CHAPTER-9

REFERENCES

References

Abramowicz, M. and Stegun, I. A., 1965, *Handbook of Mathematical Functions*, Dover Publ., New York, 1046 pp.

Adams, B. and Reckhow, K.H. 2001. An examination of the scientific basis for mechanisms and parameters in water quality models. Unpublished paper. Available from second author at www2.ncsu.edu/ncsu/CIL/WRRI/AdamsReckhow.pdf

Adrian, D.D. and Sanders, T.G., 1992-1993, "Oxygen Sag Equation for Half Order BOD Kinetics," *Journal of Environmental Systems*, Vol. 22, No. 4, pp. 341-351.

Adrian, D.D., Roider, E.M. and Sanders, T.G., 2004. "Oxygen sag models for multiorder biochemical oxygen demand reactions," *Journal of Environmental Engineering*. Vol. 130, No.7, pp. 784-791.

Adrian, D.D. and Sanders, T.G., 1998, "Oxygen Sag Equation for Second Order BOD Decay," *Water Research*, Vol. 32, No. 2, pp. 840-848.

Adrian, D.D. T.G. Sanders, and E.M. Roider, 1999, "Oxygen sag equation for three halves order BOD reaction," *Journal of the American Water Resources Association*, Vol. *35*, No.5, pp. 1191-1200.

Alderink R. H., Klaver N. J. and Noorman R. (1995). DUFLOW V 2.0: Micro-computer package for the simulation of 1-dimentional flow and water quality in a network of open water courses. Modelling water quality and flow in river Vecht using DUFLOW. In: *Proceedings of the International Conference on Water Quality Modelling*, Heatwole C. (ed.), ASAE, Orlando, FL, USA.

Ambrose R. B and Martin J. L. (1993). *The water quality analysis simulation program, WASP5, Part a: Model documentation.* US EPA, Athens, GA.

Ambrose, R.B., Barnwell, T.O., McCutcheon, S.C. and William, J.R. 1996 Computer models for water quality analysis. In *Water Resources Handbook*, Mays, L.W. (Ed), McGraw-Hill, pp14.1-14.28.

Antonopoulos, V.Z., Papamichail, D. M. & Mitsiou, K. A. (2001). Statistical and trend analysis of water quality and quantity data for the Strymon River in Greece. *Hydrology & Earth System Sciences*, 5: 679-692.

Ashton P. J., van Zyl F. C. and Heath R. G. (1995). Water quality management in Crocodile River catchment, Eastern Transvaal, South Africa. *Wat. Sci. Tech.*, **32**(5-6), 201-208.

Basmadjian, Diran (2003), Mathematical modeling of physical systems: An introduction, Oxford University Press, New York, 258-261.

Bastidas, L.A., Gupta, H.V., Sorooshian, S., Shuttleworth, W.J. and Yang, Z.L. 1999. Sensitivity analysis of a land surface scheme using multicriteria methods. *Journal of Geophysical Research* 104(D16), 19481-19490.

Bates, M.E. and Watts, D.G., 1988, *Nonlinear Regression Analysis and Application*, John Wiley and Sons, Inc., New York, 365 pp.

Beaver, G.S. and Joseph, D.D, *J.Fluid Mech.*,30,197(1967)

Beaver, *et.al, Trans ASME J.Basic Eng.*, 92,243 (1970)

Beck, M.B. and Young, P.C., 1975, A dynamic model for DO-BOD relationships in a non-tidal stream, *Water research*, Vol. *9*, No. 9, pp. 769-776.

Beck M.B. (1997), Integrated Management of Wastewater: *A Framework for Systematic*

Analysis, Discussion Paper, Warnell School of Forest Resources, University of Georgia, Athens USA.

Beck M. B. and Reda A. (1994). Identification and application of a dynamic model for operational management of water quality. *Wat. Sci. Tech.*, **30**(2), 31-41.

Beck, M.B. 1983. Uncertainty, system identification, and the prediction of water quality. In *Uncertainty and forecasting of water quality*, Beck, M.B. and Van Straten, G. (Eds.), Springer-Verlag, pp3-68.

Beck, M.B. 1987. Uncertainty in water quality models. *Water Resources Research* 23(8), 1393.

Bender A. Edward,1978, An Introduction to Mathematical Modeling, John Wiley & Sons. ISBN 0-471-02951-3

Bennett J.P. and Rathbun R.E. (1972), Reaeration in open-channel flow, *Geological Survey Professional Paper*, 737, US Govern. Printing Office, Washington D.C., cited in Reda (1996).

Berthouex, P.M. and Brown, L.C. 1994. *Statistics for environmental engineers*, CRC Press.

Beven, K.J. and Binley, A.M. 1992. The future of distributed models; model calibration and predictive uncertainty. *Hydrological Processes* 6, 279-298.

