

CURRICULUM VITAE

University of Idaho

NAME: Erin Scott Brooks

DATE: Dec. 16, 2022

RANK OR TITLE: Professor

DEPARTMENT: Soil and Water Systems

OFFICE LOCATION AND CAMPUS ZIP: JML 78, 2060

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DATE OF FIRST EMPLOYMENT AT UI: September 15, 1999

DATE OF TENURE: July 2016

DATE OF PRESENT RANK OR TITLE: July 2022

EDUCATION BEYOND HIGH SCHOOL

Degrees:

Ph.D. University of Idaho, Moscow, ID, 2003, Biological and Agricultural Engineering

M.S. University of Minnesota, St. Paul, MN, 1997, Biosystems and Agricultural Engineering

B.S. Washington State University, Pullman, WA, 1993, Agricultural Engineering

Certificates and Licenses:

Professional Engineering (P.E.) License in Civil Engineering in the State of Idaho since 2015

EXPERIENCE:

Teaching, Extension and Research Appointments

Professor (July 2022 – Present)

University of Idaho, Department Soil and Water Systems, Moscow, ID

Affiliate Professor (Jan. 2022 – Present)

University of Idaho, Department Chemical and Biological Engineering, Moscow, ID

Affiliate Professor (July 2017 – Dec. 2021)

University of Idaho, Department Biological Engineering, Moscow, ID

Associate Professor (July 2017 – July 2022)

University of Idaho, Department Soil and Water Systems, Moscow, ID

Associate Professor (July 2016 – July 2017)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Research Assistant Professor (Jan. 2012 – Jun. 2016)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Research Scientist (July 2008 – Dec. 2011)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Hydrologist/Research Support Scientist II (1999 - 2008)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Adjunct Faculty (May 1, 2007 – Dec. 2011)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Graduate Research Assistant (Jan. 15, 1998 – Sept. 15, 1999)

University of Idaho, Department of Biological and Agricultural Engineering, Moscow, ID

Hydrologist/Research Support Specialist (September 1995 - September 1997)

Cornell University; Department of Agricultural and Biological Engineering, Ithaca, NY

Graduate Research Assistant (January 1994 - June 1995)

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

Hydrology, water quality, irrigation, precision agriculture, engineering, agriculture systems management, watershed modeling

Courses Taught:

BAE 452/552 Environmental Water Quality	(2012-2022, every other year)
BAE 404 DS: Ecohydrologic Engineering	(2013)
BAE 142 Engineering for Living Systems	(2012-2014)
BAE 499 DS: Identification of Subsurface Flow Paths	(2012)
BAE 499 DS: Ecohydrologic modeling and management	(2016)
ASM 315 Irrigation Systems and Water Management	(2007, 2011-2017, 2021)
ASM 305 Precision Agriculture	(2015-2022)
ENVS/SOILS 450 Environmental Hydrology	(2018-2022)
WR 502 Hydrologic Modeling	(2018-2020)
ASM 112 Introduction to Ag. Systems Management	(2020-2022)

Students Advised:

Undergraduate Students: 5 advised to completion of degree (2017)

Graduate Students Advised

Currently

Galen Richards PhD/Water Resources
Kendall Kahl, PhD/Soil and Land Resources
Patrick, Jarrett, MS/Environmental Science
Durglo, Austen, MS/Water Resources
Clayton Christensen, MS/Water Resources
Dalton Johnson, MS/ Soil and Land Resources
Katie Beauto, MS/Water Resources
Samiha Ali, MS/Water Resources
Matthew Lesiecki, MS/Water Resources
Gerrit Bass, MS/Water Resources

Graduated

Julia Reese, MS/Water Resources (2022)
Chinmay Deval PhD/Water Resources (2022)
Tiara Ogus, MS/Water Resources (2021)
Scott Fennema PhD/Water Resources (2021)
Vishal Seth, MS-Non-thesis/Soil & Water Systems (2019)
Dillon Shults MS/Water Resources (2018)
Dylan Quinn MS/Water Resources (2018)
Ayana Glover, MS/Water Resources (2018)
Samantha Vega MS/Water Resources (2018)
Jessica Norby MS/Water Resources (2017)
Dan Bone MS/Water Resources (2017)
Matt Yourek, MS/Bio. and Ag. Eng. (2016)
Nicole Ward, MS/Water Resources (2015)
Ryan Boylan, MS/Water Resources (2014)
Jon Treasure, MS/Water Resources (2013)

Served on the Following Graduate Committees

Completed (Degree Major Year)

Arianna Hege (MS/Civil and Env. Eng, currently serving)
Katie Lambert (PhD/Soil & Land Resources, currently serving)
Nicole Hucke Nunez, (PhD/Water Resources, currently serving)
Lusine Taslakyian, (PhD/Water Resources, currently serving)
Flint Hall (PhD/GeoSciences, currently serving)
Asmita Chapagain (MS, Soil & Land Resources, currently serving)
Paul Tietz (MS, Soil & Land Resources, 2022)
Jonathan Gendron (PhD/Civil/Env. Eng. Washington State Univ., 2022)
Adam O'Keeffe (MS/Biological Engineering, 2021)
Konrad Hafen, (PhD/Water Resources, 2021)
Melissa Topping (MS/Water Resources, 2020)
Tom Heron, (MS/Soil and Water Systems, 2018)
Michael Shaljian (MS WSU School of Environment – 2017)
Emily Bruner (PhD WSU Crop and Soil Science - 2016)
Trea LaCroix (MS UI Water Resources – 2015)
Matteo Poggio (PhD WSU Crop and Soil Science - 2015)
Rebecca Rittenburg (PhD - Water Resources - 2015)
Kristen Welch (PhD – Water Resources – 2015)
Paige Farrell (MS – UI Geog - 2015)
Audrey Squires (MS - Water Resources - 2014)
Ricardo Sanchez-Murillo (PhD - Water Resources - 2014)
Codie Wilson (MS - Water Resources - 2013)
Ayodeji Arogundade,(PhD - Bio. Ag. Eng - 2012)
Cindy J. Adams (MS - Environmental Science - 2012)
Alex Edstrom (MS - Water Resources - 2011)
Ricardo Sanchez-Murillo (MS - Water Resources - 2011)
Tony Loesser (MS - Civil Engineering - 2011)
Rob Lawler (MS - Forest Resources - 2010)

Mentor/Advisor/Sponsor for the following Students/Staff

Currently

Mariana Dobre, Research Scientist (2013-present)
Anurag Srivastava, Research Scientist (2014-2016, 2020-present)
Aline Ortega, Post-Doc (2018-present)
William Elliot, (2020-present)

Formerly

Matthew Leseicki (2021-2022)
Zachary Smith (2018-2021)
Micheal Martin (2020-2021)
Conner Jefferies, Temporary Help
Jackson Cook, Undergrad (2018-2019)
Margaret McGovern, Undergrad (2018-2019)
Brianna Slothower, Undergrad (2017-2020)
Tiffany Perez, NSF-Research Experiences for Undergraduates (2018)
Nicolai Ripplinger, NSF-INBRE summer intern (2018)
Margaret McGovern, NSF-INBRE summer intern (2018)
Jessie Balibani Non-thesis Masters Water Resources (2014-2015)
Ian Tanimoto Undergraduate (2015-present)
Olivia Grove Undergraduate, MILES, REACCH intern (2016-present)
Anurag Srivstava, Post-doc (2014-2016)
Eric Verhoeff, Visiting Scientist (2015)

Levi Dawes Undergraduate Help (2011-2015)
 David Brands, Undergraduate (2014-2015)
 Josie Flerchinger, Undergraduate (2014-2015)
 William Payne, Undergraduate (2011-2012, 2015)
 Audrey Martinez, Undergraduate Help, MILES Intern (2015)
 Adrian Ashworth, MILES intern (2015)
 Todd Anderson, Post-Doc (2012-2014)
 Jasper Candel, Visiting Scientist (2013)
 Michelle Chaffee, REACCH Undergraduate Intern (2015)
 Jashvina Devadoss, REACCH Undergraduate Intern (2014)
 Austin Wardall, REACCH Undergraduate Intern (2013)
 Dylan Quinn, REACCH Undergraduate Intern (2013)
 Laura Sampson NSF-REU (2011)
 Kate Wicher Undergraduate Help (2013-2014)
 Parker Burton Undergraduate Help (2010-2013)
 Matt Francis Undergraduate Help (2011-2013)
 Nora Sedgwick Undergraduate Help (2011-2013)
 Amy Shaw Undergraduate Help (2013-2014)
 Matt Williams Undergraduate Help (2013-2014)
 Rebekah Kim Undergraduate Help (2013-2014)

Courses Developed:

ENV5/SOILS 450 Environmental Hydrology (online course)
 WR 502 Hydrologic/Environmental Modeling

Guest Lectures

ISEM 301 Water in Society	(2016)
BAE 452 Environmental Water Quality	(2000, 2008, 2010)
BAE 450 Environmental Hydrology	(2008, 2010)
EnvSci 400 Senior Seminar	(2008-2010, 2012-2013)
Fish 430 Riparian Ecology	(2009)
For404/CE326/BAE356 - Hydrologic Measurement Techniques	(2005, 2009-2011)
CE235/BAE 355 - Fundamentals of Hydrologic Engineering	(2003)
BAE 457/557 - Hydrologic Modeling for Watershed Management	(2002)
BAE 341, BSysE 351 - Environmental Hydrology	(1999, 2001)
JEMS workshop	(2002)
WEPP modeling workshop in Lake Tahoe	(2010, 2011)
ENV5 101 Introduction to Environmental Science	(2018-2019)
ASM 112 Introduction to Agricultural Systems Management	(2018-2019)
AgEd 406 Exploring International Agriculture	(2018-2019)

Invited Lectures:

“Applications and Development of the WEPPcloud Online Geospatial Decision Support Tool” Invited Presentation at the University of Pamplona in Navarra. May 31. 2022, Pamplona, Spain.
 “Managing Water Quantity and Quality in the West.” Invited Presentation at the 75th Annual Council of State Governments (CSG) meeting. July 19-22, 2022 Boise, ID.
 “Timely Decision Support for Watershed Management with WEPPcloud” 3rd International Soil Modelling Consortium Conference, Advances in Soil Systems Modeling, May 18-21, 2021.
 “Impacts of Wildfire on Phosphorus Transport in the CDA Basin” National Academy of Sciences, Committee on the Future of Water Quality in Coeur d’Alene Lake, May 4-6, 2021.

