

General Biographical Information

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Biographies

Outstanding Young Men of America (1979)
 American Men and Women of Science
 Who's Who in the West
 Who's Who in America
 Who's Who in Technology
 Who's Who of Emerging Leaders in America (2nd Edition)
 Who's Who in Science and Engineering
 Who's Who in the World (12th ed. & ff.)
 The International Directory of Distinguished Leadership
 Men of Achievement (International Man of the Year 1992-93)
 Personalities of America.

Academic Background

Ph.D.	Civil Engineering	Stanford University	1970
M.S.	Civil Engineering	Stanford University	1968
B.E. (Hons. I)	Civil Engineering	Newcastle, Australia	1967
B.Sc.	Physics & Mathematics	Newcastle, Australia	1967

Professional History

Professor Emeritus, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, June 16, 2010-
 Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, 1998 -2010.
 Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1979-1998.

Associate Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1975-1979.

Assistant Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1970-1975.

Research Assistant, Civil Engineering Department, Stanford University, Stanford, CA, 1967-1970.

Assistant Construction Engineer, The Hunter District Water Board, Newcastle, Australia, 1966-1967.

Refereed Journal Publications

Burges, S.J. and R.K. Linsley (1971) Some Factors Influencing Required Reservoir Storage, *Journal of the Hydraulics Division*, ASCE, Vol. 97, No. HY7, 977-991.

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Lettenmaier, D.P. and S.J. Burges (1975) Dynamic Water Quality Management Strategies, *Journal Water Pollution Control Federation*, Vol. 47, No. 12, 2809-2819.

Lettenmaier, D.P. and S.J. Burges (1976) Use of State Estimation Techniques in Water Resource Systems Modeling, *Water Resources Bulletin*, Vol. 12, No. 1, 83-99.

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Lettenmaier, D.P. and S.J. Burges (1977) Operational Assessment of Hydrologic Models of Long-Term Persistence, *Water Resources Research*, Vol. 13, No. 1, 113-124.

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Steiner, M., J.A. Smith, S.J. Burges, C.V. Alonso, and R.W. Darden, Rainfall Measuring Issues – The Goodwin Creek Squall line of 27 May, 1997. AGU Spring Meeting, Boston, MA, May 26-29, 1998. Eos, Transaction, American Geophysical Union, 79(17), p S115. Poster Presentation made by M. Steiner.

Steiner, M., J.A. Smith, S.J. Burges, and C.V. Alonso, Rainfall Estimation Using Radar, Gauge, and Drop Spectra Information – The Goodwin Creek Experience, Mississippi. Abstracts, 4th International Symposium on Hydrologic Applications of Weather Radar, San Diego, California, Hydrologic Research Center, March 1998 p 20-21. Presentation made by M. Steiner.

Steiner, M., J. A. Smith, S. J. Burges, C. V. Alonso, and R. W. Darden, 1998: Extremes of spatial gradients in rainfall accumulations. Abstracts, 6th International Conference on Precipitation: Predictability of Rainfall at the Various Scales, Mauna Lani Bay, Hawaii, 2-2. Presentation made by J. A. Smith.

Konrad, C.P., and S.J. Burges: Hydrologic and Biologic Measures of Three Streams in Catchments That Represent a range of Urban Development in the Pacific Northwest. AGU Spring Meeting, Boston, MA, June 1-4, 1999. Eos, Transaction, American Geophysical Union, April 27, 1999, p S124. Presentation made by C. Konrad.

Booth, D.B., Konrad, C.P., Morley, S.A., Larson, M.G., Karr, J.R., Schauman, S., and Burges, S.J., Evaluation and Rehabilitation of Urban Streams in the Pacific Northwest, AGU Spring Meeting, Washington, DC, May 30-June 3, 2000. Eos, Transaction, American Geophysical Union, May 9, 2000, p S256. Presentation made by D. Booth.

Konrad, C.P., Booth, D.B., and Burges, S.J., The Influence of Urban Stream Flow Patterns on the Frequency of Stream Bed Material Entrainment in the Puget Lowland, Washington, AGU Spring Meeting, Washington, DC, May 30-June 3, 2000. Eos, Transaction, American Geophysical Union, May 9, 2000, p S256. Presentation made by C. Konrad.

Burges, S.J., Process Representation, Measurements, data Quality, and Criteria for Parameter Estimation of Continuous Simulation Hydrologic Models, AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F477. Presentation made by S. Burges.

Daigneau, J.L., DeVries, P., Burges, S.J., and Stearns, D., Development of an Electronic scour Monitor for Measuring the Temporal Progression of Scour in Gravel Bed Streams, AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F490. Presentation made by J Daigneau.

Co-Convener and Co-Chair of session H11F "Heat and mass Transfer in the Vadose Zone: John Philip and his Influence 1" (Oral presentations), AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F498.

Co-Convener and Co-Chair of session H12A "Heat and mass Transfer in the Vadose Zone: John Philip and his Influence 2" (Posters), AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F501.

Burges, S.J., Aspects of the Working Environment of John R. Philip, AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F499. Presentation made by S. Burges.

Konrad, C.P., Burges, S.J., and Booth, D.B., Spatial Patterns of Bed material Entrainment in Gravel-bed Streams, AGU Fall Meeting, San Francisco, CA, December 15-19, 2000. Eos, Transaction, American Geophysical Union, 81(48) November 28, 2000, p F539. Presentation made by C. Konrad.

Burges, S.J., Hydrologic Variability and its Societal Importance, *Langbein Lecture*, AGU Spring Meeting, Boston, MA, May 29 - June 2, 2001. Eos, Transaction, American Geophysical Union, 82(20) May 15, 2001, p S164. Presentation made by S. Burges.

Naveh, N, Cherkauer, Burges, S.J., K., Kay, J.E., Handcock, R.N., Gillsepie, A., and Booth, D.B., Regional Stream Temperature Estimation Using Thermal Infrared Remote Sensing Images from Terra-ASTER and Ground Measurements, AGU Fall Meeting, San Francisco, CA, December 10-14, 2001. Eos, Transaction, American Geophysical Union, 82(47) November 20, 2001, p F384. Presentation made by N. Naveh.

Burges, S.J., Sieck, L.C., and Steiner, M., An Illustration of the Influence of John Schaake on Modern Hydroclimatological Observation Networks, AGU Fall Meeting, San Francisco, CA, December 10-14, 2001. Eos, Transaction, American Geophysical Union, 82(47) November 20, 2001, p F443. Presentation made by S. Burges.

