

**JENNIFER C. ADAM**

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<http://hydro.cce.wsu.edu/index.htm>**Curriculum Vitae (February, 2016)****PROFESSIONAL EXPERIENCE***Associate Professor, 2014 to present*

- Department of Civil and Environmental Engineering, Washington State University

*Associate Director, 2014 to present*

- State of Washington Water Research Center

*Assistant Professor, 2008 to 2014*

- Department of Civil and Environmental Engineering, Washington State University

*Peace Corps Volunteer, 1997 to 1999*

- Secondary Mathematics Education, Solomon Islands

**EDUCATION***University of Washington, Ph.D., 2007*

- Department of Civil and Environmental Engineering
- Dissertation Title: "Understanding the causes of streamflow changes in the Eurasian Arctic"
- Advisor: Dr. Dennis P. Lettenmaier (now at UCLA)

*University of Washington, M.S.C.E., 2002*

- Department of Civil and Environmental Engineering
- Thesis Title: "Adjustment of global gridded precipitation for systematic bias"
- Advisor: Dr. Dennis P. Lettenmaier (now at UCLA)

*University of Colorado, Boulder, B.S. (with distinction), 1997*

- Department of Civil, Environmental, and Architectural Engineering (name at time of graduation: Jennifer C. Mullis), EIT passed Spring 1997
- Research Project Title: "The interrelationships between ammonia and manganese removal during nitrification"
- Advisor: Dr. Marc A. Edwards (now at Virginia Tech, Blacksburg, VA)

**SPECIALIZATION**

I am interested in the connections between climate, hydrology, land use, and ecological (natural and agricultural) processes. This includes understanding how climate variations and direct human influences interact to alter land surface hydrologic processes at watershed, regional, and global scales. I apply process-based models in integrated modeling frameworks to explore these interactions. Developing these tools necessitates a tightly-integrated interdisciplinary approach; indeed, I believe that the grand challenges of today need to be solved in an interdisciplinary setting. I am currently leading the development of one such modeling platform, "BioEarth", that engages ~40 faculty and students in atmospheric sciences, biological systems, communications, computer sciences, earth and environmental sciences, and economics. Although BioEarth is in development over the Pacific Northwest region of the U.S., this platform can be transferable to other regions in the world and at multiple scales to help in addressing a variety of issues such as the climate/water/energy/food/environment nexus.

## **AWARDS and HONORS**

- Outstanding Research Faculty Award, Department of Civil & Environmental Engineering, WSU, 2016
- Team Award (PI J. Yoder): Bruce Gardner Prize for Applied Policy Analysis, Agricultural and Applied Economics Association, 2016
- Outstanding Research Faculty Award, Department of Civil & Environmental Engineering, WSU, 2015
- Editors' Citation for Excellence in Referring for *Earth's Future*, 2015
- Team Interdisciplinary Award for our Yakima Basin Integrated Plan Cost-Benefit Analysis (PI J. Yoder) sponsored by CAHNRS, 2016
- INSIGHT Into Diversity Magazine's Top 100 Inspiring Women in STEM Award, 2015
- Leon Luck Faculty Award as the Most Effective Professor, Department of Civil & Environmental Engineering, WSU, 2014
- Outstanding Research Faculty Award, Department of Civil & Environmental Engineering, WSU, 2014
- Reid Miller Teaching Excellence Award, College of Engineering & Architecture, WSU, 2011
- Outstanding Teaching Faculty Award, Department of Civil & Environmental Engineering, WSU, 2011
- American Society of Civil Engineers (ASCE) Excellence in Civil Engineering Education (ExCEED) Training Fellow, July 2009
- Cooperative Institute for Research in Environmental Sciences (CIRES) postdoctoral visiting fellowship (University of Colorado), 2007-2008 (declined)
- Center for Water and Watershed Studies Andy Studebaker Travel Fellowship, Dec., 2006
- Climate and Cryosphere (CliC) Travel Award, Apr., 2005
- Society of Women Engineers, Outstanding Female Graduate Student, Department of Civil and Environmental Engineering, University of Washington, 2003
- Milo S. Ketchum Award for Outstanding Undergraduate, University of Colorado Department of Civil, Environmental, and Architectural Engineering, 1997
- 1<sup>st</sup> Place Undergraduate Division, American Society of Civil Engineers Student Paper Competition, 1997
- 3<sup>rd</sup> Place Undergraduate Division, Water Environment Federation Student Paper Competition, 1997
- University of Colorado Undergraduate Research Opportunities Program Research Grant, 1996

