



## CURRICULUM VITAE

### William K. Michener

**Current Positions:** University of New Mexico, Albuquerque, NM:  
*Professor and Director of e-Science Initiatives*, University Libraries System;  
*Director*, New Mexico EPSCoR (NSF & DOE Programs);  
*Special Assistant for National Networks*, Office of the Vice President for Research and Economic Development

**Address:** New Mexico EPSCoR State Office, MSC04 2815, 1312 Basehart Drive SE,  
University of New Mexico, Albuquerque, NM 87131-0001 USA

505-220-3123 (Mobile); 505-277-2541 (FAX); email: [wmichene@unm.edu](mailto:wmichene@unm.edu)

**Home:** 840 Paseo de Don Carlos, Santa Fe, New Mexico 87501

<b>Education:</b>	Ph.D.	1990	Biological Oceanography University of South Carolina, Columbia, SC
	M.S.	1980	Entomology, Fisheries, and Wildlife Clemson University, Clemson, SC
	B.S.	1977	Zoology Clemson University, Clemson, SC

**Research Interests:** data, information and knowledge management; cyberinfrastructure design and specification; ecological and environmental informatics; design of environmental observatories, research networks, and data centers

**Professional Affiliations:** American Association for the Advancement of Science, American Institute of Biological Sciences, Coalition for Networked Information, Federation of Earth Science Information Partners, Ecological Society of America, International Society for Ecological Informatics, Sigma Xi

#### Professional Experience:

##### 2000-present, University of New Mexico

*Professor and Director of e-Science Initiatives*, University Libraries System (2008-)  
*Research Professor*, Department of Biology (2000-)  
*Senior Scientist & Associate Director*, LTER Network Office (2000-2010)  
*Special Assistant for National Networks*, Office of the Vice President for Research (2006-)  
*Co-Director, Co-PI and Senior Scientist*, NEON Project Office, AIBS, Washington, DC (2004-2006)  
*Director and PI*, Resource Discovery Initiative for Field Stations (2001-2006)  
*Senior Advisor*, NEON, Inc., Washington, DC (2006-2007)  
*Director and PI*, Science Environment for Ecological Knowledge (2002-2008)  
*Director*, New Mexico Experimental Program to Stimulate Competitive Research (NSF & DOE EPSCoR) (2007-)

Responsibilities include: science administration and project management; long-range strategic and programmatic planning and development; proposal writing; budgeting and personnel oversight; performing original informatics and cyberinfrastructure research; building, sustaining and expanding collaborative relationships with governmental and non-governmental organizations, professional societies, and the international community; organizing training and technology transfer activities; advising stakeholders on science and technology issues; and contributing to the design and implementation of national and regional scale environmental observatory and research networks (e.g., NEON, LTER, WATERS, INDOFLUX).

1999-2000, Program Director (Ecology, Biocomplexity), National Science Foundation

Responsibilities included: administering the Ecology and Biocomplexity Programs; advising the Biological Sciences Directorate on matters and policies regarding science and technology relevant to the environmental sciences; advising the environmental sciences research community on matters pertaining to research and educational opportunities; long-range programmatic planning and development, including organization of workshops and development of new program initiatives; budgeting and personnel oversight; serving as the Division's and Foundation's liaison with other agencies and organizations in matters pertaining to environmental science and technology (e.g., serving on Inter-Agency task forces and working groups including the Biological Data Working Group for the Federal Geographic Data Committee and the Biodiversity and Ecosystem Informatics Working Group); and performing original research in areas related to environmental science and technology.

1993-1999, Associate Scientist, J.W. Jones Ecological Research Center

Performed research in landscape ecology, remote sensing and geographic information systems, and environmental informatics; provided information and technology transfer to the public and the scientific and natural resource management communities; served on state and Federal advisory panels on matters involving environmental research and technology; personnel oversight and committee responsibilities; academic responsibilities included advising graduate students, teaching and seminars for upper division undergraduate and graduate students, and design and implementation of science and technology workshops.