Steiner, M., Sieck, L.C., Smith, J.A, and Burges, S.J., The Storm of 23-24 April 2001 -- A Multi-Scale Rainfall Analysis Centered on the Goodwin Creek Catchment, AGU Spring Meeting, Washington, DC, May 28 - June 1, 2002. Eos, Transaction, American Geophysical Union, 83(19) May 7, 2002, p S146. Presentation made by M. Steiner.

Handcock, R N, Cherkauer, K A, Kay, J E, Gillespie, A, Burges, S J, and Booth, D B

“Spatial Variability in Radiant Stream Temperatures Estimated From Thermal Infrared Images”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, Eos. Trans AGU 83(47), Fall Meet. Suppl., Abstract H72E-0896, 2002. Presentation by R Handcock

Cherkauer, K A, Handcock, R N, Kay, J E, Burges, S J, Booth, D B, and Gillespie, A “Understanding the regional controls on stream temperature”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, Eos. Trans AGU 83(47), Fall Meet. Suppl., Abstract H61B-0763, 2002. Presentation by K Cherkauer.

Sieck, L C, Steiner, M, Burges, S J, and Smith, J A., “How Much Rain Reaches the Surface? Analysis of High Resolution Rainfall Observations in the Goodwin Creek Watershed”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, Eos. Trans AGU 83(47), Fall Meet. Suppl., Abstract H62A-0825, 2002. Presentation by L. Sieck.

Cherkauer, K A, Handcock, R N, Kay, J E, Kampf, S K, Gillespie, A R, and, Burges, S J, Thermal infrared remote sensing and its usefulness in determining regional stream temperatures, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, Eos. Trans AGU 84(47), Fall Meet. Suppl., Abstract H22D-0965 2003. Presentation by K. Cherkauer.

Handcock, R N, Cherkauer, K A, Kay, J E, Kampf, S K, Gillespie, A R, and, Burges, S J, Uncertainty Associated with the Remote-sensing of Stream Temperatures at Multiple Spatial Scales, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, Eos. Trans AGU 84(47), Fall Meet. Suppl., Abstract H12F-08, 2003. Presentation by R Handcock.

Brown, T, Wong, M, DeVries, P, Parker, G, and Burges, S, Bedload Transport in Gravel-Bed Streams: Collaborative Field and Flume Research Using Tracer Stones, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, Eos. Trans AGU 84(47), Fall Meet. Suppl., Abstract H52A-1156, 2003. Presentation by T. Brown.

Sieck, L, Burges, S., Steiner, M., and Smith, J., Investigation of Rainfall Measurement from Point to Mesoscale, 8th International Conference on Precipitation, Vancouver BC, Canada, August 8-11, 2004. Poster presentation by L. Sieck.

Cristea, N. C., and Burges, S. J., Wenatchee River, Washington, Water Temperature Modeling and Assessment Using Remotely Sensed Thermal Infrared and Instream Recorded Data, AGU Fall Meeting, San Francisco, CA, December 13-17, 2004, Eos. Trans AGU 85(47), Fall Meet. Suppl., Abstract H13C-0449, 2004.

Kampf, S.K. and S.J. Burges. Use of an instrumented planar experimental plot to provide guidance for physically-based hydrologic modeling. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract H51B-0353, 2005. Poster Presentation by Stephanie Kampf.

Kampf, S.K. and S.J. Burges. Use of an instrumented planar experimental plot to provide guidance for physically-based distributed hydrologic modeling. *GSA Annual Meeting Abstracts*, Salt Lake City, UT, Oct. 16-19, 2005. Presentation by Stephanie Kampf.

Burges, S. J. Hydrologic Impacts of Urbanization and a Mitigation Example From the Pacific North West, *Eos, Trans AGU, Joint Assembly Meeting Supplement*, Abstract U32-02, 2006. Invited presentation.

DeVries, P., M. Wong, S. J. Burges, and T. Brown, Bedload Particle Travel Distance Increases Linearly With Cumulative Excess Shear Stress, *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract, OS31A-1629, 2006. Poster Presentation by Paul DeVries.

Kampf, S. K., and S. J. Burges, Data and scale of integration considerations in uncertainty assessment for distributed hydrologic models, *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract, H43I-02, 2006. Presentation by Stephanie Kampf.

Cherkauer, K A., R. Handcock, S. K. Kampf, S. J. Burges, and A. R. Gillespie, An assessment of thermal infrared remote sensing and its usefulness in determining regional stream temperatures, *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract, H33E-1560, 2006. Poster Presentation by Keith Cherkauer.

Mirus, B B, Loague, K, Kampf, S K, and Burges, S J., Physics-based simulation of surface and near-surface hydrologic response for the Tarrawarra Catchment: parameterization for a synthetic dataset, *Eos Trans. AGU, 88(52)*, Fall Meet. Suppl., Abstract H21A-0169, 2007. Poster Presentation by Ben Mirus.

Cristea, N C, Kampf, S K, Mirus, B. B., Loague, K, and Burges, S J., Developing a Framework for Testing Distributed Hydrologic Models at the Hillslope Scale, *Eos Trans. AGU, 88(52)*, Fall Meet. Suppl., Abstract H21A-0170, 2007. Poster Presentation by Nicoleta Cristea.

Burges, S. J. Some Challenges in Determining the Water Balance and Implications for Hydrologic Design and Prediction, 2008 Ven Te Chow Lecture, American Society of Civil Engineers EWRI Annual Congress, Honolulu, Hawaii May 16, 2008

Burges, S.J. Hydrological Variability, Reservoir Storage, and Water Supply Reliability, Invited Lecture, American Water Resources Association, Seattle Section Dinner Meeting, September 18, 2008.

Cristea, N C, Kampf, S K, Mirus, B. B., Loague, K, and Burges, S J., Developing a Framework for Testing Distributed Hydrologic Models at the Catchment Scale – Examples of Test Model Runs for Event Based and Long-Term Simulations, *Eos Trans. AGU, 89(53)*, Fall Meet. Suppl., Abstract H11C-0765, 2008. Poster Presentation by Nicoleta Cristea.

Burges, S J., The influence of “Opportunities in the Hydrologic Sciences” on hydrologic research and hydrologic practice, *Eos Trans. AGU, 90(52)*, Fall Meet. Suppl., Abstract H23K-07, 2009.