Beven, K.J. 2000a. On modelling uncertainty, risk and decision making. *Hydrological Processes* 14, 2605-2606.

Beven, K.J. 1993. Prophecy, reality and uncertainty in distributed hydrological modelling. *Advances in Water Resources* 16(1), 41-51.

Boeije G., Schowanek D. and Vanrolleghem P. (1998), Adaptation of the Simple Treat

Chemical Fate Model to Single-Sludge Biological Nutrient Removal Waste Water Treatment Plants, *Wat. Sci. Tech.* **38**(1), 211-218.

Boeije G., Schowanek D. and Vanrolleghem P. (submitted), Incorporation of Biofilm Activity in Instream Biodegradation Modelling: A Case Study for LAS, submitted to *Wat. Res.*

Borchart D. and Reichert P. (submitted), River Water Quality Model No. 1: Case Study I: Sediment Oxygen Demand in the River Lahn (Germany), submitted to the *Paris-2000* IWA conference.

Borsuk, M.E. And Stow, C.A., 2000, "Bayesian Parameter Estimation in a Mixed-Order Model of BOD Decay," *Water Research*, Vol. 34, No. 6, pp. 1830-1836.

Box, G.E.P. and Jenkins, G.E. 1970. *Time series analysis forecasting and control*, Holden-Day, pp 208.

Boyel J. D. and Scott J. A. (1984). The role of benthic films in the oxygen balance in an east devon river. *Water. Res.*, **18**, 1089-1099.

Brad A.Finney et. al. (1982), Random differential equations in river water quality modeling, Water resources research, Vol.18, NO.1, 122-134.

Brooks, S. 1998. Markov chain Monte Carlo method and its application. *Journal of the Royal Statistical Society, Series D* 47(1), 69-100.

Brown L.C. and Barnwell T.O. (1987), *The Enhanced Stream Water Quality Models QUAL2E and QUAL2E-UNCAS: Documentation and User Model* (US EPA) US Department of Commerce, Springfield VA, cited in Whelan *et al.*, (1999).

Borsuk, M.E. And Stow, C.A., 2000, "Bayesian Parameter Estimation in a Mixed-Order Model of BOD Decay," *Water Research*, Vol. 34, No. 6, pp. 1830-1836.

Butcher, J.C. 1987. *The numerical analysis of ordinary differential equations*, John Wiley.

Butts, T.A. and Kothandaraman, V., 1970, *Water and Sewage Works,* Vol. 117, No. 8, p. 276.

Campolo M., Andreussi P. and Soldati A. (2002). Water quality control in the river Arno. *Water Res.*, **36**, 2673-2680.

Carbonell G., Ramos C., Pablos M. V., Ortiz J. A. and Tarazona J. V. (2000). A system dynamic model for the assessment of different exposure routes in aquatic ecosystem. *Sci. Total Environ.*, **247**, 107-118.

Carpenter D. A. (2001). *Testing the river continuum concept: exploring ecological processes in the wheeling creek watershed.* Master thesis, Wheeling Jesuit University, Morgantown, West Virginia.

Carstensen J., Vanrolleghem P., Rauch W. and Reichert P. (1997). Terminology and methodology in modelling for water quality management – a discussion starter. *Wat. Sci. Tech.*, **36**(5), 157-168.

CEC. 2000. Directive 2000/60/EC of the European Parliament and of the Council of 23rd October 2000 establishing a framework for Community action in the field of water policy. Council of the European Community, Brussels.

Chapra S. C. (1997). *Surface Water Quality Modeling*. McGraw-Hill Series in Water Resource and Environmental Engineering. McGraw-Hill, New York.

Chow V. T. (1981). *Open channel hydraulic: International student edition.* McGraw-Hill,New York.

Churchill, R.V., 1958, *Operational Mathematics,* Second Edition, McGraw-Hill, New York, NY, p.337.

C.J.Harris. (1975), 'simulation of non-linear stochastic equations with applications in modeling water pollution', Mathematical models for environmental problems, 269-281.

C.J.Harris. (1979),'River quality models near effluent outfall', Mathematical modeling of turbulent diffusion in the environment, 459-496.

C.J.S.Petrie. (1978),'The modeling of engineering systems-mathematical and computational techniques', Mathematical models in water pollution control, 137-163.

Clark, J. W. and Viessman, W., 1965, *Water Supply and Pollution Control,* Intl. Textbook Company, pp. 387-390.

Cochran, W.G. 1977. *Sampling techniques* (3rd edition). John Wiley, pp 72.

Cole, T.M. and Wells, S.A. 2000. CE-QUAL-W2: A two-dimensional, laterally-averaged hydrodynamic and water quality model, Version 3.0. User manual. U.S. Army Corps of Engineers. Instruction Report EL-00-1.

