

# ***SONIA A. NAGORSKI***

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## **EDUCATION:**

Ph.D. 2001 University of Montana Geology  
M.S. 1997 University of Montana Geology  
B.A. 1994 Amherst College Geology and History

## **CURRENT APPOINTMENTS**

**Assistant Professor of Geology** (2015-present). Environmental Science Program, University of Alaska Southeast, Juneau, AK.

**Research Assistant Professor** (2005-2015, part time). Environmental Science Program, University of Alaska Southeast, Juneau, AK.

**Associated Faculty of Chemistry and Biochemistry** (2014-present). College of Natural Science and Mathematics, University of Alaska Fairbanks.

## **PREVIOUS APPOINTMENTS**

**Affiliate Professor** (2009- 2010). Institute of Northern Engineering, University of Alaska Fairbanks.

**Associate Director** (2009- 2012) for the University of Alaska Southeast Campus, Alaska University Transportation Center, Institute of Northern Engineering, University of Alaska Fairbanks.

**Postdoctoral Researcher** (11/2003-11/2004). Laboratoire de Glaciologie et Géophysique de l'Environnement, Université Joseph Fourier, Grenoble, France.

**Environmental Geochemist** (11/2001- 06/2002). Independent contractor. Whiskeytown National Recreation Area, northern CA.

**Geologist.** (06/1997-09/2001). U.S. Geological Survey Mineral Resources Program, Denver, CO (as doctoral student at UM).

**Teaching Assistant.** (08/1994 -12/1995 and 09/1997-05/1998). University of Montana. Introductory Geology (2 semesters); Hydrogeology (1 semester); Geomorphology (2 semesters).

**Research Assistant.** (01/1996 - 12/1996). University of Montana, Missoula, MT.

**Hydrogeology Intern.** (05/1996 - 08/1996). Missoula County Health Department, Missoula, MT.

**Teaching Assistant.** Amherst College. (09/1991 - 05/1993). Introductory Geology (2 semesters); Paleontology (1 semester).

## TEACHING HISTORY AT UAS

**GEOL 393:** Geological Resources and Environmental Impacts. Spring 2016

**GEOL 104:** Physical Geology. Spring 2013, 2015, 2016

**ENVS/GEOG 102:** Earth and Environment. Fall 2015.

**ENVS/GEOG 213:** Natural Hazards. Fall, 2015, 2016

**GEOL 105:** Geological History of Life. Fall 2005, 2006, 2009, 2011, 2013, 2014, 2015

**HUM 120:** A Sense of Place: Alaska and Beyond. Fall 2014.

**MATH 055:** Introduction to Algebra. Spring, 2007, Fall 2007, Fall 2014.

**CHEM 103L:** Fall 2005, 2006.

**Earth Systems Science Teacher Workshop.** June-August 2005, 2006, and 2007. Co-instructor.

**HUM 193:** Environment, Ethics, and the UAS Experience. Summer 2007.

**Guest lecturer** in Hydrology, Natural Hazards, Biogeochemistry, Atmospheric Science, Evolution, Introductory Chemistry, Women's Studies, and Environmental Science seminar. 2004-2014.

## PEER-REVIEWED PUBLICATIONS

Sergeant, C.J. and **S.A. Nagorski, 2014.** The implications of monitoring frequency for describing riverine water quality regimes. *River Research and Applications*. DOI: 10.1002/rra.2767.

**Nagorski, S.A.** D.R. Engstrom, J.P. Hudson, D.P. Krabbenhoft, E.Hood, J.F. DeWild, G.R. Aiken, **2014.** Spatial distribution of mercury in southeastern Alaskan streams influenced by glaciers, wetlands, and salmon. *Environmental Pollution* 184: 62-72. <http://dx.doi.org/10.1016/j.envpol.2013.07.040>

Fellman, J.B., **S. Nagorski**, S. Pyare, A.W. Vermilyea, D. Scott, and E. Hood, **2013.** Stream temperature responses to variable glacier coverage in coastal watersheds of Southeast Alaska. *Hydrological Processes*. DOI: 10.1002/hyp.9742.

Ferrari, C.P., P.A. Gauchard, A. Dommergue, O. Magand, **S.A. Nagorski**, and 9 others, **2005.** Snow-to-air exchanges of mercury in an Arctic seasonal snow pack. *Atmospheric Environment* 39: 7633-7645.

