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Education

1983	Ph.D. Geophysical Fluid Dynamics	Princeton University, Princeton, NJ advisor: Kirk Bryan
1979	M.S. Physics/Glaciology	University of Maine, Orono, ME advisor: Robert Thomas
1976	Sc.B. Physics	Brown University, Providence, RI <i>Magna cum laude</i> , honors in physics

Personal

Birth Date: 8 December, 1954; Age: 65

Birth Place: Boston, MA, USA

Marital Status: Married, Linda A. MacAyeal (Sparks)

Children: Leigh C. (MacAyeal) Kasten (Brown U., Sc.B.; Cornell U., DVM), Hannah R. MacAyeal (U. Penn, B.S., U. Penn Veterinary Medicine, DVM), Evan C. MacAyeal (Carleton College, B.A., Columbia University, Financial Engineering, M.S.)

Research Interests

The physical processes that determine the evolution of ice and climate on Earth over the past, present and future.

Employment

Department of the Geophysical Sciences, University of Chicago

1983-Present

Professor (Asst. until 1987, Assoc. until 1992 and Full until present)

Prior to 1983: I was a graduate student at Princeton University and University of Maine.

Awards and Honors

- 2019 Seligman Crystal, International Glaciological Society (IGS)
- 2013 Nye Lecture, American Geophysical Union (AGU), Fall Meeting
- 2010 Goldthwait Award (Polar Medal) of the Byrd Polar Research Center, Ohio State University
- 2005 Provost's Teaching Award of the University of Chicago
- 2002 Quantrell Teaching Award of the University of Chicago
- 1997 Richardson Medal of the IGS
- 1988 James Macelwane Medal of the AGU
- 1988 Fellow of the AGU
- Antarctic geographic names: MacAyeal Ice Stream, MacAyeal Peak

Teaching Experience

- GeoSci 242: Geophysical Fluid Dynamics, I. - Foundations
- GeoSci 353: Oceanic and Atmospheric Waves
- Granular Fluid Mechanics
- Glacial Isostasy
- Physical Science 108: The Earth
- Physical Science 109: Ice Age Earth
- Physical Science 132: Dynamic Environment and Emergence of Humankind
- Physical Science 133: Dynamic Environment and Settlement Systems
- Physical science 134: Global Warming: Understanding the Forecast
- GeoSci 235: Introduction to Inverse Methods in Geophysical Sciences
- GeoSci 233: Physical Oceanography
- GeoSci 212: Introduction to Seismology
- GeoSci 232: Introduction to Glaciology

PhD advisor for:

- Grant Macdonald, PhD December 2019 (Thesis title: Supraglacial Lakes on McMurdo Ice Shelf, Antarctica)
- Andrew Malone, PhD May 2016 (Thesis title: Glaciers and Climate in the High Andes)
- L. Mac Cathles, PhD 2011 (Thesis topic: radiation/surface roughness feedbacks)
- K. M. Brunt, PhD 2008 (Thesis topic: Tidal influences on Ross Ice Shelf flow.)
- I. D. Turnbull, PhD 2008 (Thesis topic: Inverse barometer effect and icebergs.)
- Olga V. Sergienko, PhD 2005 (Thesis topic: Surface melting of ice shelves and icebergs.)
- Christina L. Hulbe, PhD 1998 (Thesis topic: West Antarctic ice-sheet modeling.)
- Charles S. Jackson, PhD 1998 (Thesis topic: Ice-sheet topography effects on atmospheric circulation.)

- Dean Lindstrom, PhD 1990 (Thesis topic: Model of the Eurasian Ice Sheet at the Last Glacial Maximum)
- Robert W. Grumbine, PhD 1989 (Thesis title: Effect of coastal polynyas on the thermohaline circulation of the Antarctic continental shelves.)

