

## Curriculum Vitae

### Bruce V. Millett, PhD

Department of Geography  
South Dakota State University  
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#### EDUCATION

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South Dakota State University, Brookings, SD  
Ph.D. in Biological Sciences 2004  
Dissertation: *Vulnerability of Northern Prairie Wetlands to Climate Change*  
Area of Concentration: *Biogeography*

South Dakota State University, Brookings, SD  
M.S. in Geography 1999  
Thesis: *Vertical Accuracy Assessment of Large Scale Digital Elevation Models*  
Area of Concentration: *Spatial Techniques and Physical Geography*

Plymouth State University, Plymouth, NH  
B.S. in Geography *cum laude* 1995  
Area of Concentration: *Physical Geography*

Military Service Schools:

Aerographer's Mate AG-C1 School  
Chanute AFB, Rantoul, IL, 1986  
Certification (*Weather Forecaster*)

Aerographer's Mate AG-A1 School  
Chanute AFB, Rantoul, IL, 1980  
Certification (*Weather Observer*)

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#### TEACHING

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GEOG-131 Physical Geography: Weather and Climate 2005 – 2016  
GEOG-131 Physical Geography: Weather and Climate (Online) 2012

GEOG-337 Atmospheric Science	2006 – 2016
GEOG-339 Geomorphology	2010 – 2015
GEOG-483 Air Photo Interpretation	2005 – 2016
GEOG-483L Air Photo Interpretation Lab	2006 – 2016
GEOG-472 Introduction to GIS	2005 – 2016
GEOG-473/573 GIS Data Creation/Integration	2006 – 2012
GEOG-474/574 GIS: Vector & Raster Modeling	2016
GEOG-492 Climate Change	2007 – 2008
GEOG-492 Oceanography	2009
GEOG-492 Military Geography	2006
Guest Lecturer LA-560L/560BIOL-560L	
Landscape Ecology Lab	2006 – 2012
Provided lecture materials for GSE-743	2010

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## **EXPERIENCE**

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### Academic:

Instructor, Department of Geography, South Dakota State University  
May 2012 – Present.

Assistant Professor, Department of Geography, South Dakota State University  
January 2005 – May 2012.

Research Associate, Department of Horticulture, Forestry, Landscape & Parks, South Dakota State University  
May 2004 – December 2004.

Research Associate, Department of Geography  
South Dakota State University (funded by the U.S. Geological Survey, EROS Data Center)  
October 2003 – August 2004.

Graduate Research Assistant, Department of Horticulture, Forestry, Landscape & Parks, South Dakota State University  
January 1999 – August 2003

Remote Sensing Analyst, Plant Science Department, South Dakota State University  
May 1998 – December 1998.

Graduate Teaching Assistant, Department of Geography, South Dakota

State University  
September 1996 – May 1998.

**Nonacademic:**

Digital Map Technician, Geographic Data Technology (GDT) Lebanon, NH.  
September 1994 – August 1995

United States Navy (Primary Commands and Positions)

Carrier Augmentation Unit 0189, United States Naval Operational Support Center, Minneapolis, MN. Administrative Leading Chief Petty Officer, Safety Leading Chief Petty Officer  
October 2004 - December 2007.

Weather Forecaster, Satellite Interpreter/Briefer, and Oceanographic Interpreter/Briefer.

November 1997 - December 2007.

Naval Oceanography Command Facility, Mobile Environmental Team Leader, Naval Air Station North Island, San Diego, CA  
February 1988 - September 1990. Ship deployments: USS Dubuque (LPD-8), USS Cushing (DD-985), USS Hewitt (DD-966), USS Fletcher (DD 992), USS Vincennes (CG-49), USS Long Beach (CGN-9), USS Stein (FF-1065), USS Lockwood (FF-1064), USS Lynde McCormick (DDG-8).

Naval Oceanography Command Detachment, Naval Air Station, Adak, AK  
Aviation Weather Forecaster Satellite Interpreter/Briefer, and Oceanographic Technician.

November 1986 - January 1988.

Naval Oceanography Command Detachment, Naval Air Station, Brunswick, ME. Weather Observer, Anti-submarine warfare briefer/technician.

June 1983 - March 1986.

USS America CV-66, OA Division, Operations Department. Weather Observer and Upper Air Analyst.

January 1981 - May 1983.

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**GRANTS**

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Current:

\$4,950, Co-Principal Investigator. Cancer Geocoding Project. Funded by

DHHS/Centers for Disease Control (CDC) through (FPT) SD Department of Health (DOH).