Gauchard, P-A, K. Aspino, C. Temme, A. Steffen, C. Ferrari, T.Berg, J. Ström, L. Kaleschke, A. Dommergue, E.Bahlmann, O.Magand, F.Planchon, R.Ebinghaus, C.Banic, **S. A. Nagorski**, P.Baussand, C.Boutron, **2005.** Study of the origin of atmospheric mercury depletion events recorded in Ny-Ålsund, Svalbard, Spring 2003. *Atmospheric Environment* 39: 7620-7632.

Planchon, F.A.M., P. Gabrielli, A. Dommergue, P.A. Gauchard, C. Barbante, C.F. Boutron, W.R.L. Cairns, G. Capodaglio, P. Cescon, G. Cozzi, C.P. Ferrari, **S.A. Nagorski**, A. Varga and E.W. Wolff, **2004.** Direct determination of mercury at the picogram per gram levels in polar snow and ice by ICP-SFMS. *Journal of Analytical Atomic Spectrometry* 19: 823-830.

**Nagorski, S.A.,** J. N. Moore, T.E. McKinnon, and D.B. Smith, **2003.** Scale-dependent variations in stream water geochemistry. *Environmental Science and Technology*, 37: 859-864.

**Nagorski, S.A.,** T.E. McKinnon, and J.N. Moore, **2003**. Seasonal and storm-scale variations in heavy metal concentrations of two mining-contaminated streams, Montana, USA. Proceedings of the XII International Conference on Heavy Metals in the Environment, Grenoble, France. *Journal de Physique*, 107, 909-912.

**Nagorski, S.A.,** J. N. Moore, T.E. McKinnon, and D.B. Smith, **2003**. Geochemical response to variable streamflow conditions in contaminated and uncontaminated streams. *Water Resources Research*, 39 (2), 1044, doi: 10.1029/2001WR001247.

**Nagorski, S.A.** and J.N. Moore, **1999**. Arsenic mobilization in the hyporheic zone of a contaminated stream. *Water Resources Research* 35(11): 3441-3450.

### **PEER-REVIEWED TECHNICAL REPORTS**

**S.A. Nagorski,** E.G. Neal, and T.P. Brabets, (2013). Mercury and water-quality data from Rink Creek, Salmon River, and Good River, Glacier Bay National Park and Preserve, Alaska, November 2009–October 2011: U.S Geological Survey Open-File Report 2013-1097, 20 p., <http://pubs.usgs.gov/ofr/2013/5058>.

**S.A. Nagorski,** C. Sergeant, W. Johnson, B. Moynahan (2012). Freshwater Water Quality Monitoring Protocol, Southeast Alaska Network. Natural Resource Report NPS/SEAN/NRR—2012/496. National Park Service, Fort Collins, Colorado. 236 pp.

**S. Nagorski,** D. Engstrom, J. Hudson, D. Krabbenhoft, J. DeWild, E. Hood, and G. Aiken. (2011) Scale and distribution of global pollutants in Southeast Alaska Network park watersheds. Natural Resource Technical Report NPS/SEAN/NRTR—2011/496. National Park Service, Fort Collins, Colorado. 66pp.

**S. Nagorski,** E. Hood, G. Eckert, S. Pyare (2010). Assessment of coastal water resources and watershed conditions at Kenai Fjords National Park (Alaska). Natural Resource Technical Report NPS/NRPC/WRD/NRTR-2010/192. National Park Service, Fort Collins, Colorado. Available at [http://www.nature.nps.gov/water/watershed\\_reports/WSCondRpts.cfm](http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.cfm). 178 pp.

**S. Nagorski,** E. Hood, G. Eckert, S. Pyare (2008). Assessment of coastal water resources and watershed conditions at Lake Clark National Park and Preserve (Alaska). Natural Resource Technical Report NPS/NRPC/WRD/NRTR-2008/144. National Park Service, Fort Collins, Colorado. Available at [http://www.nature.nps.gov/water/watershed\\_reports/WSCondRpts.cfm](http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.cfm). 138 pp.

**S. Nagorski,** G. Eckert, E. Hood, S. Pyare (2007). Assessment of coastal water resources and watershed conditions at Katmai National Park and Preserve (Alaska). Natural Resource Technical Report NPS/NRWRD/NRTR-2007/372. National Park Service, Fort Collins, Colorado. Available at [http://www.nature.nps.gov/water/watershed\\_reports/WSCondRpts.cfm](http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.cfm). 178 pp.