MS advisor for:

- Jieyan Yang 2018 (Thesis topic: Automatic Weather Station data, McMurdo Ice Shelf)
- Jinqiao Lin 2017 (Thesis topic: Ice shelf seismicity, wet vs. dry signals)
- Honyu Xiao 2016 (Thesis topic: Neural network earthquake warning systems)
- Marie Bergelin 2016 (Thesis topic: Landsat detection of snow facies in Greenland)
- Christopher Oster 2015 (Thesis topic: Glacial Lake Outburst Floods of Nepal)
- Yitan Wang, MS 2014 (Thesis topic: Ambient noise correlation analysis on an iceberg)
- Kristopher Darnell, MS 2011 (Thesis topic: supraglacial lake ogives)
- Marianne H. Okal, MS 2005 (Thesis topic: Characteristics of Iceberg Collisions.)
- Young-Jin Kim, MS 2004 (Thesis topic: Tidal motions of icebergs.)
- Leila Zajac, MS 2002 (Thesis topic: North American biomes.)
- Theodore L. Gotis, MS 1999 (Thesis topic: Normal modes of the Great Lakes and World Ocean.)
- Katsumi Matsumoto, MS 1996 (Thesis topic: Ice-rafted debris in the North Atlantic.)
- Hailing Wang, MS 1993 (Thesis topic: Ice-sheet thermodynamics.)
- Shinya Kakuta, MS 1992 (Thesis topic: Surface temperature history of Prudhoe Bay derived from borehole temperature profiles using control methods.)
- Cynthia J. Engberts, MS 1991 (Thesis title: Evaluation of the precipitation patterns over Antarctica.)

Students at Other Universities Advised

- John W. Jenson, PhD Oregon State University, 1993 (Thesis topic: Subglacial till deformation and Lake Michigan ice-lobe modeling.)
- John Firestone, PhD University of Washington, 1992 (Thesis topic: Borehole paleothermometry inverse methods.)

Postdoctoral Scholars Mentored

- Alison Banwell, 2012 – 2013 (now a Fellow at Scott Polar Research Institute, Cambridge, UK)
- Justin Burton 2010 – 2013 (now a professor at Emory University, shared mentoring with Prof. Sidney Nagel, Physics Department)
- Mac Cathles, 2012 – 2013 (now a Miller Fellow at U. Michigan)

- Jason Amundson, 2010-2011 (now on faculty of U. Alaska SE)
- Jeremy Bassis, 2006-2009 (now on faculty of U. Michigan)

Field Experience

- 13 field seasons in Antarctica (Ross Ice Shelf, Ross Sea, Siple Coast Ice Streams, Icebergs of the Ross Sea, Meltponds of the McMurdo Ice Shelf)

Editorships

- Associate Scientific Editor, *Annals of Glaciology*, No. 79, Progress in Cryoseismology (to be complete in 2019)
- Co-Chief Scientific Editor, *Annals of Glaciology*, No. 66, Themes on Glaciers in a Warming Climate, Beijing, China, 2013.
- Associate Scientific Editor, *Annals of Glaciology*, No. 60, Themes on Ice/Ocean Interaction, La Jolla, California, USA, 2011.
- Co-Chief Scientific Editor, *Annals of Glaciology*, No. 58, Themes on Snow, Ice and Humanity in a Changing Climate, Sapporo, Japan, 2010.
- Associate Scientific Editor, *Annals of Glaciology*, No. 53, IGS symposium on Snow and Avalanches, Manali, India, 2009.
- Chief Editor, *Annals of Glaciology*, Vol. 40, IGS symposium on Ice and Water Interactions, 2004.
- Chief Editor, *Journal of Glaciology*, Vols. 37 – 43, 1991 – 1998.
- Associate Scientific Editor, *Journal of Glaciology*, Vol. 36, 1990.
- Chief Editor, *Annals of Glaciology*, Vol. 14, IGS symposium on Ice and Climate, 1990.

Scientific Community Activities

- Council member, International Glaciological Society (IGS), 2017-2020
- President, International Glaciological Society (IGS), 2011-2017.
- Committee of Visitors, Office of Polar Programs (Arctic Program), National Science Foundation, 2013.
- GLISN (Greenland Ice Sheet Seismic Network) board of advisors, 2010-2012.
- IRIS/PASSCAL (Program for Array Seismic Studies of Continental Lithosphere) Instrument Center Standing Committee, 2009-2012.
- Polar Icebreakers in a Changing World: an Assessment of U.S. Needs, National Research Council, 2005-2006.
- Committee of Advisors, Office of Polar Programs, National Science Foundation, 1999-2002.

Most Recent Research Grants

- co-PI: NSF 1841467 “NSFGEO-NERC: Ice-shelf instability caused by active surface meltwater production, movement, ponding and hydrofracture”, 2019-2022.
- PI: NSF 1443126 “Impact of Supraglacial Lakes on Ice-Shelf Stability”, 2015-2017.