## **AFFILIATIONS**

### ***National Organizations***

- American Geophysical Union, 2001 to present
- American Meteorological Society, 2003 to present
- Ecological Society of America, 2011 to present

### ***Honorary Societies***

- Tau Beta Pi, University of Colorado chapter, 1997
- Chi Epsilon, University of Colorado chapter, 1995

## **TRAINING RECEIVED**

- WSU Provost's Faculty Leadership Development Program, Spring Semester, 2011
- Training Fellow for American Society of Engineers (ASCE) Excellence in Civil Engineering Education (ExCEED) workshop, July 12-17, 2009, Flagstaff, AZ
- WSU Productive Proposal Writing (PPW) Series, 2008-2009 academic year
- Outward Bound Wilderness Leadership Training, Summer Semester, 1995

## PEER REVIEWED PUBLICATIONS

Total number of citations as of February, 2017: 2,879 (Web of Science)

H-Index: 15 (Research Gate)

- 34) Malek, K., **J.C. Adam**, C.O. Stockle, and T. Peters, 2017. Climate change reduces water availability for agriculture by decreasing non-evaporative irrigation losses. *Journal of Hydrology* (in review).
- 33) Reyes, J.R., C. Tague, R.D. Evans, and **J.C. Adam**, 2017. Assessing the impact of parameter uncertainty on modeling grass biomass using a hybrid carbon allocation strategy. *Journal of Advances in Modeling Earth Systems* (in review).
- 32) Rajagopalan, K.R., K. Chinnayakanahalli, C.O. Stockle, R. Nelson, A. Hamlet, M. Brady, M. Barber, C. Kruger, K. Malek, G. Yorgey, S. Dinesh, and **J.C. Adam**, 2017, Impacts of near-term regional climate change on agricultural production in the Columbia River basin. *WRR* (in review).
- 31) Khan, M.A., C.O. Stockle, T. Peters, **J.C. Adam**, R.G. Allen, R. Trezza, B. Lamb, and C. Jinshu, 2017. Evaluation of METRIC for estimation of actual evapotranspiration from dryland agricultural systems in eastern Washington State, *Remote Sensing of Environment* (in review).
- 30) Malek, K., C.O. Stöckle, R. Nelson, K.J. Chinnayakanahalli, Liu, M., Rajagopalan, K., Muhammad, B., and **J. C. Adam**, 2016. VIC-CropSyst: A regional-scale modeling platform to simulate the nexus of climate, hydrology, cropping systems, and human decisions, *Geoscientific Model Development-Discussion*, doi: 10.5194/gmd-2016-294 (in review).
- 29) Barik, M.G., **J.C. Adam**, M.E. Barber, and B. Muhunthan, 2016. Improved landslide susceptibility prediction for sustainable forest management in an altered climate. *Engineering Geology* (in revision).
