

Jason C. Fisher

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Employment

- Lead Programmer, U.S. Geological Survey (USGS) AQUARIUS Samples Integration Project ([ASIP](#)) Python and R Tools (PyRT) Team, October 2020 to present, 20 hours per week. Responsible for the technology choices, architecture decisions, and system design of the Discrete Sample Extensibility Tools ([DSET](#)). Mentoring a group of 5 programmers.
- Hydrologist, USGS Idaho Water Science Center, Idaho National Laboratory Project Office ([INLPO](#)), October 2008 to present, moved to 20 hours per week starting in October 2020. Responsible for groundwater flow and contaminant transport modeling, optimization of long-term monitoring networks, and analysis of water-quality characteristics and trends. Mentoring 2 programmers.
- Research Engineer, University of California, Los Angeles (UCLA) Center for Embedded Networked Sensing ([CENS](#)), January to October 2008. Research and lecturing duties.
- Project Scientist, University of California, Merced (UCM), January 2007 to January 2008. Research and lecturing duties.
- Contractor, American Institute of Biological Sciences, National Ecological Observatory Network ([NEON](#)) group. January 2005 to October 2008, about 1 hour per week. Responsible for graphic design services.
- Postdoctoral Scholar, Department of Engineering, UCM, January 2004 to January 2008. Research and lecturing duties.
- Graduate Research Assistant, Department of Civil and Environmental Engineering, UCLA, January 2002 to January 2004, 20 hours per week. Research duties.
- Teaching Assistant, Department of Civil and Environmental Engineering, UCLA, January 2001 to January 2002, 20 hours per week. Assisted students.
- Computer Programmer, U.S. Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory ([RSL](#)), January 2000 to January 2002, 20 hours per week. Data processing duties.
- Hydrologic Technician, U.S. Forest Service, Pacific Southwest Research Station, RSL, January 1997 to January 2000, 20 hours per week. Data processing duties.

Education

- Ph.D. in Civil Engineering, [UCLA](#), hydrology and water resources program, received May 2005.
- M.S. in Civil Engineering, UCLA, hydrology and water resources program, received March 2003.
- M.S. in Environmental Systems, Humboldt State University ([HSU](#)), environmental resources engineering option, received May 2000.
- B.S. in Environmental Resources Engineering, HSU, water resources emphasis, received May 1998.

Honors and Certificates

- Best groundwater report of 2013 from a USGS Water Science Center for “Optimization of water-level monitoring networks in the eastern Snake River Plain aquifer using a kriging-based genetic algorithm method”, [intranet](#).
- UCLA Civil and Environmental Engineering departmental fellowship, 2000–01 academic year.

- Engineer-In-Training, [FE exam](#), license number XE104350, issued on Jan. 29, 1998.

