



PARMESHWAR (PRAVI) L. SHRESTHA, Ph.D., P.E., D.WRE, D.CE
SENIOR MANAGING CONSULTANT

pshrestha@engsys.com

Dr. Pravi Shrestha has over 30 years of experience in the field of water resources and environmental engineering in the US and abroad. This experience encompasses hydrology, hydraulics, hydrodynamics, sediment transport, and contaminant fate and transport.

Dr. Shrestha's expertise in hydrology and hydraulics includes delineation and mitigation of flood hazards, analysis of alluvial fan flooding, design and analysis of open channel flow and hydraulic structures, and post-wildfire flooding and erosion analysis. His experience in the areas of hydrodynamics, sediment transport, and contaminant transport include the development and application of finite element and finite difference models in surface water systems such as lakes, rivers, bays, estuaries and the coastal ocean. Specific experience includes development and application of models for water bodies such as the Lower Fox River (Wisconsin), Sam Rayburn Lake (Texas), San Francisco Bay, San Diego Bay, Clear Lake (California), New York and New Jersey Harbors, Housatonic River (Massachusetts), Lavaca Bay (Texas), Green Bay (Wisconsin), Tannery Bay (Michigan), Lake Waban (Massachusetts), and the Arafura Sea (Indonesia). The objectives of these modeling efforts included performing water quality assessment and identifying mitigation measures to address potential adverse effects.

Dr. Shrestha has conducted workshops on the use of hydrodynamic and sediment transport models for Sandia National Laboratory, New Mexico; The Research Center on Flood and Drought Disaster Reduction, People's Republic of China; and Stevens Institute of Technology, New Jersey. His teaching experience includes courses in hydraulics and open channel flow at Virginia Tech and courses on sediment and pollutant transport at the Hong Kong University of Science and Technology.

Dr. Shrestha is currently an Associate Editor for the ASCE Journal of Hydrologic Engineering and an Associate Editor for the Journal of Coastal Research. He is also serving on the ASCE Standards Committee KSTAT (Fitting of Hydraulic Conductivity with Statistical Spatial Estimation), the ASCE Surface Water Hydrology Technical Committee, and the COPRI Navigation Engineering Task Committee. He was involved in the Water Environment Federation Watershed and Wet Weather Technical Bulletin Advisory Board. He served on the ASCE Task Committee on Contaminated Sediments and on the ASCE Task Committee on Fluid Mud, served as a member of the organizing committee for InterCoh 2003, and served as a member of the advisory committee for the biennial conference on Estuarine and Coastal Modeling.

Areas of Specialization

- Hydrology and hydraulics
- Hydrodynamics
- Sediment transport
- Contaminant transport
- 1-, 2-, and 3-D numerical modeling
- Fate and transport studies
- Flood hazard analysis and mitigation
- Floodplain mapping
- Debris flow evaluation
- Post-wildfire flooding and erosion analysis
- Dam failure investigation
- Dam removal and sediment stability analysis
- Levee accreditation
- Landslide evaluation including numerical modeling
- Hurricanes and storm surge
- Coastal hydraulics and sediment migration
- Wetlands

Education

Ph.D., Water Resources Engineering, University of California, Davis, 1991

M.S., Water Resources Engineering, University of California, Davis, 1985

B.S., Civil Engineering, Jadavpur University, India, First Class Honors, 1979

Professional Licensure & Certifications

Licensed Professional Engineer, California, #67971

Licensed Professional Engineer (Civil), Arizona, #51083

Licensed Professional Engineer, Virginia, #026710

Hong Kong Institution of Engineers, #MO0267236

Diplomate, Water Resources Engineer, #00278

Diplomate, Coastal Engineer, #65

Honors/Awards

Faculty of the Year Award, Department of Civil Engineering, Virginia Tech, 1994

Dean's List for Outstanding Instructor, Virginia Tech, 1993, 1994

Nominated for Engineering Sporn Award in Teaching Excellence, Virginia Tech, 1994

Fulbright-Hays Scholar, M.S. Program, University of California, Davis, 1983-1986

Colombo Plan Scholar, Bachelor program, Jadavpur University, 1974-1979

Previous Experience

Managing Engineer to Senior Managing Engineer and Head of Water Resources Engineering,
Exponent, Inc., 2003-2018

Project Engineer, Project Manager & Senior Project Manager, HydroQual, Inc., 1997-2003

Visiting Assistant Professor, Hong Kong University of Science & Technology, 1994-1996

Visiting Assistant Professor, Virginia Tech., 1993-1994

Post-doctoral Research Associate, University of California, Davis, 1992

Assistant Engineer, Department of Irrigation and Drainage, Nepal, 1980-1983

Professional Associations and Affiliations

Academy of Coastal Ocean Port & Navigation Engineers — ACOPNE
American Academy of Water Resources Engineer — AAWRE
American Geophysical Union — AGU
American Society of Civil Engineers — ASCE
Association of State Dam Safety Officials - ASDSO
Association of State Floodplain Managers — ASFPM
Coastal Education and Research Foundation — CERF
Floodplain Management Association — FMA
Water Environment Federation — WEF

