

Winfield G. Wright
Professional Engineer
Certified Professional Hydrologist
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EDUCATION

Master of Science in Civil Engineering/Hydrosystems
Virginia Polytechnic Institute • Blacksburg, Virginia • 1986
Bachelor of Science in Civil Engineering
Virginia Polytechnic Institute • Blacksburg, Virginia • 1981

AREAS OF EXPERTISE

- Complex Hydrologic Investigations.
- Statistical Analysis of Large Data Sets.
- Watershed Planning.
- Ground-Water Hydraulics.
- Well Drilling and Aquifer Testing.
- Open Channel Hydraulics.
- Safe Yield and Water Supply.
- Geochemistry of Acid Mine Drainage.
- Laboratory Analytical Methods.
- Limnology and Reservoir Chemistry.
- Water Rights and Legal Proceedings.
- Irrigation Water Quality.
- Isotope Geochemistry and Age Dating.
- Public Water Supply Systems.

CERTIFICATIONS

Professional Engineer

State of Colorado • Number 42818 • 2008

Professional Hydrologist

American Institute of Hydrology • Number 1614 • 2004

Engineer In Training

State of Virginia • 1981

PROFESSIONAL EXPERIENCE

Adjunct Scientist—Mountain Studies Institute, Silverton, Colorado, 2009 to present

- Areas of expertise include atmospheric deposition of mercury, backtrajectory analyses, trend analysis of historical atmospheric deposition data.
- <http://www.mountainstudies.org/>.

Adjunct Scientist—Wright Water Engineers, Inc., Denver, Colorado, 2008 to present

- Areas of expertise include water rights, augmentation and substitute water-supply plans, canal rehabilitation, seepage loss studies, ground-water hydrology, and report writing.
- <http://www.wrightwater.com/>.

President—Southwest Hydro-Logic, 2003 to present

- Areas of expertise include safe yield analysis, ground-water flow in fractured rock systems, water rights, watershed planning, geochemistry of desert aquifer systems, water supply (surface and ground water), GIS, data bases, stream gaging, irrigation canal evaluation and renovation, sources of mercury in the hydrologic system, atmospheric deposition of mercury from coal-fired power plants, report writing, and website publishing.

- Watershed Coordinator for the Pine River Watershed Group; obtained grant funding for the Vallecito Reservoir Monitoring Program in southwestern Colorado; collected water- and precipitation-quality data; studied rainfall-runoff and floods in small catchments; performed atmospheric transport and dispersion modeling of mercury in the Four Corners region, wrote papers and gave presentations regarding mercury in atmospheric deposition.
- Operation and maintenance plans for public water supply systems, distribution system evaluation, and GIS mapping,
- Ditch Rider for the Pine Ridge Ditch Company; administered water rights and diversions.
- Guest Editor for Water Resources Impact, journal the American Water Resources Association; member of AWRA national policy committee.
- <http://www.swhydrologic.com/>

Hydrologist, Project Chief—U.S. Geological Survey, Durango, Colorado, 1994 to 2003

- Areas of expertise included ground-water resource assessments, effects of historical mines on water quality, oxidation and mobilization of selenium in the environment, isotopes of sulfate to distinguish between natural and mining-affected constituents, and sources of salinity of streams.
- Performed research-laboratory analyses for selenium speciation using atomic absorption spectrometry. Analyzed acid mine drainage samples for sulfate and iron using spectrophotometry.
- Managed employees, office facilities, budgets, vehicles, and equipment.

Hydrologist—U.S. Geological Survey, Grand Junction, Colorado, 1990 to 1994

- Areas of expertise included ground-water resource assessments, watershed studies of selenium in the upper Colorado River Basin, erosion and sediment transport, and salinity in the upper Colorado River basin.

Hydrologist—U.S. Geological Survey, Richmond, Virginia, 1984 to 1990

- Areas of expertise included ground-water resource assessments, surface-water resource assessments, ground-water contamination, aquifer testing, and ground-water modeling.

Hydrologist—U.S. Geological Survey, Marion, Virginia, 1982 to 1984

- Areas of expertise included packer-injection testing of fractured-rock aquifers, lineament mapping, statistical analysis of well yields in fractured aquifers.
- Invented hydrologic term *Unit Yield*, which is referenced in hydrology textbooks.

Stable Manager—Quailwood Stables, Fairfax Station, Virginia, 1974-82

- Areas of expertise included care and health of 50+ horses.