Lee, S, Fitzgerald, C, Hamlet, A F, and Burges, S J., Daily Time Step Refinement of Optimized Flood Control Rule Curves for a Global Warming Scenario, *Eos Trans. AGU, 90(52)*, Fall Meet. Suppl., Abstract H23C-0975, 2009. Poster Presentation by Se-Yeun Lee.

Cristea, N C, Kampf, S K, Mirus, B B, Loague, K, and Burges, S J., Distributed hydrologic model testing at the catchment scale using a hypothetical reality data set, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract H33F-0953, 2009. Poster Presentation by Nicoleta Cristea.

Burges, S. J. Issues in Flood and Drought Management, Presentation, 2014 AWRA Annual Water Resources Conference, November 3-6, 2014 - Sheraton Premiere Hotel - Tysons Corner, VA

At Other Universities (since 1994)

Burges, S.J., The Three D's of Catchment Hydrology -- Some Examples and Challenges, Invited Seminar, Pennsylvania State University, May 18, 1994.

Burges, S.J., Some Observations About Hydrology and Water Resources and Environmental Engineering, Invited Address, Melbourne University, Australia, August 16, 1994

Burges, S.J., The Three D's of Catchment Hydrology, Invited Seminar, Cooperative Research Centre for Catchment Hydrology (Melbourne and Monash Universities), presented at Melbourne Water, Melbourne, Australia, August 18, 1994

Burges, S.J., Climate Variability and Water Resources in the South West of Western Australia, Utah State University, July, 1996.

Burges, S.J., A Preliminary Investigation of Two Local-Scale Measures to Mitigate Some Hydrologic Consequences of Urbanization, Invited Seminar, Pennsylvania State University, June, 1996.

Burges, S.J., Managing Water Resources in Variable Climates -- Examples from the US and the South West of Western Australia, Kiesel Memorial Lecture, University of Arizona, March 7, 1997.

Burges, S.J., Challenges in Streamflow Prediction at a Range of Space and Time Scales, Invited Seminar, Pennsylvania State University, June 13, 1997.

Burges, S.J., What is the Rainfall on a Catchment – Influence on Water Budgets?, Invited Seminar, The University of New South Wales, Australia July 30, 1998.

Burges, S.J., What on Earth is “Measured” Rain? – Implications for Hydrologic Inference, Invited Seminar, The University of Newcastle, Australia. July 31, 1998.

Burges, S.J., Rainfall Measurement and Hydrologic Inference: an old Problem With many Challenges and Opportunities, Invited Seminar, Stanford University, February 1999.

Burges, S.J., Hydrologic Variability and its Societal Importance, Invited Inaugural Seminar, 2002 Seminar Series on 'Scientific Challenges in Watershed Hydrology', University of California, Davis, May 2, 2002.

Burges, S.J., The Influence of Water Demand Levels and Variability in River Flow Volumes on Water Supply Reliability, Invited Seminar, Hydrologic Sciences Program, University of Nevada, Reno, September 19, 2003.

Burges, S.J., Physical, Hydrologic, and Hydraulic Characteristics of the Peace-Athabasca Delta, North Eastern Alberta, Canada, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 16, 2005.

Burges, S.J., Physical, Hydrologic, and Hydraulic Characteristics of the Peace-Athabasca Delta, North Eastern Alberta, Canada, Invited Seminar, St Anthony Falls Laboratory, University of Minnesota, July 20, 2005.

Burges, S.J., Fundamental Hydrological Modeling Related to Natural Disasters, Inaugural International Invited Keynote Lecture, Disaster Prevention Research Institute Annual Meeting, Kyoto University, February 21, 2006.

Burges, S.J., Physical, Fundamental Hydrological Modeling Related to Natural Disasters, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 20, 2006.

Burges, S.J., Hydrologic Impacts of Urbanization and Some Mitigation Measures-Examples from the Pacific North West, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 15, 2007.

Burges, S.J., Hydrological Variability, Reservoir Storage, and Water Supply Reliability, Interdisciplinary Water Resources Seminar, Colorado State University, April 3, 2013.

Burges, S.J., The Most Important “Critical Zone” Flux, Symposium Honoring the Career of Dr. Richard Cuenca, Oregon State University, April 11, 2014

At Government Labs, Industry, etc. (since 1996)

Burges, S.J., Climate Variability and Water Resources in the South West of Western Australia, **CSIRO, Perth**, Western Australia, February 2, 1996.

Burges, S. J., Streamflow Prediction -- Capabilities, Opportunities, and Challenges, Invited presentation, National Research Council, Water Science and Technology Board, Wolman Symposium on Scientific Hydrology, **National Academy of Sciences**, Washington DC, May 6, 1997.

Burges, S.J., Challenges in Long-Term Streamflow Prediction, **CSIRO, Perth**, Western

Australia, August 5, 1997.

Burges, S.J., Measured Rainfall -- Influence on Hydrologic Interpretation, **CSIRO, Perth**, Western Australia, August 8, 1997.

Burges, S.J., Hydrologic Variability and its Societal Importance, Invited Lecture, **April Meeting of the Seattle Section, ASCE**, Bellevue, WA, April 9, 2003.

Burges, S. J., The Future of Stormwater Modeling: the role of surface-subsurface interactions, National Research Council, Water Science and Technology Board, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, Talaris Conference Center, Seattle, WA, August 22, 2007.

Professional Licenses

Professional Engineer, Washington State, license no. 18592 (civil engineering) (February 26, 1980)

Professional Hydrologist, American Institute of Hydrology, Certificate no. 925 (April 24, 1991)

Board Certified, Water Resources Engineer, American Academy of Water Resources Engineers, Certificate no. 121 (October 8, 2005).

Professional Society Membership

American Society of Civil Engineers (Life Member and Fellow)

American Society of Civil Engineers, Environmental and Water Resources Institute (EWRI - Life Member and Fellow)

American Geophysical Union (Life Fellow)

American Institute of Hydrology (Member)

Sigma Xi (Member)

American Association for the Advancement of Science (Fellow)

American Meteorological Society (Member)

American Water Resources Association (Fellow)

International Association for Hydraulic Research (Member)

International Association of Hydrological Sciences (Member)

Member, working group on stochastic hydrology, IAHS (1976-79)

Member, Committee on Hydrology, American Meteorological Society (1977-79)

Professional Society and Other Service

American Institute of Hydrology

Chair, Linsley Award Committee 1995-2002, 2004-2005

American Society of Civil Engineers

Water Resources Planning and Management Division, Committee on Water Resource Systems (1975-1981, Chairman 1978-1979)

Hydraulics Division, Committee on Research (1987-1992 chairman 1989-1990)

Faculty Advisor, University of Washington Student Chapter ASCE (Oct. 1987 -Sept. 1990).