Publications

Navigation Channel Sedimentation Task Committee. Navigation Channel Sedimentation Solutions. ASCE Press, Reston, VA, November 2023.
<https://doi.org/10.1061/9780784485149.fm>

Loaiciga HA, et al. Estimation of aquifer hydraulic properties by inverse numerical model of aquifer pumping tests. ANSI/ASCE/EWRI 70-19. ASCE Press, Reston, VA, 2020.
<https://doi.org/10.1061/9780784415412>

Shrestha PL, Blumberg AF. Cohesive Sediment Transport. In: Finkl C., Makowski C. (eds) Encyclopedia of Coastal Science. Springer, Cham, March 2018.
https://doi.org/10.1007/978-3-319-48657-4_95-2

Loaiciga HA, et al. Standard guideline for calculation of the saturated hydraulic conductivity of fine-grained soils. ASCE/EWRI Standard 65-2017, ASCE Press, Reston, VA, 2017.
<https://doi.org/10.1061/9780784414347>

McAnally WH, Kirby R, Hodge SH, Welp TL, Greiser N, **Shrestha P**, McGowan D, Turnipseed P. Nautical depth for U.S. navigable waterways: A review. Journal of Waterway, Port, Coastal, and Ocean Engineering September 2015, Vol 142, Issue 2.
[https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000301](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000301)

Shrestha PL, Su SH, James SC, Shaller PJ, Doroudian M, Firstenberg CE, Thompson CT. Conceptual site model for Newark Bay — Hydrodynamics and sediment transport. Journal of Marine Science and Engineering 2014; 2(1):123-139.
<https://doi.org/10.3390/jmse2010123>

Shaller PJ, **Shrestha PL**, Doroudian M, Sykora D, Hamilton D. Numerical modeling of the 2005 La Conchita landslide, Ventura County, California. In: Flood hazard identification and mitigation in semi- and arid environments. French RH and Miller JJ (eds), World Scientific Publishing Co., Inc., Hackensack, NJ, October 2011.
<https://doi.org/10.1142/8175>

- French RH, Fuller JE, Shaller PJ, **Shrestha PL**. Needs and benefits of co-operation. In: Flood hazard identification and mitigation in semi- and arid environments. French RH and Miller JJ (eds), World Scientific Publishing Co., Inc., Hackensack, NJ, October 2011.
<https://doi.org/10.1142/8175>
- Shaller PJ, **Shrestha PL**, Doroudian M, Sykora D, Hamilton D. The 2005 La Conchita landslide, California: Part 1 - Geology. In: 5th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment, Padua, Italy, June 14-17, 2011. Italian Journal of Engineering Geology and Environment, Genevois R, Hamilton D, and Prestininzi A (eds), GeneCasa Editrice Università La Sapienza, Rome, Italy, 2011; 745-750.
<https://dx.doi.org/10.4408/IJEGE.2011-03.B-081>
- Shrestha PL**, Shaller PJ, Doroudian M, Sykora D, Hamilton D. The 2005 La Conchita landslide, California: Part 2 - Modeling. In: 5th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment, Padua, Italy, June 14-17, 2011. Italian Journal of Engineering Geology and Environment, Genevois R, Hamilton D, and Prestininzi A (eds), GeneCasa Editrice Università La Sapienza, Rome, Italy, 2011; 751-758.
<https://dx.doi.org/10.4408/IJEGE.2011-03.B-082>
- Loaiciga HA, et al. Standard guideline for geostatistical estimation and block-averaging of homogeneous and isotropic saturated hydraulic conductivity. ASCE/EWRI Standard 54-2010(R2016), ASCE Press, Reston, VA, 2010.
<https://doi.org/10.1061/9780784410929>
- Loaiciga HA, et al. Standard guideline for fitting saturated hydraulic conductivity using probability density function and Standard guideline for calculating the effective saturated hydraulic conductivity. ASCE/EWRI Standard 50-08(R2016) and 51-08(R2016), ASCE Press, Reston, VA, 2008.
<https://doi.org/10.1061/9780784409930>
- McAnally WH, Friedrichs C, Hamilton D, Hayter E, **Shrestha P**, Rodriguez H, Sheremet A, Teeter A. Management of fluid mud in estuaries, bays, and lakes. I: Present state of understanding on character and behavior. ASCE Journal of Hydraulic Engineering 2007; 133(1):9-22.
[https://doi.org/10.1061/\(ASCE\)0733-9429\(2007\)133:1\(9\)](https://doi.org/10.1061/(ASCE)0733-9429(2007)133:1(9))
- McAnally WH, Teeter A, Schoellhamer D, Friedrichs C, Hamilton D, Hayter E, **Shrestha P**, Rodriguez H, Sheremet A, Kirby R. Management of fluid mud in estuaries, bays, and lakes. II: Measurement, Modeling, and Management. ASCE Journal of Hydraulic Engineering 2007; 133(1):23-38.
[https://doi.org/10.1061/\(ASCE\)0733-9429\(2007\)133:1\(23\)](https://doi.org/10.1061/(ASCE)0733-9429(2007)133:1(23))
- James S, **Shrestha P**, Roberts J. Modeling noncohesive sediment transport using multiple sediment size classes. Journal of Coastal Research 2006; 22(5):1125-1132.
<https://doi.org/10.2112/05-0479.1>