Publications in Review or in Advance Stage of Preparation

Publications Since 2020 (0 out of 129 total)

Publications Since 2010 (29 out of 129 total)

- MacAyeal, D. R.**, (in production). Chapter 9, Least squares data inversion in glaciology. *in*, Glaciers and Ice Sheets in the Climate System, Fowler, A.C. and F. S. L. Ng, *ed.*, Springer.
- MacAyeal, D. R.**, I. C. Willis, A. F. Banwell, G. J. Macdonald and B. Goodsell, (2019). Diurnal lake-level cycles on ice shelves driven by meltwater input and ocean tidal tilt. *in press with J. Glaciol*, doi: 10.1017/jog.2019.98.
- MacAyeal, D. R.** (2019) Revisiting Weertman's Tombstone Bed, *Ann. Glaciol. in press*, doi:10.1017/aog.2019.31
- Malone, A. G. O., A. M Doughty and D. R., **MacAyeal**, (2019). Interannual climate variability helps define the means state of glaciers. *J. Glaciol.*, 65(251), 508-517 (doi: [10.1017/jog.2019.28](https://doi.org/10.1017/jog.2019.28))
- Macdonald, G.J., A. F. Banwell, I. C. Willis, D. P. Mayer, B. Goodsell and D. R. **MacAyeal**, (2019). Formation of pedestaled, relict lakes on McMurdo Ice Shelf, Antarctica. *J. Glaciol.*, 65(250), 337-343, doi: 10.1017/jog.2019.17
- Banwell, A. F., I. C. Willis, G. J. Macdonald, B. Goodsell and D. R. **MacAyeal** (2019) Direct measurements of ice-shelf flexure caused by surface meltwater ponding and drainage, *Nature Com.*, 10(1), 730, doi: 10.1038/s41467-019-09522-1
- MacAyeal, D. R.**, J. Lin, A. F. Banwell, E. A. Okal, I. C. Willis, B. Goodsell and G. J. Macdonald, (2019). Diurnal seismicity cycle linked to sub-surface melting on an ice shelf, *Annals of Glaciology*, 60(79), 137-157 (doi: 10.1017/aog.2018.29)
- Macdonald, G. J., A.F. Banwell. and D. R. **MacAyeal**, (2018). Seasonal evolution of supraglacial lakes on a floating ice tongue, Petermann Glacier, Greenland, *Annals of Glaciology*, 59(76 Pt. 1), 56-65, doi:10.1017/aog.2018.9.
- MacAyeal, D. R.**, (2018). Seismology gets under the skin of the Antarctic Ice Sheet. *Geophysical Research letters*, 45(20), 11,173-11,176 (doi: 10.1029/2018GL080366)
- Banwell, A. F., I. C. Willis, R. Goodsell, G. J. Macdonald, D. Mayer, A. Powell and D. R. **MacAyeal**, 2017. Calving and Rifting on McM Ice Shelf, Antarctica. *Annals of Glaciology*, 58(74), 78-87, doi: 10.1017/aog.2017.12.