- “Management Implications on Nutrient Transport at the Cook Agronomy Farm” Soil & Water Systems Dept Seminar. March 30, 2020.
- “Management Implications on Nutrient Transport at the Cook Agronomy Farm” Crop & Soil Science Dept. Seminar. Feb. 24, 2020.
- “Flow Augmentation to Sustain Juvenile Steelhead Habitat in the Potlatch River Basin.” Geography and Water Resources Seminar. March 30, 2016
- “Flow Augmentation to Sustain Juvenile Steelhead Habitat in the Potlatch River Basin.” University of Idaho Soil and Water Science Seminar. February 22, 2016
- “Soil Conservation and the History of Farming on the Palouse.” University of Idaho Soil and Water Seminar and REACCH Webinar, Moscow, ID. February 25th 2013
- “Incorporating Process-based Understanding into Watershed Management” presented at the Spring 2011 WSU Crops and Soil Seminar Series on 2/14/2011
- “Groundwater Recharge Potential via Quaternary and Neogene Sediments in the Moscow-Pullman Area: "Recharge from the East?" Revisited" WSU/UI School of Earth and Environmental Sciences Seminar presented 3/24/2011
- "Soil Heterogeneity and the Hydrology of the Palouse Region" presented at the Fall 2005 IWRRI Hydrology Seminar Series on 10/25/05 and presented at the WSU/UI Dept. of Geology Seminar Series on 11/10/05

Honors

- Presidents Mid-Career Faculty Award, University of Idaho (2021)
- Bridge Builder Award, College of Natural Resources, University of Idaho (2021)
- Designated a Western Agricultural Innovator by the Capital Press (8/31/2020)
- Invitation to submit a chapter to a textbook entitled “Hydrogeology”, edited by H. Lin. (2010)
- Nominated for Outstanding Technical/Lab Support Staff in the College of Agricultural and Life Sciences (2004/2007)
- Nominated for Outstanding Management Support Staff in the College of Agricultural and Life Sciences (2003)
- Received the outstanding employee award in the classified exempt category at the University of Idaho (2002)
- Received a \$1000 travel grant from the University of Idaho Graduate Student Association to present research findings at the 9th annual ERB Conference in Demanovska dolina, Slovakia, September 25-28, 2002.
- Received the outstanding student paper award in hydrology at the Fall 2001 American Geophysical Union meetings (2001)
- Accepted as a member of Gamma Sigma Delta, the national honor society for Agriculture (2001)
- Received the outstanding achievement scholarship at the University of Minnesota (1995).
- Received the Gallucci Scholarship as a Junior and Senior at Washington State University. (1993-1994)
- Selected outstanding Freshman, Sophomore, Junior, and Senior at Washington State University. (1989-1994)

SCHOLARSHIP ACCOMPLISHMENTS

Adjudicated/Refereed Publications

Williams, M., Welikhe, P., Bos, J., King, K., Akland, M., Augustine, D., Baffaut, C., Beck, E.G., Bierer, A., Bosch, D., Boughton, E., Brandani, C., Brooks, E., Buda, A., Cavigelli, M., Faulkner, J., Feyereisen, G., Fortuna, A., Gamble, J., Hanrahan, B., Hussain, M.Z., Kohmann, M., Kovar, J., Lee, B., Leytem, A., Liebig, M., Line, D., Macrae, M., Moorman, T., Moriasi, D., Nelson, N., Ortega-Pieck, A., Osmond, D., Pisani, O., Ragosta, J., Reba, M., Saha, A., Sanchez, J., Silveira, M., Smith, D., Spiegel, S., Swain, H., Unrine, J., Webb, P., White, K., Wilson, H., Yasarer, L. 2021. LTAR Phosphorus Budget Summary. Ag Data Commons. <https://doi.org/10.15482/USDA.ADC/1523365>.

- Williams, M., Welikhe, P., Bos, J., King, K., Akland, M., Augustine, D., Baffaut, C., Beck, E.G., Bierer, A., Bosch, D., Boughton, E., Brandani, C., Brooks, E., Buda, A., Cavigelli, M., Faulkner, J., Feyereisen, G., Fortuna, A., Gamble, J., Hanrahan, B., Hussain, M.Z., Kohmann, M., Kovar, J., Lee, B., Leytem, A., Liebig, M., Line, D., Macrae, M., Moorman, T., Moriasi, D., Nelson, N., Ortega-Pieck, A., Osmond, D., Pisani, O., Ragosta, J., Reba, M., Saha, A., Sanchez, J., Silveira, M., Smith, D., Spiegel, S., Swain, H., Unrine, J., Webb, P., White, K., Wilson, H., Yasarer, L. 2022. P-FLUX: A phosphorus budget dataset spanning diverse agricultural production systems in the U.S. and Canada. *Journal of Environmental Quality*. <https://doi.org/10.1002/jeq2.20351>
- Lew, R., M. Dobre, A. Srivastava, E.S. Brooks, W.J. Elliot, P.R. Robichaud, D.C. Flanagan. 2022. WEPPcloud: An online watershed-scale hydrologic modeling tool. Part I. Model description. *Journal of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2022.127603>
- Dobre, M., A. Srivastava, R. Lew, D. Chinmay, E.S. Brooks, W.J., Elliot, P.R. Robichaud. 2022. WEPPcloud: An online watershed-scale hydrologic modeling tool. Part II. Model performance assessment and applications to forest management and wildfires. *J. Hydrol* <https://doi.org/10.1016/j.jhydrol.2022.127776>
- Deval, C., Brooks, E.S., M. Dobre, R. Lew, P.R. Robichaud, A. Fowler, J. Boll, Z.M. Easton, A.S. Collick. 2022. Pi-VAT: A web-based visualization tool for decision support using spatially complex water quality model outputs. *Journal of Hydrology*. <https://doi.org/10.1016/j.jhydrol.2022.127529>
- Dobre, M., J. W. Long, C. Maxwell, W. J. Elliot, R. Lew, E. S. Brooks, and R. M. Scheller. 2022. Water quality and forest restoration in the Lake Tahoe basin: impacts of future management options. *Ecology and Society* 27(2):6. <https://doi.org/10.5751/ES-13133-270206>
- Behrens, D, J.B. Langman, E.S. Brooks, J. Boll, K. Waynant, J.G. Moberly, J.K. Dodd, and J.W. Dodd. 2021. Tracing $\delta^{18}\text{O}$ and $\delta^2\text{H}$ in Source Waters and Recharge Pathways of a Fractured-Basalt and Interbedded-Sediment Aquifer, Columbia River Flood Basalt Province. *Geosciences* 11, no. 10: 400. <https://doi.org/10.3390/geosciences11100400>
- Deval, C., E.S. Brooks, J.A. Gravelle, T.E. Link, M. Dobre, W.J. Elliot. 2021. Long-term response in nutrient load from commercial forest management operations in a mountainous watershed. *Forest Ecology and Management*, 494, 119312, <https://doi.org/10.1016/j.foreco.2021.119312>.
- Heron, T.J., D.G. Strawn, M. Dobre, B.J. Cade-Menun, C. Deval, E.S. Brooks, J. Piaskowski, C.K. Gasch, A. Crump. 2021. Soil phosphorus speciation and availability in meadows and forests in alpine lake watersheds with different parent materials. *Frontiers In Forests And Global Change*, <https://doi.org/10.3389/ffgc.2020.604200>.
- Zhao, M., J. Boll, and E.S. Brooks. 2020. Evaluating the Effects of Timber Harvest on Hydrologically Sensitive Areas and Hydrologic Response. *Journal of Hydrology*, DOI: 10.1016/j.jhydrol.2020.125805
- Robichaud PR, Bone ED, Lewis SA, Brooks ES, Brown RE. 2020. Effectiveness of post-fire salvage logging stream buffer management for hillslope erosion in the U.S. Inland Northwest Mountains. *Hydrological Processes*, 1–15. <https://doi.org/10.1002/hyp.13943>
- Robichaud PR, Lewis SA, Brown RE, Bone ED, Brooks ES. 2020. Evaluating post-wildfire logging-slash cover treatment to reduce hillslope erosion after salvage logging using ground measurements and remote sensing. *Hydrological Processes*, 34: 4431–4445. <https://doi.org/10.1002/hyp.13882>
- Ortega-Pieck, A., Norby, J., Brooks, E.S., Strawn, D., Crump, A.R., Huggins, D.R. 2020. Sources and subsurface transport of dissolved reactive P in a semiarid, no-till catchment with complex topography. *Journal of Environmental Quality*. doi.org/10.1002/jeq2.20114.
- Baffaut, C., J.M. Baker, J.A. Biederman, D.D. Bosch, A.R. Buda, E.S. Brooks, E.M. Demaria, G.N. Flerchinger, D.C. Goodrich, S.K. Hamilton, S.P. Hardegree, R.D. Harmel, D.L. Hoover, K.S. King, P.J. Kleinman, M.A. Liebig, G.W. McCarty, G.E. Moglen, T.B. Moorman, D.N. Moriasi, F.B. Pierson, E.S. Russell, A.K. Saha, N.Z. Saliendra, D.R. Smith, and L.M. Yasarer. 2020. Comparative analysis of water budgets across the U.S. Long-Term Agroecosystem Research network. *J. Hydrology* doi.org/10.1016/j.jhydrol.2020.125021
- Duckett, K.A., J.B.Langman, J.H.Bush, E.S.Brooks, P.Dunlap, J.R. Stanley. 2020. Noble Gases, Dead Carbon, and Reinterpretation of Groundwater Ages and Travel Time in Local Aquifers of the Columbia River Basalt Group. *J. of Hydrology*. doi.org/10.1016/j.jhydrol.2019.124400
- Srivastava, A., E.S. Brooks, M. Dobre, W.J. Elliot, J.Q. Wu, D.C. Flanagan, J.A. Gravelle, T.E. Link. 2020. Modeling forest management effects on water and sediment yield from nested, paired watersheds in

- the interior Pacific Northwest, USA, using WEPP. *Science of the Total Environment*. 134877 doi.org/10.1016/j.scitotenv.2019.134877.
- Vega, S.P., C. J. Williams, E.S. Brooks, F.B. Pierson, E.K. Strand, P.R. Robichaud, R.E. Brown, M.S. Seyfried, K.A. Lohse, K. Glossner, J.L. Pierce, and C. Roehner. Interaction of wind and cold-season hydrologic processes on erosion from complex topography following wildfire in sagebrush steppe. 2019. *Earth Surface Processes and Landforms*. <https://doi.org/10.1002/esp.4778>.
- Schlatter, D., C. Reardon, J.L. Johnson-Maynard, E. Brooks, K. Kahl, J. Norby, D. Huggins, and T. Paulitz. 2019. Mining the Drilosphere: Bacterial Communities and Denitrifier Abundance in a No-Till Wheat Cropping System. *Frontiers in Microbiology*. doi.org/10.3389/fmicb.2019.01339
- Yourek, M., E.S. Brooks, D.J. Brown, M. Poggio, C. Gasch. 2019. Development and application of the soil moisture routing (SMR) model to identify subfield-scale hydrologic classes in dryland cropping systems using the Budyko framework. *J. Hydrology*, 573:153-167, doi.org/10.1016/j.jhydrol.2019.03.030
- Duckett, K.A., J.B. Langman, J.H. Bush, E.S. Brooks, P. Dunlap and J.M. Welker. 2019. Isotopic Discrimination of Aquifer Recharge Sources, Subsystem Connectivity and Flow Patterns in the South Fork Palouse River Basin, Idaho and Washington, USA, *Hydrology* 6(1):15 <https://doi.org/10.3390/hydrology6010015>
- Davis, HM, KM Painter, K Borrelli, ES Brooks, G Yorgey. 2018. Deficit irrigation of a diverse irrigated rotation: Jake Madison: Farmer-to-Farmer Case Study Series: Increasing Resilience Among Farmers in the Pacific Northwest. Pullman, Washington: Washington State University Extension. <http://cru.cahe.wsu.edu/CEPublications/PNW705/PNW705.pdf>
- McClellan Maaz, T., T Brown, A Glover, and E Brooks. 2018. Nitrogen balances can help fine-tune nitrogen management. *Crops and Soils* 51 (5), 4-52
- Srivastava, A., J.Q. Wu, W.J Elliot, E.S. Brooks, and D.C. Flanagan. 2018 A simulation study to estimate effects of wildfire and forest management on hydrology and sediment in a forested watershed, Northwestern USA. *Transactions of the ASABE*. Vol. 61(5): 1579-1601 doi.org/10.13031/trans.12326
- Norby, J, D. Strawn, and E. Brooks. 2018. Filter Membrane Effects on Water-Extractable Phosphorus Concentrations from Soil. *J Environ Qual*. 47(2):378-382. doi: 10.2134/jeq2017.10.0412.
- Toohey, R.C., J. Boll, E.S. Brooks, and J.R. Jones. 2018. Effects of land use on soil properties and hydrological processes at the point, plot, and catchment scale in volcanic soils near Turrialba, Costa Rica. *Geoderma*, 315:138-148. <https://doi.org/10.1016/j.geoderma.2017.11.044>
- Gasch, C.K., D.J. Brown, C.S. Campbell, D.R. Cobos, E.S. Brooks, M. Chahal, and M. Poggio. 2017. A Field-Scale Sensor Network Data Set for Monitoring and Modeling the Spatial and Temporal Variation of Soil Water Content in a Dryland Agricultural Field. *Water Resources Research*. DOI: 10.1002/2017WR021307
- Pan, W.L., W.F. Schillinger, F.L. Young, E.M. Kirby, G.G. Yorgey, K.A. Borrelli, E.S. Brooks, V.A. McCracken, T.M. Maaz, S. Machado, I.J. Madsen, J.L. Johnson-Maynard, L.E. Port, K. Painter, D.R. Huggins, A.D. Esser, H.P. Collins, C.O. Stockle, S.D. Eigenbrode. 2017. Integrating Historic Agronomic and Policy Lessons with New Technologies to Drive Farmer Decisions for Farm and Climate: The Case of Inland Pacific Northwestern U.S. *Frontiers in Environmental Science*. <https://doi.org/10.3389/fenvs.2017.00076>
- Chi, J., S. Waldo, S.N. Pressley, E.S. Russell, P.T. O’Keeffe, W.L. Pan, D.R. Huggins, C.O. Stöckle, E.S. Brooks, and B.K. Lamb. 2017. Effects of climatic conditions and management practices on agricultural carbon and water budgets in the inland Pacific Northwest USA. *Journal of Geophysical Research – Biogeosciences*. DOI: 10.1002/2017JG004148
- Chi, J., Maureirab, F., Waldo, S., Pressley, S., O’Keeffe, P., Stöckle, C., Pan, W. L., Huggins, D. R., Brooks, E., S. and Lamb, B. K., 2017. Carbon and water budgets in wheat-based cropping systems in the inland Pacific Northwest US: Comparison of CropSyst simulations with eddy covariance measurements. *Front. Ecol. Evol.*, | <https://doi.org/10.3389/fevo.2017.00050>
- Srivastava, A., J.Q. Wu, W.J. Elliot, E.S. Brooks, and D.C. Flanagan. 2017. Modeling streamflow in a snow-dominated forest watershed using the Water Erosion Prediction Project (WEPP) model. *Trans. of the ASABE*, 60(4): 1171-1187, ISSN 2151-0032 <https://doi.org/10.13031/trans.12035>
- Squires, A.L., J. Boll, and E.S. Brooks, 2017. On the Role of Spatial, Temporal, and Climatic Forces on Stream Sediment Loading from Rural and Urban Ecosystems. *Journal of the American Water Resources Association (JAWRA)* 53(5):1195-1211. <https://doi.org/10.1111/1752-1688.12566>

