice streams:

- A note on inverting ice-stream surface data, 181-182
- Changes in the ice plain of Whillans Ice Stream, West Antarctica, 620-636
- Surface morphology and internal layer stratigraphy in the downstream end of Kamb Ice Stream, West Antarctica, 423–431

## Icebergs:

- Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada, 219–230
- Model experiments on large tabular iceberg evolution: ablation and strain thinning, 363–372

## Iceland:

Validation of AVHRR- and MODIS-derived albedos of snow and ice surfaces by means of helicopter measurements, 37-48

Isaksson, E., see Karlöf, L.E. and others

## Italy:

- Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos, 183–185
- Jacobson, H.P. and E.D. Waddington, (paper: Recumbent folding of divide arches in response to unsteady ice-divide migration) 201–209
- Jansen, D., H. Sandhäger and W. Rack, (paper: Model experiments on large tabular iceberg evolution: ablation and strain thinning) 363–372

## Japan:

- Fluctuation of the seasonal snowpack in a mountainous area of the heavy-snow district in the warm-temperate zone of Japan, 547–554
- Jeffree, C.E., see Marmo, B.A. and others
- Jezek, K.C. and H.X. Liu, (paper: Structure of southeastern Antarctic Peninsula ice shelves and ice tongues from synthetic aperture radar imagery) 373–376

Jezek, K.C., see Stearns, L.A. and others

Jin, R., X. Li, T. Che, L. Wu and P. Mool (paper: Glacier area changes in the Pumqu river basin, Tibetan Plateau, between the 1970s and 2001) 607–610

- Johnson, J.B. and M.A. Hopkins, (paper: Identifying microstructural deformation mechanisms in snow using discrete-element modeling) 432–442
- Kääb, A., see Rivera, A. and others

Kaczmarska, M., see Karlöf, L. and others

- Kallen-Brown, J.A., see Bueler, E. and others
- Karlöf, L., E. Isaksson, J.-G. Winther, N. Gundestrup, H.A.J. Meijer, R. Mulvaney, M. Pourchet, C. Hofstede, G. Lappegard, R. Pettersson, M. van den Broeke and R.S.W. van de Wal, (paper: Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records) 343–352
- Karlöf, L., T.A. Øigård, F. Godtliebsen, M. Kaczmarska and H. Fischer, (instruments and methods: Statistical techniques to select detection thresholds for peak signals in ice-core data) 655–662
- Kern, M., see Bartelt, P. and others
- Klok, E.J., M. Nolan and M.R. van den Broeke, (paper: Analysis of meteorological data and the surface energy balance of McCall Glacier, Alaska, USA) 451–461
- Knight, C.A., (paper: An exploratory study of ice-cube spikes) 191-200
- Knight, D.A., see Knight, P.G. and D.A. Knight
- Knight, P.G. and D.A. Knight, (correspondence: Laboratory observations of debris-bearing ice facies frozen from supercooled water) 337–339
- Koerner, R.M., (review: Cecil, L.D. and others. 2004. Earth paleoenvironments: records preserved in mid- and low-latitude glaciers) 333–335
- Kreutz, K.J., see Aizen, V.B. and others
- Kulessa, B., B. Hubbard, M. Williamson and G.H. Brown, (paper: Hydrogeological analysis of slug tests in glacier boreholes) 269–280
- Lappegard, G., see Karlöf, L.E. and others
- Leonard, E.M., P. Staab and S.G. Weaver, (paper: Kinematics of Spruce Creek rock glacier, Colorado, USA) 259–268

