

## JEFFREY ADAM VANLOOY

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### ACADEMIC CREDENTIALS

**Ph.D., Geography**, August 2007

University of Utah; Salt Lake City, UT 84112

Dissertation Title: "Measuring the Mass Balance and Contribution of North American Glaciers to Sea Level Rise Using Remote Sensing Techniques"

**Master of Arts, Geography**, May 2002

Kansas State University; Manhattan, KS 66506

Thesis Title: "Changes in Channel Morphology along the Cimarron River in Southwest Kansas: 1953 – 2001"

**Bachelor of Science, Geography**, May 2000

University of Idaho; Moscow, ID 83844

**Bachelor of Science, Cartography**, May 2000

University of Idaho; Moscow, ID 83844

### RESEARCH INTERESTS

Topical: Geomorphology (Glacial, Fluvial, Eolian), Paleoclimatology and Present Climate Change (Using Eolian and Glacial Indicators), Natural Hazards (primarily flood related)

Methodological: Remote Sensing (Satellite and Aerial Photography), GIS, Multivariate Statistics

Regional: Global High Mountain Environments (currently Alaska and British Columbia), North American Deserts, North American Plains

### UNIVERSITY EMPLOYMENT

**Assistant Professor** (Summer 2010 – Present)

Department of Earth System Science and Policy;

University of North Dakota; Grand Forks, ND

-Lectured interdisciplinary graduate students on topics of physical earth processes within the context of earth system science, such as the relationship between geomorphic processes and the atmosphere, hydrosphere, and biosphere, as well as human interactions.

**Assistant Professor** (Fall 2007 – Summer 2010)

Department of Geography; Radford University; Radford, VA

-Lectured for various classes in geography, as well as served as the department liaison with the university library, geography club advisor, and advised undergraduate students on classes and individual research.

**Graduate Research Fellow** (Fall 2006 – Spring 2007)

Graduate School; University of Utah; Salt Lake City, UT

-Awarded a highly competitive Graduate Research Fellowship to focus on and complete dissertation research.

**Associate Instructor** (Fall 2005 – Summer 2006)

Department of Geography; University of Utah; Salt Lake City, UT

-Class instructor with full teaching duties for large regional geography classes, as well as a remote sensing class. Involved creating and presenting lectures, as well as preparing and grading exams, quizzes, and labs.

**Undergraduate Academic Advisor** (Fall 2005 – Summer 2006)

Department of Geography; University of Utah; Salt Lake City, UT

-Advised undergraduate students on class scheduling, graduation, and career opportunities. Also attended various meetings on advising methods, as well as university wide and state wide meetings for academic advisors with topics on correlating and improving academic programs.

**GIS Technician** (Fall 2005 – Spring 2006)

Digitally Integrated Geographic Information Technologies (DIGIT) Lab;  
University of Utah; Salt Lake City, UT

-Analyzed, digitized, and edited maps, as well as georectified images using ArcGIS 9.0 to create maps for various clients. Mostly focused on National Historic Trails, a division of the National Park System.

**Teaching Assistant** (Fall 2002 – Spring 2005)

Department of Geography; University of Utah; Salt Lake City, UT

-Major duties were as a lab instructor and full teaching duties for large World Regional Geography classes. Involved creating and presenting lectures as well as preparing and grading exams and weekly assignments.

**Research Assistant** (Summer 2001)

Department of Geography; Kansas State University; Manhattan, KS

-Researched current literature for the Human Environment Research Observatory (HERO) Program on climate change in the central Great Plains throughout the Holocene.

**Teaching Assistant** (Fall 2000 – Spring 2002)

Department of Geography; Kansas State University; Manhattan, KS

-Major duties were as a lab instructor and included preparing and grading weekly assignments, quizzes and exams. Also involved in a departmental move across campus.

**PUBLICATIONS: In Print or Accepted**

**Peer Reviewed**

**VanLooy, Jeffrey A.** and Richard R. Forster. 2008. Glacial changes of five southwest British Columbia icefields, Canada, mid-1980s to 1999. *Journal of Glaciology*. 54:469-478.

**VanLooy, Jeffrey A.** and Thomas J. Cova. 2007. GIS-based indices for comparing airline flight-path vulnerability to volcanoes. *Professional Geographer*. 59:74-86.