Publications

- **Fisher, J.C.**, 2022, *inlpubs*—Bibliographic information for the U.S. Geological Survey Idaho National Laboratory Project Office: U.S. Geological Survey software release, R package, Reston, Va., <https://doi.org/10.5066/P9I3GWWU>.
- **Fisher, J.C.**, 2021, *ObsNetQW*—Assessment of a water-quality aquifer monitoring network: U.S. Geological Survey software release, R package, Reston, Va., <https://doi.org/10.5066/P9X71CSU>.
- **Fisher, J.C.**, Bartholomay, R.C., Rattray, G.W., and Maimier, N.V., 2021, Optimization of the Idaho National Laboratory water-quality aquifer monitoring network, southeastern Idaho: U.S. Geological Survey Scientific Investigations Report 2021-5031 (DOE/ID-22252), 63 p., <https://doi.org/10.3133/sir20215031>.
- Twining, B.V., Bartholomay, R.C., **Fisher, J.C.**, and Anderson, C., 2021, Multilevel groundwater monitoring of hydraulic head, water temperature, and chemical constituents in the eastern Snake River Plain aquifer, Idaho National Laboratory, Idaho, 2014u201318: U.S. Geological Survey Scientific Investigations Report 2021u20135002, 82 p., <https://doi.org/10.3133/sir20215002>.
- Bartholomay, R.C., Maimier, N.V., Rattray, G.W., and **Fisher, J.C.**, 2020, An update of hydrologic conditions and distribution of selected constituents in water, Eastern Snake River Plain Aquifer and perched groundwater zones, Idaho National Laboratory, Idaho, emphasis 2016–18: U.S. Geological Survey Scientific Investigations Report 2019–5149 (DOE/ID–22251), 82 p., <https://doi.org/10.3133/sir20195149>.
- **Fisher, J.C.**, 2020, *inldata*—Collection of datasets for the U.S. Geological Survey-Idaho National Laboratory Aquifer Monitoring Networks: U.S. Geological Survey software release, R package, Reston, Va., <https://doi.org/10.5066/P9PP9UXZ>.
- Bartholomay, R.C., Maimier, N.V., Rattray, G.W., and **Fisher, J.C.**, 2017, An update of hydrologic conditions and distribution of selected constituents in water, eastern Snake River Plain aquifer and perched groundwater zones, Idaho National Laboratory, Idaho, emphasis 2012–15: U.S. Geological Survey Scientific Investigations Report 2017-5021 (DOE/ID-22242), 87 p., <https://doi.org/10.3133/sir20175021>.
- **Fisher, J.C.**, 2019, *inlmisc*: Miscellaneous Functions for the USGS INL Project Office. R package version 0.4.5, <https://CRAN.R-project.org/package=inlmisc>.
- Ihaka, R., Murrell, P., Hornik, K., **Fisher, J.C.**, Stauffer, R., Wilke, C.O., McWhite, C.D., Zeileis, A., 2019, *colorspace*: A Toolbox for Manipulating and Assessing Colors and Palettes. R package version 1.4-0, <https://CRAN.R-project.org/package=colorspace>.
- **Fisher, J.C.**, Bartolino, J.R., Wylie, A.H., Sukow, Jennifer, and McVay, Michael, 2016, Groundwater-flow model of the Wood River Valley aquifer system, south-central Idaho: U.S. Geological Survey Scientific Investigations Report 2016-5080, 71 p., <https://doi.org/10.3133/sir20165080>.
- Twining, B.V., and **Fisher, J.C.**, 2015, Multilevel groundwater monitoring of hydraulic head and temperature in the eastern Snake River Plain aquifer, Idaho National Laboratory, Idaho, 2011–13: U.S. Geological Survey Scientific Investigations Report 2015-5042 (DOE/ID-22235), 49 p., <http://dx.doi.org/10.3133/sir20155042>.
- Davis, L.C., Bartholomay, R.C., **Fisher, J.C.**, and Maimier, N.V., 2015, Water-quality characteristics and trends for selected wells possibly influenced by wastewater disposal at the Idaho National Laboratory, Idaho, 1981–2012: U.S. Geological Survey Scientific Investigations Report 2015-5003 (DOE/ID-22233), 106 p., <http://dx.doi.org/10.3133/sir20155003>.
- **Fisher, J.C.**, 2013, Optimization of water-level monitoring networks in the eastern Snake River Plain aquifer using a kriging-based genetic algorithm method: U.S. Geological Survey Scientific Investigations Report 2013-5120 (DOE/ID-22224), 74 p., <https://pubs.usgs.gov/sir/2013/5120/>, [news](#).
- Twining, B.V., and **Fisher, J.C.**, 2012, Multilevel groundwater monitoring of hydraulic head and temperature in the eastern Snake River Plain aquifer, Idaho National Laboratory, Idaho, 2009–10: U.S. Geological Survey Scientific Investigations Report 2012-5259, 44 p., plus appendixes, <https://pubs.usgs.gov/sir/2012/5259/>.
- Bartholomay, R.C., Davis, L.C., **Fisher, J.C.**, Tucker, B.J., and Raben, F.A., 2012, Water-quality characteristics and trends for selected sites at and near the Idaho National Laboratory, Idaho, 1949–2009: U.S. Geological Survey Scientific Investigations Report 2012-5169 (DOE/ID 22219), 68 p. plus