- Banwell, A. F., and D. R. **MacAyeal**, 2015. Ice-shelf fracture due to viscoelastic flexure stress induced by fill/drain cycles of supraglacial lakes, *Antarctic Science*, doi:10.1017/S0954102015000292.
- MacAyeal**, D. R., O. V. Sergienko and A. F. Banwell, 2015. A model of viscoelastic ice-shelf flexure, *Journal of Glaciology*, 61(228), 635 - 645, doi: 10.3189/2015JoG14J169.
- MacAyeal**, D. R., Y. Wang and E. A. Okal, 2015. Ambient seismic, hydroacoustic and flexural-gravity wave noise on a tabular iceberg, *Journal of Geophysical Research Earth Surf.*, 120, 200–211, doi: 10.1002/2014JF003250.
- Brunt, K. M. and D. R. **MacAyeal**, 2014. Tidal modulation of ice-shelf flow: a viscous model of the Ross Ice Shelf, *Journal of Glaciology*, 60(221), 500-508.
- Cathles, L. M., D. S. Abbot and D. R. **MacAyeal**, 2014. Intra-surface radiative transfer limits the geographic extent of snow penitents on horizontal snow fields, *Journal of Glaciology*, 60(219), 147-154.
- Banwell, A. F, M. Cabellero, N. S. Arnold, N. F. Glasser, M. L Cathles and D. R. **MacAyeal**, 2014. Supraglacial lakes on the Larsen B ice shelf, Antarctica, and at Paakitsoq, Greenland: a comparative study, *Annals of Glaciology*, 55(66), doi: 10.3189/2014AoG66A049
- Banwell, A. F., D. R. **MacAyeal**, and O. V. Sergienko, 2013. Break-up of the Larsen B Ice Shelf triggered by chain-reaction drainage of supraglacial lakes, *Geophysical Research Letters*, 40, doi:10.1002/2013GL057694. See also Research Highlight in *Nature*: <http://www.nature.com/nature/journal/v503/n7477/full/503441d.html>
- Darnell, K., L. M. Cathles, J. M. Amundson, D. S. Abbot, and D. R. **MacAyeal**, 2013. The morphology of supraglacial lake ogives, *Journal of Glaciology*, 59(215), 533-544.
- Scambos, T. A., R. Ross, T. Haran, R. Bauer, D. G. Ainley, K.-W. Seo, M. de Keyser, A. Behar and **D. R. MacAyeal**, 2013. A camera and multi-sensor automated station design for polar physical and biological systems monitoring: AMIGOS, *Journal of Glaciology*, 59 (214), 303-314.
- MacAyeal, D. R.**, and O. V. Sergienko, 2012. The flexural dynamics of melting ice shelves, *Ann. Glaciol.*, 54(63), 1-10.
- LaBarbera, C. H., and **D. R. Macayael**, 2011. Traveling supraglacial lakes on George VI Ice Shelf, Antarctica, *Geophys. Res. Lett.*, 38, L24501, doi:10.1029/2011GL049970.
- Freed-Brown, J., W. W. Zhang, J. M. Amundson and **D. R. MacAyeal**, 2012. Blocking a wave: frequency band gaps in ice shelves with periodic crevasses, *Ann. Glaciol.*, 54(60), 85-89.
- MacAyeal, D. R.**, J. Freed-Brown, W. W. Zhang and J. M. Amundson, 2012. The influence of ice mélange on fjord seiches, *Ann. Glaciol.*, 54(60), 45-49.
- Burton, J. C., J. M. Amundson, D. S. Abbot, A. Boghosian, L. M. Cathles, S. Correa-Legisios, K. N. Darnell, N. Guttenberg, D. M. Holland, and **D. R. MacAyeal**, 2012. Laboratory investigations of iceberg-capsize dynamics, energy dissipation and tsunamigenesis. *J. Geophys. Res.*, F01007, doi:10.1029/2011JF002055.

- Leonard, K. C., L.-B. Tremblay, J. E. Thom and **D. R. MacAyeal**, 2012. Drifting snow threshold measurements near McMurdo Station, Antarctica: a sensor comparison study, *Cold Regions Science and Technology*, 70, 71-80.
- Brunt, K. M., E. A. Okal and **D. R. MacAyeal**. 2011. Ice-shelf calving triggered by the Honshu earthquake and tsunami, March 2011, *J. Glaciol.*, 57(205), 785-788.
- Guttenberg, N., D. S. Abbot, J. M Amundson, J. C. Burton, L. M. Cathles, **D. R. MacAyeal** and W. W. Zhang. 2011. A computational investigation of iceberg capsize as a driver of explosive ice-shelf disintegration. *Ann. Glaciol.*, 52(59), 51-59.
- Cathles, L. M., D. S. Abbot, J. N. Bassis and **D. R. MacAyeal**, 2011. Modeling the evolution of surface ablation features. *Ann. of Glaciol.*, 52(59), 96-108.
- MacAyeal, D. R.**, D. S. Abbot and O. V. Sergienko. 2011. Iceberg capsize tsunamigenesis. *Ann. Glaciol.*, 52(58), 51-56. See News and Views in 6 April, 2011, issue of *Nature*.