**S. Nagorski,** G. Eckert, E. Hood, S. Pyare (2007). Assessment of coastal water resources and watershed conditions at Aniakchak National Monument and Preserve (Alaska). Natural Resource Technical Report NPS/NRWRD/NRTR-2007/371. National Park Service, Fort Collins, Colorado. Available at [http://www.nature.nps.gov/water/watershed\\_reports/WSCondRpts.cfm](http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.cfm). 112 pp.

Eckert, G., E. Hood, **S. Nagorski** , and C. Talus, (2006). Assessment of coastal water resources and watershed conditions at Glacier Bay National Park and Preserve, Alaska. Natural Resource Technical Report NPS/NRWRD/NRTR-2006/353. National Park Service, Fort Collins, Colorado. Available at

[http://www.nature.nps.gov/water/watershed\\_reports/WSCondRpts.cfm](http://www.nature.nps.gov/water/watershed_reports/WSCondRpts.cfm). 129 pp.

Eckert, G., E. Hood, C. Talus, and **S. Nagorski** (2006). Assessment of coastal water resources and watershed conditions at Sitka National Historical Park, Alaska. National Park Service Water Resources Division Technical Report NPS/NRWRD/NRTR-2006/347. 81 pp.

Hood, E., G. Eckert, **S. Nagorski**, and C. Talus (2006). Assessment of coastal water resources and watershed conditions at Klondike Gold Rush National Historical Park, Alaska. National Park Service Water Resources Division Technical Report NPS/NRWRD/NRTR-2006/349. 89 pp.

Hood, E., G. Eckert, **S. Nagorski**, C. Talus (2006). Assessment of coastal water resources and watershed conditions at Wrangell-St. Elias National Park and Preserve, Alaska. National Park Service Water Resources Division Technical Report NPS/NRWRD/NRTR-2006/346. 77 pp.

**Nagorski, S.A.**, J.N. Moore, and D.B. Smith (2001). Geochemical baseline studies and relations between water quality and streamflow in the Upper Blackfoot River watershed, Montana: Data for July 1997-December, 1998. U.S. Geological Survey Open-File Report 01-0059, 93 pp.  
<http://greenwood.cr.usgs.gov/pub/open-file-reports/ofr-01-0059/>.

**Nagorski, S.A.**, T.E. McKinnon, J.N. Moore, and D.B. Smith (2000). Geochemical characterization of surface water and streambed sediment of the Blackfoot River, Montana, during low flow conditions, August 16-20, 1998. U.S. Geological Survey Open-File Report 00-003, 59 pp.

**Nagorski, S.A.**, J.A. Shifflett, J.N. Moore, and D.B. Smith (1998). Geochemical baseline studies and relations between water quality and streamflow in the Upper Blackfoot River watershed, Montana: Progress Report for July 1997- March 1998. U.S. Geological Survey Open File Report 98-499, 133 pp.

### **OTHER TECHNICAL REPORTS**

**Nagorski, S.**, L. Hoferkamp, (2007) Jordan Creek and Duck Creek Watershed Protection and Recovery, Final report submitted to Alaska Department of Environmental Conservation for the period August 1, 2006- June 30, 2007. 52 pp.

**Nagorski, S.**, E. Hood, L. Hoferkamp, E. Neal, J. Hudson (2006) Jordan Creek, Duck Creek, and Pederson Hill Creek Watershed Protection and Recovery, Final report submitted to Alaska Department of Environmental Conservation for the period August 1, 2005- June 30, 2006. 34 pp.

### **ABSTRACTS PRESENTED AT SCIENTIFIC CONFERENCES:**

**S. Nagorski**, Contribution of mercury and persistent organic pollutants by spawning salmon to southeastern Alaska streams. Alaska INBRE (IDeA Network of Biomedical Research Excellence) annual retreat, Talkeetna, AK, September 2016.

Schroth, A.W., B. Rosenberg, **S.A. Nagorski**, E. Hood, J.B. Fellman, D.Scott, A. Vermilyea. Iron, manganese and phosphorus partitioning during high flow events: impacts of land cover and seasonality. American Geophysical Union fall meeting. San Francisco, CA 2015.

**S. Nagorski**. Investigations of mercury distribution and cycling in watersheds of southeast Alaska. Geological Society of America Cordilleran Section Meeting, Anchorage, AK, 2015.

