

CURRICULUM VITAE IRENA F. CREED

Department of Biology
Faculty of Science
University of Western Ontario
London, Ontario, Canada N6A 5B7

3023 Biological and Geological Sciences Building
Tel: 1-519-661-4265
Fax: 1-519-661-3935
Email: icreed@uwo.ca

EDUCATION AND EMPLOYMENT HISTORY

Education

- Honours BSc in Zoology, Minor in Botany, University of Toronto, Toronto, ON. 1985. Thesis Topic: Limnology of urban ponds. Supervisor: Ann Zimmerman.
- MSc in Botany and Environmental Sciences (collaborative), University of Toronto, Toronto, ON, 1989. Thesis Title: The metabolism of arsenate in sensitive and tolerant strains of the freshwater eukaryote, *Chlorella vulgaris* (Chlorophyceae). Supervisor: Magda Havas and Tom Hutchinson.
- PhD in Geography, University of Toronto, Toronto, ON. 1998. Thesis Title: Topographic regulation of nitrate-N export from catchments within an old-growth sugar maple forest in the Turkey Lakes Watershed, Central Ontario, Canada. Supervisor: Lawrence Band.
- Post-Doctoral Fellowship, University of Alberta, Edmonton, AB. 1996-1997. Topic: The Terrestrial Riparian Organisms, Lakes and Streams (TROLS) research project – effects of forest management activities on ecosystem health. Supervisor: Ellie Prepas.

Principal Professional Appointments

- 2011-present** Professor, Department of Biology, University of Western Ontario
- 2005-2011** Associate Professor, Department of Biology, University of Western Ontario
- 2003-2005** Assistant Professor (tenure track), Department of Biology, University of Western Ontario
- 1998-2003** Assistant Professor (tenure track), Departments of Biology and Geography, University of Western Ontario
- 1997-1998** Visiting Lecturer (tenure track), Department of Geography, University of Victoria

Other Appointments

- Director, Africa Institute, University of Western Ontario, 2014-present
- Associate Chair – Research, Department of Biology, University of Western Ontario, 2013-present
- Female Guest Professorship, Department of Ecology and Environmental Science, Umeå University, Sweden, 2013-2015
- Acting Director, Centre for Environment and Sustainability, University of Western Ontario, 2009 (to Nov 30)
- Acting co-Director, Centre for Environment and Sustainability, University of Western Ontario, 2008-2009
- Adjunct Professor, Department of Environmental Sciences, Egerton University, Kenya, 2007-present
- Cross appointment, Department of Earth Sciences, University of Western Ontario, 2006-present
- Cross appointment, Department of Geography, University of Western Ontario, 2003-present

Career Interruptions

I have two children (born 12/24/96 and 09/13/01). I took a six-month maternity leave in 1996/97 (while I was a PhD student) and again in 2001/02.

AWARDS AND HONOURS

Awards

Tier II Canada Research Chair in Watershed Sciences (July 1, 2012 - June 30, 2017).

Tier II Canada Research Chair in Watershed Sciences (July 1, 2007 - June 30, 2012).

Distinguished Research Professorship in Faculty of Science (2013-2014). The Distinguished Research Professorship is awarded on merit, based on implementation of a large collaborative grant, to pursue high-risk, unique research avenues that are time sensitive and have a strong potential for a significant break-through, and to capitalize on new and significant partnerships with industry.

Western Green Award (2013) to recognize my contributions in creating and leading the Great Lakes Futures Project (GLFP) as part of the Transborder Research University Network for Water Stewardship (TRUN).

Postdoctoral Supervisor of the Year Award in School of Graduate and Postdoctoral Studies (2013). This award recognizing Postdoctoral Supervisors who have demonstrated exemplary support for postdoctoral scholars at Western by going above and beyond supervisory expectations. These mentors have given their time and put forth extra effort to ensure a successful experience for postdoctoral scholars.

Western Humanitarian Award (2011) to recognize faculty, staff and students who are engaged in a range of efforts directed towards improving the quality of life for individuals and groups around the world. Drs. Trick, Bend, Creed and Darnell were selected to receive the award for their team's leadership role as humanitarians through their project on Ecosystem Health – Africa Initiative funded by the International Development Research Centre of Canada.

Canada Institute of Forestry's Canadian Forest Management Group Achievement Award (2009) for the Sustainable Forest Management Network, for which I served on the management team as Research Area Leader for Water and Wetlands.

Ontario Premier's Research Excellence Award (PREA) (1999). The PREA program was created by the Government of Ontario to help Ontario's best and brightest recently appointed researchers build their research teams of graduate students, post-doctoral fellows and research associates. The PREA nomination and award process is highly competitive.

University Student Council Teaching Honour Roll Award (Western), for excellence in Teaching in Biology in all years taught since 2007/08.

Honours

2014 **Distinguished Scholar** presenting the **William H. Patrick, Jr. Memorial Lectureship**, recognized by the Soil Science Society of America.

Invitation to be Editor for Water Resources Research, a journal of the American Geophysical Union (2013, declined).

Elected Offices

Elected Member, Steering Committee, Northeastern Ecosystem Research Cooperative (NERC). 2010-present.

Elected Chair, Gordon Research Conference on Catchment Sciences: Interactions Of Hydrology, Biology & Geochemistry: Catchments as Sentinels of Global Change, July 10-15, 2011, Bates College, Lewiston, ME

Elected Vice-Chair, Gordon Research Conference on Catchment Sciences: Interactions Of Hydrology, Biology & Geochemistry: Thresholds, Tipping Points, And Non-Linearity: Integrated Catchment Science For The 21st Century, July 12-17, 2009, Proctor Academy, Andover, NH

CURRENT ACTIVITIES

Research Interests

Watershed sciences, biogeochemical cycles, eutrophication, remote sensing, geographic information systems, statistical modeling, freshwater harmful algal blooms, freshwater ecosystems, forest-water interface, hydrology, ecology, climate change, terrestrial-aquatic linkages, carbon storage/sequestration, ecosystem services, geographically isolated wetlands, carbon, nitrogen, phosphorus, iron, sustainability, Great Lakes, ecosystem health, communities at risk, scenario planning, greenhouse gases

Current Primary Research Projects

Catchment Hydrology and Biogeochemistry: My research advances the intellectual relationship between climate change and atmospheric pollution which influences catchment hydrological and biogeochemical processes. These changes determine the fates of nutrients, either being stored in catchments or released into the atmosphere or adjacent surface waters where they may shape microbial productivity and diversity. I am investigating the impacts of changes in within-catchment processes and nutrient export on adjacent lakes in temperate forested landscapes.

Canadian Policy and Management Outcomes: The Government of Alberta announced a new wetland policy in 2011 that would use function-based relative wetland value assessment to manage wetlands. I developed and generated an automated tool using GIS and remote sensing technologies to provide off-site estimates of wetland functions (water storage and delay, water quality, ecological health, and human use) as well as regional estimates of historic loss of wetland number and area. We have estimated these functions for over one million wetlands in Alberta (55% of the province, prioritizing areas most vulnerable to development). We used these function estimates to assess and rank relative values, which will be used when the wetland policy is fully implemented in May 2015. This forms the basis of the Wetland Policy implementation tool, which will assess wetland abundance and function to determine the amount of compensation developments will need to provide if they remove wetlands.

United States Policy and Management Outcomes: I am working with researchers at the US Environmental Protection Agency (EPA) and research universities on a technical committee to design methods to assess connectivity of isolated wetlands, which will be used to assess wetland connectivity and make recommendations to the US government for policy changes. The EPA is implementing some of the spatial metrics we have developed, and they are investigating using them to predicting stream condition for national mapping efforts. We have submitted a Research Coordination Network grant to the US National Science Foundation to expand our work to a continental scale.

Healthy Forests, Healthy Aquatic Ecosystems: The Canadian Network for Aquatic Ecosystem Services (CNAES) is supported by an NSERC Strategic Network Grant. In CNAES, academia, industry and government are collaborating to develop knowledge about, and provide training on, the relationship between aquatic ecosystem services and stressors. I am leader of Theme II (Healthy Forests, Healthy Aquatic Ecosystems) of this Network, and we are developing a comprehensive understanding of the controls on aquatic ecosystem services in forest landscapes via hypothesis testing using data collected from monitoring, experimental manipulation, modeling, and scenario planning.

Expected Policy and Management Outcomes: Plans are underway to work with a core team of scientists at Natural Resources Canada to apply the ISO31000 Risk Management framework from our Great Lakes Futures Project to the entire Canadian boreal forest – will improve links between science and policy and implement strategies for sustainable management of the boreal forest.

Freshwater Algal Blooms: I am the lead Principal Investigator and Director of the Algal Bloom Assessment through Science, Technology and Education, an NSERC CREATE program that aims to train the next generation of water quality specialists in Canada. Our collaborative training team includes academic, government and industry researchers from Canada, US, Europe, Asia and Africa who will help guide trainees

through course material, research projects and practical experiences designed specifically for this training program. The curricula are designed to provide scientific excellence and professional skills through the implementation of science components and specialized professional courses or certificates that will make trainees "job-ready" leaders in academic, public or private sectors through partnerships that focus on eutrophication in freshwaters. This research is also the focus of my NSERC Discovery Grant.

Expected Policy and Management Outcomes: Freshwater harmful algal blooms are becoming an increasing concern (see recent media coverage of Ohio's toxic drinking water caused by algae blooms in Lake Erie), and insights from this research will develop new tests to characterize bloom events and establish protocols to predict, treat, and avoid outbreaks.

Living Laboratories: We are taking a living laboratory approach to study critical environmental issues facing society, like flooding, pollution and climate change. This work began by investigating small-scale watersheds and is being expanded to a national scale, starting in Ontario and Alberta, working in collaboration with the Alberta Land Institute. The project will examine multiple market-based instruments for wetland conservation.

Expected Policy and Management Outcomes: This work may be a game changer for how governments manage wetlands and for how agricultural industries interact with farmers. The rise of corporate social responsibility is pressuring for industries to be "green," and outcomes from our research financial incentives for environmentally actions. of this financial corporate social

Great Lakes Futures Project (GLFP): The goal of this community-based grassroots project is to develop a vision of the future for the Great Lakes-St. Lawrence River basin and the policies and research agenda required to get there. In Phase 1 we used the tools of scenario analysis to develop a vision for the Great Lakes region. In Phase 2, the Action Plan for Sustainability funded by the Canada Water Network, we are working towards tangible pathways to attain desired future states. We have hosted two significant public forums and written a series of review papers on the drivers of ecosystem change, alternate scenario narratives, and policy recommendations (all published in a Special Issue of the international Journal of Great Lakes Research). This grassroots project led to a successful NSERC CREATE on multiple stressors in the Great Lakes basin. I received a Western Green Award in 2013 for this work.

Expected Policy and Management Outcomes: I am in discussions with scientists from the US (Lucinda Johnson, University of Minnesota Duluth; David Allan, University of Michigan) to conduct a risk management assessment for western Lake Erie to identify mechanisms to reduce phosphorus loading and algal blooms.

Current Leadership in Administrative Roles

Trans-Border Research University Network (TRUN) for Water Stewardship: I have been the Canadian Co-Lead of TRUN for Water Stewardship's inaugural project, the Great Lakes Futures Project since 2010. The goal of TRUN is to expand and support cooperation among research universities in the border region of Province of Ontario and New York State through collaborative research; joint applications for external funding; cooperative academic programs; faculty and student exchanges; shared facilities, library materials and electronic resources; and joint conferences, symposia and workshops (see further TRUN Website: <http://wings.buffalo.edu/intled/trun/>).

The Africa Institute: I am the Director of the Africa Institute at Western, an interdisciplinary entity that is building and cultivating sustainable collaborations and strategic partnerships in Africa. The Interdisciplinary Initiative awarded to the Africa Institute (\$376K from Western) aims to build both research and teaching excellence on and in Africa. As Director, I am enhancing and promoting undergraduate education (including developing a Minor and a Major module in African Studies), graduate education (including the creation of a Specialization in Cooperative Leadership for the Masters of Management of Applied Science) and research (establishing research clusters among identified faculty).

Associate Chair (Research), Department of Biology: My role is to facilitate new collaborations and help existing collaborations to grow by establishing and fostering links between researchers within the department and with industrial partners. I am working to identify barriers to research and encourage team grant applications that take a broader view. I have led workshops and organized review panels to facilitate grant application success, and I am gathering information from funding agencies to provide guidance and support for faculty members.

American Geophysical Union (AGU):

Chair (2013-2015) and Deputy Chair (2010-2012) of the Hydrology Section of the Water Quality Committee Early Career Award Committee from 2009-2011.

Global Wetland Ecohydrology Network (GWEN):

Steering committee member (2010-present). GWEN aims to investigate, quantify and compare wetlands across different scales, and different hydroclimatic, wetland, and human disturbance and organization conditions.

Professional Memberships

American Geophysical Union, American Society of Limnology and Oceanography, Canadian Geophysical Union, Ecological Society of Canada, International Association for Ecology and Health, International Union of Forest Research Organizations

Past Work on National and International Research Councils

Research Area Leader (Water and Wetlands), Scientific Management Team of the Network of Centres of Excellence for Sustainable Forest Management (SFMN). 2004-2009. The SFMN is an incorporated non-profit Canadian research group and is part of the Network for Centres of Excellence. The Research Area Leaders worked with SFMN partners to fund, plan, conduct, and apply interdisciplinary, university-based research that addresses issues related to sustainable forest management. The Research Area Leaders, under the chairmanship of the Scientific Director, provided day-to-day direction on the SFMN's research program.

Scientific Panel Member, US National Academies. Hydrologic Impact of Forest Management. 2006-2008. The National Academies perform an unparalleled public service by bringing together committees of experts in all areas of scientific and technological endeavour. These experts serve pro bono to address critical national issues and give advice to the federal government and the public. I was the only non-US participant of a 14-person panel whose mandate is to address the following primary questions: What is the state of knowledge of forest hydrology? What are information and research needs regarding forest hydrology in forested lands under federal management? What are the new issues that need to be addressed to ensure clean and plentiful water? and How well are forest hydrologic impacts understood over short- and long-temporal scales and small- and large-spatial scales? The report reflects on relevant policy implications and research needs that will advance understanding of connections among hydrology, science, management and policy in forested landscapes.

Member, NSERC Collaborative Research and Training Experience (CREATE) selection committee. The CREATE program supports the training of teams of highly qualified students and postdoctoral fellows from Canada and abroad through the development of innovative training programs. January 23-25, 2012, Ottawa, Ontario, Canada (2012).

Member (then Chair), Earth Sciences and Ecology committee of the NSERC Scholarship and Fellowships Panel. This NSERC Panel is responsible for evaluating the scholastic ability of Masters, Doctoral and Post-Doctoral Fellowship applications from across the country and awarding scholarships or fellowships. I was a member of this NSERC Scholarships and Fellowships Panel from 2004-2007, and served as Chair of the Earth Sciences and Ecology committee from 2006-2007.

Member, Macronutrient Cycles Programme scientific panel for the UK Natural Environment Research Council. The goal of this programme is to quantify the scales (magnitude and spatial/temporal variation) of nitrogen and phosphorus fluxes and the nature of transformations under a changing climate and perturbed carbon cycle. November 21-22, 2011, London, South Kensington, UK.

Member, Water, Sustainability and Climate (WSC) scientific panel for the US National Science Foundation. The WSC program is the first NSF program engaging four directorates (biological sciences, engineering, geosciences and social, behavioural and economic sciences) to foster understanding and prediction of the interactions between the water system and climate change, land use, the built environment, and ecosystem function and services through place-based research and integrative models. The interdisciplinary panel evaluated proposals submitted in response to the WSC call for proposals. June 22-23, 2010, Arlington, VA, USA.

PUBLICATIONS

Summary of Publications

Books: **1**

Monographs: **2**

Special Journal Issues: **2** (1 In press, 1 In Prep)

Refereed Journal Articles: **91** (85 published – 11 of these were invited, 3 revisions requested, 3 submitted)

Refereed Book Chapters: **4**

Papers in Refereed Conference Proceedings: **5**

Government/Industry Technical Reports: **17**

Highly Qualified Personnel are underlined in the reference citations, and Highly Qualified Personnel formally supervised or co-supervised by Creed are indicated with an *.

Books (peer reviewed) (1)

National Research Council (USA). 2008. Hydrologic Effects of a Changing Forest Landscape. Committee on Hydrologic Impact of Forest Management (Barten PK (Chair), Achterman GL, Brooks KN, Creed IF, Ffolliott P, Hairston-Strang A, Jones JA, Kavanaugh MC, Macdonald L, Smith RC, Tinker DB, Walker SB, Wemple BC, Weyerhaeuser GH, Jr.). Water Science and Technology Board, Division of Earth and Life Studies, National Research Council of the National Academies. The National Academies Press, Washington, D.C. 156 pages. ISBN: 0-309-12108-6.

Monographs (2)

Creed IF, Sass GZ*, Beall FD, Buttle JM, Moore RD, Donnelly M. 2011. Hydrological principles for conservation of water resources within a changing forested landscape. A State of Knowledge Report. Sustainable Forest Management Network. 84 pages. ISBN: 978-1-55261-261-3.
http://www.sfmn.ales.ualberta.ca/en/Publications/~/_media/sfmn/Publications/StateofKnowledgeReports/Documents/SOK2011Water2CreedetalEn.pdf

Creed IF, Sass GZ*, Beall FD, Buttle JM, Moore RD, Donnelly M. 2011. Scientific theory, data and techniques for conservation of water resources within a changing forested landscape. A State of Knowledge Report. Sustainable Forest Management Network. 87 pages. ISBN: 978-1-55261-275-0.
http://www.sfmn.ales.ualberta.ca/en/Publications/~/_media/sfmn/Publications/StateofKnowledgeReports/Documents/SOK2011Water1CreedetalEn.pdf

Guest Editor of Special Journal Issues (2)

The Great Lakes Futures Project (Special Issue of the Journal of Great Lakes Research – In Press). This special issue will present the results of a transdisciplinary scenario analysis of the Great Lakes-St. Lawrence Basin. 16 articles co-authored by project leaders, faculty mentors and graduate students were submitted in October 2013. I am one of the Guest Editors for this Special Issue and co-authored 8 papers in the issue. For this set of papers, last author indicates senior author (PI on project and conceptual leader on papers).

The Lake Naivasha Sustainability Project (In Preparation). This special issue will present the results of a three-year IDRC-funded research project investigating and proposing solutions to the Ecosystem Health issues arising from the management of water resources in the Lake Naivasha Basin in Kenya. 14 articles co-authored by Canadian and Kenyan researchers and their undergraduate and graduate students.

Journal Articles and Book Chapters

Published (89)

In Press (10)

- Krantzberg G, Creed IF, Friedman KB, Laurent KL*, Jackson JA, Brammeier J, Scavia D. Community engagement is critical to achieve a thriving and prosperous future for the Great Lakes-St. Lawrence River Basin. *Journal of Great Lakes Research*, October 2013. Special Issue on the Great Lakes Futures Project.
- Friedman KB, Laurent KL*, Krantzberg G, Scavia D, Creed IF. In Press. The Great Lakes Futures Project: Principles and policy recommendations for making the lakes great. *Journal of Great Lakes Research*, October 2013. Special Issue on the Great Lakes Futures Project.
- Laurent KL*, Scavia D, Friedman KB, Krantzberg G, Creed IF. In Press. Critical forces defining alternative futures for the Great Lakes St. Lawrence River basin. *Journal of Great Lakes Research*, October 2013. Special Issue on the Great Lakes Futures Project.
- Steenberg J, Timm M, Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Living on the Edge: How we converted challenges into profitable opportunities. *Journal of Great Lakes Research*, October 2013. Special Issue on the Great Lakes Futures Project.
- Kalafatis S, Campbell M, Fathers F, Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Out of Control: How we failed to adapt and suffered the consequences. *Journal of Great Lakes Research*, October 2013. Special Issue on the Great Lakes Futures Project.
- Comer B, Fera S, Splawinski S, Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Thriving and prosperous: How we rallied to confront collective challenges. *Journal of Great Lakes Research*. Special Issue on the Great Lakes Futures Project.
- Orr C, Williams K, Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Trying hard to adapt to a chaotic world: How complex challenges overwhelmed our best intentions. *Journal of Great Lakes Research*. Special Issue on the Great Lakes Futures Project.
- Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Scenario analysis: an integrative and effective method for bridging disciplines and achieving a thriving Great Lakes-St. Lawrence River basin. *Journal of Great Lakes Research*. Special Issue on the Great Lakes Futures Project.
- Koo K-A, Patten BC, Teskey RO, Creed IF. Climate change effects on red spruce decline mitigated by reduction in air pollution within its shrinking habitat range. *Ecological Modelling*.
- Morse JL, Duran J, Beall F, Creed IF, Enanga EM*, Fernandez I, Groffman PM. Soil denitrification fluxes from three northeast American forests representing a range of nitrogen deposition. *Oecologia*.

2014 (10)

- Sass GZ*, Creed IF, Riddell J, Bayley S. 2014. Regional-scale mapping of groundwater discharge zones using thermal satellite imagery. *Hydrological Processes* 28: 5662-5673.
- Henley P, Lowthers M, Koren G, Tsimbiri Fedha P, Russell E, Van Uum S, Arya S*, Darnell R, Creed IF, Trick CG, Bend JR. 2014. Cultural and socio-economic conditions as factors contributing to chronic stress in sub-Saharan African communities. *Canadian Journal of Physiology and Pharmacology* 92: 725-732.
- Creed IF, Spargo AT*, Jones JA, Buttle JM, Adams MB, Beall FD, Booth EG, Campbell JL, Clow DW, Elder K, Green MB, Grimm NB, Miniati C, Ramal PS, Saha AK, Sebestyen SD, Spittlehouse D, Sterling S, Williams MW, Winkler R, Yao H. 2014. Changing forest water yields in response to climate warming: Results from long-term experimental watershed sites across North America. *Global Change Biology* 20: 3191-3208.
- Webster KL, Creed IF, Malakoff T*, Delaney K*. 2014. Potential vulnerability of deep carbon deposits of forested swamps to drought. *Soil Science Society of America Journal* 78: 1097-1107.
- Sorichetti RJ*, Creed IF, Trick CG. 2014. The influence of iron, siderophores and refractory DOM on cyanobacterial biomass in oligotrophic lakes. *Freshwater Biology* 59: 1423-1436.
- Clare S, Creed IF. 2014. Tracking wetland loss to improve evidence-based wetland policy learning in Alberta, Canada. *Wetland Ecology and Management* 22: 235-245.