Publications 2000 – 2010 (37 total)

- Bromirski, P. D., O. V. Sergienko and **D. R. MacAyeal**, 2010. Transoceanic Infragravity Waves Impacting Antarctic Ice-Shelves. *Geophysical Research Letters*, 37, L02502, doi: 10.1029/2009/GL041488.
- Martin, S., R. Drucker, R. C. Aster, F. J. Davey, E. A. Okal, T. Scambos and **D. R. MacAyeal**, 2010. Kinematic and seismic analysis of giant tabular iceberg breakup. *Journal of Geophysical Research*, 115, doi:10.1029/2009JB006700, in press.
- Brunt, K. M., M. A. King, H. A. Fricker and **D. R. MacAyeal**, 2010. Flow of the Ross Ice Shelf, Antarctica, is modulated by ocean tide. *Journal of Glaciology*, 56 (195), 157-161.
- Sergienko, O. V., R. A. Bindschadler and **D. R. MacAyeal**, 2009. Stick/Slip behavior of ice streams: Modeling investigations. *Annals of Glaciology*, 50(52), 87-94.
- Cathles, L. M., E. A. Okal and **D. R. MacAyeal**, 2009. Sea-swell arrival at the front of the Ross Ice Shelf, Antarctica, observed in a 2-year seismometer record. *Journal of Geophysical Research*, 114, F02015, doi:10.1029/2007JF000934.
- MacAyeal, D. R.**, E. A. Okal, R. C. Aster and J. N. Bassis, 2009. Seismic Observations of Glaciogenic Ocean Waves (Micro-Tsunamis) on Icebergs and Ice Shelves. *Journal of Glaciology*, 55(190), 193-206.
- Sergienko, O. V., R. A. Bindschadler, P. L. Vornberger and **D. R. MacAyeal**, 2008. Ice stream basal conditions from block-wise surface data inversion and simple regression models of ice stream flow: Application for Bindschadler Ice Stream. *Journal of Geophysical Research*, 113, F04010, doi:10.1029/2008JF001004.
- MacAyeal, D. R.**, E. A. Okal, R. C. Aster and J. N. Bassis, 2008. Seismic and hydroacoustic tremor generated by colliding icebergs. *Journal of Geophysical Research*, 113, F03011, doi: 10.1029/2008JF001005.
- Arbic, B. K., J. X. Mitrovica, **D. R. MacAyeal** and G. A. Milne, 2008. On the factors behind large Labrador Sea tidal elevations during the last glacial cycle, and the potential

implications for Heinrich events. *Paleoceanography*, 23, PA3211, doi: 10.1029/2007PA001573.

- Sergienko, O. V., **D. R. MacAyeal** and J. E. Thom, 2007. Reconstruction of snow/firn thermal properties from observed temperature variation: Application to iceberg C16 (Ross Sea, Antarctica), 2004-2007. *Annals of Glaciology*, 49, 91-95.
- Leonard, K. C., L.-Bruno Tremblay, **D. R. MacAyeal**, and S. S. Jacobs, 2008. Interactions of wind-transported snow with a rift in the Ross Ice Shelf, Antarctica, *Geophys. Res. Lett.*, 35, L05501, doi:10.1029/2007GL033005.
- MacAyeal, D. R.**, M. H. Okal, J. E. Thom, K. M. Brunt, Y.-J. Kim and A. K. Bliss, 2008. Tabular iceberg collisions within the coastal regime. *Journal of Glaciology*, 54(118), 371-386.
- Sergienko, O. V., **D. R. MacAyeal** and R. A. Bindschadler, 2007. Causes of sudden, short term changes in ice-stream surface elevation. *Geophysical Research Letters*, 34, L22503, doi:10.1029/2006GL027235.
- Okal, E. A. and **D. R. MacAyeal**, 2006. Seismic recording on drifting icebergs: Catching seismic waves, tsunamis and storms from Sumatra and elsewhere. *Seismological Research Letters*. 77(6): 659-671.
- MacAyeal, D. R.**, E. A. Okal, R. C. Aster, *et al.*, 2006. Transoceanic wave propagation links iceberg calving margins of Antarctica with storms in tropics and Northern Hemisphere. *Geophysical Research Letters*, 33(17): L17502
- Joughin, I., J. L. Bamber, T. Scambos, S. Tulaczyk, M. Fahnestock and **D. R. MacAyeal**, 2006. Integrating satellite observations with modeling: Basal shear stress of the Filchner-Ronne ice streams, Antarctica. *Philosophical Transactions of the Royal Society, A – Mathematical and Physical and Engineering Sciences*, 364(1844): 1795-1814.
- Brunt K.M., O. Sergienko and **D. R. MacAyeal**, 2006. Observations of unusual fast-ice conditions in the southwest Ross Sea, Antarctica: Preliminary analysis of iceberg and storminess effects. *Annals of Glaciology*, 44, 183-18.
- Committee on the Assessment of U. S. Coast Guard Polar Icebreaker Roles and Future Needs, National Research Council (including **D. R. MacAyeal**), 2006. *Polar Icebreakers in a Changing World: An Assessment of U. S. Needs*. The National Academies Press.
- Sergienko, O. V., and **D. R. MacAyeal**, 2005. Surface melting on Larsen Ice Shelf, Antarctica. *Annals of Glaciology*, 40: 215-218.
- Fricker, H. A., J. N. Bassis, B. Minster and **D. R. MacAyeal**, 2005. ICESat's new perspective on ice shelf rifts: The vertical dimension. *Geophysical Research Letters*, 32(23), L23S08.
- Parizek, B. R., R. B. Alley and **D. R. MacAyeal**, 2005. The PSU/UofC finite-element thermomechanical flowline model of ice-sheet evolution. *Cold Regions Science and Technology*, 42(2): 145-168.
- Scambos, T., O. Sergienko, A. Sargent, **D. R. MacAyeal** and J. Fastook, 2005. ICESat profiles of tabular iceberg margins and iceberg breakup at low latitudes. *Geophysical Research Letters*, 32: L23S09.