1980-1993, University of South Carolina (Baruch Institute for Marine Biology and Coastal Research):

*Research Assistant Professor (1990-1993)*

Performed research in landscape ecology, biological oceanography, and environmental informatics; served on university, state and Federal advisory panels on matters involving environmental research and technology; personnel oversight and university committee responsibilities; grant procurement and administration; academic responsibilities included teaching and seminars for upper division undergraduate and graduate students.

*Coastal Geographic Information Systems & Research Database Administrator (1984-1990)*

Responsibilities involved the design, implementation, and administration of the coastal GIS and research database for the Baruch Institute for Marine Biology and Coastal Research; service on various state and university committees; personnel oversight, budgeting, and grant procurement and administration.

*Statistician (1982-1984)*

Served as database administrator and data analyst for the Baruch Institute's long-term database; personnel oversight and committee responsibilities; methods development and training.

*Research Associate, Program Manager for Coastal Energy Impact Program (1980-1982)*

Served as program manager and data analyst for the (State of South Carolina's) Coastal Energy Impact Program; personnel oversight and committee responsibilities; and technical report writing.

Additional Faculty Appointments:

1993-2002, Baruch Associate, University of South Carolina  
1996-2003, Adjunct Faculty, Department of Zoology, Auburn University  
1995-2006, Graduate Faculty, Institute of Ecology, University of Georgia  
1993-1995, Adjunct Faculty, Institute of Ecology, University of Georgia

**Publications: See full CV for list**

*(159 publications including 5 books, 67 scientific articles published or in press, 32 book chapters, 4 book reviews, 10 technical monographs, 30 technical reports, and 11 “popular” articles in magazines and newsletters. Published abstracts as well as papers and book chapters that are in preparation are not included in these totals.)*

**I. Books (5)**

National Research Council (Committee on Integrated Observations for Hydrologic and Related Sciences). 2008. *Integrating Multiscale Observations of U.S. Waters*. The National Academies Press, Washington, DC.

Michener, W.K. and J.W. Brunt. 2000. *Ecological Data: Design, Management and Processing*. Blackwell Science (Methods in Ecology Series), Oxford University Press, UK. 180 pp.

Michener, W.K., J.W. Brunt, and S.G. Stafford (eds.). 1994. *Environmental Information Management and Analysis: Ecosystem to Global Scales*. Taylor & Francis, London, UK. 555 pp.

Michener, W.K., A.B. Miller, and R. Nottrott. 1990. *Long-Term Ecological Research Core Data Set Catalog*. Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina Press, Columbia, SC. 322 pp.

Michener, W. K. (ed.). 1986. *Research Data Management in the Ecological Sciences*. Belle W. Baruch Library in Marine Science, No. 16. University of South Carolina Press, Columbia, SC. 426 pp.



## Peter Goodwin

Department of Civil Engineering/Center for Ecohydraulics Research Telephone: (208) 850-1211  
University of Idaho Fax: (916) 445-7311  
322 East Front Street, #340 E-mail: pgoodwin@uidaho.edu  
Boise, ID. 83712 www.uidaho.edu/engr/ecohydraulics

### Professional Preparation

Institution	Major/Area	Degree & Year
University of Southampton, United Kingdom	Civil Engineering	B.S., 1978
University of California, Berkeley	Civil Engineering	M.S., 1982
University of California, Berkeley	Civil Engineering	Ph.D., 1986

### Appointments

2012-Present	Lead Scientist, Delta Science Program, State of California. Oversight of Delta Science Program and facilitation of collaborative scientific research activities.
2010-Present	EPSCoR Project Director, Idaho. Responsible for NSF EPSCoR programs in Idaho.
2004-Present	Director, Center for Ecohydraulics Research, University of Idaho (on leave of absence 2012-13). All aspects of management responsibility for Research Center including development of field capabilities, laboratory and computational facilities.
2002-Present	Professor, Department of Civil Engineering, University of Idaho. Graduate teaching and supervision. Research
2001-Present	DeVlieg Presidential Professor, University of Idaho. Honorary position with private foundation financial support.
1996-2001	Associate Professor, Department of Civil Engineering, University of Idaho. Undergraduate and graduate teaching. Research activities in water and ecosystem restoration.
1998-Present	Adjunct Professor, Department of Biological and Agricultural Engineering, University of Idaho. Supervise students with BAE faculty and teach graduate classes.
1989-1996	Technical Director and Principal, Philip Williams and Associates, San Francisco. Responsible for research and technical oversight of this startup company focused on environmental restoration and protection.(company grew from 4 to 60+ employees).
1987-1989	Co-Founder, Computational Hydraulics and Environmental Modeling Research Group, University of Bradford, United Kingdom. Mathematical simulation of coastal and inland waters.
1986-1989	Lecturer in Water Engineering, Department of Civil Engineering, University of Bradford, United Kingdom. Undergraduate teaching and research.