Molot L, Watson SB, Creed IF, Trick CG, McCabe SK, Verschoor MJ, Sorichetti RJ*, Powe C, Venkiteswan JJ, Schiff SL. 2014. A novel model for cyanobacteria bloom formation: The critical role of anoxia and ferrous iron. *Freshwater Biology* 59: 1323-1340.

Sorichetti RJ*, McLaughlin JT*, Creed IF, Trick CG. 2014. Suitability of a cytotoxicity assay for detection of potentially harmful compounds produced by freshwater bloom-forming algae. *Harmful Algae* 31: 177-187.

Sorichetti RJ*, Creed IF, Trick CG. 2014. Evidence for iron-regulated cyanobacterial predominance in oligotrophic lakes. *Freshwater Biology* 59: 679-691.

Mengistu SG*, Creed IF, Webster KL, Enanga EM*, Beall FD. 2014. Searching for similarity in topographic controls on carbon, nitrogen and phosphorus export from forested headwater catchments. *Hydrological Processes* 28: 3201-3216.

2013 (6)

Kreutzweiser D, Beall F, Webster KL, Thompson D, Creed IF. 2013. Impacts and prognosis of natural resource development on aquatic biodiversity in Canada's boreal forest. *Environmental Reviews* 21: 227-259.

Creed IF, Miller JF*, Aldred DA*, Adams JK*, Spitale S*, Bourbonniere RA. 2013. Hydrologic profiling for greenhouse gas effluxes from natural grasslands in the prairie pothole region of Canada. *Journal of Geophysical Research – Biogeosciences* 118: 680-697. **Selected as EOS Research Highlight.**

Mengistu SG*, Quick CG*, Creed IF. 2013. Nutrient export from catchments on forested landscapes reveals complex nonstationary and stationary climate signals. *Water Resources Research* 49: 3863-3880.

Mengistu SG*, Creed IF, Kulperger RJ, Quick C*. 2013. Russian nesting dolls effect – Using wavelet analysis to reveal non-stationary and nested stationary signals in water yield from catchments on a northern, forested landscape. *Hydrological Processes* 23: 669-686. **Invited** contribution to Special Issue: "Catchments of the future North: creating science for management in 2050."

Creed IF, Webster KL*, Braun GL*, Bourbonniere RA, Beall FD. 2013. Topographically regulated traps of dissolved organic carbon create hotspots of carbon dioxide efflux from forests. *Biogeochemistry* 112: 149-164. **Selected for F1000Prime by P Groffman (Cary Institute of Ecosystem Studies).**

Kerr JG, Eimers MC, Creed IF, Adams MB, Beall F, Burns D, Campbell JL, Christopher SF, Clair TA, Courschesne F, Duchesne L, Fernandez I, Houle D, Jeffries DS, Likens GE, Mitchell MM, Shanley J, Yao H. 2012. The effect of seasonal drying on sulphate dynamics in streams across southeastern Canada and northeastern USA. *Biogeochemistry* 111: 393-409. doi:10.1007/s10533-011-9664-1.

2012 (4)

Rooney RC, Bayley SE, Creed IF, Wilson MJ. 2012. The accuracy of land cover-based wetland assessments is influenced by landscape event. *Landscape Ecology* 27: 1321-1325.

Jones JA, Creed IF, Hatcher K, Warren R, Adams MB, Benson M, Boose E, Brown W, Campbell J, Covich A, Clow D, Dahm C, Elder K, Ford C, Grimm N, Henshaw D, Larson K, Miles E, Miles K, Sebestyen S, Spargo AT*, Stone A, Vose J, Williams M. 2012. Ecosystem processes and human influences regulate streamflow response to climate change at Long-Term Ecological Research sites. *Bioscience* 62: 390-404. **Invited** contribution to Special Issue on the US Long-Term Ecological Research Network.

Sass GZ*, Wheatley M, Aldred DA*, Gould AJ, Creed IF. 2012. Defining protected area boundaries based on vascular-plant species richness using hydrological information derived from archived satellite imagery. *Biological Conservation* 147: 143-152.

Powers L*, Creed IF, Trick CG. 2012. Sinking of *Heterosigma akashiwo* results in increased toxicity of this harmful algal bloom species. *Harmful Algae* 13: 95-104.

2011 (8)

Creed IF, Sass GZ*. 2011. Digital terrain analysis approaches for tracking hydrological and biogeochemical pathways and processes in forested landscapes. In Levina DF, Carlyle-Moses DE, Tanaka T (Eds). *Forest Hydrology and Biogeochemistry: Synthesis of Past Research and Future Directions*. Ecological Studies Series, No. 216, Springer-Verlag, Heidelberg, Germany. pp. 69-100. **Invited Book Chapter**

Sass GZ*, Creed IF. 2011. Bird's eye view of forest hydrology: Novel approaches using remote sensing techniques. In Levia DF, Carlyle-Moses DE, Tanaka T (Eds). Forest Hydrology and Biogeochemistry: Synthesis of Past Research and Future Directions. Ecological Studies Series, No. 216, Springer-Verlag, Heidelberg, Germany. pp. 45-68. **Invited Book Chapter.**

Gala TS*, Aldred DA*, Carlyle S*, Creed IF. 2011. Topographically based spatially averaging of SAR data improves performance of soil moisture models. Remote Sensing of Environment 115: 3507-3516, doi:10.1016/j.rse.2011.08.013.

Chasmer L, Kljun N, Hopkinson C, Brown S, Milne T, Giroux K, Barr A, Devito KJ, Creed IF, Petrone R. 2011. Characterizing vegetation structural and topographic characteristics sampled by eddy covariance within two mature aspen stands using LiDAR and a flux footprint model: Scaling to MODIS. Journal of Geophysical Research (Biogeosciences) 116: G02026, doi:10.1029/2010JG001567.

Creed IF, Sass GZ*, Buttle JM, Jones JA. 2011. Hydrological principles for sustainable management of forest ecosystems. Hydrological Processes 25: 2152-2160. **Invited.**

Webster KL*, Creed IF, Beall FD, Bourbonniere RA. 2011. A topographic template for estimating soil carbon pools in forested catchments. Geoderma 160: 457-467. Doi: 10.1016/j.geoderma.2010.10.016.

Koo K-A, Patten BC, Creed IF. 2011. *Picea rubens* growth at high versus low elevations in the Great Smoky Mountains National Park: evaluation by systems modeling. Canadian Journal of Forest Research 41: 945-962.

Enanga EM*, Shivoga WA, Maina-Gichaba C, Creed IF. 2011. Observing changes in riparian buffer strip soil properties related to land use activities in the River Njoro Watershed, Kenya. Water, Air and Soil Pollution 218: 587-601.

2009 (8)

Jones JA, Achterman GL, Augustine LA, Creed IF, Ffolliott PF, MacDonald L, Wemple BC. 2009. Hydrologic effects of a changing forested landscape – Challenges for the hydrological sciences. Hydrological Processes 23: 2699-2704, doi: 10.1002/hyp.7404. **Invited.**

Creed IF, Beall FD. 2009. Distributed topographic indicators for predicting nitrogen export from headwater catchments. Water Resources Research 45: W10407, doi:10.1029/2008WR007285.

Buttle JM, Creed IF, Moore RD. 2009. Advances in Canadian forest hydrology, 2003-2007. Canadian Water Resources Journal 34: 113-126. **Invited.**

O'Connor EM, Dillon PJ, Molot LA, Creed IF. 2009. Modelling dissolved organic carbon mass balances for lakes of the Muskoka River Watershed. Hydrology Research 40: 273-290.

Krougly ZL, Creed IF, Stanford DA. 2009. A stochastic model for generating disturbance patterns within landscapes. Computers and Geosciences 35: 1451-1459.

Webster KL*, Creed IF, Skowronski MD, Kaheil YH. 2009. Comparison of the performance of statistical models that predict soil respiration from forests. Soil Science Society of America Journal 73: 1157-1167.

Kaheil YH*, Creed IF. 2009. Detecting and downscaling wet areas on boreal landscapes. IEEE Geoscience and Remote Sensing Letters 6: 179-183.

Clark RB*, Sass GZ*, Creed IF. 2009. Mapping hydrologically sensitive areas on the Boreal Plain: a multitemporal analysis of ERS synthetic aperture radar data. International Journal of Remote Sensing 30: 2619-2635, doi:10.1080/01431160802552819.

2008 (9)

Creed IF, Beall FD, Clair TA, Dillon PJ, Hesslein RH. 2008. Predicting export of dissolved organic carbon from forested catchments in glaciated landscapes with shallow soils. Global Biogeochemical Cycles 22: GB4024, doi: 10.1029/2008GB003294.

Creed IF, Sass GZ*, Wolniewicz MB*, Devito KJ. 2008. Incorporating hydrologic dynamics into buffer strip design on the sub-humid Boreal Plain of Alberta. Forest Ecology and Management 256: 1984-1994, doi: 10.1016/j.foreco.2008.07.021.

- Krezek CC*, Buttle JM, Beall FD, Moore RD, Creed IF, Sibley PK, Silins U, Devito KJ, Mendoza CA. 2008. HydroEcological Landscapes and Processes Project: A national scale forest hydrology initiative. *Streamline Bulletin* 12: 33-38.
- Webster KL*, Creed IF, Beall FD, Bourbonniere RA. 2008. Sensitivity of catchment-aggregated estimates of soil carbon dioxide efflux to topography under different climatic conditions. *Journal of Geophysical Research (Biogeosciences)* 113, G03040, doi: 10.1029/2008JG000707.
- Webster KL*, Creed IF, Beall FD, Bourbonniere RA. 2008. Controls on the heterogeneity of soil respiration in a tolerant hardwood forest. *Journal of Geophysical Research (Biogeosciences)* 113: G03018, doi: 10.1029/2008JG000706.
- Sass GZ*, Creed IF, Devito KJ. 2008. Spatial heterogeneity in trophic status of shallow lakes on the Boreal Plain: Influence of hydrologic setting. *Water Resources Research* 44: W08444, doi: 10.1028/2007WR006311.
- Sass GZ*, Creed IF, Bayley SE, Devito KJ. 2008. Interannual variability in trophic status of shallow lakes on the Boreal Plain: Is there a climate signal? *Water Resources Research* 44: W08443, doi:10.1029/2007WR006310.
- Sass GZ*, Creed IF. 2008. Characterizing hydrodynamics on boreal landscapes using archived synthetic aperture radar imagery. *Hydrological Processes* 22: 1687-1699, doi:10.1002/hyp.6736.
- Khalil AF, Kaheil YH*, Gill KM, McKee M, Creed IF. 2008. Application of learning machines and combinational algorithms in water resources management and hydrologic sciences. In H Peters, M Vogel [Eds.] *Machine Learning Research Progress*. New York, Nova Publishers. ISBN: 978-1-60456-646-8.

2007 (3)

- Sanford SE*, Creed IF, Tague CL, Beall FD, Buttle JM. 2007. Scale-dependence of natural variability of flow regimes in a forested landscape. *Water Resources Research* 43: W08414, doi:10.1029/2006WR005299.
- Bayley SE, Creed IF, Sass GZ*, Wong AS. 2007. Frequent regime shifts in trophic states in shallow lakes on the Boreal Plain: Alternative “unstable” states? *Limnology and Oceanography* 52: 2002-2012.
- Sass GZ*, Creed IF, Bayley SE, Devito KJ. 2007. Understanding variation in trophic status of lakes on the Boreal Plain: A 20 year retrospective using Landsat TM imagery. *Remote Sensing of Environment* 109: 127-141, doi:10.1016/j.rse.2006.12.010.

2006 (4)

- Macrae ML, Devito KJ, Creed IF, Macdonald SE. 2006. Relation of soil-, surface-, and ground-water distributions of inorganic nitrogen with topographic position in harvested and unharvested portions of an aspen-dominated catchment in the Boreal Plain. *Canadian Journal of Forest Research* 36: 2090-2103, doi:10.1139/X06-101.
- Hopkinson C, Chasmer L, Lim K, Treitz P, Creed IF. 2006. Towards a universal lidar canopy height indicator. *Canadian Journal of Remote Sensing* 32:139-152.
- Lindsay JB*, Creed IF. 2006. Distinguishing actual and artefact depressions in digital elevation data. *Computational Geosciences* 32: 1192-1204, doi: 10.1016/j.cageo.2005.11.002.
- Bourbonniere RA, Creed IF. 2006. Biodegradability of dissolved organic matter leached from a chronosequence of forest-floor materials. *Plant Nutrition and Soil Science* 169: 101-107. (Special Issue from the DOM 2004 International Workshop: Dissolved Organic Matter and the Cycling of Carbon, Nutrients and Metals, October 3-6, Bayreuth, Germany)

2005 (9)

- Devito KJ, Creed IF, Gan T, Mendoza C, Petrone R, Silins U, Smerdon B. 2005. A framework for broad-scale classification of hydrologic response units on the Boreal Plain: Is topography the last thing to consider? *Hydrological Processes* 19: 1705-1714. **Invited.**
- Foster N, Spoelstra J, Hazlett P, Schiff S, Beall FD, Creed IF, David C. 2005. Heterogeneity in soil nitrogen within first-order forested catchments at the Turkey Lakes Watershed. *Canadian Journal of Forest Research* 35: 797-805.
- Hopkinson CD, Chasmer LE, Sass GZ*, Creed IF, Sitar M, Kalbfleisch W, Treitz P. 2005. Vegetation class dependent errors in lidar ground elevation and canopy height estimates in a boreal wetland environment. *Canadian Journal of Remote Sensing* 31: 191-206.

Macrae ML, Redding TE, Creed IF, Bell WR, Devito KJ. 2005. Soil, surface water and ground water phosphorus relationships in a partially harvested Boreal Plain aspen catchment. *Forest Ecology and Management* 206: 315-329.

Yao H*, Creed IF. 2005. Determining spatially-distributed annual water balances for ungauged locations on Shikoku Island, Japan: A comparison of two interpolators. *Hydrological Sciences Journal* 50: 245-263.

Devito KJ, Creed IF, Fraser CJD. 2005. Controls on runoff from a partially harvested aspen-forested headwater catchment, Boreal Plain, Canada. *Hydrological Processes* 19: 3-25.

Lindsay JB*, Creed IF. 2005. Removal of artifact depressions from digital elevation models: towards a minimum impact approach. *Hydrological Processes* 19: 3113-3126.

Lindsay JB*, Creed IF. 2005. Sensitivity of digital landscapes to artifact depressions in remotely-sensed DEMs. *Photogrammetric Engineering and Remote Sensing* 71: 1029-1036.

Buttle JM, Creed IF, Moore RD. 2005. Advances in Canadian forest hydrology, 1999 – 2003. *Hydrological Processes* 19: 169-200. **Invited.**

2004 (4)

Lindsay JB*, Creed IF, Beall FD. 2004. Drainage basin morphometrics for depressional landscapes. *Water Resources Research* 40: W09307, doi:10.1029/2004WR003322.

Webster KL*, Creed IF, Nicholas NS, Van Miegroet H. 2004. Exploring interactions between pollutant emissions and climatic variability in growth of red spruce in the Great Smoky Mountains National Park. *Water, Air and Soil Pollution* 159: 225-248.

Creed IF, Morrison DL, Nicholas NS. 2004. Is coarse wood debris a net sink or source of nitrogen in the red spruce-Fraser fir forest of the southern Appalachians, USA? *Canadian Journal of Forest Research* 34: 716-724.

Creed IF, Webster KL*, Morrison DL. 2004. A comparison of techniques for measuring density and concentrations of carbon and nitrogen in coarse woody debris at different stages of decay. *Canadian Journal of Forest Research* 34: 744-753.

2003 (1)

Creed IF, Sanford SE*, Beall FD, Molot LA, Dillon PJ. 2003. Cryptic wetlands: Integrating hidden wetlands into models of the export of dissolved organic carbon from forested landscapes. *Hydrological Processes* 17: 3629-3648.

2002 (3)

Barker M, Van Miegroet H, Nicholas NS, Creed IF. 2002. Variation in overstory nitrogen uptake in a small, high-elevation southern Appalachian spruce-fir watershed. *Canadian Journal of Forest Research* 32: 1741-1752.

Creed IF, Trick CG, Band LE, Morrison IK. 2002. Characterizing the spatial pattern of soil carbon and nitrogen pools in the Turkey Lakes Watershed: A comparison of regression techniques. *Water, Air and Soil Pollution. FOCUS* 2: 81-102.

Trick CG, Creed IF, Henry MF, Jeffries DS. 2002. Distribution of diatoms in a forested stream containing a series of interconnected lakes. *Water, Air and Soil Pollution. FOCUS* 2: 103-128.

2001 (2)

Buttle JM, Hazlett PW, Murray CD, Creed IF, Jeffries DS, Semkin R. 2001. Prediction of groundwater characteristics in forested and harvested basins during spring snowmelt using a topographic index. *Hydrological Processes* 15: 3389-3407.

Van Miegroet H, Creed IF, Nicholas NS, Tarboton DG, Webster KL*, Shubzda J, Robinson B, Smoot J, Johnson DW, Lindberg SE, Lovett G, Nodvin S, Moore S. 2001. Is there synchronicity in nitrogen input and output fluxes at the Noland Divide Watershed, a small N-saturated forested catchment in the Great Smoky Mountains National Park? In *Optimizing Nitrogen Management in Food and Energy Production and Environmental Protection: Proceedings of the 2nd International Nitrogen Conference on Science and Policy*. The Scientific World 1(S2): 480-492.

2000 (2)

Buttle JM, Creed IF, Pomeroy JW. 2000. Advances in Canadian forest hydrology, 1995-1998. *Hydrological Processes* 14: 1551-1578. **Invited**.

Devito KJ, Creed IF, Rothwell RL, Prepas EE. 2000. Landscape controls on phosphorus loading to boreal lakes: Implications for the potential impacts of forest harvesting. *Canadian Journal of Fisheries and Aquatic Sciences* 57: 1977-1984.

1998 (2)

Creed IF, Band LE. 1998. Export of nitrogen from catchments within a temperate forest: Evidence for a unifying mechanism regulated by variable source area dynamics. *Water Resources Research* 34: 3105-3120.

Creed IF, Band LE. 1998. Exploring functional similarity in the export of nitrate-N from forested catchments: A mechanistic modeling approach. *Water Resources Research* 34: 3079-3093.

1996 (2)

Band LE, Mackay DS, Creed IF, Semkin RS, Jeffries DS. 1996. Ecosystem processes at the watershed scale: Sensitivity to potential climate change. *Limnology and Oceanography* 41: 928-938.

Creed IF, Band LE, Foster NW, Morrison IK, Nicolson JA, Semkin RS, Jeffries DS. 1996. Regulation of nitrate-N release from temperate forests: a test of the N flushing hypothesis. *Water Resources Research* 32: 3337-3354.

1995 (1)

MacDonald D, Creed IF. 1995. Acid precipitation: Aquatic impacts. In R. Paehlke [Ed.] *The Encyclopedia of Conservation and Environmentalism*. New York: Garland Publishing Inc.

1990 (1)

Creed IF, Havas M, Trick CG. 1990. Effects of arsenate on the growth of nitrogen- and phosphorus-limited *Chlorella vulgaris* isolates. *Journal of Phycology* 26: 641-650.

Revisions Requested (3)

Creed IF, Hwang T, Lutz B, Way D. Climate warming causes intensification of the hydrological cycle in northern forests. **Invited** contribution to Special Issue: "Runoff Generation in a Nordic Light: 30 Years with *Water's Way from Rain to Stream*." Revised manuscript submitted to *Hydrological Processes*, October 2014.

Du X*, Creed IF, Trick CG. Predominance of cyanobacteria in Alberta's eutrophic lakes linked to an iron scavenging strategy that uses siderophores. Submitted to *Canadian Journal of Fisheries and Aquatic Sciences*.

Webster KL, Beall FD, Creed IF, Kreutzweiser D. Impacts and prognosis of natural resource development on water and wetlands in Canada's boreal forest. Submitted to *Environmental Reviews*.

Submitted (3)

Creed IF. The Great Lakes Futures Project: Preface. Submitted to the *Journal of Great Lakes Research*, October 2014.

Creed IF, McKnight DM, Pellerin B, Green MB, Bergamaschi B, Aiken G, Findlay SEG, Burns D, Shanley J, Striegl R, Aulenbach B, Clow D, Laudon H, McGlynn B, McGuire K, Smith R, Stackpoole S. Tracking dissolved organic matter from mountains to the sea: revisiting the river continuum concept. Submitted to *Canadian Journal of Fisheries and Aquatic Sciences*, September 2014.

Marton JM, Creed IF, Lewis DB, Lane C, Basu N, Cohen MJ, Craft CB, Faulkner SL. Geographically isolated wetlands are important biogeochemical reactors on the landscape. Submitted to *BioScience*, September 2014.

Papers in Conference Proceedings (5)

- Enanga EM*, Creed IF, Gloutney M, Badiou P. 2014. Investigating the carbon storage and accumulation rates of wetlands within the agricultural landscape of southern Ontario. Great Lakes Wetlands Day Proceedings, Great lakes Wetlands Conservation Action Plan, February 4, 2014. Toronto, ON.
- Hopkinson C, Lim K, Chasmer LE, Treitz P, Creed IF, Gynan C. 2004. Wetland grass to plantation forest - Estimating vegetation height from the standard deviation of LIDAR frequency distributions. Proceedings of the ISPRS working group VIII/2, Laser-Scanners for Forest and Landscape Assessment, October 3-6, Freiburg, Germany. ISPRS 36, Part 8/W2.
- Hopkinson C, Chasmer LE, Zsigovics G*, Creed IF, Sitar M, Treitz P, Maher R. 2004. Errors in LiDAR ground elevation and wetland vegetation height estimates. Proceedings of the ISPRS working group VIII/2, Laser-Scanners for Forest and Landscape Assessment, October 3-6, Freiburg, Germany. ISPRS 36, Part 8/W2.
- Silins U, Creed IF, Devito K, Gan T, Mendoza C, Petrone R. 2004. Wildfire's combination punch: A back-of-the-napkin assessment of flood risk from the 2003 Lost Creek wildfire. Alberta Soil Science Workshop, February 17-19, Edmonton, AB.
- Redding TE, Devito KJ, Carmosini N, Creed IF. 2003. Influences of topography and harvesting on the spatial distribution of soil moisture, nitrogen and phosphorous across a Western Boreal Forest watershed. Alberta Soil Science Workshop, February 18-20, Edmonton, AB.