- Shrestha P**, Blumberg A. Cohesive sediment transport. pp. 327-330. In: Encyclopedia of Coastal Science. Schwartz M (ed), Springer, The Netherlands, 2005.
https://doi.org/10.1007/1-4020-3880-1_95
- Roig LC, **Shrestha P**, Ramireddygar SR. Mixing and transport. Water Environment Research 2000; 72(5):1-50.
<https://doi.org/10.2175/106143000X144204>
- Roig LC, **Shrestha P**. Mixing and transport. Water Environment Research 1999; 71(5):931-948.
<https://doi.org/10.2175/106143099X133910>
- Govindaraju RS, Ramireddygar SR, **Shrestha P**, Roig LC. Continuum bed model for estuarine sediments based on nonlinear consolidation theory. ASCE Journal of Hydraulic Engineering 1999; 125(3):300-304.
[https://doi.org/10.1061/\(ASCE\)0733-9429\(1999\)125:3\(300\)](https://doi.org/10.1061/(ASCE)0733-9429(1999)125:3(300))
- Shrestha P**, Orlob GT, King IP. Comparison of 1-D and 2-D models for simulation of hydrodynamics and water quality in shallow bays. Journal of Environmental Science and Health 1997; A32(4):979-999.
<https://doi.org/10.1080/10934529709376591>
- Shrestha P**. An integrated model suite for sediment and pollutant transport in shallow lakes. Advances in Engineering Software 1996; 27(3):201-212.
[https://doi.org/10.1016/S0965-9978\(96\)00032-4](https://doi.org/10.1016/S0965-9978(96)00032-4)
- Shrestha P**. Aggregation of cohesive sediments induced by internal shear rates with application to sedimentation. Environment International 1996; 22(6):717-727.
[https://doi.org/10.1016/S0160-4120\(96\)00063-3](https://doi.org/10.1016/S0160-4120(96)00063-3)
- Shrestha P**, Orlob GT. Multiphase distribution of cohesive sediments and heavy metals in estuarine systems. ASCE Journal of Environmental Engineering 1996; 122(8):730-740.
[https://doi.org/10.1061/\(ASCE\)0733-9372\(1996\)122:8\(730\)](https://doi.org/10.1061/(ASCE)0733-9372(1996)122:8(730))
- Govindaraju RS, **Shrestha P**, Orlob GT. Comparison of single mechanism and multi mechanism-based approaches for kinetics of sediment removal. Environmental Technology 1994; 15:1101-1120.
<https://doi.org/10.1080/09593339409385521>
- Shrestha P**, DeVries JJ. Design of inverted siphons — Program documentation. Advances in Engineering Software 1992; 14(3):205-212.
[https://doi.org/10.1016/0965-9978\(92\)90023-9](https://doi.org/10.1016/0965-9978(92)90023-9)
- Shrestha P**, DeVries JJ. Interactive computer-aided design of inverted siphons. ASCE Journal of Irrigation and Drainage Engineering 1991; 117(2):233-254.
[https://doi.org/10.1061/\(ASCE\)0733-9437\(1991\)117:2\(233\)](https://doi.org/10.1061/(ASCE)0733-9437(1991)117:2(233))
- Shrestha P**, Arulanandan K. Erosion rate of dispersive and non-dispersive clays. Discussion, Journal of Geotechnical Engineering 1988; 114(5):22433; ASCE Journal of Geologic Engineering 1989; 1824-1826.
[https://doi.org/10.1061/\(ASCE\)0733-9410\(1989\)115:12\(1824\)](https://doi.org/10.1061/(ASCE)0733-9410(1989)115:12(1824))

