

## General Biographical Information

### STEPHEN JOHN (STEVE) BURGES

Professor Emeritus of Civil and Environmental Engineering  
 University of Washington  
 Department of Civil and Environmental Engineering  
 164 Wilcox Hall, Box 352700  
 Seattle, Washington 98195-2700  
 (206) 543-7135  
 sburges@u.washington.edu

### Supplemental

Born: Newcastle, Australia, 1944  
 Married: Wife - Sylvia Ellen Burges  
 Citizenship: United States of America (Naturalized)  
 Retired: June 2010

### 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.

Burges, S.J. (1971) Discussion of paper, Flood Control Release Optimization Using Methods from Calculus, *Proc. ASCE*, 97(HY10), 1795-1797.

Burges, S.J. (1971) Discussion of paper, Design Periods for Watermain Planning During Economic Inflation (by B.W. Gould), *Civil Engineering Transactions*, Institution of Engineers, Australia, p65, April 1971.

Burges, S.J. (1972) Discussion of paper, Analysis of Stochastic Hydrologic Systems (by V. T. Chow and S.J. Kareliotis), *Water Resources Research*, Vol. 8, No. 1, 160-161, 1972.

Burges, S.J. and R.K. Linsley (1972) Some Factors Influencing Required Reservoir Storage, (discussion by, E.M.Gosschalk and J.S. Colombi) Reply and Closure, *Journal of the Hydraulics Division*, ASCE, Vol. 98, No. HY11, 2038-2039.

Burges, S.J. (1972) Some Problems with Log-Normal Markov Runoff Models, *Journal of the Hydraulics Division*, ASCE, Vol. 98, No. HY9, 1487-1496.

Burges, S.J. and A.E. Johnson, (1973) Probabilistic Short-Term River Yield Forecasts , *Journal of the Irrigation and Drainage Division*, ASCE, Vol. 99, No. IR2, 143-155.

Brown, C.B. and S.J. Burges (1973) Ground Motions Caused by Single Well Pumping, *Water Resources Research*, Vol. 9, No. 5, 1420-1427.

Burges, S.J. (1974) Discussion of paper, Reservoir Storage-Yield Estimates Based on Historical and Generated Streamflows (by T.A. McMahon, G.P. Codner and C.S. Joy), *Civil Engineering Transactions*, Institution of Engineers, Australia, Vol. CE 16, No. 1, 94, April, 1974.

Burges, S.J. and A.E. Johnson (1974) Probabilistic Short-Term River Yield Forecasts (E.A. McBean) Reply and Closure, *Journal of the Irrigation and Drainage Division*, ASCE, Vol. 100, No. IR1, 74.

Burges, S.J. and D.P. Lettenmaier, (1975) Probabilistic Methods in Stream Quality management, *Water Resources Bulletin*, Vol. 11, No. 1, 115-130.

Burges, S.J., D.P. Lettenmaier, and C.L. Bates (1975) Properties of the Three Parameter Log Normal Probability Distribution, *Water Resources Research*, Vol. 11, No. 2, 229-235.

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.

Lettenmaier, D.P. and S.J. Burges (1977) Use of State Estimation Techniques in Water Resource Systems Modeling, (discussion by, A. Szollosi-Nagy) Reply, *Water Resources Bulletin*, Vol. 13, No. 6, 1289-1291.

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.

Lettenmaier, D.P. and S.J. Burges (1977) An Operational Approach to Preserving Skew in Hydrologic Models of Long-Term Persistence, *Water Resources Research*, Vol. 13, No. 2, 281-290.

Burges, S.J. and D.P. Lettenmaier, (1977) A Comparison of Annual Streamflow Models, *Journal of the Hydraulics Division*, ASCE, Vol. 103, No. HY9, 991-1006.

Lettenmaier, D.P. and S.J. Burges (1977) Design of Trend Monitoring Networks, *Journal of the Environmental Engineering Division*, ASCE, Vol. 103, No. EE5, 785-802.

Burges, S.J. (1978) Discussion of paper, Reservoir Yield: An Important Environmental Parameter (by Leo M. Eisel, *Water Resources, Bulletin* Vol. 13, No. 5, 983-994, 1977), *Water Resources Bulletin*, Vol. 14, No. 5, 1251-1253, 1978.

Maknoon, R. and S.J. Burges (1978) Conjunctive Use of Ground and Surface Water, *Journal, American Water Works Association*, Vol. 70, 419-424.

Hoshi, K. and S.J. Burges (1978) The Impact of Seasonal Flow Characteristics and Demand Patterns on Required Reservoir Storage, *Journal of Hydrology*, 37, 241- 260.

Burges, S.J. and K. Hoshi (1978) Approximation of a Normal Distribution by a Three Parameter Log Normal Distribution, *Water Resources Research*, Vol. 14, No. 4, 620-622.

Lettenmaier, D.P. and S.J. Burges (1978) Climate Change: Detection and Its Impact on Hydrologic Design, *Water Resources Research*, Vol. 14, No. 4, 679-687.

- Hoshi, K., S.J. Burges and I. Yamaoka (1978) Reservoir Design Capacities for Various Seasonal Operational Hydrology Models, *Proceedings, Japan Society of Civil Engineers*, No. 273, 121-134.
- Froise, S. and S.J. Burges (1978) Least Cost Design of Urban Drainage Networks, *Journal of the Water Resources Planning and Management Division*, ASCE, Vol. 194, No. WR1, 75-92.
- Burges, S.J. (1979) Discussion of: Generating Streamflow Sequences with Trend and Cyclic Movements (by Sun. Fu Shih, *Water Resources Bulletin*, Vol. 14, No. 4, 942, 955, 1978), *Water Resources Bulletin*, Vol. 15, No. 2, 550-551, 1979.
- Burges, S.J. (1979) Analysis of Uncertainty in Flood Plain Mapping, *Water Resources Bulletin*, Vol. 15, No. 1, 227-243.
- Hoshi, K. and S.J. Burges, (1979) Disaggregation of Streamflow Volumes, *Journal of the Hydraulics Division*, ASCE, Vol. 105, No. HY4, 27-42.
- Burges, S.J. (1979) Water Resource Systems Planning in U.S.A.: 1776-1976, *Journal of the Water Resources Planning and Management Division*, ASCE, Vol. 105, No. WR1, 91-111.
- Burges, S.J. (1980) Analysis of Uncertainty in Flood Plain Mapping, (R.A. Chadderton and A.C. Miller) Reply, *Water Resources Bulletin*, Vol. 16, No. 4, 758.
- Burges, S.J. (1980) Water Resource Systems Planning in U.S.A.: 1776-1976 (discussion by, H. Wiersema) Reply and Closure, *Journal of the Water Resources Planning and Management Division*, ASCE, Vol. 106, No. WR1, 370, 1980.
- Froise, S. and S.J. Burges (1980) Least-Cost Design of Urban Drainage Networks (L.W. Mays, H.G. Wenzel, Jr., and B. C. Yen) Reply and Closure, *Journal of the Water Resources Planning and Management Division*, ASCE, Vol. 106, No. WR2, 563.
- Hoshi, K. and S.J. Burges (1980) Disaggregation of Streamflow Volumes, (D.S. Bowles) Reply and Closure, *Journal of the Hydraulics Division*, ASCE, Vol. 106, No. HY6, 1127-1128.
- Lettenmaier, D.P. and S.J. Burges (1980) Correction for Bias in Estimation of the Standard Deviation and Coefficient of Skewness of the Log Pearson 3 Distribution, *Water Resources Research*, Vol. 16, No. 4, 762-766.
- Hoshi, K. and S.J. Burges (1980) Seasonal Runoff Volumes Conditioned on Forecasted Total Runoff Volume, *Water Resources Research*, Vol. 16, No. 6, 1079-1084.
- Hoshi, K. and S.J. Burges (1981) Sampling Properties of Parameter Estimates for the Log Pearson Type 3 Distribution Using Moments in Real Space, *Journal of Hydrology*, 53, 305-316.