Cox B. A. (2003). A review of dissolved oxygen modelling techniques for lowland rivers. *Sci. Total Environ.*, **314 –316,** 303-334.

Cox, M.E., Moss, A. & Smyth, G.K. (2005). Water quality condition and trend in North Queensland Waterways. *Marine Pollution Bulletin*, 51: 89-98.

Darken, P.F., Zipper, C.E., Holtzman, G.I. & Smith, E.P. (2002). Serial correlation in water quality variables: Estimation and implications for trend analysis. *Water Resources Research,* 38: 1-7.

Das D,Barman U, Dey S (2006).To Study the Slip Velocity for the flow of Stratified fluid of Variable Viscosity past a Porous bed Under the Action of Pressure Gradient (India) *Acta Ciencia Indica,* Vol XXXII M,No 3:949-955.

Davies, B. & Day, J. (1998). *Vanishing Waters.* University of Cape Town Press. Cape Town.

Deksissa T., Meirlaen J., Ashton P. J. and Vanrolleghem P. A. (2001). Simplifying dynamic river water quality modelling: A case study of inorganic nitrogen dynamics in the Crocodile River (South Africa). *Water, Air & Soil Pollution*, **155**, 303-319.

De Pauw D. J. W. and Vanrolleghem P. A. (2003). Practical aspects of sensitivity analysis for dynamic models. In: *Proceedings of the IMACS 4th MATHMOD Conference.* ARGESIMVerlag, Vienna, Austria, February 5-7 2003.

DETR, Environment Agency and Institute for Environment and Health. 2000. Guidelines for environmental risk assessment and management. HMSO, London.

Dilks D.W., Helfand J.S., Verhoff S.W. and Lyons J.T. (1997), Modeling Wet Weather Water Quality Impacts on Large Rivers: The Ohio River Demonstration Study, *Weftec Proceedings*, 443-451.

Draper, D. 1995 Assessment and propagation of model uncertainty. *Journal of the Royal Statistical Society, Series B* 57(1), 45-97.

Dresnack, R. and Dobbins, W.E., 1968, Numerical analysis of BOD and DO profiles, *J. Sanitary Engineering Division, American Society of Civil Engineers*, Vol. *94* (SA5), pp. 789-807.

Duda A. M. (1993). Addressing nonpoint sources of water-pollution must become an international priority. *Water Sci. Technol.,* **28**(3 -5), 1-11.

ECETOC (1994). *HAZCHEM, a mathematical model for use in risk assessment of substances*. ECETOC Special Report No. 8, European Centre for Ecotoxicology and Toxicology of Chemicals, Brussels, Belgium.

Environmental Laboratory (1990). *CE-QUAL-RIV1: A Dynamic, One-Dimensional (Longitudinal) Water Quality Model for Streams.* Users Manual, Instruction Report E-90-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

Freer, J., Beven, K. and Ambroise, B. 1996. Bayesian estimation of uncertainty in runoff prediction and the value of data: an application of the GLUE approach. *Water Resources Research* 32(7), 2161.

Fronteau C. (1999). *Water quality management of river basins and evaluation of the impact of combined sewer overflows using an integrated modelling approach.* Ph.D thesis, University of Brussels, Brussels, Belgium.

Fronteau C., Bawens W. and Vanrollegem P.A. (1997), Integrated Modeling: Comparison of State Variables, Processes and Parameters in Sewer and Waste Water Treatment Models, *Wat. Sci. Tech.* **36**(5), 373-380.

Groemic M. J. (1983): Biochemical Oxygen Demand - Dissolved Oxygen River Models. In:Application of Ecological Modelling in Environmental Management (Editor: JorgensenS. E.) pp 13 1-218. Elsevier Scientific Publishing Company, Amsterdam.

Gandolfi C., Kraszewski A. and Soncini-Sessa R. (1996), River Water Quality Modelling, in: Singh V.P. and Hager W.H. (Ed.), *Environmental Hydraulics*, Kluwer Academic Publischer, Dordrecht, 245-288.

Garratt M. (1975). *Statistical techniques for validating computer simulation models.* Technical report No. 286, Colorado State University, Fort Collins, CO, USA.

Giri B. S., Karimi I. A. and Ray M. B. (2001). Modelling and Monte Carlo simulation of TCDD transport in a river. *Water. Res.,* **35**, 1263-1279.

Grabow, G.L., Spooner, J., Lombardo, L.A. & Line, D.E. (1999). *Detecting Water Quality Changes Before and After BMP Implementation.* NCSU Water Quality Group Newsletter. Available [Online]

Gradshteyn, I. S. and Ryzhik, I. M., 1980, *Tables of Integrals, Series, and Products,* Translated from Russian by Scripta Technica, Inc., and edited by A. Jeffrey, Academic Press, New York, 1160 pp.