Proceedings

- Shrestha PL**, Shaller PJ, Doroudian M, Cydzik K. Evaluating sediment dynamics in waterways, Proceedings, 10th International Conference on Scour and Erosion (ICSE-10), pp. 237-250, October 18-21, 2021.
- Deardorff TL, Palmquist K, Shaller PJ, **Shrestha PL**. Western wildfires and the Mississippi Delta: Lessons learned about ecosystem management from attempts to control Mother Nature. Proceedings, World Environmental and Water Resources Congress 2016, West Palm Beach, Florida, pp. 372-378, May 22-26, 2016.
<https://doi.org/10.1061/9780784479858.038>
- Shaller PJ, **Shrestha PL**, Deardorff TL, Wren J. Adverse hydrologic and ecologic impacts of wildfires in western watersheds. Proceedings, World Environmental and Water Resources Congress 2015, Austin, TX, pp. 2501-2509, May 17-21, 2015.
<https://doi.org/10.1061/9780784479162.245>
- Bailey JR, **Shrestha PL**, Dawson C, Head S. Analysis of maximum probable storm surge at the South Texas Project site. Proceedings, World Environmental and Water Resources Congress 2014: Water without Borders, Environmental Water Resources Institute of the American Society of Civil Engineers, Portland, OR, June 1-5, 2014, pp. 1412-1421.
<https://ascelibrary.org/doi/abs/10.1061/9780784413548.142>
- Shrestha PL**, James SC, Shaller PJ, Doroudian M, Peraza DB, Morgan TA. Estimating the storm surge recurrence interval for Hurricane Sandy. Proceedings, World Environmental and Water Resources Congress 2014: Water without Borders, Environmental Water Resources Institute of the American Society of Civil Engineers, Portland, OR, June 1-5, 2014, pp. 1906-1915.
<https://ascelibrary.org/doi/10.1061/9780784413548.191>
- James SC, Roberts JD, **Shrestha PL**. Simulating flow changes due to current energy capture: SNL-EFDC model verification. Proceedings, World Environmental Water Resources Congress 2014: Water without Borders, Environmental and Water Resources Institute of the American Society of Civil Engineers, Portland, OR, June 1-5, 2014, pp. 816-825.
<https://doi.org/10.1061/9780784413548.085>
- Shrestha PL**, Lenaburg RT, Scheffner NW, Rezakhani M, Hamilton D, Cydzik K. Storm surge study of the Hawaiian Islands using the EST method. Proceedings, World Environmental and Water Resources Congress 2011, Palm Springs, CA, May 22-26, 2011.
[https://doi.org/10.1061/41173\(414\)238](https://doi.org/10.1061/41173(414)238)
- Shrestha PL**, Hamilton DL, Cydzik K, Wardak S, Jordan N, Shaller PJ, Doroudian M. Flood hazard analysis and mitigation. Proceedings, International Conference on Water, Environment, Energy and Society (WEES-2009), pp. 699-706, New Delhi, India, January 12-16, 2009.

- Murillo B, Wardak S, Hamilton DL, **Shrestha PL**, Cydzik K, Doroudian M. Sedimentation analysis for existing and proposed development conditions. Proceedings, International Conference on Water, Environment, Energy and Society (WEES-2009), pp. 1636-1641, New Delhi, India, January 12-16, 2009.
- Lenaburg RT, Scheffner NW, **Shrestha PL**, Cydzik K, Rezakhani M, Hamilton DL. EST-based tropical storm flood mapping of the Hawaiian Islands. Proceedings, An International Perspective on Environmental and Water Resources, Bangkok, Thailand, January 5-7, 2009.
- Gangai JW, Lenaburg R, Batten B, Drei-Horgan E, Scheffner N, Hamilton D, Rezakhani M, **Shrestha P**. Hurricane flood insurance study for the Hawaiian Islands. Proceedings, ASCE-COPRI Solutions to Coastal Disasters Congress 2008, Oahu, HI, April 13-16, 2008.
[https://doi.org/10.1061/40968\(312\)39](https://doi.org/10.1061/40968(312)39)
- Shrestha P**, Hamilton D, Lyle J, Doroudian M, Shaller P. Analysis of flood hazards for a residential development. Proceedings, ASCE-World Environmental and Water Resources Congress 2007, Tampa, FL, May 15-19, 2007.
[https://doi.org/10.1061/40927\(243\)26](https://doi.org/10.1061/40927(243)26)
- Shrestha P**, Bigam G, Hamilton D, Doroudian M. A three-dimensional model for Lake Sam Rayburn, Texas. Proceedings, ASCE International Perspective on Environmental and Water Resources, New Delhi, India, December 18-20, 2006.
- Cattarossi A, Mastrocola P, Hamilton D, **Shrestha P**. Hydrological potential for the restoration of the Mesopotamian marshlands. Proceedings, ASCE International Perspective on Environmental and Water Resources, New Delhi, India, December 18-20, 2006.
- Hamilton D, **Shrestha P**, Lyle J, Doroudian M, Shaller P. Flood hazard analysis and protection plan for a residential development. Proceedings, ASCE-World Environmental and Water Resources Congress 2006, Omaha, NE, May 21-25, 2006.
[https://doi.org/10.1061/40856\(200\)204](https://doi.org/10.1061/40856(200)204)
- Shaller P, Hamilton D, **Shrestha P**, Lyle J, Doroudian M. Investigation of flood and debris flow recurrence — Andreas Canyon, San Jacinto Range, Southern California. Proceedings, ASCE-World Environmental and Water Resources Congress 2006, Omaha, NE, May 21-25, 2006.
[https://doi.org/10.1061/40856\(200\)455](https://doi.org/10.1061/40856(200)455)
- Shaller P, Hamilton D, Lyle J, Mathieson E, **Shrestha P**. The fire-flood-erosion sequence in California — A recipe for disaster. Proceedings, ASCE-World Environmental and Water Resources Congress 2006, Omaha, NE, May 21-25, 2006.
[https://doi.org/10.1061/40856\(200\)454](https://doi.org/10.1061/40856(200)454)