Hoshi, K. and S.J. Burges (1981) Approximate Estimation of the Derivative of a Standard Gamma Quantile for Use in Confidence Interval Estimates, *Journal of Hydrology*, 53, 317-325.

Garen, D.C. and S.J. Burges (1981) Approximate Error Bounds for Simulated Hydro-graphs, *Journal of the Hydraulics Division*, ASCE, Vol. 107, No. HY11, 1519-1534.

Lettenmaier, D.P. and S.J. Burges (1982) Cyclic Storage: A Preliminary Assessment, *Groundwater*, Vol. 20, No. 3, 278-288.

Lettenmaier, D.P. and S.J. Burges (1982) Gumbel's Extreme Value I Distribution: A New Look, *Journal of the Hydraulics Division*, ASCE, No. 108, No. HY 4, 502-524.

Garen, D.C. and S.J. Burges (1983) Approximate Error Bounds for Simulated Hydrographs, (discussion by W.T. Sittner) Reply and Closure, *Journal of the Hydraulics Division*, ASCE, Vol. 107, No. 6, 928.

Hoshi, K., J.R. Stedinger, and S.J. Burges, (1984) Estimation of Log-Normal Quantiles: Monte Carlo Results and First Order Approximations, *Journal of Hydrology*, 71, 1-30.

Datta, B. and S.J. Burges, (1984) Short-Term, Single, Multiple-Purpose Reservoir Operation: Importance of Loss Functions and Forecast Errors, *Water Resources Research*, 20(9), 1167-1176.

Burges, S.J., (1986) Trends and Directions in Hydrology, *Water Resources Research*, Vol. 22, No. 9, 1s-5s.

Pei, D., S.J. Burges, and J.R. Stedinger (1987) Runoff Volume Forecasts Conditioned on a Total Seasonal Runoff Forecast, *Water Resources Research*, Vol. 23, No. 1, 9-14.

Gan, T.Y. and S.J. Burges, (1990) An Assessment of a Conceptual Rainfall-Runoff Model's Ability to Represent the Dynamics of Small Hypothetical Catchments, 1: Models, Model Properties, and Experimental Design, *Water Resources Research*, Vol. 26, No. 7, 1595-1604.

Gan, T.Y. and S.J. Burges, (1990) An Assessment of a Conceptual Rainfall-Runoff Model's Ability to Represent the Dynamics of Small Hypothetical Catchments, 2: Hydrologic Responses for Normal and Extreme Rainfall, *Water Resources Research*, Vol. 26, No. 7, 1605-1619.

Wigmosta, M.S. and S.J. Burges (1990) Proposed Model for Evaluating Urban Hydrologic Change, *Journal of Water Resources Planning and Management*, ASCE, Vol 116, No. 6, 742-763.

Burges, S.J. (1993) Confined Aquifer Parameters From a Pump Test Near an Impermeable

Boundary, *Journal of Hydraulic Engineering*, ASCE, Vol 119, No. 7, 838-845.

Burges, S.J. (1994) Confined Aquifer Parameters From a Pump Test Near an Impermeable Boundary, (discussion by, K. Yeung) Reply and closure, *Journal of Hydraulic Engineering*, ASCE, Vol. 120, No. 9, 1106-1107.

Wolff, C.G. and S.J. Burges (1994) An Analysis of the Influence of River Channel Properties on Flood Frequency, *Journal of Hydrology*, Vol. 153, 317-337.

Costa-Cabral, M.C. and S.J. Burges (1994) "DEMON (Digital Elevation Model Networks): A Model of Flow Over Hillslopes for Computation of Contributing and Dispersal Areas, *Water Resources Research*, Vol 30, No 6, 1681-1692. "For a user friendly version of DEMON", go to: <http://saga-gis.org/en/index.html>

Balocki, J.B. and S.J. Burges, (1994) Relationships Between n-Day Flood Volumes for Infrequent Large Floods, *Journal of Water Resources Planning and Management*, ASCE, Vol 120, No 6, 794-818.

Liang, X., D.P. Lettenmaier, E.F. Wood, and S.J. Burges (1994) A Simple Hydrologically Based Model of Land Surface Water and Energy Fluxes for General Circulation Models, *Journal of Geophysical Research*, 99(D7), 14,415-14,428.

Costa-Cabral, M.C. and S.J. Burges (1997) Sensitivity of Channel Network Planform Laws and the Question of Topologic Randomness, *Water Resources Research*, Vol. 33, No 9, 2179-2197.

Wigmosta, M. and S.J. Burges, (1997) An Adaptive Modeling and Monitoring Approach to Describe the Hydrologic Behavior of Small Catchments, *Journal of Hydrology*, Vol. 202 Issue (1-4), 48-77.

Burges, S.J., M.S. Wigmosta and J.M. Meena (1998) Hydrologic Effects of Land-Use Change in a Zero-Order Catchment, *Journal of Hydrologic Engineering*, Vol. 3, No. 2, 86-97.

Steiner, M., J. A. Smith, S. J. Burges, C. V. Alonso, and R. W. Darden, (1999) Effect of bias adjustment and rain gauge data quality control on radar rainfall estimation. *Water Resources Research*, 35(8), 2487-2503.

Burges, S.J., P.W. Ford, and I. White, (1999), "John Robert Philip (1927-1999) -- Obituary, *Eos*, Transactions of the American geophysical Union, 80(48), p547, November 30.

Burges, S.J., (2000), "Citation for 1999 Horton Medal for Wilfried Brutsaert", *Eos*, Transactions of the American geophysical Union, 81(8), p80, February 22.

Konrad, C. P., and S. J. Burges, (2001) Hydrologic Mitigation Using On-Site Residential Stormwater Detention, *J. Water Resources Planning and Management*, ASCE, 127(2), 99-107.

DeVries, P., S. J. Burges, J. Daigneau, and D. Stearns, (2001) Measurement of the Temporal Progression of Scour in a Pool-Riffle Sequence in a Gravel Bed Stream Using an Electronic Scour Monitor, *Water Resources Research*, 37(11), 2805-2816.

Konrad, C. P., D. B. Booth, S. J. Burges, and D. R. Montgomery, (2002), Partial Entrainment of Gravel Bars During Floods, *Water Resources Research*, 38(7), 1104, doi:10.1029/2001 WR000828.

Burges, S.J. , (2002), "Citation 2001 American Institute of Hydrology Ray K. Linsley Award for John J. Cassidy, Appendix B, Hydrologic Science and Technology 18(1-4).

