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Education:

- 1998 - 02 **Doctor of Philosophy**, Atmospheric and Oceanic Science
University of Wisconsin
Dissertation: The impact of climate and land use on nitrate export to the ocean.
Supervisor: Jon Foley, Director, Center for Sustainability and the Global Environment
Courses in atmospheric dynamics, oceanography, ecosystem science
- 1995 - 97 **Master of Environmental Management**, Water and Air Resources
Duke University, Nicholas School of the Environment
Master's project: The effect of climate on lake ice cover in central Ontario.
Courses in hydrology, biogeochemistry, conservation biology and wetlands ecology
- 1990 - 95 **Bachelor of Arts and Science (Honours)**
McMaster University, Arts and Science Programme

Awards and Fellowships:

- 2001-02 NASA Earth Systems Science Graduate Fellowship
2001 AAAS Mass Media Fellowship (declined due to a research conflict)
1996 Research award from the Boone Endowment Fund, Duke University
1995 School of the Environment Scholarship, Duke University
1990 Chancellor's Scholarship, McMaster University

Academic Experience:

- 2003 - **Research Associate** Woodrow Wilson School of Public and International Affairs,
Princeton Environmental Institute, Princeton University
Supervisor: Dr. Michael Oppenheimer, Albert G. Milbank Professor of
Geosciences and International Affairs
Investigating the influence of climate and land use on nutrient cycling and the
health of aquatic ecosystems and the potential impact of climate change on coral
bleaching (in collaboration with NOAA's Coral Reef Watch project). Also a
participant in the Carbon Mitigation Initiative and the development of the Earth
Systems Model by Princeton and the Geophysical Fluid Dynamics Laboratory.
- 1998 - 02 **Research Assistant**, Centre for Sustainability and the Global Environment,
University of Wisconsin
Developed numerical models to examine how climate and land use influence

hydrology, nitrogen cycling and water quality in the Mississippi River system.

Academic Experience (cont'd):

- 1998 **Teaching Assistant**, Atmospheric and Oceanic Sciences, University of Wisconsin
Provided instructional support for undergraduate “Atmospheric Environment and Society”, including delivering guest lectures, mentoring students, designing exams and evaluating student performance.
- 1996 - 97 **Teaching Assistant**, Nicholas School of the Environment, Duke University
Provided instructional support for undergraduate “Environmental Policy” and graduate-level “Watershed Hydrology”, including leading tutorial sessions, designing problem sets, mentoring students and evaluating student performance.
- 1995 - 97 **Research Assistant**, Nicholas School of the Environment, Duke University
Conducted field and laboratory research for a study of water and carbon cycling in the Duke Forest, including preparing field sensors and measuring a suite of weather, soil and canopy properties.

Academic Publications:

Donner, S.D., Skirving, W.J., Little, C.M., Hoegh-Guldberg, O and Oppenheimer, O. Global assessment of coral bleaching and required rates of adaptation under climate change. Submitted to *Global Change Biology*.

Donner, S.D. Surf or turf? Shifting from feed to food cultivation could reduce nutrient flux to the Gulf of Mexico. Submitted to *Global Environmental Change*.

Boyer, E.W, Alexander, R.B., Parton, W.J., Li, C.S., Butterbach-Bahl, K., **Donner, S.D.** and Skaggs, R.W. Modeling denitrification in terrestrial and aquatic ecosystems at regional scales: current approaches and needs. Submitted to *Ecological Applications*.

Twine, T.E., Coe, M.T., **Donner, S.D.**, Kucharik, C.J. and Foley, J.A. Effects of land cover change on the hydrology of the Mississippi River Basin. Submitted to *Global Biogeochemical Cycles*.

Donner, S.D., Kucharik, C.J. and Oppenheimer, M. (2004) The influence of climate on in-stream removal of nitrogen. *Geophysical Research Letters*, 31, L20509. *Editor's Choice in Science*, November 19, 2004.

Foley, J.A., Kucharik, C.J., **Donner, S.D.**, et al. Land Use, Land Cover, and Climate Change across the Mississippi Basin: Impacts on Land and Water Resources. In *Ecosystem Interactions with Land Use Change*, AGU Chapman Monograph Series (ed. by R. DeFries et al.).

Donner, S.D., Foley, J.A. and Kucharik, C.J. (2004) Impact of changing land use practices on nitrate export by the Mississippi River. *Global Biogeochemical Cycles*, 18, GB1028, doi: 10.1029/2003GB002093.

Donner, S.D. and Kucharik, C.J. (2003) Evaluating the impacts of land management and climate variability on crop production and nitrate export across the Upper Mississippi Basin. *Global Biogeochemical Cycles*, 17(3), 1085, doi: 10.1029/2001GB1808.

Donner, S.D. (2003) The distribution of the primary crops in the U.S. since 1950 and the relationship to river nutrient levels. *Global Ecology and Biogeography*, 12, 341-355.

Academic Publications (cont'd):

Donner, S.D., Coe, M.T., Lenters, J. Twine, T.E. and Foley, J.A. (2002) Modeling the impact of hydrology on nitrate transport in the Mississippi River System from 1955-1994. *Global Biogeochemical Cycles*, 16 (3), doi: 10.1029/2001GB001396.