### Five products most closely related to proposed project

Parkinson, S.E.\*, **P. Goodwin** and D. Caamaño, 2012. Flow structure and sustainability of pools in gravel-bed rivers. Environmental Fluid Mechanics. Memorial volume in honor of Gerhard H. Jirka. CRC Press. 175-194.

Benjankar, R., N.F. Glenn, G. Egger, K. Jorde and **P. Goodwin**, 2010. Comparison of Field Observed and Simulated Map Output from a Dynamic Floodplain Vegetation Model Using Remote Sensing and GIS Techniques. GIScience and Remote Sensing. 47 (4). 480-497.

Caamaño, D\*, **Goodwin, P.**, Buffington, J.M., Liou, J.C., Daley-Laursen, S. A unifying criterion for velocity reversal hypothesis in gravel-bed rivers, 2009. Journal of Hydraulic Engineering. ASCE.

Tonina, D.\*, C.H. Luce, S.R. Clayton\*, S.M. Ali\*, J.J. Barry\*, B. Rieman, **P. Goodwin**, J.M. Buffington, C.E. Berenbrock\*, 2008.. Hydrological Response to Timber Harvest in Northern Idaho: Implications for Channel Scour and Persistence of Salmonids. Hydrological Processes, 22.

**Goodwin, P.**, K. Jorde, C. Meier and O. Parra, 2006. Minimizing environmental impacts of hydropower development: transferring lessons from past projects to a proposed strategy for Chile. Journal of Hydroinformatics. 8(3). 1-19.

### **Additional significant products**

Klein, L.R, S.R. Clayton\*, and **P. Goodwin**, 2007. Long-Term Monitoring and Evaluation of the Lower Red River Meadow Restoration Project, Idaho, USA. *Journal of Restoration Ecology*. 15(2). 223-239.

Bernhardt E.S., Palmer, M.A., , J.D. Allan, G. Alexander, K. Barnas, S. Brooks, J. Carr, S. Clayton, C.N. Dahm, J. Follstad Shah, D.L. Galat, S.Gloss, **P.Goodwin**, D.D. Hart, B. Hassett, R. Jenkinson, S. Katz, G.M. Kondolf, P.S. Lake, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, B. Powell and E. Sudduth, 2005. Synthesizing U.S. River Restoration Efforts. *Science*, **308**, April 29, 636-637.

Palmer, M.A., E.S. Bernhardt, J.D. Allan, P.S. Lake, G. Alexander, S. Brooks, J. Carr, S. Clayton, C.N. Dahm, J. Follstad Shah, D.L. Galat, S.Gloss, **P.Goodwin**, D.D. Hart, B. Hassett, R. Jenkinson, G.M. Kondolf, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano and E. Sudduth, 2005. Standards for ecological successful river restoration. *Journal of Applied Ecology*, April.

### **Synergistic Activities**

Delta Science Program, Delta Stewardship Council. State of California and USGS. Lead Scientist developing the Science Plan for addressing the Coequal Goals of Water Reliability and Ecosystem Restoration in California.

Science Board, Louisiana Coastal Action Plan (rebuilding the ecosystem and wetlands of coastal Louisiana post- Hurricane Katrina). <http://el.erc.usace.army.mil/lcast/> and <http://lacoast.gov/> (2006-11)

Independent Science Board: CALFED San Francisco Bay-Delta Program (2005-2010). Board has oversight role of scientific research related to the San Francisco Bay Delta ecosystem.