Technical Reports (17)

- Creed IF, Aldred DA*. 2014. Optimizing conceptual concordance between the “off-site” (planning tool) and “on-site” (approval tool) for the White Zone of the Province of Alberta: Final Report. Government of Alberta. Environment and Sustainable Resource Development.
- Creed IF, Spargo AT*. 2013. A relative wetland value assessment tool for Alberta. Government of Alberta. Environment and Sustainable Resource Development.
- Creed IF, Spargo AT*, Serran JN*. 2013. Environmental reserve mapping project: Final report. Beaverhills Initiative.
- Creed IF, Spargo AT*, Aldred D*. 2012. Wetland Ecosystem Services Protocol for Alberta (WESPAB) Phase 2 Final Report. Government of Alberta. Environment and Sustainable Resource Development.
- Creed IF, Spargo AT*, Aldred D*. 2012. Wetland Ecosystem Services Protocol for Alberta (WESPAB) Phase 1 Final Report. Adamus Resource Assessment Inc.
- Creed IF. 2011. Ecosystem service assessment of wetland water purification for the Shepard Slough study area. In: Raudsepp-Hearne, Claesson G, Kerr G. Ecosystem services approach pilot on wetlands: Economic valuation technical report. Government of Alberta.
- Hartman MD, Baron JS, Clow D, Creed IF, Driscoll C, Ewing H, Haines B, Kajtha K, Knoepp J, Ojima D, Parton W, Renfro J, Robinson B, van Miegroet H, Weathers K, Williams M. 2009. Site descriptions, data sources, model parameterization and results of DayCent-Chem situations of ecological and biogeochemical processes of eight mountain ecosystems in the United States. USGS Open-File Report.
- Devito KJ, Mendoza C, Silins U, Petrone R, Gan T, Creed IF. 2006. A framework for classifying and assessing potential water resources: Comparison with Ft. McMurray. Appendix B, Oil Sands Wetlands Manual. CEMA, Ft. McMurray, AB. 16p, 1 table, 5 figures.
- Devito KJ, Fraser CJD, Creed IF. 2005. Climate and runoff characteristics of a Boreal Plain headwater catchment, Lac La Biche, AB, Canada: Implication for forest management. Sustainable Forest Management Network. http://129.128.45.107/english/pubs/en_rp200506creedipred6clim.htm#rpcreedabs
- Buttle JM, Creed IF, Moore RD. 2003. Advances in Canadian forest hydrology, 1999-2003. Contribution to the Canadian National Committee of the International Union of Geodesy and Geophysics (IUGG) Report to the IUGG General Assembly, Sapporo, Japan, July 2003.

- Buttle JM, Creed IF, Pomeroy JW. 1998. Advances in Canadian forest hydrology, 1994-1998. Contribution to the Canadian National Committee of the International Union of Geodesy and Geophysics (IUGG) Report to the IUGG General Assembly, Birmingham, UK. July 1998.
- Rothwell RL, Creed IF. 2001. Watershed analysis of the Willow River, Alberta, Canada. Prepared for Weyerhaeuser Limited.
- Rothwell RL, Creed IF. 2000. Simulation of the effects of wildfire on the hydrology of Sawridge Creek, near Slave Lake, Alberta. Prepared for Weyerhaeuser Limited.
- Rothwell RL, Creed IF, Swanson RH. 1999. Watershed sensitivity analysis of the Marten Creek Watershed. Prepared for Weyerhaeuser Limited.
- Creed IF, Stokes PM, Howard K, Kerry A. 1990. The environmental quality of the Shawanaga River, Parry Sound. I. Baseline study of the Shawanaga River. II. Environmental impacts of an abandoned landfill site on the Shawanaga River. III. The influence of water quality on the reproductive success of walleye (*Stizostedion vitreum*) at Shawanaga River. Prepared for Union of Ontario Indians.
- Davis A, Creed IF, Wei AP, Hamilton H, Dang MK, Wei ZX. 1990. The land productivity model (YIELD) (Chapter 4) in Soil Erosion Management Geographical Information System for North China (SEMGIS). Annual Report (April 1989-March 1990). Prepared for the Canadian International Development Agency (CIDA) and Association of Universities and Colleges of Canada (AUCC).
- Creed IF. 1985. Black Creek: A look at the problems and a plan for the future. University of Toronto publication.

PRESENTATIONS

Summary of Presentations

Total: **240**

Invited Conference Keynotes and Plenaries: **11**

Invited Conference and Workshop Presentations: **33**

Invited Lectures, Seminars and Colloquia Presentations: **11**

Invited Workshop Participation: **11**

Contributed Conference and Workshop Presentations: **175**

Won an Award: **4**

Nominated for Award: **1**

Highly Qualified Personnel are underlined in the reference citations, and Highly Qualified Personnel formally supervised or co-supervised by Creed are indicated with an *.

Invited, Plenary, and Keynote Presentations (44)

Creed IF. 2015. TBD. Gordon Research Conference: Catchment Science: Interactions of Hydrology, Biology and Geochemistry. June 14-19. Andover, NH. **Keynote**.

Creed IF. 2015. Bloom and Bust: The vulnerability of freshwater ecosystem services. Society for Freshwater Science's Annual Meeting. May 17-21. Milwaukee, WI. **Keynote**.

Creed IF. 2015. TBD. Interagency Conference on Research in the Watersheds. March 2-5. Charleston, SC. **Keynote**.

Creed IF. 2015. TBD. Nordic Oikos Meeting. February 4-6. Umea, Sweden. **Keynote**.

Creed IF. 2015. TBD. Muskoka Research Conference. January 27-28. Toronto, ON. **Invited**.

Cohen MJ, Creed IF, Basu NB, Jawitz JW, McLaughlin DL, Rains MC. 2014. A continuum of connectivity: Geographically isolated wetlands and the conservation of landscape functions. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA. **Invited**.

Creed IF, Enanga EM*. 2014. Climate change and the fate of nitrogen on northern temperate forests. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA. **Invited**.

- Creed IF, Webster KL, Kreutzweiser DP, Beall FD. 2014. Green is the new black: The need for a new currency that values water resources in rapidly developing landscapes. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA. **Invited.**
- Creed IF. 2014. Climate effects on wetland soils create the perfect storm for toxic cyanobacteria blooms: Fresh perspectives on an old problem. Soil Science Society of America International Meeting. November 2-5, Long Beach, CA. **Invited William H. Patrick Memorial Lectureship.**
- Creed IF, Cohen MJ. 2014. Incipient loss of geographically isolated wetlands leads to permanent loss of watershed ecosystem services. Joint Aquatic Sciences Meeting, May 18-23, Portland, OR. **Invited.**
- Creed IF. 2014. The need for a shift from area to function based policies to prevent further wetland loss. American Association of Geographers, April 8-12, Tampa, FL. **Invited.**
- Enanga EM*, Creed IF, Gloutney M, Badiou P. 2014. Investigating carbon storage and accumulation rates of wetlands within agricultural landscapes of Southern Ontario. Great Lakes Wetlands Day, February 4, Toronto, ON. **Invited.**
- Creed IF, Mengistu SG*, Lutz B. 2013. What do spatio-temporal signals in stream nutrient export from naturally forested landscapes teach us about catchment form and function? American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA. **Invited.**
- Creed IF, Enanga EM*, Badiou P, Lobb D. 2013. Slowing the rate of loss of mineral wetlands on human dominated landscapes: diversification of farmers markets to include carbon. American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA. **Invited.**
- Creed IF. 2013. Breakthroughs in aquatic ecosystem science. University of Saskatchewan, Global Institute for Water Security. **Distinguished Lecturer Series on Breakthroughs in Hydrology**, November 13, Saskatoon, SK. https://www.youtube.com/watch?v=_Udu6H0rWKU
- Creed IF. 2013. Managing Forests - the not so secret services of aquatic ecosystem. North America Forest Soils Conference – The Role of Forest Soils in Sustaining Ecosystem Services, June 16-20, Whitefish, MT. **Keynote.**
- Creed IF, Mengistu SG*, Quick CG*. 2012. Discriminating anthropogenic climate change from natural climate oscillation signals in dissolved organic matter export from headwater catchments. American Geophysical Union Fall Meeting, December 3-7, San Francisco, CA. **Invited.**
- Creed IF, Aldred DA*, Spargo AT*, Bayley SE. 2012. A principled approach to estimating potential loss of ecosystem services from wetlands on domesticated landscapes. American Geophysical Union Fall Meeting, December 3-7, San Francisco, CA. **Invited.**
- Creed IF, Spargo AT*. 2012. A Budyko guide to understanding resistance versus resilience of catchment water yields in response to anthropogenic climate change. IAHS-PUB (Prediction in Ungauged Basins) Symposium on “Completion of the IAHS decade on Prediction in Ungauged Basins and the way ahead”, October 23-25, 2012, Delft, The Netherlands. **Invited.**
- Creed IF, Spargo AT*. 2012. Application of the Budyko curve to explore sustainability of water yields from headwater catchments under changing environmental conditions. Ecological Society of America, August 5-10, 2012. Portland, OR. **Invited.**
- Creed IF, Bayley SE, Spargo AT*, Aldred DA*. 2012. Towards an index of hydrological integrity for wetland dominated landscapes. INTECOL International Wetlands Conference, June 3-8, Orlando, FL, p. 913. **Invited.**
- Kerr J, Eimers C, Creed IF, Adams MB, Beall F, Burns DA, Campbell JL, Christopher SF, Clair TA, Courchesne F, Duchesne L, Fernandez I, Houle D, Jeffries D, Likens G, Mitchell MJ, Shanley JB, Yao H. 2011. A comparison of SO₄²⁻ drought response in streams across southeastern Canada and northeastern USA. Abstract H21K-07 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., December 5-9. **Invited.**
- Creed IF, Jones JA, Adams MB, Beall F, Campbell J, Clair TA, Clow D, Covich A, Dahm C, Elder K, Grimm N, Pomeroy J, Ramlal P, Sebestyen S, Vose J, Williams M, Winkler R, Yao H. 2011. A Budyko analysis of long-term ecological research sites: evidence for resistance and resilience of water yield responses to climate variability. Abstract B41H-02 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., December 5-9. **Invited.**

- Creed IF, Enanga EM*, Mengistu SG*, Beall FD, Hazlett P. 2011. Role of redox surfaces in explaining catchment nitrogen export across multiple spatial and temporal scales. Abstract H54F-06 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., December 5-9. **Invited.**
- Creed IF. 2010. Searching for similarity in catchment controls on complex C, N, and P export patterns from forests to surface waters across continental scale gradients. Abstract B31J-03 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., December 13-17. **Invited.**
- Creed IF. 2010. Searching for simplicity in complex hydrological and biogeochemical responses: How topographic metrics can be used to track sources, sinks, and their connectivity to surface waters in catchments over broad geographic regions. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada. **Invited.**
- Creed, IF, Velasquez DJ*, O'Connor EM, Dillon PJ. 2009. Modeling mass balances of dissolved organic carbon for lakes within regional watersheds. American Geophysical Union Joint Assembly, May 24-27, Toronto, ON. Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract H72B-06. **Invited.**
- Creed IF. 2009. Tracking catchment-scale shifts in the magnitude and partitioning of carbon export in response to changing climatic conditions. American Geophysical Union Joint Assembly, May 24-27, Toronto, ON. Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract B34A-01. **Invited.**
- Sass GZ*, Creed IF, Devito KJ, Prairie YT. 2009. Eco-hydrology from space: how satellites can be harnessed to assess human impacts on the trophic status of lakes in forested landscapes. American Geophysical Union, Joint Assembly, May 24-27, Toronto, ON. Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract CG11B-02. **Invited.**
- Jones JA, Achterman G, Alexander L, Brooks K, Creed IF, Ffolliot P, MacDonald L, Wemple B. 2008. Uncertainty in water from forests: hydrology of changing forest landscapes. American Geophysical Union, Fall Meeting, December 15-19, San Francisco, CA. Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract H11F-0840. **Invited.**
- Sass GZ*, Creed IF. 2008. Assessing the effects of forest harvesting on the trophic status of shallow lakes on the Boreal Plain using satellite remote sensing. North American Lake Management Society, November 11-14, Banff, AB. **Invited.**
- Creed IF, Webster KL*, Braun GL*, Rams AP*, Casson NJ*, Fairweather TA*. 2007. Roaming GHG-hotspots: A hydrologically based method for mapping GHG sources and sinks in forests. Workshop on Trace Gas Fluxes, McGill University, June 8-9, Montreal, QC. **Invited.**
- Sass GZ*, Creed IF, Devito KJ, Bayley SE. 2007. Landscape-scale modelling of hydrologic controls on lakes. Sustainable Forest Management Network Knowledge Exchange Workshop, March 20-21, Winnipeg, MB. **Invited.**
- Creed IF, Sass GZ*. 2006. Hydrologic controls on the trophic status of shallow lakes on the Boreal Plain of Alberta, Canada. American Geophysical Union, Fall Meeting, December 11-15, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl. Abstract H31B-1308. **Invited.**
- Devito KJ, Creed IF, Mendoza C, Petrone R, Silins U. 2004. Defining and instrumenting effective hydrologic landscape units in sub-humid glaciated western boreal landscapes: Scale and hydro-geologic considerations. International Instrumented Watershed Symposium, June 22-25, Edmonton, AB. **Invited.**
- Buttle JM, Beall FD, Creed IF, Gordon AM, Mackereth R, McLaughlin JW, Sibley PK. 2004. Scaling stream flow response to forest disturbance: The SID Project. Joint Assembly of the CGU, AGU, SEG and EEGS, May 17-21, Montreal, QUE. Eos Trans. AGU 85(17), Jt. Assem. Suppl., Abstract B44A-03. **Invited.**
- Devito KJ, Creed IF, Mendoza C. 2003. Generalizing the effects of land-use on aquatic systems: Are landscape features a mirror or mirage? Gordon Conference on "Water as a Mirror of the Landscape: How Valid and Useful is the Hypothesis?" July 20-25, New London, NH. **Keynote.**
- Creed IF, Wolniewicz M*, Zsigovics G*, Devito KJ. 2003. The shape of things to come: Hydrologically based indices of nutrient loading potential to lakes on the complex landscape of the Boreal Plain. US Chapter of IALE, April 2-6, Banff, AB. **Keynote.**

- Dillon P, Creed IF, Molot L, Beall FD. 2001. Dissolved organic carbon in aquatic systems in the Boreal Ecozone. American Geophysical Union, Fall Meeting, December 10-14, San Francisco, CA. Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract H12H-07. **Invited.**
- Creed IF, Tague CL. 2001. Scaling hillslope processes to first and higher order drainage basins: The need for a modeling framework that is adaptive to changing controls on hydrological processes. Chapman Conference on State-of-the-Art Hillslope Hydrology, October 8-12, Sunriver, OR. **Keynote** (presentation by Tague CL, due to Creed's maternity leave).
- Creed IF, Devito KJ, Rothwell RL, Prepas EE. 1999. A conceptual model for predicting the hydrochemical response of lakes in the boreal forest to environmental stressors. American Geophysical Union, Spring Meeting, May 31-June 4, Boston, MA. Eos Trans. AGU, 80(19), Spring Meet. Suppl., Abstract H51F-10. **Invited.**
- Devito KJ, Creed IF, Prepas EE. 1999. The role of forested buffers in conserving water quality and quantity of western boreal lakes following tree harvest. Society of Canadian Limnologists Annual Meeting, January 8-10, Edmonton, AB. **Invited.**
- Devito KJ, Creed IF. 1998. Re-evaluating the role of forested buffers in conserving water quantity and quality of western boreal lakes following tree harvesting: Lessons from TROLS. 18th International Symposium of the North American Lake Management Society (NALMS), November 10-13, Banff, AB. **Invited.**
- Band LE, Creed IF, Mackay DS. 1996. N export from forest catchments. Chapman Conference on Nitrogen Cycling in Forested Catchments, September 16-20, Sunriver, OR. **Keynote.**

Invited Lectures, Seminars and Colloquia Presentations (11)

- Creed IF. 2014. Watershed hydrology and biogeochemical triggers of cyanobacteria in nutrient poor lakes. Climate Impacts Research Centre (CIRC) Abisko Sweden. April 24, Abisko, Sweden. **Invited Lecture.**
- Creed IF. 2014. Scientific tithing to solve wicked problems. Association of Graduate Students in the Biological Sciences Annual Symposium, Human Intervention in Biology, March 20, York University, Toronto, ON. **Invited Seminar.**
- Creed IF. 2014. Scientific tithing to solve wicked problems. Retired Academics Group, January 17, Western University, London, ON. **Invited Seminar.**
- Creed IF. 2012. Scientific tithing – A bridge between science and society. Political Biology course (Biology 4342G). Co-ordinated by Kathleen Hill. March 28, Western University. **Invited Lecture.**
- Creed IF. 2012. Society's vulnerable groups as indicators of sustainability. Multi-disciplinary Perspectives on Sustainability course (Business 9808S and ENVRSUST 9517B). Co-ordinated by Tima Bansal. February 16, Western University, Richard Ivey School of Business. **Invited Lecture.**
- Trick CG, Creed IF and members of the Western Ecosystem Health research group. 2011. Lake Naivasha Sustainability Project. MES Graduate Course on Ecosystem Health (ENVRSUST9014B). Co-ordinated by CG Trick. Western University. **Invited Lecture.**
- Trick CG, Creed IF and members of the Western Ecosystem Health research group. 2010. Lake Naivasha Sustainability Project. MES Graduate Course on Ecosystem Health (ENVRSUST9014B). Co-ordinated by CG Trick. Western University. **Invited Lecture.**
- Creed IF. 2013. Managing Forests - the not so secret services of aquatic ecosystem. Department of Ecology and Environmental Science (EMG), Umeå University, May 15, Umeå, Sweden. **Invited Lecture.**
- Creed IF. 2012. Reporting from the front lines of wetland policy development in Alberta. Alberta North American Waterfowl Management Plan (NAWMP) Wetland Forum, November 6, 2012, Leduc, AB. **Invited Seminar.**
- Creed IF, Mengistu SG*, Kulperger RJ. 2012. Discriminating between non-stationary and stationary responses in water yields from catchments on a northern forested landscape. Northern Watershed Ecosystem Response to Climate Change, May 21-25, 2012. Potsdam, Germany. **Invited Seminar.**
- Creed IF. 2006. Hydrobiogeochemical cycling at the watershed scale. Hydrology Seminar Series, World-Class Women in Water, April 26, Oregon State, USA. **Invited Seminar.**

Invited Workshop Participation (11)

- Canada Forest Service. Turkey Lakes Watershed 35th Anniversary. Sault Ste. Marie, ON. November 19-20, 2014.
- US Environmental Protection Agency. Identifying indicators of hydrological connectivity for geographically isolated wetlands. Portland, OR. May 21, 2014.
- Canada Water Network. Forum on leading water research. Queen's Landing, Niagara-on-the-Lake, ON. January 19-21, 2014.
- US Environmental Protection Agency. Geographically isolated wetlands research framework group workshop. Joseph W. Jones Ecological Research Center at Ichauway in Newton, GA. November 19-21, 2013.
- US Geological Survey. Powell Center Workshop. Dissolved organic carbon in rivers – From mountains to the sea. Working with a multi-disciplinary team to explore the relationship between organic matter measures and river discharge at a range of temporal and spatial scales. Hosted by US Geological Survey Powell Center, Fort Collins, CO. First meeting: August 20-24, 2012. Second meeting: June 6-10, 2013.
- Long Term Ecological Research Network. Workshop on exploring the seasonal synchrony of catchment nitrogen dynamics: the search for a unifying theoretical framework. University of North Carolina, Chapel Hill, NC. May 6-8, 2013.
- Long Term Ecological Research Network. All Scientists Meeting. Workshop on data synthesis to explore climate effects of Long Term Ecological Research Network catchment hydrology and biogeochemistry. Estes Park, CO. September 10-13, 2012.
- Northern Watershed Ecosystem Response to Climate Change (NORTH-WATCH). Workshop V: Catchments of the future North: towards science for management in the 21st century. Potsdam, Germany. May 21-25, 2012. (<http://abdn.ac.uk/northwatch/Workshop%205.html>).
- International Development Research Centre of Canada (IDRC) and the African Institute for Health & Development. EcoHealth Workshop. Establishing research priorities for women and agro-ecosystems in sub-Saharan Africa for the next three years. Nairobi, Kenya. First meeting: November 2011. Second meeting: February 2012.
- Long Term Ecological Research Network. Workshop on inter-catchment comparisons. Sevilleta, NM. First Meeting: November 4-7, 2010 (Hydrologic effects from ecosystem responses to climate change and land use change). Second Meeting: Seasonal trends and roles of population change, November 17-19, 2011
- Global Wetland Ecohydrology Network. Wetlands and Ecohydrology Meeting, Navarino Environmental Observatory. (<http://people.su.se/~gdest/gwen/GWEN-iWeb/Welcome.html>). Costa Navarino, Greece. October 20-26, 2011.

Contributed Presentations

2014 (19)

- Sorichetti RJ*, Creed IF, Trick CG. 2014. Iron as a cofactor that limits the promotion of cyanobacteria in lakes across a trophic gradient. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA.
- Serran J*, Creed IF. 2014. After the deluge: Establishing rates of geographically isolated wetland loss within the prairie pothole region. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA.
- Paltsev A*, Creed IF. 2014. Is the frequency of algal blooms increasing in oligotrophic lakes in temperate forests? American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA.
- Stackpoole S, Burns D, Stets E, Striegl R, Clow D, Creed IF, Hirsch R, Laudon H, Pellerin B. 2014. Lack of evidence for pervasive DOC concentration increases in the Mississippi River Basin. American Geophysical Union Fall Meeting, December 15-19, San Francisco, CA.
- Weber M, Accatino F*, Creed IF, Cutlac M. 2014. Interactions between public preferences, land development, and municipal land use policies – implications for design of wetland compensation policies to support ecosystem services. A Community on Ecosystem Services Conference. December 8-12. Washington, DC.