Burges, S.J., (2003), "Citation 2002 American Institute of Hydrology Ray K. Linsley Award for David Pilgrim, Appendix B, Hydrologic Science and Technology 431-434, 19(1-4).

Crawford, N. H. and Burges, S. J., (2004), History of the Stanford Watershed Model, *Water Resources Impact*, 6(2), 3-5.

Burges, S.J., (2004), "Acceptance 2003 American Institute of Hydrology Ray K. Linsley Award", *Bulletin, American Institute of Hydrology*, 22(2), 13-16.

Booth, D.B., J. R. Karr, S. Schauman, C. P. Konrad, S. A. Morley, M. G. Larson, and S. J. Burges, (2004) Reviving Urban Streams: Land Use, Hydrology, Biology, and Human Behavior, *Journal of the American Water Resources Association*, 40(5), 1351-1364.

Cherkauer, K. A., S. J. Burges, R. N. Handcock, J. E. Kay, S. K. Kampf, and A. R. Gillespie, (2005), Assessing Satellite-based Thermal Remote Sensing for Monitoring Pacific Northwest Rivers, *Journal of the American Water Resources Association*, 41(5), 1149-1159.

Kay, J. E., S. K. Kampf, R. N. Handcock, K. A. Cherkauer, A. R. Gillespie, and S. J. Burges, (2005) Accuracy of Lake and Stream Temperatures Estimated From Thermal Infrared Images, *Journal of the American Water Resources Association*, 41(5), 1161-1175.

Konrad, C. P., D. B. Booth, and S. J. Burges (2005), The effects of urban development in the Puget Lowland, Washington on inter-annual streamflow patterns: consequences for channel form and streambed disturbance, *Water Resources Research*, 41(7), W07009  
10.1029/2005WR004097.

Gan, T. Y., and S. J. Burges, (2006) Assessment of Soil-Based and Calibrated Parameters of the Sacramento Model and Parameter Transferability, *Journal of Hydrology*, 320, 117-131, doi:10.1016/j.hydrol.2005.07.008.

Handcock, R.N., A. Gillespie, K.A. Cherkauer, J.E. Kay, S.J. Burges, and S.K. Kampf (2006), Accuracy and uncertainty of thermal-infrared remote sensing of stream temperatures at multiple spatial scales, *Remote Sensing of Environment*, doi:10.1016/j.rse.2005.07.007, 100 427-440.

Sieck, L.C., S. J. Burges, and M. Steiner (2007), Challenges in obtaining reliable measurements of point rainfall *Water Resources Research*, 3(1), W0142010.1029/2005 WR004519.

Sieck, L. C., S. J. Burges, and M. Steiner (2007), Correction to “Challenges in obtaining reliable measurements of point rainfall”, *Water Resour. Res.*, 43, W06701, doi:10.1029/2007WR005985.

Wong, M., G. Parker, P. DeVries, T. Brown, and S. J. Burges (2007), Experiments on dispersion of tracer stones under lower-regime plane-bed equilibrium bed load transport, *Water Resour. Res.*, 43, W03440, doi:10.1029/2006WR005172.

Kampf, S. K., and S. J. Burges (2007), A framework for classifying and comparing distributed hillslope and catchment hydrologic models, *Water Resour. Res.*, 43, W05423, doi:10.1029/2006WR005370.

Kampf, S. K., and S. J. Burges (2007), Parameter estimation for a physics-based distributed hydrologic model using measured outflow fluxes and internal moisture states, *Water Resour. Res.*, 43, W12414, doi: 10.1029/2006WR005605.

Mirus, B. B., K. Loague, J. E. VanderKwaak, S. K. Kampf, and S. J. Burges (2009), A hypothetical reality of a Tarrawarra-like hydrological response, *Hydrological Processes*, 23(7), 1093-1103, doi:10.1002/hyp.7241.

Cristea, N. C., and S. J. Burges (2009), Use of Thermal Infrared Imagery to Complement Monitoring and Modeling of Spatial Stream Temperatures, *Journal of Hydrologic Engineering*, 14(10), 1080-1090, DOI: 10.1061/(ASCE)HE.1943-5584.0000072.

Lee, S-Y, A. F. Hamlet, C. J. Fitzgerald, and S. J. Burges (2009), Optimized Flood Control in the Columbia River Basin for a Global Warming Scenario, *Journal of Water Resources Planning and Management*, 135(6), 440-450, DOI: 10.1061/(ASCE)0733-9496(2009)135:6(440).

Kampf, S. K., and S. J. Burges (2010), Quantifying the water balance in a planar hillslope plot: effects of measurement errors on flow prediction, *Journal of Hydrology*, 380 191-202, doi:10.1016/j.jhydrol.2009.10.036.

Ward, P. R. B., H. A. Yassien, and S. J. Burges (2010), Flood Flows and Channel Conveyance in the Athabasca River Delta, Canada, *International Journal of River Basin Management*, 8: 2, 161-172. DOI: 10.1080/15715121003714951.

Cristea, N. C. and S. J. Burges (2010), An assessment of the current and future thermal regimes of three streams located in the Wenatchee River basin, Washington State: some implications for regional river basin systems, *Climatic Change*, 102(3), 493-520, DOI: 10.1007/s10584-009-9700-5.

Lee, S-Y., A. F. Hamlet, C. J. Fitzgerald, and S. J. Burges, (2011), Methodology for Developing Flood Rule Curves Conditioned on El Nino-Southern Oscillation Classification. *Journal of the American Water Resources Association (JAWRA)* 47(1):81-92. DOI: 10.1111/j.1752-1688.2010.00490.x.



Lee, S-Y, C. J. Fitzgerald, A. F. Hamlet, and S. J. Burges (2011), Daily Time Step Refinement of Optimized Flood Control Rule Curves for a Global Warming Scenario, *Journal of Water Resources Planning and Management*, 137(4), 309-317, DOI: 10.1061/(ASCE)WR.1943-5452.0000125.

Burges, S. J. (2011), Invited perspective: Why I am an optimist, *Water Resour. Res.*, 47, W00H11, doi:10.1029/2010WR009984.

Cristea, N. C., S. K. Kampf, and S.J. Burges (2013), Linear models for estimating annual and growing season reference evapotranspiration using averages of weather variables, *Int. J. Climatol.* 32(2), 376-387, DOI: 10.1002/joc.3430.

Cristea, N.C., S. K. Kampf, and S.J. Burges (2013), Revised coefficients for Priestley-Taylor and Makkink-Hansen equations for estimating daily reference evapotranspiration, *Journal of Hydrologic Engineering*, 18(10), 1289-1300, DOI: 10.1061/(ASCE)HE.1943-5584.0000679.

### Refereed Conference Proceedings

Burges, S.J., Use of Autoregressive Runoff Models in Reservoir Studies, *Proceedings of the Symposium on Statistical Hydrology*, Tucson, Arizona, Aug. 381-Sept. 2, 1971, U.S. Dept. of Agriculture, Agricultural Research Service, *Miscellaneous Publication No. 1275*, 287-294, June 1974.

Burges, S.J. (1972) Comments on "Failure Criteria," "System Analysis Frameworks," *Proceedings International Symposium on Uncertainties in Hydrologic and Water Resources Systems*, Vol. III, Tucson, Arizona, Dec. 11-14, 1972.