- 28) Li, D., M.L. Wrzisien, M. Durand, **J.C. Adam**, and D.P. Lettenmaier, 2016. How much western United States streamflow originates as snow? *Geophysical Research Letters* (submitted).
- 27) Garcia, E.S., C.L. Tague, **J.C. Adam**, and M.L. Liu, 2016. Resolution of climate data affects eco-hydrology model estimates more than redistribution of soil moisture in a western Oregon watershed, *Ecological Modeling* (submitted).
- 26) Liu, M.L., **J.C. Adam**, Z. Zhu, and R. B. Myneni, 2016. Vegetation dynamics play a role in changing water fluxes over the conterminous U.S. during 1983-2009, *J. Geophysical Research* (submitted).
- 25) Allen, E., J. Stephens, G. Yorgey, C.E. Kruger, S. Aahamed, **J. C. Adam**, 2017. Climate science information needs among natural resource decision-makers in the Northwest U.S.? *Climate Services*, doi: 10.1016/j.ciser.2017.03.002.
- 24) Yoder, J., **J.C. Adam**, M. Brady, J. Cook, S. Katz, S. Johnston, K. Malek, J. McMillan, and Q. Yang, 2016. Benefit-cost analysis of integrated water resource management: the Yakima Basin Integrated Plan. *J. Am. Water Resources Assoc.*, doi: 10.1111/1752-1688.12507.
- 23) Nergui, T., R.D. Evans, **J.C. Adam**, and S.H. Chung, 2016. Relationships between the El Nino Southern Oscillation, precipitation, and nitrogen wet deposition rates in the contiguous United States, *Global Biogeochemical Cycles*, doi: 10.1002/2016GB005439.
- 22) Gould, G.K., M.L. Liu, M.E. Barber, K.A. Cherkauer, P.R. Robichaud, and **J.C. Adam**, 2015. The effects of climate change and extreme wildfire events on runoff erosion over a mountain watershed in the western U.S., *J. Hydrology*, doi: 10.1016/j.jhydrol.2016.02.025.
- 21) Clark, M.P., Y. Fan, D.M. Lawrence, **J.C. Adam**, D. Bolster, M. Kumar, L.R. Leung, D. Scott Mackay, C. Shen, S.C. Swenson, X. Seng, et al, 2015. Improving the representation of hydrologic processes in Earth System Models, *Water Resources Research*, doi: 10.1002/2015WR017096.
- 20) Reyes, J.J., J. Schellberg, S. Siebert, M. Elsaesser, **J.C. Adam**, and F. Ewert, 2015. Refining estimates of nitrogen uptake in grasslands: Application of the nitrogen dilution curve, *Agronomy for Sustainable Development*, doi 10.1007/s13593-015-0321-2.
- 19) Stöckle, C.O., A.R. Kemanian, R.L. Nelson, **J.C. Adam**, R. Sommer, B. Carlson, 2014. CropSyst model evolution: From field to regional to global scales and from research to decision support systems, *Environmental Modeling and Software*, 62, 361-369.