- Shaller P, Hamilton D, Doroudian M, **Shrestha P**, Lyle J, Cattarossi A. Investigation of flood hazards on alluvial floodplains. Proceedings, ASCE-World Water and Environmental Resources Congress 2005, Anchorage, AK, May 15-19, 2005.
[https://ascelibrary.org/doi/abs/10.1061/40792\(173\)421](https://ascelibrary.org/doi/abs/10.1061/40792(173)421)
- James S, **Shrestha P**, Roberts J. Noncohesive sediment transport modeling with multiple size classess. Proceedings, ASCE-World Water and Environmental Resources Congress 2005, Anchorage, AK, May 15-19, 2005.
[https://ascelibrary.org/doi/abs/10.1061/40792\(173\)429](https://ascelibrary.org/doi/abs/10.1061/40792(173)429)
- Shrestha P**, Hamilton D, Jordan N, Doroudian M, Hong S, Proctor D. Impact of sewage line spills on pathogen levels in recreational waters. Proceedings, ASCE-World Water and Environmental Resources Congress 2005, Anchorage, AK, May 15-19, 2005.
[https://doi.org/10.1061/40792\(173\)127](https://doi.org/10.1061/40792(173)127)
- Cattarossi A, Hamilton D, **Shrestha P**, Polo P. Macro- and micro-scale circulation modeling in the Mesopotamian marshlands of southern Iraq. Proceedings, Arid Lands Symposium, ASCE-EWRI World Water and Environmental Resources Congress 2004, Salt Lake City, UT, June 27-July 1, 2004.
[https://doi.org/10.1061/40737\(2004\)3](https://doi.org/10.1061/40737(2004)3)
- Shrestha P**, Blumberg A, Kaluarachchi D, Li H, Laguette H. Modeling the stability of contaminated bed sediments in a shallow lake. Proceedings, Special Session on Contaminated Sediments, ASCE-World Water and Environmental Resources Congress 2003, Philadelphia, PA, June 23-26, 2003.
[https://doi.org/10.1061/40685\(2003\)44](https://doi.org/10.1061/40685(2003)44)
- Shrestha P**, Paquin PR, Blumberg AF, Migliorini MC. Modeling contaminated sediments in a shallow bay. Proceedings, ASCE-World Water and Environmental Resources Congress 2001, Orlando, FL, May 20-24, 2001.
[https://doi.org/10.1061/40569\(2001\)270](https://doi.org/10.1061/40569(2001)270)
- Shrestha P**, Kaluarachchi DI, Anid PJ, Blumberg AF, DiToro DM. Cohesive sediment re-suspension: Experimentation and analysis. Proceedings, ASCE-World Water and Environmental Resources Congress 2001, Orlando, FL, May 20-24, 2001.
[https://doi.org/10.1061/40569\(2001\)258](https://doi.org/10.1061/40569(2001)258)
- Shrestha P**, Blumberg AF, DiToro DM, Hellweger F. A three-dimensional model for cohesive sediment dynamics in shallow bays. Invited Paper, ASCE Joint Conference on Water Resource Engineering and Water Resources Planning and Management, Minneapolis, MN, July 30-August 2, 2000.
[https://doi.org/10.1061/40517\(2000\)278](https://doi.org/10.1061/40517(2000)278)

- Govindaraju RS, **Shrestha PL**, Roig LC. A continuum theory for evolution of soft sediment beds with application to sediment dynamics. Proceedings, XVII IAHR Congress, Environmental and Coastal Hydraulics: Protecting the Aquatic Habitat, Vol. 2, Holly FM, Alsuffar A (eds), pp. 1262-1267, San Francisco, CA, August 10-15, 1997.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0107084>
- Kumar A, **Shrestha P**. Verification of resistance criteria for alluvial streams. Proceedings, Rivertech '96, International Water Resources Association, pp. 67-74, Chicago, IL, September 22-26, 1996.
- Shrestha P**. Sediment and mercury pollution in shallow lakes. Proceedings, ASCE North American Water and Environment Congress, Anaheim, CA, June 23-28, 1996.
- Shrestha P**. An improved model for deposition of cohesive sediments. Proceedings, Australasian Fluid Mechanics Conference, pp. 711-714, Sydney, Australia, December 10-15, 1995.
<http://afms.org.au/proceedings.html>
- Shrestha P**. Water quality modeling in San Diego Bay. Proceedings, ASCE First International Conference on Water Resources Engineering, pp. 209-213, San Antonio, TX, August 14-18, 1995.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0095885>
- Shrestha P**, Govindaraju RS, Orlob GT. Modeling kinetics of sediment removal in water columns. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 1065-1069, Buffalo, NY, 1994.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0089557>
- Shrestha P**. Hydrodynamic Modeling of San Diego Bay. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 140-144, Buffalo, NY, August 1-5, 1994.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0089368>
- Shrestha P**, Saviz CM, Orlob GT, King IP, Sobey RJ, Ford RG. San Francisco Bay and Delta oil spill fate studies — Part I: Hydrodynamic simulation. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 635-640, San Francisco, CA, July 25-30, 1993.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0083923>
- Ford RG, Sobey RJ, **Shrestha P**, Saviz CM, Orlob GT, King IP. San Francisco Bay and Delta oil spill fate studies — Part II: Oil spill simulation. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 641-646, San Francisco, CA, July 25-30, 1993.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0083924>
- Shrestha P**, Orlob GT. Modeling the fate and transport of toxic heavy metals in south San Francisco Bay. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 647-652, San Francisco, CA, July 25-30, 1993.
<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0083925>