Burges, S.J., Comments on "Probable Maximum Precipitation," "Flood Frequency," and "Bayesian Techniques," *Proceedings Second International Hydrology Symposium*, Fort Collins, Colorado, Sept. 11-13, 1973.

Burges, S.J., Reliability of Estimates of the Exceedence Probability of a Given Flood Magnitude, Proc. Second International Hydrology Symposium, Fort Collins, Colorado, Sept. 11-13, 1972, in **Floods and Droughts**, E.F. Schultz, V.A. Koelzer, and K. Mahmood, eds., Water Resources Publications, Fort Collins, CO, 1973.

Maknoon, R. and S.J. Burges, Issues in Conjunctive Use of Ground and Surface Waters, Proceedings of AWWA Meeting, New Orleans, June 20-25, paper 27-4, 1976.

Lettenmaier, D.P. and S.J. Burges, An Analysis of the Detectability of Nonstationarity in Geophysical Time Series, *Proceedings, Third International Hydrology Symposium*, Fort Collins, Colorado, June 27-29, 1977.

James, L.D., D.S. Bowles, and S.J. Burges, Stochastic Modeling for Predicting Frequency Distributions of Stages in Terminal Lakes at Future Planning Horizons, *Proceedings*,

*International Conference on Desertic Terminal Lakes*, Ogden, Utah, May 2-5, 1977.

Lettenmaier, D.P. and S.J. Burges, A Non-Parametric Approach to the Analysis of Extreme Hydrologic Events, *Proceedings, International Symposium on Risk and Reliability in Water Resources*, University of Waterloo, Waterloo, Canada, 799-818, 1978.

Hoshi, K. and S.J. Burges, Incorporation of Forecasted Total Seasonal Runoff Volumes into Reservoir management Strategies, *Proceedings, International Symposium on Risk and Reliability in Water Resources*, University of Waterloo, Waterloo, Canada, 853-872, 1978.

Burges, S.J. and D.P. Lettenmaier, Reliability Measures for Water Supply Reservoirs and the Significance of Long-Term Persistence, *Proceedings, International Symposium on Real-Time Operation of Hydrosystems*, Waterloo, Ontario, Canada, June 24-26, 1981.

James, L.D. and S.J. Burges, Precipitation-Runoff Modeling: Future Directions, in **Applied Modeling in Catchment Hydrology**, V.P. Singh, ed., Water Resources Publications, Littleton, Colorado, 291-312, 1982.

Lettenmaier, D.P. and S.J. Burges, Validation of Synthetic Streamflow Models, in **Time Series Methods in Hydrosciences**, A.H. El-Shaarawi and S.R. Esterby, eds., Elsevier, New York, pp. 424-444, 1982.

Burges, S.J., Rainfall-Runoff Model Validation: The Need for Unambiguous Tests, *Proceedings, 9th World Congress of the Int. Fed. of Automatic Control*, Budapest, Hungary, 1984. (In **A Bridge Between Control Science & Technology**, J. Gertler and Keviczky eds., Vol. 6, Pergamon Press, 1985).

Pei, D. and S.J. Burges, Hydro-Thermal Power Reliability During Drought, *Proceedings, ASCE. Energy 87 Conference*, pp. 8, April 1987.

Burges, S.J., Forecasting Hazardous Floods, *Proceedings, US-ASIA Conference on Engineering for Mitigating Natural Hazards Damage*, P. Karasudhi, P. Nutalaya, and A.N.L. Chiu, eds., B1-1-B1-22, December 14-18, Bangkok, Thailand, 1987.

Burges, S.J., Hazardous Floods: Trends in Forecasting and Hydrologic Modeling, *Proceedings, Pacific International Seminar on Water Resources Systems*, Tomamu, Hokkaido, Japan, 210-228, 8-10 August, 1989.

Burges, S.J., Some Aspects of Hydrologic Variability, *Proceedings of a Colloquium, in Managing Water Resources in the West Under Conditions of Climate Uncertainty*, November 14-16, 1990, Scottsdale, Arizona by the Water Science and Technology Board, National Research Council, National Academy Press, 275-280, 1991.

Burges, S.J. Unny, Symposium: Why Are You Here?, in **Stochastic and Statistical Methods in Hydrology and Environmental Engineering, Volume 2., Stochastic and Statistical Modelling With groundwater and Surface water Applications**, K. W. Hipel,

ed., Kluwer Academic Publishers, London, 3-20, 1994.

Burges, S.J., The Hydrology Section 1994-1996, Message From the President, Eos, *Transactions of the American Geophysical Union*, 76(5), 56-58, (Supplement), January 31, 1995.

Tanakamaru, H. and S.J. Burges, Application of Global Optimization to Parameter Estimation of the Tank Model, *Proceedings, International Conference on Water Resources and Environment Research*, Volume II, Kyoto, Japan, 39-46, October 29-31, 1996.

Burges, S.J., Climate Variability and Water Resources in the South-West of Western Australia: Research Needs and Priorities, 21-23 in *Climate Variability and Water Resources Workshop*, J.K. Ruprecht, B.C. Bates, and R.A. Stokes, eds., Water and Rivers Commission (WA), Water Resources Technical Report Series No. WRT5, 29p, 1996.

Steiner, M., J.A. Smith, S.J. Burges, and C.V. Alonso, Use of RADAR for Remote Monitoring of Rainfall Rate and Rainfall Kinetic Energy on a Variety of Scales, in **Management of Landscapes Disturbed by Channel Incision**, S. S. Y. Wang, E. J. Langendoen, and F. D. Shields, Jr., eds., The University of Mississippi, 831-839, 1997.

Burges, S.J., "Streamflow Prediction -- Capabilities, Opportunities, and Challenges", 101-134, in **Hydrologic Sciences – Taking Stock and Looking Ahead**, Water Science and Technology Board, National Academy Press, 138p, 1998.

Kay, J., R. N. Handcock, A. Gillespie, C Konrad, S. Burges, N. Naveh, and D. Booth, Stream-temperature estimation from thermal infrared images, p3, International Geoscience and Remote Sensing Symposium (IGARSS). 9-13 July 2001 Sydney, Australia.

Booth, D.B., C. P. Konrad, S. A. Morley, M. G. Larson, J. R. Karr, S. Schauman, S. J. Burges, and M. Roberts, Strategies and limitations for urban watershed planning: National Conference on Urban Storm Water, Chicago, IL, February 17-20, 2003.

Sieck, L.C., M. Steiner, S.J. Burges, J.A. Smith, and C. Alonso, The Challenges of Measuring Rainfall: Observations Made at the Goodwin Creek Research Watershed, *Proceedings, First Interagency Conference on Research in the Watersheds*, United States Department of Agriculture, Agricultural Research Service, 198–204, October 27-30, 2003.

Lang, G.J, J.H.P. Wong, S.J. Burges, and M.B. Danard, Spatial and temporal extension of large basin hydrometeorological records using a distributed modelling approach *GIS and Remote Sensing in Hydrology, Water Resources and Environment* (Proceedings of ICGRHW held at the Three Gorges Dam, China, September 2003). IAHS Publ. 289, 355-362, 2004.