**S. Nagorski**, E. Neal, J. Hudson, D.P. Krabbenhoft, G.R.Aiken, E. Hood, J.DeWild, Contrasting mercury dynamics and uptake in three adjacent watersheds near Gustavus, southeast Alaska. Joint meeting- Alaska Chapter of the American Fisheries Society, American Water Resources Association, Southeast Alaska Fish Habitat Partnership. Juneau, October, 2014.

Hood, E.W., J.B. Fellman, **S.A. Nagorski**, A. Vermilyea, S. Pyare, D. Scott. Stream temperature response to variable glacier coverage in coastal watersheds of northern southeast Alaska. American Geophysical Union Fall Meeting. San Francisco, CA 2012.

Fellman, J., **S. Nagorski**, A. Vermilyea, S. Pyare, D. Scott, and E. Hood. Stream temperature response to changing glacier coverage in coastal watersheds of southeast Alaska. American Water Resources Association Alaska Section Annual Conference. Juneau, AK, 2012.

**Nagorski, S.**, J. Hudson, and E. Hood. Mercury occurrence in water and biota across a spectrum of southeastern Alaskan streams. American Water Resources Association Alaska Section Annual Conference. Juneau, AK, 2012.

Vermilyea, A., **S.A. Nagorski**, C.H. Lamborg, D. Scott, E. Hood. Mercury fluxes out of glacial and non-glacial streams, as determined by continued measurements of turbidity and CDOM. American Geophysical Union Fall Meeting. San Francisco, CA. 2011.

Hudson J., **S. Nagorski**, D. Engstrom, D. Krabbenhoft, and J. DeWild. Mercury distribution in water and biota in diverse southeastern Alaskan watersheds. North American Benthological Society Annual Meeting, Grand Rapids, MI, 2009.

**Nagorski, S.**, D. Engstrom, J. Hudson, E. Hood, D. Krabbenhoft, J. DeWild, and G. Aiken. Mercury distribution in water and biota in diverse southeastern Alaskan watersheds. American Water Resources Association Spring Specialty Conference, Anchorage, AK, 2009.

Schlosstein, N., E. Hood, and **S. Nagorski**. Effects of postglacial succession on stream water quality and chemistry in Southeast Alaska. American Water Resources Association Spring Specialty Conference, Anchorage, AK, 2009.

Korzen, N., E. Knuth, C. Connor, E. Hood, and **S. Nagorski**. Sediment flux and changing lake bathymetry in the pro-glacial Mendenhall Lake/River system. American Water Resources Association Spring Specialty Conference, Anchorage, AK, 2009.

**Nagorski, S.**, E. Hood, R. Edwards, D. D'Amore, Do wetlands and salmon influence mercury concentrations in Juneau area streams? American Water Resources Association- Alaska Section Annual Meeting. Juneau, AK, 2008.

**Nagorski, S.A.**, E. Hood, D.P. Krabbenhoft, R. T. Edwards, D. V. D'Amore, G. Aiken, Salmon and wetland influences on streamwater mercury fluxes in southeastern Alaska. American Geophysical Union Fall Meeting. San Francisco, CA. 2007.

Connor, C.L., A. Prakash, M. Brownlee, **S. Nagorski**, R. Walling, EDGE (Experiential Discoveries in Geoscience Education) field course provides Alaskan high school and middle school students with Earth Science and GIS skills for science fair projects and a college experience. American Geophysical Union Fall Meeting. San Francisco, CA, 2006.

## **FUNDED RESEARCH GRANTS**

**S. Nagorski**, 2016. Black Carbon Deposition onto the Juneau Icefield. Alaska EPSCoR Seed Grant. \$43,300.

**S. Nagorski**, 2015. Contribution of mercury and persistent organic pollutants by spawning salmonids to southeastern Alaskan streams. Idea Network of Biomedical Research Excellence (INBRE) pilot grant. \$119,139.

**S. Nagorski**, 2015. Assistance with development of the Freshwater Contaminants Protocol for the National Park Service's Southeast Alaska Network Inventory and Monitoring Program, National Park Service. \$4526.

**S. Nagorski**, A.Schroth, B.Rosenberg, E.Hood, S. Pyare, D.Nimick. 2014-2015 Evolution and dynamics of iron and other metals in glacial and wetland streams entering the Berner's Bay region. Alaska EPSCoR. (\$35,487, plus leveraged funds from A.Schroth).

