

Books on fluvial hydraulics and river engineering

Lectures	Undergraduate (B.Sc.)	Graduate level (M.Sc.)
Open-channel hydraulics	<ul style="list-style-type: none"> • Chadwick, A., Morfett, J. (1998). Hydraulics in Civil and Environmental Engineering. 3rd edition, Spon Press, 600 pages [ISBN 0-419-22580-3] Chanson, H. (1999). The Hydraulics of Open Channel Flows: An Introduction. Butterworth-Heinemann, Oxford, UK, 512 pages [ISBN 0 340 74067 1] Chaudry, M.H. (1993). Open-Channel Flow. Prentice Hall, New Jersey, 483 pages [ISBN 0-13-637141-8] Chow, V.T. (1959). Open Channel Hydraulics. McGraw-Hill, USA , 680 pages [ISBN 07-010776-9] French, R.H. (1985). Open-Channel Hydraulics. McGraw-Hill, USA, 739 pages [ISBN 0-07-022134-0] Graf, W.H. (1998). Fluvial Hydraulics: Flow and Transport Processes in Channels of Simple Geometry. In collaboration with M.S. Altinakar, John Wiley and Sons, England, 681 pages [ISBN 0-471-97714-4] Henderson, F.M. (1966). Open Channel Flow. Macmillan Series in Civil Engineering, Macmillan Company, New York, 522 pages Jain, S.C. (2001). Open-Channel Flow. John Wiley and Sons, New York, 328 pages [ISBN 0-471-35641-7] Sturm, T.W. (2001). Open Channel Hydraulics. McGraw-Hill Series in Water Resources and Environmental Engineering, New York, 493 pages [ISBN 0-07-062445-3] 	<ul style="list-style-type: none"> • Chadwick, A., Morfett, J. (1998). Hydraulics in Civil and Environmental Engineering. 3rd edition, Spon, 600 pages [ISBN 0-419-22580-3] Chaudry, M.H. (1993). Open-Channel Flow. Prentice Hall, New Jersey, 483 pages [ISBN 0-13-637141-8] Chow, V.T. (1959). Open channel Hydraulics. McGraw-Hill, USA , 680 pages [ISBN 07-010776-9] Graf, W.H. (1998). Fluvial Hydraulics: Flow and Transport Processes in Channels of Simple Geometry. In collaboration with M.S. Altinakar, John Wiley and Sons, England, 681 pages [ISBN 0-471-97714-4] Henderson, F.M. (1966). Open Channel Flow. Macmillan Series in Civil Engineering, Macmillan Company, New York, 522 pages Jain, S.C. (2001). Open-Channel Flow. John Wiley and Sons, New York, 328 pages [ISBN 0-471-35641-7] Montes, J.S. (1998). Hydraulics of Open Channel Flow. ASCE Press, New York, USA, 712 pages [ISBN 0-7844-0357-0]
•		
Sediment transport	<ul style="list-style-type: none"> Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream 	<ul style="list-style-type: none"> • Bogardi, J. (1974). Sediment Transport in Alluvial Streams. Akadémiai Kiadó,