Leppäranta, M., (review: Leppäranta, M. 2005. The drift of sea ice) 505

- Li, J., see Zwally, H.J. and others
- Li, X., see Jin, R. and others
- Lingle, C.S., see Bueler, E. and others
- Liu, H.X., see Jezek, K.C. and H.X. Liu
- Lorrain, R.D., see Samyn, D., and others
- Luminsecence:
  - A 2.5 kyr luminescence date for a terminal moraine in the Leones valley, southern Chile, 186–188
- Lytle, V.I., (review: Leppäranta, M. 2005. The drift of sea ice) 505
- MacGregor, K.R., C.A. Riihimaki and R.S. Anderson, (paper: Spatial and temporal evolution of rapid basal sliding on Bench Glacier, Alaska, USA) 49–63
- Mair, D.W.F., see Burgess, D.O. and others
- Mancini, F., see D'Agata, C. and others
- March, R.S., see Harrison, W.D. and others
- March, R.S., see Truffer, M. and others
- Marmo, B.A., J.R. Blackford and C.E. Jeffree, (paper: Ice friction, wear features and their dependence on sliding velocity and temperature) 391–398
- Mass balance:
  - A time constant for hemispheric glacier mass balance, 353–362 Different mass balances for climatic and hydrologic applications, 176
  - Seasonal mass-balance gradients in Norway, 601-606

Mass balance: (cont.)

- Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change, 561–572
- The application of a non-linear back-propagation neural network to study the mass balance of Grosse Aletschgletscher, Switzerland, 313–324
- Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002, 539–546
- Massom, R., (review: Thomas, D.N. 2004. Frozen oceans: the floating world of pack ice) 167–168
- Matsuura, S., K. Matsuyama, S. Asano, T. Okamoto and Y. Takeuchi, (paper: Fluctuation of the seasonal snowpack in a mountainous area of the heavy-snow district in the warm-temperate zone of Japan) 547–554

Matsuyama, K., see Matsuura, S. and others

- Matthews, J., see Craven, M. and others
- McGillen, M.R. and I.J. Fairchild, (paper: An experimental study of incongruent dissolution of CaCO<sub>3</sub> under analogue glacial conditions) 383–390
- Meijer, H.A.J., see Karlöf, L.E. and others

Meltwater:

Characterization and formation of melt layers in polar snow: observations and experiments from West Antarctica, 307–313 Influx of meltwater to subglacial Lake Concordia, East Antarctica, 96–104

Meyssonnier, J., see Gillet-Chaulet, F. and others

Mikhalenko, V., see Zagorodnov, V. and others

Miller, H., see Weiler, K. and others

Mohr, J.J., see Ahlström, A.P. and others

- Montagnat, M., see Gillet-Chaulet, F. and others
- Mool, P., see Jin, R. and others
- Morel Fourcade, M.C., J.M. Barnola, J. Susini, R. Baker, G. Durand, M. De Angelis and P. Duval, (instruments and methods: Application of micro-X-ray fluorescence to chemical mapping of polar ice) 325–332

Mulvaney, R., see Karlöf, L.E. and others

Mulvaney, R., see Wolff, E.W. and others

Nakawo, M., see Nakazawa, F. and others

- Nakazawa, F., K. Fujita, N. Takeuchi, T. Fujiki, J. Uetake, V. Aizen and M. Nakawo, (paper: Dating of seasonal snow/firn accumulation layers using pollen analysis) 483–490
- Neumann, T.A., E.D. Waddington, E.J. Steig and P.M. Grootes, (paper: Non-climate influences on stable isotopes at Taylor Mouth, Antarctica) 248–258

Neumann, T.A., see Raymond, C. and others

New Zealand:

Use of the ELA as a practical method of monitoring glacier response to climate in New Zealand's Southern Alps, 85–95

Nienow, P.W., see Bingham, R.G. and others

Nikitin, S.A., see Aizen, V.B. and others

Nolan, M., see Klok, E.J. and others

Norway:

Seasonal mass-balance gradients in Norway, 601-606

Notz, D., J.S. Wettlaufer and M.G. Worster, (instruments and methods: A non-destructive method for measuring the salinity and solid fraction of growing sea ice in situ) 159–166

Oerlemans, J., see Greuell, W. and J. Oerlemans

- Øigård, T.A., see Karlöf, L. and others
- Okamoto, T., see Matsuura, S. and others

Patagonia:

- Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112 Retreat of Glaciar Tyndall, Patagonia, over the last half-century,
  - 239–247
- Peel, D.A., (review: Dansgaard, W. 2004. Frozen annals: Greenland ice sheet research) 170
- Pellicciotti, F., B. Brock, U, Strasser, P. Burlando, M. Funk and J. Corripio (paper: An enhanced temperature–index glacier melt model including the shortwave radiation balance: development and testing for Haut Glacier d'Arolla, Switzerland) 573–587
- Pettersson, R., see Karlöf, L.E. and others

Pollen analysis:

Dating of seasonal snow/firn accumulation layers using pollen analysis, 483-490

Pourchet, M., see Karlöf, L.E. and others

Pourchet, O., see Frezzotti, M. and others

Proposito, M., see Frezzotti, M. and others

- Pu Jianchen, see Wang Ninglian and Pu Jianchen
- Rabatel, A., J-P. Dedieu and C. Vincent, (paper: Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002) 539–546

Rack, W., see Jansen, D. and others

Radar:

- Guiding the South Pole Traverse with ASTER imagery, 179–180 Stratigraphic variation within polar firn caused by differential accumulation and ice flow: interpretation of a 400 MHz shortpulse radar profile from West Antarctica, 407–422
- Structure of southeastern Antarctic Peninsula ice shelves and ice tongues from synthetic aperture radar imagery, 373–376

Radio-frequency ice attenuation:

South Polar in situ radio-frequency ice attenuation, 231-238

- Rasmussen, L.A. and L.M. Andreassen, (paper: Seasonal mass-balance gradients in Norway) 601–606
- Raymond, C., T.A. Neumann, E. Rignot, K. Echelmeyer, A. Rivera and G. Casassa, (paper: Retreat of Glaciar Tyndall, Patagonia, over the last half-century) 239–247

Raymond, C.F., see Catania, G.A. and others

Raymond, C.F., see Eisen, O. and others

Recent variations of a debris-covered glacier (Brenva glacier) in the Italian Alps monitored by comparison of maps and digital orthophotos, 183–185

Reeh, N., see Ahlström, A.P. and others

Remote sensing:

- Guiding the South Pole Traverse with ASTER imagery, 179-180
- Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data, 105–112
- Ice-shelf microtopography observed using satellite thermal imagery, 528–538
- Structure of southeastern Antarctic Peninsula ice shelves and ice tongues from synthetic aperture radar imagery, 373–376
- Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002, 539–546
- Validation of AVHRR- and MODIS-derived albedos of snow and ice surfaces by means of helicopter measurements, 37–48

Rignot, E., see Raymond, C. and others

Riihimaki, C.A., see MacGregor, K.R. and others

- Rippin, D.M., I.C. Willis, N.S. Arnold, A.J. Hodson and M. Brinkhaus (paper: Spatial and temporal variations in surface velocity and basal drag across the tongue of the polythermal glacier midre Lovénbreen, Svalbard) 588–600
- Rivera, A., G. Casassa, J. Bamber and A. Kääb, (paper: Ice-elevation changes of Glaciar Chico, southern Patagonia, using ASTER DEMs, aerial photographs and GPS data) 105–112

Rivera, A., see Raymond, C. and others

## Russia:

- Dating of seasonal snow/firn accumulation layers using pollen analysis, 483-490
- Stable-isotope time series and precipitation origin from firn-core and snow samples, Altai glaciers, Siberia, 637–654

Ruth, U., see Weiler, K. and others

Saba, J.L., see Zwally, H.J. and others

Salinger, M.J., see Chinn, T.J. and others

Saltzberg, D., see Barwick, S. and others

Samyn, D., S.J. Fitzsimons and R.D. Lorrain (paper: Strain-induced phase changes within cold basal ice from Taylor Glacier, Antarctica, indicated by textural and gas analyses) 611–619

Sandhäger, H., see Jansen, D. and others

- Scambos, T.A., see Catania, G.A. and others
- Schoof, C., (correspondence: A note on inverting ice-stream surface data) 181–182

Sea ice

A non-destructive method for measuring the salinity and solid fraction of growing sea ice in situ, 159–166

Sevari, R., see Frezzotti, M. and others

Severnaya Zemlya (Eurasian Arctic): Glaciochemical reconnaissance of a new ice core from Severnaya Zemlya, Eurasian Arctic, 64–74