- 18) Liu, M., K. Rajagopalan, S. H. Chung, X. Jiang, J. Harrison, T. Nergui, A. Guenther, C. Miller, J. Reyes, C. Tague, J. Choate, E.P. Salathé, C.O. Stöckle, and **J. C. Adam**, 2014. What is the importance of climate model bias when projecting the impacts of climate change on land surface processes? *Biogeosciences*, doi: 10.5194/bg-11-1/2014.
- 17) **Adam, J.C.**, J.C. Stephens, S.H. Chung, M.P. Brady, R.D. Evans, C.E. Kruger, B.K. Lamb, M.L. Liu, C.O. Stöckle, J.K. Vaughan, K. Rajagopalan, J.A. Harrison, C.L. Tague, A. Kalyanaraman, Y. Chen, A. Guenther, F.Y. Leung, L.R. Leung, A.B. Perleberg, J. Yoder, E. Allen, S. Anderson, B. Chandrasekharan, K. Malek, T. Mullis, C. Miller, T. Nergui, J. Poinsatte, J. Reyes, J. Zhu, J.S. Choate, X. Jiang, R. Nelson, J.H. Yoon, G.G. Yorgey, K.J. Chinnayakanahalli, A.F. Hamlet, B. Nijssen, V. Walden, 2014. BioEarth: A regional biosphere-relevant earth system model to inform agricultural and natural resource management decisions, *Climatic Change*, doi: 10/1007/210584-014-1115-2.
- 16) Brown, S., A. Easley, D. Montfort, **J.C. Adam**, B. Van Wie, A. Olusola, C. Poor, C. Tobin, A. Flatt, 2014. Effectiveness of an interactive learning environment utilizing a physical model, *Journal of Professional Issues in Engineering Education and Practice*, 140(3), 04014001.
- 15) Liu, M., **J.C. Adam**, and A.F. Hamlet, 2013. Spatial-temporal variations of evapotranspiration and runoff/precipitation ratios responding to the changing climate in the Pacific Northwest during 1921-2006, *Journal of Geophysical Research: Atmospheres*, doi: 10.1029/2012JD018400.
- 14) Van Wie, J.B., **J.C. Adam**, and J.L. Ullman, 2013. Conservation tillage in dryland agriculture impacts watershed hydrology, *Journal of Hydrology* doi: 10.1016/J.HYDROL.2012.12.030.
- 13) Weedon, G.P., S. Gomes, P. Viterbo, J. Shuttleworth, E. Blythe, H. Osterle, **J.C. Adam**, N. Bellouin, O. Boucher, and M. Best, 2011. Creation of the WATCH Forcing Data and its use to assess global and regional reference crop evaporation over land during the twentieth Century, *Journal of Hydrometeorology* 12, 823-848, doi: 10.1175/2011JHM1369.1.
- 12) Tan, A., **J.C. Adam**, and D.P. Lettenmaier, 2011. Change in spring snowmelt timing in Eurasian Arctic Rivers, *Journal of Geophysical Research* 116, D03101, doi:10.1029/2010JD014337.
- 11) Rawlins, M.A., M. Steele, M.M. Holland, **J.C. Adam**, et al. 2010. Analysis of the Arctic System for Freshwater Cycle Intensification: Observations and Expectations, *Journal of Climate* 23 (21) 5715-5737. (Note: there are 30 authors in total on this publication.)
- 10) **Adam, J.C.**, A. F. Hamlet, and D. P. Lettenmaier, 2008. Implications of global climate change for snowmelt hydrology in the 21st century, *Hydrological Processes* 23(7) 962-972.
- 9) Maurer, E.P., **J.C. Adam**, and A.W. Wood, 2008. Climate Model based consensus on the hydrologic impacts of climate change to the Rio Lempa basin of Central America, *Hydrology and Earth System Sciences* 5: 3099-3128.
- 8) **Adam, J.C.**, and D.P. Lettenmaier, 2008. Application of new precipitation and reconstructed streamflow products to streamflow trend attribution in Northern Eurasia. *Journal of Climate* 21(8): 1807-1828.
- 7) **Adam, J.C.**, I. Haddeland, F. Su, and D. P. Lettenmaier, 2007. Simulation of reservoir influences on annual and seasonal streamflow changes for the Lena, Yenisei and Ob' rivers, *Journal of Geophysical Research* 112, D24114, doi:10.1029/2007JD008525.
- 6) **Adam, J.C.**, E.A. Clark, D.P. Lettenmaier, and E.F. Wood, 2006. Correction of global precipitation products for orographic effects. *Journal of Climate* 19(1): 15-38.
- 5) Su, F., **J.C. Adam**, K.E. Trenberth, and D.P. Lettenmaier, 2006. Evaluation of surface water fluxes of the pan-Arctic land region with a land surface model and ERA-40 reanalysis. *Journal of Geophysical Research* 111, D05110, doi:10.1029/2005JD006387.
- 4) Barnett T.P., **J.C. Adam**, and D.P. Lettenmaier, 2005. Potential impacts of a warming climate on water availability in snow-dominated regions. *Nature* 438: 303-309.
- 3) Su, F., **J.C. Adam**, L.C. Bowling, and D.P. Lettenmaier, 2005. Streamflow simulations of the terrestrial Arctic domain. *Journal of Geophysical Research* 110, D08112, doi:10.1029/2004JD005518.