	<p>Problems. (2nd edition) Wiley Eastern Ltd., 618 pages [ISBN 0-85226-306-6]</p> <p>Graf, W.H. (1971). Hydraulics of Sediment Transport. McGraw-Hill, 513 pages [ISBN 07-023900-2]</p> <p>Julien, P.Y. (1995). Erosion and Sedimentation. Cambridge University Press, 280 pages [ISBN 0521442370]</p> <p>Raudkivi, A.J. (1998). Loose Boundary Hydraulics. Balkema, The Netherlands, 512 pages [ISBN 90-5410-447-3]</p> <p>Rijn, L.C. van (1993). Principles of Sediment Transport in Rivers, Estuaries and Coastal Seas. Aqua Publications, Amsterdam [ISBN 90-800356-2-9]</p> <p>Yang, C.T. (1996). Sediment Transport: Theory and Practice. McGraw-Hill, USA, 396 pages [ISBN 0-07-912265-5]</p>	<p>Budapest, 826 pages [ISBN 963-05-0278-X]</p> <p>Chien, N., Wan, Zhaohui (1999). Mechanics of Sediment Transport. ASCE Press, Virginia, 913 pages [ISBN 0-7844-0400-3]</p> <p>Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream Problems. (2nd edition) Wiley Eastern Ltd., 618 pages [ISBN 0-85226-306-6]</p> <p>Graf, W.H. (1971). Hydraulics of Sediment Transport. McGraw-Hill, 513 pages [ISBN 07-023900-2]</p> <p>Leeder, M.R. (1982). Sedimentology: Process and Product. George Allen and Unwin, London, 344 pages [ISBN 0-04-551053-9]</p> <p>Raudkivi, A.J. (1998). Loose Boundary Hydraulics. Balkema, The Netherlands, 512 pages [ISBN 90-5410-447-3]</p> <p>Rijn, L.C. van (1993). Principles of Sediment Transport in Rivers, Estuaries and Coastal Seas. Aqua Publications, Amsterdam [ISBN 90-800356-2-9]</p> <p>Simons, D.B. & F. Sentürk (1992), Sediment Transport Technology; Water and Sediment Dynamics. Water Resources Publ, LLC, Highlands Ranch, Colorado, 897 pages [ISBN 0-918334-66-7]</p> <p>Thorne, C.R., Bathurst, J.C., Hey, R.D. eds. (1987). Sediment Transport in Gravel-Bed Rivers. John Wiley and Sons, 995 pages [ISBN 0-471-90914-9]</p> <p>Yalin, M.S. (1977). Mechanics of Sediment Transport. (2nd edition) Pergamon Press, Oxford, 298 pages [ISBN 0080211623]</p>
<p>•</p> <p>Morphodynamics (including river morphology)</p>	<p>Chang, H.H. (1988). Fluvial processes in river engineering. Wiley-Interscience, 432 pages [ISBN 0-471-63139-6]</p> <p>Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream Problems. (2nd edition) Wiley</p>	<p>• Ashworth, P., Bennett, S., Best, J., McLelland, S. eds. (1996). Coherent Flow Structures in Open Channels. John Wiley and Sons, 754 pages [ISBN 0-471-95723-2]</p> <p>Best, J.L., Bristow, C.S. eds. (1993). Braided Rivers. British Geological</p>

	<p>Eastern Ltd., 618 pages [ISBN 0-85226-306-6]</p> <p>Julien, P.Y. (2002). River Mechanics. Cambridge University Press, 375 pages [ISBN 0521562848]</p> <p>Knighton, D. (1998). Fluvial Forms and Processes: A New Perspective. Arnold, UK, 383 pages [ISBN 0-340-66313-8 or 0-470-25556-0]</p> <p>Leopold, L.B. (1994). A View of the River. Harvard Press, USA, 298 pages [ISBN 0-674-93732-5]</p> <p>Leopold, L.B., Wolman, M.G., J.P. Miller, J.P. (1964). Fluvial Processes in Geomorphology. Freeman, San Francisco, 522 pages</p> <p>Mangelsdorf, J., Scheurmann, K., Weiss, F.-H. (1990). River Morphology: a Guide for Geoscientists and Engineers. Springer-Verlag, Germany [ISBN 3-540-51108-3]</p> <p>Richards, K.S. (1982). Rivers: Form and Processes in Alluvial Channels. Methuen, 358 pages [ISBN 0-416-74900-3]</p> <p>Schumm, S.A., Mosley, M.P., Weaver, W.E. (1987). Experimental Fluvial Morphology. John Wiley and Sons, 413 pages [ISBN 0-471-83077-1]</p> <p>Schumm, S.A. (1977). The Fluvial System. John Wiley and Sons, 338 pages [ISBN 0-471-01901-1]</p>	<p>Society, London, 419 pages [ISBN 0-903317931]</p> <p>Chang, H.H. (1988). Fluvial processes in river engineering. Wiley-Interscience, 432 pages [ISBN 0-471-63139-6]</p> <p>Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream Problems. (2nd edition) Wiley Eastern Ltd., 618 pages [ISBN 0-85226-306-6]</p> <p>Gregory, K.J. ed. (1977). River Channel Changes. John Wiley and Sons, 448 pages [ISBN 0-471-99524-X]</p> <p>Hey, R.D., Bathurst, J.C., Thorne, C.R. eds. (1982). Gravel-Bed Rivers: Fluvial Processes, Engineering and Management. John Wiley and Sons, 875 pages [ISBN 0-471-10139-7]</p> <p>Julien, P.Y. (2002). River Mechanics. Cambridge University Press, 375 pages [ISBN 0521562848]</p> <p>Knighton, D. (1998). Fluvial Forms and Processes: A New Perspective. Arnold, UK, 383 pages [ISBN 0-340-66313-8 or 0-470-25556-0]</p> <p>Lebreton, J.C. (1974). Dynamique Fluviale. Collection de la Direction des Etudes et Recherches d' Electricité de France, Eyrolles</p> <p>Leopold, L.B. (1994). A View of the River. Harvard Press, USA, 298 pages [ISBN 0-674-93732-5]</p> <p>Leopold, L.B., Wolman, M.G., J.P. Miller, J.P. (1964). Fluvial Processes in Geomorphology. Freeman, San Francisco, 522 pages.</p> <p>Mangelsdorf, J., Scheurmann, K., Weiss, F.-H. (1990). River Morphology: a Guide for Geoscientists and Engineers. Springer-Verlag, Germany [ISBN 3-540-51108-3]</p> <p>Richards, K. ed. (1987). River Channels: Environment and Process. The Institute of British Geographers, Special Publication Series, 391 pages [ISBN 0-631-14577-X]</p>
--	---	---