**S. Nagorski** and D.Engstrom, 2015. Current and Historical Mercury Sources and Deposition to Remote Southeast Alaskan Lakes. National Park Service \$8020

**S. Nagorski** 2012. Landcover influences on temperature in Southeastern Alaskan Streams. Alaska Climate Science Center \$28,460.

**S. Nagorski** 2009-2012. Mercury Dynamics in Contrasting Watersheds in Glacier Bay National Park & Reserve. Joint National Park Service and U.S. Geological Survey. \$42,466.

**S. Nagorski** and E.Hood (2008-2009). Technical Assistance in Developing the Freshwater Physicochemistry Monitoring Protocol for the National Park Service's Southeast Alaska Network Inventory and Monitoring Program. National Park Service. \$26,555.

**S. Nagorski** 2007-2008. Watershed Protection and Recovery of Jordan and Vanderbilt Creeks. Alaska Department of Environmental Conservation (contract through Juneau Watershed Partnership), \$21,234.

**S. Nagorski** 2007-2008. Technical Assistance in Developing Monitoring Protocols for the National Park Service's Southeast Alaska Network Inventory and Monitoring Program. National Park Service. \$30,000.

**S. Nagorski** and J. Hudson. 2007. Scale and distribution of global pollutants (mercury and POPs) in Southeast Alaska Network park watersheds. National Park Service, \$85,264.

**S. Nagorski**. The role of wetlands in regulating methylmercury concentrations in southeast Alaskan watersheds. University of Alaska Southeast Research Seed Funding. \$14,255

**S. Nagorski** and L. Hoferkamp. 2006-2007. Watershed protection and recovery of Jordan Creek, Duck Creek, Lemon Creek, and Vanderbilt Creeks, Juneau, Alaska. Alaska Department of Environmental Conservation (contract through Juneau Watershed Partnership), \$33,712.

**S. Nagorski, and E. Hood.** 2006. Technical Assistance in Evaluating, Summarizing, and Developing Monitoring Components of the National Park Service's Southeast Alaska Network Inventory and Monitoring Program. National Park Service. \$42,000.

**S. Nagorski, E. Hood, G. Eckert, and S. Pyare,** 2005-2006. Assessment of coastal water resources and watershed conditions in and adjacent to southwest Alaska National Parks, National Park Service \$87,228.

**E. Hood, S. Nagorski, and L. Hoferkamp.** 2005-2006. Watershed protection and recovery on Jordan Creek, Duck Creek, and Peterson Hill Creek near Juneau, Alaska. Alaska Department of Environmental Conservation (contract through Mendenhall Watershed Partnership), \$22,812.

### **Invited and volunteer presentations/ instruction; and student mentoring**

Faculty participant, week-long "Enhancing the Baccalaureate Experience" workshop. June, 2016.

Invited guest lecturer and (local) field trip guide, Juneau Icefield Research Program, June, 2014, 2016.

Invited expert: Transboundary Mining Scientific Working Group workshop and subsequent white paper development. Seattle, WA. December 2015.

Co-host of Sustainability Committee's "Green Lunch" session on Transboundary Mines. April 2016.

Set-up and operate mercury isotope atmospheric monitoring station at UAS; program hosted by the USGS. February 2016- present.

Girl Scouts' Women in Science and Technology Day- Presenter, 2009, 2014, 2016.

Supervisor of four undergraduate teaching assistants for Geology 105 and 104 (2006, 2013, 2015, 2016).

Supervisor of 8 undergraduate research assistants 2005-present.

Geology field trip guide, Discovery Southeast summer camp, June 2014.

Alaska Coastal Rainforest Center weekly seminar series speaker, March 2014.

Mentor to high school student in Los Angeles conducting senior project on Alaskan mercury issues, 2014

Geology field trip guide, Juneau City and State Museum summer camp, August 2013.

Science education guest presentations to local elementary school classes, 2011-2016.

Elementary school volunteer assistant in math, writing, science, and reading. 2008-present.

Member of the Board, Juneau Montessori School, 2011-2013

Mentor of award-winning high school science fair student, 2006-2007

Judge of middle and high school science fairs: 2005-2009

Invited Speaker, Evening at Egan Fall lecture series, UAS, 2007.

Invited Speaker, American Water Resources Association monthly speaker series, 2007.

### **Reviewer for:**

Water Resources Research, Limnology and Oceanography, JGR-Biogeosciences, River Research and Applications, Environmental Science and Technology; NSF, NPS, and EPA grants and publications

### **Foreign Languages**

Fluent Polish, Russian, and German; Basic French and Italian.