Sharp, M.J., see Bingham, R.G. and others

- Sharp, M.J., see Burgess, D.O. and others
- Siple Dome (Antarctica):

Fabric and texture at Siple Dome, Antarctica, 281–290

Smiraglia, C., see D'Agata, C. and others

## Snow:

- Characterization and formation of melt layers in polar snow: observations and experiments from West Antarctica, 307-313
- Dating of seasonal snow/firn accumulation layers using pollen analysis, 483-490
- Fluctuation of the seasonal snowpack in a mountainous area of the heavy-snow district in the warm-temperate zone of Japan, 547–554
- Identifying microstructural deformation mechanisms in snow using discrete-element modeling, 432-442
- Stable-isotope time series and precipitation origin from firn-core and snow samples, Altai glaciers, Siberia, 637–654

## Snow accumulation:

Spatial and temporal variability of snow accumulation in East Antarctica from traverse data, 113–124

Snowpack:

- Fluctuation of the seasonal snowpack in a mountainous area of the heavy-snow district in the warm-temperate zone of Japan, 547–554
- Song, M., D.M. Cole and I. Baker, (paper: Creep of granular ice with and without dispersed particles) 210–218
- Song, M., I. Baker and D.M. Cole, (paper: The effect of particles on dynamic recrystallization and fabric development of granular ice during creep) 377–382

Spencer, M.K., see DiPrinzio, C.L. and others

Spikes, V.B., see Arcone, S.A. and others

Staab, P., see Leonard, E.M. and others

Stearns, L.A., K.C. Jezek and C.J. van der Veen, (paper: Decadal-scale variations in ice flow along Whillans Ice Stream and its tributaries, West Antarctica) 147–158

Steig, E.J., see Neumann, T.A. and others

Steiner, D., A. Walter and H.J. Zumbühl, (paper: The application of a non-linear back-propagation neural network to study the mass balance of Grosse Aletschgletscher, Switzerland) 313–324

## Storglaciaren (Sweden):

A distributed surface energy-balance model for complex topography and its application to Storglaciären, Sweden, 25–36

- Strasser, U., see Pellicciotti, F. and others
- Studinger, M., see Tikku, A.A. and others

Subglacial channels:

- Controls on the basal water pressure in subglacial channels near the margin of the Greenland ice sheet, 443–450
- Subglacial drainage:
  - Subglacial drainage processes at a High Arctic polythermal valley glacier, 15–24

Subglacial lakes:

Influx of meltwater to subglacial Lake Concordia, East Antarctica, 96–104

## Supercooled water:

Laboratory observations of debris-bearing ice facies frozen from supercooled water, 337–339

## Surface energy balance:

A distributed surface energy-balance model for complex topography and its application to Storglaciären, Sweden, 25–36 Analysis of meteorological data and the surface energy balance of

McCall Glacier, Alaska, USA, 451–461

Susini, J., see Morel Fourcade, M.C. and others

## Svalbard:

Spatial and temporal variations in surface velocity and basal drag across the tongue of the polythermal glacier midre Lovénbreen, Svalbard, 588–600

## Sweden:

A distributed surface energy-balance model for complex topography and its application to Storglaciären, Sweden, 25–36

## Switzerland:

- An enhanced temperature–index glacier melt model including the shortwave radiation balance: development and testing for Haut Glacier d'Arolla, Switzerland, 573–587
- Debris transport in a temperate valley glacier: Haut Glacier d'Arolla, Valais, Switzerland, 139–146
- The application of a non-linear back-propagation neural network to study the mass balance of Grosse Aletschgletscher, Switzerland, 313–324
- Tabacco, I., see Tikku, A.A. and others
- Takeuchi, L.N., see Aizen, V.B. and others
- Takeuchi, N., see Nakazawa, F. and others
- Takeuchi, Y., see Matsuura, S. and others
- Thermal imagery:
  - Ice-shelf microtopography observed using satellite thermal imagery, 528–538
- Thomas, D.N., (review: Thomas, D.N. 2004. Frozen oceans: the floating world of pack ice) 167–168
- Thompson, L.G., see Zagorodnov, V. and others

## Tibetan Plateau:

Glacier area changes in the Pumqu river basin, Tibetan Plateau, between the 1970s and 2001, 607–610

Tibetan Plateau: (cont.)