PROFESSIONAL SOCIETY MEMBERSHIP

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| • American Society of Civil Engineers, current | • American Chemical Society, 1992-2002 |
| • American Water Resources Association, current | • Geological Society of America, 1998-2002 |
| • American Institute of Hydrology, current | • National Geographic Society, 1984-1995 |
| • American Geophysical Union, 1985-1998 | • National Speleological Society, 1978-1995 |
| • Virginia Polytechnic Institute Speleological Society, President, 1980-81. | |
| • Richmond Area Speleological Society, Board of Directors, 1986-89. | |

COMMITTEES AND AWARDS

- Lechuguilla Cave Project, New Mexico, Science Advisory Committee, 1988-95.
- La Plata County, Colorado, Ground Water Advisory Committee, 1994-98.
- American Water Resources Association, National Policy Committee, 2004-present.
- Journal of Water Resources IMPACT, Guest Editor, 2007.
- Department of the Interior Cooperative Conservation Award, April 2008.

PUBLICATIONS

Author and coauthor of more than 60 reports and papers, selected reports are as follows:

- Wright, W.G., 2006, Hydrology and Geochemistry of Yucca House National Monument and Surrounding Area, Southwestern Colorado: Southwest Hydro-Logic Hydrological Investigations Report 2006-1, 56 p,
http://www.swhydrologic.com/reports/Yuho_Report_Final_Mar%2029,%202006.pdf.
- Wright, W.G., 2005, Hydrology and Safe Yield of the Lightner Creek Watershed for the Lake Durango Water Company Municipal Water Supply, La Plata County, Colorado, 2005: Southwest Hydro-Logic Hydrological Studies Report 2005-2B, 45 p,
http://www.swhydrologic.com/reports/SWHL_Lightner%20Creek%20Safe%20Yield_FINAL.pdf.
- Wright, W.G., 2006, Lake Durango Water Company, Operations and Maintenance Action Plan, December 2006: Southwest Hydro-Logic Hydrological Studies Report 2006-6a, 27 p,
http://www.swhydrologic.com/reports/LDWC_Maintenance%20Action%20Plan_Jan%202007_updated.pdf.
- Wright, W.G., Simon, William, Bove, D.J., Mast, M.A., and Leib, K.J., 2006, Distribution of pH values and dissolved trace-metal concentrations in streams of the upper Animas River Basin *in* Church, S.E., von Guerard, P.B., and Finger, S.E. (Eds.), Integrated investigations of environmental effects of historical mining in the Animas River watershed, San Juan County, Colorado: U.S. Geological Survey Professional Paper 1651, Chapter E10.
- Wright, W.G., and Nordstrom, D.K., 1999, Oxygen isotopes of dissolved sulfate as a tool to distinguish natural and mining-related dissolved constituents *in* Tailings and Mine Waste '99: Netherlands, A.A. Balkema Publications, p. 671-678.
- Wright, W.G., and Nordstrom, D.K., 1999, Oxygen isotopes of dissolved sulfate as a tool to distinguish natural and mining-related dissolved constituents in U.S. Geological Survey Toxics Substances Hydrology Program--Proceedings of the technical meeting, Charleston, South Carolina, March 8-12, 1999, http://www.swhydrologic.com/reports/wright_toxics99.pdf.
- Wright, W.G., 1999, Oxidation and mobilization of selenium by nitrate in irrigation drainage: Journal of Environmental Quality, vol. 28, n. 4, p. 1182-1187,
http://www.swhydrologic.com/reports/Wright_JEQ_Se-No3.pdf.
- Wright, W.G., 1997, Natural and mining-related sources of dissolved constituents in the upper Animas River basin, southwestern Colorado: U.S. Geological Survey Fact Sheet FS-148-97, 6 p.
- Wright, W.G., and Powell, J.D., 1990, Assessment of ground-water contamination from a leaking underground storage tank at a Defense supply center near Richmond, Virginia: U.S. Geological Survey Water-Resources Investigations Report 90-4091, 38 p.
- Wright, W.G., 1986, Modeling karst aquifer response to rainfall *in* Proceedings of the Ninth International Congress of Speleology, Barcelona, Spain, p. 36-39.
- Wright, W.G., 1984, Effects of fracturing on well yields in the coalfield areas of Wise and Dickenson Counties, Southwestern Virginia: U.S. Geological Survey Water-Resources Investigation Report 84-461, 28 p.

REFERENCES

- Richard A. Engberg, Technical Director, American Water Resources Association, 4 West Federal Street, P.O. Box 1626, Middleburg, Virginia 20118, (540) 687-8390, dick@awra.org. Former positions: U.S. Geological Survey, Iowa District Chief, 1984-90; Department of the Interior, Manager of Irrigation and Drainage Program, 1990-2000.
- John D. Powell (ret), U.S. Geological Survey, Manager, Department of Defense Environmental Contamination Program, 12201 Sunrise Valley Drive, Reston, Virginia, (703) 648-4169, jdp4golf@mchsi.com.
- Stanley E. Church, U.S. Geological Survey, Manager, Abandoned Mine Lands and Minerals Program, Box 25046 Denver Federal Center, Denver, CO 80225, (303) 236-1900, schurch@usgs.gov.