

# **Donald M. Anderson**

1250 South Race Street  
Denver, Colorado 80210  
303.777.7633 (home) • 303.888.3738 (cell) • dma1guy@yahoo.com

## **AREAS OF EXPERTISE**

- **Hydrologic modeling and analysis**
- **Sustainable water resources development & management**
- **Ecological flow assessments and river restoration strategies**
- **Technical report writing and editing**
- **National and international water workshop coordination**

## **PROFESSIONAL EXPERIENCE**

### **Water Policy Analyst**

#### **U.S. Bureau of Reclamation**

84-55000, P.O. Box 25007, Denver, Colorado 80225  
November 2009 - Present

I provide technical and policy support for activities associated with Federal water project operations, management, and water deliveries in the 17 western United States, including: river restoration policies and practices; water conservation initiatives; drought response planning; water-related contracting; floodplain management; Endangered Species Act compliance; water rights administration; water quality protection; stormwater management; and climate-change modeling and adaptation.

Responsibilities include the development and implementation of new policies and agency initiatives, assessment of legal and policy options to achieve management objectives, review and comment on proposed federal legislation and administrative rules, compliance with executive orders, review and comment on proposed international (OECD) water management recommendations, preparation of responses to Congressional and Government Accounting Office inquiries, and coordination of regional office feedback on various new proposals and policy initiatives.

As a policy specialist and a professional hydrologist, I have been selected to serve Reclamation in a variety of specialized short-term assignments including:

- Acting executive director for the multi-agency *Trinity River Restoration Program* (summer 2016)
- Acting chief of water contracting for Reclamation's Mid-Pacific Region (summer 2014)
- Denver Reclamation Office Liaison to Reclamation's Commissioner's Office in Washington, D.C. (multiple occasions)
- Presenter at national conferences and to fellow federal agencies on USBR's water management policies and activities (multiple occasions)

## **Regional Hydrologist**

### **U.S. Fish & Wildlife Service (USFWS)**

134 Union Boulevard, Lakewood, Colorado 80228-1807

December 2000 – November 2009

I provided key planning and hydrologic analysis support for a variety of Ecological Services activities in the eight-state Mountain-Prairie Region, including development of the massive environmental impact study (EIS) for the first 13-year increment of the three-state *Platte River Recovery Implementation Program*. This included:

- Modeling and analysis of water management alternatives on river flow and habitat;
- Assessment of land use changes and new water uses on water quality, quantity, and timing;
- Coordination with water administrators and managers from Wyoming, Nebraska, and Colorado to evaluate strategies for flow enhancement and the recovery of riverine, wet meadow, and riparian habitat;
- Assessment of in-stream flow criteria, targets, and trigger conditions appropriate for meeting Program objectives.

In addition to serving as USFWS's representative on the Water Management Committee for that Recovery Program, I also represented USFWS on the Adaptive Management Workgroup for development of an adaptive management framework to evaluate the effectiveness of the Program's river recovery strategies, and to modify Program strategies accordingly.

During my tenure with USFWS, I coordinated two water-resources workshops in Latin America: one in Ecuador (2004), and one in Cuba (2007). For the former, I worked closely with USAID-Ecuador, local organizations, and a USFWS aquatic ecologist to develop and deliver on-site Spanish-language training addressing potential impacts of water-supply development on Ecuador's physical and biological environment. For the latter, I coordinated an interactive Spanish-language workshop with Cuban hydrologists and biologists to discuss water management strategies to benefit the extensive *Gran Humedal del Norte de Ciego de Ávila* biological reserve and RAMSAR-designated wetland.

My other activities at USFWS included leadership roles organizing various meetings and events, including the first-ever *National Assembly of Service Hydrologists* (at the National Conservation Training Center, 2004), a regional workshop on climate change and water availability (2007), and a climate-change workshop for regional project leaders (2008).