Co-Convenor (with D. Booth) of the “Symposium on Managing Water Resources in the Urban Environment”, August 8-11, 1999, at the ASCE International Water Resources Engineering Conference, Seattle.

Panel Discussion Moderator: Urban Hydrology - Past Accomplishments and new Challenges, 1999 ASCE International Water Resources Engineering Conference, Seattle

Session Moderator: Water Quality Management and Modeling, 1999 ASCE International Water Resources Engineering Conference, Seattle

American Geophysical Union

Participant, visiting scientist program 1972

Hydrology Program General Chairman Fall Annual Meetings 1977-79

Editor, Water Resources Research Oct. 1980-Jan. 1985

Hydrology Section Executive 1980-present

Chairman, Water Resources Monograph Board 1985-1987

Chairman, Horton Award Committee 1988-1991,

Chairman, Horton Research Grant Committee 1990-1991

Chairman, Horton Medal Committee 1990-1992

Member, Committee on Fellows 1990-1992

Member, Information Technology Committee 1992-1994

President Elect, Hydrology Section 1992-1994

President, Hydrology Section, July 1994-June 1996

Member, Publications Committee 1996-1998

Chairman, Board of Journal Editors 1996-1998.

Member, Development Planning Committee, 1998-2000.

Flinn Award Committee 2000-2002.

Chair, Development Committee 2002-2004.

Member, Development Board 2004-2006.

Development Board Member (Emeritus) 2006-

Member Budget and Finance Committee 2006-2010

Member Union Officers and AGU Board Nominations Committee 2008-2009.

Member Audit and Investments Committee 2010-2012

U.S. National Research Council

Member, Water Science and Technology Board, (Nov. 1985-June 1989)

Member, Committee on "Techniques for Estimating Probabilities of Extreme Floods" (1986-1987)

Member, Committee on "Opportunities in Hydrology" (1988- 1989)

Chairman, WSTB Committee on Climate Change and Water Resources Management (December 1990 - October 1992) an advisory committee to the US Bureau of Reclamation.

Member, Committee on Basic Research Opportunities in the Earth Sciences, Board on Earth Sciences, November 1998-September 2000.

Member WSTB Committee to Assess the Army Corps of Engineers Methods of Analysis and Peer Review for Water resources Project Planning: Peer Review Panel, October 2001-July 2002.

Member, Committee on Integrating Dam and Levee Safety and Community Resilience, Board on Earth Sciences, March 2011-July 2012.

Commonwealth Scientific and Industrial Research Organization (CSIRO) Australia

External (International) Member of Review Committee for CSIRO Division of Water and Land Resources, Canberra, Australia, May 1986.

Member, Search Committee for Chief of the Division of Water Resources, CSIRO, October 1986-May 1987.

McGraw-Hill "Handbook of Hydrology", David Maidment, Editor in Chief.

Chairman, International Advisory Board, 1988-1991.

U.S. National Science Foundation

- Member, Committee of Visitors, Division of Geosciences, National Science Foundation, 1996.
- Review Panel Member for Civil, Materials, and Environmental Engineering Graduate Research Fellowships (February 2001-2003).
- Review Panel Member for Civil, Materials, and Environmental Engineering Graduate Research Fellowships (February 2007- 9).

Disaster Prevention Research Institute, Kyoto University

Member International External Review Board - Five-Year Review (January – May 2004).

Stanford University

- Member, Advisory Council, Department of Civil and Environmental Engineering, Stanford University, 1997-2000. Committee evaluated department, November-December 1997.
- Member Review Committee Jasper Ridge Biological Preserve, Spring 2004.

Australian National University, Canberra, Australia

External Reviewer of Environmental Research Faculty (Soil and Water Science), Spring 2004

Tufts University

External evaluator and member of Subcommittee on Promotion and Tenure (promotion case), Presentation to Committee, Tufts University, March 25, 1998

University of Minnesota

- Member Lorenz G. Straub Award Committee (2000-2004).
The Lawrence G. Straub Award is given each year for the most meritorious doctoral dissertation in hydraulic engineering, interpreted broadly to include hydrology, from all doctoral granting institutions in the world. Committee members read and assess all submitted dissertations.

Consortium of Universities for the Advancement of Hydrologic Science, Incorporated

- Chair, nominating committee for the candidates for the Executive Committee (2001)
- Chair, search committee for the Executive Director (March, 2002-January 2003)
- Proposal evaluator and site visit team member for NSF National Hydrological Synthesis Center (October-December 2004)
- Chair Board of Directors nominating committee, 2005.
- Member Scientific Advisory Team (September 2005 -) – contributor to “Hydrology of a Dynamic Earth – A decadal research plan for hydrologic science”, May 2007.

University of Nevada Reno

- Chair, External review committee for The Interdisciplinary Graduate Program of Hydrologic Sciences, March 2005.

University of Washington/University of British Columbia Annual 1-day Hydrology and

Water Resources Symposium – January 1980 – September 2007

- Principal coordinator, and principal coordinator and host in alternate years when the meeting is held on the University of Washington Campus. This gathering provides an exceptional forum for intellectual exchange and discussion of developing research ideas and plans of our graduate student colleagues.

Member, Dean’s Advisory Council, Faculty of Applied Science, University of British Columbia, July 2014 – November 2023; Emeritus member December 2023 - .

Reviews Made

Journal or Other	Number
<i>ASCE Hydraulics, Irrigation and Drainage</i>	
<i>ASCE Water Resources Planning and Management Division</i>	
<i>AGU Water Resources Research</i>	
<i>Geophysical Research Letters</i>	
<i>Journal of Hydroclimatology</i>	
<i>Hydrologic Processes</i>	
<i>Journal of Hydrology</i>	
<i>National Science Foundation</i>	
<i>NRC Water Science and Technology Board</i>	
<i>NASA</i>	
<i>Australian Research Council</i>	
<i>Environmental Protection Agency</i>	

Awards and Honors

Fulbright-Hayes Travel Grant, 1967

Award for Outstanding Service, American Society of Civil Engineers, 1987 Faculty Advisor, University of Washington Student Chapter of ASCE.