- Maaz, M.T., W.F. Schillinger, S. Machado, E. Brooks, J.L. Johnson-Maynard, L.E. Young, F.L. Young, I. Leslie, A. Glover, I.J. Madsen, A. Esser, H.P. Collins, and W.L. Pan. 2017. Impact of climate change adaptation strategies on winter wheat and cropping system performance across precipitation gradients in the inland Pacific Northwest, USA. *Frontiers in Environmental Science*. 5:23. doi: 10.3389/fenvs.2017.00023 <https://doi.org/10.3389/fenvs.2017.00023>
- Ward, N.K., F. Maureira, E.S. Brooks, C.O. Stöckle, K.M. Painter, M.A. Yourek; C.K. Gasch. 2017. Simulating field-scale variability and precision management with a 3D hydrologic cropping systems model. *Precision Agriculture*, <https://doi.org/10.1007/s11119-017-9517-6>
- Stöckle, C.O., S. Higgins, R. Nelson, J. Abatzoglou, D. Huggins, W. Pan, T. Karimi, J. Antle, S. Eigenbrode, and E.S. Brooks. 2017. Evaluating opportunities for an increased role of winter crops as adaptation to climate change in dryland cropping systems of the U.S. Inland Pacific Northwest. *Climate Change*. 146 (1), 247-261 DOI 10.1007/s10584-017-1950-z.
- Gasch, C.K., D.J. Brown, E.S. Brooks, M. Yourek, M. Poggio, D.R. Cobos, and C.S. Campbell. A pragmatic, automated approach for retroactive calibration of soil moisture sensors using a two-step, soil-specific correction. 2017. *Computers and Electronics in Agriculture Journal*, 10.1016/j.compag.2017.03.018.
- Kelley, C.J., C.K. Keller, E.S. Brooks, J.L. Smith, C. Orr. R.D. Evans. 2017. Water and nitrogen movement through a semi-arid dryland agricultural catchment: Seasonal and decadal trends. *Hydrological Processes*, <https://doi.org/10.1002/hyp.11152>
- Elliot, W., M. Dobre, A. Srivastava, K. Elder, T. Link and E. Brooks. 2016. Forest Hydrology of Mountainous and Snow-Dominated Watersheds. IN: Forest hydrology : processes, management and assessment, edited by D.M. Amatya, T.M. Williams, L. Bren, and C. de Jong, Ch. 4, CAB International, Boston, MA LCCN 2016013391| ISBN 9781780646602.
- Candel, J., E.S. Brooks, R. Sanchez-Murillo, G. Grader, R. Dijkstra. 2016. Identifying groundwater recharge connections in the Moscow sub-basin using isotopic tracers and the SMR model. *Hydrogeology Journal* 24: 1739. doi:10.1007/s10040-016-1431-x
- Brooks, E.S., M. Dobre, W.J. Elliot, J.Q. Wu, and J. Boll. 2016. Watershed-scale evaluation of the Water Erosion Prediction Project (WEPP) model in the Lake Tahoe basin. *Journal of Hydrology*, 533:389-402.
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Oral Presentations

- Brooks, E.S., M. Dobre, R. Lew, C. Deval, A. Srivastava, P.R. Robichaud. 2021. Timely Decision Support for Watershed Management with WEPPcloud. 3rd International Soil Modelling Consortium Conference, Advances in Soil Systems Modeling, May 18-21, 2021.
- Brooks, E.S. 2021. Impacts of Wildfire on Phosphorus Transport in the CDA Basin. National Academy of Sciences, Committee on the Future of Water Quality in Coeur d'Alene Lake, May 4-6, 2021.

- Brooks, E.S. and M. Dobre 2020. Assessing Forestry and Wildfire Management with WEPPcloud: Bull Run and Cedar River Watersheds. Oral Webinar provided to Seattle and Portland Municipalities. Two-part webinar Oct 1 and Oct. 8.
- Dobre M, E.S. Brooks, R. Lew, C. Deval, A. Srivastava, W.J. Elliot, J. Long 2020. Hydrologic Assessment of the Lake Tahoe Basin watersheds under Current Conditions, Thinning, and Wildfire Scenarios with the Water Erosion Prediction Project (WEPP) model. Training Webinar. Webinar presented to Stakeholders in Lake Tahoe
- Brooks, E.S., K. Kahl, Z. Smith, V. Seth, D. Nessley, S. Baskota, K. Schroeder, J. Johnson-Maynard, S. Eigenbrode, 2020 Rotational Benefits and Challenges of Winter Pea and Cover Cropping in Dryland Cropping systems. Oral Presentation at the Cropping Systems Conference Kennewick, WA, Jan. 7-8.
- Brooks, E.S., K. Kahl, Z. Smith, V. Seth, D. Nessley, , S. Baskota, K. Schroeder, J. Johnson-Maynard, S. Eigenbrode, 2020 Rotational Benefits and Challenges of Winter Pea and Cover Cropping in Dryland Cropping systems. Oral Presentation at the Cropping Systems Conference Kennewick, WA, Jan. 7-8.
- Brooks, E.S., K. Kahl, Z. Smith, V. Seth, D. Nessley, , S. Baskota, K. Schroeder, J. Johnson-Maynard. 2019. Diversification and Intensification Strategies in Dryland Cropping Systems. Abstract 624548 eLightning poster presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec.
- Brooks, E.S., A. Ortega-Pieck, D. Shults, J. Norby, D. Strawn, A. Crump, and C.K. Keller. 2019. Hydrologic and Nutrient Response Following Long Term Adoption of No-Till. Oral Presentation at the Idaho Water Quality Workshop, January 29-31, Boise, ID.
- Brooks, E.S. 2019. Evaluating and Managing Field Scale Variability in Crop Performance. Oral Presentation at the Far West Agribusiness Association Conference. Aug. 5, Pocatello, ID.
- Brooks, E.S., M. Dobre, and P. Robichaud. 2019. WEPP Model Overview: Assessing Impacts of Wildfire and Forest Management on Runoff and Erosion. Stakeholder meeting with Seattle and Portland Public Utilities, May 7-9, Portland, OR.
- Brooks, E.S., Glover, A.C., D.R. Huggins and L.A. Vierling. 2018. Post-harvest Evaluation of Nitrogen Fertilizer Management using Satellite Imagery in the Palouse Region. Presentation at the 9th Idaho Nutrient Management Conference, Nov. 15, Twin Falls.
- Deval, C., E.S. Brooks, J. Gravelle, T.E. Link and M. Dobre. 2018. Multi-Decadal Response of Stream Water Quality to Commercial Forest Management Operations in a Mountainous Watershed. Oral Presentation, Abstract H52D-05 presented at the 2018 Fall Meeting, AGU, Washington, DC., 10-14 Dec.
- Brooks, E.S., D. Shults, CK Keller, R. Heinse. 2018. Detecting Preferential Water Transport Artificial Drain Lines Using Distributed Temperature Sensing in No-till and Reduced-till Systems. Oral Presentation Abstract H53G-05 presented at the 2018 Fall Meeting, AGU, Washington, DC., 10-14 Dec.
- Brooks, E.S. and Keller, CK. 2018. Cook Agronomy Farm: Water Quantity and Quality Characteristics. LTAR Stocks and Flows Workshop July 10-12, Pullman, WA.
- Brooks, E.S. 2018. A Legacy of Erosion by Wind and Water: managing for the future. Presented at the Managing for Healthy Soils: The Foundation of Healthy Farms Workshop. February 8, 2018 at Banyans on the Ridge-Pavillion, Pullman.
- Brooks, E.S., J. Norby, D. Strawn, and D. Huggins. 2018. Subsurface Transport of Phosphorus in No-till Agriculture. Presented at the IWRRI science meeting. Mar 5, Moscow.
- Brooks, E.S., M.A. Yourek, D. Brown, M. Poggio, C. Gasch. 2016. Field Scale Hydrologic Classification in a Dryland Cereal Production Agroecosystem using Distributed Hydrologic Modeling. American Geophysical Union Meetings. Dec. 12-16. San Francisco, CA. H51J-07.
- Brooks, E.S., J. Chi, J. Morrow, M. Yourek, B. Lamb, D.R. Huggins, S. Pressley, JD. Wulfhorst, J. Abatzoglou, S. Eigenbrode. 2016. REACCHing Towards Adaptive Crop Management. Presentation at the Lind Farm Field Day, June 16, Lind, WA.
- Brooks, E.S., M. Yourek, C. Gasch, M. Poggio, D. Brown, C. Kelley, K. Keller, D. Huggins. 2016. Always follow the Water. Presentation at the LTAR Cook Agronomy Farm Field Day. June. 22.
- Brooks, E.S., J. Candel, E. Verhoeff, M. Dobre, R. Sanchez-Murillo, G.W. Grader and R. Dijkema. 2016. Identifying groundwater recharge pathways in the Moscow sub-basin. Presented at the 68th Annual Meeting Rocky Mountain Section of the Geological Society of America. 33-4.
- Brooks, E.S. 2015. Nitrate Availability, Transport, and Management in the Cereal Grain Production Systems of the Palouse, Invited presentation at the Source Water Protection Workshop: Addressing