- 2) **Adam, J.C.**, and D.P. Lettenmaier, 2003. Adjustment of global gridded precipitation for systematic bias. *Journal of Geophysical Research* 108, D9, doi:10.1029/2002JD002499.
- 1) Maurer, E.P., A.W. Wood, **J.C. Adam**, D.P. Lettenmaier, and B. Nijssen, 2002. A long-term hydrologically-based data set of land surface fluxes and states for the conterminous United States. *Journal of Climate* 15: 3237-3251.

#### BOOK CHAPTER

- 1) Shiklomanov, A., T.J. Bohn, D.P. Lettenmaier, R. Lammers, **J.C. Adam**, P. Romanov, and M. Rawlins, 2010: "Interactions between Land Cover/Use Change and Hydrology" in *Arctic Land Cover and Land Use Change in a Changing Climate*, G. Gutman, ed., Springer-Verlag.

#### TECHNICAL DOCUMENTS, TRADE JOURNALS, CONFERENCE PROCEEDINGS

- 12) Hall, S., **J.C. Adam**, M. Barik, J. Yoder, M. Brady, D. Haller, M. Barber, C. Kruger, G. Yorgey, M. Downes, C. Stockle, B. Aryal, T. Carlson, G. Damiano, S. Dhungel, C. Einberger, K. Hamel-Reiken, M. Liu, K. Malek, S. McClure, R. Nelson, M. O'Brien, J. Padowski, K. Rajagopalan, Z. Rakib, B. Rushi, and W. Valdez, 2016. Columbia River Basin Long-Term Water Supply and Demand Forecast, Washington State Legislative Report, <https://fortress.wa.gov/ecy/publications/SummaryPages/1612001.html>.
- 11) Kruger, C.E., **J.C. Adam**, and G. Yorgey, 2015. Forecasting water supply and demand for the Columbia River basin, *Irrigation Leader Magazine* 6: 18-19.
- 10) Yoder, J., **J. Adam**, M. Brady, J. Cook, S. Katz, D. Brent, S. Johnston, K. Malek, J. McMillan, and Q. Yang, 2014. *Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects*. State of Washington Water Research Center. December. Available at <https://swwrc.wsu.edu/2014ybip>. 196.pp.
- 9) McDonald, M., L. Dilley, M.E. Barber, R. Mahler, **J.C. Adam**, M. Wolcott, and A. Ford, 2013. Small-scale Energy Storage for Integration of Renewable Supplies with Smart Grids, Energy and Sustainability IV, WIT Transactions on Ecology and the Environment, 176, ISSN 1743-3541, Bucharest, Romania, June 2013.
- 8) Barber, M.E., **J.C. Adam**, K. Rajagopalan, G. Yorgey, and R. Mahler, 2013. Impacts of Climate and Municipal Water Demand Changes on Ecological Flows in the Columbia River Basin, USA, Ecosystems and Sustainable Development IX, WIT Transactions on Ecology and the Environment, 175, ISSN 1743-3541, Bucharest, Romania, June 2013.
- 7) Barber, M.E., **J.C. Adam**, M. Brady, K. Chinnayakanahalli, K. Rajagopalan, S. Dinesh, C. Kruger, C. Stockle, and G. Yorgey, 2012. Global Change Implications on Long-Term Water Supply and Demand Forecasts in the Columbia River Basin, WIT Transactions on Ecology and the Environment, 168:77-86.
- 6) Easley A., S. Brown, **J.C. Adam**, D.B. Montfort, and B.J. VanWie, 2012. Open channel flow misconceptions and ontological categories, ASEE Annual Conference and Exposition, Conference Proceedings.
- 5) Van Wie, B., D. Thiessen, M. Compere, X. Toro, **J.C. Adam**, S. Brown, A. Easley, X. Li, K. Lee, and M. Colpan, 2012. Multi-disciplinary Hands-on Desktop Learning Modules and Modern Pedagogies, Frontiers in Education Annual Conference, Conference Proceedings.
- 4) Schlect, W.D., B. Van Wie, P. Golter, R.F. Richards, **J.C. Adam**, A.M. Ater Kranov, M. Compere, E. Maurer, D.C. Davis, and O.O. Adesope, 2012. Multi-Disciplinary Hands-on Desktop Learning Modules and Modern Pedagogies, ASEE Annual Conference and Exposition, Conference Proceedings.
- 3) Yorgey, G.G., K. Rajagopalan, K. Chinnayakanahalli, M.P. Brady, M.E. Barber, R. Nelson, C.S. Stockle, C.E. Kruger, S. Dinesh, K. Malek, J. Yoder, and **J.C. Adam**, 2011. Columbia River Basin Long-Term Water Supply and Demand Forecast, Washington State Legislative Report, <http://www.ecy.wa.gov/biblio/1112011.html>.
- 2) Weedon et al., 2009. The WATCH Forcing Data 1958-2001: A meteorological forcing data for land