Griffith, L.M., Ward, R.C., McBride, G.B. & Loftis, J.M. (2001). *Data Analysis Considerations in Producing 'Comparable' Information for Water Quality Management Purposes.* National Water Quality Monitoring Council. United States Geological Survey. Technical Report No. 01-01. Available [Online]

Gujer W., Henze M., Takashi M. and van Loosdrecht M. (1999), Activated Sludge Model No. 3, *Wat. Sci. Tech.* **39**(1), 183-193.

Gunduz, O., Soyupak, S. and Yurteri, C. 1998. Development of water quality management strategies for the proposed Isikli reservoir. *Water Science and Technology* 37(2), 369-376.

Gupta, M and Sharma, S., *Acta Ciencia Indica*, Vol XVII(M) , No 2(1991).

Hamed, K.H. & Rao, A.R. (1998). A modified Mann-Kendall trend test for autocorrelated data. *Journal of Hydrology*, 204: 182-196.

Harremoes P. and Rauch W. (1996), Integrated Design and Analysis of Drainage Systems, Including Sewers, Treatment Plant and Receiving Waters, *Journal of Hydraulic Research* **34**(6), 815-826.

Harr. M.E. 1989. Probabilistic estimates for multi-variate analyses. *Applied Mathematical Modeling* 13(5), 313-318.

Havnø, K., Madsen, M.N. and Dørge, J. 1995. MIKE 11 - A Generalized River Modelling Package. In *Computer Models of Watershed Hydrology*, V.P. Singh (Ed.), Water Resources Publications, pp733-782.

Helsel, D.R., & Hirsch, R.M. (1991). Chapter A3. Statistical Methods in Water Resources, Book 4, Hydrologic Analysis and Interpretation. *Techniques of Water Resources Investigations of the United States Geological Survey*. USGS.

Henze M., Grady C. P. L., Gujer W., Marasi G. V. R. and Matsuo T. (1987). *Activated sludge model No.1*, IAW Publishing, London, UK.

Henze M., Gujer W., Mino T., Matsuo T., Wentzel M. C. and Marais G. V. R. (1995). *Activated sludge model No.2.* Scientific and technical report No. 3, IAW Publishing, London, UK.

Hess, A., Iyer, H. & Malm, W. (2001). Linear trend analysis: A comparison of methods. *Atmospheric Environment*, 35: 5211-5222.

Hewitt J., Hunter, J.V. and D. Lockwood, 1979, A multiorder approach to BOD kinetics, *Water Research*, Vol. *13*, pp. 325-329.

Hornberger, G.M. and Spear, R.C. 1980. Eutrophication in Peel Inlet, 1. Problemdefining behaviour and a mathematical model for the phosphorus scenario. *Water Research* 14, 29-42.

House M.A., Ellis J.B., Herricks E.E., Hvitved-Jacobsen T., Seager J., Lijklema L., Aalderink H. and Clifforde I.T. (1993), Urban Drainage – Impacts on Receiving Water Quality, *Wat. Sci. Tech.* **27**(12), 117-158.

Holmes M.G.R., Young A.R. and Sekulin A. (1999), Low Flows Hydrology of the Lambro Catchment, Northern Italy, Working Note No. 10 – GREAT-ER Project.

Hvitved-Jacobsen T. (1982), The Impact of Combined Sewer Overflow on the Dissolved Oxygen Concentration of a River, *Wat. Res.* **16**, 1099-1105.

Ivanov, P., Masliev, I., Kularathna, M., De Marchi, C. and Somlyódy, L. 1996. DESERT User Manual. International Institute for Applied Systems Analysis, Laxenburg, Austria / Institute for Water and Environmental Problems, Barnaul, Russia.

Jolinkai G. (1992): Hydrological, Chemical and Biological Processes of Contaminant Transformation and Transport in River and Lake Systems. UNESCO series; Technical Documents in Hydrology. WS-93/WS.15. UNESCO, Paris. pp 147

Kaplan, W., 1952, *Advanced Calculus*, Addison-Wesley, Reading, MA 679 pp

Kapur J.N, 1998, Mathematical Modelling, New Age International(P) Limited, 28pp

Kapur J.N, 1979a, Mathematical Modelling, a New Identity for Applied Mathematics,Bull.Math.Ass.Ind.**11**,24-43

Keith, L.H. 1990. Environmental Sampling: A Summary. *Environmental Science and Technology* 24(5), 610-617.

Kendall, M., Stuart, A. & Ord, J.K. (1983). *The Advanced Theory of Statistics*. Volume 3. Fourth Edition, Charles Griffin & Co, England.

King, J. M., Scheepers, A.C.T., Fisher, R.C., Reinecke, M.K. & Smith, L.B. (2003). *River Rehabilitation: Literature Review, Case studies and Emerging Principles*. WRC Report No. 1161/1/03.