- appendixes, <https://pubs.usgs.gov/sir/2012/5169/>.
- **Fisher, J.C.**, Rousseau, J.P., Bartholomay, R.C., and Rattray, G.W., 2012, A comparison of U.S. Geological Survey three-dimensional model estimates of groundwater source areas and velocities to independently derived estimates, Idaho National Laboratory and vicinity, Idaho: U.S. Geological Survey Scientific Investigations Report 2012-5152 (DOE/ID-22218), 130 p., <https://pubs.usgs.gov/sir/2012/5152/>.
 - **Fisher, J.C.**, and Twining, B.V., 2011, Multilevel groundwater monitoring of hydraulic head and temperature in the eastern Snake River Plain aquifer, Idaho National Laboratory, Idaho, 2007–08:, U.S. Geological Survey Scientific Investigations Report 2010-5253, 62 p., <https://pubs.usgs.gov/sir/2010/5253/>.
 - Ackerman, D.J., Rousseau, J.P., Rattray, G.W., and **Fisher, J.C.**, 2010, Steady-state and transient models of groundwater flow and advective transport, Eastern Snake River Plain aquifer, Idaho National Laboratory and vicinity, Idaho:, U.S. Geological Survey Scientific Investigations Report 2010-5123, 220 p., <https://pubs.usgs.gov/sir/2010/5123/>.
 - Twining, B.V., **Fisher, J.C.**, and Bartholomay, R.C., 2010, Completion summary for well NRF-16 near the Naval Reactors Facility, Idaho National Laboratory, Idaho:, U.S. Geological Survey Scientific Investigations Report 2010-5101, 36 p., <https://pubs.usgs.gov/sir/2010/5101/>.
 - Rundel, P.W., Graham, E.A., Allen, M.F., **Fisher, J.C.**, and Harmon, T.C., 2009, Environmental sensor networks in ecological research: *New Phytologist*, 182(3), p. 589-607, <http://dx.doi.org/10.1111/j.1469-8137.2009.02811.x>.
 - Goldman, J., Ramanathan, N., Ambrose, R., Caron, D.A., Estrin, D., **Fisher, J.C.**, Gilbert, R., Hansen, M.H., Harmon, T.C., Jay, J., Kaiser, W.J., Sukhatme, G.S., and Tai, Y.-C., 2007, Distributed sensing systems for water quality assessment and management: White Paper published and prepared by the Foresight and Governance Project at the Woodrow Wilson International Center for Scholars, 36 p., [pdf](#).
 - Harmon, T.C., Ambrose, R.F., Gilbert, R.M., **Fisher, J.C.**, Stealey, M., and Kaiser, W.J., 2007, High resolution river hydraulic and water quality characterization using rapidly deployable networked infomechanical systems (NIMS RD): *Environmental Engineering Science*, 24(2), p. 151-159, <http://dx.doi.org/10.1089/ees.2006.0033>.
 - Singh, M., Batalin, M., Chen, V., Stealey, M., Jordan, B., **Fisher, J.C.**, Harmon, T.C., Hansen, M.H., and Kaiser, W.J., 2006, Autonomous robotic sensing experiments at San Joaquin River: International Conference on Robotics and Automation (43% acceptance rate), 8 p., <http://dx.doi.org/10.1109/ROBOT.2007.364248>.
 - **Fisher, J.C.**, 2005, A coupled systems approach to solute transport within a heterogeneous vadose zone-groundwater environment: Ph.D. dissertation, University of California, Los Angeles, CA, 91 p., [pdf](#).
 - **Fisher, J.C.**, 2000, Simulation of partially saturated - saturated flow in the Caspar Creek E-Road groundwater system: M.S. thesis, Humboldt State University, Arcata, CA, 107 p., <https://www.treesearch.fs.fed.us/pubs/7765>.

Talks

- INL Monitoring and Surveillance Committee Meeting, Idaho Falls, ID, June 22, 2022, Assessing the efficacy and appropriateness of an existing water-quality aquifer monitoring network.
- Technical Architecture Review Board (TARB), May 20, 2022, Application design assessment for the Discrete Sample Extensibility Tools (DSET) project.
- USGS Water Missing Area Seminar Series, Feb. 2, 2022, Assessing the efficacy and appropriateness of an existing water-quality aquifer monitoring network, [intranet](#).
- Idaho Water Quality Workshop, Boise, ID, Jan. 27, 2021, Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network.
- Wood River Valley groundwater-flow model training workshop, organized by the USGS Idaho Water Science Center and the Idaho Department of Water Resources ([IDWR](#)), planned and delivered a full-day series of talks for staff scientists. Boise, ID, Oct. 5, 2016.
- R language training, organized by USGS Idaho Water Science Center, planned and delivered a full-day

series of talks for staff scientists. Boise, ID, Oct. 4, 2016.