surface- and hydrological-models. WATCH Technical Report 22.

- 1) Bowling, L.C., K.A. Cherkauer, and **J.C. Adam**, 2008. Current capabilities in soil thermal representation within a large scale hydrology model. Proceedings, Ninth International Conference on Permafrost, June 29 - July 3.

## GRANTS

Total funding granted since 2008: \$17,497,019

Funding granted for projects with J.C. Adam as PI: \$8,836,131

- 26) "FY2016 Grant Application (Program 104b) State Water Resources Research Institute Program (Amount \$92,335; PI J. Yoder; 2015-2016).
- 25) "Increasing Regional to Global-Scale Resilience in FEW Systems through Coordinated Management of Storage in Concert with Innovations in Technology and Institutions". National Science Foundation (Amount \$2,687,614; **PI J.C. Adam**; 2016-20120).
- 24) "FEW Workshop - Addressing the Food-Energy-Water System Trilemma: Balancing Reliance on Technological and Institutional Solutions", National Science Foundation (Amount \$44,953; PI J. Padowski, 2015).
- 23) "Development and Updating of Rainfall and Runoff Intensity-Duration-Frequency Curves for Washington State Counties", (Amount \$27,500; PI Y. Demissie, 2015-2016).
- 22) "FireEarth; Advancing Resilience to Compounding Disasters: An Integrated Natural-Human Systems Assessment of Wildfire Vulnerability", National Science Foundation Award to U. Idaho (Amount \$2,800,000; PI C. Kolden; 2015-2016).
- 21) "A Review of the Forest Evapotranspiration for Different Site-Specific Conditions", USDA Forest Service (Amount \$127,511; PI **J.C. Adam**, 2015-2017).
- 20) "FY2015 Grant Application (Program 104b) State Water Resources Research Institute Program (Amount \$92,335; PI J. Yoder; 2014-2015).
- 19) "Columbia River Basin Water Supply Investment Plan: A Strategy to Develop Water Supply to Meet Water Demand Needs through 2035", Washington State Department of Ecology (Amount \$1,829,000; PI **J.C. Adam**; 2013-2017).
- 18) "Request for a Ground Penetration Radar (GPR) System: GSSI SIR-4000 for Agricultural and Hydrologic Studies on Key Sub-Surface Processes", WSU Voiland School of Engineering and Architecture (Amount \$30,186; PI M.L. Liu; 2014-2014).
- 17) "FY2014 Grant Application (Program 104b) State Water Resources Research Institute Program (Amount \$92,335; PI J. Yoder; 2014-2015).
- 16) "Evaluation of the Yakima Basin Integrated Plan", State of Washington Legislature (Amount \$300,000; PI J. Yoder; 2013-2014).
- 15) "An Integrated Engineering and Economic Analysis of the Columbia River Treaty Renegotiation using Game Theory", State of Washington Water Research Center (Amount \$18,000; PI M.P. Brady; 2013-2014).
- 14) "Integration of Energy Storage and Microgrid Technologies", Energy Systems Innovation Center (ESIC) (Amount \$34,000; PI M.E. Barber; 2012-2013).
- 13) "Watershed Integrated System Dynamics Modeling (WISDM): Feedbacks among biogeochemical simulations, stakeholder perceptions, and behavior", Unites States Department of Agriculture (Amount \$1,495,640; PI C. Huyck Orr; 2012-2016).
- 12) "Earth, Ecosystems, and Society" Fellowship, WSU Center for Environmental Research, Education, and Outreach (Amount \$40,000; **J.C. Adam** and C.E. Kruger; 2012-2013).
- 11) "Progress towards assessing the large-scale impacts of forest fires on runoff erosion across the Pacific Northwest", State of Washington Water Research Center (Amount \$27,000; PI **J.C. Adam**; 2012-2013).
- 10) "Understanding Biogeochemical Cycling in the Context of Climate Variability Using a Regional Earth Systems Modeling Framework", United States Department of Agriculture (Amount \$3,053,000; PI **J.C. Adam**; 2011-2016).