Kitanidis, P.K. and Bras, R.L. 1980. Real-time forecasting with a conceptual hydrologic

model: 1. Analysis of uncertainty. Water Resources Research. 16(6), 1025-1033.

Kuczera, G. and Parent, E. 1998. Monte Carlo assessment of parameter uncertainty in conceptual catchment models. *Journal of Hydrology* 211(1), 69-85.

Larsen S. E., Kronvang B., Windolf J. and Svendsen L. M. (1999). Trends in diffuse nutrient concentrations and loading in Denmark. Statistical trend analysis of stream monitoring data. *Wat. Sci. Tech.*, **39**, 197–205.

Lek O., Guiresse M. and Giraudel J. -L. (1999). Predicting stream nitrogen concentration from watershed features using neutral networks. *Water. Res.*, **33**, 3469-3478.

Lietz, A.C. (2000). *Analysis of Water Quality Trends at Two Discharge Basins-OneWithin Big Cypress National Preserve and One Near Biscayne Bay- Southern Florida, 1966-94.* Water Resources Investigations Report 00-4099. USGS. Florida.

Li S. and Chen G. H. (1994). Modelling the organic removal and oxygen consumption by biofilm in an open-channel flow. *Wat. Sci. Tech.*, **30**(2), 53-61.

Li, W. H., 1972, "Effect of Dispersion on DO-Sag in Uniform Flow," *Journal of Sanitary Engineering Division, American Society of Civil Engineers*, Vol. 98, No. SA1, pp. 169-182.

Mackay D. (2001). *Multimedia environmental models: The fugacity approach.* 2nd edn., Lewis publisher, D.C., USA.

MacKay, M.D., Beckman, R.J. and Conover, W.J. 1979. A comparison of three methods for selecting values of input variables in the analysis of output from a computer code. *Technometrics* 21(2), 239-245.

Manson J.R. and Wallis S.G. (1997), Towards an Accurate Fate and Transport Model for Non uniform Surface Waters, *Advances in Environmental Research* **1**(1), 98- 114.

Marske, D. M. and Polkowski, L. B., 1972, "Evaluation of Methods for Estimating Biochemical Oxygen Demand Parameters," *Journal Water Pollution Control Federation*, Vol. 44, No. 10, pp. 1987-1999.

Mark O., Berislav T., Hernebring C. and Magnusson P. (1999), Integrating Catchment Planning and Management, *Water Quality International* J/F, 23-26.

Marsili-Libelli S. (1998), *Notes from the course: "Modeling and Control of Environmental Systems"*.

Maryns F. (1996), *Application of Activated Sludge Model n°1 in Riverine Conditions*. M. Sc. Thesis, Faculty of Applied Sciences, Vrije Universiteit Brussel.

Masch F. D. and Associates (1970). *QUAL-1 simulation of water quality in-stream and canals.* Program Documentation and User's manual, Texas Water development Board, Texas.

Mattikalli, N. M. (1996). Time series analysis of historical surface water quality data of the River Glen Catchment, U.K. *Journal of Environmental Management*, 46: 149-172.

Mau R. E., Boulos P. F. and Bowcock R. W. (1996). Modelling distribution storage water quality: An analytical approach. *App. Math. Modelling*, **20**, 330-338.

Mayer D.G. and Butler D. G. (1993). Statistical validation. *Ecol. Modelling,* **68**, 21-32.

M.B.Beck. (1978),'Modelling of dissolved oxygen in a non-tidal stream', mathematical models in water pollution control, 137-163.

McBride, G.B. & Loftis, J.C. (1994). *The Most Important Statistical Aspects.* Available [Online] www.mtm-conference.nl/mtm1/doc/McBride%201994.pdf

McCutcheon, S. C., 1989, *Water Quality Modeling, Vol. I Transport and Surface*

Exchange in Rivers, CRC Press, Boca Raton, FL, p. 141.

Michael Turelli. (1977), 'Random environments and stochastic calculus', Theory pop. biology, Vol.12. 140-178.

Meirlaen J., Huyghebaert B., Sforzi F., Benedetti L. and Vanrolleghem P. A. (2001) Simultaneous simulation of the integrated urban wastewater system using mechanistic surrogate models. *Wat. Sci. Tech.*, **43**(7), 301-309.

Melching, C.S. and Bauwens, W. 2001. Uncertainty in coupled nonpoint source and stream water-quality models. *ASCE Journal of Water Resources Planning and Management* 127(6), 403-419.

Mokhlesur R., Qumrul H. and Saiful I. (2000) Environmental impact assessment on water quality deterioration caused by the decreased Ganges outflow and saline water intrusion in South Western Bangladesh. *Environ. Geology Berlin*, **40**, 31-40.

Mulligan, A.E., and Brown, L.C., 1998, "Genetic algorithms for calibrating water quality models," *Journal of environmental engineering*, Vol. *24*, No. 3, pp. 202-211.