- Bishop K, Creed IF. 2014. Forests and the Hydrological Regime: What can we tell policy-makers about how changing tree cover influences runoff. International Union of Forest Research Organizations World Congress, October 5-11, Salt Lake City, UT.
- Molot LA, Watson SB, Creed IF, Trick CG, McCabe SK, Verschoor MJ, Venkiteswan JJ, Powe C. Preventing cyanobacteria blooms: The critical role of anoxia and ferrous iron. Eastern Canadian Symposium on Water Quality Research, October 17, 2014, Montreal, PQ.
- Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. Strategic tools to overcome policy barriers and move the Great Lakes-St. Lawrence River Basin closer to a "thriving and prosperous" future. International Association for Great Lakes Research Conference, May 26-30, Hamilton, ON.
- Molot LA, Watson SB, Creed IF, Trick CG, McCabe SK, Verschoor MJ, Sorichetti RJ*, Powe C, Venkiteswan JJ, Schiff SL. A novel model for cyanobacteria bloom formation: the critical role of anoxia and ferrous iron. International Association for Great Lakes Research Conference, May 26-30, Hamilton, ON.
- Laurent KL*, Friedman KB, Krantzberg G, Scavia D, Creed IF. 2014. Looking to the future to foster a socio-ecologically sustainable strategy for the Great Lakes-St. Lawrence River Basin. Joint Aquatic Sciences Meeting, May 18-23, Portland, OR.
- Serran JS*, Creed IF. 2014. Translating science into policy: Policy options to mitigate wetland loss on prairie landscapes. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Paltsev A*, Creed IF. 2014. Predicting the susceptibility of oligotrophic lakes in the Batchawana River Watershed on the formation of algal blooms. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Laurent KL*, Creed IF. 2014. Imagination and knowledge: Using narratives to support natural resource management for the Great Lakes-St. Lawrence River basin. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Igras J*, Laurent KL*, Creed IF. Bowtie Analysis: A mechanism for evaluating risks to Canadian forests. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Freeman E*, Creed IF. 2014. Internal vs external controls on C, N, and P export patterns from forest to surface waters across continental scale climatic gradients. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Clapp J*, Creed IF. 2014. Micronutrients may be the key to the recent expansion of cyanobacteria blooms in freshwater systems. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 30-May 2, Montreal, PQ.
- Laurent KL*, Creed IF. Is the imagination stronger than knowledge? How stories can inform and support natural resource management for the Great Lakes-St. Lawrence River basin. Earth Day Colloquium, April 9-10, Western University, London, ON. **Award winning poster.**
- Duncan JD, Band L, Groffman P, Lutz B, Adams MB, Berhardt E, Boyer E, Burns D, Duffy C, Green M, Creed IF, Griffith N, Likens G, Knoepp J, Shanley J, Tague C, Whittinghill K, Wollheim W. 2014. Understanding the seasonality of nitrate export: synthesizing from cores to catchments to continents. American Association of Geographers, April 8-12, Tampa, FL.
- Du X*, Creed IF, Trick CG. 2014. Cyanobacteria predominance in freshwater eutrophic lakes is linked to iron scavenging strategy that uses siderophores and toxins. Ocean Sciences Meeting. February 23-28, Honolulu, HI.

2013 (16)

- Enanga EM*, Creed IF. 2013. Climate warming and atmospheric pollution effects on denitrification rates from forested wetlands. American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA.
- Serran JN*, Creed IF. 2013. Exploring policy options to mitigate the loss of wetlands on prairie landscapes. American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA.
- Jones JA, Creed IF, Spargo AT*, Buttler JM, Adams MB, Beall FD, Booth E, Campbell JL, Clow DW, Elder K, Miniati C, Grimm MB, Ramlal P, Saha A, Sebestyen SD, Spittlehouse D, Sterling SM, Williams MW, Winkler

- RD, Yao H. 2013. Changing forest water yields in response to climate warming: results from long-term experimental watershed sites across North America. American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA.
- McKnight DM, Creed IF, Pellerin BA, Green MB, Bergamaschi BA, Aiken GR, Findlay SEG, Burns DA, Shanley JB, Striegl RG, Aulenbach BT, Clow DW, Laudon H, McGlynn BL, McGuire KJ, Smith RA, Stackpoole SM. 2013. Exploring the forgotten hypothesis of the river continuum concept: tracking dissolved organic matter downstream in the modern era of continuous in situ measurements. American Geophysical Union Fall Meeting, December 9-13, San Francisco, CA.
- Kreutzweiser D, Beall F, Webster K, Thompson D, Creed IF. 2013. Risks to aquatic biodiversity from natural resource development in Canada's boreal forest. International Boreal Forest Research Association Conference, October 7-10, Edmonton, AB.
- Morse JL, Beall F, Creed IF, Enanga EM*, Fernandez I, Groffman P. 2013. Soil denitrification fluxes and oxygen dynamics in three contrasting northeastern North American forests. Ecological Society of America, August 4-9, Minneapolis, MN.
- Laurent KL*, Creed IF, Friedman KB, Krantzberg G, Scavia D. 2013. Great Lakes Futures Project - How tapping into the imagination of multiple generations can lead to innovative solutions for the socio-ecological sustainability of this internationally important Basin. International Association for Great Lakes Research Conference, June 2-6, West Lafayette, IN.
- Scavia D, Creed IF, Friedman KB, Krantzberg G, Laurent KL*. 2013. Two-axes of analysis that form four potential Great Lakes-St. Lawrence River Basin futures. International Association for Great Lakes Research Conference, June 2-6, West Lafayette, IN.
- Friedman KB, Creed IF, Krantzberg G, Laurent KL*, Scavia D. 2013. Scenarios for the Great Lakes-St. Lawrence River Basin: How "stories" of the future can inform present action and lead to a desired future for the Basin. International Association for Great Lakes Research Conference, June 2-6, West Lafayette, IN.
- Spargo AT*, Creed IF, Jones J, Buttle J. 2013. Differential changes in water partitioning from headwater catchments under climate warming across broad geographic gradients. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 29-30, Sudbury, ON.
- Serran JS*, Creed IF. 2013. A watershed scale and process-based approach to estimating wetland health. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 29-30, Sudbury, ON.
- Mengistu SG*, Creed IF. 2013. Investigating climate trends and cycles in watersheds of the long term ecological research (LTER) Network Project Sites. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 29-30, Sudbury, ON.
- Enanga EM*, Creed IF. 2013. Physical, chemical and biological indicators of aquatic ecosystem services from headwaters of forested catchments. Canadian Network for Aquatic Ecosystem Services Annual Meeting, April 29-30, Sudbury, ON.
- Sorichetti RJ*, Creed IF, Trick CG. 2013. Dissolved organic matter influences Fe-binding ligand availability for cyanobacteria in oligotrophic Ontario lakes. Abstract EGU2013-13280 presented at 2013 European Geophysical Union General Assembly, Vienna, Austria, April 7-12.
- Sorichetti RJ*, Creed IF, Trick CG. 2013. Dissolved organic matter influences Fe-binding ligand availability for cyanobacteria in oligotrophic Ontario lakes. Northeastern Ecology Research Cooperative (NERC) Meeting, March 19-20, Saratoga Springs, NY.
- McLaughlin JT*, Creed IF, Trick CG. 2013. Application of cytotoxicity assays to detect potentially harmful bioactive compounds produced by freshwater cyanobacteria and chrysophytes. American Society of Limnology and Oceanography Aquatic Sciences Meeting, February 17-22, New Orleans LA

2012 (3)

- Duncan JM, Band LE, Creed IF, Duffy C, Green MB, Groffman PM, Tague CL, Whittinghill KA, Wollheim WM. 2012. Bridging the divide: understanding controls on nitrogen export by scaling from headwater catchments to eastern North America. American Geophysical Union Fall Meeting, December 3-7, San Francisco, CA.

Sorichetti RJ*, Creed IF, Trick CG. 2012. Iron regulation of cyanobacterial growth in oligotrophic lakes. American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Conference, July 8-13, 2012. Lake Biwa, Otsu, Japan.

Bayley SE, Creed IF, Wilson M, Rooney R. 2012. Northern prairie wetland assessment at multiple spatial scales. INTECOL International Wetlands Conference, June 3-8, Orlando, FL, p. 411.

2011 (8)

Creed IF, Spargo AT*, Quick CG*. 2011. Searching for similarity in catchment controls on C, N, P export from forested catchments: A meta-analysis. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Creed IF, Lecki NA*, Rams AP*, Webster KL*, Beall FD, Bourbonniere RA. 2011. Tracking catchment-scale shifts in the magnitude and partitioning of carbon export in response to changing climatic conditions. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Enanga EM*, Casson N*, Creed IF. 2011. Rain induced nitrous oxide and dinitrogen emissions account for differences in dissolved nitrogen export from forested catchments. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Lecki NA*, Creed IF. 2011. A tale of two transects: Hydrologic controls on soil CO₂ efflux in a forested catchment. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

McLaughlin JT*, Spargo AT*, Creed IF, Trick CG. 2011. Evaluating wetland health with PARAFAC analysis of DOM EEMs. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Mengistu SG*, Creed IF. 2011. Teleconnections between ENSO and nutrient export from forested catchments. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Mengistu SG*, Creed IF. 2011. Understanding the role of catchment spatial properties in controlling spatial variability of nutrient export from forested Turkey Lakes Watershed catchments. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

Sorichetti RJ*, Creed IF, Bayley SE, Trick CG. 2011. Defining the 'sweet spot': N:P and iron conditions promoting cyanobacterial proportion in two contrasting climatic and hydrologic regions of Canada. Gordon Research Conference on Catchment Sciences: Catchments as Sentinels of Global Change, July 10-15, Bates College, Lewiston, Maine, USA.

2010 (10)

Creed IF, Aldred DA*, Bourbonniere RA. 2010. Hydrologic profiling for greenhouse gases from prairie potholes in western Canada. Abstract B43C-0467 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., December 13-17.

Beall FD, Mengistu SG*, Creed IF. 2010. Hydrological consequences of harvesting intensity in forested catchments: The Turkey Lakes Watershed Harvesting Experiment. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Enanga EM*, Casson NJ*, Creed IF. 2010. Rain-induced production of N₂O+N₂ from wetlands accounts for a majority of the difference in dissolved nitrogen export among forested catchments. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Gala TS*, Creed IF. 2010. Improved prediction of soil moisture using a physical basis for spatial averaging of synthetic aperture radar data. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Gala TS*, Creed IF. 2010. Combinatory power of optical and radar imagery for dynamic wet area mapping. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Lecki NA*, Creed IF. 2010. Nitrogen limits the unlocking of carbon stores from peat deposits in swamps. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Mengistu SG*, Creed IF, Beall FD. 2010. Hydrological consequences of harvesting intensity in forested catchments: Discriminating a harvest signal under different climate scenarios. Joint Canadian Meteorological and Oceanographic Society-Canadian Geophysical Union Congress, May 31-June 4, Ottawa, Canada.

Sass GZ*, Creed IF, Bayley SE. 2010. Wetland losses in the boreal transition zone of Alberta: The beginning of the end for surface water? American Society of Limnology and Oceanography Summer Meeting. June 6-11, Santa Fe, NM.

Sorichetti RJ*, Creed IF, Bayley SE, Trick CG. 2010. Hydro-biogeochemical linkages and their influence on the timing and magnitude of harmful cyanobacterial blooms: a tale of two landscapes. American Society of Limnology and Oceanography Summer Meeting, June 6-11, Santa Fe, NM.

Foote L, Creed IF, Bayley SE, Sass GZ*, Clare S. 2010. Hydrological and biological considerations for wetland policy. Workshop on Wetlands Management, Economics and Policy, January 13-15, Victoria, BC.

2009 (6)

Enanga EM*, Casson NJ*, Creed IF. 2009. Rain induced bursts of nitrous oxide emissions account for differences in dissolved nitrogen export from forested catchments. Gordon Research Conference: Thresholds, Tipping Points, And Non-Linearity: Integrated Catchment Science For The 21st Century, July 12-17, Proctor Academy, Andover, New Hampshire, USA.

McLeod DV*, Creed IF, Henry HAL. 2009. Limits to unlocking carbon stores from peat deposits in swamps. Gordon Research Conference: Thresholds, Tipping Points, And Non-Linearity: Integrated Catchment Science For The 21st Century, July 12-17, Proctor Academy, Andover, New Hampshire, USA.

Sorichetti RJ*, Creed IF, Trick CG. 2009. Investigation of landscape controls on cyanobacterial growth in natural and human impacted settings. Gordon Research Conference: Thresholds, Tipping Points, And Non-Linearity: Integrated Catchment Science For The 21st Century, July 12-17, Proctor Academy, Andover, New Hampshire, USA.

Aldred DA*, Sass GZ*, Wheatley M, Creed IF. 2009. Hydrologic modeling of protected area boundary in Sundance Provincial Park using SAR data. Canadian Symposium on Remote Sensing, June 22-25, Lethbridge, AB.

Creed IF, Casson NJ*, Enanga EM*. 2009. Rain induced bursts of nitrous oxide emissions account for differences in dissolved nitrogen export from forested catchments. American Geophysical Union, Joint Assembly, May 24-27, Toronto, ON. Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract H33B-07.

Sorichetti RJ*, Creed IF, Trick CG. 2009. Relationship between hydrologic connectivity of phosphorus source areas to lakes and the occurrence of cyanobacteria in natural landscapes. American Geophysical Union, Joint Assembly, May 24-27, Toronto, ON. Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract B73A-21.

2008 (7)

Creed IF, Malakoff T*, Beall FD, Bourbonniere RA. 2008. Topographically regulating traps of dissolved organic carbon create hotspots of carbon dioxide efflux from forest soils. Northeastern Ecosystem Research Cooperative Conference, November 12-13, Durham, NH.

Creed IF, Rams AP*, Beall FD, Bourbonniere RA. 2008. Tracking catchment-scale shifts in the magnitude and partitioning of carbon export in response to changing climatic conditions. Northeastern Ecosystem Research Cooperative Conference, November 12-13, Durham, NH.

Casson NJ*, Creed IF. 2008. Blame it on the rain: Rain induced bursts of nitrous oxide account for differences in dissolved nitrogen export from forested catchments. Northeastern Ecosystem Research Cooperative Conference, November 12-13, Durham, NH.

Fairweather TA*, Donnelly M, Creed IF. 2008. Umbrella policies and the forest umbrella: Forest management standards for the conservation of water resources in Canada. Forest Technology and Environment Conference, May 26-30, Prague, Czech Republic. **Awarded Best Student Presentation Prize.**

Linley DD*, Donnelly M, Creed IF. 2008. Best management practices for water conservation: A survey of Canadian forestry organizations. Forest Technology and Environment Conference, May 26-30, Prague, Czech Republic.

Creed IF, Sass GZ*, Kaheil Y*. 2008. Watershed classification of Canada's forest landscapes. HydroEcological Landscapes and Processes Project Workshop, January 4-6, Vancouver, BC.

Sass GZ*, Creed IF. 2008. Assessing the cumulative impacts of forest harvesting on lake trophic status. HydroEcological Landscapes and Processes Project Workshop, January 4-6, Vancouver, BC.

2007 (5)

Sass GZ*, Creed IF. 2007. Characterizing hydrodynamics on boreal landscapes as a precursor to incorporating hydrology into forest management. Hydrologically Sensitive Areas Mapping Project, Alberta Pacific Industries Workshop, October 22-23, Athabasca, AB.

Sass GZ*, Creed IF, Bayley SE, Devito KJ. 2007. Hydrologic controls on the trophic status of shallow lakes on the Boreal Plain. Hydrologic Implications of Mountain Pine Beetle: Learning from Experience, Sustainable Forest Management Network Workshop, October 10, Edmonton, AB.

Casson NJ*, Creed IF. 2007. Where did the nitrogen go? Discovery of nitrous oxide (N₂O) bursts and exploration of process controls in a forested catchment. Gordon Research Conference on Catchment Science: Interactions of Hydrology, Biology and Geochemistry, Colby-Sawyer College, July 8-13, New London, NH. Poster.

Webster KL*, Creed IF, Bourbonniere RA, Beall FD. 2007. Soil respiration on the edge: Importance of the ecotone between upland and forested wetland. Gordon Research Conference on Catchment Science: Interactions of Hydrology, Biology and Geochemistry, Colby-Sawyer College, July 8-13, New London, NH.

Fairweather TA*, Creed IF, Beall FD. 2007. Nitrous oxide (N₂O) export from a nitrogen rich hardwood forest. Joint conference of the Canadian Geophysical Union, Canadian Meteorological and Oceanographic Society and the American Meteorological Society, May 28-June 1, St. John's, NL.

2006 (10)

Clark RB*, Creed IF. 2006. Mapping hydrologically sensitive areas on the Boreal Plain: A multi-temporal analysis of ERS synthetic aperture radar data. American Geophysical Union, Fall Meeting, December 11-15, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl. Abstract H31B-1308.

Sass GZ*, Creed IF. 2006. Resurrection of archived synthetic aperture radar imagery for characterizing hydrodynamics on boreal landscapes. American Geophysical Union, Fall Meeting, December 11-15, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl. Abstract H31B-1308.

Webster KL*, Creed IF, Bourbonniere RA, Beall FD. 2006. Hydro-biogeochemical controls on forest soil respiration on complex terrain. Northeastern Ecosystem Research Cooperative Conference, October 26-27, Durham, NH.

Beall FD, Creed IF. 2006. Is topography a useful predictor of stream chemistry and loading? Northeastern Ecosystem Research Cooperative Conference, October 26-27, Durham, NH.

Sass GZ*, Creed IF. 2006. Hydrologic control of trophic status of shallow lakes on the Boreal Plain. Sustainable Forest Management Network Conference, Sustaining Canada's Forests: Building Momentum, June 20-22, Edmonton, AB.

Sanford SE*, Creed IF, Tague CL, Beall FD, Buttle JM. 2013. Scale-dependence of natural variability of flow regimes in a forested landscape. Sustainable Forest Management Network Conference, Sustaining Canada's Forests: Building Momentum, June 20-22, Edmonton, AB.

Clark RB*, Creed IF. 2006. Mapping the dynamics of hydrologically sensitive areas on the boreal plain: a remote sensing approach. Sustainable Forest Management Network Conference, Sustaining Canada's Forests: Building Momentum, June 20-22, Edmonton, AB.

Braun G*, Creed IF, Bourbonniere RA, Beall FD. 2006. Specificity of substrate control on the flux of carbon dioxide from forest soils. CGU/CSSS Joint Annual Meeting, June 14-17, Banff, AB. **First Place Prize for Outstanding Student Presentation for CSSS.**

Carlyle SA*, Creed IF, Bourbonniere RA, McDougal RL. 2006. Hydrologic profiling for greenhouse gases on the prairie potholes, Part I: Hydrologic dynamics. CGU/CSSS Joint Annual Meeting, June 14-17, Banff, AB.

Sass GZ*, Creed IF. 2006. Hydrologic controls of frequently shifting alternate states on the boreal plain of Alberta. American Society of Limnology and Oceanography, June 5-9, Victoria, BC.

2005 (7)

Beall FD, Creed IF, Bourbonniere RA. 2005. Pathways of DOC export from wetland-dominated catchments on the Boreal Shield. American Geophysical Union, Fall Meeting, December 5-9, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H31B-1308.

Creed IF, Beall FD. 2005. Topographic metrics for predicting dissolved inorganic and organic N export from catchments. American Geophysical Union, Fall Meeting, December 5-9, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H21F-04.

Sass GZ*, Creed IF. 2005. Climatic control of trophic status of shallow lakes on the Boreal Plain of Alberta, Canada. American Geophysical Union, Fall Meeting, December 5-9, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H21F-04.

Sanford SE*, Creed IF. 2005. Scale-dependence of natural variability of flow regimes in a forested landscape. American Geophysical Union, Fall Meeting, December 5-9, San Francisco, CA. Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H23D-1461.

Bourbonniere RA, Beall FD, Creed IF. 2005. Soil respiration on the edge: Importance of the ecotone between upland and forested wetland. Gordon Conference on "Water as a Mirror of the Landscape: How Valid and Useful is the Hypothesis?" July 17-21, Waterville, ME.

Clark RB*, Creed IF. 2005. Mapping temporal and spatial variability of hydrologically inundated areas on the Boreal Plain. Canadian Geophysical Union Annual Meeting, May 8-11, Banff, AB.

Sanford SE*, Creed IF. 2005. Scale-dependence of natural variability of stream flow parameters in a forested drainage basin on the Boreal Shield. Canadian Geophysical Union Annual Meeting, May 8-11, Banff, AB.

2004 (11)

Beall FD, Creed IF, Clair T, Dillon P, Duchense L, Husslein R. 2004. Modelling the annual export of dissolved organic carbon in headwater streams across eastern Canada. Northeastern Ecosystem Research Cooperative Conference, November 16-18, Durham, NH.

Creed IF, Beall FD, Bourbonniere RA, Foster N, Jeffries D, Schiff S, Spoelstra J. 2004. Roaming hotspots of greenhouse gases: A hydrologically based method for mapping sources and sinks in forest soils. ASA/CSSA/SSSA International Annual Meetings, October 31-November 4, Seattle, WA.

Creed IF, Beall FD, Bourbonniere RA, Foster N, Jeffries D, Schiff S. 2004. Roaming hotspots of greenhouse gases: A hydrologically based method for mapping sources and sinks in temperate forest soils. DOM 2004 International Workshop: Dissolved Organic Matter and the Cycling of Carbon, Nutrients and Metals, October 3-6, Bayreuth, Germany.

Bourbonniere RA, Creed IF. 2004. Mobility and lability of forest floor DOM: An incubation study. DOM 2004 International Workshop: Dissolved Organic Matter and the Cycling of Carbon, Nutrients and Metals, October 3-6, Bayreuth, Germany.

Beall FD, Bourbonniere, Creed IF. 2004. Topographic distribution of soil respiration in northern hardwood forests. Joint Assembly of the CGU, AGU, SEG and EEGS, May 17-21, Montreal, QUE. Eos Trans. AGU 85(17), Jt. Assem. Suppl. Abstract B13A-03.

Bourbonniere RA, Creed IF, Kapila F, Collins R. 2004. Hot stuff: Lability of forest floor dissolved organic matter to aerobic degradation. Joint Assembly of the CGU, AGU, SEG and EEGS, May 17-21, Montreal, QUE. Eos Trans. AGU 85(17), Jt. Assem. Suppl. Abstract B33C-03.

Creed IF, Webster KL*, Nicholas NS, Van Miegroet H. 2004. Untangling the tales of red spruce growth decline in Great Smoky Mountains National Park. Joint Assembly of the CGU, AGU, SEG and EEGS, May 17-21, Montreal, QUE. Eos Trans. AGU 85(17), Jt. Assem. Suppl. Abstract H22A-04.