Fellow, American Society of Civil Engineers, 1988

Fellow, American Geophysical Union -- Citation: "For contributions to an extraordinary range of hydrologic enquiry, particularly to predictions and their uncertainties", 1990

Fellow, American Association for the Advancement of Science, 1996

Fellow, Environmental & Water Resources Institute, American Society of Civil Engineers, 2013

Faculty Honor Member, University of Washington Chapter of Chi Epsilon, Civil Engineering Honor Society, 1996

Kisiel Memorial Lecture, The University of Arizona March 7, 1997, "Managing Water Resources in Variable Climates -- Examples From the US and the South West of Western Australia".

Outstanding Practice Paper Award, American Society of Civil Engineers, Water Resources Planning and Management Division, for the paper "Relationships Between n-Day Flood Volumes for Infrequent Large Floods", 1995.

Department Chairman's Award for Extraordinary Service in the Department of Geological Sciences at the University of Washington, May 1997.

Langbein Lecture, American Geophysical Union, Spring Annual Meeting, Boston, Massachusetts, May 30, 2001 "Hydrologic Variability and its Societal Importance". (webcast - The American Geophysical Union - <http://www.agu.org/webcast/burges.html>).

Ray K. Linsley Award, American Institute of Hydrology, October 2003, Citation "for major contributions to engineering hydrology".

Department of Civil and Environmental Engineering, University of Washington, 2007 Henry Roy Berg Lecture "Fundamental Hydrological Modeling Related to Natural Disasters – Three Decades of Personal Enquiry", February 14, 2007.

American Society of Civil Engineers Ven Te Chow Award, (for lifetime achievement in hydrologic engineering) May 2008, Citation "For an exceptional career in education and research in engineering hydrology and water resources management, outstanding service to the profession, and mentoring of young hydrologic engineers."

Honorable Mention – 2008 Marsha L. Landolt Distinguished Graduate Mentor Award, University of Washington.

Honorable Mention – 2009 Marsha L. Landolt Distinguished Graduate Mentor Award, University of Washington (one of four finalists).

Puget Sound Engineering Council, 2011 Academic Engineer of the Year, February 26, 2011.

Commencement Address – Dept. of Civil and Environmental Engineering, University of Washington, June 15, 2014 “*Welcome to the Profession - An Engineering Educator’s Journey*”.

Hydrology Days Award Lecture, Colorado State University, “In recognition of outstanding contributions to hydrologic science and water resources engineering”, March 20, 2018. Lecture title: “*Fifty Years Observing Issues in Hydrology and Water Resources Engineering*”.

American Geophysical Union 2019 Editors’ Citation for Excellence in Refereeing - Cited by Martyn Clark, Editor in Chief, Water Resources Research, <https://doi.org/10.1029/2020EO144849>.

Fellow, American Water Resources Association, 2023.

Short Courses, Workshops, and Other Educational Programs (Convened by S. Burges)

Alternative On-Site Stormwater Management Techniques, Sept. 23, 24, 1997, PEPL Program, University of Washington

Alternative On-Site Stormwater Management Techniques, March 25, 26, 1999, PEPL Program, University of Washington

Chaired Doctoral Degrees

Lettenmaier, Dennis P., "Design of Monitoring Systems for the Detection of Trends in Stream Quality," p203, 1975.

Froise, Syver, "Least Cost Control Strategies in Urban Drainage Design - A Dynamic Programming Approach," p241, 1975.

Maknoon, Reza, "Analysis of a Conjunctively Managed Surface-Ground Water Systems", p184, 1977.

Leytham, K. Malcolm, "Physical Considerations in the Analysis and Synthesis of Hydrologic Sequences," p238, 1982.

Gan, Thian Yew, "Applications of Scientific Modeling of Hydrologic Responses From Hypothetical Small Catchments to Assess a Complex Conceptual Rainfall-Runoff Model," p259, 1987.

Wigmosta, Mark S., "Modeling and Monitoring to Predict Spatial and Temporal Hydrologic Characteristics in Small Catchments", p183, 1991.

Liang, Xu, "A Two-Layer Variable Infiltration Capacity Land Surface Representation for General Circulation Models", p208, 1994. (Co-advisor with D. P. Lettenmaier)

- Costa Cabral, Mariza, "Effects of Spatial Constraints on Channel Network Topology: Implications for Geomorphological Inference", p209, 1997. (*1997 University of Minnesota Straub Award for best doctoral dissertation in Hydraulic Engineering*).
- De Vries, Paul E., "Scour in Low Gradient Gravel bed rivers: patterns, processes, and Implications for the Survival of Salmonid Embryos", p365, 2000.
- Konrad, Christopher P., "The Frequency and Extent of Hydrologic Disturbances in Streams in the Puget Lowland, Washington", p212, 2000 (Co-advisor with D. B. Booth).
- Kampf, Stephanie K., "Towards Improved Representation of Hydrologic Processes: Linking Integrated and Distributed Hydrologic Measurements to a Physically-Based Model for a Planar Hillslope Plot", 214p, 2006.
- Lee, Se-Yeun, "Development of Optimized Flood Control Rule Curves for the Columbia River Basin in Response to Climate Change and Interannual Climate Variability", 86p, 2009.
- Cristea, Nicoleta C., Evaluating reference evapotranspiration and the effects of climate change and soil parameterization within distributed hydrologic models, 136p, 2012 (Co-advisor with J. Lundquist).

Candidate in Philosophy:

Brown, Timothy M. (April 27, 1972 – Died, September 15, 2007), Proposed dissertation title: "The use of tracer stones in predicting streamwise particle displacement and bedload transport rate during flow competence in gravel bed streams".(6/28/2006)

Lisa Sieck (Passed General Examination 4/26/2004)

External Dissertation Examiner

- Nathan, R.J., "Low Flow Hydrology: Application of a Systems Approach," Department of Civil Engineering, Melbourne University, Clayton, Victoria, Australia, p383. Examiner's report prepared August 1990.
- Sabur, M., "A Distributed Numerical Model for Watershed Hydrology," Department of Civil Engineering, University of Alberta, p371. Conducted examination, May 24, 1990 at University of Alberta, Edmonton.
- Young, J.R., "Error in the Frequency Analysis of Flood Data from a Single Site," Lincoln University, Canterbury, New Zealand, 1990, Examiner's Report prepared March 1990.
- Rahman, A., "Flood Estimation for Ungauged Catchments: A Regional Approach Using Flood and Catchment Characteristics", p292, Monash University, Australia, 1997. Examiner's report prepared, March 1997.
- Ayral, Santosh K., "A Similarity Approach to Characterize the Hydrologic Behavior of Landscapes", p245, Monash University, Australia, 1998. Examiner's report prepared, June 1998.