Mullis R., Revitt D.M. and Shutes R.B.E. (1997), The Impacts of Discharges from Two Combined Sewer Overflows on the Water Quality of an Urban Watercourse, *Wat. Sci. Tech.* **36**(8-9), 195-199.

Nemerow, N. L., 1974, *Scientific Stream Pollution Analysis*, McGraw-Hill.

Oberhettinger, F. and Badii, L., 1973, *Tables of Laplace transforms*, Berlin, Germany: Springer-Verlag.

Ongley E. D. and Booty W. G. (1999). Pollution remediation planning in developing countries: Conventional modelling versus knowledge based prediction. *Water Int.*, **24**, 31-38

Onoz, B. & Bayazit, M. (2003). The power of statistical tests for trend detection. *Turkish J. Eng. Env. Sci.*, 27: 247-251.

Orhon D. and Artan N. (1994), *Modelling of activated sludge systems*, Technomic Publishing Company Inc., Lancaster, USA.

Park S. S. and Uchrin C. G. (1990). Water quality modeling of the lower south branch of the Raritan River, New Jersey. *Bull. N. J. Acad. Sci.*, **35**, 17-23.

Park S. S. and Lee Y. S. (2002). A water quality modeling study of the Nakdong River, Korea. *Ecol. Model.*, **89**, 121-131.

Peter E.Kloeden and Echhard Platen, (1992), 'Stochastic numerical methods', Springer-Verlag.

Peter Young and Bruce Beck. (1974), 'The modeling and control of water quality in river system ', Automatic Vol.10, 455-468.

Petit Bois, G., 1961, *Tables of indefinite integrals* (New York, NY: Dover Publ.,).

Ponce, S.L., 1974, "The Biochemical Oxygen Demand of Finely Divided Logging Debris in Stream Water," *Water Resources Research*, Vol. 10, No.5, pp. 983-988.

Qian, S.S., Borsuk, M.E. & Stow, C.A. (2000). Seasonal and long-term nutrient trend decomposition along a spatial gradient in the Neuse river watershed. *Environ. Sci. Technol.*, 34: 4474 – 4482.

Rauch W., Henze M., Koncsos L., Reichert P., Shanahan P., Somlyódy L. and Vanrolleghem P. A. (1998). River Water Quality Modelling: I. State of the art. *Wat. Sci. Tech.*, **38**(11), 237-244.

Rauch W. (1997), *Review on Existing Water Quality Models*, Technical report, Biomath, University of Gent.

Rauch W., Aalderink H., Krebs P., Shilling W. and Vanrolleghem P. (1998), Requirements for Integrated Wastewater Models – Driven by Receiving Water Objectives, *Wat. Sci. Tech.* **38**(11), 97-104.

Rauch W. and Vanrolleghem P.A. (1999), Modelling Benthic Activity in Shallow Eutrophic Rivers, *Wat. Sci. Tech.* **37**(3), 129-137.

Rauch W., Henze M., Koncsos L., Reichert P., Shanahan P., Somlyody L. and Vanrolleghem P. (1999a), River Water Quality Modeling: I. State of the Art, *Wat. Sci. Tech.* **38**(11), 237-244.

Rauch W., Vanhooren H. and Vanrolleghem P. (1999b), A Simplified Mixed-Culture Biofilm Model, *Wat. Res.* **33**(9), 2148-2162.

Reckhow, K.H. 1994. Water quality simulation modeling and uncertainty analysis for risk assessment and decision making. *Ecological Modelling* 72(1-2), 1-20.

Reda A. L. (1996), *Simulation and control of stormwater impacts on river water quality*, Ph.D. Thesis, Department of Civil Engineering, Imperial College of Science,Technology and Medicine, London.

Reichert P. (1995). Design techniques of a computer program for the identification of processes and the simulation of water quality in aquatic systems. *Environmental Software*, **10**, 199-210.

Reichert P. (submitted), River Water Quality Model No. 1: Case Study II. Oxygen and Nitrogen Conversion Processes in the River Glatt, submitted to the *Paris-2000* IWA conference.

Reichert P., Bochardt D., Henze M., Koncsos L., Rauch W., Shanahan P., Somlyody L. and Vanrolleghem P. (submitted), River Water Quality Model No. 1: II. Biochemical Process Equations, submitted to the *Paris-2000* IWA conference.

Reichert P., Borchardt D., Henze M., Rauch W., Shanahan P., Somlyody L. and Vanrolleghem P. A. (2001). River water quality model no.1 (RWQM1): II. Biochemical processes equations. *Wat. Sci. Tech.*, **43**(5), 11-30.

R.H.McCuen. (1975),'The anatomy of the modeling process', Mathematical models for environmental problems, 401-412.