- Joughin, I., and **D. R. MacAyeal**, 2005. Calving of large tabular icebergs from ice shelf rift systems. *Geophysical Research Letters*, 32(2): L02501.
- Joughin, I., S. Tulaczyk and **D. R. MacAyeal**, 2004. Melting and freezing beneath the Ross ice streams, Antarctica. *Journal of Glaciology*, 50(168):96-108.
- Arbic, B. K., **D. R. MacAyeal**, J. X. Mitrovica, *et al.*, 2004. Paleoclimate – Ocean tides and Heinrich events. *Nature*, 432(7016), 460.
- Joughin, I., **D. R. MacAyeal** and S. Tulaczyk, 2004. Basal shear stress of the Ross ice streams from control method inversions. *Journal of Geophysical Research-Solid Earth*, 109(B9): B09405.
- MacAyeal, D. R.**, T. A. Scambos, C. L. Hulbe, *et al.*, 2003. Catastrophic ice-shelf break-up by an ice-shelf-fragment-capsizes mechanism. *Journal of Glaciology*, 49(164), 22-36.
- Hulbe, C. L., **D. R. MacAyeal**, G. H. Denton, *et al.*, 2004. Catastrophic ice shelf breakup as the source of Heinrich event icebergs. *Paleoceanography*, 19(1): PA1004.
- Schmeltz, M., E. Rignot, T. K. Dupont and **D. R. MacAyeal**, 2002. Sensitivity of Pine Island Glacier, West Antarctica, to changes in ice-shelf and basal conditions: a model study. *Journal of Glaciology*, 48(163): 552-558.
- MacClune, K. L., A. G. Fountain, J. S. Kargel and **D. R. MacAyeal**, 2003. Glaciers of the McMurdo dry valleys: Terrestrial analog for Martian polar sublimation. *Journal of Geophysical Research-Planets*, 108(E4), 5031.
- Cutler, P. I., D. M. Mickelson, P. M. Colgan, **D. R. MacAyeal** and B. R. Parizek, 2001 Influence of the Great Lakes on the dynamics of the Southern Laurentide ice sheet: Numerical experiments. *Geology*, 29(11): 1039-1042.
- E. Rignot, D.G. Vaughan, M. Schmeltz, T.K. Dupont and **D.R. MacAyeal**, 2001. Acceleration of Pine Island and Thwaites Glaciers, West Antarctica. *Annals of Glaciology*, 34, 189-194.
- Schmeltz, M., E. Rignot and **D. R. MacAyeal**, 2001. Ephemeral grounding as a signal of ice-shelf change. *Journal of Glaciology*, 47(156), 71-77.
- Schmeltz, M., E. Rignot and **D.R. MacAyeal**, 2001. Tidal flexure along ice-sheets margins: Comparison of InSAR with an elastic plate model. *Annals of Glaciology*, 34, 202-208.
- Joughin, I., M. Fahnestock, **D. R. MacAyeal**, J. L. Bamber and P. Gogineni, 2001. Observation and analysis of ice flow in the largest Greenland ice stream. *Journal of Geophysical Research*, 106(D24), 34021-342001.
- Cutler, P. M., **D. R. MacAyeal**, D. M. Mickelson, *et al.*, 2000. A numerical investigation of ice-lobe-permafrost interaction around the southern Laurentide ice sheet. *Journal of Glaciology*, 46(153):311-325.
- Rignot, E., L. Padman, **D. R. MacAyeal** and M. Schmeltz, 2000. Observation of ocean tides below the Filchner and Ronne Ice Shelves, Antarctica, using synthetic aperture radar interferometry: Comparison with tide model predictions. *Journal of Geophysical Research—Oceans*, 105(C8), 19615-19630.

