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 3 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 Maimer, 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., Maimer, 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., Maimer, 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 Maimer, 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.