		<p>Richards, K.S. (1982). Rivers: Form and Processes in Alluvial Channels. Methuen, 358 pages [ISBN 0-416-74900-3]</p> <p>Schumm, S.A., Winkley, B.R. (1994). The Variability of Large Alluvial Rivers. ASCE, New York, 467 pages [ISBN 0-7844-0054-7]</p> <p>Schumm, S.A., Mosley, M.P., Weaver, W.E. (1987). Experimental Fluvial Morphology. John Wiley and Sons, 413 pages [ISBN 0-471-83077-1]</p> <p>Schumm, S.A. (1977). The Fluvial System. John Wiley and Sons, 338 pages [ISBN 0-471-01901-1]</p> <p>Thorne, C.R., Hey, R.D., Newson, M.D. eds. (1997). Applied Fluvial Geomorphology for River Engineering and Management. John Wiley and Sons, England, 376 pages [ISBN 0-471-96968-0]</p> <p>Varma, C.V.J., Saxena, K.R., Rao, M.K. eds. (1989, 1994). River Behaviour, Management and Training. Central Board of Irrigation and Power, Publ. No.204, Vol.I (1989), Vol.II (1994), New Delhi.</p> <p>Yalin, M.S., Ferreira da Silva, A.M. (2001). Fluvial Processes. IAHR Monograph, IAHR, Delft, The Netherlands, 197 pages [ISBN 90-805649-2-3]</p> <p>Yalin, M.S. (1992). River Mechanics. Pergamon Press, Oxford, 219 pages [ISBN 0-08-040190-2]</p>
•		
Turbulence and turbulence models	<p>Schlichting, H. (1979). Boundary layer theory. (7th edition) McGraw-Hill Book Co., 817 pages [ISBN 0070553343]</p>	<p>• Ashworth, P., Bennett, S., Best, J., McLelland, S. eds. (1996). Coherent Flow Structures in Open Channels. John Wiley and Sons, 754 pages [ISBN 0-471-95723-2]</p> <p>Nezu, I., Nakagawa, H. (1993). Turbulence in Open-Channel Flows. IAHR Monograph, Balkema, The Netherlands, 281 pages [ISBN 90-5410-118-0]</p> <p>Rodi, W. (1993). Turbulence Models</p>