Publications Prior to 2000 (63 total)

- Lazzara, M.A., K.C. Jezek, T.A. Scambos, **D.R. MacAyeal** and C.J. van der Veen, 1999. On the Calving of Icebergs from the Ross Ice Shelf. *Polar Geography*, 23(3), 201-212.
- Hulbe, C. L. and **D. R. MacAyeal**, 1999. A new numerical model of coupled inland ice sheet, ice stream and ice shelf flow and its application to the West Antarctic Ice Sheet. *Journal of Geophysical Research*, 104 (B11), 349-366.
- MacAyeal, D. R.**, E. Rignot and C. L. Hulbe, 1998. Ice-shelf dynamics near the front of Filchner-Ronne Ice Shelf, Antarctica, revealed by SAR interferometry: model/interferogram comparison. *Journal of Glaciology*, 44, 419-428.
- Rignot, E. and **D. R. MacAyeal**, 1998. Ice-shelf dynamics near the front of Filchner-Ronne Ice Shelf, Antarctica, revealed by SAR interferometry. *Journal of Glaciology*, 44, 405-418.
- Hulbe, C. L., E. Rignot and **D. R. MacAyeal**, 1998. Comparison of ice-shelf creep flow simulations with ice-front motion of Filchner-Ronne Ice Shelf, Antarctica, detected by SAR interferometry. *Annals of Glaciology*, 27, 182-186.
- Licciardi, J. M., P. U. Clark, J. W. Jenson and **D. R. MacAyeal**, 1998. Deglaciation of a soft-bedded Laurentide Ice Sheet. *Quaternary Science Reviews*, 17, 427-448.
- Rommelaere, V. and **D. R. MacAyeal**, 1997. Large-scale rheology of the Ross Ice Shelf, Antarctica, computed by a control method. *Annals of Glaciology*, 24, 43-48.
- Clark, P. U., J. M. Licciardi, **D. R. MacAyeal** and J. W. Jenson 1997. Numerical reconstruction of a soft-bedded Laurentide Ice Sheet during the last glacial maximum: Reply. *Geology*, 25, 380-381.
- MacAyeal, D. R.**, V. Rommelaere, P. Huybrechts, C. L. Hulbe, J. Determann, and C. Ritz, 1996. An Ice-Shelf Model Test Based on the Ross Ice Shelf. *Annals of Glaciology*, 23, 46-51.
- Clark, P. U., J. M. Licciardi, **D. R. MacAyeal** and J. W. Jenson, 1996. Numerical reconstruction of a soft-bedded Laurentide Ice Sheet during the last glacial maximum. *Geology*, 23, 679-682.
- Jenson, J. W., **D. R. MacAyeal**, P. U. Clark, C. Ho and J. C. Vela, 1996. Numerical modeling of subglacial sediment deformation: Implications for the behavior of the Lake Michigan Lobe, Laurentide Ice Sheet. *Journal of Geophysical Research*, 101, 8717-8728.
- Huybrechts, P., T. Payne, and 14 others (incl. **D. R. MacAyeal**), 1996. The EISMINT benchmarks for testing ice-sheet models. *Annals of Glaciology*, 23, 1-12.

- Greve, R. and **D. R. MacAyeal**, 1996. Dynamic/thermodynamic simulations of Laurentide ice-sheet instability. *Annals of Glaciology*, 23, 328-335.
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