**VanLooy, Jeffrey A.**, Richard R. Forster, and Andrew L. Ford. 2006. Accelerating thinning of Kenai Peninsula glaciers, Alaska. *Geophysical Research Letters*. 33:L21307.

**VanLooy, Jeffrey A.** and Charles W. Martin. 2005. Channel and vegetation change on the Cimarron River, Southwestern Kansas, 1953-2001. *Annals of the Association of American Geographers*. 95:727-739.

#### **Non-Peer Reviewed**

Forster, Richard R., **Jeff VanLooy**, Dorothy Hall, and Ryo Michishita. 2008. Alaskan glaciology from space. Proceedings in *IEEE International Geoscience and Remote Sensing Symposium*.

#### **PUBLICATIONS PENDING**

**VanLooy, Jeffrey A.** and Richard R. Forster. (under revision) Surface elevation and volume change of mountain glaciers: A technique comparison using digital elevation models and topographic maps. *Artic, Antarctic, and Alpine Research*.

**VanLooy, Jeffrey A.** (under review) Potential agricultural land loss due to river channel changes caused by flooding. *Physical Geography*.

**VanLooy, Jeffrey A.** and Richard R. Forster. (in progress) Use of Digital Elevation Models created by kriging contour map elevations, for glacial change detection. *Journal of Glaciology*.

#### **GRANTS AND FELLOWSHIPS**

2007 \$10,600: Intergraph Educational and Student License for Geomedia awarded for two years.

2006 \$12,000: Graduate Research Fellowship; University of Utah Graduate School; awarded for one year, used to complete dissertation research

#### **INSTRUCTED CLASSES**

##### **Full Instructor Duties**

##### **Physical Geography:** Geography 130

Department of Geography; Radford University; Radford, VA

-Lectured on topics of physical geography, including earth/sun relationships, meteorology, climatology, and geomorphology, as well as human-environment interactions.

##### **Introduction to GIS:** Geography 250

Department of Geography; Radford University; Radford, VA

-Lectured on the theory and application of Geographic Information Systems. Included a lab component for students instruction on the use of ESRI's ArcGIS program, as well as Geomedia from Intergraph.

**Fundamentals of Cartography:** Geography 270

Department of Geography; Radford University; Radford, VA

-Lectured on topics of the scientific and artistic principles of cartography, including map projections, scale and coordinate systems, map reading, map design, as well as cartographic technology such as remote sensing and GIS.

**Biogeography:** Geography 335

Department of Geography; Radford University; Radford, VA

-Lectured on topics of the spatial relationship between flora and fauna, and the physical environment. Focused on how different environmental gradients affect life on Earth.

**Geomorphology:** Geography 350/Geology 360

Department of Geography; Radford University; Radford, VA

-Lectured on topics of geomorphology including weathering, mass wasting, fluvial processes, glacial processes, karst topography, and coastal processes. Course included a lab manual in which weekly assignments were conducted.

**Environmental Analysis Through Remote Sensing:** Geography 5110/6110

Department of Geography; University of Utah; Salt Lake City, UT

-Lectured on topics of remote sensing theory and application, including electromagnetic energy properties, preprocessing, geometric correction, and image analysis.

**Geography of North America:** Geography 3620

Department of Geography; University of Utah; Salt Lake City, UT

-Lectured to a large Regional Geography class on the physical and human geography of North America with an emphasis on cultural diversity.

**World Regional Geography:** Geography 1300

Department of Geography; University of Utah; Salt Lake City, UT

-Lectured to large World Regional Geography classes on the interaction between physical and human geography for many realms and regions of the world.

**Teaching Assistant Duties**

**Environmental Analysis Through Remote Sensing, Lab:** Geography 5110/6110

Department of Geography; University of Utah; Salt Lake City, UT

-Instructed in lab on topics of remote sensing while using ENVI.

**Principles of Cartography, Lab:** Geography 3040

Department of Geography; University of Utah; Salt Lake City, UT

-Instructed in lab on topics of cartographic design while using ArcGIS.

**Environmental Geography I and II, Labs:** Geography 221 and 321

Department of Geography; Kansas State University; Manhattan, KS

-Instructed in lab on topics of physical geography including meteorology, climatology, and geomorphology.

