Kevin Oberg
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EXPERIENCE

Oberg Hydroacoustics
Owner and Consultant ***2018 - present***

- Training in the use of hydroacoustic instruments and methods
- Consulting and data analysis for customers

U.S. Geological Survey, Central Midwest Water Science Center, Urbana, IL
Scientist Emeritus (retired) ***2018 - present***

- Data analysis and preparation of journal articles related to ADCP uncertainty, methods development, ADCP validation, and other tasks
- Technical assistance for Central Midwest staff

U.S. Geological Survey, Office of Surface Water, Reston, VA
Hydrologist – National Coordinator USGS Hydroacoustics program **1999 – 2017**

- Coordinated team of scientists responsible for developing and supporting hydroacoustics technology within the USGS Water programs
- Developed and evaluated methods for application of hydroacoustic technology for hydrologic and hydraulic measurements
- Directed USGS training program on hydroacoustics
- Developed and implemented quality assurance programs for application of hydroacoustics within USGS and international standards organizations
- Technical assistance for hydroacoustics for USGS and other agencies

U.S. Geological Survey, Office of Water Information, Reston, VA
Chief, National Water Information Systems Web Development Team **1996 – 1998**

- Developed national system for disseminating hydrologic data via the Web
- Led a team of hydrologists/computer scientists who developed first national system for disseminating real time/historical time series data on the Web

U.S. Geological Survey, Illinois Water Science Center, Urbana, IL
Chief, Hydrologic Data Collection and Analysis Section **1991-1997**

- Managed hydrologic data collection & analysis program for the Illinois Water Science Center
- Developed application for disseminating Illinois streamflow data in real time using the Web

U.S. Geological Survey, Illinois Water Science Center, Urbana, IL
Hydrologist – Investigations Section **1982-1990**

- Flood frequency analysis, rainfall-runoff modeling, hydraulic modeling, network analysis

AWARDS

U.S Department of Interior Distinguished Service Award (highest DOI honor)	**2016**
USGS Excellence in Leadership Award (with the USGS Hydroacoustics Work Group)	**2014**
IAGLR Chandler-Misener Award for Most Notable Paper in Journal of Great Lakes Research for 2011	**2012**
U.S Department of Interior Superior Service Award	**2004**
USGS Special Achievement Awards	**1998, 1995, 1992**

U.S. Army Corps of Engineers Commendation for Technical Assistance during 1993 Mississippi River Flood	**1993**
U.S. Army Corps of Engineers Commander's Award For Public Service, 1992 Chicago Tunnel Flood	**1992**

INVITED LECTURES/PRESENTATIONS

Keynote Speaker for Teledyne RD Instruments ADCPs in Action Conference – "*How the ADCP Has Changed the World (of Hydrology)*"	**2013**
British Hydrological Society, London, England – "*Application of hydroacoustics within the U.S. Geological Survey's Surface Water Program*"	**2003**
American Society of Civil Engineers Symposium on Fundamentals and Advancements in Hydraulic Measurements and Experimentation – "*Recent Applications of Acoustic Doppler Current Profilers*"	**1994**