Hoffmann, N., Mortsch, L., **Donner, S.D.** et al. (1997) Climate Change and Variability: Impacts on Canadian Water. Prepared for the Canada Country Study, Environment Canada.

Academic presentations (selected):

Donner, S.D. (2005) Climate change and Coral Bleaching (invited lecture). Woods Hole Research Centre, Woods Hole, Mass., June 6.

Donner, S.D. (2005) Global assessment of coral bleaching and required rates of adaptation under climate change (invited lecture). James Cook University, Townsville, Australia, April 1, 2005.

Donner, S.D. (2004) Surf or Turf: How shifting from animal feed to food production could reduce nutrient loading to the Gulf of Mexico (paper). *American Geophysical Union Fall Meeting*, San Francisco, CA.

Donner, S.D., Oppenheimer, M., Skirving, W. and Strong, A. (2004). Projecting the frequency of coral bleaching events due to possible changes in climate (paper). *Tenth International Coral Reef Symposium*, Okinawa, Japan.

Donner, S.D., Oppenheimer, M., Kucharik, C.J., and Foley, J.A. (2003). The impact of changing land use practices and climate variability on nitrate export by the Mississippi River (paper). *American Geophysical Union Fall Meeting*, San Francisco, CA.

Donner, S.D. and Kucharik, C.J. (2002). The impact of land use and climate on nitrogen cycling and crop yield in the Upper Mississippi Basin (paper). *Mississippi River Climate and Hydrology Conference*, New Orleans, LA.

Donner, S.D., Kucharik, C.J., Coe, M.T., and Foley, J.A. (2001). The impact of hydrology and agricultural activity on nitrate export in the Mississippi River System (poster). *Ecological Society of America Annual Meeting*, Madison, WI.

Donner, S.D., Twine, T., et al. (2001). Modeling hydrology and nitrate transport in the Mississippi River System (poster). *International Geosphere-Biosphere Annual Meeting*, Amsterdam.

Donner, S.D., Kucharik, C., et al. (2001). The impact of hydrology and agricultural activity on nitrate export by the Mississippi River (invited paper). North American Benthological Society Annual Meeting, La Crosse, WI.

Selected media appearances:

“Climate change and Kiribati”, National Radio, Tarawa, Kiribati, May 6, 2005.

“Candidates can’t hide from climate change”, *The Globe and Mail*, June 2, 2004

“The Air we Breathe: Environmental Concerns for the Average Citizen”, Nassau Presbyterian Church, Princeton, NJ, Nov. 9, 2003

“From pedal to puddle boat”, *Cottage Life*, November/December, 2003

“Changing the Climate: What you can do about global warming”, University of Wisconsin-Milwaukee, University of Wisconsin-Oshkosh, April 22-24, 2002

“Exterior decorating”, “Calling all ice watchers”, *Cottage Life*, November/December, 2001

“God in the Greenhouse”, panellist, University of Wisconsin-Madison, February 24, 2003

“Blood, sweat and gears”, *Cottage Life*, September/October, 1998

“El Nino”, *Ski Canada*, Winter 1998

“Enviroguy”, On-air Commentator and Writer, *Cottage Life Television*, 1998

“Ivy Tower”, Writer/Creator, Telly award-winning and student Emmy-nominated television drama, Duke University *Cable 13*, 1998

Selected Professional Activities:

- 2005 Volunteer reef clean-up, Bali Barat National Park, Bali, Indonesia
- 2005 Coral reef monitoring with Kiribati government, Tarawa and Abiang atolls
- 2004 Invited participant, Workshop on Advanced Approaches to Quantify Denitrification, Woods Hole Research Center, Woods Hole, Mass., May 3-5
- 2004 Participant, CUSO Communities and the Impact of Climate Change Conference, Winnipeg, Man., March 19-22
- 2003 Participant, Dissertation Initiative for the Advancement of Limnology and Oceanography Symposium, Bermuda Biological Station for Research, Oct 18-25 (Supported by the Society of Canadian Limnologists)
- 2003 - Ad-hoc reviewer for *Global Planetary Change, Journal of Environmental Quality, Earth Interactions, Wetlands, Frontiers of Ecology and the Environment* and NSF
- 2001 - Speaker, Grassroots Climate Education project (the Greenhouse Network)
- 2001 Participant, Second International Nitrogen Conference, Potomac, MD
- 2000 - Member, American Geophysical Union

- 1999 – 00 Volunteer classroom tutor, Malcolm Shabazz High School, Madison, WI.
- 1998 Research assistant for Jay Ingram, host of *@discovery.ca*, Toronto, Ont.
- 1997 – 98 Freelance writer and photographer, the *Muskokan*, Bracebridge, Ont.
- 1997 Regular op-ed columnist, the *Chronicle*, Duke University
- 1996 – 97 Alumni contact, organizer of charity 5 km run/walk, Duke University
- 1996 Hiking program coordinator, Muskoka Sands, Gravenhurst, Ont.
- 1996 Water quality sampling assistant, Dorset Environmental Science Centre, Dorset, Ont.
- 1991 – 95 Writer/editor, the *Silhouette*, McMaster University, Hamilton, Ont.

Other interests :

Certified PADI advanced diver and in ASHI wilderness first aid/CPR.

Placed 37th in the inaugural World Tower Climbing Championship (2002) in Kuala Lumpur.