Rodriguez, M.G., 1999, Calculus of the biochemical oxygen demand of effluents, *Journal of environmental science and health, Part A-Toxic substances & environmental engineering*, Vol. *35,* No.4, pp. 879-897.

Rossman L.A. (1989), Wastewater Treatment and Receiving Water Body Interactions, in: Patry G.G., Chapman D. (Ed.), *Dynamic Modeling and Expert Systems in Wastewater Engineering*, Lewis Publishers, Chelsea MI, 129-166.

Schilling W., Bauwens W., Borchardt D., Krebs P., Rauch W. and Vanrolleghem P. (1997), Receiving Water Objectives – Scientific Arguments Versus Urban Wastewater Management Practice, *27th IAHR Congress Proceedings*, 510-515.

Shanahan P., Henze M., KoncsosL., Rauch W., Reichert P., Somlyody L. and Vanrolleghem P. (1999), River Water Quality Modeling: II. Problems of the Art, *Wat. Sci. Tech.* **38**(11), 245-252.

Shanahan P., Borchart D., Henze M., Koncsos L., Rauch W., Reichert P., Somlyody L. and Vanrolleghem P. (submitted), River Water Quality Model No.1: I: Modelling approach, submitted to the *Paris-2000* IWA conference.

Shanahan P., Borchardt D., Henze M., Rauch W., Reichert P., Somlyody L. and

Vanrolleghem P. A. (2001). River water quality model no.1 (RWQM1): I. Modelling approach. *Wat. Sci. Tech.*, **43**(5), 1-9.

Shanahan P., Henze M., Koncsos L., Rauch W., Reichert P., Somlyódy L. and Vanrolleghem P. (1998). River Water Quality Modelling: II. Problems of the Art. *Wat. Sci. Tech.*, **38**(11), 245-252.

Shaw E. M. (1996). *Hydrology in practice.* Chapman and Hall, London, UK, 3rd edition.

Somlyody L., Henze M., Koncsos L, Rauch W., Reichert P., Shanahan P. and Vanrolleghem P. (1999), River Water Quality Modelling: III. Future of the Art, *Wat. Sci. Tech.* **38**(11), 253-260.

Streeter H. W. and Phelps E. B. (1925). *A study of pollution and natural purification of the Ohi River.* U.S. Public Health Service, Washington D.C., USA.

Streeter W.H. and Phelps E.B. (1925), *A study of the pollution and natural purification of the Ohio River*, Public Health Bull. 146, U.S. Public Health Service, Washington D.C.

Stout B. M. and Rastall K. E. (1994). Wheeling Creek water quality assessment: Monitoring protocol for Ohio River watershed studies. In: *Sixty-ninth annual meeting of the West Virginia Academy of Science.* Fairmont State College, WV. Proc. WV Acad. Sci., 66(1): 38.

Somlyody, L. 1997. Use of optimization models in river basin water quality planning. *Water Science and Technology* 36(5), 209-218.

Sorooshian, S. and Gupta, V.K. 1995. Model calibration. In *Computer Models of Watershed Hydrology*, Singh, V.P. (Ed.), Water resources Publications.

Taylor, G.I. 1954. The dispersion of matter in turbulent flow through a pipe. *Proceedings of the Royal society of London, Series A* 223, 446-468.

Tchobanoglous, G. and Schroeder, E. D., 1985, Water Quality: Characteristics, Modeling, Modification. Addison-Wesley Publ. Co.

Thomann R. V. and Mueller J. A. (1987). *Principles of Surface Water Quality Modelling and Control.* Harper and Row, New York.

Thomann, R. V., 1974, *Systems Analysis and Water Quality Management*, McGraw-Hill, New York, NY, p. 140.

Thomas, H. A., 1957, "Hydrology and Oxygen Economy in Stream Purification," Seminar on Waste Water Treatment and Disposal, Boston Society of Civil Engineers, Boston, MA.

Tebbutt, T. H. Y. and Berkun, M., 1976, "Respirometric Determination of BOD," *Water Research*, Vol. 10, pp. 613-617.

Tsakalias, G. and Koutsoyiannis, D. 1999. A comprehensive system for the exploration and analysis of hydrological data. *Water Resource Management* 13, 269-302.

Tung, Y.K. 1996. Uncertainty and reliability analysis. In Water Resources Handbook, Mays, L.W. (Ed.), McGraw-Hill.

Tyson M., Guarino C. F., Best H. J. and Tanaka K. (1993), Management and institutional aspects, *Wat. Sci. Tech.* **27** (12), 159-172.

T.E.Unny. (1984), 'Numerical Integration of stochastic differential equations in catchments modeling', Water resources research, Vol.20,NO.3, 369-369.

Ujang Z. and Buckley C. (2002). Water and wastewater in developing countries: Present reality and strategy for the future. *Wat. Sci. Tech.*, **46**(9), 1-9.