Past:

\$900, Supervisor, South Dakota View. Undergraduate / Graduate Mini-Grant Program. July 28, 2015 - December 31, 2015. Graduate student Byron Will-Noel.

\$856,574, EPA Grant Number: R833016

Title: Non-Linear Response of Prairie Pothole Landscapes to Climate Change and Land Management

Investigators: Johnson, Carter; Millett, Bruce V; Adams, R.; Fay, Phil; Guntenspergen, Glenn R.; Voldseth, Richard.

Institution: South Dakota State University, Oregon State University, U.S. Geological Survey

EPA Project Officer: Bloomer, Bryan

Project Period: August 1, 2006 extended to December 31, 2010.

\$50,000, Co-Principal Investigator. Inventory and Analysis of Stream Flow Classification. United States Geological Survey. July 2003 – Sept 2004

\$660,000, Collaborator. Integrating the Effects of Landuse and Global Climate Change on Hydrology and Vegetation of the Northern Great Plains Wetlands. United States Geological Survey Biological Resources Division Global Change Research Program FY99. Primary Investigators were Glenn Guntenspergen and W. Carter Johnson. Five-year project.

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## **PUBLICATIONS AND PAPERS**

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Articles:

Werner Brett, John Tracy, W. Carter Johnson, Richard A. Voldseth, Glenn R. Guntenspergen, Bruce Millett. Modeling the Effects of Tile Drain Placement on the Hydrologic Function of Farmed Prairie Wetlands. *Journal of the American Water Resources Association*. In press. Manuscript ID is JAWRA-14-0236-P.R4. 2016.

Gritzner, J and B. V. Millett. Deriving Measures and Profiles of Wetland Features from LIDAR LAS Datasets. *Applied Geography*. Accepted for publication August 2013

Millett, B. V. and J. Gritzner. Mapping Wetland Features from IFSAR in the Prairie Pothole Region. *Proceedings ESRI*. July 2013

Johnson, W. Carter, R. Adams, P. Fay, G. Guntenspergen, B. Millett, J. Olker, B. Rashford, M. Tulbure, R. Voldseth, Werner. 2012. Non-linear response of prairie pothole landscapes to climate change and land management. Final Report to the *Environmental Protection Agency STAR Grant Program*, Washington, DC. 7 pp.

Gritzner, J and B. V. Millett. Modeling Surface-flow in the Prairie Pothole Region of North America. *Geo-Carpatica*. 2012

Johnson, W.C., B. Werner, G.R. Guntenspergen, R.A.Voldseth, B.V. Millett, D.E. Naugle, M. Tulbure, R.W.H. Carroll, J. Tracy, and C. Olawsky. 2010. Prairie Wetland Complexes as Landscape Functional Units in a Changing Climate. *BioScience*. Volume 60 Issue 2. 128–140.

Millett, B. V., W.C. Johnson, R.A. Voldseth, and G.R. Guntenspergen. 2009. Climate trends of the North American prairie pothole region 1906–2000. *Climatic Change*. 93:243–267.

Voldseth, R.A., W.C. Johnson, G.R. Guntenspergen, T. Gilmanov, and B.V. Millett. 2009. Adaptation of Farming Practices Could Buffer Effects of Climate Change on Northern Prairie Wetlands. *Wetlands*. 29(2):635-647.

Millett, Bruce V., Janet Gritzner and Mary O'Neill *Modeling Surface-Flow Characteristics in Glaciated Landscapes*. In Proceedings of ESRI International User Conference, 2009.

Voldseth, Richard A., W. Carter Johnson, Tagir Gilmanov, Glenn R. Guntenspergen, and Bruce V. Millett. 2007. Model Estimation of Land-Use Effects on Water Levels of Northern Prairie Wetlands. *Ecological Applications* 17:527–540.

Millett, Bruce V., W. Carter Johnson, and Richard A. Voldseth. Northern Prairie Wetlands and Climate Change. *In Proceedings of the 26<sup>th</sup> Annual ESRI International User Conference*. August 5–8, 2006. San Diego, CA.

Johnson, W.C., B.V. Millett, T. Gilmanov, R.A. Voldseth, G.R. Guntenspergen, and D.E. Naugle. 2005. Vulnerability of northern prairie wetlands to climate change. *BioScience*. 55(10):863-872.

#### Book Chapters:

Millett B. V. 2009. "The Properties of Ocean Water". In Charles F. Gritzner (Ed.), *Maritimea: Above and Beneath the Waves: The Illustrated Guide to the*

*Maritime World*. Chapter 2, The Dynamic Ocean. Millennium House: Elanora Heights, N.S.W. Australia. pp. 31-35.