Ward, P., H. Yassien, and S.J. Burges, Techniques and Measurements for Flows and Water Levels in a Large Northern Delta, in *Critical Transitions in Water and Environmental Resources Management*, American Society of Civil Engineers, paper 40737-4363, 2004

Lee, S-Y, A.F. Hamlet, C.J. Fitzgerald, S.J. Burges, and D.P. Lettenmaier, Optimized Flood Control in the Columbia River Basin for a Global Warming Scenario, 256-271, in *Operating Reservoirs in Changing Conditions*, D. Zimbelman, and W.C. Loehlein (Eds), p 444, ISBN 0784408750, American Society of Civil Engineers, August 2006.

## **Abstract and Non-Refereed Conference Proceedings and Other Non-Journal Articles**

### **Abstracts**

Coho, C. and S.J. Burges, Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest, AGU Fall Meeting, San Francisco, CA December 6-10, 1993, *Eos, Transaction of the American Geophysical Union* 74(43), p 301, 1993. Poster presentation made by C. Coho.

Burges, S.J. and M.S. Wigmosta, Development and Testing of a Hydrologic Simulation Model, AGU Fall Meeting, San Francisco, CA December 6-10, 1993, *Eos, Transaction of the American Geophysical Union* 74(43), p 303, 1993. Poster presentation made by M. Wigmosta.

Coho, C. and S. J. Burges, Initiation and Movement of a Dam-Break Flood in a Steep Mountain Channel in Washington State, Western Pacific Geophysics Meeting, Hong Kong, July 25-29, 1994, *Eos, Transaction of the American Geophysical Union Supplement to June 21, 1994 issue*, p 38. Presentation made by S. Burges.

Costa-Cabral, M.C. and S.J. Burges, What Does Channel Network Topology Tell us?, AGU Fall Meeting, San Francisco, CA December 5-9, 1994, *Eos, Transaction of the American Geophysical Union* 75(44), p 303, 1994. Presentation made by M. Costa-Cabral.

Kolsti, K.F. and S.J. Burges, B.W. Jensen, and C.P. Konrad, Experimental Investigation of Hydrologic Characteristics of Amended Till Soils, AGU Spring Meeting, Baltimore, MD, May 30, June 2, 1995, *Eos, Transaction of the American Geophysical Union*, p S113, 1995. Poster Presentation made by S.J. Burges.

Koivasulo, H. and S. J. Burges, Applications of a Snow Cover Model (SNTHERM) to Analyze Snow Depth and Snow Temperature Data from Southern Finland, AGU Fall Meeting, San Francisco, CA December 15-19, 1996, *Eos, Transaction of the American Geophysical Union* 77(46), p F196, 1996. Presentation made by H. Koivasulo.

### **Non-Journal Articles**

Burges, S.J., Non Linear Behavior of a Reinforced Concrete Frame, Thesis Submitted for the Award of the Degree of Bachelor of Engineering in Civil Engineering from The University of Newcastle, Australia, p70, 1966.

Burges, S.J. and B.W. Mar, Systems Approach to River Basin Management, ASCE, National Water Resources Engineering Meeting, Jan. 29-Feb. 2, 1973. Preprint 1977.

Burges, S.J., A Possible Alternative for Estimating Probabilities of Extreme Flood Events, invited paper (unpublished), 29 pp., International Hydrology Symposium, Universidad Simon Bolivar, Caracas, Venezuela, March 1978.

Burges, S.J., Use of Forecasted Seasonal Runoff Volumes in Reservoir Management, Preprint 3387, ASCE Convention and Exposition, Chicago, October 16-20, 1978.

Loague, K., R.A. Freeze, D.P. Lettenmaier, and S.J. Burges, The Hydrologic Basis for River Forecasting: A Comparison of Rainfall-Runoff Modeling Techniques, International Conference on Mitigation of Natural Hazards Through Real-Time Data Collection Systems and Hydrologic Forecasting, Sacramento, California, 38pp, September 19-23, 1983.

Lettenmaier, D.P., S.J. Burges, and E.G. Altouney, Drought and the Electric Power Industry, 25p., *ASCE Spring Convention*, Seattle, April 7-11, 1986.

Steiner, M., J. A. Smith, L. C. Sieck, S. J. Burges, and C. V. Alonso, How much rain reaches the surface? Lessons learned from very high resolution observations in the Goodwin Creek watershed, *Preprints, 16th Conference on Hydrology*, Orlando, Florida, American Meteorological Society, 61-65, 2002.

Sieck, L. C., S. J. Burges, M. Steiner, and J. A. Smith, Potential Application of Mobile X-Band Radar for Catchment Hydrology, Proceedings 31<sup>st</sup> Conference on Radar Meteorology, Vol II, Seattle, Washington, American Meteorological Society, 674-677, 2003.

Ward, P., H. Yassien, and S.J. Burges, Techniques and Measurements for Flows and Water Levels in a Large Northern Delta, in *Critical Transitions in Water and Environmental Resources Management*, American Society of Civil Engineers, paper 40737-4363, 2004.

## Books

Burges, S.J. (1982) Stochastic Hydrology, Chapter 14 in **Hydrology for Engineers**, third edition, R.K. Linsley, M.A. Kohler and J. Paulhus, eds., McGraw-Hill.

James, L.D. and S.J. Burges (1982) Selection, Calibration, and Testing of Hydrologic Models, Chapter 11 in C.T. Haan, H.P. Johnson and D.L. Brakensiek, eds, *Hydrologic Modeling of Small Watersheds*, American Society of Agricultural Engineers, **Hydrologic Modeling Monograph**.

Henshaw P.C., Charlson, R.J., and Burges, S.J. (2000) Water and the Hydrosphere, Chapter 6 in **Earth system Science -- From Biogeochemical Cycles to Global Change**, second edition, M.C. Jacobson, R.J. Charlson, H. Rodhe, and G.H. Orians, eds., Academic Press.

Wigmosta, M.S., and S.J. Burges, Eds., **Land Use and Watersheds : Human Influence on Hydrology and Geomorphology in Urban and Forested Areas**, American Geophysical Union p227, 2001.

Jackson, C.R., S.J. Burges, (plus 7 others) Development and Application of Simplified Continuous Hydrologic Modeling for Drainage Design and Analysis, pp 39-58, in **Land Use and Watersheds : Human Influence on Hydrology and Geomorphology in Urban and Forested Areas**, M. S. Wigmosta, and S. J. Burges, Eds., American Geophysical Union p227, 2001.

Burges, S.J. A Convergence of Paths That Culminated in John Philip's 1995 Video Recorded History of Hydrology Interview, pp. 29-33 and CD ROM, in P.A.C. Raats, D. Smiles, and A.W. Warrick, Eds., **Environmental Mechanics - Water, Mass and Energy Transfer in the Biosphere**, Geophysical Monograph 129, American Geophysical Union 10.1029/129GM02, 2002.

S.J. Burges, Process Representation, Measurements, Data Quality, and Criteria for Parameter Estimation of Watershed Models, pp 283-299, in Q. Duan, H. Gupta, S. Sorooshian, A. N. Rousseau, and R. Turcotte Eds. **Calibration of Watershed Models**, American Geophysical Union Monograph, Water Science and Application 6, 2003.

## Editing and Other Scholarly Papers

### Journal Editing

Editor, *Water Resources Research*, published by American Geophysical Union, Oct. 1980-May 1995. (Premier journal (international) in water resources research).