- Strong influence of geothermal heat on the physical properties of glacier ice in the Tibetan Plateau, 177–178
- Tikku, A.A., R.E. Bell, M. Studinger, G.K.C. Clarke, I. Tabacco and F. Ferraccioli, (paper: Influx of meltwater to subglacial Lake Concordia, East Antarctica) 96–104
- Traversi, R., see Frezzotti, M. and others
- Treverrow, A., see Craven, M. and others
- Truffer, M., (review: Hambrey, M. and J. Alean. 2004. Glaciers) 171
- Truffer, M., W.D. Harrison and R.S. March, (correspondence: Record negative glacier balances and low velocities during the 2004 heatwave in Alaska, USA: implications for the interpretation of observations by Zwally and others in Greenland, 663–664
- Tulaczyk, S., (review: Hooke, R.LeB. 2005. Principles of glacier mechanics) 336
- Udisti, R., see Frezzotti, M. and others
- Uetake, J., see Nakazawa, F. and others
- Urbini, S., see Frezzotti, M. and others
- Van de Wal, R.S.W., see Karlöf, L.E. and others
- Van den Broeke, M., see Karlöf, L.E. and others
- Van den Broeke, M.R., see Klok, E.J. and others
- Van der Veen, C.J., see Stearns, L.A. and others
- Vaughan, D.G., see Fox, A.J and D.G. Vaughan
- Vincent, C., see Frezzotti, M. and others
- Vincent, C., see Gerbaux, M. and others
- Vincent, C., see Rabatel, A. and others
- Vornberger, P., see Bindschadler, R. and others
- Vornberger, P., see Bindschadler, R. and P. Vornberger
- Waddington, E.D., see Jacobson, H.P. and E.D. Waddington
- Waddington, E.D., see Neumann, T.A. and others
- Walter, A., see Steiner, D. and others

- Wang Ninglian and Pu Jianchen, (correspondence: Strong influence of geothermal heat on the physical properties of glacier ice in the Tibetan Plateau) 177–178
- Weaver, S.G., see Leonard, E.M. and others
- Weiler, K. H. Fischer, D. Fritzsche, U. Ruth, F. Wilhelms and H. Miller, (paper: Glaciochemical reconnaissance of a new ice core from Severnaya Zemlya, Eurasian Arctic) 64–74
- Wettlaufer, J.S., see Notz, D. and others
- Wilen, L.A., see DiPrinzio, C.L. and others
- Wilhelms, F., see Weiler, K. and others
- Williamson, M., see Kulessa, B. and others
- Willis, I.C., see Rippin, D.M. and others
- Winchester, V., S. Harrison and R. Bailey, (correspondence: A 2.5 kyr luminescence date for a terminal moraine in the Leones valley, southern Chile) 186–188
- Winther, J-G., see see Karlöf, L.E. and others
- Wolff, E.W., E. Cook, P.R.F. Barnes and R. Mulvaney, (paper: Signal variability in replicate ice cores) 462–468
- Worster, M.G., see Notz, D. and others
- Wu, L., see Jin, R. and others
- X-ray fluorescence: Application of micro-X-ray fluorescence to chemical mapping of polar ice, 325–332
- Yi, D., see Zwally, H.J. and others
- Zagorodnov, V., L.G. Thompson, P. Ginot and V. Mikhalenko, (instruments and methods: Intermediate-depth ice coring of high-altitude and polar glaciers with a lightweight drilling system, 491–502
- Zanutta, A., see D'Agata, C. and others
- Zumbühl, H.J., see Steiner D. and others
- Zwally, H.J., M.B. Giovinetto, J. Li, H.G. Cornejo, M.A. Beckley, A.C. Brenner, J.L. Saba and D. Yi, (paper: Mass changes of the Greenland and Antarctic ice sheets and shelves and contributions to sea-level rise: 1992–2002) 509–527