- Nitrate in Drinking Water, Idaho Department of Environmental Quality, Nov. 5, Lewiston, ID.
(Invited Oral Presentation)
- Brooks, E.S. 2015. Precision Agriculture, Presented Sept. 26, at the 2015 Ag. Days Workshop, Moscow, ID. (Oral Presentation)
- Brooks, E. and Verhoeff, E. 2015. Moscow Sub-basin Recharge Project, Presented at the Nov. 19, Palouse Basin Aquifer Meeting, Moscow, ID.
- Brooks, E.S. 2015. Understanding Crop Water Stress Patterns Using Soil EC Mapping. Helping Orient Indian Students and Teachers (HOIST) Research. Oral Presentation June 21st 2015. (Oral Presentation)
- Brooks, E.S. 2015. Odberg Farm Precision Agriculture, presented at the 2015 Precision Agriculture Field Tour, July 8, Genesee, ID. (Oral Presentation)
- Elliot, W.J., E. Brooks, D.E. Trauemer and M. Dobre. 2015. Extending WEPP Technology to Predict Fine Sediment and Phosphorus Delivery from Forested Hillslopes. Presented at the SEDHYD 2015 Interagency Conference. 19-23 April, 2015. Reno, NV. 12 p.
- Robichaud, P., W. Elliot, E. Brooks, M. Dobre, D. Flanagan, and J. Frankenburger, 2015. Online Modeling Tools Assist in Evaluating Postfire Flooding and Erosion Risk. Presented at the SEDHYD 2015 Interagency Conference. 19-23 April, 2015. Reno, NV.
- Brooks, E.S. 2015. Following the Water: Managing Ecosystems in a Changing World. Presented at Lewiston Clark State College on Dec. 4. 2015. (Invited Oral Presentation)
- Brooks, E.S. and Brown, D. 2016. Producer's Guide to Developing Prescription Maps Using Various Inputs. Presented at the 2016 Cropping Systems Conference Three Rivers Convention Center on Jan. 12-13, Kennewick, WA. (Invited Oral Presentation)
- Solomon, M., F. Wilhelm, E. Brooks, and J. Anderson. 2014. We are not alone: Real People in Real Watersheds. Managing Idaho Landscapes for Ecosystem Services (MILES). Oral Presentation, Spokane River Forum, Nov. 20th, 2014.
- Brooks, ES. 2014. Getting our Feet Wet. Fernan Lake Teacher Workshop, Coeur d'Alene, MILES-EPSCoR Oral presentation, June 16-20, 2014.
- Brooks E. and R. Heinse. 2014. Remote and Proximal Sensing for Managing Soil Moisture. Precision Agriculture Technology Demonstration Day June 5th, 2014. (Oral Presentation).
- Brooks, ES. 2014. Understanding Crop Water Stress Patterns Using Soil EC Mapping. Helping Orient Indian Students and Teachers (HOIST) Research. Oral Presentation June 23rd 2014.
- Brooks, ES. Implications of a Wetter, Warmer Future Climate. 2014. REACCH Annual Meeting. Integration Discussion Session. March 5th-7th Richland, WA. (Oral Presentation).
- Brooks, ES. 2014. Impacts of increased over-winter precipitation on cropping systems in the REACCH Region. Speed Science Presentation at the 2014 REACCH Annual Meeting, March 5th-7th Richland, WA. (Oral Presentation).
- Brooks, E. and Boylan, R. The Hydrologic Characterization Tool: Hillslope-scale transport of water, soil, and carbon across AEZs. REACCH Annual meeting, Portland OR. February 13-15th 2013.
- Brooks, E., M. Yourek, and C. Stockle Development and Assessment of the SMR/CropSyst model for Capturing Field-Scale Variability in Water and Nitrogen Pools/Fluxes SCF Annual Meeting, March 1, 2013, Pullman, WA.
- Brooks, E.S. Field-scale Patterns of Soil Water Availability. WSU/USDA Precision Farming and Direct Seed Field Day at the Cook Farm, Pullman, WA. June 27th 2013 (oral presentation)
- Brooks, E.S. 2013. Field-scale Patterns of Soil Water Availability. WSU/USDA Precision Farming and Direct Seed Field Day at the Cook Farm, Pullman, WA. June 27th 2013 (oral presentation)
- Brooks, E.S. and Aeschliman, J. 2013. Soil Conservation and the History of Farming on the Palouse. University of Idaho Soil and Water Seminar and REACCH Webinar, Moscow, ID. February 25th 2013. (oral presentation)
- Brooks, E. and Boylan, R. The Hydrologic Characterization Tool: Hillslope-scale transport of water, soil, and carbon across AEZs. REACCH Annual meeting, Portland OR. February 13-15th 2013 (oral presentation)
- Brooks, E. and Saia, S. 2012. Hydrologic Characterization Tool (HCT) for water, sediment, pesticides, and nutrients. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR

- Brooks, E.S., R. Boylan, M. Chahal, M. Poggio, and D. Brown. 2012. Hydrologic transport of carbon and nitrogen within the high precipitation AEZ of the Palouse. REACCH 2012 summer field tour June, 19; Cook Agronomy Farm.
- Brooks, E.S. and G. Grader. 2011. Groundwater Recharge Potential Via Quaternary and Neogene Sediments in the Moscow-Pullman Area: "Recharge From the East?" Revisited. Presented at the 2011 UI/WSU Geology Seminar Series, Mar. 24, Pullman, WA.
- Brooks, E.S. and R. Sanchez-Murillo. 2011. Benefits of a Waste Water Treatment Plant to Steelhead Habitat? Presented at the 21st Annual Water Quality Workshop: Monitoring, Assessment, and Management, Feb. 8-10, Boise, ID.
- Brooks, E.S. 2011. Incorporating Process-Based Understanding into Watershed Management. Presented at the Washington State University Soil Seminar Series, February 14, Pullman, WA.
- Brooks, E.S., L. Wetzel, J. Boll, et al. 2010. BMP targeting using a hydrologic characterization tool. National Water Quality Meeting, Feb. 21-25, Hilton Head, SC.
- Brooks, E.S., J. Boll, J. Wu., S. Dun, W. Elliot. 2010. Parameterization and assessment of the WEPP in the Tahoe Basin. Presented at the 5th Biennial Tahoe Science Conference, March 16-17, Incline Village, NV.
- Brooks, E.S., R. Sanchez, and B. Malnor. 2010. Dissolved oxygen recovery in effluent-dominated streams. Presented to the Idaho Fish and Game at the Clearwater Technical Review Meeting, April 29, Lewiston, ID.
- Brooks, E.S. 2010. Using WEPP in the Tahoe Basin: Training Workshop. Presented at the WEPP training workshop, June 16-17, Incline, Village, NV.
- Brooks, E.S., J. Boll, O. Mena, N.P. Mendoza, and J.R. Jones. 2010. Efficiency and the management of the irrigation system: planning and scheduling. Presented to stake holders in the Millennium Challenge Corporation Project, August 19-20, San Salvador, El Salvador.
- Brooks, E.S., W.J. Elliot, J. Boll, S. Dun, and J. Wu. 2010. Modeling Sources and Transport of Fine Sediment using WEPP. Presented at the Symposium on Forest Management Decision Support Tools: How can they inform decisions in the Tahoe basin? November 3-4, Incline Village, NV.
- Brooks, E.S., W.J. Elliot, and J. Boll. 2010. Multi-watershed assessment of WEPP in the Tahoe Basin. Abstract H41F-1150 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec
- Brooks, E.S. and J. Boll 2009. Integrated Modeling and Regional Classification to improve watershed management. USDA-CSREES National Water Conference Feb 8-11, 2009, St. Louis, MO (Oral Presentation)
- Brooks, E.S. J Boll 2009. Uses and limitations of the soil survey in hydrologic modeling Eos Trans. AGU, 90(52), Fall Meet. Suppl. (Poster)
- Brooks, E.S., J. Boll, and others. 2008. The History of Farming and Soil Conservation in the Palouse. USDA-CSREES CEAP Synthesis Meeting, April 10, 2008, Moscow, Idaho.
- Brooks, E.S. and J. Boll. 2008. Identification and control of sediment sources on the Palouse. South Fork Palouse River WAG meeting Oct. 21, 2008, Moscow, ID.
- Brooks, E.S., J. Boll, J. Wu, S. Dun, W. Elliot, and P. Robichaud. 2008. "Assessing the Sources and Transport of Fine Sediment in Response to Management Practices in the Tahoe Basin using the WEPP Model", presented at the 4th Biennial Tahoe Basin Science Conference, March 17-19, 2008, Incline Village, Nevada
- Brooks, E.S., J. Boll, J. Wu, S. Dun, W. Elliot, and P. Robichaud. 2008. "Assessing the Sources and Transport of Fine Sediment in Response to Management Practices in the Tahoe Basin using the WEPP Model", presented Feb. 5th to the Tahoe Scientific Research Community at the Tahoe Environmental Research Center, Incline Village, NV.
- Brooks, E.S., J. Boll, et.al. 2007. "Modeling Variable Source Area Hydrology using the WEPP model", Winter Erosion Processes and Modeling Meeting at the USDA-ARS National Soil Erosion Research Laboratory, May 1-3, 2007, West Lafayette, Indiana.
- Brooks, E.S., J. Boll, S. Chen, and D.K. McCool. 2006. "Improving tillage systems for minimizing erosion." Presented at the STEEP Research Review meeting, Pasco, WA February 16.
- Brooks, E.S., J. Boll, S. Chen, and D.K. McCool. 2006. "Improving tillage systems for minimizing erosion." Presented at the STEEP Research Review and Strategic Planning meeting, Pasco, WA October 22.