- USGS National Groundwater Workshop, Reno, NV, Aug. 29, 2016, A case study in reproducible model building: simulating groundwater flow in the Wood River Valley aquifer system, Idaho.
- The R User Conference ([useR!](#)), Stanford University, Stanford, CA, Jun. 28, 2016, A case study in reproducible model building: simulating groundwater flow in the Wood River Valley aquifer system, Idaho, [video](#).
- Wood River Valley Modeling Technical Advisory Committee ([MTAC](#)) meetings, delivered talks at 14 of the full-day meetings. Hailey, ID, Mar. 2013 through Apr. 2015.
- USGS Office of Groundwater cyber seminar series, Oct. 9, 2014, A path toward reproducible research, [intranet](#).
- American Geophysical Union ([AGU](#)) Fall Meeting, San Francisco, CA, Dec. 13, 2013, Optimization of water-table monitoring networks in the eastern Snake River Plain aquifer using a kriging-based genetic algorithm method.
- Water Resource Seminar Series, University of Idaho, ID, Sep. 3, 2013, Optimization of water-level monitoring networks in the eastern Snake River Plain aquifer using a kriging-based genetic algorithm method.
- USGS National Water Data Conference, Portland, OR, Sep. 25, 2012, Optimization of water-table monitoring networks in the eastern Snake River Plain aquifer using a kriging-based genetic algorithm method.
- Water Resource Seminar Series, University of Idaho, ID, Sep. 27, 2011, A comparison of USGS 3-D model estimates of groundwater source areas and velocities to independently-derived estimates, INL and vicinity.
- INL Monitoring and Surveillance Committee Meeting, Idaho Falls, ID, May 19, 2011, An evaluation of the USGS 3-D model using backward particle-tracking to compare model-derived to independently-derived estimates of the source and age of groundwater.
- AGU Fall Meeting, San Francisco, CA, Dec. 14, 2010, Multilevel groundwater monitoring of hydraulic head and temperature in the eastern Snake River Plain (ESRP) aquifer, 2007–08.
- Idaho State University ([ISU](#)) Department of Geosciences Colloquium, Pocatello, ID, Sep. 29, 2010, Multilevel groundwater monitoring of hydraulic head and temperature in the Eastern Snake River Plain aquifer, 2007 to 2008.
- AGU Fall Meeting, San Francisco, CA, Dec. 15, 2009, Steady-state and transient groundwater flow and advective transport, ESRP aquifer, Idaho National Laboratory and vicinity, Idaho.
- INL Monitoring and Surveillance Committee Meeting, Idaho Falls, ID, Nov. 19, 2009, Steady-state and transient models of groundwater flow and advective transport, Eastern Snake River Plain aquifer, INL and vicinity, Idaho.
- American Water Resources Association ([AWRA](#)) Summer Specialty Conference, Missoula, MT, June 28, 2006, Multiscale river hydraulic and water quality observations combining stationary and mobile sensor network nodes.
- AWRA Annual Water Resources Conference, San Diego, CA, Nov. 8, 2003, Modeling of conjunctive use systems impacted by natural sources of groundwater contamination.

Posters

- AGU Fall Meeting, San Francisco, CA, Dec. 19, 2014, wrv: An R package for groundwater flow model construction, Wood River Valley aquifer system, Idaho.
- USGS National Groundwater Workshop, Denver, CO, Aug. 7, 2012, A comparison of model estimates of groundwater source areas and velocities to independently-derived estimates.
- AGU Fall Meeting, San Francisco, CA, Dec. 7, 2011, Comparing model-derived to independently-derived estimates of the source and age of groundwater, Idaho National Laboratory and vicinity, Idaho.
- AGU Fall Meeting, San Francisco, CA, Dec. 10, 2007, The Sierra Nevada-San Joaquin Hydrologic Observatory ([SNSJHO](#)): a WATERS network test bed.
- AGU Joint Assembly, Baltimore, MD, May 25, 2006, Multiscale river hydraulic and water quality observations combining stationary and mobile sensor network nodes.
- AGU Fall Meeting, San Francisco, CA, Dec. 15, 2004, A coupled systems approach to solute transport

within a heterogeneous vadose zone-groundwater environment.

- AGU Chapman Conference on State-of-the-Art in Hillslope Hydrology, Sunriver, OR, Oct. 8, 2001, Simulation of partially saturated-saturated flow in the Caspar Creek E-Road groundwater system.