		<p>and their Application in Hydraulics. IAHR Monograph, Balkema, The Netherlands, 116 pages [ISBN 90-5410-150-4]</p> <p>Schlichting, H. (1979). Boundary layer theory. (7th edition) McGraw-Hill Book Co., 817 pages [ISBN 0070553343]</p>
Mathematical modelling of river problems	<ul style="list-style-type: none"> Cunge, J.A., Holly, F.M., Verwey, A. (1980). Practical Aspects of Computational River Hydraulics, Pitman, London, 420 pages [ISBN 0-273-08442-9] <p>Pinder, G.F., Gray, W.G. (1977). Finite element simulation in surface and subsurface hydrology. Academic Press, New York, 295 pages [ISBN 01-25569505]</p> <p>Vreugdenhil, C.B. (1989). Computational Hydraulics : an Introduction. Berlin Springer, 182 p. + fig., ref</p>	<ul style="list-style-type: none"> Abbott, M.B., Minns, A.W. (1979, 1998). Computational Hydraulics. Ashgate Publishing, 557 pages [ISBN 0-291-39835-9] <p>Cunge, J.A., Holly, F.M., Verwey, A. (1980). Practical Aspects of Computational River Hydraulics, Pitman, London, 420 pages [ISBN 0-273-08442-9]</p> <p>Patankar, S.V. (1980). Numerical Heat Transfer and Fluid Flow. McGraw-Hill Book Company, New York, 197 pages [ISBN 007 048-7405]</p> <p>Pinder, G.F., Gray, W.G. (1977). Finite element simulation in surface and subsurface hydrology. Academic Press, New York, 295 pages [ISBN 01-25569505]</p> <p>Rodi, W. (1993). Turbulence Models and their Application in Hydraulics. IAHR Monograph, Balkema, The Netherlands, 116 pages [ISBN 90-5410-150-4]</p> <p>Vreugdenhil, C.B. (1989). Computational Hydraulics : an Introduction. Berlin Springer, 182 p. + fig., ref</p> <p>Vries, M. de (1993). Use of Models for River Problems. Studies and reports in hydrology 51, UNESCO [ISBN 92-3-102861-8]</p>
• Scale modelling of rivers and structures	<p>Novak, P., Čábelka, J. (1981). Models in Hydraulic Engineering: Physical Principles and Design Applications. Pitman Publishing, 459 pages [ISBN 0-273-08436-4]</p> <p>Yalin, M.S. (1971). Theory of Hydraulic Models. Macmillan, London, 266 pages</p>	<ul style="list-style-type: none"> Kobus, H. (1980). Hydraulic Modelling. Hamburg Parey, 338 pages + tab., ref. <p>Novak, P., Čábelka, J. (1981). Models in Hydraulic Engineering: Physical Principles and Design Applications. Pitman Publishing, 459 pages [ISBN 0-273-08436-4]</p>

		<p>Vries, M. de (1993). Use of Models for River Problems. Studies and reports in hydrology 51, UNESCO [ISBN 92-3-102861-8]</p> <p>Yalin, M.S. (1971). Theory of Hydraulic Models. Macmillan, London, 266 pages</p>
•		
River engineering	<p>Jansen, P.Ph., L. van Bendegom, J. van den Berg, M. de Vries & A. Zanen (1979). Principles of River Engineering; The Non-Tidal Alluvial River. Pitman, London (1979) [ISBN 0-273-01139-1]; Delft University Press (1994) [ISBN 90-407-1280-8]</p> <p>Petersen, M.S. (1986). River Engineering. Prentice Hall, 580 pages [ISBN 013781352X]</p> <p>Przedwojski, B., Blazejewski, R., Pilarczyk, K.W. (1995). River Training Techniques: Fundamentals, Techniques and Applications. Balkema, The Netherlands, 686 pages [ISBN 90-5410-196-2]</p>	<p>• Jamme, G. (1974). Travaux Fluviaux. Collection de la Direction des Etudes et Recherches d'Electricité de France, Eyrolles</p> <p>Jansen, P.Ph., L. van Bendegom, J. van den Berg, M. de Vries & A. Zanen (1979, 1994). Principles of River Engineering; The Non-Tidal Alluvial River. Pitman, London (1979) [ISBN 0-273-01139-1]; Delft University Press (1994) [ISBN 90-407-1280-8]</p> <p>Petersen, M.S. (1986). River Engineering. Prentice Hall, 580 pages [ISBN 013781352X]</p> <p>Przedwojski, B., Blazejewski, R., Pilarczyk, K.W. (1995). River Training Techniques: Fundamentals, Techniques and Applications. Balkema, The Netherlands, 686 pages [ISBN 90-5410-196-2]</p> <p>Vanoni, V. (1976), Sedimentation Engineering, ASCE Manual No. 54, 745 pages [ISBN 0872620018]</p> <p>Varma, C.V.J., Saxena, K.R., Rao, M.K. eds. (1989, 1994). River Behaviour, Management and Training. Central Board of Irrigation and Power, Publ. No.204, Vol.I (1989), Vol.II (1994), New Delhi.</p>
•		
River management		<p>Brizga, S., Finlayson, B. L. eds. (2000). River Management: The Australasian Experience. John Wiley and Sons, 310 pages [ISBN 0-471-96976-1]</p> <p>Brookes, A. (1988). Channelized Rivers: Perspectives for Environmental Management. Wiley-Interscience, 342 pages [ISBN 0-471-91979-9]</p> <p>Varma, C.V.J., Saxena, K.R., Rao,</p>