Shrestha P, DeVries JJ, Krone RB. Hydrodynamic modeling for channel barrier design. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 1079-1084, San Francisco, CA, July 25-30, 1993.

<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0083998>

King IP, **Shrestha P**, Orlob GT. Wind induced circulation and contaminant transport in shallow lakes. Proceedings, ASCE National Conference on Hydraulic Engineering, pp. 1440-1445, San Francisco, CA, July 25-30, 1993.

<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0084059>

Bale A, **Shrestha P**, Orlob GT. A CASS for evaluation of mercury contamination in Clear Lake, California. Proceedings, 20th Anniversary Conference, ASCE Water Resources Planning and Management Division Conference, pp. 292-295, Seattle, WA, 1993.

<https://cedb.asce.org/CEDBsearch/record.jsp?dockey=0081776>

Presentations and Posters

Shaller, P.J., Doroudian, M., Cydzik, K. and **Shrestha, P.**, 2020. Construction, Operation, and Failure of Ka Loko Dam, Kauai, Hawaii: Association of Engineering Geologists 2020 Annual Meeting, Dams and Levees Lesson Learned Symposium, Part 1, September 17, 2020.

Cydzik, K., Shaller, P.J., **Shrestha, P.**, and Doroudian, M. Post-fire planning, policy, and natural hazards mitigation: lessons learned during recovery from wildfires in the state of California, USA, 2015-2019. American Geophysical Union 2019 Fall Meeting, San Francisco, CA. December 9-13, 2019.

Deardorff TL, Palmquist K, Shaller PJ, Doroudian M, **Shrestha PL**. Western wildfires and the Mississippi Delta: Lessons learned about ecosystem management from attempts to control Mother Nature. Presentation, World Environmental and Water Resources Congress 2016, West Palm Beach, Florida, May 22-26, 2016.

Shaller PJ, **Shrestha PL**, Deardorff TL, Wren J. Post-wildfire consequences on watershed hydrology and the environment. Poster, SETAC North America 36th Annual Meeting, Salt Lake City, UT, November 1-5, 2015.

McAnally WH, **Shrestha PL**. Nautical depth for U.S. navigable waterways: A review. Presentation, World Environmental and Water Resources Congress 2015: Floods, Droughts, and Ecosystems, Environmental Water Resources Institute of the American Society of Civil Engineers, Austin, TX, May 15-21, 2015.

Deardorff TL, Semenova S, Shaller PJ, **Shrestha PL**. Risk factors and ecological disturbances that contribute to the occurrence of catastrophic wildfires in California. Presentation, World Environmental and Water Resources Congress 2015: Floods, Droughts, and Ecosystems, Environmental Water Resources Institute of the American Society of Civil Engineers, Austin, TX, May 15-21, 2015.