Macrae ML, Devito KJ, Redding T, Creed IF, Bell W. 2004. Soil phosphorus in relation to surface and ground water phosphorus in harvested and forested portions of a sub-humid boreal aspen upland. Joint Assembly of the CGU, AGU, SEG and EEGS, May 17-21, Montreal, QUE. Eos Trans. AGU 85(17), Jt. Assem. Suppl. Abstract H21D-04.

Lindsay JB*, Creed IF. 2004. Drainage basin morphometrics for depressional landscapes. European Geosciences Union 1st General Assembly, April 25-30, Nice, France. Geophysical Research Abstracts, 6(03548).

Creed IF, Molot LA, Beall FD, Jeffries DS, Dillon PJ. 2004. Measurement and modeling of dissolved organic carbon in freshwater landscapes. ASLO/TOS Ocean Research Conference, February 15-20, Honolulu, HI.

Silins U, Creed IF, Devito KJ, Mendoza C, Petrone R. 2004. Ecologically-based forest management in the southern Rockies: What will the Lost Creek fire teach us? Alberta Soil Science Workshop, February 17-19, Edmonton, AB.

2003 (2)

Creed IF, Beall FD. 2003. Natural variation in the export of nitrogen species from catchments within a homogeneous forest: Implications for the estimation of critical loads. Canadian Geophysical Union Annual Meeting, May 10-14, Banff, AB.

Redding TE, Devito KJ, Carmosini N, Creed IF. 2003. Influences of topography and harvesting on the spatial distribution of soil moisture, nitrogen and phosphorous across a Western Boreal Forest watershed. Alberta Soil Science Workshop, February 18-20, Edmonton, AB.

2002 (13)

Creed IF, Tague CL, Clark RB*, Wolniewicz MB*, Zsigovics G*, Krezek CC*. 2002. Modeling hydrologic processes in boreal watersheds: The proof is in the pattern. American Geophysical Union, Fall Meeting, December 6-10, San Francisco, CA. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract H61B-0775.

Lindsay JB*, Creed IF. 2002. Definition of hydrologic response units in depression plagued digital elevation models. American Geophysical Union, Fall Meeting, December 6-10, San Francisco, CA. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract H21F-09.

Wolniewicz M*, Creed IF, Devito KJ. 2002. Hydrologic portals: Unprotected pathways for nutrient loading to boreal lakes. American Geophysical Union, Fall Meeting, December 6-10, San Francisco, CA. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract H11B-0844.

Devito KJ, Smerdon B, Ferone JM, Mendoza C, Creed IF. 2002. Landscape controls on groundwater-surface water and nutrient interactions in peatland-pond complexes of the Boreal Plain, Alberta, Canada. American Society of Limnology and Oceanography, June 10-14, Victoria, BC.

Lindsay JB*, Yao H*, Creed IF. 2002. Static versus dynamic drainage networks: The role of topographic depressions in altering drainage patterns. Canadian Association of Geographers Annual Meeting, May 28-June 1, Toronto, ON.

Devito KJ, Tondelir G, Smerdon B, Ferone JM, Creed IF, Mendoza C. 2002. The influence of geologic setting on land-water interactions in peatland-pond complexes of the Boreal Plain: implications for wetland management. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Gareis JA*, Webster KL*, Creed IF, Trick CG. 2002. Comparison of the characteristics of dissolved organic carbon export from topographically distinct catchments in the Turkey Lakes Watershed, Ontario. Canadian Association of Geographers Annual Meeting, May 28- June 1, Toronto, ON.

Lindsay JB*, Yao H*, Creed IF. 2002. Prozac for hydrologists: Coping with topographic depressions. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Sanford SE*, Lynch MD*, Creed IF, Beall FD. 2002. Geomorphic controls on the export of dissolved organic carbon from forested catchments in central Ontario, Canada. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Wolniewicz MB*, Creed IF. 2002. Predicting hydrologic linkages from land to lakes in the Boreal forest: A basis for moving away from standard and towards adaptive forest buffer strip strategies. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Yao H*, Creed IF. 2002. Determining spatially distributed water balances in ungauged areas. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Zsigovics G*, Creed IF. 2002. Using multi-temporal RADARSAT-S1 imagery to map surface saturated areas in the mixed-wood forest on the Boreal Plain in northern Alberta. Canadian Geophysical Union Annual Meeting, May 18-21, Banff, AB.

Creed IF, Krezek CC*, Tague CL, Trick CG. 2002. Water and nutrient export from a coastal watershed to the coastal waters in Barkley Sound, British Columbia, CANADA. American Society of Limnology and Oceanography, February 11-15, Honolulu, HI.

2001 (14)

Creed IF, Lynch M*, Sanford SE*, Beall FD, Jeffries D. 2001. Geomorphic controls on the export of dissolved organic carbon from forested catchments in central Ontario, Canada. American Geophysical Union, Fall Meeting, December 10-14, San Francisco, CA. Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract H12H-08.

Wolniewicz M*, Arzandeh S, Creed IF. 2001. Derivation of a remotely sensed index for predicting the nutrient loading potential from land to lakes on the Canadian Boreal Plain. American Geophysical Union, Fall Meeting, December 10-14, San Francisco, CA. Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract H21B-0301.

Devito KJ, Ferone J-M, Smerdon B, Creed IF, Mendoza C. 2001. Landscape controls on groundwater-surface water and nutrient interactions in peatland-pond complexes of the Boreal Plain, Alberta, Canada. Society of Wetland Scientists Conference: Changing Wetlands: New Developments in Wetland Science, September 11-13, University of Sheffield, UK.

Foster N, Beall FD, Hazlett P, Semkin R, Schiff S, Creed IF, Jeffries D. 2001. Sources of exported nitrogen from first-order forested basins at the Turkey Lakes Watershed. N2001: The Second International Nitrogen Conference, October 14-18, Potomac, MY.

Webster KL*, Creed IF, Tague CL, Van Miegroet H, Nicholas NS. 2001. Establishing links between deposition, transformation and export of nitrogen in a forested catchment in the southern Appalachians. N2001: The Second International Nitrogen Conference, October 14-18, Potomac, MY.

Van Miegroet H, Creed IF, Nicholas NS. 2001. Spatial variability in N saturation in high-elevation spruce-forests of the southeastern U.S.A. N2001: The Second International Nitrogen Conference, October 14-18, Potomac, MD.

Wolniewicz MB*, Clark RB*, Creed IF. 2001. Derivation of a remotely sensed index for predicting the nutrient loading potential from land to lakes on the Canadian Boreal Plain. NCE-SFM Workshop, University of Alberta. October 18-20, Edmonton, AB.

Loscher G, Tarboton DG, Creed IF, Webster KL. 2001. Soil moisture variability in a small steep forested watershed. American Geophysical Union Chapman Conference on State-of-the-Art Hillslope Hydrology, October 8-12, Sunriver, OR.

Creed IF, Van Miegroet H, Nicholas N. 2001. Climatic controls on soil N fluxes in a nitrogen saturated watershed. Gordon Research Conference on Forested Catchments: Hydrological, Geochemical, and Biological Processes, July 22-27, Andover, NH.

Webster KL*, Creed IF, Tague CL. 2001. Modeling N export from the Noland Divide Watershed: The importance of climate on nitrate-N production and transport. Gordon Research Conference on Forested Catchments: Hydrological, Geochemical, and Biological Processes, July 22-27, Andover, NH.

Van Miegroet H, Nicholas N, Creed IF. 2001. What creates spatial heterogeneity in N saturation at the level of a small catchment? American Geophysical Union, Spring Meeting, May 29-June 2, Boston, MA. Eos Trans. AGU, 82(19), Spring Meet. Suppl., Abstract H21B-02.

Devito KJ, Fraser CJD, Creed IF. 2001. Runoff characteristics from a glaciated headwater catchment on the Boreal Plain, Alberta. Canadian Geophysical Union, May 14-17, Ottawa, ON.

Krezek CC*, Creed IF. 2001. Climatic regulation of peak flows and their contributing source areas under natural and disturbed conditions in the Carnation Creek Watershed, Vancouver Island, BC, CANADA. Canadian Geophysical Union, May 14-17, Ottawa, ON.

Robak TA, Creed IF, Devito KJ. 2001. Managing forests to minimize phosphorus loading to surface waters. Canadian Geophysical Union, May 14-17, Ottawa, ON.

2000 (11)

Krezek CC*, Creed IF, Tague CL. 2000. Climatic regulation of contributing source area dynamics in a coastal watershed, Insular Mountain Range, Canada. American Geophysical Union, Fall Meeting, December 15-19, San Francisco, CA. Eos Trans. AGU, 81(48), Fall Meet. Suppl., Abstract H21E-11.

Tague CL, Creed IF, Krezek CC*. 2000. Modeling forest carbon allocation and water-use following harvest and the implications for assessing land use/ climate change impacts on summer low flow in mountainous regions of the Pacific Northwest. American Geophysical Union, Fall Meeting, December 15-19, San Francisco, CA. Eos Trans. AGU, 81(48), Fall Meet. Suppl., Abstract H12-F04.

Trick CG, Creed IF, Krezek CC*, Hetherington ED, Tschaplinski PJ. 2000. Carnation Creek: A Canadian long-term experimental coastal watershed. American Geophysical Union, Fall Meeting, December 15-19, San Francisco, CA. Eos Trans. AGU, 81(48), Fall Meet. Suppl., Abstract H51B-05.

Webster KL*, Creed IF, Nicholas NS, Tarboton DG, Van Miegroet H. 2000. Establishing links between N pools and export from a catchment. American Geophysical Union, Fall Meeting, December 15-19, San Francisco, CA. Eos Trans. AGU, 81(48), Fall Meet. Suppl., Abstract H21B-14.

Creed IF, Webster KL*, Bullen TD, Nicholas NS. 2000. Regulation of radial growth of red spruce (*Picea rubens* Sarg.) across an elevation gradient in the southern Appalachians. Soil Science Society of America Meeting, November 5-7, Minneapolis, MN.

Devito KJ, Creed IF, Bayley SE, Foote L, Pollard B. 2000. Hydrogeology, total phosphorus, chlorophyll a relationships in shallow ponds on the western boreal forest. Society of Wetland Scientists, August 6-12, Quebec City, QC.

Devito KJ, Creed IF, Bayley S, Foote L, Pollard B, Stewart G. 2000. Investigating the ecological and hydrological function of shallow pond wetlands on the western boreal forest. Society of Wetland Scientists, August 6-12, Quebec City, QC.

Creed IF, Tague CL, Swanson RH, Rothwell RL. 2000. The potential impacts of harvesting on the hydrologic dynamics of boreal watersheds. American Geophysical Union, Spring Meeting, May 30-June 3, Washington, DC. Eos Trans. AGU, 81(19), Spring Meet. Suppl., Abstract B52A-05.

Krezek CC*, Creed IF, Tague CL. 2000. Carbon dynamics in forests: Hydrologic regulation of carbon loss and recovery following harvesting. American Geophysical Union, Spring Meeting, May 30-June 3, Washington, DC. Eos Trans. AGU, 81(19), Spring Meet. Suppl., Abstract B52A-01.

Morrison DL*, Creed IF. 2000. Coarse woody debris: The sink versus source debate revisited. American Geophysical Union, Spring Meeting, May 30-June 3, Washington, DC. Eos Trans. AGU, 81(19), Spring Meet. Suppl., Abstract B52A-02.

Webster KL*, Ure DL*, Creed IF, Nicholas NS, Bullen TD. 2000. Decline of the red spruce population in the southern Appalachians. American Geophysical Union, Spring Meeting, May 30-June 3, Washington, DC. Eos Trans. AGU, 81(19), Spring Meet. Suppl., Abstract B52A-07.

1999 (10)

Creed IF, Trick CG, Band LE, Morrison IK. 1999. Multiscale topographic control of the distribution of soil carbon and nitrogen pools within an old-growth sugar maple forest. American Geophysical Union, Fall Meeting, December 13-17, San Francisco, CA. Eos Trans. AGU, 80(48), Fall Meet. Suppl., Abstract H32B-10.

Morrison DL*, Creed IF. 1999. Nitrogen dynamics in coarse woody debris: A net source or sink to the forest? American Geophysical Union, Fall Meeting, December 13-17, San Francisco, CA. Eos Trans. AGU, 80(48), Fall Meet. Suppl., Abstract H32B-11.

- Morrison DL*, Creed IF, Nicholas NS. 1999. Nitrogen dynamics in coarse woody debris: A net source or sink to the forest? 10th Annual Southern Appalachian Man and the Biosphere (SAMAB) Conference, November 1-3, Gatlinburg, TN.
- Van Miegroet H, Nicholas NS, Creed IF. 1999. An integrated approach to assess spatial variability in N dynamics in a small headwater catchment in the Great Smoky Mountains National Park. 10th Annual Southern Appalachian Man and the Biosphere (SAMAB) Conference, November 1-3, Gatlinburg, TN.
- Creed IF, Devito KJ, Garlick GS*. 1999. A conceptual model for predicting the hydrochemical response of lakes in the boreal forest to environmental stressors: Part 2, Climatic controls. Gordon Conference on Hydro/Geo/Biological processes of Forested Catchments, July 18-22, Andover, NH.
- Morrison DL*, Creed IF. 1999. Nitrogen dynamics in coarse woody debris: A net source or sink to the forest? Gordon Conference on Hydro/Geo/Biological processes of Forested Catchments, July 18-22, Andover, NH.
- Trick CG, Krezek CC*, Creed IF, Scholey CA, English MC, Schiff SL. 1999. Forest-to-ocean linkages: A new conceptual view. Gordon Conference on Hydro/Geo/Biological processes of Forested Catchments, July 18-22, Andover, NH.
- Trick CG, Creed IF, Morrison IK, Band LE. 1999. Hydrological controls on the distribution and export of dissolved organic carbon from a forested catchment. Upper Lakes Environmental Research Network Workshop, May 17-22, Sault Ste. Marie, ON.
- Creed IF, McMaster KJ, Halsey L, Prepas EE. 1999. A drainage basin's potential for hydrologic connections between the surface of land and lakes: A key to explaining natural variations in the nutrient status of boreal lakes? Network of Centres of Excellence on Sustainable Forest Management, February 14-18, Edmonton, AB.
- Rothwell RL, Creed IF, Spillios LC, Swanson RH, Whitby I. 1999. The potential impacts of harvesting on the hydrologic dynamics of boreal watersheds: A case study of the Marten River Watershed. Network of Centres of Excellence on Sustainable Forest Management, February 14-18, Edmonton, AB.
- 1998 (7)**
- Creed IF, Devito KJ, McMaster KJ, White JC. 1998. Predicting the dynamics of source areas of nutrients from terrestrial to aquatic systems within the Boreal Plains. American Geophysical Union, Fall Meeting, December 6-10, San Francisco, CA. Eos Trans. AGU, 79(47), Fall Meet. Suppl., Abstract H22B-18.
- Bayley SE, Creed IF, Devito KJ, Foote L, Pollard B, Vitt D. 1998. Integrating wetland research in the Western Boreal Forest Initiative. 18th International Symposium of the North American Lake Management Society (NALMS), November 10-13, Banff, AB.
- Creed IF, Devito KJ, McMaster KJ, White J. 1998. Predicting the dynamics of source areas of nutrients from the land to lakes within the Boreal Plains: A GIS/remote sensing approach. 18th International Symposium of the North American Lake Management Society (NALMS), November 10-13, Banff, AB.
- Devito KJ, Creed IF, Rothwell R, Prepas EE, House A, Reedyk S, Dance M, Eerkes G. 1998. The potential for logging impacts on western boreal lakes. 18th International Symposium of the North American Lake Management Society (NALMS), November 10-13, Banff, AB.
- Van Miegroet H, Nicholas NS, Creed IF, McCarthy LE. 1998. An integrated approach to estimating spatial variability in N saturation in a small S Appalachian watershed. Annual Meeting of the Soil Science Society of America, October 12-18, Baltimore, MD.
- Morrison DL*, Creed IF, Nicholas NS, Rose AK, Van Miegroet H. 1998. An approach to the determination of a nitrogen release index for coarse woody debris in a small watershed in the southern Appalachian Mountains. Ecological Society of America, August 2-6, Baltimore, MD.
- Van Miegroet H, Nicholas NS, Creed IF, McCarthy LE. 1998. The Noland Divide Watershed study: An integrated approach to assess spatial variability in N dynamics in a small southern Appalachian catchment. American Geophysical Union, Spring Meeting, May 26-29, Boston, Massachusetts. Eos Trans. AGU, 79(18), Spring Meet. Suppl., Abstract H22B-17.

1997 (2)

Creed IF, Band LE. 1997. Export of nitrate-N from catchments in a temperate forest. American Geophysical Union, Fall Meeting, December 8-12, San Francisco, CA. Eos Trans. AGU, 78(47), Fall Meet. Suppl., Abstract H11B-02.

Creed IF, Band LE. 1997. The role of spatial organization of nitrogen source areas on nitrogen export from catchments. American Society of Limnology and Oceanography, February 13-20, Sante Fe, NM. **Outstanding Student Award.**

1996 (4)

Creed IF, Band LE. 1996. Role of spatial heterogeneity in the export of nitrate-N from catchments. Chapman Conference on Nitrogen Cycling in Forested Catchments, September 16-20, Sunriver, OR.

Creed IF, Band LE, Foster NW, Nicolson JA. 1996. A similarity analysis of the release of nitrate-N from catchments in the Great Lakes-St. Lawrence forest region. American Geophysical Union, Spring Meeting, May 20-24, Baltimore, MD. Eos Trans. AGU, 77(17), Spring Meet. Suppl., Abstract H41A-03. **Nominated for Outstanding Student Award.**

Bonney L, Trick CG, Creed IF, Band LE. 1996. Spatial variability of dissolved organic carbon in soils of a forested catchment. Canadian Society of Limnology, January 4-6, Montreal, QC.

Creed IF, Band LE. 1996. Predicting nutrient flows from land to lakes: Topography is the key. Canadian Society of Limnology, January 4-6, Montreal, QC.

1995 (5)

Creed IF, Band LE, Nicolson JA, Foster NW. 1995. Natural variation in biogeochemical fluxes from small catchments in an old-growth sugar maple forest. American Geophysical Union, Fall Meeting, December 11-15, San Francisco, CA. Eos Trans. AGU, 76(48), Fall Meet. Suppl., Abstract H51B-12.

Creed IF, Band LE. 1995. Regulation of nitrate-N in forest streams: A test of the N flushing hypothesis. Gordon Conference: Hydrobiogeochemistry of Forested Catchments, August 14-18, New London, NH.

Creed IF, Band LE. 1995. Topographic controls of nitrogen discharge from forested catchments. Ecological Society of America, July 31-August 3, Snowbird, UT.

Band LE, Csillag F, Creed IF. 1995. Application of RHESys (Regional HydroEcological Simulation System) to a northern hardwood experimental watershed. Hubbard Brook Ecosystem Study: Annual Cooperators Meeting, July 6-7, Woodstock, NH.

Creed IF, Band LE, Foster NW, Morrison IK, Nicolson JA, Jeffries DS, Semkin RS. 1995. Topographic controls on the nitrogen content of discharge waters from catchments in the Turkey Lakes Watershed. American Geophysical Union, Spring Meeting, May 30-June 2, Baltimore, MD. Eos Trans. AGU, 76(19), Spring Meet. Suppl. Abstract H22D-06. **Outstanding Student Award.**

1994 (2)

Creed IF, Band LE, Morrison IK, Nicolson JA, Jeffries DS, Semkin RS. 1994. Topographic controls on the spatial distribution of nitrogen flows from land to lake systems. Regional Assessment of Freshwater Ecosystems and Climate Change in North America Symposium, October 24-26, Leesburg, VA.

Band LE, Creed IF, Mackay DS, Jeffries DS, Nicolson JA. 1994. Distributed simulation of integrated hydrological and ecological processes in the Turkey Lakes experimental watershed. Regional Assessment of Freshwater Ecosystems and Climate Change in North America Symposium, October 24-26, Leesburg, VA.

1989 (1)

Creed IF, Trick CG. 1989. The effect of nutrient limitation on the metabolism of arsenate in *Chlorella*. Phycological Society of America, Toronto, ON.

1987 (2)

Creed IF. 1987. Black Creek: An example of the serious state of Toronto's tributary waters. Greening the City Symposium, Toronto, ON.

Creed IF, Havas M, Trick CG. 1987. Mechanisms of arsenate tolerance in the green alga, *Chlorella vulgaris*. American Society for Limnology and Oceanography, Madison, WI.

RESEARCH FUNDING

Research Funding Summary

	External Grants (Creed)	Internal Grants
Pending	\$4,706,427 (\$200,000)	\$0
Awarded	\$22,964,741 (\$6,904,814)	\$276,441

External Research Funding Details

Pending

Rains MC, Landry SM, Creed IF, and 32 others. National Science Foundation (NSF) Research Coordination Networks Program. Functions and connectivity of geographically isolated wetlands across the North American landscape: A regional and international research coordination network. 2015-2019. \$444,954. Proposal submitted August 2014.

Band L, Webster J, Groffman P, Likens G, Tague C, Green M, Boyer E, Duffy CJ, Whittinghill K, Adams MB, Burns DA, Creed IF, Knoepp J, Ran L, Schneiderman E, Shanley J. 2015-2019. National Science Foundation (USA) MacroSystems Biology Program. Collaborative research: Nested continental to catchment controls on nitrogen cycling and export in the temperate forest biome of eastern North America. \$4,111,473 USD. Proposal submitted April 2014.

Awarded – Current

Boxall P, Creed IF, Clare S, Adamowicz V. 2014-2017. Anonymous Benefactor. Evaluating mechanisms for wetland restoration and retention in Alberta. \$212,000.

Bergstrom A-K, Creed IF. 2015-2019. Swedish Research Council. A global nitrogen enrichment experiment (AGNEE): Role of nitrogen deposition on nutrient limitation of phytoplankton and zooplankton in low productive lakes. 9,484,000 SEK (~\$1.6M CAD).

Creed IF, Trick CG, Dillon P, Molot L, Pick F, Smol J, McBean G, Walters D. 2014-2020. NSERC CREATE. NSERC CREATE for freshwater Harmful Algal Blooms (fHABs): Algal Bloom Assessment through Science, Technology and Education (ABATE). \$1,650,000.

Creed IF. 2014-2019. NSERC Discovery Grant. Linking climate change and watershed responses to emerging cyanobacterial blooms in lakes on forested landscapes. \$260,000.