		M.K. eds. (1989, 1994). River Behaviour, Management and Training. Central Board of Irrigation and Power, Publ. No.204, Vol.I (1989), Vol.II (1994), New Delhi.
•		
River restoration		<p>Brizga, S., Finlayson, B. L. eds. (2000). River Management: The Australasian Experience. John Wiley and Sons, 310 pages [ISBN 0-471-96976-1]</p> <p>Brookes, A., Shields, F.D. eds. (1996). River Channel Restoration: Guiding Principles for Sustainable Projects. John Wiley and Sons, 458 pages [ISBN 0-471-96139-6]</p> <p>de Waal, L.C., Wade, P.M., Large, A. eds. (1998). Rehabilitation of Rivers: Principles and Implementation. John Wiley and Son, 344 pages [ISBN 0-471-95753-4]</p> <p>FISRWG (10/1998). Stream Corridor Restoration: Principles, Processes and Practices. Federal Interagency Stream Restoration Working Group (FISRWG (15 Federal Agencies of the US gov't). GPO Item No. 0120-A; SuDocs No. A 57.6/2:EN3/PT.653 [ISBN 0-934213-59-3]</p> <p>Gore, J.A. ed. (1985). The Restoration of Rivers and Streams; Theories and experience. Ann Arbor Science Book, Butterworth, 280 pages [ISBN 0-250-40505-9]</p> <p>Lachat, B. (1994). Guide de Protection des Berges de Cours d'Eau en Techniques Végétales. In collaboration with Philippe Adam, Pierre-André Frossard, René Marcaud. Ministère de L'Environnement, Diren Rhone Alpes, 143 pages</p>
•		
Water quality	<p>Chapra, S.C. (1997). Surface Water Quality Modelling. International Edition, McGraw-Hill, 844 pages [ISBN 0-07-115242-3]</p> <p>French, R.H. (1985). Open-Channel Hydraulics. McGraw-Hill, USA, 739 pages [ISBN 0-07-022134-0]</p> <p>Graf, W.H. (1998). Fluvial</p>	<p>• Chapra, S.C. (1997). Surface Water Quality Modelling. International Edition, McGraw-Hill, 844 pages [ISBN 0-07-115242-3]</p> <p>Fischer, H.B., List, E.J., Koh, R.C.Y, Imberger, J., Brooks, N.H. (1979). Mixing in Inland and Coastal Waters. Academic Press, 483 pages [ISBN 0-12-258150-4]</p>