Scientific Steering Committee, Patagonia Ecosystems Research Center (CIEP). A multi-national research initiative for the sustainability of Patagonia, Chile (2005-present) with 12 countries currently participating.

Founder and Director of the Center for Ecohydraulics Research (CER), established with the support of National Science Foundation Grant: Ecohydraulics: Simulation of Physical Processes in River Ecosystem Management. [[www.uidaho.edu/ecohydraulics/](http://www.uidaho.edu/ecohydraulics/)]

### **Collaborators and Other Affiliations**

#### **Collaborators and Co-Editors**

Jorg Imberger, University of Western Australia

Roberto Marivella, Technical University of Madrid

International Association for Hydroenvironment Engineering and Research ([www.iahr.net](http://www.iahr.net))

#### **Graduate Advisors and Postdoctoral Sponsors**

Norman H. Brooks, California Institute of Technology

Ph.D., Hugo B. Fisher University of California, Berkeley

Rodney J. Sobey, University of California, Berkeley

MS., Catherine van Ingen, University of California, Berkeley

#### **Thesis Advisor and Postgraduate-Scholar Sponsor**

Shawkat Ali., Little Rock  
Arkansas

Charles Berenbrock, USGS

Carter Borden, DHI Water  
and Environment

Tai Bui, National Hydraulic  
Laboratory

Diego Caamano, University  
of Concepcion, Chile

Christopher Campbell,  
CBEC, Inc

Steven R. Clayton, CH2M Hill

Christopher Cuhaciyar,  
University of Idaho

Jack Harrison, Private  
Consultant

Dan Isaak, USFS Rocky  
Mountain Research  
Station

Frauke Koenig, University of  
Karlsruhe

Mark Morehead, Idaho Power  
Company

Anthony Minns, Delft  
Hydraulics.

Jasna Muskatirovic,  
University of Belgrade

Sharon Parkinson, USBR  
Shaun Parkinson, Idaho

Power

Amanda Rosenberger,  
University of Alaska

Andrew Tranmer, University  
of Idaho

David Tuthill, Idaho Water  
Engineer

# Cyberlearning Summit

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## *NSF Highlights – Track 2 & Collaboration*

### **Title**

1<sup>st</sup> Annual Tri-State Consortium Cyberlearning Summit

### **Outcome**

CL leaders efficiently collaborated on how the various approaches used by each program and their respective strengths could best be integrated and leveraged in STEM education and outreach. The



Participants separated into teams to perform hands-on experiments with water quality instruments.

summit also resulted in several cyberlearning sessions that were offered at the 4<sup>th</sup> Annual Tri-State meeting in Sun Valley, Idaho.

### **Impact/Benefits**

CL leaders from each state contributed to a proposal to NSF's Cyberlearning: Transforming Education program that would support development of a research program. During the summit, it became clear that the programs developed individually were synergistic and would likely provide even more effective learning opportunities for students by incorporating components across projects.

### **Explanation**

A group of EPSCoR collaborators from New Mexico, Nevada, and Idaho joined together in Jemez Springs to discuss cyberlearning activities, programs, and materials that have been developed with support from the NSF EPSCoR Track 2 award. One component of the Western Tri-State Consortium (Track 2) of NV, NM and ID is the utilization of cyberinfrastructure to integrate research with education. Consequently, each of the states has developed cyberlearning (CL) tools related to the theme of water resources and climate change.

In January 2012, 26 participants from all three states convened in New Mexico to explore synergies that exist amongst the projects. During the two-day CL Summit, representatives of each state led demonstrations of the K-12 CL materials/programs that had been developed or expanded with NSF EPSCoR funding, including the McCall Outdoor Science School (MOSS) in Idaho, Growing up Thinking Scientifically (GUTS) in New Mexico, and implementation of Climate Change Cyberlearning Curriculum Development (C4D) in Nevada. In addition to learning about the programs, a goal of the summit was to identify components of the projects that were suitable for scaling up and dissemination to the other states.

Source: Natalie Willoughby, NM EPSCoR, University of New Mexico

Image provided by: Natalie Willoughby, [nwilloughby@epscor.unm.edu](mailto:nwilloughby@epscor.unm.edu)