- Shaller PJ, Wren J, **Shrestha PL**, Sama M, Doroudian M. An evaluation of post-wildfire mitigation measures on flood hazard potential in Southern California. Poster, World Environmental and Water Resources Congress 2014: Water without Borders, Environmental Water Resources Institute of the American Society of Civil Engineers, Portland, OR, 2014.
- Shrestha PL**, Su SH, James SC, Shaller PJ, Doroudian M, Firstenberg CE, Thompson CT. Conceptual site model for Newark Bay - hydrodynamics and sediment transport. Presented at the 13th International Conference on Estuarine and Coastal Modeling, San Diego, CA, November 4-6, 2013.
- Shaller PJ, Cydzik K, Sama M, Wren J, **Shrestha P**. The Station Fire revisited, projected versus realized flood impacts 2009-2013. Presented at 2013 Floodplain Management Conference, Anaheim, CA, September 4, 2013.
- Shaller PJ, Cydzik K, Sama M, Wren J, **Shrestha P**. The Station Fire revisited, projected versus realized flood impacts 2009-2013. Presented at 2013 Wildland Fire Litigation Conference, Monterey, CA, April 21, 2013.
- Cydzik K, Hamilton D, Stennar H, Cattarossi A, **Shrestha PL**. Reconnaissance following the May 12, 2008 M7.9 Wenchuan Earthquake, Sichuan, China. Poster, World Environmental and Water Resources Congress 2011, Palm Springs, CA, May 22-26, 2011.
- Shaller PJ, Cydzik K, Wren J, Hamilton D, **Shrestha PL**. A case study of the fire-flood sequence in Southern California. Presentation, Wildland Fire Litigation Conference, San Diego, CA, April 15-17, 2011.
- Shaller PJ, **Shrestha PL**, Hamilton D, Jordan N, Doroudian M, Rezakhani M. Assessment of alluvial fan flooding hazards and proposed mitigation, Thousand Palms, California. Presentation, Floodplain Management Association Annual Conference, Henderson, NV, November 2-5, 2010.
- Shaller PJ, **Shrestha PL**, Doroudian M, Rezakhani M. Assessment of flood hazard, Travertine Point Area, Southeastern California. Presentation, Floodplain Management Association Annual Conference, Henderson, NV, November 2-5, 2010.
- Shaller PJ, **Shrestha PL**, Doroudian M, Hamilton D, Sykora D. The January 10, 2005 La Conchita landslide. Poster, GSA Cordilleran Section and Pacific Section AAPF with Western Regional SPE, Anaheim, CA, May 27-29, 2010.
- Cydzik K, Hamilton D, Stenner H, Cattarossi A, **Shrestha PL**. Natural hazard public policy implications of the May 12, 2008 M7.9 Wenchuan Earthquake, Sichuan, China. Poster, American Geophysical Union 2009 Fall Meeting, San Francisco, CA, December 14-18, 2009.
- Cydzik K, **Shrestha PL**, Hamilton D, Rezakhani M, Scheffner NW, Lenaburg RT. Numerical modeling to support floodplain mapping in coastal areas. Poster, American Geophysical Union 2009 Fall Meeting, San Francisco, CA, December 14-18, 2009.

- Shrestha PL**, Hamilton D, Jordan N, Lyle JE, Doroudian M, Shaller PJ, Wardak S, Cydzik K, Medellin J. Inland flood hazard analysis and mitigation. Poster, ASCE-EWRI World Environmental & Water Resources Conference, Honolulu, HI, May 12-16, 2008.
- Wardak S, Murillo B, Hamilton D, **Shrestha PL**, Doroudian M, Cydzik K, Medellin J, Shaller PJ. Sedimentation analysis in an open channel network for existing and proposed development conditions. Poster, ASCE-EWRI World Environmental and Water Resources Conference, Honolulu, HI, May 12-16, 2008.
- Futornick K, **Shrestha P**, Sykora D, Hamilton D. Post-Katrina strategies to manage consequences of levee failure. Presentation, A&WMA 99th Annual Conference and Exhibition, New Orleans, LA, June 20-23, 2006.
- Jones C, James S, Roberts J, **Shrestha P**. Continuous treatment of cohesive and non-cohesive sediment dynamics in a 3-dimensional model of meandering flow. Presentation, 9th Estuarine and Coastal Modeling (ECM9), Charleston, NC, October 31-November 2, 2005.
- Shrestha P**, Roberts J, James S, Gailani J. Quantifying resuspension of fine-grained bottom sediments. Presentation, InterCoh2005, Saga University, Saga, Japan, September 20-23, 2005.
- Hamilton D, Shaller P, **Shrestha P**, Lyle J, Doroudian M. Investigating flood hazards on alluvial floodplains. Presentation, Alluvial Fan Flood Hazard Management Symposium, Phoenix, AZ, April 20-22, 2005.
- Shaller P, Hamilton D, Lyle J, Medley E, Mathieson E, **Shrestha P**. Fire-flood-erosion sequence: Analysis and mitigation. Presentation, Arid Regions 10th Biennial Conference, Restoration and Management of Arid Watercourses, Mesa, AZ, November 16-19, 2004
- Hamilton D, Shaller P, Lyle J, Doroudian M, **Shrestha P**. Multi-disciplinary approach to distinguishing flood hazards on alluvial floodplains. Presentation, Arid Regions 10th Biennial Conference, Restoration and Management of Arid Watercourses, Mesa, AZ, November 16-19, 2004.
- Shaller P, Hamilton D, Doroudian M, **Shrestha P**, Lyle J, Cattarossi A. Interpretation of tectonic, fluvial, and eolian landforms in the Upper Coachella Valley, California, using aerial photography, DEM, and LiDAR technology. Poster, Geological Society of America, Annual Meeting, Denver, CO, November 7-10, 2004.
- Shrestha P**. Sediment transport modeling. Invited Presentation, California Department of Water Resources, July 19, 2004.
- Hamilton D, Cattarossi A, Polo P, **Shrestha P**, Nielson D. Restoration of the Mesopotamian marshlands. Presentation, Society of Wetland Scientists, 25th Anniversary Meeting, Seattle, WA, July 18-23, 2004.
- James SC, Roberts J, **Shrestha P**, Jepson R, Gailani J. Quantifying sediment resuspension in surface water systems. Presentation, ASCE-EWRI, World Water and Environmental Resources Congress 2004, Salt Lake City, UT, June 27-July 1, 2004.