SELECTED PUBLICATIONS AND JOURNAL ARTICLES

- Díaz Lozada, J. M., García, C. M., Scacchi, G., & Oberg, K. A. (2021). Dynamic Selection of Exposure Time for Turbulent Flow Measurements. Journal of Hydraulic Engineering, 147(10), 04021035. https://doi.org/10.1061/(asce)hy.1943-7900.0001922
- Cisneros, J., Best, J., van Dijk, T., Almeida, R. P. D., Amsler, M., Boldt, J., Freitas, B., Galeazzi, C., Huizinga, R., Ianniruberto, M., Ma, H., Nittrouer, J. A., Oberg, K., Orfeo, O., Parsons, D., Szupiany, R., Wang, P., & Zhang, Y. (2020). Dunes in the world's big rivers are characterized by low-angle lee-side slopes and a complex shape. Nature Geoscience, 13(2), 156–162. https://doi.org/10.1038/s41561-019-0511-7
- Thompson, A. F., Rodrigues, S. N., Fooks, J. C., Oberg, K. A., & Calappi, T. J. (2020). Comparing Discharge Computation Methods in Great Lakes Connecting Channels. Journal of Hydrologic Engineering, 25(6), 05020007. https://doi.org/10.1061/(asce)he.1943-5584.0001904
- Despax, A., le Coz, J., Hauet, A., Mueller, D. S., Engel, F. L., Blanquart, B., Renard, B., & Oberg, K. A. (2019). Decomposition of Uncertainty Sources in Acoustic Doppler Current Profiler Streamflow Measurements Using Repeated Measures Experiments. Water Resources Research, 55(9), 7520–7540. https://doi.org/10.1029/2019wr025296
- Szupiany, R., and Oberg, K.A. (2017). Perfiladores Acusticos Doppler: "Caracterización experimental de flujos turbulentos en Hidráulica", IAHR Monograph.
- Szupiany, R., Garcia, C. M., & Oberg, K. (2017). Acoustic Instruments for Mean Flow Characterization in Field Conditions: Acoustic Doppler Current Profilers (ADCP). In *Experimental Hydraulics: Methods, Instrumentation, Data Processing and Management: Volume II: Instrumentation and Measurement Techniques*. CRC Press. 417 p.
- Boldt, J.A., and Oberg, K.A. (2015). Validation of Streamflow Measurements Made with M9 and RiverRay Acoustic Doppler Current Profilers. J. Hydraul. Eng. 142(2).
- Mueller, D.S., Wagner, C.R., Rehmel, M.S., Oberg, K.A,, and Rainville, Francois (2013). Measuring discharge with acoustic Doppler current profilers from a moving boat (ver. 2.0, December 2013): U.S. Geological Survey Techniques and Methods, book 3, chap. A22, 95 p. http://dx.doi.org/10.3133/tm3A22
- Parsons, D.R., Jackson, P.R., Czuba, J.A., Oberg, K.A., Mueller, D.S., Rhoads, B., Best, J.L., Johnson, K.K., Engel, F., and Riley, J. (2013). Velocity Mapping Toolbox (VMT): a processing and visualization suite for moving-vessel ADCP measurements: Earth Surface Processes and Landforms. doi: 10.1002/esp.3367
- Liu, X., Parker, G., Czuba, J. A., Oberg, K., Mier, J. M., Best, J. L., Parsons, D. R., Ashmore, P., Krishnappan, B. G. and Garcia, M. H. (2012). Sediment Mobility and Bed Armoring in the St Clair River: Insights from Hydrodynamic Modeling: Earth Surface Processes and Landforms, 37: 957–970. doi: 10.1002/esp.3215
- Levesque, V.A., and Oberg, K.A. (2012). Computing Discharge Using the Index-Velocity Method: U.S. Geological Survey Techniques and Methods Rep. 3-A23, 160 pp.
- García, C.M., Tarrab, L., Oberg, K., Szupiany, R., and Cantero, M. (2012). Variance of Discharge Estimates Sampled Using Acoustic Doppler Current Profilers from Moving Boats. J. Hydraul. Eng. 138(8).
- Tarrab, L., García, C. M., Cantero, M. I., and Oberg K. A. (2012). Role of turbulence fluctuations on uncertainties of acoustic Doppler current profiler discharge measurements, Water Resour. Res., 48, W06507, doi:10.1029/2011WR011185.