- Brooks, E.S. and J. Boll 2005. "Soil Heterogeneity and the Hydrology of the Palouse Region" presented at the Fall 2005 IWRI Hydrology Seminar Series on 10/25/05 and presented at the WSU/UI Dept. of Geology Seminar Series on 11/10/05
- Brooks, E.S., J. Boll, and W.J. Elliot. 2003. "GPS-assisted road surveys and GIS-based road erosion modeling using the WEPP model." Presented at the 2003 Pacific Northwest Region Meeting in Clarkston, WA, Paper No. PNW-03-109, ASAE, 2950 Niles Rd. St. Joseph, MI 49085-9659.
- Brooks, E.S. and J. Boll. 2002. "Evaluation of a distributed hydrology model to support restoration efforts in small watersheds with limited data: from research scale to management scale present research findings at the 9th annual ERB Conference in Demanovska dolina, Slovakia, September 25-28, 2002
- Brooks, E.S. and J. Boll 2002. "Using detailed field measurements to address scale problems with the Ksat parameter in a GIS-based distributed hydrologic model." Presented at Fall 2002 AGU Meetings, San Francisco.
- Brooks, E.S., D.K. McCool, and J. Boll. 2001. "Determining erodibility parameters for a Palouse silt loam using runoff plot data". Presented January 3-5, 2001 at the International Symposium on Soil Erosion Research for the 21st Century, American Society of Agricultural Engineers, January 3-5, 2001, Honolulu, Hawaii.
- Brooks, E.S. and J. Boll. 2001. "Parameterization of subsurface hydraulic properties using a hillslope scale field experiment". Presented at Fall 2001 AGU Meetings, San Francisco.
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- Stockle C.O., F. Maureira, N.K. Ward, M. Yourek, M. Poggio and E. Brooks. 2015. Importance of Characterization of Soil Properties and Spatial Distribution in Watershed Modeling. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 15-18, Minneapolis, MN. (Poster Presentation)
- Ward, N.K., F. Maureira, E. Brooks, M. Yourek, and C.O. Stockle. 2015. Cropsyst-Microbasin Model as a Tool to Inform Variable-Rate Nitrogen Management and Dryland Farm Profitability. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 15-18, Minneapolis, MN. (Oral Presentation)
- Ward, N.K., K.M. Painter, H. Davis, and E. Brooks. 2015. Use of the Nutrient Management Plan Policy Tool to Overcome Barriers to Adoption of Precision Agriculture in the Palouse Region of the Inland Pacific Northwest. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 15-18, Minneapolis, MN. (Poster Presentation)
- Brooks, E.S., M. Poggio, T.R. Anderson, C. Gasch, M.A. Yourek, N.K. Ward, T.S. Magney, D.J. Brown and D.R. Huggins. 2014. Capturing field-scale variability in crop performance across a regional-scale climosequence. American Geophysical Meetings, San Francisco, CA, Dec. 15-19. 2014.
- Brown, D.J., C. Gasch, E.S. Brooks, D.R. Huggins, C.S. Campbell, and D.R. Cobos. 2014. An agronomic field-scale sensor network for monitoring soil water and temperature variation. American Geophysical Meetings, San Francisco, CA, Dec. 15-19. 2014.
- Heinse, R., J. Caron, E. Brooks, and J. MacPherson. 2014. Towards Spatial Irrigation Management Using Distributed Soil-Water Tension Measurements Optimized for Soil Heterogeneity. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Poster Presentation)
- Maureira, F., C.O. Stockle, M. Liu, R. Nelson, E.S. Brooks and R. Sommer. 2014. MicroBasin - A High-resolution Watershed Scale Ecohydrologic Model for Agro-ecosystems. American Geophysical Meetings, San Francisco, CA, Dec. 15-19. 2014.
- Ward, N.K., F. Maureira, M.A. Yourek, E.S. Brooks and C.O. Stockle. 2014. Assessing variable rate nitrogen fertilizer strategies within an extensively instrument field site using the MicroBasin model. American Geophysical Meetings, San Francisco, CA, Dec. 15-19. 2014.
- Ward, N.K., F. Maureira, E. Brooks, M. Yourek, and C.O. Stockle. 2014. Impacts of Increased over-Winter Precipitation on Dryland Cereal Production Systems in the Pacific Northwest. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Poster Presentation)
- Magney, T., N.K. Ward, E. Brooks, D.R. Huggins, S. Finch, J.U.H. Eitel, L.A. Vierling, M. Yourek, T.R. Anderson, C.O. Stockle and D. Brown. 2014. Assessing the Spatio-Temporal Controls of Field-Scale Nitrogen Uptake Using Biophysical Modeling and High Resolution Satellite Imagery. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Oral Presentation)
- Gasch, C., T.R. Anderson, M. Yourek, E. Brooks and D. Brown. 2014. Calibration of Soil Moisture Sensors Using Pedotransfer Functions. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Poster Presentation)
- Bruner, E.A., D. Brown, E. Brooks and L. Carpenter-Boggs. 2014. Quantifying in-Situ Nitrate and Ammonium Production in Response to Site-Specific Setting in No-till Dryland Wheat Agroecosystems of the Pacific Northwest. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Poster Presentation)
- Brown, D.J., D.R. Huggins, C.O. Stockle, E. Brooks, J.U.H. Eitel, K.M. Painter, L.A. Vierling and C. Reardon. 2014. Site-Specific Climate-Friendly Farming: Benefits and Challenges of Transdisciplinary Research. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Meeting Nov. 2-5, 2014 (Oral Presentation)
- Ward, N., F. Maureira, R. Boylan, E.S. Brooks, M. Yourek, A. Wardall, C.O. Stockle. 2014. Impacts of Increased Over-Winter Precipitation on Dryland Cereal Production Systems in the Pacific Northwest. 5th Annual Pacific Northwest Climate Science Conference September 9-10, 2014, Seattle WA. (Poster Presentation)

- Gasch, C., D. Brown, E. Brooks, D. Huggins, C. Campbell, D. Cobos, and M. Chahal. 2014. A Field-Scale Sensor Network for Monitoring and Modeling the Spatial and Temporal Variation of Soil Moisture Content. 5th Annual Pacific Northwest Climate Science Conference September 9-10, 2014, Seattle WA. (Poster Presentation)
- Farrell, P., J.T. Abatzoglou, and E.S Brooks. 2014. Impact of Climate Change on Inland Northwest Soil Erosion Under Various Land Management Practices. American Geophysical Meetings, San Francisco, CA, Dec. 15-19. 2014. (Poster Presentation)
- Farrell, P., J. Abatzoglou, and E.S. Brooks. 2014. Changes in Soil Erosion Rates in Inland Pacific Northwest Agricultural Lands Under Climate Change. 5th Annual Pacific Northwest Climate Science Conference September 9-10, 2014, Seattle WA. (Poster Presentation)
- Srivastava, A., L. Dawes, E.S. Brooks. 2014. Assessing the Effects of Fuel Treatments on Sediment Production in the Fernan Lake Watershed using a Process-Based Modeling Framework. Poster presentation at the MILES-EPSCoR Annual Meeting Boise, ID. Oct. 7-9, 2014.
- Boll, J., R. Sanchez-Murillo, E.S. Brooks, and W. Elliot. 2013. Baseflow mean transit times in natural and human-altered catchments. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Boylan, R. and Brooks, E.S. 2013. Hydrologic carbon fluxes from the dry land agricultural region of the Inland Pacific Northwest: quantification and modeling. REACCH Annual meeting, Portland OR, February 13-15th 2013.
- Boylan, R. and Brooks, E.S. Hydrologic carbon fluxes from the dry land agricultural region of the Inland Pacific Northwest: quantification and modeling. University of Idaho Parker Plant Science Farm Field Day. Moscow, ID, July 9, 2013.
- Boylan, R.D., E.S. Brooks, J. Johnson-Maynard, D. Huggins. 2013. Hydrologic Carbon Fluxes from the Dryland Grain Producing Region of the Inland Pacific Northwest: Measurements and Modeling. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Rittenburg, R., J. Boll, and E.S. Brooks, 2013. Understanding Stream Channel Sediment Source Contributions For The Paradise Creek Watershed In Northern Idaho. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Rittenburg, R., J. Boll, E.S. Brooks, A. Squires, and J. Newson. 2013. Understanding Stream Channel Sediment Source Contributions for the Paradise Creek Watershed In Northern Idaho. American Water Resources Association Annual Meeting, Nov. 4-7, Portland, OR.
- Squires, A.L., J. Boll, E.S. Brooks. 2013. Characterization of dominant hydrologic events: the role of spatial, temporal and climatic forces in generating the greatest sediment loads. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Squires, A.L., J. Boll, E.S. Brooks. 2013. Characterization of dominant hydrologic events: the role of spatial, temporal and climatic forces in generating the greatest sediment loads. American Water Resources Association Annual Meeting, Nov. 4-7, Portland, OR.
- Welsh-Unwala, K, R. Sanchez-Murillo, G. Esquivel-Hernandez, E.S. Brooks, J. Boll, R. Alfaro-Solis, J. Valdes-Gonzalez. 2013. Spatial and temporal variation of stable isotopes in precipitation across Costa Rica. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Yourek, M.A., E.S. Brooks, T.S. Magney, T.R. Anderson, and D.J. Brown. 2013. Field-Scale Soil Moisture Mapping Using RapidEye Satellite Imagery and Distributed Hydrologic Modeling. Abstract American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Boylan, R., E. Brooks, M. Chahal, D. Brown, and D. Huggins. Developing Field-Scale Nitrate and Carbon Flux Modeling Tools for Mitigation and Adaptation. Tri Societies Meeting, Cincinnati OH, October 21-24th 2012. (Poster Presentation)
- Boylan, R., E Brooks, J. Johnson-Maynard, and D. Huggins. Dissolved and Particulate Organic Carbon Transport, Loads and Relationships from Catchments in the Dryland Agricultural Region of the Inland Pacific Northwest. American Geophysical Union Annual Meeting, San Francisco, CA. December 3rd-7th, 2012. (Poster Presentation)
- Boylan, R., E Brooks, J. Johnson-Maynard, and D. Huggins. Dissolved and Particulate Organic Carbon Transport, Loads and Relationships from Catchments in the Dryland Agricultural Region of the Inland Pacific Northwest. Kenworthy Theater, Moscow, ID. February 5th, 2012. (same poster as presented in San Francisco)

- Boylan, R. and Brooks, E.S. Hydrologic carbon fluxes from the dry land agricultural region of the Inland Pacific Northwest: quantification and modeling. REACCH Annual meeting, Portland OR, February 13-15th 2013. (poster presentation)
- Boylan, R. and Brooks, E.S. Hydrologic carbon fluxes from the dry land agricultural region of the Inland Pacific Northwest: quantification and modeling. University of Idaho Parker Plant Science Farm Field Day. Moscow, ID, July 9, 2013. (same poster as presented in Portland)
- Boll, J., E. Brooks, B. Rittenburg, A. Squires, J.D. Wulfhorst, B. Mahler T. Steenhuis, S. Saia, G. Vellidis, T. Jang, L. Kurkalova, D. Osmond, D. Meals, M. Arabi 2012. Workshop T1: Synthesis and Analysis of 13 NIFA CEAP Projects. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR
- Bruner, E.A., D. Brown, D. Huggins, E. Brooks, J.U. Eitel, T. Magney, L. Vierling, M. Poggio and T.T. Brown. 2012. Science-Based Zone Mapping for Site-Specific N Management in Dryland Wheat-Based Cropping Systems On Complex, Pacific Northwest Palouse Landscapes. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (oral presentation).
- Huggins, D., D. Brown, K. Keller, E. Brooks, J.L. Smith, B. Lamb, and S.D. Eigenbrode. 2012. Linkages Among C, N and Water Footprints in Wheat-Based Cropping Systems. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (oral presentation).
- Jang, T., G. Vellidis, J. Hyman, E. Brooks, J. Boll, L. Kurkalova. 2012. A Prioritization Model for Sediment Load Reduction. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR
- Rittenburg, B., A. Squires, J. Boll, E. Brooks, T. Steenhuis, S. Saia. 2012. BMP Effectiveness Literature Review. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR
- Steenhuis, T., J. Boll, E. Brooks, B. Rittenburg, A. Squires, J.D. Wulfhorst, B. Mahler, S. Saia, G. Vellidis, T. Jang, L. Kurkalova and Zach Easton. 2012. Bringing it all together. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR
- Wulfhorst, J.D., J. Boll, E. Brooks, B. Rittenburg, A. Squires, B. Mahler, T. Steenhuis, S. Saia, G. Vellidis, T. Jang, and L. Kurkalova. 2012. Synthesis and Social Feasibility from the NIFA CEAP Watersheds. Presented at the USDA-NIFA National Water Conference: Land and Sea Grant Initiatives for a Changing World May 20-24, 2012, Portland, OR
- Boylan R. and Brooks, E.S. 2012. Dissolved and particulate organic carbon transport, loads, relationships from catchments in the dryland agricultural region of the Inland Pacific Northwest. Abstract American Geophysical Union Meetings Dec. San Francisco, CA
- Boylan R. and Brooks, E.S. 2012. Transport of Carbon by runoff and erosion in the PNW dryland grain production region. Poster Presentation at the REACCH Annual Meeting Feb. 28-Mar. 1. Pendleton, OR.
- Boylan R., E.S. Brooks, M. Chahal, D. Brown. and D. Huggins. Carbon and field-scale nitrate flux modeling across wide climate gradients and diverse soil variability in the dry-land agricultural region of the Inland Pacific Northwest. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (poster presentation).
- Brown, D., E. Brooks, J.U. Eitel, D. Huggins, K. Painter, R.A. Rupp, J.L. Smith, C. Stockle and L. Vierling. Site-Specific, Climate-Friendly Farming: Early Activities and Accomplishments. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (poster presentation).
- Chahal, M., D. Brown, E. Brooks, C. Campbell, and D. Cobos. 2012. Field-Scale Soil Moisture Space-Time Geostatistical Modeling for Complex Palouse Landscapes in the Inland Pacific Northwest. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (poster presentation).
- Eigenbrode, S.D., J. Abatzoglou, I. Burke, J. Antle, E. Brooks, S. Capalbo, P. Gessler, D. Huggins, J. Johnson-Maynard, C. Kruger, B. Lamb, S. Machado, P. Mote, K. Painter, W. Pan, S. Petrie, T. Paulitz, C. Stockle, J. Velez, V. Walden, J. Wulfhorst and K. Wolf. 2012. Regional Approaches to Climate Change for Inland Pacific Northwest Cereal Production Systems. Abstract ASA, CSSA, and SSSA International Annual Meetings, Oct. 21-24, 2012 Cincinnati, Ohio (poster presentation).