Guest Editor, Trends and Directions in Hydrology, *Water Resources Research*, Supplement, Vol. 22, No. 9, pp. 188, 1986. (This is a definitive set of fifteen papers describing the state of hydrologic inquiry)

### Editorials

Burges, S.J., Water Resources Research: The Twentieth Year, *Water Resources Research*, 20(3), 321-322, 1984.

Burges, S.J., Exeunt, *Water Resources Research*, 21(6), 777-778, 1985.

Burges, S.J., Water Resources Research -- Past Present and Future, *Water Resources Research*, 26(7), 1321-1322, 1990.

### Book Reviews

Review of Statistical Methods in Hydrology (by C.T. Haan, Iowa State University Press, 378 pp., 1977), *EOS, Transactions American Geophysical Union*, Vol. 59, No. 12, pp. 1005-1006, December, 1978.

Review of Flood Studies Report: Hydrologic Studies, Meteorologic Studies, Flood Routing

Studies, Hydrologic Data, Maps, Natural Environmental Research Council, Vols. 1-5, London, XX+550 pp., X+81 pp., X+76 pp., vii+541 pp., 24 maps, 1975, *EOS, Transactions American Geophysical Union*, Vol. 60, No. 46, 778-790, November 13, 1979.

### **U.S. National Research Council: Contributions to Water Science and Technology Board Reports**

Burges, S.J., Estimating Probabilities of Extreme Floods, Committee on Techniques for Estimating Probabilities of Extreme Floods, (Ex-Officio member), Water Science and Technology Board, National Research Council, National Academy Press, 141p., 1988.

Burges, S.J., Managing Water Resources in the West Under Conditions of Climate Uncertainty, Committee on Climate Uncertainty and Water Resources Management, (Committee Chairman), Water Science and Technology Board, National Research Council, National Academy Press, 344p., 1991.

Burges, S.J., Opportunities in the Hydrologic Sciences, Committee on Opportunities in the Hydrologic Sciences, (Ex-Officio member), Water Science and Technology Board, National Research Council, National Academy Press, 348p., 1991.

Burges, S.J., The Global Climate Change Response Program: A Mid-Course Evaluation (Committee on Climate and Water Resource Management, (Committee Chairman), Water Science and Technology Board, National Research Council, 24p, 1992.

### **U.S. National Research Council: Contributions to Reports, Board on Earth Sciences and Resources**

Basic Research Opportunities in Earth Science, Committee on New Research Opportunities in the Earth Sciences at the National Science Foundation, Board on Earth Sciences and Resources, US National Research Council, National Academy Press, 154p, 2001.

Dam and Levee Safety and Community Resilience – A Vision for the Future, Committee on Integrating Dam and Levee Safety and Community Resilience, Board on Earth Sciences and Resources, National Research Council, National Academy Press, 155p, 2012.

### **Videotaped History of Hydrology Interviews -- available from American Geophysical Union**

1. Interview of John R. Philip FRS, NAE, Chief Emeritus, Division of Environmental Mechanics, CSIRO, Canberra, Australia -- July 1995 (University of Colorado, Boulder, Colorado). (2 hours).

2. Interview of Peter S. Eagleson, NAE, Edmund K. Terman Professor Emeritus, Department of Civil and Environmental Engineering, and Professor Emeritus, Department of Earth, Atmosphere, and Planetary Sciences, Massachusetts Institute of Technology -- May 1997 (Johns Hopkins University, Baltimore, Maryland). (2 hours).

### **Video Taped History of Civil and Environmental Engineering -- University of Washington**

(Videotaped interview conducted by S.J. Burges -- available from the Department of Civil and Environmental Engineering, University of Washington)

1. Colin B. Brown, Distinguished Member, ASCE, Professor Emeritus, Department of Civil and Environmental Engineering, University of Washington -- July 2001 (University of Washington TV) (2 hours 14 minutes).

### **Video Taped Invited Lectures and Seminars:**

“Unny Symposium: Why are you Here?”, University of Waterloo, Recorded by the Department of Systems Engineering, June 1993.

“The Three D’s of Catchment Hydrology -- Some Examples and Challenges”, Melbourne Water, Melbourne Australia, August 1994. (Recorded by Monash University, Centre for Cooperative Research in Catchment Hydrology)

“Climate Variability and Water Resources in the South West of Western Australia”, Recorded by the “Water Corporation”, Leederville, Western Australia, February 2, 1996.

“Managing Water Resources in Variable Climates -- Examples from the US and the South West of Western Australia”, Kiesel Memorial Lecture, University of Arizona, Recorded for the Department of Hydrology and Water Resources, March 7, 1997.

"Hydrologic Variability and its Societal Importance", Langbein Lecture, American Geophysical Union, Spring Annual Meeting, Boston, Massachusetts, May 30, 2001. (Videotaped and webcast - available from The American Geophysical Union <http://hydrology.agu.org/resources/lectures/>.)

### **Sponsored Research**

- |         |  |
|---------|--|
| 1973-74 | Hydrologic data requirement of a water resources information system, State of Washington Department of Ecology |
| 1974-75 | Optimal water quality monitoring procedures for streams, State of Washington Department of Ecology             |
| 1974-75 | Conjunctive use of ground and surface water, State of Washington Department of Ecology                         |
| 1975    | Operational comparison of stochastic streamflow generation procedures, Office of Water Research and Technology |



- 1975-76 Analysis of runoff detention in urban and suburban watersheds, Office of Water Research and Technology
- 1976-78 Improving reservoir operation through forecasting intra-seasonal snowmelt runoff, Office of Water Research and Technology
- 1977-78 The feasibility of implementing a continuous simulation hydrologic model for urban drainage design, Office of Water Research and Technology
- 1978-80 Water resource system operation and design for drought (with D. Lettenmaier), Office of Water Research and Technology
- 1978-79 Use of surface and cyclic groundwater storage systems for water resource development (with D. Lettenmaier), Office of Water Research and Technology
- 1980-82 Operation of detention facilities for urban stream quality enhancement (with D. Lettenmaier and M.M. Benjamin), Office of Water Research and Technology
- 1980-81 Drought in the Pacific Northwest: Relationships between atmospheric pressure patterns and fall/winter precipitation, Office of Water Research and Technology
- 1980-82 Assessment of changes in storm and seasonal runoff response of watersheds impacted by Mt. St. Helens ash deposition (with D. Lettenmaier), Office of Water Research and Technology
- 1982-83 Drought in the Pacific Northwest: Model evaluation, Office of Water Research and Technology
- 1982-85 Developments in synthetic stream-flow modeling (with D. Lettenmaier), National Science Foundation
- 1983-84 Strategies for coping with drought (with D. Lettenmaier and R.N. Palmer), Electric Power Research Institute
- 1986-88 An assessment of a complex conceptual rainfall-runoff model and aspects of catchment response to extreme rainfall, National Science Foundation
- 1986-89 Mitigation of hydrologic effects of urbanization, United States Geological Survey
- 1990-93 An examination of the forms of initiation of floods from the breaching of non-engineered dams, State of Washington Department of Natural Resources
- 1990-93 Field testing of a small catchment model that uses and predicts spatial and temporal information, United States Geological Survey