- Richards, Betty, "Scale Invariance Analysis on Channel Network Structure and Possible Implications for Flood Behaviour" p204, Monash University, Australia, 1999. Examiner's report prepared, January 2000.
- Charles, Stephen, P., "Statistical Downscaling from Numerical Climate Models", p224, Murdoch University, Australia, March 2002. Examiner's report prepared, June 2002.
- Vrugt, Jasper, "Towards Improved Treatment of Parameter Uncertainty in Hydrologic Modeling" p253, University of Amsterdam, Holland, 2004. Examiner's report prepared, May 2004.
- Mirus, Benjamin, B, "How does runoff begin (and end)?", Stanford University, Department of Geological and Environmental Science, external (reading) committee member, 2009. Dissertation defense attended September 30, 2009.

Chaired Master Degrees

- Hillmer, John S., "Two District Flood Plain Zoning," 88 p., 1973.
- Beyerlein, Douglas C., "Flood Routing by the Method of Characteristics - A Critical Review, p76., 1973.
- Haapala, John C., "an Adaptation of the Stanford Watershed Model to Two Suburban Watersheds," p93., 1973.
- Fitz, Allen C., "The Effect of Flow Smoothing on Sewage Pump Station Costs," p.98, 1974.
- Pardo, Robert S., "Continuous Public Participation in Natural Resources Planning," p95, 1974.
- Bates, Courtney L., "Analysis of Time Series Modeling Errors with Application to the Lake Sammamish Hydrologic System," 1975.
- Hardt, Richard A., "Ramifications of Blanket Runoff Control Strategies for Urban Watersheds," p70, 1976.
- Noetzelman, James O., "A Linear Programming Approach to Estimating Probability Bounds for Extreme Flood Events," p84, 1976.
- Miller, James W., "The Effects of Minimum and Peak Cedar River Streamflows on Fish Production and Water Supply," p230, 1976.
- Olivers, Clair H., "Use of Porous Pavements in Urban Watersheds as a Peak Runoff Mitigation Measure," 84 p., 1976.
- Stefero, Nicholas R., "An Empirical Investigation into the Nature of Water Supply Deficits in a Single Purpose Reservoir System," p47, 1977.
- Zuzel, John F. "A Review of Water Supply Forecasting Methods in Areas of Seasonal Snowcover", 1977 (non-thesis project).
- Kemp, Gary J., "Hydrologic Modeling and Data Requirements for Analysis of Urban Streamflow Management Alternatives," p210, 1978.
- Waddle, Terry J., "Continuous Snowmelt Runoff Simulation of the Cedar River Watershed, Washington," p79, 1978.
- Garen, David C., "An Analysis of the Effects of Parameter Uncertainty on Runoff Predictions Using the Stanford Watershed Model," p81, 1979.
- Parkinson, David, "Snowmelt Runoff Forecasting Using a Continuous Water Balance Model on the Cedar River Watershed, Washington," p96, 1979.

- Forsyth, Grant W., "Examination of Some Effects of Stochastic Streamflow Model Structures and Parameter Uncertainty on Reservoir Reliability Estimates", 1981 (non-thesis project).
- Rudloff, Edwin J., "Uncertainty in Maximum Economic Benefits From Flood Damage Mitigation", 1983. (non-thesis project).
- Wolff, C. Gary, "An Analysis of the Influence of River Channel Properties on Flood Frequency", p96 1983.
- Williamson, Mark, S., "Methodologies for Estimating Uncertainties in Net Benefits for Flood Damage Mitigation Design", p67, 1984.
- Kuriki, Minoru, "Hydrologic Estimation for Sizing of Small Hydropower Generation Facilities", p92 1984.
- Juel, Jeff, "Computer Aided Solutions to Two Dimensional Steady State Groundwater Flow Problems, p217, 1985.
- Jensen, Bruce, W. "A Preliminary Investigation Into the Feasibility of Using Infiltration Basins for Storm Water Management in King County, Washington, 1987 (non-thesis project).
- Stoker, Bruce A., "Determination of Hydrologic Process Zones for Urban Stormwater Management, P164, 1988.
- Michalek, Margaret, R., "Application of Two Numerical Models in Simulating Flow and Mass Transport in a Heterogeneous Aquifer", P107, 1989 (non-thesis project).
- Villholth, Karen, "Physical Properties of Structured Soils and Associated Fluid Transport", p24, 1989 (non-thesis project).
- Balocki, James B., "A Preliminary Examination of Relationships Between Catchment Characteristics and Volumes of Infrequent Large Floods", p125, 1990.
- Ducken, Sherry, A., "A Water Budget for a Small Forested Catchment -- Evaporation Estimation and Hydrologic Modeling With Limited Data", p70, 1990. (d. Dec 9, 1997) (non-thesis project).
- Tuthill, Andrew, "HSPF Modeling of a Small Urban Catchment -- Calibration by Regional Parameters versus Site Specific Calibration", p50, 1991 (non-thesis project).
- Moeller, Rodney A., "Application of Geographic Information Systems to Hydrologic Modeling", p51, 1992.
- Coho, Carolyn, S. "Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest", p68, 1993.
- Snell, Jonathan, Matthew, "Application of Hydrologic Simulation Program -- FORTRAN (HSPF) to Urbanized Catchments in the Puget Sound Basin", p50, 1993 (non-thesis project).
- Meena, Jack, M., "Use of a Spatially-Distributed Moisture Accounting Model With Measured Precipitation and Streamflow and Estimated Potential Evapotranspiration Data to Determine the Hydrologic Budgets for two Small Catchments in King County, Washington", p25, 1994 (non-thesis project).
- DeVries, Paul. E., "Characteristics of Turbulent Velocity Profiles in Natural Coarse Bed Channels", p45, 1994 (non-thesis project).
- Konrad, Christopher, P., "An Examination of Stormwater Detention and Infiltration at the Scale of an Individual Residence in the Sammamish Plateau Region of King County, Washington", p89, 1995.
- Lukas, Andrew, B., "WASHFLOW -- A Generalized Form of a Continuous Simulation