- 9) “Woman to Woman Mentoring for Success in the Field of Ecohydrology”, National Science Foundation Advance Grant to WSU, EXCELinSE (Amount \$4,984; PI **J.C. Adam**; 2011).
- 8) “Multi-Disciplinary Project-Based Paradigm that Uses Hands-on Desktop Learning Modules and Modern Learning Pedagogies”, National Science Foundation CCLI (Amount \$600,000; PI B. Van Wie; 2010-2013).
- 7) “Columbia River Basin Water Supply Investment Plan: A Strategy to Develop Water Supply to Meet Water Demand Needs through 2030”, Washington State Department of Ecology (Amount \$974,500 total between original amount and supplement; PI **J.C. Adam**; 2009-2012).
- 6) “IGERT: Nitrogen Systems: Policy-oriented Integrated Research and Education”, National Science Foundation (Amount \$3,030,702; PI B. Lamb; 2009-2014).
- 5) “REU: Fundamental Understanding of Mercury Cycling in Lakes and Use of Reservation-Based Research to Recruit American Indians into Environmental Engineering and Science”, National Science Foundation (Amount \$5,738; PI M. Beutel; 2010)
- 4) “Understanding the vulnerability of Columbia Basin irrigated agriculture to predicted climate changes using a coupled hydrological-crop model”, State of Washington Water Research Center (Amount \$28,000; PI **J.C. Adam**; 2010-2011).
- 3) “Washington State University – ICEWATER Project”, Inland Northwest Research Alliance (Amount \$80,000; PI M. Barber; 2009-2010).
- 2) “Adaptive management of mountain forests to prevent mass wasting under climate change”, State of Washington Water Research Center (Amount \$27,500; PI **J.C. Adam**; 2009-2010).
- 1) “Climate change impacts on runoff generation for the design of sustainable stormwater infrastructure”, Transportation Northwest (Amount \$46,522; PI **J.C. Adam**; 2009-2010).

## **SERVICE ACTIVITIES**

### ***Service to State, University, College, and Department***

- WSU VCEA Dean Search: Advisory Committee Member (2016-2017)
- WSU President Search: Advisory Committee Member (2015-2016)
- Associate Director (25% position) of the State of Washington Water Research Center (2014 – current)
- Presentations to High School Students and Teachers
  - WSU Honors College Summer of Excellence event: “Unlocking the Mystery of the Hydraulic Jump”, 2011, 2012, 2013
  - WSU “Imagine TOMORROW” event: “Unlocking the Mystery of the Hydraulic Jump”, 2012
- Involvement in Events Sponsored by the WSU Office of Research
  - Presentation on “How to prepare when you get funded” (spring 2013)
  - Panelist for WSU Research Summit (spring 2012)
  - Panelist for post-movie discussion for viewing of “Carbon Nation” (fall 2011)
- State of Washington Water Research Center, Associate Director, 2013 to present
- Center for Environmental Research, Education, and Outreach Executive Committee Member, 2012 to 2013
- Civil and Environmental Water Area Coordinator, 2015 to present
- Chair, Civil and Environmental Graduate Studies Committee, 2015 to 2016
- Civil and Environmental Graduate Studies Committee, 2013 to present
- Civil and Environmental Undergraduate Studies Committee, 2009 to 2012
- Mentor for Society of Women Engineers Mentoring Program to increase retention of women in engineering fields, 2010 to present
- Mentor for Team Mentoring Program (TMP) to increase retention in under-represented groups in STEM disciplines, 2010 to present