UK Environment Agency. 2001b. Water resources for the future – A summary of the strategy for England and Wales. UK Environment Agency, Bristol, UK.

UK Environment Agency. 2002. The Water Framework Directive: Guiding Principles on the Technical Requirements, Chapter 7: Review of the impacts of human activity. UK Environment Agency, Bristol, UK.

U.S. Army Corp of engineers (1995). *CE-QUAL-RIV1: A dynamic one dimentional (longitudinal) water quality model for streams.* User manual, U.S. Army Corps of Enginers, Washington D.C., USA.

Van der Perk, M. 1997. Effect of model structure on the accuracy and uncertainty of results from water quality models. *Hydrological Processes* 11(3), 227-239.

Vangheluwe H. L. (2000). *Multi-formalism modelling and simulation.* Ph.D thesis, Ghent University, Ghent, Belgium.

van der Zel D. W. (1977). *Analysis of water use in the Crocodile River system.* South African Forestry Journal, No. 103.

Vannote R. L., Minshall G. W., Cummins K. W., Sedell J. R. and Cushing C. E. (1980). The river continuum concept. *Can. J. Fish. Aquat. Sci.*, **37**, 130-137.

Vanrolleghem P., Fronteau C. and Bauwens W. (1996), Evaluation of design and operation of the sewage transport and treatment system by an EQO/EQS based analysis of the receiving water immission characteristics, *Weftec Proceedings*, 1435-1446.

Vanrolleghem P., Schilling W., Rauch W., Krebs P. and Aalderink H. (1999), Setting up Measuring Campaigns for Integrated Wastewater Modelling, *Wat. Sci. Tech.* **39**(4), 257-268.

Vanrolleghem P., Borchart D., Henze M., Koncsos L., Rauch W., Reichert P., Shanahan

P. and Somlyody L. (submitted), River Water Quality Model No.1: III: Biochemical Submodel Selection, submitted to the *Paris-2000* IWA conference.

Vanrolleghem P. A. (2001). River Water Quality Model No. 1. In: *Pre-conference Workshop on River Water Quality Modelling.* Kuala Lumpur, Malaysia, October 26 2001.

van Straten G. (1998), Models for Water Quality Management: the Problem of Structural Change, *Wat. Sci. Tech.* **37**(3), 103-111.

Vant, B. & Smith, P. (2004). Trends in Water Quality in the Waikato Region, 1987-2002. Environment Waikato Technical Report 2004/02. Environment Waikato Regional Council, Hamilton East.

Wade, A.J., Hornberger, G.M., Whitehead, P.G. and Flynn, N. 2001. On modeling the mechanisms that control in-stream phosphorus, macrophyte and epiphyte dynamics: An assessment of a new model using general sensitivity analysis. *Water Resources Reasearch* 37(11), 2777-2792.

Weber, W. J., Jr., and Carlson, R. H., 1965, Discussion to "Second Order Equation for BOD," by Young, J. C. and Clark, J. W., *Journal of the Sanitary Engineering Division, American Society of Civil Engineers,* Vol. 91, No. SA3, pp. 140-147.

Weglarczyk, S. 1998. Interdependence and applicability of some statistical quality measures for hydrological models. *Journal of Hydrology* 206(1-2), 98-103.

Weber, W. J., Jr., and Carlson, R. H., 1965, Discussion to "Second Order Equation for BOD," by Young, J. C. and Clark, J. W., *Journal of the Sanitary Engineering Division, American Society of Civil Engineers,* Vol. 91, No. SA3, pp. 140-147.

Whelan M.J., Gandolfi C. and Bischetti G.B. (1999), A Simple Stochastic Model of Point Source Solute Transport in Rivers Based on Gauging Station Data with

Implications for Sampling Requirements, *Wat. Res.* **33**(14), 3171-3181.

Whitehead P. G., Williams R. J. and Lewis D. R. (1997). Quality simulation along river systems (QUASAR): Model theory and development. *Sci. Total Environ.*, **194-195**, 447-456.

Woodward, R. L., 1953, "Deoxygenation of Sewage-A Discussion," *Sewage and Industrial Wastes*, Water Pollution Control Federation, Washington, DC, Vol. 25, p. 918.

Young, J. C. and Clark, J. W., 1965, "Second Order Equation for BOD," *Journal of the Sanitary Engineering Division Proceedings of the American Society of Civil Engineers,* Vol. 91, No. SA1, pp. 43-57.

Young, J.C. and Cowan, R.M., 2004, *Respirometry for environmental science and engineering*, Springdale, AR: SJ Publications.

Zipper, C.E., Holtzman, G.I., Rheem, S. & Evanylo, G.K. (1992). *Surface Water QualityTrends in South Western Virginia, 1970-1989: I. Seasonal Kendall Analysis.* Virginia Water Resources Research Center. Blackburg.