- Hydrologic Model for use in Small Catchments: Program Structure and User's Manual", p33, Appendices A-E, 1995 (non-thesis project).
- Kolsti, Kyle, F. "Hydrologic Response of Lawns Growing in Till Plots Containing Various Amounts of Compost Amendment, p131, 1995
- Koivusalo, Harri. "Use of a One-Dimensional Snow Cover Model to Analyze Measured Snow Depth and Snow Temperature Data From Southern Finland", p109, 1996.
- Kurtz, Timothy, E. "Modeling the Hydrologic Response of Lawns on Till With and Without Compost Amendments", p74, 1996.
- Hielema, Eric, J. "Hydrologic Simulation of the Klahanie Catchment, King County, Washington, With and Without a Landscape Consisting of Soil Amended With Compost", p110, 1996.
- Chollak, Tracy, "Guidelines for Improving the Hydrologic Properties of Soils by Amendment With Compost", 50, 1997 (non-thesis project).
- Schultz, Daniel, "Current Status of Vegetation Management in Roadside Ditches and Stormwater management Facilities: Implications for Stormwater Quality", 15 p, 1998 (non-thesis project).
- Tucker, David, A., "Oak lake Creek: A Case Study of Fish Passage Through Culverts, p 79, 1999 (non-thesis project).
- Daigneau, Julie, L. "Development, Testing, and Application of a Scour Monitoring Instrument to Measure the Temporal progression of Scour in Gravel bed Rivers", p 107, 1999. (Co-advisor with C. Petroff).
- Miller, Adrienne, V., "Hydrologic Monitoring of Seattle's Ultra-Urban Stormwater Management Projects", p150, 2001.
- Cristea, Nicoleta, C., "Wenatchee River, Washington, Water Temperature Modeling an Assessment Using Remotely Sensed Thermal Infrared and Instream Recorded Data', p92, 2004.
- Stefansdottir, Maria, "A Simulation of the 9500 Year Glacial Sediment Delivery and Deposition History of Lake Lagarfljot, Eastern, Iceland", p71, 2006.
- Maurer, Mark W., "Design and Construction of a Field Test Site to Evaluate the Effectiveness of a Compost Amended Bioswale for Removing Metals from Highway Stormwater Runoff", 62p, 2009.
- Comanor, Kyle (Course work degree), Spring 2002.
- Scheibner, Deborah, (Course work degree), Autumn, 2002
- Fitzgerald, Carolyn (Course work degree), Spring 2003.
- Brackett, Chapin (Course work degree), Spring 2003.
- Bjarnason, Petur (Course work degree), Autumn 2003
- Kays, Gus (Course work degree), Spring 2005
- Park, Hyoseok (Course work degree), Spring 2005 (Ph.D., University of California, Berkeley, 2010)
- Prociv, Matthew (Course work degree), Spring 2005
- Donnelly, Quinn, (Course work degree), Autumn 2005
- Jansen, Karl (Course work degree), Autumn 2006
- Lim, Heungkook (Course work degree), Spring 2007

Davis, Rex (Course work degree), Autumn 2007
 Marineau, Mathieu (Course work degree), Spring 2010
 Sass, Taryn (Course work degree), Summer 2010

Other Student Supervision (service on graduate degree committees)

Ph.D. Committees (since 1986) R = Reading Committee Member, G = Graduate School Representative, N = Never completed

D. Pei (N), M. Moinpour (R), M. Balise (R), K. Loague (University of British Columbia, 1986) (R), J. Yearsley (R), L. Dally (N), W. Zhang (R), A. Fountain (R), D. Miller (G), L. Reid (G), R. Jackson (R), L. Wilson (N), A. Barros (R), H-S. Lu (R), R. Stockstill (R), Y.O. Kim (R), F. Abdulla (R), K. Schmidt (R), P. Storch (R), B. Nijssen (R) K. Sepp (G), K. Cherkauer (R), M. Harrell (G), E. Maurer (R), L. Bowling (R), A. Wood (R), N. Naveh (N), J-J. Park (G), S. Eichelberger (G), M. Barcrania (G), J. H. Ryu (R), A. Hamlet (R) H. Lim (N), C. Zu, B. Polagye (G), N. Voisin (R), B. Mirus (Stanford University, 2009) (R), A. Polebitski (R), B. Livneh, C. Frans (R).

M.S. Committees (since 1986)

R. Munger, T. Scheibe, J. Holmes, B. Horton, R. Brockhaus, C. Luce, M. Surowiek, J. Zukauskas, M. Shrestha, E. Hooper, K. Brettmann, C. Wagoner, T. Butler, B. Smugden, T. Christiansen, C. Ridolfi, C. Chenlai, A. Arola, F. Krogstad, T. Kenward, J. Sias, D. Schwaegler, R. Kirschbaum, L. Bowling, J. LaMarche, A. Dubin, C. Doberstein, D. Mekkers, D. Miller, J. McIntyre (26, deceased 1-13-1999), J. Leavitt, K. Comings, T. Camp, J. Delorie, P. Henshaw, E. Nelson, M. Larson, J. Vanshaar, A Sansone, J. Payne, J. Kay, T. Bailey, M. McGuire, K Kudamik, A Ball, D. Thurman, L Traynham, A Venturato, J Theilmann (MSME).

Current:

Departmental Service

1987-1997	Department Executive Committee (Space Coordinator)
1997	Member Search Committee, Aquatic Systems
2002-	Admissions Committee, Scholarship Committee
2002-2008	Chair, Evans Lecture Committee
2003	Member Search Committee, Construction, Transportation, Environmental Fluids
2004	Member Construction Search Committee
2007	Member Departmental Search Committee
2007-2008	Program Director, Environmental Engineering & Science
2006-2008	Member Departmental Promotion and Tenure Committee
2002-2008	Member Undergraduate Admission Committee

2002-2008 Member Undergraduate Scholarship Committee

College Service

1991-1997 ENGR250 Oversight Committee (Chairman)
 1991-1997 ENGR 315 Oversight Committee
 1997-1998 Member Promotion and Tenure Committee
 1998-1999 Chairman, Promotion and Tenure Committee
 1999-2000 Member Promotion and tenure Council
 2005-2008 Member College Council

University Service

1986-1988 Committee on Admissions and Academic Standards
 1988-1989 Faculty Senate
 1996 Search Committee, Department of Geological Sciences—Geomorphology Position
 1996-1997 Search Committee, Department of Geological Sciences—Cosmogenic Isotopes Position
 1997-1999 Search Committee, Departments of Geological Sciences and Oceanography, two positions in Surface Processes, one position in Geodynamics
 1998-2000 Faculty Senate
 1998-1999 Chairperson Search Committee, Department of Geological Sciences
 1999-2000 Graduate School Review Committee of Departments of Atmospheric Sciences, Geophysics, Geological sciences, and Ocean Sciences. This is the first time multiple units have been evaluated concurrently (completed, April 2000).
 2000-2003 Member, Graduate Council
 2003-2004 Member, Precision Forestry Chair Search Committee
 2004 Member, Search Committee, Director School of Oceanography
 2005-2007 Faculty Senate

Student Service

1987-1990 Faculty Advisor to ASCE Student Chapter

Community Service

National Service (Since 1994)

Review Board Member, Natural Resources Defense Council, “Examination of Causes of the Mississippi Flooding in 1993,” review performed Dec. 1994.