- Payne, W.L., E.S. Brooks, and R. Sanchez-Murillo. 2012. In-Situ Measurement of Vertical Bypass Flow Using a Drain Gauge. Abstract American Geophysical Union Meetings Dec. 2012 San Francisco, CA (poster presentation)
- Rittenburg, R., A. Squires, J. Boll, and E.S. Brooks. 2012. Quantifying stream channel sediment contributions for the Paradise Creek Watershed in northern Idaho. Abstract American Geophysical Union Meetings Dec. San Francisco, CA.
- Saia, S.M., E. Brooks, J. Boll, T. Steenhuis. March 2012. A web-based BMP tool for minimizing pesticide transport in agricultural watersheds. Poster Presentation at the Penn State Environmental Chemistry Student Symposium, State College, PA.
- Sanchez-Murillo, R., E.S. Brooks, J. Boll, W. Elliot. 2012. Baseflow characterization of the intermountainous regions of northern Idaho and eastern Washington, USA. Abstract American Geophysical Union Meetings Dec. San Francisco, CA
- Squires, A., R. Rittenburg, J. Boll, and E.S. Brooks. 2012. Re-Evaluation of Development of the TMDL Using Long-Term Monitoring Data and Modeling. Abstract American Geophysical Union Meetings Dec. San Francisco, CA
- Wilson, C., E.S. Brooks, and J. Boll. 2012. Hydrologic analysis for selection and placement of conservation practices at the watershed scale. Abstract American Geophysical Union Meetings Dec. San Francisco, CA.
- Boll, J, E.S. Brooks, E.S., Z. Easton, T.S. Steenhuis, G. Vellidis, L. Kurkalova, J.D. Wulfhorst, and Taciel Yang 2011. CEAP Synthesis: Analysis and tools for selection of the optimal suite of conservation practices. USDA-NIFA National Water Conference, Jan 31 - Feb 1, Washington DC.
- Brooks, E.S., J. Boll, Z. Easton, T.S. Steenhuis, and S. Saia. 2011. Assessing the success of conservation practices at the 13 CEAP watersheds through simple modeling tools based on publicly available data. USDA-NIFA National Water Conference, Jan 31 - Feb 1, Washington DC.
- Boll, J., E.S. Brooks, Z. Easton, T. Jang, L. Kurkalova, B. Mahler, T.S. Steenhuis, G. Vellidis, and J.D. Wulfhorst. 2010. CEAP synthesis & analysis: integrating process-based understanding into watershed management. CEAP Steering Committee meeting, November 19, Washington D.C.
- Brooks, E.S., J. Boll, and J. McAtty. 2010. Agricultural sediment and tributary sampling. Inter-agency meeting about sediment yield to Snake River (with scientists). August 11, Walla Walla, WA.
- Boll, J., M. Barber, E.S. Brooks, J. McAtty. 2010. Agricultural sediment and tributary sampling. Regional meeting about sediment yield to Snake River (with stakeholders). August 12, Clarkston, WA.
- Boll, J. E.S. Brooks, O. Mena, N.P. Mendoza, and J. Jones. 2010. Hydrologic Information in the FOMILENIO-CATIE-IDAHO Project Area for Sustainable Irrigation. Presented to stake holders in the Millennium Challenge Corporation Project, August 19-20, San Salvador, El Salvador.
- Boll, J., E.S. Brooks, L. Wetzel, et al. 2010. Identifying vulnerability using a hydrologic characterization tool. MALII, April 28-30, Denver, CO.
- Steenhuis, T.S., Z. Easton, J. Boll, L.A. Caballero, H.E. Dahlke, E.S. Brooks, S.A. Tilahun, and D.R. Fuka. 2010. Distributed watershed models: Back to the basics. Abstract H53K-06, presented at 2010 Fall Meeting, AGU, Dec. 13-17, San Francisco, CA.
- Edstrom, A., J. Boll, E.S. Brooks, and J. Abatzoglou. 2010. Identifying hydrologically sensitive watersheds in the Pacific Northwest, USA under future climates. Abstract H33C-1146 presented at 2010 Fall Meeting, AGU, Dec. 13-17, San Francisco, CA.
- Saia, S., T.S. Steenhuis, Z.M. Easton, J. Boll, and E.S. Brooks. 2010. Modeling the impact of landscape variability on nutrient and pesticide dynamics in CEAP watersheds. H33A-1118 presented at 2010 Fall Meeting, AGU, Dec. 13-17, San Francisco, CA.
- Sanchez-Murillo, R., E.S. Brooks, and J. Boll. 2010. Quantifying the net impacts of the Troy wastewater treatment plant on Steelhead habitat in the West Fork Little Bear drainage. Abstract H41C-1115 presented at 2010 Fall Meeting, AGU, Dec. 13-17, San Francisco, CA.
- J Boll, J W Machala, E Brooks, A Edstrom. 2009. Localized Climate Change Scenarios Using a Downscaling Methodology with a Distributed Hydrology Model Eos Trans. AGU, 90(52), Fall Meet. Suppl. (Poster)
- R Toohey, J Boll, E Brooks, J Jones 2009. Upscaling Empirically Based Conceptualisations to Model Tropical Dominant Hydrological Processes for Historical Land Use Change Eos Trans. AGU, 90(52), Fall Meet. Suppl. (Oral Presentation)
- R Sanchez-Murillo, J Boll, E Brooks 2009. Hydrologic characterization using event based d18O, Si, and hydrometric measurements. Eos Trans. AGU, 90(52), Fall Meet. Suppl. (Poster)

- Jan Boll, Erin Brooks, Kzysztof Ostrowski, Brian Crabtree, Jeremy Newson, JD Wulfhorst, Larry Van Tassell, Naga Tosakana, and Robert Mahler 2008. CEAP: Cumulative Effects Modeling and Interdisciplinary Analyses. USDA-CSREES National Water Conference Feb 6, 2008, Reno, NV (Presentation)
- Boll, J. and E.S. Brooks. 2008. Evaluation of conservation practices effectiveness at the watershed scale using field data collection and GIS-based modeling of sediment transport. Presented at the Idaho Division of Environmental Quality, Annual All Surface Water Meeting, Oct 14-16, 2008, McCall, Idaho.
- Boll, J., E.S. Brooks, and S. Neeley. 2008. Regional Classification for the Identification of Dominant Hydrologic Flow Paths and Critical Management Zones. AGU Fall Meeting Dec. 15-19, San Francisco. (Presentation)
- Snyder, A., K.M. Ostrowski, J. Boll, and E.S. Brooks. 2008. Particle Size Influence on the Relationship Between Turbidity and Suspended Sediment Concentration. AGU Fall Meeting Dec. 15-19, San Francisco. (Poster)
- Brooks, E.S., K.M. Ostrowski, J. Boll, and A. Snyder. 2008. Particle Size Influence on the Relationship Between Turbidity and Suspended Sediment Concentration. CUAHSI Biennial Colloquium on Hydrologic Science and Engineering July, 14.-16, 2008, Boulder, Colorado, USA
- J.Boll, E.S. Brooks, S. Dun, B. Crabtree, J. Wu, and W.J. Elliot. Incorporation of variable source area processes in the Water Erosion Prediction Project (WEPP). Water Resources Seminar Series, Feb 7, 2007.
- Wulfhorst, J.D., J. Boll, L.W. Van Tassell, B. Mahler, E. Brooks, S. Kane, and N. Tosakana. 2007. "Agricultural conservation and the Act of Stewardship." Presentation at the International Symposium for Society and Resource Management. Park City, UT, June 17-21.
- Wulfhorst, J.D., J. Boll, L.W. Van Tassell, B. Mahler, E. Brooks, and N. Tosakana. 2007. "When Water Quality Isn't About Water Quality." Presentation at the 17th Annual Water Quality Monitoring Results Workshop: Monitoring, Assessment, & Management. Boise, ID, January 2-4.
- Boll, J., E.S. Brooks, B. Crabtree, N.S. Tosakana, J.D. Wulfhorst, L. Van Tassel, and R.L. Mahler. 2006. Evaluation of conservation practices at the watershed scale using interdisciplinary analyses. Presented at the Managing Agricultural Landscapes Workshop, Soil Water Conservation Society, Westin Crown Hotel, Kansas City, MO, October 11-13.
- Newson, J., E.S. Brooks, K.M. Ostrowski, and J. Boll. 2006. Measurement and modeling of sediment transport in a cohesive stream in northern Idaho. Paper 062068, Presented at the 2006 ASABE Annual International Meeting, Portland, OR, July 9 -12.
- Wulfhorst, J.D., Kyle Hawley, Erin S. Brooks, Naga S. Tosakana, Jan Boll, Larry Van Tassell, Robert Mahler. 2006. Integrating science and common sense for watershed conservation decisions. Presented at the Managing Agricultural Landscapes Workshop, Soil Water Conservation Society, Westin Crown Hotel, Kansas City, MO, October 11-13.
- Brooks, E.S., J.Boll, J. Gravelle, J.A. Hubbart, T.E. Link, T.W. Cundy, and W.J. Elliot. 2006. Long-term continuous GIS-based modeling of forest land use changes in Mica Creek Watershed in Northern Idaho using publicly available data. Presented at the USA PUB Workshop, Oct. 16-19, LaSelles Stewart Center, Oregon State University, Corvallis.
- Kaufman, J., E.S. Brooks, J. Boll, R. Allen, and M. Tasumi. 2006. Distributed soil depth estimation with remote sensing of evapotranspiration. Paper 062233, Presented at the 2006 ASABE Annual International Meeting, Portland, OR, July 9 -12.
- Crabtree, B. E.S. Brooks, K. Ostrowski, W.J. Elliot, and J. Boll. 2006. The Water Erosion Prediction Project (WEPP) model for saturation excess conditions: application to an agricultural and a forested watershed. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract H31C-1444.
- Boll, J., E.S. Brooks, S. Dun, B. Crabtree, J. Wu, and W.J. Elliot. 2006. Incorporation of saturation excess processes into the Water Erosion Prediction Project (WEPP) model. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract H34C-04.
- Boll, J., E.S. Brooks, K.M. Ostrowski, B. Crabtree, J. Newson, and others. 2006. Monitoring results in Paradise Creek watershed, a USDA-CEAP watershed. Presented at the 16th Nonpoint Source Pollution Monitoring Results Workshop, Boise, January 5, 2006.
- Toohey, R., E.S. Brooks, J. Jones, and J. Boll. 2006. The Effects of Land use on Soil Properties and Runoff Response at the CATIE Farm, Turrialba, Costa Rica. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract H13B-1377.