Mushet D, Lane C, Rains M, Leibowitz S, Creed IF and others. 2014-2016. P North American Analysis and Synthesis on the Connectivity of “Geographically Isolated Wetlands” to Downstream Waters. US Geological Survey Powell Center Working Group. \$43,084 USD

Creed IF. 2014. Government of Alberta. Development and implementation of relative wetland value assessment regional planning and site based assessment tools for the white zone of the Province of Alberta. \$294,979

Sibley P, Creed IF, Dillon P, Krantzberg G, MacIsaac H, Quinlan R, Rooney N, Trick CG. 2013-2019. NSERC CREATE. Multiple stressors and cumulative effects in the Great Lakes: An NSERC CREATE program to develop innovative solutions through international training partnerships. \$1,650,000.

Creed IF. 2013-2015. Canada Water Network - Evolving Opportunity for Knowledge Applications. The Great Lakes futures project action plan for sustainability. \$150,000.

Creed IF. 2013-2014. Ducks Unlimited Canada. Institute for Wetland and Waterfowl Research. Carbon stores and sequestration in isolated freshwater mineral soil wetlands of southern Ontario. \$140,550.

Jackson D, Branfireun B, Creed IF, Richardson J, Peres-Neto P, and others. 2012-2017. NSERC Strategic Network Grant. Canadian Network for Aquatic Ecosystem Services. \$4,595,000.

Creed IF. 2012-2017. Canada Research Chairs Program. Tracking the fate of water and nutrients in forests under a changing global climate. \$500,000.

Awarded – Completed

Bayley S, Rooney R, Creed IF, Durr H. 2013-2015. Alberta Innovates – Energy and Environment Solutions: Water Resources. Sustainable wetland habitat: reclamation targets, design criteria and wetland policy implementation. \$715,837 (Creed funded in first year only).

Boxall PC, Creed IF, Clare S, Yang W. 2013. Alberta Land Institute. Evaluating mechanisms for wetland restoration and retention in Alberta: Project plan development. \$25,000.

Creed IF. 2012. Government of Alberta. Developing a wetland function assessment system to support implementation of the provincial wetland policy. \$175,000.

Creed IF. 2012. Government of Alberta. Developing a standardized wetland inventory for the Province of Alberta. \$68,000.

Pellerin B, Shanley J, Burns D, Aiken G, Aulenbach B, Bergamaschi B, Clow D, Creed IF, Findlay S, Green M, Hirsch R, Laudon H, McKnight D, Smith R, Striegl R. 2012-2013. US Geological Survey Powell Center Working Group. Dissolved organic carbon in rivers – from mountains to the sea. \$50,280 USD.

Trick CG, Shivoga W, Creed IF, and others. 2009-2012. International Development Research Centre (IDRC) of Canada. The Lake Naivasha Sustainability Project: Managing resources for continual improvement of the ecosystem for human health and well-being in the Lake Naivasha Basin, Kenya. \$600,000.

Creed IF. 2009-2013. NSERC Discovery Grant. Hydrologic transition zones and their influence on biogeochemical cycling in forested landscapes under a changing global climate. \$150,000.

Bayley S, Creed IF, Foote L, Krogman N. 2008-2011. Alberta Water Research Institute. Wetland Health: Challenges and opportunities in implementing Alberta's Wetland Policy. \$1,284,897.

Creed IF, Buttler J, Moore R, Beall F, Donnelly M. 2007-2009. Network of Centres of Excellence – Sustainable Forest Management. State of Knowledge report on implications of forest management activities on water resources under a changing global climate. \$120,000.

Creed IF. 2007-2012. Canada Research Chairs Program. Tracking the fate of water and nutrients in forests under a changing global climate. \$500,000.

Buttler J, Creed IF, Beall F, Devito K, Mendoza C, Moore D, Sibley P, Silins U. 2006-2008. Network of Centres of Excellence – Sustainable Forest Management. Hydroecological landscapes of Canada's forests. \$540,000.

Arp P, Creed IF, Weiler M. Network of Centres of Excellence – Sustainable Forest Management. 2006-2008. Physically based tools for generating maps of hydrologically sensitive areas for use in forest operations planning. \$522,000.

Creed IF, Bourbonniere R, McDougal R. 2005. Ducks Unlimited Canada Ltd. Hydrological profiling for greenhouse gases on the Prairie Potholes. \$87,500.

Creed IF. 2004-2008. NSERC Discovery Grant. Spatially distributed processes in hydrological systems. \$146,500.

Creed IF, Zsigovics G, Devito K, Tague C. 2004. National Aeronautics and Space Administration. Hydrological controls on land-aquatic and land-atmospheric biogeochemical fluxes on the Boreal Plain. \$90,000 in kind for satellite data.

Creed IF, Beall F, Bourbonniere R, Schiff S, Foster N, Jeffries D. 2003-2005. Canadian Foundation for Climate and Atmospheric Sciences. Roaming GHG-hotspots (CO₂, CH₄, and N₂O): A hydrologically based method for mapping GHG sources and sinks in forests. \$592,611.

Buttler J, Creed IF, McLaughlin J, Beall F, Sibley P, Gordon A, Mackereth R. 2003-2005. Network of Centres of Excellence – Sustainable Forest Management. Scalable indicators of disturbance (SID): A nested approach to the assessment of the cumulative hydrological impacts of forest disturbance in Ontario. \$682,500.

Creed IF, Beall F, Graham B. 2002-2003. Ontario Ministry of Natural Resources – Water Power Science Strategy. Establishing realistic reference conditions to monitor the potential impacts of water structures on river systems. \$99,800.

- Creed IF. 2001. RADARSAT International. Prediction of contributing source areas of nutrients to lakes within the boreal landscape. \$8,500 in kind for satellite data.
- Creed IF. 2001. Network of Centres of Excellence – Sustainable Forest Management. Hydrological regulation of forest dynamics along a boreal gradient from the montane to plains physiographic regions: A pilot study. \$15,000.
- Beall F, Bourbonniere R, Creed IF, Kreutzweiser D, Semkin R. 2001-2004. Program of Energy Research and Development. Susceptibility of forested wetlands and their carbon budgets to climate change/variability and human activities. \$54,000.
- Creed IF, Smart C, Ashmore P. 2000. NSERC Equipment Grant. Spatial mapping in catchment hydrology \$65,819.
- Creed IF. 2000-2003. NSERC Discovery Grant. Spatially distributed processes in hydrological systems. \$114,400.
- Creed IF, Devito K. 2000-2002. Network of Centres of Excellence – Sustainable Forest Management. Ecohydrology: Predicting the potential susceptibility of surface waters to changes in the boreal forest. \$144,000.
- Devito K, Bayley S, Foote L, Creed IF. 2000-2003. NSERC Collaborative Research Development. Hydrology, ecology and disturbance of Western Boreal Forest wetlands. \$1,598,000.
- Dillon P, Hesslein R, Molot L, Clair T, Beall F, Creed IF. 2000-2001. Canadian Climate Action Fund. The role of freshwaters in the Canadian carbon budgets. \$159,000.
- Van Miegroet H, Nicholas N, Creed IF. 1999-2003. US Geological Survey. Global climate effects on nitrogen and carbon biogeochemistry in the Great Smoky Mountains National Park. \$150,000 USD.
- Creed IF. 1999-2003. Ontario Premier's Research Excellence Award. Predicting the potential susceptibility of surface waters to land-cover or land-use change in Canadian forests. \$150,000.
- Creed IF. 1999. Alberta Environmental Protection. Prediction of contributing source areas of nutrients to lakes within the boreal landscape. \$115,200 in kind for satellite imagery.
- Creed IF. 1999. Ducks Unlimited Canada Ltd. Prediction of contributing source areas of nutrients to lakes within the boreal landscape. \$62,500 in kind for satellite imagery.
- Creed IF. 1998-1999. Ducks Unlimited Canada Ltd. Prediction of contributing source areas of nutrients to lakes within the boreal landscape. \$38,700.
- Prepas E, Boutin S, Chambers P, Creed IF, Culp J, Devito K, Hannon S, Macdonald E, Paszkowski C, Pinel-Alloul B, Rothwell R, Tonn W, Wrona F. 1997-1999. NSERC Collaborative Research Development Grant. The role of buffer strips for maintenance of terrestrial and aquatic communities in the aspen-dominated, boreal mixed-wood forest. \$2,460,000.
- Van Miegroet H, Nicholas N, Creed IF. 1997-1999. US Department of Agriculture. Watershed scale variability of inorganic soil nitrogen dynamics in the southern Appalachians. \$291,000 USD.
- Creed IF. 1997-1998. Alberta Pacific Forest Industries Ltd. Potential impacts of logging on boreal lake hydrology. \$45,000.
- Creed IF. 1997-1998. Network of Centres of Excellence – Sustainable Forest Management. Prediction of contributing source areas of nutrients to lakes within the boreal landscape. \$40,000.

Internal Research Funding Details

Awarded – Current

Trick CG, Creed IF. 2014. Western International Curriculum Fund. Nexus Leadership – African Experiences Abroad Program. \$35,000.

Awarded – Completed

Creed IF. 2012. Western International Research Award. Scenario analysis of the Great Lakes-St. Lawrence River Basin. \$4,619.

Creed IF. 2010. Western International Research Award. Forested watersheds: early warning detectors of the effects of climate change on water resources. \$6,000.

Creed IF. 2002. HRDC. Summer Career Placement Program. \$1,373.

Creed IF. 2001. HRDC. Summer Career Placement Program. \$2,195.

Creed IF. 2000. HRDC. Summer Career Placement Program. \$1,000.

Creed IF. 1999. HRDC. Summer Career Placement Program. \$1,000.

Creed IF. 1998. Western Start-Up Funds. \$70,000.

Creed IF. 1998. Western. VP Research Grant. \$6,000.

INFRASTRUCTURE FUNDING

Infrastructure Funding Summary

	External Grants	Internal Grants
Pending	\$125,994	\$0
Awarded	\$1,417,650	\$180,628

Infrastructure Funding Details

Pending

Creed IF, Trick CG, Molot L, Stillman M, Huner N. 2014. NSERC, Research Tools and Instruments. AquaTox Research Facility. \$125,994.

Awarded – Completed

Creed IF, Tetzlaff D, Bullen T. 2011. US National Science Foundation. 2011 Catchment Science Gordon Research Conference on Catchments as Sentinels. \$35,000 USD (plus another \$15,000 USD from academic and industry partners).

Creed IF. 2007. Canadian Foundation of Innovation, Leaders Opportunities Fund. Catchment Research Facility: Tracking water and nutrient flows in forests in natural and controlled biomes under changing environmental conditions. \$236,325. Linked to Canada Research Chair Award.

Creed IF. 2007. Ontario Research Fund. Catchment Research Facility: Tracking water and nutrient flows in forests in natural and controlled biomes under changing environmental conditions. \$236,325. Linked to Canada Research Chair Award.

Huner N and 26 others (including Creed IF). 2004-2007. Canadian Foundation for Innovation and Ontario Research Fund. The Biotron \$28,377,177.

Creed IF. 1999. Canadian Foundation for Innovation – New Opportunities Grant. The catchment research facility: Monitoring and modelling of ecosystems. \$390,000.

Creed IF. 1999. Ontario Innovation Trust. The catchment research facility: Monitoring and modelling of ecosystems. \$390,000.

Internal Infrastructure Funding Details

Awarded – Completed

Gloor G, Mann M, Singh S, Hill K, Berruti F, Brandl C, Kari L, Daley M, Creed IF, Koval S, Wolever T, Allen E. 2012. Western Academic Development Fund – Major Grants. Illumina MiSeq Instrument. \$132,500.

Henry H, Creed IF, Thorn G. 2005. Western Academic Development Fund – Major Grants. Systea EasyChem Discrete Analyzer for nutrient analysis of soil water samples. \$69,710.

Southam G, Schincariol R, Creed IF, Trick C. 2004. Western Academic Development Fund – Major Grants. Transmission Electron Microscopy – Energy Dispersive Spectroscopy and Tangential Flow Filtration for analysis of nanophase materials in natural systems. \$79,544.

Creed IF, Smart C, Voogt J, Hocking W. 2001. Western Academic Development Fund – Major Grants. P supply for field-based monitoring and analysis of catchments. \$48,128.

PROFESSIONAL SERVICE ACTIVITIES

Editorial Boards

Member, Editorial Board of Hydrological Processes (2010-present).

Guest Editor, The Great Lakes Futures Project (Special Issue of the Journal of Great Lakes Research – In Press).

Guest Editor, The Lake Naivasha Sustainability Project (Special Issue of the Aquatic Ecosystem Health Management – In Preparation).

Review Panels and Advisory Boards

Member, Canadian Network for Aquatic Ecosystem Services, Science Advisory Committee. 2013-pres.

Member, scientific expert panel to evaluate if a *peatland* wetland greenhouse gas reduction quantification protocol should be developed for the boreal region of Canada. September 2010. Invited by Canadian Wildlife Federation and ClimateCHECK Corporation.

Member, scientific expert panel to participate in the development of a *mineral* wetland greenhouse gas reduction quantification protocol for the prairie pothole region of Alberta. This protocol is being proposed for inclusion in the Alberta GHG Offset System. The steps in the development of this protocol included a science coordination workshop where I served as scientific advisor to (a) evaluate *if* wetland conservation and/or restoration protocols should be developed (independent review, followed by meeting on March 17-18, 2010, in Edmonton, Alberta; recommendation: only a wetland restoration protocol should be developed); and (b) conduct a technical review of the wetland restoration protocol (meeting held September 16-17, 2010, via tele-conference). Invited by Climate Change Central and ClimateCHECK Corporation.

Scientific Reviewer, The Economics of Ecosystems and Biodiversity (TEEB) study (2010). This initiative was launched as a consequence of the G8+5 Environmental Ministers meeting in Potsdam, Germany in March 2007. It was decided to, ‘initiate in a global study the process of analysing the economic benefit of biological diversity, the costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation’ under the leadership of Pavan Sukhdev. The Economics of Ecosystems and Biodiversity study, now being proudly hosted by the United Nations Environment Programme, will create guidance for international decision makers highlighting the best practices of management that clearly show the linkages between poverty alleviation, development and ecosystems. August 2010, Independent Review.

Scientific Reviewer, VELMA Eco-Hydrologic Modelling Framework (2009-2010). Sponsored by the US Environmental Protection Agency, we conducted an independent review of the VELMA model. Independent review and meetings held December 3-4, 2009, Corvallis, OR and March 31, 2010, Research Triangle Park, NC.

Scientific Advisor, Task Force for Hydrology for Environment, Life and Policy (HELP) Initiative. Sponsored by United Nations Educational, Scientific and Cultural Organization. November 2000, Santa Fe, NM.

Other Service to Professional Societies

Steering Committee Member (Elected), Northeastern Ecosystem Research Cooperative (NERC). 2010-present.

Steering Committee Member, Global Wetland Ecohydrology Network (GWEN). 2010-present.

Chair, Water Quality Committee, American Geophysical Union. 2013-2015.

Deputy Chair, Water Quality Committee, American Geophysical Union. 2010-2012.

Member, Early Career Award Committee, American Geophysical Union. 2009-2011.

Conference, Conference Session, and Workshop Organization

Conference Organizer

International Conference on Forests and Water in a Changing Environment. 4th conference. July 6-9, 2015, Kelowna, BC.

International Multidisciplinary Conference on Hydrology and Ecology: Advances in Monitoring, Predicting and Managing Hydroecological Processes. 5th Conference. April 13-16, 2015, Vienna, Austria.

Northeastern Ecosystem Research Co-operative (NERC) 2015 Meeting, Details to be determined.

Northeastern Ecosystem Research Co-operative (NERC) 2013 Meeting, March 19-20, 2013, Saratoga Springs, NY.

Gordon Research Conference on Catchment Sciences: Interactions Of Hydrology, Biology & Geochemistry: Catchments as Sentinels of Global Change, July 10-15, 2011, Bates College, Lewiston, ME

Gordon Research Conference on Catchment Sciences: Interactions Of Hydrology, Biology & Geochemistry: Thresholds, Tipping Points, And Non-Linearity: Integrated Catchment Science For The 21st Century, July 12-17, 2009, Proctor Academy, Andover, NH

Conference Session Organizer

American Geophysical Union. 2014 Fall Meeting. Climate-driven changes in coupled terrestrial-aquatic ecological stoichiometry. Convenors: Bergstrom A-K, Creed IF. December 15-19, 2014, San Francisco, CA

Joint Aquatic Sciences Meeting. Aquatic Ecosystem Services. Convenors: Jackson D, Creed IF, Gunn J. May 18-23, 2014, Portland, OR.

American Geophysical Union. 2013 Fall Meeting. Forests and the hydrological regime: after all these years what can we tell policy-makers about how changing tree cover influences runoff? Convenors: Creed IF, Bishop K. December 9-13, 2013, San Francisco, CA

International Association of Great Lakes Research. 2013 Conference on Great Lakes Research. The Great Lakes Futures Project Showcase: Using scenario analysis to develop a sustainable socio-ecological vision for the Great Lakes-St. Lawrence River Basin. Convenors: Creed IF, Krantzberg G, Scavia D, Friedman K, Laurent K*. June 2-6, 2013, West Lafayette, IN.

European Geosciences Union. General Assembly 2013. BG4.1: Linking biogeochemistry and environmental stressors to nutrient cycling and ecology in freshwater systems. Convener: Nykänen H; Co-Convenors: Bergström A-K, Kortelainen P, Sponseller R, Kankaala P, Creed IF. April 7-12, 2013, Vienna, Austria.

Northeastern Ecosystem Research Cooperative. 2013 Conference. New directions in mercury research. Convenors: Creed IF, Branfireun B. March 19-20. Saratoga Springs, NY.

North American Lake Management Society. 2008 Conference. Assessing the effects of forest harvesting on the trophic status of shallow lakes on the Boreal Plain using satellite remote sensing. Invited Convenors: Sass G*, Creed IF.

Joint Canadian Geophysical Union/American Geophysical Union. 2004 Spring Meeting. Linked Biogeochemical Cycles in Forested Watersheds: Details, Dynamics, and Impacts. Convenors: Bullen T, Creed IF.

Canadian Geophysical Union. 2002 Spring Meeting.

American Geophysical Union. 2001 Fall Meeting. Current issues in hydro-ecological controls on nutrient dynamics and export from forested catchments. Convenors: Creed IF, Tague C.

Canadian Geophysical Union. 2001 Spring Meeting.

American Geophysical Union. 1997 Fall Meeting. Terrestrial-aquatic linkages in seasonally snow-covered catchments. Convenors: Baron J, Williams M, Creed IF.

Workshop Organizer

Climate driven changes on coupled terrestrial-aquatic ecological stoichiometry. Abisko Field Station. Sweden, September 7-12, 2014. Initiated and Organized by Creed IF, Bergstrom A-K.

Transborder Research University Network for Water Stewardship. Participant and presenter, held at Wayne State University in Detroit, Michigan. November 19, 2010

Transborder Research University Network for Water Stewardship. Participant at inaugural meeting, held at the University of Toronto, Toronto, Ontario, September 13, 2010 (Western VP Research requested my participation)

Lake Naivasha Sustainability Project - Initiated by Creed IF, multi-national workshop (with participants from UK, the Netherlands, Germany, Belgium and Canada). We discussed the potential for cooperation and collaboration among countries working on Lake Naivasha, Kenya. Enschede, Netherlands (October 22-24, 2010, Enschede, The Netherlands).

SFMN proposal development workshop on "Towards a systems approach for management in terrestrial, riparian and aquatic ecosystems." Organized and facilitated by I.F. Creed. July 2005, University of British Columbia, Vancouver, BC.

Coastal Initiatives Workshop. Co-organized and co-facilitated by Creed IF and Trick CG. February 1999, Institute of Ocean Sciences, Sidney, BC.

Other Professional Service Activities

Manuscript Reviews, Nature Communications, Water Resources Research, Journal of Hydrology, Hydrologic Processes, Biogeochemistry, Arctic and Alpine Research, International Journal of Great Lakes Research, (not inclusive list)

Interview Subject, Identifying research frontiers in ecosystem science to make recommendations to the US National Science Foundation. Doctoral Student Elizabeth Van Dolah, University of Maryland. March 2014.

External Reviewer, Trent University, new Water and Aquatic Science Program, September 2013.

SUPERVISORY ACTIVITIES

Post-Doctoral Scholars Supervised (7 researchers, 5 current)

Henley, Phaedra. 2014-present. The Lake Naivasha sustainability project.

Sorichetti, Ryan. 2013-present. Freshwater harmful algal blooms.

Accatino, Francisco. 2014-present. Identifying desired social, economic, and aquatic ecosystem service futures and policy implementation needed to sustainably manage forest ecosystems. (Co-supervised with Dr. Marian Weber, Alberta Innovates)

Guo, Junting. 2014-present. Physical, chemical and biological indicators of aquatic ecosystem services from headwaters of forested landscapes. (Co-supervised with Dr. Jim Buttle, Trent University)

Laurent, Katrina. 2011-present. Great Lakes Futures: A scenario analysis for developing a pathway to a trans boundary water policy in the Great Lakes Basin. Transborder Research University Network for Water Stewardship Consortium. Department of Biology, University of Western Ontario, London, ON.

Sass, Gabor Z. 2008-2011. Hydrologic controls on the trophic status of lakes in disturbed landscapes on the Boreal Plain. NSERC Post-Doctoral Fellowship and Alberta Water Research Institute Fellowship. Department of Biology, The University of Western Ontario, London, ON. Co-supervised with Dr. Suzanne Bayley, University of Alberta. Present Position: Assistant Professor (Lecturer) at Western, Principal at Sassafra Consulting.

Sass, Gabor Z. 2006-2008. Hydro Ecological Landscapes and Processes (HELP). Post-Doctoral Fellowship with the Sustainable Forest Management Network. Department of Biology, The University of Western Ontario, London, ON. Co-supervised with Dr. James Buttle, Trent University.

Kaheil, Yasir. 2008-2009. Developing techniques to downscale radar images for mapping of critical hydrologic features on landscapes. Department of Biology, The University of Western Ontario, London, ON. Next Position: Post-doctoral Fellow at the International Research Institute for Climate and Society, Columbia University; Present Position: Senior Research Specialist at FM Global, Massachusetts.