## **Associate Scientist**

### **Cooperative Institute for Research in Environmental Sciences (CIRES)**

Campus Box 216, Boulder, Colorado 80309

May 1997 - June 1998, and February 1999 - December 2000

As an Associate Scientist, I was involved in a wide range of hydrological/climatological research and research-support activities with the CIRES research institute, including:

- Research into the dynamics of the North American Monsoon and associated watershed-scale hydrologic responses in the southwestern United States and northwestern Mexico;
- Customized software development (using C/C++, Fortran, and IDL) for hydrology and climatology research using remotely-sensed (satellite) data to investigate large-scale hydrologic and climate processes; and

- Technical consultant in the development of the University of Colorado's "Western Water Assessment" NOAA research initiative;

### **Hydrologist**

#### **Wright Water Engineers, Inc.**

2490 West 26th Avenue, Suite 100A, Denver, Colorado 80211

June 1998 - February 1999

As a staff hydrologist and GIS specialist, I took on a wide variety of hydrologic consulting assignments in Colorado, including:

- Developing 100-year-flood estimates for high-elevation, snowmelt-dominated forested drainages in Colorado;
- Modeling and mapping spatially-distributed hillslope erosion and sediment deposition dynamics at the Rocky Flats site in Colorado;
- Helping develop a city ordinance (in partnership with the Silverthorne, Colorado planning department and the local development community) to protect key community wetland resources in a high-elevation environment;
- Performing paleo-hydrologic field research at Mesa Verde National Park.

### **Senior GIS and Remote-Sensing Specialist**

#### **Information Systems Solutions International, Inc. (ISSI)**

999 Eighteenth Street, Suite 1250 STW, Denver, Colorado 80202

September 1996 - May 1997

As the senior GIS/RS specialist, I was responsible for coordinating the activities of a four-person GIS and remote sensing contract team, including project tracking, client coordination, and staff hiring. Implemented a variety of GIS support activities for EPA Region 8 using Arc/Info, ArcView, and ERDAS, including:

- Analysis and modeling of biological site risks at the Rocky Mountain Arsenal superfund site;
- Interpolation and analysis of soil contamination data;
- Production of publication-quality GIS maps of 15 layers of information for the Clear Creek, Colorado, "State-of-the-Watershed" Report.

### **Hydrologist and GIS Specialist**

#### **National Operational Hydrologic Remote Sensing Center, National Weather Service**

1735 Lake Drive West, Chanhassen, Minnesota 55317

August 1994 - September 1996

As a physical scientist with the National Weather Service (NWS) Office of Hydrology, I was involved in a variety of activities to support NWS river forecast centers across the United States, including:

- Assisted with the refinement of snow accumulation and ablation models for the mountainous regions of the western United States and Canada;
- Responsible for the compilation, maintenance, and documentation of raster and vector geospatial data sets for the Center's hydrologic modeling and spatially-distributed snow estimation products;

- Developed continuously-running Arc/Info macro to convert raw raster data and associated header information into snow data plot files and thematic map images for automated Web site distribution ([www.nohrsc.nws.gov](http://www.nohrsc.nws.gov)).

**Carribbean Land-Use Hydrology Researcher**  
**Watershed Sciences Program, Colorado State University, Fort Collins**  
**& Island Resources Foundation, St. Thomas, U.S. Virgin Islands**

August 1992 - August 1994

Part-time (20 hours/week).

I conducted watershed-scale studies of long-term historic and present-day erosion and sediment delivery on St. John Island (U.S. Virgin Islands) for the U.S. National Park Service while pursuing a Master's degree in watershed science. I established the first quantitative estimates of erosion and sediment delivery associated with specific land use activities on the island, and developed recommendations for sediment control practices to protect sensitive marine resources, using GIS-supported models of surface hydrology, slope stability, and soil erosion. Study results were published as a 153-page Park Service technical publication in 1994.

Subsequently, as a research associate with the Island Resources Foundation, I authored the 53-page *Guidelines for Sediment Control in the Insular Caribbean* in 1994. This guidebook, targeted toward site development practices, was funded and published by the United Nations Environment Program for use throughout the Caribbean. An independent website ([coastalchallenges.com](http://coastalchallenges.com)) recently described this as “one of the most practical and useful coastal management books ever written ... fifteen years have passed, and the publication is as useful as ever.”