**CONFERENCE PRESENTATIONS**

- 2010 **“Use of historical elevation data to calculate surface elevation and volume changes of Ha-Iltzuk Icefield in southwest British Columbia, 1970 – mid1980,”** paper presented at the *International Glaciological Society: International Symposium on Earth’s Disappearing Ice: Drivers, Responses, and Impacts*; Ohio State University, Columbus, OH

- 2010 **“Multidecadal surface elevation and volume change rates of a British Columbian Icefield,”** poster presented at the *Association of American Geographers* national annual meeting; Washington, DC
- 2009 **“The Situation with Geographic Education in the United States,”** panel discussion with Johnny Coomansingh, Ph.D. (Minot State University), Greg Vandenberg, Ph.D. (University of North Dakota), and Dave Lanegran, Ph.D. (Macalester College) at the *West Lakes Division of the Association of American Geographers* annual meeting; St. Paul, MN
- 2009 **“Estimation of agricultural land and revenue loss due to catastrophic flooding,”** paper presented at the *West Lakes Division of the Association of American Geographers* annual meeting; St. Paul, MN
- 2009 **“Determining agricultural land use change due to river channel changes caused by flooding,”** poster presented at the *American Society for Photogrammetry and Remote Sensing* national annual meeting; Baltimore, MD
- 2008 **“Comparison of two techniques for calculating surface elevation changes of mountain glaciers,”** paper presented at the *Association of American Geographers* national annual meeting; Boston, MA
- 2007 **“Determining recent melt rates and potential sea level rise contribution of five southwest British Columbia icefields,”** paper presented at the *Association of American Geographers* national annual meeting; San Francisco, CA
- 2006 **“Rapid thinning of the Harding Icefield and surrounding glaciers, Alaska, 1950 – 1999,”** poster presented at the *Great Plains/Rocky Mountains and West Lakes Divisions of the Association of American Geographers* joint annual meeting; Lincoln, NE
- 2006 **“Accelerating melting of Harding Icefield, Alaska”**, paper presented at the *Northwest Glaciology* annual meeting; Fairbanks, AK
- 2006 **“Comparison of Glacial Changes between the Harding and Juneau Icefields, Alaska 1950 – 2000, using Remote Sensing Techniques”**, paper presented at the *Association of American Geographers* national annual meeting; Chicago, IL
- 2005 **“Monitoring Glacial Changes on the Harding Icefield, Alaska using Remote Sensing Techniques”**, paper presented at the *Association of American Geographers* national annual meeting; Denver, CO
- 2004 **“A GIS-based Index of Flight Path Vulnerability to Volcanic Eruptions”**, paper presented at the *Great Plains/Rocky Mountain Division of the Association of American Geographers* annual meeting; Sioux Falls, SD
- 2004 **“Historical Channel Change along the Cimarron River Southwestern Kansas 1953-2001”**, paper presented at the *Association of American Geographers* national annual meeting; Philadelphia, PA
- 2003 **“Using Synthetic Aperture Radar to Observe Changes in Alaskan Glaciers Related to Climate Change”**, paper presented at the *Great Plains/Rocky Mountain Division of the Association of American Geographers* annual meeting; Manhattan, KS

- 2001 **“Climate Change in the central Great Plains from the Holocene to the Present”**, paper presented at the *Great Plains/Rocky Mountain Division of the Association of American Geographers* annual meeting; Omaha, NE

#### INVITED LECTURES

- 2009 **“Estimation of Agricultural Land and Revenue Loss due to Catastrophic Flooding along the Cimarron River, SW Kansas,”** Department of Geology/Geography; Eastern Illinois University; Charleston, IL (November)
- 2009 **“Use of Remote Sensing Techniques to Calculate Mountain Glacier Changes, Related to Climate Changes,”** Earth System Science and Policy Program; University of North Dakota; Grand Forks, ND (November)
- 2008 **“Determining Glacial Changes of Five British Columbia Icefields using Remote Sensing Techniques, mid-1980s to 1999”** Department of Geography; University of Northern Iowa; Cedar Falls, IA (December)
- 2007 **“Geomorphology and Mass Balance of Mountain Glaciers”** Department of Geography; Radford University; Radford, VA (February)
- 2003 **“Changes in Channel Morphology along the Cimarron River in southwest Kansas: 1953 – 2001”** Department of Geography; University of Idaho; Moscow, ID (February)