	<p>Hydraulics: Flow and Transport Processes in Channels of Simple Geometry. In collaboration with M.S. Altinakar, John Wiley and Sons, England, 681 pages [ISBN 0-471-97714-4]</p> <p>Kiely, G. (1998). Environmental Engineering. International Edition, McGraw-Hill, 979 pages [ISBN 0-07-116424-3]</p> <p>Thomann, R.V. (1987) Principles of Surface Water Quality Modeling and Control. New York [etc.] Harper & Row, 644 pages + fig., tab., ref.</p>	<p>French, R.H. (1985). Open-Channel Hydraulics. McGraw-Hill, USA, 739 pages [ISBN 0-07-022134-0]</p> <p>Graf, W.H. (1998). Fluvial Hydraulics: Flow and Transport Processes in Channels of Simple Geometry. In collaboration with M.S. Altinakar, John Wiley and Sons, England, 681 pages [ISBN 0-471-97714-4]</p> <p>Kiely, G. (1998). Environmental Engineering. International Edition, McGraw-Hill, 979 pages [ISBN 0-07-116424-3]</p> <p>Rutherford, J.C. (1994). River Mixing. John Wiley and Sons, 347 pages [ISBN 0-471-94282-0]</p> <p>Thomann, R.V. (1987) Principles of Surface Water Quality Modeling and Control. New York [etc.] Harper & Row, 644 pages + fig., tab., ref.</p>
Riverine ecosystems	<p>Welcomme, R.L. (1979). Fisheries Ecology of Floodplain Rivers. Longman.</p>	<ul style="list-style-type: none"> National Rivers Authority (1995). The New Rivers and Wildlife Handbook. The Royal Society for the Protection of Birds, 426 pages
•		
Field measurements including remote sensing	<p>Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream Problems. (2nd edition) Wiley Eastern Ltd., 618 pages [ISBN 0-85226-306-6]</p> <p>Jansen, P.Ph., L. van Bendegom, J. van den Berg, M. de Vries & A. Zanen (1979). Principles of River Engineering; The Non-Tidal Alluvial River. Pitman, London (1979) [ISBN 0-273-01139-1]; Delft University Press (1994) [ISBN 90-407-1280-8]</p> <p>Petersen, M.S. (1986). River Engineering. Prentice Hall, 580 pages [ISBN 013781352X]</p> <p>Rijn, L.C. van (1993). Principles of Sediment Transport in Rivers, Estuaries and Coastal Seas. Aqua Publications, Amsterdam [ISBN 90-800356-2-9]</p>	<ul style="list-style-type: none"> Garde, R.J., Raju, K.G.R. (1985). Mechanics of Sediment Transportation and Alluvial Stream Problems. (2nd edition) Wiley Eastern Ltd., 618 pages [ISBN 0-85226-306-6] Jansen, P.Ph., L. van Bendegom, J. van den Berg, M. de Vries & A. Zanen (1979). Principles of River Engineering; The Non-Tidal Alluvial River. Pitman, London (1979) [ISBN 0-273-01139-1]; Delft University Press (1994) [ISBN 90-407-1280-8] Petersen, M.S. (1986). River Engineering. Prentice Hall, 580 pages [ISBN 013781352X] Rijn, L.C. van (1993). Principles of Sediment Transport in Rivers, Estuaries and Coastal Seas. Aqua Publications, Amsterdam [ISBN 90-800356-2-9] Simons, D.B. & F. Sentürk (1992),

	<p>Simons, D.B. & F. Sentürk (1992), Sediment Transport Technology; Water and Sediment Dynamics. Water Resources Publ, LLC, Highlands Ranch, Colorado, 897 pages [ISBN 0-918334-66-7]</p> <p>Thorne, C.R. (1998). Stream Reconnaissance Handbook: Geomorphological Investigation and Analysis of River Channels. John Wiley and Sons, England, 133 pages [ISBN 0-471-96856-0]</p>	<p>Sediment Transport Technology; Water and Sediment Dynamics. Water Resources Publ, LLC, Highlands Ranch, Colorado, 897 pages [ISBN 0-918334- 66-7]</p>
--	---	--

Contributors to the list:

António Cardoso, Technical University of Lisbon, Portugal
Hubert Chanson, University of Queensland, Australia
Ana Maria da Silva, Queen's University, Canada
Pierre Julien, Colorado State University, U.S.A.
Gerrit Klaassen, Delft Hydraulics, The Netherlands
Frederick Locher, Bechtel Corporation, U.S.A.
Erik Mosselman, Delft Hydraulics, The Netherlands
Francisco Hernandez-Montoya, Colombia
Colin Thorne, University of Nottingham, United Kingdom
Steve Wallis, Heriot-Watt University, United Kingdom
Scott Wilkinson, CSIRO Land and Water, Australia

Acknowledgements:

Best thanks to Yibing Zhang, Ph.D. student, Queen's University, Canada, for her enthusiastic help in the preparation of the tables of contents.