Graduate Scholars Supervised

Graduate Thesis Supervision (29 students; 9 current)

PhD Degree Theses (9 students; 2 current)

- Senar, Oscar.** In Progress. Cumulative effects of catchment disturbances on downstream ecosystem services in forested landscapes. Department of Geography, The University of Western Ontario, London, ON. (Co-supervised with Dr. Karen Kidd, University of New Brunswick)
- Enanga, Eric Mudoto.** In Progress. Hydrologic controls on nitrous oxide and dinitrogen efflux in temperate forest soils. Department of Biology, The University of Western Ontario, London, ON.
- Sorichetti, Ryan.** 2013. The role of N:P and iron in the recent emergence of cyanobacterial blooms in oligotrophic lakes in the Canadian Shield. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised by Dr. C. Trick). Present Position: Post-doctoral Fellow at Western University.
- Mengistu, Samson Girma.** 2012. Topographic influences on trends and cycles in nutrient export from forested catchments on the Precambrian Shield. Department of Earth Sciences, The University of Western Ontario, London, ON. Present Position: NSERC Post-doctoral Fellow at Environment Canada.
- Gala, Tekleab.** 2010. Satellite-based mapping of near-surface and surface water in the Prairie Pothole region of central Canada. Department of Geography, The University of Western Ontario, London, ON. Present Position: Post-doctoral Fellow at Algoma University.
- Graham, Brad.** Withdrew for medical reasons. Hydrologic connectivity: A scaleable indicator and predictor of hydrologic response. Department of Geography, The University of Western Ontario, London, ON. Present Position: Planning & Information Management Supervisor at Ontario Ministry of Natural Resources.
- Webster, Kara L.** 2007. Soil respiration from forest soils in topographically complex landscapes. Department of Biology, The University of Western Ontario, London, ON. Present Position: Forest Soil Ecologist at Natural Resources Canada.
- Sass, Gabor Z.** 2006. Hydrologic controls on the trophic status of lakes on the Boreal Plain. Department of Geography, The University of Western Ontario, London, ON. Next Position: Post-doctoral Fellow at Western; Present Position: Principal at Sassafras Consulting.
- Lindsay, John B.** 2004. Coping with topographic depressions in digital terrain analysis. Department of Geography, The University of Western Ontario, London, ON. Present Position: Faculty Member at Guelph.

MSc Degree Theses (23 students; 7 current)

- Brimacombe, Chris.** In Progress. TBD. Department of Biology, The University of Western Ontario, London, ON.
- Waz, Anna.** In Progress. Cumulative effects of loss of geographically isolated wetlands in the Prairie Pothole Region. Department of Geography, The University of Western Ontario, London, ON.
- Igras, Jason.** In Progress. Analyzing the risk of nutrient loading and spawning of algal blooms in Lake Erie's western basin. Department of Geography, The University of Western Ontario, London, ON.
- Yan, Xu.** In Progress. The role of molybdenum in controlling the growth of cyanobacteria.. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised with Dr. Charlie Trick, Western University)
- Clapp, Jessica.** In Progress. Micronutrients may be the key to the recent expansion of cyanobacteria blooms in freshwater systems. Department of Biology, The University of Western Ontario, London, ON.
- Paltsev, Aleksey.** In Progress. Susceptibility of oligotrophic lakes in Ontario to formation of algal blooms. Department of Biology, The University of Western Ontario, London, ON.
- Serran, Jacqueline.** In Progress. A watershed scale and process-based approach to estimating wetland health using GIS/remote sensing techniques. Department of Geography, The University of Western Ontario, London, ON.

- Finger, Taylor.** 2013. Factors influencing spring migration chronology and habitat use by lesser scaup (*Aythya affinis*) during migration. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised with Dr. Scott Petrie, Adjunct Professor, Western University). Present Position: Migratory game bird ecologist, Wisconsin Department of Natural Resources.
- Du, Xue (Lily).** 2013. Cyanobacterial harmful algal blooms (cHABs) unlocked by the presence siderophores: Iron is the key. Department of Biology, The University of Western Ontario, London, ON. Present Position: Dental Student at University of Southern California
- McLaughlin, Jace.** 2012. Cause for increased incidence of harmful algal blooms in oligotrophic lakes. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised with Dr. Charles Trick, Western University). Current Position: Junior Environmental Scientist, DST Consulting Engineers.
- Kinyua, Vincent Ileri.** Withdrew for family reasons. Cause for decline in dissolved oxygen concentrations in rift valley lakes, Africa. Department of Biology, The University of Western Ontario, London, ON. Current Position: Research Scientist, Kenya Wildlife Service
- Burke, Julia.** Withdrew for personal reasons. The influence of iron concentration on cyanobacteria toxin production in Alberta lakes. Department of Biology, The University of Western Ontario, London, ON. (Switched from thesis- to course-based program, Masters of Environment & Sustainability). Next Position: MES student at Western; Present Position: Drinking Water Source Protection Specialist, North Bay-Mattawa Conservation Authority.
- Lecki, Natalia.** 2011. Microbial controls on carbon dioxide efflux from a forested swamp. Department of Biology, The University of Western Ontario, London, ON. Present Position: Research Technician at Ontario Aggregate Resources Corporation
- Casson, Nora J.** 2008. Rain induced bursts of denitrification activity account for differences in dissolved nitrogen export from forested catchments. Department of Biology, The University of Western Ontario, London, ON. Present Position: PhD student at Trent.
- Rams, Andrew.** 2008. Shifts in the magnitude and partitioning of atmospheric versus aquatic carbon export in response to changing climatic conditions. Department of Biology, The University of Western Ontario, London, ON. Present Position: Consultant at Golder Associates.
- Fairweather, Tarrah.** 2007. Tracking the alternative fates of nitrogen in forested catchments. Department of Biology, The University of Western Ontario, London, ON. Next Position: BEd student at Western; Present Position: Admissions Officer at Western.
- Carlyle, Stephen.** 2006. The changing nature of topographic controls on soil moisture in prairie pothole complexes along a climatic gradient. Department of Geography, The University of Western Ontario, London, ON. Present Position: Program Development Manager at Manitoba Habitat Heritage Corporation.
- Braun, Gena L.** 2006. Specificity of substrate control on carbon dioxide efflux from soils along a forest toposequence. Department of Biology, The University of Western Ontario, London, ON. Present Position: Research Instrumentation Technician at Wilfrid Laurier University.
- Sanford, Seneca E.** 2005. Scale-dependence of natural variability of stream flow parameters in a forested drainage basin on the Boreal Shield. Department of Geography, The University of Western Ontario, London, ON. Present Position: High School Teacher at Thames Valley District School Board.
- Clark, Rodney B.** 2004. Mapping probability of inundation beneath a forest canopy: A multi-temporal analysis of ERS synthetic aperture radar data. Department of Geography, The University of Western Ontario, London, ON.
- Wolniewicz, Marta B.** 2002. Hydrological Portals: Unprotected Pathways of Nutrient Loading to Boreal Lakes. Department of Geography, The University of Western Ontario, London, ON. Next Position: PhD student at Trent; Present Position: Post-Doctoral Fellow at Trent.
- Morrison, Deborah L.** 2002. The nitrogen sink *versus* source potential of coarse woody debris in the southern Appalachians, USA. Department of Plant Sciences, The University of Western Ontario, London, ON. Present Position: PhD student in Education at University of Colorado.
- Krezek, Chelene C.** 2001. Climatic regulation of peak flows and their contributing source areas under natural and disturbed conditions in the Carnation Creek Watershed, Vancouver Island, BC, CANADA. Department of

Plant Sciences, The University of Western Ontario, London, ON. Present Position: Forest Fire Research Specialist at Natural Resources Canada.

MSc Degree Theses from Egerton University (where I am Adjunct Professor) (2 students)

Evelia, Dorothy. 2013. Causes and consequences of the drop in dissolved oxygen concentrations in Lake Naivasha, Kenya. Department of Environmental Science, Egerton University, Nakuru, Kenya. (Co-supervised with Dr. William Shivoga, Egerton University). Present Position: Ministry of Livestock Development in Kenya.

Enanga, Eric Mudoto. 2009. Effectiveness of riparian buffer strips in mitigating changes in soil properties related to land use activities in the River Njoro watershed, Kenya. Department of Environmental Science, Egerton University, Nakuru, Kenya. (Co-supervised with Dr. William Shivoga, Egerton University). Present Position: PhD student at Western.

University Mentor for “Students for Development Program”, with scholarships funded by the Association of Universities and Colleges of Canada

We applied for the Association of Universities and Colleges of Canada Scholarships that the graduate students used to go to Kenya to work for a four-month period on a project that I co-supervised remotely (Creed, Trick):

Velasquez, Diego (PhD Student). 2009.

Fisher, Dane (BSc Student). 2009.

Sorichetti, Ryan (PhD Student). 2007.

Casson, Nora (MSc Student). 2007.

University Mentor for International Graduate Students Studying in Canada

I supervised thesis-based graduate students in the Department of Environmental Sciences at Egerton University (where I hold an Adjunct Professorship). I sponsored applications for Department of Foreign Affairs and International Trade Canada Scholarships that the graduate students used to come to Canada to work for a six-month period on thesis-related research activities. My role was to provide advice on problem definition, experimental design, data collection and analysis, and thesis organization and writing.

Donde, Oscar (MSc Student). 2012. Water quality in Lake Naivasha, Kenya. Lake Naivasha Sustainability Project. Department of Biology, Egerton University, Egerton, Kenya (Co-supervised with Drs. William Shivoga, Egerton University, Kenya, Anastasia Muia, Egerton University, Kenya, Charles Trick).

Evelia, Dorothy (MSc Student). 2010. Causes and consequences of the drop in dissolved oxygen concentrations in Lake Naivasha, Kenya. Lake Naivasha Sustainability Project. (Co-supervised with Dr. Clare Robinson, Faculty of Engineering, The University of Western Ontario).

Kigen, Charles Kipsang. (MSc Student). 2009. Potential for using a biological monitoring assessment tool (bioMAT) for evaluation of water quality in River Njoro Watershed, Kenya. Department of Environmental Sciences, Egerton University, Egerton, Kenya (Co-supervised with Drs. William Shivoga, A. Magana).

Enanga, Eric Mundato (MSc Student). 2009. Effectiveness of riparian buffers in mitigating changes related to land use in River Njoro watershed, Kenya. Department of Environmental Sciences, Egerton University, Egerton, Kenya. (Co-supervised with Drs. William Shivoga, Charles Maina-Gichaba).

External Opponent for Swedish PhD students

Grabs, Thomas. 2010. Water quality modeling based on landscape analysis: Importance of riparian hydrology. Department of Physical Geography and Quaternary Geology, Stockholm University, Sweden.

Agren, Anneli. 2007. Seasonal variation and landscape regulation of dissolved organic carbon concentrations and character in Swedish boreal streams. Physical Geography, Department of Ecology and Environmental Science, Umea University, Sweden.

Supervisor of Summer Co-operative Internships for the Masters of Environment and Sustainability Program

As part of the MES program, students must complete a paid-internship program from May to August (EnvrSust 9300, 2.5 full course equivalent). I supervised the following students:

Bhattacharya, Tanushree. 2014. Great Lakes Action Plan for Sustainability.

Khan, Rabia. 2014. Great Lakes Action Plan for Sustainability.

Sirna, Karleen. 2014. Great Lakes Action Plan for Sustainability.

Smith, Jeff. 2014. Great Lakes Action Plan for Sustainability.

Supervisor of Interdisciplinary Consulting Projects for the Masters of Environment and Sustainability Program

I was instructor for the Interdisciplinary Consulting Project Course (Envrsust642, 1.0 full course equivalent), a requirement for the course based Masters in Environment and Sustainability graduate program. As instructor, I designed the curriculum, established clients in the “real world”, and mentored student groups from identifying the terms of references, designing the project, gathering data, and completing a final written and oral report which was presented at the I.D.E.A.S. conference held at Western.

In 2008/09, I supervised the following interdisciplinary consulting projects:

Amoako-Tuffour A, Henley P, Reid P. 2009. Creating SPACE: Urban agriculture in London, ON. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by Sprouting Community Consulting for the London Community Resource Centre. 85 pages.

Baranik, C, Cates M, Desrochers K. 2009. Reaching for a holistic harbour: A watershed management assessment of Hamilton, Ontario. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by Hydravation for Hamilton Harbour Management. 57 pages.

Bates L, Bennett S, Rakowski L, Schwartz K. 2009. Barriers to on-campus sustainable behaviour as they relate to food waste. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by BrainStorm Environmental Consulting for Gitta Kulczycki (Vice President, Resources and Operations) of the University of Western Ontario President’s Office. 94 pages.

Brien M, Leeming A, Shaeffer C, Zolotar P. 2009. Sustainable community development strategy. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by Aeiforia Consulting for the City of London. 64 pages.

Delaney K, Gingras I, Warsame A. 2009. Lake Naivasha: Exploring ecovillage status. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by BIYO Environmental Consulting for Dr. Charles Trick of the University of Western Ontario. 85 pages.

Kilmas K, Walters D, MacDougall M. 2009. Healthy body, healthy planet: Achieving sustainability at Goodlife Fitness. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by GreenSteps Consulting for GoodLife Fitness. 136 pages.

Locke J, Puppi S, Reid J. 2009. Marsh health assessment: Measuring sustainability at Walpole Island First Nation. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 27, 2009. A report by March to May Consulting for the Walpole Island First Nation. 132 pages.

Tunks C, Steblin A, Singh A. 2009. Trojan Technologies: The road to sustainability. ENVRSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program,

The University of Western Ontario. April 27, 2009. A report by TSS Consulting for Trojan Technologies. 87 pages.

In 2007/08, I supervised the following interdisciplinary consulting projects:

- Bailey E, Daynouri F, Montanino T.** 2008. Options for a community-based monitoring and management program: Stokes Bay, Lake Whitefish Case Study. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by Nature Balance Consulting for the Chippewas of Nawash Unceded First Nation and the University of Guelph. 93 pages.
- Braimoh L, Montgomery K.** 2008. Fostering a culture of sustainability at Western: Developing and implementing an environmental policy. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by Aloe Environmental Consulting for the Provost at The University of Western Ontario. 83 pages.
- Dhanji R.** 2008. Save the blue campaign: A campaign to reduce water consumption in residence at Western. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by Natural Light Environmental Solutions for the Housing & Ancillary Services group at The University of Western Ontario. 80 pages.
- Donato A, Shnabel M, Syed H.** 2008. To drink or not to drink?: The perceptions versus realities of the City of London's drinking water supplies. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by AMH Consulting for the City of London. 70 pages.
- Fisher C, Hayward J, Lichty H.** 2008. Umbrella policies and the forest umbrella: Analysis of governmental and certification standards for forest management for the conservation of water resources in Canada. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by Sustainable Solutions Consulting for the Sustainable Forest Management Network. 121 pages.
- Fricisc J, Linley D, Sotomayor-Taca S.** 2008. Conserving water resources: A framework for evaluating forest planning and operational practices. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by JSD Environmental Consulting for the Sustainable Forest Management Network. 169 pages.
- Lindo R, MacDonald K, Williamson A.** 2008. Improving your watershed report card: From indicator selection to final press. *Volume 1* (Randy Lindo): Critical Analysis of the Watershed Report Card Guidelines (49 pages). *Volume 2* (Kendra MacDonald and Aimee Williamson): Critical Analysis of the Watershed Report Card Process (75 pages), ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment and Sustainability Program, The University of Western Ontario. April 11, 2008. A report prepared for the Saugeen Valley Conservation Authority, 124 pages.
- Velasquez D, White E, Green S.** 2008. Sustainable on-farm pharmaceutical waste management. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment and Sustainability Program, The University of Western Ontario. April 11, 2008. A report prepared for the Ontario Ministry of Agriculture, Food and Rural Affairs. 94 pages.
- Wood M, Haji S, McDougall L.** 2008. Removing fences: Integrating protected areas into forest management strategies across a changing landscape. ENVRUSUST 642 Interdisciplinary Consulting Course, Masters of Environment & Sustainability Program, The University of Western Ontario. April 11, 2008. A report by Applesseed Consulting for the Sustainable Forest Management Network. 169 pages.

Undergraduate Scholars Supervised

Honors Thesis Supervision (18 students; 1 current):

Schellenbach, Andrew. In Progress. Natural levels of toxicity in Ontario lakes. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised with Dr. C. Trick).

- Quick, Christopher.** 2012. Effects of global climate oscillations on local water yields. Environmental Sciences, The University of Western Ontario, London, ON. Present Position: MSc student at UBC.
- Matheson, Julia.** 2011. Establishing sediment core archives for algal communities in Lake Naivasha, Kenya: A story of two basins. Environmental Sciences, The University of Western Ontario, London, ON. (One semester research project). Present Position: Research associate at Bermuda Institute for Ocean Sciences.
- Bakker, Nicole.** 2011. Encroachment of settlements within riparian buffer areas as a leading cause of declining dissolved oxygen concentrations in Lake Naivasha, Kenya. Environmental Sciences, The University of Western Ontario, London, ON. Present Position: Law student at UBC.
- Du, Xue (Lily).** 2011. The importance of soil CO₂ efflux during rain events in estimating forest carbon budgets. Department of Biology, The University of Western Ontario, London, ON. Next Position: MSc student at Western; Current Position: Dental School at University of Southern California.
- Delaney, Kristen.** 2008. Potential for changes in carbon dioxide efflux from organic deposits in a temperate forested swamp under changing climatic conditions. Department of Biology, The University of Western Ontario, London, ON. Next Position: MES student at Western; Present Position: Research Technician at A&L Biologicals.
- Frederick, Mallory.** 2008. Setting physically based standards for minimal complexity in water balance models in forested landscapes. Department of Applied Mathematics, The University of Western Ontario, London, ON. (Co-supervised by Dr. A. MacIsaac). Present Position: MSc student at Guelph.
- Alexiu, Michelle.** 2008. Biodiversity and productivity of a tallgrass prairie along a one-thousand-year chronosequence. Department of Biology, The University of Western Ontario, London, ON. (Co-supervised with Dr. J. Bowles). Present Position: Law student at UNB.
- Spitale, Salvatore.** 2007. Carbon dioxide and methane emissions from prairie potholes. Department of Biology, The University of Western Ontario, London, ON. (one semester research project). Present Position: Ecologist at North-South Environmental.
- Adams, Jennifer.** 2007. Nitrous oxide emissions from prairie potholes. Environmental Sciences, The University of Western Ontario, London, ON. Next Position: MSc student at Toronto; Present Position: PhD Student, University College London (UK).
- Nadeau, Erin.** 2005. Effect of soil water content on microbial production of greenhouse gases in upland soils in a deciduous forest. Department of Biology, The University of Western Ontario, London, ON. (Jointly-supervised by Dr. R. Bourbonniere). Next Position: MES at York; Present Position: Program Co-ordinator at the Toronto Zoo.
- Maloni, Ranjena.** 2005. Effect of soil water content on microbial production of greenhouse gases in lowland soils in a deciduous forest. Environmental Sciences, The University of Western Ontario, London, ON. (Jointly-supervised with Dr. R. Bourbonniere). Present Position: Clinical Research Coordinator, Princess Margaret Hospital, Toronto.
- Casson, Nora.** 2005. Defining the character of dissolved organic matter leached from forest floor substrates of varying age: Do standard methods apply? Department of Biology, The University of Western Ontario, London, ON. (Jointly-supervised with Dr. R. Bourbonniere). Next Position: MSc student at Western; Present Position: PhD student at Trent.
- Kelly, Sean.** 2004. Modelling the fate of dissolved organic carbon in surface waters within a sugar maple landscape in the Algoma Highlands in central Ontario. Department of Geography, The University of Western Ontario, London, ON.
- Kapila, Rajan.** 2004. From freshly fallen leaves to litter: The effect of leaching of the carbon substrate on soil respiration in a hardwood forest. Department of Biology, The University of Western Ontario, London, ON. (Jointly-supervised with Dr. R. Bourbonniere).
- Gareis, Jolie.** 2002. Sub-surface saturated area as a predictor of the magnitude and character of dissolved organic carbon and dissolved inorganic nitrogen exported from catchments in the Turkey Lakes Watershed, central Ontario. Department of Plant Sciences, The University of Western Ontario, London, ON. Next Positions: MSc and PhD student at Simon Fraser; Present Position: Manager of the Aurora Research Institute (Inuvik).

Lynch, Michael. 2001. Geomorphic controls on the export of dissolved organic carbon from forested catchments in central Ontario. Department of Plant Sciences, The University of Western Ontario, London, ON. Next Position: MSc student at Waterloo.

Ure, Darien. 2000. Environmental factors influencing growth rates of red spruce (*Picea rubens* Sarg.) across an elevational gradient in the southern Appalachians. Department of Plant Sciences, The University of Western Ontario, London, ON. Next Position: Ecologist at Parks Canada.

Undergraduate Student Mentor (1 student):

Zia, Mohammed. 2011. Mapping soil moisture using SAR imagery. AWRI Wetland Health Project. I supervised an undergraduate student from India seeking work experience to supplement his undergraduate education in his home country.

Supervision of Technical Staff (worked >12 months, see appendix for complete list)

GIS/Remote Sensing Technicians

Aldred, David. 2007-Present.

Spargo, Adam. 2010-2013.

James, Chad. 2012-2013.

Velasquez, Diego. 2007-2009.

Sanford, Seneca. 2004-2009.

Clark, Rodney. 2005-2007.

Field/Analytical Technicians

Mason, Kelly. 2010-2011.

Malakoff, Tracy. 2004-2009.

Cerven, Vasile. 2006-2007.

Gichuru, Mwenga. 2003-2006.

Webster, Kara. 1999-2002.

Wolfe, David. 1999-2001.

Programmers

Cui, Tongshi. 2002-2006.

Yao, Huaxia. 2000-2002.

Shi, C. 2000-2001.

Zhang, Li. 1999-2000.

Xu, X. 1999-2000.

Garlick, Graham. 1997-1999.

Based at Canadian Forest Service (Great Lakes Forestry Centre near my primary field sites)

Krezek, Chelene. 2003-2006. Present Position: Research Scientist at Canada Forest Service, Natural Resources Canada.

Broad, Jamie. 2002-2006. Present Position: Technician at Canada Forest Service, Natural Resources Canada.

TEACHING ACTIVITIES

Courses Taught

Graduate Courses (FCE=Full Course Equivalent, two semester course):

International Field School in Watershed Sciences. 0.5 FCE.