- Mueller, D.S., and Oberg, K.A. (2011). Discussion of "Near-Transducer Errors in ADCP Measurements: Experimental Findings" by Marian Muste, Dongsu Kim, and Juan A. González-Castro, Journal of Hydraulic Engineering, v. 137, No. 8, p. 863-866.
- Czuba, J.A., Best, J.L., Oberg, K.A., Parsons, D.R., Jackson, P.R., Gracia, M.H., and Ashmore, P. (2011). Bed morphology, flow structure, and sediment transport at the outlet of Lake Huron and in the upper St. Clair River: J. Great Lakes Res., 37-3, p. 480-493, doi: 10.1016/j.jglr.2011.05.011.
- Best, J.L., Simmons, S.M., Parsons, D.R., Oberg, Czuba, J.A., Malzone, C. (2010). A New Methodology for the Quantitative Visualization of Coherent Flow Structures in Alluvial Channels Using Multibeam Echo-sounding (MBES): Geophysical Research Letters, v. 37. L06405, doi:10.1029/2009GL041852.
- Oberg, K.A., and Mueller, D.S. (2007). Validation of Streamflow Measurements Made with Acoustic Doppler Current Profilers: Journal of Hydraulic Engineering, v. 133, No. 12, p. 1421-1432
- Mueller, D.S., Abad, J.D., Garcia, C.M., Gartner, J.A., Garcia, M.H., and Oberg, K.A. (2006). Errors in Acoustic Doppler Profiler Velocity Measurements Caused by Flow Disturbance: Journal of Hydraulic Engineering, v. 133, No. 12, p. 1411–1420
- Garcia, C.M., Oberg, K.A., and Garcia, M.H. (2007). ADCP Measurements of Gravity Currents in the Chicago River, Illinois: Journal of Hydraulic Engineering, v. 133, No. 12, p. 1356–1366
- Nystrom, E.A., Oberg, K.A., and Rehmann, C.R. (2007). Evaluation of mean velocity and turbulence measurements with ADCP's: Journal of Hydraulic Engineering, v. 133, No. 12, p. 1310–1318
- Oberg, K.A., Morlock, S.E., and Caldwell, W.S. (2005). Quality-assurance plan for discharge measurements using acoustic Doppler current profilers: U.S. Geological Survey Scientific Investigations Rep. 2005-5183, 44 pp.
- Jacobson, R.B., and Oberg, K.A. (1997). Geomorphic Changes of the Mississippi River Floodplain at Miller City, Illinois, as a Result of the Flood of 1993: U.S. Geological Survey Circular 1120-J, p. 22
- Oberg, K.A., and Schmidt, A.R. (1994). Measurements of leakage from Lake Michigan at three control structures near Chicago, Illinois, April-October 1993, U.S. Geological Survey Water-Resources Investigations Report 94-4112, 48 p.
- Melching, C. S., and Oberg, K.A. (1993). Comparison, analysis, and estimation of discharge data from two acoustic velocity meters on the Chicago Sanitary and Ship Canal at Romeoville, Illinois, U.S. Geological Survey Water-Resources Investigations Report 93-4048, 61 p.
- Oberg, K.A., and Mades, D.M. (1987). Estimating generalized skew of the log-Pearson Type III distribution for annual peak floods in Illinois: U.S. Geological Survey Water- Resources Investigations Report 86-4008, 42 p.
- Mades, D.M., and Oberg, K.A. (1986). Evaluation of the U.S. Geological Survey's gaging-station network in Illinois: U.S. Geological Survey Water-Resources Investigations Report 86-4072, 88 p.
- Garklavs, George, and Oberg, K.A. (1986). Effect of rainfall excess calculations on modeled hydrograph accuracy and unit-hydrograph parameters: Water Resources Bulletin, v. 22, no. 4, p. 565-572.
- Mades, D.M., and Oberg, K.A. (1984). Cost effectiveness of the U.S. Geological Survey's stream-gaging program in Illinois: U.S. Geological Survey Water-Resources Investigations Report 84-4123, 107 p.
- Graf, J.B., Garklavs, George, and Oberg, K.A. (1982). A technique for estimating time of concentration and storage coefficient values for Illinois streams: U.S. Geological Survey Water-Resources Investigations Report 82-22, 16 p.
- Graf, J.B., Garklavs, George, and Oberg, K.A. (1982). Time of concentration and storage coefficient values for Illinois streams: U.S. Geological Survey Water-Resources Investigations Report 82-13, 40 p.

EDUCATION

University of Illinois at Urbana-Champaign
Bachelor of Science **1982**

PROFESSIONAL ACTIVITIES

- Associate Researcher, National Institute of Water, Argentina. Conduct research and technical consultation to various authorities in Argentina.
- Member and Past Chair, ASCE Technical Committee "Hydraulic Measurements and Experimentation"

- Member ASCE Task Committee "New Developments in Velocity and Discharge Measurements in Hydraulic Engineering"
- Peer Reviewer for Journal of Hydraulic Engineering, Journal of Hydraulic Engineering and Research, Water Resources Research, U.S. Geological Survey, Limnology and Oceanography: Methods.