- 1993-97 Improved residential onsite stormwater management, State of Washington Department of Ecology
- 1995-99 Use of NEXRAD data to estimate rainfall rate and rainfall kinetic energy flux, National Science Foundation
- 1996-98 Geographic variation in scour depth in cobble/gravel bed streams in relation to salmonid populations, Washington Forest Protection Association
- 1997-00 Urban stream rehabilitation in the Pacific Northwest physical biological and social considerations, US Environmental Protection Agency
- 1998-00 Development of electronic scour depth monitor, National Science Foundation
- 1998-00 Design and application of an electronic scour monitor phase 2, National Council of the Paper Industry for Air and Stream Improvement (NCASI)
- 2000-2003 Application of Remotely-Sensed Data to Regional Analysis and Assessment of Stream temperature in the Pacific Northwest, US Environmental Protection Agency
- 2000-2003 Collaborative Research -- Space-Time variability of Rainfall and its Effects on Rainfall Estimation, National Science Foundation.
- 2003-2007 Collaborative Research: Tracer Stone Studies; Field and Flume, National Science Foundation.
- 2004 Temperature Total Maximum Daily Loads for the Wenatchee River Watershed, State of Washington Department of Ecology.
- 1999- 2007 Seattle Ultra Urban Projects (1-3), Seattle Public Utilities, City of Seattle.
- 2006-2009 A Framework for Testing Distributed Hydrologic Models at the Hillslope Scale, National Science Foundation.

### **Technical reports**

Street, R.L., S.J. Burges and P.W. Whitford, The Behavior of Solitary Waves on a Stepped Slope, Technical Report 93, Department of Civil Engineering, Stanford University, California, August, 1968.

Whitford, P.W. and S.J. Burges, Some Comments on Transportation Problems in the City of Newcastle NSW, Report submitted to Newcastle City Council, Australia, p8, 1969.

Linsley, R.K., S.J. Burges and P.W. Whitford, An Evaluation of the Decision Process in Water Resources Project Design, Technical Report 122, Department of Civil Engineering, Stanford University, California, December, 1969.

Burges, S.J., Use of Stochastic Hydrology to Determine Storage Requirements of Reservoirs - A Critical Analysis, Report on Engineering Economic Planning, EEP-34, Dept. of Civil Engineering, Stanford University, California, August, 1970.

Lettenmaier, D.P. and S.J. Burges, Data Requirements for Establishing and Managing a Waste Water Allocation Permit System, Technical Report 37, Harris Hydraulics Lab, Department of Civil Engineering, University of Washington, p64, 1973.

Burges, S.J. and J.S. Hillmer, Data and Administrative Considerations for Two District Flood Plain Zoning, Technical Report 38, Harris Hydraulics Lab, Department of Civil Engineering, University of Washington, p121, 1974.

Bates, C.L., D.P. Lettenmaier, and S.J. Burges, Tables of Parameters for the Three Parameter Log-Normal Probability Distribution, Technical Report 41, Harris Hydraulics Lab, Department of Civil Engineering, University of Washington, December, p143, 1974.

Burges, S.J. and R. Maknoon, Issues in Conjunctive Use of Ground and Surface Waters, Technical Report 44, Harris Hydraulics Lab, Department of Civil Engineering, University of Washington, p77, 1975.

Burges, S.J. and D.P. Lettenmaier, Operational Comparison of Stochastic Streamflow Generation Procedures, Technical Report 45, Harris Hydraulics Lab, Department of Civil Engineering, University of Washington, p112, 1975.

Hardt, R.A. and S.J. Burges, Some Consequences of Area Wide Runoff Control Strategies in Urban Watersheds, Technical Report 48, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, Seattle, Washington, p81, 1976.

Kemp, G.J. and S.J. Burges, Hydrologic Modeling and Data Requirements for Analysis of Urban Streamflow Management Alternatives, Technical Report 57, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, 1978.

Burges, S.J. and K. Hoshi, Incorporation of Forecasted Seasonal Runoff Volumes into Reservoir Management, Technical Report 58, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, 1978.

Lettenmaier, D.P. and S.J. Burges, Reliability of Cyclic Surface and Groundwater Storage Systems for Water Supply: A Preliminary Assessment, Technical Report 64, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, 1979.

Draper, S.H., R.N. Palmer, D.P. Lettenmaier, and S.J. Burges, Water Resources System Reliability Under Drought Conditions: The Seattle Water Supply System as a Case Study, Technical Report 72, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, 1981.

Lettenmaier, D.P. and S.J. Burges, Estimation of Flood Frequency in the Toutle and Cowlitz

River Basins Following the Eruption of Mt. St. Helens, Technical Report 69, Harris Hydraulics Laboratory, Department of Civil Engineering, University of Washington, p73, 1981.

Dally, L.K., D.P. Lettenmaier, S.J. Burges, and M.M. Benjamin, Operation of Detention Facilities for Urban Stream Quality Enhancement, Technical Report 79, Water Resources Series, Department of Civil Engineering, University of Washington, p267, 1983.

Datta, B., D.P. Lettenmaier, and S.J. Burges, Assessment of Changes in Storm and Seasonal Runoff Response of Watersheds Impacted by Mt. St. Helens Ash Deposition, Technical Report 82, Water Resources Series, Department of Civil Engineering, University of Washington, p96, 1983.

Kuriki, M., S.J. Burges, and D.P. Lettenmaier, Hydrologic Estimation for Sizing of Small Hydropower Generation Facilities, Technical Report 88, Water Resources Series, Department of Civil Engineering, University of Washington, p78, 1984.

Lettenmaier, D.P., K.M. Leytham, R.N. Palmer, D.M. Johnston, and S.J. Burges, Strategies for Coping with Drought, Volume 1: Problem Identification, Final Report to Electrical Power Research Institute, EPRI EA-4944, Project 2194-1, 1986.

Lettenmaier, D.P., K.M. Leytham, R.N. Palmer, J.R. Lund and S.J. Burges, Strategies for Coping with Drought: Part 2 Planning Techniques and Reliability Assessment, Final Report to Electric Power Research Institute, EPRI P-5201, Project 2194-1, 1987.

Pei, D. and S.J. Burges, Strategies for Coping with Drought -- Phase 3: Hydro - Thermal Systems, Literature Review, Interim Report, Electric Power Research Institute, p47, 1986.

Burges, S.J., B.A. Stoker, M.S. Wigmosta, and R.A. Moeller, Hydrologic Information and Analyses Required for Mitigating Hydrologic Effects of Urbanization, Water Resources Series, Technical Report #117, Department of Civil Engineering, University of Washington, p131, June 1989. (NTIS PB90 109448)

Scheibe, T.D., D.P. Lettenmaier, S.J. Burges, and D. Pei, Strategies for Coping With Drought, Part 3: Planning and Operation of Hydro-Thermal Generation Systems, Final Report to Electric Power Research Institute, EPRI P-5201, Project 2194-1, March, 1991.