An intensive one-week field course on field and laboratory techniques in watershed sciences for graduate students as part of the NSERC CREATE ABATE Program. Lectures and laboratories. August 17-23, 2014, Abisko, Sweden (to be offered in alternating years)

Biology 9412. Ecosystem Ecology. 0.5 FCE. (Joint with Biology 4405)

A science course for graduate students. Lectures and Laboratories. Students in biology, geography and earth sciences join the undergraduate course and complete an independent project to receive graduate credit. 2005-present. (not 2010-2011, 2012-2013, 2013-2014).

Geography 9220. Hydrology. 0.5 FCE.

A social science course for graduate students. Lectures and Seminars. Co-taught with Chris Smart (Geography) and Brian Branfireun (Biology). 2010-2011.

Biology 9412. Limnology. 0.5 FCE.

A science course for graduate students. Lectures and Seminars. Co-taught with Charlie Trick. 2010-2011.

Environment and Sustainability 9200. Interdisciplinary Consulting Course. 1.0 FCE.

An interdisciplinary course for students in the course-based Masters of Environment & Sustainability graduate program. Course involved students forming consulting groups, working with clients selected by Instructor on “real world” problems, collection of primary and secondary data, analyses, and generation of a substantive consulting report that was presented to the clients at the IDEAS conference which showcased all consulting projects. 2007-2009.

Biology 512. Global Biogeochemical Cycles: From Microbes to Gaia. 0.5 FCE.

A science course for students in biology, geography, and earth sciences. Lectures and Seminars. Co-taught with Dr. Charles Trick, Dr. Gordon Southam, and Dr. Rick Bourbonniere. 2003-2004.

Geography 516. Ecohydrology. 0.5 FCE.

A science course for biology, geography, and earth sciences students. Lectures and Seminars. 2002-2003.

Geography 508. Environmental Modelling with GIS and Remote Sensing. 0.5 FCE. (Joint with Geography 380).

A geography course for graduate students. Lectures and Laboratories. Students in biology, geography and earth sciences join the undergraduate course and complete an independent project to receive graduate credit. 1999-2004

Geography 548. Environmental Modelling with Distributed Simulation Models. 0.5 FCE. (Joint with Geography 306).

A geography course for graduate students. Lectures and Laboratories. Students in biology, geography and earth sciences join the undergraduate course and complete an independent project to receive graduate credit. 2000-2001.

Environmental Sciences 506. Environmental Sciences: A Life Sciences Perspective. 0.5 FCE.

A science course for students in the collaborative thesis-based graduate program in Environmental Sciences. Lectures and Seminars. Co-taught with Dr. Sheila Macfie. 1998-1999.

Undergraduate Courses:

Biology 3220. Terrestrial and Aquatic Ecology Field Course. 0.5 FCE.

A science course for third and fourth year undergraduate students. Two-week field course at Harkness Laboratory in Algonquin Park. 2007-2008.

Biology 4405. Ecosystem Ecology. 0.5 FCE

A science course for fourth year undergraduate students. Lectures and Laboratories. 2005-present.

Environmental Sciences 494. Environmental Science Seminar. 0.5 FCE

A science course for fourth year Honors students in Environmental Sciences. Seminars. 2002-2003.

Geography 306. Environmental Modelling with Distributed Simulation Models. 0.5 FCE.

A social science course for third and fourth year undergraduate students. Lectures and Laboratories. 2000-2001.

Geography 380. Environmental Modelling with GIS and Remote Sensing. 0.5 FCE.

A social science course for third and fourth year undergraduate students. Lectures and Laboratories. 1999-2004.

Geography 213. Biogeography. 0.5 FCE.

A social science course for second year undergraduate students. Lectures and Laboratories. 1998-1999.

UNIVERSITY SERVICES

University Committees

2014/15 (Teaching 10%; Research 60%; Service 30%)

University

- **Director** of the Africa Institute
- **Member** of the President's Standing Committee on Sustainability
- **Member** of the Promotion & Tenure Committee for Applied Mathematics

Faculty of Science

- **Member** of Sustainability and Environment Theme Executive in Science

Department of Biology

- **Associate Chair** of Biology (Research)
- **Member** of Appointments & Planning Committee

2013/14 (Distinguished Research Professorship, Teaching 10%; Research 75%; Service 15%)

University

- **Director** of the Africa Institute
- **Member** of the President's Standing Committee on Sustainability
- **Member** of the Promotion & Tenure Committee for Applied Mathematics

Department of Biology

- **Associate Chair** of Biology (Research)
- **Chair** of the Research Committee
- **Member** of Appointments & Planning Committee

2012/13 (Sabbatical Leave, Teaching 10%; Research 90%; Service 0%)

University

- **Member** of the President's Standing Committee on Sustainability

2011/12 (Teaching 25%; Research 60%; Service 15%)

University

- **Member** of the University Research Board
- **Member** of the Steering Committee for the Africa Institute
- **Member** of the President's Standing Committee on Sustainability
- **Member** of the Promotion & Tenure Committee for Civil Engineering
- **Member** of the Promotion & Tenure Committee for Medical Biophysics
- **Member** of the Promotion & Tenure Committee for Microbiology & Immunology
- **Member** of the Promotion & Tenure Committee for Physiology & Pharmacology
- **Member** of the Provost's Working Group on developing Western's brand

Faculty of Science

- **Member** of the Biotron Research Advisory Committee

Department of Biology

- **Member** of the Research Committee

2010/11 (Teaching 25%; Research 60%; Service 15%)

University

- **Member** of the University Research Board
- **Member** of the Steering Committee for the Africa Institute
- **Member** of the President's Standing Committee on Sustainability
- **Member** of the Promotion & Tenure Committee for Civil Engineering
- **Member** of the Promotion & Tenure Committee for Medical Biophysics
- **Member** of the Promotion & Tenure Committee for Microbiology & Immunology
- **Member** of the Promotion & Tenure Committee for Physiology & Pharmacology

Faculty of Science

- **Member** of the Biotron Research Advisory Committee

Department of Biology

- **Member** of the Research Committee
- **Member** of the Search Committee for Experimental Climate Change Biologist

2009/10 (Teaching 25%; Research 60%; Service 15%)

University

- **Acting Director**, Western's Centre for Environment & Sustainability (E&S). 2009-2010.
The Director position was not filled, and I served as Acting Director from August to November 2009, to ensure that governance structure and academic programs were in place for the academic year.
- **Member** of the University Research Board
- **Member** of the President's Committee to establish a Sustainability Policy
- **Member** of the Promotion & Tenure Committee for Civil Engineering
- **Member** of the Promotion & Tenure Committee for Microbiology & Immunology

Faculty of Science

- **Member** of the Biotron Research Advisory Committee

Department of Biology

- **Member** of the Appointments & Planning Committee
- **Member** of the Promotion & Tenure Committee
- **Member** of the Research Committee

2008/09 (Teaching 20%; Research 40%; Service 40%)

University

- **Member** of the Sustainability Committee (co-chaired by Longstaffe and Kulczycki)
- **Member** of the Steering Advisory Committee of Environment & Sustainability Program (chaired by Wardlaw)
- **Acting Co-Director**, Western's Centre for Environment & Sustainability (E&S). 2008-2009.
I served as Acting Director (Academic) from 2008-2009, during which the search for the first Director of this Centre (established July 1, 2009) was underway. I was Chair of the Program Advisory Committee, Member of the Steering Advisory Committee for the establishment of the Centre of E&S, and Member of Western's Sustainability Committee. I led the redesign of the thesis- and course-based graduate programs. I created and organized the Annual IDEAS conference, an event that showcases the interdisciplinary consulting projects completed by graduate students to their clients and the E&S community. I led the creation of the Dispatches – the newsletter for the E&S community.

- **Member** of the University Research Board
- **Member** of the SGPS Graduate Education Council

Faculty of Science

- **Member** of the Council of Graduate Chairs
- **Member** of the Search Committee for CRC in Environmental Science & Sustainability
- **Member** of the Biotron Research Advisory Committee

Department of Biology

- **Member** of the Appointments & Planning Committee
- **Member** of the Promotion & Tenure Committee
- **Member** of the Graduate Education Committee (Associate Chair)

2007/08 (Teaching 40%; Research 40%; Service 20%)

University

- **Member** of the Search Committee for the Director of Purchasing

Faculty of Science

- **Member** of the Core Faculty of the School of Environment and Sustainability at Western
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program
- **Member** of the Search Committee for Chair of Earth Sciences

Department of Biology

- **Member** of the Appointments & Planning Committee
- **Member** of the Graduate Education Committee
- **Member** of the Promotion & Tenure Committee

2006/07 (Teaching 40%; Research 40%; Service 20%)

Faculty of Science

- **Member** of the Core Faculty of the School of Environment and Sustainability at Western
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program

Department of Biology

- **Member** of the Appointments & Planning Committee
- **Member** of the Graduate Education Committee
- **Member** of the Promotion & Tenure Committee

2005/06 (Sabbatical Leave)

2004/05 (Teaching 40%; Research 40%; Service 20%)

Faculty of Graduate Studies

- **Member** of the Faculty of Graduate Studies NSERC and OGSST Awards Committee (representative for Division of Science) (3 yr term ending November 30, 2004)

Faculty of Science

- **Member** of the BIOTRON Steering Committee (Chair of the IT/Imaging Sub-Committee)
- **Member** of Environmental Research Western Faculty Advisory Council
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program
- **Member** of the Faculty of Science Committee to rank NSERC Undergraduate Student Research Awards

Department of Biology

- **Member** of the Ad hoc Search Committee for the Canada Research Chair Tier 1 position in Functional Genomics and the Canada Research Chair Tier 2 position in Evolutionary Ecology or Environmental Science position

2003/04 (Teaching 30%; Research 60%; Service 10%)

University

- **Member** of Western's Round Table with the Prime Minister of Canada (Honorable Paul Martin), held March 11, 2004 at The University of Western Ontario)
- **Representative** of Western at the "State of the City Address" by Mayor Anne Marie DeCicco, held January 22, 2004
- **Member** of the Organizing Committee for Western's Conference, "Challenges of the Academic Journey: A Symposium on Women in Science and Engineering at UWO", held May 4-5, 2004

Faculty of Graduate Studies

- **Member** of the Faculty of Graduate Studies NSERC and OGSST Awards Committee (representative for Division of Science) (3 yr term ending November 30, 2004)

Faculty of Science

- **Member** of the BIOTRON Steering Committee (Chair of the IT/Imaging Sub-Committee)
- **Member** of Environmental Research Western Faculty Advisory Council
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program

Department of Biology

- **Member** of the Ad hoc Search Committee for the Canada Research Chair Tier 1 position in Functional Genomics and the Canada Research Chair Tier 2 position in Evolutionary Ecology or Environmental Science position

2002/03 (Teaching 40%; Research 40%; Service 20%; Maternity Leave 09/13/ 2001 to 02/28/2002)

Faculty of Graduate Studies

- **Member** of the Faculty of Graduate Studies NSERC and OGSST Awards Committee (representative for Division of Science) (3 yr term ending November 30, 2004)

Faculty of Science

- **Member** of Western Environmental Science and Engineering Institute Faculty Advisory Council
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program
- **Member** of the Joint Biology and Medical Sciences Curriculum Committee
- **Member** of the Faculty of Science Committee to rank NSERC Undergraduate Student Research Applications
- **Member** of the Faculty of Science Committee to rank National Scholarships

Department of Biology

- **Member** of the Standing Committee on Undergraduate Education
- **Member** of the Standing Committee on Outreach
- **Member** of the Ad hoc Committee on Ecology and Evolution Courses

Department of Geography

- **Member** of the Standing Committee on Undergraduate Education (includes Outreach)
- **Member** of the Ad hoc Committee on Geographic Technique Courses

2001/02 (Teaching 40%; Research 40%; Service 20%)

On Maternity Leave from September 2001 to February 2002 (Inclusive)

Faculty of Science

- **Member** of the Western Environmental Science and Engineering Institute Faculty Advisory Council
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program

Department of Plant Sciences

- **Member** of the Standing Committee on Undergraduate Education
- **Member** of the Standing Committee on Workload

- **Member** of the Standing Committee on Outreach
- **Member** of the Ad hoc Committee on Ecology and Evolution Courses
- **Web Page Coordinator**

Department of Geography

- **Member** of the Ad hoc Committee on Geographic Technique Courses
- **Member** of the Ad hoc Committee on Computers

2000/01 (Teaching 40%; Research 40%; Service 20%)

Faculty of Science

- **Member** of the Western Environmental Science and Engineering Institute Faculty Advisory Council
- **Member** of the Graduate Education Committee of the Environmental Science Graduate Program

Department of Plant Sciences

- **Member** of the Standing Committee on Appointments, Promotions & Tenure
- **Member** of the Standing Committee on Workload
- **Safety Officer**
- **Web Page Coordinator**

Department of Geography

- **Member** of the Standing Committee on Appointments
- **Member** of the Standing Committee on Annual Performance Evaluation
- **Member** of the Ad hoc Committee on Computers
- **Member** of the Ad hoc Committee on Geographic Technique Courses

1999/00 (Teaching 40%; Research 40%; Service 20%)

Faculty of Science

- **Member** of Western Environmental Science and Engineering Institute Faculty Advisory Council
- **Member** of the Ad hoc Search Committee for Chair of Department of Earth Sciences

Department of Plant Sciences

- **Member** of the Standing Committee on Appointments, Promotions & Tenure
- **Member** of the Ad hoc Search Committee on Ecologist Position (Chair)
- **Member** of the Ad hoc Search Committee on Systematist Position

Department of Geography

- **Member** of the Ad hoc committee on Computers

1998/99 (Teaching 40%; Research 40%; Service 20%)

Department of Plant Sciences

- **Member** of the Ad hoc committee on Social Activities

Department of Geography

- **Member** of the Ad hoc committee on Curriculum Development for Geographic Technique Courses
- **Member** of the Ad hoc committee on Computers

University Outreach

Reviewer, Internal Review of NSERC CREATE Letters of Intent. Research Services. April 2014.

Presenter, France Day, February 11, 2014

Session Moderator, 9th Annual Earth Day Colloquium. April 13, 2012.

Panelist, Panel on International Research Collaborations, Faculty Mentor Program, Teaching Support Centre, January 24, 2014.

Panelist, Panel on International Collaboration, Faculty Mentor Program, Teaching Support Centre. January 20, 2012.

Presenter, Africa Institute Opening Launch. University of Nairobi. Nairobi, Kenya. May 3, 2011.

Moderator, Cross-Disciplinary Luncheon Seminar, "Society's Impact on the Natural Ecosystem". Presented by Ivey Centre for Building Sustainable Value and the Centre for Environment & Sustainability. October 8, 2009.

COMMUNITY OUTREACH

Stakeholder Meeting Organizer

Community Meeting in Batchewana Bay, ON to engage community in our Canadian Network for Aquatic Ecosystem Services (CNAES) research project. September 17, 2014

Great Lakes Futures Project – Action Plan for Sustainability. Co-organized Workshop #2, held at University of Toronto, October 1-2, 2014. Initiated and Organized by Creed IF, Laurent KL*. Focus: Knowledge Mobilization.

Great Lakes Futures Project – Action Plan for Sustainability. Co-organized Workshop #1, held at McMaster University, May 26, 2014. Initiated and Organized by Creed IF, Laurent KL*. Focus: Knowledge Mobilization.

Great Lakes Futures Project, Co-organized Workshop #4, held at the State University of New York at Buffalo, Buffalo, New York. September 2013. Hosted by Friedman K. Initiated and Organized by Creed IF, Friedman K, Krantzberg G, Scavia D, Laurent K*. Focus: Build consensus and provide feedback on the proposed policy gaps and recommendations of the GLFP and propose mechanisms for implementation with stakeholders.

Great Lakes Futures Project, Co-organized Workshop #3, held at McMaster University, Hamilton, Ontario. June 2013. Initiated and Organized by Creed IF, Friedman K, Krantzberg G, Scavia D, Laurent K*. Focus: Presentation of Scenario papers

Great Lakes Futures Project, Co-organized Workshop #2, held at the University of Michigan, Ann Arbor, Michigan. March 13, 2013. Initiated and Organized by Creed IF, Friedman K, Krantzberg G, Scavia D, Laurent K*. Focus: Presentation of drivers papers.

Great Lakes Futures Project, Organized Workshop #1, held at Western University, March 29-30, 2012. Initiated and Organized by Creed IF, Friedman K, Krantzberg G, Scavia D, Laurent K*. Focus: Brainstorm and plan the first steps of the Great Lakes Futures Project.

Lake Naivasha Sustainability Project Organized and facilitated by Trick CG, Creed IF. August 2010, Elsamere Field Study Centre, Lake Naivasha, Kenya.

Lake Naivasha Sustainability Project Organized and facilitated by Trick CG, Creed IF. October 2008, Kenyan Wildlife Service Training Institute, Lake Naivasha, Kenya.

GIS and Environmental Decision Making – Part 2. Co-organized and co-taught by Creed I, Trick C, Massam B (York U). June 1998, National Institute of Science, Technology, Policy and Strategic Studies, Hanoi, Vietnam.

GIS and Environmental Decision Making – Part 1. Organizer and instructor. November 1992, National Institute of Science, Technology, Policy and Strategic Studies, Hanoi, Vietnam.

Stakeholder Meeting Participant

Reports from the front lines of Alberta's wetland policy. October 20, 2014. Audience: Stakeholders in Alberta's wetland policy. For: Government of Alberta. **Invited.**

Reports from the front lines of Alberta's wetland policy. April 17, 2014, Edmonton, AB. Audience: Stakeholders in Alberta's wetland policy. For: Government of Alberta. **Invited.**

Alberta's wetland policy. April 17, 2014, Edmonton, AB. Audience: Government of Alberta Core Team (Wetland Policy). For: Government of Alberta. **Invited.**

A principled approach to developing a relative wetland function assessment system for Government of Alberta. December 13, 2013, Edmonton, AB. Audience: Ducks Unlimited. For: Ducks Unlimited. **Invited.**

Environmental Reserve Mapping Project – Final Presentation. June 13, 2013, Edmonton, AB. Audience: Members of the Beaver Hills Initiative. For: the Beaver Hills Initiative. **Invited.**

An insider's perspective on the Government of Alberta's proposed Relative Wetland Assessment System. Wetland Policy Stakeholder Group, Calgary, AB, November 7, 2012. **Invited.**

Environmental Reserve Mapping Project – Status Update. June 6, 2012, Edmonton, AB. Audience: Members of the Beaver Hills Initiative. For: the Beaver Hills Initiative. **Invited.**

Other Community Outreach

Scientific Consulting Contract, Environmental Reserves Mapping Project (2012-2013) – Beaverhills Initiative, Alberta (B. Wispinski)

Scientific Consulting Contract, Ecosystem Services Pilot Project (2011) – Government of Alberta (G. Kerr)

Science Community Resolution, Resolution on oil sands mining in wetlands put forward by Suzanne Bayley, University of Alberta; Sylvie de Blois, McGill University; Irena Creed, University of Western Ontario. INTECOL Conference. Orlando, FL. June 6, 2012

Selected as 1 of 6 delegates for the **Partnership Group for Science and Engineering** Symposium held in 2008, Ottawa, Canada. The theme was “Leaders in Canadian Environmental Research,” and the six environmental researchers travelled to Ottawa for meetings with executives, decision makers and policy analysts from federal, academic and non-governmental agencies to stimulate discussions. The Partnership Group for Science and Engineering Symposium included roundtable discussions on research funding, scientific capacity and innovation issues, and a session on the federal science and technology strategy. The day started with a “Bacon and Eggheads” Keynote address and ended with a reception on Parliament Hill, co-hosted by the Honourable Peter Milliken, Member of Parliament and Speaker of the House of Commons (May 8, 2008).

Selected to be a representative for Western at the “State of the City Address” by the Mayor of London (2004).

Selected to participate on a round table with the Prime Minister of Canada to identify research needs of the university (2004).

COMMUNITY RECOGNITION

Research Contributions

Western Undergraduate Research Journal – Health and Natural Sciences:

Feature Story:

- Faculty Profile. Volume 4. Summer 2014.

Jones JA, Creed IF et al. 2012. Water supply sensitivity and ecosystem resilience to land use change, climate change, and climate variability at long-term ecological research sites. *Bioscience* 62: 390-344. Invited contribution to Special Issue on the US Long-Term Ecological Research Network.

Feature Stories:

- US News & World Report: Endangered Species: Penguins, Ice Caps, and Arctic Monitors
<<http://www.usnews.com/news/articles/2012/04/06/endangered-species-penguins-ice-caps-and-arctic-monitors>>
- Greenwire: Human Water Management Masks Effect of Rising Temps on Stream Flows - Study
<<http://www.eenews.net/Greenwire/2012/04/06/6>>
- Portland Tribune (Oregon): Thawing Planet Bad for Some Species, Good for Others
<http://portlandtribune.com/sustainable/story.php?story_id=133373235837089100>
- KTVZ (Oregon): PSU Geologist Studies World's Vanishing Snow, Ice
<<http://www.ktvz.com/news/30845535/detail.html>>

International Innovation (www.researchmedia.eu) is a journal dedicated to disseminating science, research and technology to the world. Creed was one of 30 North American scientists featured in a Special Issue of International Innovation on “Frontier of the Future: How North American research is creating a more sustainable tomorrow”. Creed was featured in two related articles:

Feature Stories:

- International Innovation (North America) Volume 3: 51: “Using simple indicators to predict complex systems”.
- International Innovation (North America) Volume 3: 52-53: “The challenge of water sustainability sciences.”

Service Contributions

The Africa Institute and the Lake Naivasha Sustainability Project in Kenya:

- Formal congratulations from the Honourable Mobina S.B. Jaffer of the Senate of Canada during the Debates of the Senate on June 23, 2011, the 1st session of the 41st Parliament, Volume 148, Issue 11.
- “New institute expands expertise in Africa” Western News. April 28, 2011.

The Great Lakes Futures Project (Transborder Research University Network for Water Stewardship Consortium)
Selected Media Reports:

- Western-led initiative unites scientists studying the future of Great Lakes Basin. By Communications Staff, October 15th, 2012.
- Radio Interview with Katrina Laurent “The Biggs Show” 1290 CJBK. Tuesday, 16 October 2012.
- Great Lakes Futures Project & Extreme Weather. The Environment Report: Michigan Radio. October 18th. <http://environmentreport.org/>
- McMaster team tackles Great Lakes conservation. By Kaleigh Rogers, CBC News, Hamilton. October 18th. <http://www.cbc.ca/hamilton/news/story/2012/10/16/mcmaster-great-lakes-hamilton.html>
- Charting the lakes' future. The Times Herald (Port Huron). B. LeBlanc, B. October 22, 2012.