- Shrestha P.** Solving practical environmental problems using high technology tools: Hydrodynamics and sediment transport. Invited Presentation, University of California, Los Angeles, CA, April 27, 2004.
- Hamilton D, Cattarossi A, **Shrestha P.** The Eden Again Project: Restoration of the Mesopotamian marshlands. Keynote presentation, National Society of Consulting Soil Scientists 17th Annual Meeting, San Diego, CA, February 5-7, 2004.
- Hamilton D, Cattarossi A, **Shrestha P.** Numerical modeling of flows in the Iraqi marshlands. Presentation, Headwaters to Oceans (H2O) Conference, Long Beach, CA, October 23-25, 2003.
- Shrestha P,** Blumberg A, Kaluarachchi D, Li H, Laguette H. Modeling the stability of contaminated bed sediments in a shallow lake. Presentation, InterCoh 2003, VIMS, VA, October 1-4, 2003.
- Farley K, **Shrestha P,** Blumberg AF, Damiani D, Miller R, Wands J. The use of sediment transport models in contaminant evaluations. Invited Presentation, NOPP-CSTM Workshop, Williamsburg, VA, September 29-October 2, 2002.
- Shrestha P.** Simulation of sediment transport in Lavaca Bay. Video Presentation, NOPP-CSTM Workshop, Williamsburg, VA, September 29-October 2, 2002.
- Shrestha P,** Blumberg AF, Kaluarachchi D, Li H, Laguette H. Modeling sediment stability in a shallow lake. Poster, NOPP-CSTM Workshop, Williamsburg, VA, September 29-October 2, 2002.
- Shrestha P.** Hydrodynamics and sediment transport modeling. Invited Presentation, Sandia National Laboratory, Albuquerque, NM, May 8, 2002.
- Shrestha P,** Blumberg AF. ECOMSED: Some history and its future. Presentation, 2002 Ocean Services Meeting, Session 0S21, ASLO/AGU, Honolulu, HI, February 11-15, 2002.
- Shrestha P,** Blumberg AF Ramireddygar SR. ECOMSED: A 3-D time-dependent hydrodynamic and sediment transport model. Invited Presentation, National Community Sediment Transport Model Workshop, Woods Hole, MA, June 21-23, 2000.
- Shrestha P,** Blumberg AF, Ramireddygar SR. Sediment transport studies as a precursor to modeling contaminant fate and transport. Invited Presentation, Institute of Engineering, Pulchowk Campus, Katmandu, Nepal, July 17, 2000.
- Shrestha P,** Paquin PR, Blumberg AF, Migliorini MC. Evaluating the stability of contaminated sediments in a shallow bay. Platform Presentation, SETAC 21st Annual Meeting, Nashville, TN, November 12-16, 2000.
- Shrestha P,** Blumberg AF, DiToro DM, Fitzpatrick JJ, Hellweger FL, Khan LA. Sediment transport modeling in Green Bay: A precursor to addressing PCB fate and transport. Presentation, SETAC 20th Annual Meeting, Philadelphia, PA, November 14-18, 1999.

Shrestha P, Khan LA, Blumberg AF, Schwab DJ. The importance of sediment transport modeling for assessing the fate of toxic chemicals in aquatic systems. Presentation, 6th International Conference on Estuarine and Coastal Modeling, New Orleans, LA, November 2-5, 1999.

Shrestha P. Physico-chemical processes for transport and redistribution of contaminated sediments. Invited Presentation, EPRI Workshop. Newark, NJ, September 14, 1999.

Shrestha P, Ziegler K, Blumberg AF. Hurricane-induced sediment transport in a shallow barrier island/bay system. Presentation, 5th International Conference on Estuarine and Coastal Modeling, Alexandria, VA, October 22-24, 1997.

Shrestha P, Bale A, Orlob GT. Multiphase distribution of cohesive sediments and associated heavy metals in surface waters. Presentation, 5th Annual Research Symposium, UC Toxic Substances Research and Teaching Program, University of California, San Francisco, CA, October 19, 1991.

Workshops Conducted

Shrestha P. POM/ECOMSED workshop. Lecture on sediment transport modeling at Stevens Institute of Technology, Hoboken, NJ, June 11, 2003.

Shrestha P. ECOMSED training: Grid generation, hydrodynamics, sediment transport, simulation and analysis. Four-day workshop for The Research Center on Flood and Drought Disaster Reduction, Ministry of Water Resources, Beijing, PRC, December 2-5, 2002.

Shrestha P, Li H, Ahsan Q, Kim N. ECOMSED workshop. Three-day workshop for Sandia National Laboratory participants, HydroQual, May 14-16, 2002.