- Brooks, E.S., J. Boll, W.J. Elliot, and T. Dechert. 2006. Road Erosion Modeling Using the WEPP Model: Validation and Application to Large Road Networks. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract H31C-1443.
- J. Boll, J.D. Wulfhorst, E.S. Brooks, L. Van Tassell, R. Mahler, and N. Tosakana 2006. Interdisciplinary Approaches to Conservation Practices in a Mixed-Land Use Watershed. Proceedings of the 48th Annual Idaho Academy of Science Meeting & Symposium, March 23-25, Moscow, ID.
- Boll, J., E.S. Brooks, J.D. Wulfhorst, M. Isik, and B. Mahler. 2005. Evaluation of conservation practices in a mixed-land use watershed using cumulative effects modeling and interdisciplinary analyses. Presented at the USDA-CSREES National Water Quality Conference, February 6-10, 2005, San Diego.
- Boll, J., E.S. Brooks, J.A. Hubbart, T.E. Link, T.W. Cundy, W.J. Elliot, and J.A. Gravelle. 2005. Long-term continuous GIS-based modeling of forest land use changes in Mica Creek watershed in northern Idaho. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract H44B-06.
- Hilberts, A.G., P.A. Troch, J. Boll, and E.S. Brooks. 2005. Coupling a Boussinesq-type model to an unsaturated zone model: theory and application to field data. *Geophysical Research Abstracts*, Vol. 7, 06381, 2005.
- Boll, J., E.S. Brooks, and K.M. Ostrowski. Evaluation of conservation practices in a mixed land use watershed using cumulative effects modeling. Paper no. 052047. Presented at the 2005 ASAE International Meeting, Tampa Convention Center, 17-20 July, 2005.
- Brooks, E.S., J. Boll, J.A. Hubert, T. Link, and T.W. Cundy. 2005. Long-term continuous GIS-based modeling of forest land use changes in Mica Creek watershed in northern Idaho. Paper no. 052151. Presented at the 2005 ASAE International Meeting, Tampa Convention Center, 17-20 July, 2005.
- Hilberts, A.G., J. Boll, P.A. Troch, and E.S. Brooks. 2004. Storage-Dependent Drainable Porosity Implemented in the Hillslope-Storage Boussinesq Model: An application to Field Data From a Site in Northern Idaho, USA. *Eos Trans. AGU* 85(47), Fall Meet. Suppl. Abstract H11F-0345.
- Hilberts, A., J. Boll, P.A. Troch, and E.S. Brooks. 2004. Application of the hillslope-storage Boussinesq model to field data from a site in northern Idaho, USA. *Geophysical Research Abstracts*, Vol. 6, 02623.
- McDaniel, P.A., E.S. Brooks, J. Boll, A.L. Falen, T. O'Geen, and J.E. Hammel. 2004. Linking Pedology and Landscape Hydrology: Catchment-Scale Studies. Presented at the 2004 Annual Meetings of the ASA/CSSA/SSSA, Seattle, Washington, November 1-5.
- Link, T., J. Gravelle, J. Hubbart, A. Warnsing, E. Du, J. Boll, E.S. Brooks, and T. Cundy. 2004. The Mica Creek Experimental Watershed: An Outdoor Laboratory for the Investigation of Hydrologic Processes in a Continental/Maritime Mountainous Environment, *Eos Trans. AGU* 85(47), Fall Meet. Suppl. Abstract H31C-0402.
- Brooks, E.S., and J. Boll. 2004. Parameterization and assessment of a distributed hydrologic model. *Geophysical Research Abstracts*, Vol. 6, 01451.
- Brooks, E.S., and J. Boll. 2003. Spatially detailed parameterization and assessment of a distributed hydrologic model. *Eos Trans. AGU* 84(46), Fall Meet. Suppl. Abstract H42G-1154.
- Boll, J., E.S. Brooks, K. Ostrowski, and J. Fealko. 2003. Water Quality Monitoring and Loading to Paradise Creek. Regional Soil and Water Conservation Society, Moscow, Idaho, April 2003.
- Brooks, E.S. and J. Boll 2002. Using detailed field measurements to address scale problems with the Ksat parameter in a GIS-based distributed hydrologic model. Presented at Fall 2002 AGU Meetings, San Francisco.
- Boll, J., E.S. Brooks, and M. Stronks. 2002. Monitoring and Data Collection in the Paradise Creek Watershed. Presented at the 12th Nonpoint Source Water Quality Monitoring Results Workshop, Jan 8-10, Boise, Idaho.
- Boll, J., E.S. Brooks, and D. Traeumer. 2001. Application of a distributed hydrologic model and RUSLE for watershed assessment. *Eos Trans. AGU* 82(47), Fall Meet. Suppl. Abstract H12A-0268, 2001.
- Boll, J., P.A. McDaniel, E.S. Brooks, J.I. Linard, and S. Barndt. 2001. Hydrologic characterization of perched water systems: from hillslope to watershed scale. Presented at the 2001 Annual Meetings of the ASA/CSSA/SSSA, Charlotte, NC October 21-25.
- Brooks, E.S. and J. Boll. 2001. Parameterization of subsurface hydraulic properties using a hillslope scale field experiment. *Eos Trans. AGU* 82(47), Fall Meet. Suppl. Abstract H22H-09, 2001.

- O'Geen, T, J. Boll, E.S. Brooks, J.I. Linard, P.A. McDaniel, J.B. Sisson, and A. Wylie. 2001. Detection of multiple perched water tables using natural tracers and multilevel tensiometers in deep loess. *Eos.Trans. AGU* 82(47), Fall Meet. Suppl. Abstract H52A-0383, 2001.
- Boll, J., E.S. Brooks, J.I. Linard, P.A. McDaniel, T. O'Geen, J.B. Sisson, E.D. Mattson, and A. Wylie. 2001. Progress towards determining fluxes to the deep vadose zone underlying a fragipan soil. Presented at the Eighth Biannual Unsaturated Zone Interest Group Meeting, July 30-August 2, 2001 in Idaho Falls, Idaho.
- Brooks, E.S. and J. Boll 2001 Hydraulic Parameters determined using a hillslope scale field experiment. Poster presented at the 2001 American Geophysical Union Chapman Conference on Hillslope Hydrology held in Sun River, OR.
- Boll, J. and E.S. Brooks. 2000. Lateral versus horizontal hydraulic conductivity in catchment scale hydrology. *EOS Trans. AGU*, 81(47), Fall Meet. Suppl., T62C-17, 2000 (Abstract and poster).
- Brooks, E.S., P.A. McDaniel, and J. Boll. 2000. Hydrologic modeling in watersheds of the eastern Palouse: Estimation of subsurface flow contributions. Presented at the 2000 Pacific Northwest Region Meeting in Richland, WA, Paper No. PNW2000-10, ASAE, 2950 Niles Rd. St. Joseph, MI 49085-9659.
- Brooks, E.S., P.A. McDaniel, and J. Boll. 1999. Using detailed field measurements to address scale problems with the Ksat parameter in a GIS-based distributed hydrologic model. *EOS Trans. AGU*, 80(17), Fall Meet. Suppl., F350, 1999 (Abstract and poster).
- Regan, M., P.A. McDaniel, E.S. Brooks, J. Boll, and J.E. Hammel. 1999. Perched water table dynamics and hydrologic processes in an eastern Palouse catchment. 1999 ASA CSSA SSSA Annual Meeting. Salt Lake City. UT, USA. (Poster)
- Scott, C.A., M.F. Walter, E.S. Brooks, J. Boll, N.V. Sierra. 1996. Event-based phosphorus export in agricultural runoff and shallow subsurface flow. Poster No. H22A-03, American Geophysical Union Fall Meeting, San Francisco, CA (Abstract and Poster).

Pending Proposals

- Brooks, E.S., K. Schroder, D. Finkelnberg. DSFAS-CIN-CS: Robust soil organic carbon estimation and pathways for successful carbon incentivizing program participation. USDA Data Science For Agricultural Systems, Coordinated Integration Network as a subaward from Kirti Rajagopalan. (PI) Washington State University total budget .(\$3,000,000) (\$121,641 managed by UI) (2023-2027)

Funded Proposals

- Brooks, E.S., M. Dobre, R. Lew. Aiding water managers through a predictive ecohydrological modeling tool for assessing disturbance-induced runoff and water quality challenges. NASA-Research Opportunities in Space and Earth Sciences (ROSES) as a subaward from Padowski, J. (PI) Washington State University total budget (\$1,049,975) (\$355,808 managed by UI) (2022-2025)
- Brooks, E.S. and M. Dobre. Ensuring Water Security with Increasing Wildfire Threats in the Western US. USDA-Forest Service Pacific Northwest Research Station Joint Venture Agreement as a subaward from Adam, J. (PI) Washington State University total budget (\$1,000,00) (\$240,000 managed by UI) (2022-2025)
- Brooks, E.S., D. Strawn, Z. Kayler. Subsurface transport of phosphorus in no-till agricultural fields and their relationship to surface water quality and stream ecosystem processes Rev 4. USDA-ARS Non-Assistance Cooperative Agreement (NACA), \$95K (2022-2023)
- Schott, L. and E.S. Brooks. Impact of Variable Soil Depth on Crop Production. USDA-ARS Cooperative Agreement. \$121,325 (2022-2024)
- Brooks, E.S. NRCS WEPP Model Programming, Testing and Support (Rev 2). USDA-ARS Cooperative Agreement. \$45,000 (2022-2023)
- Brooks, E.S. Fire Impacts on Watershed Response USFS-Research Joint Venture, Mod-6 15-JV-11221634-075 (\$35,218) (2022-2023).
- Brooks, E.S. Fire Impacts on Watershed Response USFS-Research Joint Venture, Mod-7 15-JV-11221634-075 (\$30,000) (2022-2023).
- Brooks, E.S., M. Dobre, R. Lew. Aiding water managers through a predictive ecohydrological modeling tool for assessing disturbance-induced runoff and water quality challenges. NASA-Research Opportunities in Space and Earth Sciences (ROSES) as a subaward from Padowski, J. (PI) Washington State University total budget (\$1,049,975) (\$355,808 managed by UI) (2022-2025)

Ortega-Pieck, Aline and Brooks, E.S. Full stream ahead! Innovative Riparian Restoration approaches in the South Fork P the Palouse. WA Dept of Ecology. \$60K (2021-2022)

Brooks, E.S., L. Schott, D. Bjorneberg, C. Elke, and R. Naerebout. Accuracy Assessment of Satellite-based ET mapping for improved water and nutrient management in the Magic Valley. NASA Western Water Applications Office (WWAO), NASA - Jet Propulsion Laboratory (JPL), \$77,796 (2021-2022)

Dobre, M., E.S. Brooks, R. Lew, Improving predictions of water yield and sediment loads in the Columbia River Basin through the incorporation of Landsat-derived vegetation parameters into an existing online process-based hydrology and erosion model (WEPPcloud) NASA Western Water Applications Office (WWAO), NASA - Jet Propulsion Laboratory (JPL), \$95,875 (2021-2022)

Brooks, E.S. Fire Impacts on Watershed Response USFS-Research Joint Venture, Mod-5 15-JV-11221634-075 (\$99,148) (2019-2022).

Brooks, E.S., M. Dobre, R. Lew. Fire Impacts on Watershed Response USFS-Research Joint Venture, Mod-6 15-JV-11221634-075 (\$35,218) (2019-2022).

Brooks, E.S., M. Dobre, In-Situ Dynamic Changes in Soil Properties Following Wildfire Using Controlled Heaters, NRCS Soil Science Collaborative Research grant. (\$250,000) (2021-2024)

Brooks, E.S., D. Strawn, Z. Kayler. Subsurface transport of phosphorus in no-till agricultural fields and their relationship to surface water quality and stream ecosystem processes Rev 3. USDA-ARS Non-Assistance Cooperative Agreement (NACA), \$95K (2021-2022) (\$95K managed by Brooks)

Shafian, S., J. Johnson-Maynard, E.S. Brooks, J. Miller, J. Kelley, T. Wheeler. Expanding Capacity and Accessibility for Precision Agriculture Innovation, Adoption and Career Development, CHS Foundational Grant (\$272,676) (2020-2022).