Consulting Experience

Hydrologic Analysis and Water Budget for the White River, Washington -- for legal Services, Seattle (1970)

Hydraulic Behavior of the Lummi Project -- recommendations for closure of a dyke in tidal waters (1971) (with E.P. Richey)

Establishment of Storage-Yield Analysis Methodologies and Reservoir Operation Models

that Employ Stochastic Hydrology Techniques -- for Bechtel Corporation, San Francisco, (July-August, 1971)

Development of a Three-Parameter Log Normal Markov Runoff Generator -- for Bechtel Corporation San Francisco (April, 1972)

Member Task Advisory Committee for Cedar-Green River Basin Study -- for Cornell, Howland, Hayes, Merryfield-Hill, Bellevue, Washington, (December, 1971 to December, 1973)

Field Determination of Hydrologic and optimum Hydraulic Flow Conditions to Enhance Spawning and Rearing of Some Species of Fish, White River, Washington -- for Sportfish and Wildlife Service, U.S. Department of Interior, Portland, Oregon, (June-September, 1972)

Expert Witness -- Whatcom County Superior Court, Bellingham, Washington; Walton et al. v. Georgia Pacific; for J.P. Cook, Seattle Attorney (Hydrologic evaluation of extreme flood event) (October, 1972)

Expert Witness -- Whatcom County Superior Court, Bellingham, Washington; Walton et al. v. The City of Bellingham; for R. Morrow, Seattle Attorney for City of Bellingham (evaluation of water supply reservoir management during extreme flooding conditions), (June, 1973)

Stochastic Analysis and Feasibility Study of Water Supply, Gag Island, near West Irian -- for Bechtel Corporation, San Francisco (July, 1973)

Evaluation of Multi-site Multi-lag Flow Forecasting Model -- Bechtel Corporation, San Francisco (March, 1974)

Development of a Multi-site, Multi-lag Forecasting Model -- Bechtel Corporation, San Francisco (April, 1974)

Development of Multi-site Stochastic Flow Generation Model; Development of Multi-Reservoir Analysis Algorithm -- Bechtel Corporation, San Francisco (June, 1974)

Stochastic Analysis for Flow Yield Evaluation, Bull Run River, Oregon; Hydrocomp, Palo Alto, California (July, 1974)

Examination of Flow Diversion Features, White River, Washington, State of Washington Department of Fisheries and Department of Game (March-August, 1974)

Assessment of a Stormwater Runoff Modeling Approach for the Seattle Metro System, Metropolitan Engineers (August, 1976)

Evaluation of a Novel Evaporation Suppression Scheme, Robert W. Beach, Patent Attorney,

Seattle (May, 1977)

Reliability Analysis for City of Portland Bull Run Reservoir System, December, 1977.
Evaluation of the Stochastic Hydrology Software Package Developed by the U.S. Bureau of Reclamation -- U.S. Bureau of Reclamation Engineering Research Center, Denver (June-December, 1978)

Evaluation of Alternative Plans for Draining an Industrial Park Development, Kent, WA -- Upland Industries (November 1979-February 1980)

Analysis of Water Yield for the Seattle Water Supply System -- Seattle Water Department and URS Company, Seattle (October 1979-May 1981)

Stochastic Modeling of Streamflow, Feather River at Oroville Dam, CA -- California Department of Energy/Linsley Kraeger Associates - (July-October 1980)

Evaluation of Seepage Losses From Chester Morse Lake -- City of Seattle/ Hart Crowser - (May 1982 - June 1983)

Evaluation of Green River Flow and Yield Studies Conducted by Charles Howard and Associates -- City of Tacoma, Superintendent, Water Division (September 1982)

Overview Analysis of Feasibility Assessment of Small Scale Hydroelectric Projects -- Hymet Company, Seattle (August - September, 1982)

Review Team Member, Divisions of Water and Land Resources -- Commonwealth Scientific and Industrial Research Organization, Canberra, Australia (April-July, 1986)

Expert Testimony -- Knight et al. vs. The City of Seattle et al., (Superior Court, WA) -- James E. Kennedy, Attorney (for plaintiffs) (Jan. 1, 1987-Jan. 30, 1987)

Expert witness (Deposition) in Gustafson et al vs Turner et al (Flooding problems in upper reaches of Thornton Creek, Seattle), Court testimony (June 1988); (May 14, 1987 - July 1, 1988)

Review of Draft "King County, Washington, Surface Water Design Manual", for Counsel to the King County Council and Northwest Hydraulic Consultants, (June - September 1989)

Expert Witness (Coordinator of technical expertise) in Reinsvold et al v. City of Tacoma, Expert evaluation of flooding problems, Leach Creek, Tacoma, for Smith, Smart, Hancock, Tabler, and Schwensen. (June 1992 - March 1993)

Evaluation of the summary of water resources for the Snohomish River Basin presented in: "Initial Watershed Assessment, Water Resources Inventory Area 7, Snohomish River Watershed", Open-File Technical Report 95-06, for the Director of Public Works, City of Everett, Washington. (September - October, 1995)

Keynote participant -- Seminar and Workshop on Climate Variability and Water Resources in South-West Western Australia, for Water Corporation of Western Australia and CSIRO. (January - February, 1996)

Expert Witness (deposition and affidavit) concerning flooding situation in “Southampton Associates vs City of Tacoma et al”, Pierce County Cause #96-2-13430-4, for Attorney General of Washington (defendant), June 1997-April 1998.

Expert Witness (affidavit) concerning flooding situation in “Wilbur v. Turner v. State et al., Pierce County Superior Court NO. 99-2-04893-3, for Attorney General of Washington (defendant), May 2000 - December 2000.

Expert advisor to BC Hydro, Vancouver, BC Canada – Peace-Athabasca Delta Studies. December 2000-December 2006.

Expert advisor to BC Hydro, Vancouver, BC Canada – Peace-Athabasca Delta Studies and Site C Clean Energy Project, Joint Review Panel Public Hearing. April 2013-May 2014.

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