**Peace Corps Volunteer (Natural Resources)**

**Honduras, Central America**

August 1982 – November 1985

I coordinated soil conservation, reforestation, agro-forestry and ‘appropriate technology’ projects to protect the rural headwaters serving the capital city of Tegucigalpa, Honduras. I provided training to rural farmers and farming cooperatives in the buffer zone surrounding La Tigra National Park cloud forest (and also in drier zones of southern Honduras) addressing soil conservation and reforestation principles and practices.

I was invited to extend my Peace Corps service for a third year, during which I worked intensively with the Honduran *Instituto Nacional de Geografía* to develop a detailed surface-geology map of the Lepaterique, Honduras quadrangle at 1:50,000 scale. The final map and accompanying 85-page report were published in 1987.

## EDUCATION

- **M.S. Watershed Science**, August 1994, Colorado State University, Fort Collins, CO 80523. Graduate research: interfacing GIS with watershed hydrology models. Recipient of Colorado Graduate Fellowship (1992) and Boyne Graduate Scholarship (1993).
- **B.S. Soil Science, B.S. Geology**, "with highest honors", June 1982, Oregon State University, Corvallis, OR, 97331.

## FOREIGN LANGUAGES

- **Spanish** (fluent written and oral)
- **French** (basic conversational and reading-comprehension skills)

## PROFESSIONAL AND COMMUNITY ACTIVITIES

- **Professional Hydrologist**, American Institute of Hydrology, certification #09-H-1902.
- **Technical Reviewer**. Since 1997 I've peer-reviewed numerous scientific papers upon request of the editors of the *Journal of the American Water Resources Association*, the *Australian Journal of Soil Research*, and *Environmental Modelling and Software*.
- **Advisor**, James Creek Turbidity Study Advisory Committee, Jamestown, Colorado (2000).
- **Citizen's Advisory Board**, Give to the Earth Foundation, Minneapolis (1995-1998).

## SELECTED PUBLICATIONS

Anderson, D.M. 2016. [Coordinating Author]. Reclamation Climate Change and Water, *Chapter 1: West-Wide Overview*. Prepared for the U.S. Congress pursuant to SECURE Water Act Section 9503(c). Denver, Colorado: Bureau of Reclamation Policy and Administration.

Anderson, D.M. 2013. Distinguishing water conservation from water savings in the western USA. *International Journal of River Basin Management*, 11(3): 269-276.

Platte River Recovery Program and U.S. Fish and Wildlife Service (D.M. Anderson primary author). *2009 Platte River Flow Routing Test: Results, Information Gleaned, Lessons Learned*. Report to the Platte River Recovery Implementation Program Governance Committee, November 23, 2009. 27 pp with attachments.

Anderson, D.M., and M.R. Rodney. 2006. Characterization of hydrologic conditions to support Platte River species recovery efforts. *Journal of the American Water Resources Association*, 42(5):1391-1403.

MacDonald, L.H., R.W. Sampson, and D.M. Anderson. 2001. Road surface runoff and erosion at the plot and segment scales, St. John, U.S. Virgin Islands. *Earth Surface Processes and Landforms*, 26(3):251-272.

Berg, W.K., D.M. Anderson and J.J. Bates. 2000. Satellite observations of a Pacific moisture surge associated with flash flooding in Las Vegas, *Geophysical Research Letters*, 27: 2553-2556.

- Anderson, D.M. and MacDonald, L.H. 1998. Modeling road surface sediment production using a vector geographic information system. *Earth Surface Processes and Landforms*, 23(1):95-107.
- MacDonald, L.H., D.M. Anderson and W.E. Dietrich. 1997. Paradise threatened: land use and erosion on St. John, U.S. Virgin Islands. *Environmental Management*, 21(6):851-863.
- Anderson, D.M. May 1996. GIS and snow monitoring at the National Weather Service. *GIS World*, Fort Collins, Colorado, pp. 40-43.
- Anderson, D.M. 1994. *Guidelines for Sediment Control Practices in the Insular Caribbean*. Caribbean Environment Progress Technical Report No. 32, United Nations Environment Programme, Kingston, Jamaica. 63 pp.
- Anderson, D.M. 1994. *Analysis and Modeling of Erosion Hazards and Sediment Delivery on St. John, U.S. Virgin Islands*. Technical Report NPS/NRWRD/NRTR-94/34, National Park Service Water Resources Division, Fort Collins, Colorado. 153 pp.