#### GUEST LECTURES

- 2007 **“Research with Remote Sensing”** Department of Geography, Radford University, Radford, VA (November)  
Geography 425 Digital Image Processing
- 2007 **“Mountain Glaciers and Their Contribution to Sea Level Rise”** Department of Geography, University of Utah, Salt Lake City, UT (January)  
Geography 3292/5292 Snow and Ice
- 2004 **“Using Synthetic Aperture Radar to Observe Glacial Characteristics”** Department of Geography, University of Utah, Salt Lake City, UT (October)  
Geography 5130/6130 Advanced Remote Sensing Applications
- 2003 **“Density Slicing Applications”** Department of Geography, University of Utah, Salt Lake City, UT (March)  
Geography 5110/6110 Environmental Analysis Through Remote Sensing
- 2003 **“Supervised Classification Methods in Remote Sensing”** Department of Geography, University of Utah, Salt Lake City, UT (February)  
Geography 5110/6110 Environmental Analysis Through Remote Sensing

#### SERVICES

##### Professional

- Reviewer for the journal *The Professional Geographer*
- Reviewer for the journal *Coasts and Estuaries*
- Reviewer for the journal *Remote Sensing of Environment*

- Reviewer for National Science Foundation Grant Proposal

### **Departmental**

- Geography Liaison to the Library (Fall 2007 to Spring 2010); Radford University
  - Ordered many new updated books and videos needed for an enhanced educational experience in geography
- Geography Club Faculty Advisor (Fall 2007 to Spring 2010); Radford University
  - Assisted in organizing Geography Awareness Week events, including an information table, bake sale table, and geocaching
  - Assisted students in preparing for presentations at the Association of American Geographers National Annual Meeting (Washington, D.C. 2010)
  - Assisted students in sponsoring and clean-up of city roadway (April 2009 – Spring 2010)
- Gamma Theta Upsilon Faculty Sponsor; Radford University
  - Reactivated the Kappa Omicron Chapter and initiated five new members in Spring 2009 and four new members in Spring 2010
- Alternate Faculty Senate Member (Fall 2007 to Spring 2009); Radford University
- Traveled to the University of South Carolina, Department of Geography to discuss and share ideas on student recruitment and retention (Spring 2008)
- Attended the June 2009 summer assembly of the University Consortium for Geographic Information Science to network, learn more about the organization, and help determine if Radford University should apply to become a member institution

### **TECHNICAL SKILLS**

- ESRI ArcView and ArcGIS
- ERDAS Imagine and ENVI Remote Sensing Programs
- Computer Cartography (CorelDRAW)
- GPS data collection (Garmin)
- Microsoft Word, PowerPoint, and Excel

### **MEMBERSHIPS**

- Member, Gamma Theta Upsilon (International Geography Honor Society)
- Member, Association of American Geographers
- Member, American Society for Photogrammetry and Remote Sensing
- Member, American Geophysical Union
- Member, International Glaciological Society

### **AWARDS, HONORS, AND REMARKS**

- Invited to attend the Dissertation Initiative for the Advancement of Climate Change Research (DISCCRS) V Symposium; one of 34 selected out of 175 applicants worldwide to attend the NSF and NASA funded symposium focused on increasing networking and grant collaboration of interdisciplinary scientists regarding climate change; Saguaro Lake Ranch, Arizona, March 2010
- Interviewed by local National Public Radio affiliate WVTF on the topic of the importance of geography during Geography Awareness Week, November 2007
- Awarded Most Outstanding Graduate Student for the 2006-2007 academic year; Department of Geography, University of Utah, Salt Lake City, UT
- Awarded a Graduate Research Fellowship for the 2006-2007 academic year; Graduate School, University of Utah, Salt Lake City, UT

- Awarded Best Student Poster at the joint meeting of the Great Plains/Rocky Mountains and West Lakes Divisions of the Association of American Geographers in Lincoln, NE 2006
- Awarded Best Student Paper at the Great Plains/Rocky Mountains Division Meeting of the Association of American Geographers in Sioux Falls, SD 2004
- Donald A. Lewon Graduate Honor Roll Scholarship 2002-2003; College of Social and Behavioral Science, University of Utah, Salt Lake City, UT
- Meritorious Achievement Award 2000; Department of Geography, University of Idaho, Moscow, ID
- National Aeronautic and Space Administration (NASA) Fellowship to attend the Juneau Icefield Research Program in Alaska during summer 1999
- Competed in World Geography Bowl at the Association of American Geographers National Conferences in Los Angeles, CA 2002, New Orleans, LA 2003, and Philadelphia, PA 2004