Millett B. V. 2009. "Tides and Waves". In Charles F. Gritzner (Ed.), *Maritimea: Above and Beneath the Waves: The Illustrated Guide to the Maritime World*. Chapter 2, The Dynamic Ocean. Millennium House: Elanora Heights, N.S.W. Australia. pp. 36-39.

Millett B. V. 2009. "Currents". In Charles F. Gritzner (Ed.), *Maritimea: Above and Beneath the Waves: The Illustrated Guide to the Maritime World*. Chapter 2, The Dynamic Ocean. Millennium House: Elanora Heights, N.S.W. Australia. pp. 40-43.

Millett B. V. 2009. "Tsunami". In Charles F. Gritzner (Ed.), *Maritimea: Above and Beneath the Waves: The Illustrated Guide to the Maritime World*. Chapter 8, The Treacherous Sea. Millennium House: Elanora Heights, N.S.W. Australia. pp. 374-377.

Millett B. V. 2009. "Eye of the Storm". In Charles F. Gritzner (Ed.), *Maritimea: Above and Beneath the Waves: The Illustrated Guide to the Maritime World*. Chapter 8, The Treacherous Sea. Millennium House: Elanora Heights, N.S.W. Australia. pp. 378-381.

Millett B. V. 2009. "Temperature". In Charles F. Gritzner (Ed.) *Earth: The World Atlas*. Part One: Physical Earth. Millennium House: Elanora Heights, N.S.W. Australia. pp. 36-37.

Millett B. V. 2008. "Precipitation". In Charles F. Gritzner (Ed.) *Earth: The World Atlas*. Part One: Physical Earth. Millennium House: Elanora Heights, N.S.W. Australia. pp. 38-39.

Millett B. V. 2008. "Climate". In Charles F. Gritzner (Ed.) *Earth: The World Atlas*. Part One: Physical Earth. Millennium House: Elanora Heights, N.S.W. Australia. pp. 40-41.

Millett B. V. 2008. "Climate Change". In Charles F. Gritzner (Ed.) *Earth: The World Atlas*. Part One: Physical Earth. Millennium House: Elanora Heights, N.S.W. Australia. pp. 42-43.

Map published in William J. Mitsch, and James G. Gosselink. 2007. *Wetlands*. 4<sup>th</sup> ed. John Wiley & Sons Inc. p.332

Other Media:

American Museum of Natural History, Hall of Biodiversity. 2010. Video and Science Bulletins website: <http://www.amnh.org/sciencebulletins> "Duck Homeland May Dry Out: Climate change may evaporate prairie wetlands critical to ducks." Article is published online in perpetuity.

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## **CONFERENCE PRESENTATIONS**

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*A Comparison of Total Station Survey (TSS) and Structure from Motion (SfM): An Inexpensive Alternative for Building Digital Terrain Models (DTMs).* AAG Annual Meeting, San Francisco, CA, March 30, 2016

*Vegetation Effects on LIDAR LAS Data.* Joint Meeting of the Southwest and Great Plains-Rocky Mountain Divisions of the Association of American Geographers. October 23, 2014.

*Modeling the Effects of Tile Drain Placement on the Hydrologic Function of Farmed Wetlands.* Joint Aquatic Sciences Meeting. Portland, OR. May 21, 2014. Presented by Brett Werner.

*Integrating GPS Survey Data into LIDAR LAS Dataset Processing.* Annual Meeting of the Association of American Geographers in Tampa, FL, April 8, 2014.

*Mapping Wetland Features in the Prairie Pothole Region.* 2013 International ESRI Users Conference in San Diego, CA in July 10, 2013.

*Building digital elevation models (DEMs) for hydrologic modeling from LAS datasets.* Western South Dakota Hydrology Conference. Rushmore Plaza Civic Center, Rapid City, South Dakota. April 18, 2013. Presented by Janet Gritzner.

*Characterizing Wetlands in the Prairie Pothole Region.* Annual Meeting of the Association of American Geographers in Los Angeles, CA, April 9, 2013.

*Mapping Water Resources in the Prairie Pothole Region.* 35<sup>th</sup> Annual Applied Geography Conference in Minneapolis, MN, October 11, 2012

*Identifying Wetland Features in the Prairie Pothole Region with IFSAR DSMs/DTMs.* Annual Meeting of the Association of American Geographers in New York, NY, February 28, 2012. Presented in an USGS arranged session on LIDAR and related technologies. Presented by Janet Gritzner.