Balocki, J.B. and S.J. Burges, A Preliminary Examination of Relationships Between Catchment Characteristics and Volumes of Infrequent Large Floods, Water Resources Series, Technical Report #130, Department of Civil Engineering, University of Washington, p88, August 1991. (NTIS PB92-213180/AS)

Wigmosta, M.S., S.J. Burges, and J.M. Meena, Modeling and Monitoring to Predict Spatial and Temporal Hydrologic Characteristics in Small Catchments, Water Resources Series, Technical Report #137, Department of Civil Engineering, University of Washington, p223, June 1994. (NTIS PB95-198248)

Coho, C. and S.J. Burges, Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest, Water Resources Series, Technical Report #138, Department of Civil Engineering, University of Washington, p70, June 1994. (NTIS /AS).

Kolsti, K.F., S.J. Burges, and B.W. Jensen, Hydrologic Response of Residential-Scale Lawns on Till Containing Various Amounts of Compost, Water Resources Series, Technical Report #147, Department of Civil Engineering, University of Washington, p143, September 1995.

Konrad, C.P., S.J. Burges, and B.W. Jensen, “An Examination of Stormwater Detention and Infiltration at the Scale of an Individual Residence in the Sammamish Plateau Region of King County, Washington”, Water Resources Series, Technical Report #148, Department of Civil Engineering, University of Washington, p123, September 1995.

Konrad, C.P., K.F. Kolsti, S. Streibe, B.W. Jensen, and S.J. Burges, Alternatives for Limiting Stormwater Production and Runoff in Residential Catchments, Water Resources Series, Technical Report #149, Department of Civil Engineering, University of Washington, p86, September, 1995.

Konrad, C.P., B.W. Jensen, S.J. Burges, and L. E. Reinelt On-Site Residential Stormwater Management Alternatives, Design Manual, Center for Urban Water resources Management, Department of Civil Engineering, University of Washington, November, 1995.

Koivusalo, H. and S.J. Burges, Use of a One-Dimensional Snow Cover Model to Analyze Measured Snow Depth and Snow Temperature Data From Southern Finland, Water Resources Series, Technical Report #150, Department of Civil Engineering, University of Washington, p109, March 1996.

Miller, A.V., S.J. Burges, and R.R. Horner, Hydrologic Monitoring of the Seattle Ultra-Urban Stormwater Management Project, Water Resources Series, Technical Report #166, Department of Civil and Environmental Engineering, University of Washington, p149, April, 2001.

Booth, D. B., J. R. Karr, S. Schauman, C. P. Konrad, S. A. Morley, M. G. Larson, P. Henshaw, E. Nelson, and S. J. Burges, Urban stream rehabilitation in the Pacific Northwest: final report to U. S. EPA, grant no. R82-5284-010, 78 p., 2001.

Horner, R.R., H. Lim, and S. J. Burges, Hydrologic Monitoring of the Seattle Ultra-Urban Stormwater Management Projects, Water Resources Series, Technical Report #170, Department of Civil and Environmental Engineering, University of Washington, p31, September, 2002.

Cristea, N.C., and S.J. Burges, “Wenatchee River, Washington, Water Temperature Modeling an Assessment Using Remotely Sensed Thermal Infrared and Instream Recorded

Data', Water Resources Series, Technical Report #179, Department of Civil and Environmental Engineering, University of Washington. p92, September 2004.

Horner, R.T, H. Lim, and S. J. Burges, Hydrologic Monitoring of the Seattle Ultra-Urban Stormwater Management Projects: Summary of the 2000-2003 Water Years, Water Resources Series, Technical Report #181, Department of Civil and Environmental Engineering, University of Washington, p33, October, 2004.

Stefansdottir, M., S. J. Burges, and S. M. Gardarsson, A Simulation of the 9500 Year Glacial Sediment Delivery and Deposition History of Lake Lagarfljot, Eastern, Iceland, Water Resources Series, Technical Report #182, Department of Civil and Environmental Engineering, University of Washington, p71, August, 2006.

## **Other Research-Related Activities**

### **Invited Lectures and Seminars (Video Taped)**

Unny Symposium: Why are you Here?, University of Waterloo, Recorded by the Department of Systems Engineering, June 1993.

The Three D's of Catchment Hydrology -- Some Examples and Challenges, Melbourne Water, Melbourne Australia, August 1994. (Recorded by Monash University, Centre for Cooperative Research in Catchment Hydrology)

Climate Variability and Water Resources in the South West of Western Australia, Recorded by the "Water Corporation", Leederville, Western Australia, February 2, 1996.

Managing Water Resources in Variable Climates -- Examples from the US and the South West of Western Australia, Kiesel Memorial Lecture, University of Arizona, Recorded for the Department of Hydrology and Water Resources, March 7, 1997.

Hydrologic Variability and its Societal Importance, Langbein Lecture, American Geophysical Union, Spring Annual Meeting, Boston, Massachusetts, May 30, 2001. (Videotaped and webcast). <http://www.agu.org/meetings/sm01/webcasts/burges.html>

## **Presentations Given at Conferences**

### **At Professional Societies (since 1993)**

Coho, C. and S.J. Burges, Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest, AGU Fall Meeting, San Francisco, CA December 6-10, 1993. Poster presentation made by C. Coho.

Burges, S.J. and M.S. Wigmosta, Development and Testing of a Hydrologic Simulation Model, AGU Fall Meeting, San Francisco, CA December 6-10, 1993. Poster presentation made by M. Wigmosta.

Coho, C. and S. J. Burges, Initiation and Movement of a Dam-Break Flood in a Steep Mountain Channel in Washington State, Western Pacific Geophysics Meeting, Hong Kong, July 25-29, 1994. Presentation made by S. Burges.

Western Pacific Geophysics Meeting Hong Kong July 25-29, 1994.  
Substitute Co-Chair "Hydrological Processes and Their Scale Problems".  
Substitute presenter of two papers for colleagues who could not attend.

Costa-Cabral, M.C. and S.J. Burges, What Does Channel Network Topology Tell us?, AGU Fall Meeting, San Francisco, CA December 5-9, 1994. Presentation made by M. Costa-Cabral.

Kolsti, K.F. and S.J. Burges, B.W. Jensen, and C.P. Konrad, Experimental Investigation of Hydrologic Characteristics of Amended Till Soils, AGU Spring Meeting, Baltimore, MD, May 30, June 2, 1995. Poster Presentation made by S.J. Burges.

Koivasulo, H. and S. J. Burges, Applications of a Snow Cover Model (SNTHERM) to Analyze Snow Depth and Snow Temperature Data from Southern Finland, AGU Fall Meeting, San Francisco, CA December 15-19, 1996. Presentation made by H. Koivasulo

Konrad, C.P., S. Morley, D.B. Booth, S.J. Burges, and J.A. Karr, Urban Influences on Streams in the Puget Sound Lowlands, Washington, AGU Spring Meeting, Boston, MA, May 26-29, 1998. Eos, Transaction, American Geophysical Union, 79(17), p S77. Poster Presentation made by C.P. Konrad.

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, 4<sup>th</sup> 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., Gillespie, 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, 8<sup>th</sup> 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)

Diplomate, 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 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 (Member)  
 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 -.**

### **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

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*”.

### **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)

### Current

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).
- Balock, 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 1989)** R = Reading Committee Member, G = Graduate School

Representative, N = Never completed

D. Pei (N), M. Moinpour (R), M. Balise (R), K. Loague (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), A Polebitski(R), B. Livneh, C Frans (R).

### **M.S. Committees (since 1989)**

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 N0. 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.

February, 2017