Brooks, E.S. Improving Understanding of Forest Management Activities on Water Quality in the Tahoe Basin. Challenge Cost Share Agreement with the USDA-Forest Service Pacific Southwest Research Station. (\$97.5K) (2020-2021)

Brooks, E.S. NRCS WEPP Model Programming Testing and Support, USDA-ARS Cooperative Agreement with USDA-ARS National Soil Erosion Research Lab. 59-5020-0-001, (\$57K) (2020-2023)

Brooks, E.S., D. Strawn, Z. Kayler. Subsurface transport of phosphorus in no-till agricultural fields and their relationship to surface water quality and stream ecosystem processes Rev 2. USDA-ARS Specific Cooperative Agreement (SCA), \$95K (2020-2021) (\$80,000 managed by Brooks)

Brooks, E.S., L. Schott, J. Kelley, W.H. Neibling, J. Ryu, R. Allen, J. Johnson-Maynard, X. Liang, A. Karasev, J. Fairley, J. Piaskowski. 2020. Managing Water and Regenerating Degraded Soils in SensorCentric Irrigated Cropping Systems. Presidential Initiative on Water and Sustainability. Office of Research and Economic Development, University of Idaho \$22K (2020-2021)

McGuire, M., E.S. Brooks, et al. Creating a New Bioeconomy for Dairies to Increase Nutrient Recycling, Enhance Productivity of Crops & Stimulate Prosperity in Rural America. USDA-NIFA Sustainable Agricultural Systems Grant, \$10M (\$449K managed by Brooks) (2020-2025)

Brooks, E.S. Quantifying Post-fire Erosion on Rangelands, USDA-ARS Non-Assistance Cooperative Agreement Rev 1, 58-2052-6-002, \$20,000 (2019-2020) (\$20,000 managed by Brooks)

Brooks, E.S. Fire Impacts on Watershed Response USFS-Research Joint Venture, Rev 1-4 15-JV-11221634-075 (\$270,598) (2019-2022).

Brooks, E.S., D. Strawn, Z. Kayler. Subsurface transport of phosphorus in no-till agricultural fields and their relationship to surface water quality and stream ecosystem processes Rev 1. USDA-ARS Specific Cooperative Agreement (SCA), \$89,956 (2019-2020) (\$80,000 managed by Brooks)

Padowski, J., J. Adam, E.S. Brooks, C. Kolden, R. Lew, J. Abatzoglou. et al. Modeling Post-Fire runoff and erosion in Municipal Watersheds with Earth Observation Data: Needs Assessment. NASA-ROSES Earth Science Applications: Water Resources (\$100,000) (2019-2020) (Contributed time no direct management of funds)

Langman, J., E. Brooks, J. Bush, P. Dunlap, T. Bartholomaeus, and J. Moberly. Tracking Aquifer Recharge using Isotope Signals and Perturbations in the Ambient Seismic Field of the Palouse Range Recharge Zone. Palouse Basin Aquifer Committee. (\$62,000) (2019-2021) (Contributed time no direct management of funds)

Langman, J., J. Moberly, K. Waynant, J. Boll, T. Bartholomaeus, and E. Brooks. Snowpack aging, evolution of snow 2-H and 18-O, and alteration of the snowmelt recharge signal to a multi-layer aquifer system. USGS-104b (\$62,483) (2020-2021) (Contributed time no direct management of funds).

Langman, J., E. Brooks, and J. Moberly. 2018. Tracking Recharge to a Fractured-Basalt Aquifer System using Perturbations in the Ambient Seismic Field, South Fork Palouse River Basin, Idaho. USGS-104b (\$64,703) (Contributed time no direct management of funds)

Brooks, E.S. Fire Impacts on Watershed Response USFS-Research Joint Venture, 15-JV-11221634-075 (\$203,616) (2019-2020). (\$203,616 managed by Brooks)

Brooks, E.S. Quantifying Post-fire Erosion on Rangelands, USDA-ARS Non-Assistance Cooperative Agreement, 58-2052-6-002, \$20,000 (2018-2019)

Brooks, E.S., D. Strawn, Z. Kayler. Subsurface transport of phosphorus in no-till agricultural fields and their relationship to surface water quality and stream ecosystem processes. USDA-ARS Specific Cooperative Agreement (SCA), \$144,406 (2018-2019).

Brooks, E.S. Enhancing Forest Watershed Modeling Performance (Mod 3) USFS-Research Joint Venture, 15-JV-11221634-107 (\$57,416) (2018-2019).

Brooks, E.S., M. Dobre, D. Strawn. Post-fire phosphorus availability and mobility in forest soils and the effects on water quality. USGS 104b (\$15K) (2017-2018)

Brooks, E.S. Enhancing Forest Watershed Modeling Performance (Mod 2) USFS-Research Joint Venture, 15-JV-11221634-107 (\$80K) (2017-2018).

Brooks, E.S. Rangeland Post-Fire Erosion (renewal), USDA-ARS Cooperative Agreement, 58-2052-6-002, \$10,000 (2017-2018)

Brooks, E.S. Development and assessment of an online watershed decision support tool to assess runoff, erosion and phosphorus transport in Forested landscapes. Internal NSF-MILES EPSCoR funding (\$38K) (2017-2018)

Brooks, E.S., J. Johnson-Maynard, D. Strawn. Effects of long-term alternative cropping systems on soil health and nutrient transport. USDA-ARS Research Service Agreement (RSA), \$81,818 (2017-2018).

Johnson-Maynard, J., S. Eigenbrode, E. Brooks, K. Schroeder. Inland Pacific Northwest Wheat-Based Systems: Landscapes in Transition, USDA-CAP proposal (\$4M) (2017-2021)

Brooks, E.S. Enhancing Forest Watershed Modeling Performance (Mod 1) USFS-Research Joint Venture, 15-JV-11221634-107 (\$107K) (2016-2017)

Brooks, E.S., J. Johnson-Maynard, D. Strawn. Effects of long term no-tillage management on soil structure and soil phosphorus distribution. USDA-ARS Goods and Services agreement, 58-2090-6-032, \$93,500 (2016-2017).

Brooks, E.S. Rangeland Post-Fire Erosion, USDA-ARS Cooperative Agreement, 58-2052-6-002, \$32,000 (2016-2018)

Dobre, M., E.S. Brooks, D. Strawn, C. Gasch. Phosphorus Management in Forested Landscapes. USDA-NIFA (\$402k) (2016-2019)

Kolden, C., E.S. Brooks et al. FireEarth Modeling System for Wildfire Mitigation USDA/NSF-SEES, (\$3M, (\$218K to Brooks) (2015-2018)

Brooks, E.S. Enhancing Forest Watershed Modeling Performance USFS-Research Joint Venture, 15-JV-11221634-107 (\$70K) (2015-2016)

Strawn, D. and Brooks, E.S. Linking Agronomic Soil-P with Water Quality in Palouse Cropping Systems. USGS 104 (\$92K) (2015-2016)

Heinse, R, E.S. Brooks. Demonstration of spatial irrigation management using distributed soil-water tension measurements. Hortau Corporation (\$60,494) (2014-2015)

Brooks, E.S., J. Candel, R. Dijkma, R. Sánchez-Murillo, G. Grader, R. Heinse, J. Boll, and J. Fairley. Identifying hydrologic recharge connections in the Moscow sub-basin using isotopic and caffeine tracers. \$51,528. Palouse Basin Aquifer Committee. (2014-2015)

Wilhelm, F.M., E.S. Brooks, and J. Boll. The juvenile steelhead food web in an effluent dominated stream, Troy, Idaho, determined using stable isotopes. Office of Species Conservation, Pacific Coast Salmon Recovery Grant, \$40,182 (2013-2014)

Elliot, W.J., E.S. Brooks, J. Boll, R. Foltz, M. Hogan. Development of an Online Watershed Interface to predict the effects of forest and fire management on sediment and phosphorus loads in surface runoff in Lake Tahoe Basin. (\$454,877) (\$194,000 to Brooks) (2013-2016)

Brown, D., L. Vierling, E.S. Brooks, et al. Site-Specific Climate-friendly Farming, USDA National Institute of Food and Agriculture, Agricultural and Food Research Initiative Grant \$5,000,000 (\$560,000 to Brooks) (2011-2016)

- Eigenbrode, S., E.S. Brooks, et al. Regional Approaches to Climate Change – PNA, USDA National Institute of Food and Agriculture, Regional Coordinated Agricultural Project (CAP) Grant, \$20,000,000 (\$185,000 to Brooks) (2011-2016).
- Brooks, E.S.; Improving steelhead habitat in WF Little Bear Creek using the Big Meadow Creek Reservoir. Governor’s Office of Species Conservation. (\$86,162) (2012-2013)
- Brooks, E.S. *Dissolved Oxygen Recovery in Effluent-Dominated Streams*. Idaho Governor’s Office of Species Conservation. Snake River Basin Adjudication Funding \$53,000 (2009-2011).
- Elliot, W.J., E.S. Brooks, D. Traumer. Modeling and decision support tools for multi-objective forest management. USDA-Forest Service through the Round 10 Southern Nevada Public Land Management Act (SNPLMA) \$203,102 (\$11,447 to Brooks) (2010-2011)
- Brooks, E.S. and J. Boll Base Flow Characterization and Simulation in the Inter-Mountainous Regions of the Pacific Northwest, Joint Research Venture Agreement, US Forest Service, Rocky Mountain Research Service, \$58,262.00 (2010-2013)
- Langendoen, E.J., E.S. Brooks, J. Boll, J. Wu, W.Elliot. *Assessing hillslope and stream channel sediment loading in the Tahoe Basin using the WEPP and CONCEPTS models*. Joint Agreement between University of Idaho, Washington State University, Rocky Mountain Research Station USDA-FS, USDA-ARS National Sedimentation Laboratory. \$10,000. (2009-2010)
- Brooks, E.S., J. Boll, J. Wu, W. Elliot, P. Robichaud and W. Chistensen, *Assessing the Sources and Transport of Fine Sediment in Response to Management Practices in the Tahoe Basin using the WEPP Model*, USDA-Forest Service through the Round 7 Southern Nevada Public Land Management Act (SNPLMA) (\$232,149) (2007-2009).
- Brooks, E.S., J. Boll, S. Chen, and D. McCool. *Improving tillage systems for minimizing erosion*. USDA-STEPP (\$62,560) (2004-2006).
- J. Boll, S.L. McGeehan and E.S. Brooks. *Valley County Soil and Water Conservation District, Assessing BMP Effectiveness in Reducing Phosphorus Loading in Irrigated Pastures*. IDWR March 1, 1998-present (\$32,000).

SERVICE:

Major Committee Assignments:

- Environmental Science Core Faculty (2018-present)
- Water Resource Program Core Faculty (2018-present)
- JML Building Space Committee Lead (2018-present)
- Chair of job search committee Precision Ag faculty (2019,2021)
- Served on a proposal review panel for the Department of Energy Subsurface Biogeochemical Research (SBR) on May 20-21, 2019 in Bethesda, MD.
- Advisor to American Society of Agricultural and Biological Engineering Student Club (2012-2015)
- Student Disciplinary Review Board (2013-2015)

Professional Assistance

- Review journal articles for Water Resources Research
- Review journal articles for Journal of the American Water Resources Association
- Review journal articles for Journal of Hydrology
- Review journal articles for Hydrological Processes
- Review journal articles for Journal of Environmental Management
- Review journal articles for Journal of Environmental Quality
- Review journal articles for the Transactions of the American Society of Agricultural and Biological Engineers
- Review journal articles for Ground Water Monitoring and Remediation
- Review proposals for the Hydrological Sciences Division of the National Science Foundation
- Review proposals for the Department of Energy-Biogeosciences
- Reviewed textbook for Elsevier Press

Professional Membership

- American Geophysical Union

- Soil Science Society of America
- American Society of Agricultural and Biological Engineers