*Modeling Surface-flow in the Prairie Pothole Region of North America.* 2nd Romanian - American Scientific Session, Sibiu, Romania. June 2011. Presented by Janet Gritzner

*Model Simulations of Climate and Wetland Types.* Eastern South Dakota Water Conference, Brookings, SD. October 2011.

*Simulation Assessment of Climate and Prairie Wetland Complex.* Annual meeting of the Rocky Mountain-Great Plains of the Association of American Geographers, Lawrence, KS. October 9, 2010.

*Changing Climate and Prairie Wetland Complexes.* Annual meeting of the Association of American Geographers in Washington DC. April 16, 2010.

*Modeling Surface-Flow Characteristics in the Prairie Pothole Region.* With Janet Gritzner. Annual meeting of the Association of American Geographers in Las Vegas. March 26, 2009.

*Modeling Depressional Wetlands with IFSAR DTMs and ORIs.* With Janet Gritzner. Annual meeting of the Rocky Mountain-Great Plains of the Association of American Geographers, Grand Forks, ND, September 28, 2008.

*Application of IFSAR DTMs in Modeling Depressional Wetlands.* With Janet Gritzner. Annual meeting of the Association of American Geographers in Boston, MA. April 2008.

Johnson, W. C., B. V. Millett, R.A. Voldseth, and G.R. Guntenspergen. Invited presentation at South Dakota Climate Change Conference: Strategies for the Future. Organized by the National Wildlife Federation, Reston, VA, September 29, 2007

Johnson, W. C., B. V. Millett, R.A. Voldseth, and G.R. Guntenspergen. Invited presentation, Central Flyway Committee, Brookings, SD, March 5, 2007

Johnson, W. C., B. V. Millett, R.A. Voldseth, and G.R. Guntenspergen. Invited university-wide seminar, Concordia College, Moorhead, Minnesota, March 15, 2007

Johnson, W. C., B. V. Millett, R.A. Voldseth, and G.R. Guntenspergen. Invited symposium talk at annual meeting of Minnesota Water Pollution Control Agency, Bloomington, MN, March 1, 2007

Johnson, W. C., B. V. Millett, R.A. Voldseth, and G.R. Guntenspergen. Invited luncheon talk at Wetland Summit, Bloomington, MN, February 3, 2007.

*Northern Prairie Wetlands and Climate Change.* With W. Carter Johnson and Richard Voldseth. 2006 ESRI International User Conference. San Diego, CA. August 7–11, 2006

*Vulnerability of northern prairie wetlands to climate change.* With W. C. Johnson, R. Voldseth, G. Guntenspergen, and D. Naugle. South Dakota State University, Geography Department 39th Annual Geography Club Meeting. Brookings, SD. 2006.

*Stream Flow Classifications: Application, Regulation, and Litigation.* With Janet Gritzner. Annual meeting of the Association of American Geographers, Philadelphia, PA. March 2004.

*Vulnerability of Prairie Pothole Landscapes to Climate Change.* United States International Association of Landscape Ecology, Lincoln, NE April 2001

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## **SERVICE**

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Geography Club and 48<sup>th</sup> Annual Convention Faculty Advisor 2016 – Pres.  
Geography Club and 47<sup>th</sup> Annual Convention Faculty Advisor 2015 – 2016.  
Geography Club and 46<sup>th</sup> Annual Convention Faculty Advisor 2014 – 2015.  
Geography Club and 45<sup>th</sup> Annual Convention Faculty Advisor 2013 – 2014.  
Geography Club and 44<sup>th</sup> Annual Convention Faculty Advisor 2012 – 2013.  
Geography Club and 43<sup>rd</sup> Annual Convention Faculty Advisor 2011 – 2012.  
Geography Club and 42<sup>nd</sup> Annual Convention Faculty Advisor 2010 – 2011.  
Geography Club and 41<sup>st</sup> Annual Convention Faculty Advisor 2009 – 2010.  
Geography Club and 40<sup>th</sup> Annual Convention Faculty Advisor 2008 – 2009.

Served as a moderator and judge for the state of South Dakota National Geographic Bee, 2007 and 2008.

Veterans of Foreign Wars, VFW Post Number 2118, Brookings, SD. 2005 – Present.

Chief Petty Officers Mess, Minneapolis, MN 2004 – Present.

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## **MEMBERSHIPS**

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Association of American Geographers (AAG)  
Specialty Groups: Climate Change, Biogeography, and GIS

American Meteorological Society (AMS)

American Society for Photogrammetry & Remote Sensing (ASPRS)

Society of Wetland Scientists (SWS)