### ***Service to Profession***

- Organization of Regional Meetings
  - Co-organized and sponsored the “Inaugural Meeting of Columbia River Basin Water Systems Modelers” in Boise, Idaho (July 30, 2012); joint between Boise State University, Idaho National Laboratory, University of Idaho, and Washington State University
  - Organized and sponsored a poster session entitled “Climate, Land Use, and Agricultural and Natural Resources: Activities in Interdisciplinary Research, Education, and Outreach” in Pullman, Washington (June 26, 2012; November 19, 2013; October 7, 2014; February 25, 2016)
- Service to the American Meteorological Society (AMS)
  - Hydrology Committee (2013 to present)
  - Co-Chair for session at 2015, 2016, and 2017 AMS Annual Meetings on Evaporation
- Service to the American Geophysical Union (AGU)
  - Hydrology Section Horton Research Student Grant Program (2012-2015)
  - Co-convener for Fall 2011 Session on Earth Systems Modeling (GC08)
- Invited participant to the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI) workshop on INSPIRE (Improving Hydrologic Process Representation in Weather, Climate and Earth System Models), Boulder, CO, Oct 5-6, 2015.
- Invited participant to the Agricultural Model Intercomparison Project (AgMIP) workshop on incorporating water into agricultural models, NASA Goddard, NY, Apr 30-May 1, 2013.
- Invited participant to the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI) workshop on Earth System Modeling, Boulder, CO, Nov 11-12, 2013.
- Journal Reviewer: *American Water Resources Association, AGU Earth’s Future, Atmosphere-Ocean, Atmospheric Research, Climate Dynamics, Climate Research, Environmental Modeling and Software, Climate Risk Management, Geophysical Research Letters, Hydrology and Earth System Sciences Discussions, Ecosphere, Hydrological Processes, Hydrological Sciences Journal, Journal of Environmental Informatics, Journal of Geophysical Research-Atmospheres, Journal of Geophysical Research-Biogeosciences, Journal of Hydrology, Journal of Hydrometeorology, Nature Climate Change, Water Resources Research, WSU Extension*
- Funding Agency Reviewer: *National Science Foundation, United States Geological Service, Canadian Foundation for Climate and Atmospheric Sciences, United States Bureau of Reclamation, United States Department of Agriculture, Center for Sustaining Agriculture and Natural Resources, WSU Seed Grants*
- Proposal Panel: *NSF (2016), USDA (2017)*
- Technical Documentation Reviewer: *United States Bureau of Reclamation, Washington State Department of Ecology, Puget Sound Climate Science Synthesi*

#### **Custom Model & Data Preparation**

- Involved in preparing global meteorological data to the WATCH water and global change program at the UK Meteorological Office. These data are made available to the public. 2008 - present
- Involved in running custom model simulations and preparing hydrologic data for The Nature Conservancy (TNC), 2008 – 2011

## **TEACHING**

### **Various Guest Lectures**

- Nitrogen Cycling: “Integrated Modeling” (fall 2009, fall 2010, fall 2011, fall 2012)
- Global Change Ecology: “Global Change Modeling” (spring 2013)
- Honors College Junior Course: “Interdisciplinary Research” (spring 2013, fall 2014, fall 2016)
- Honors College Freshman Course: “Undergraduate Research” (fall 2012)
- Fundamentals in Engineering Exam Review for Hydraulic Engineering (various semesters)
- Graduate Seminar: “Technical Writing” (various semesters)



- Open Channel Flow: “What is Hydraulic Engineering discussion” (fall 2010)
- Sustainability: “Greenhouse Effect” (spring 2009, spring 2010)

**Courses Taught**

**1) Hydroclimatology (CE 552, 3 credits)**

- Department of Civil and Environmental Engineering, Washington State University
- New course development

**2) Sustainable Development in Water Resources (CE 456, 3 credits)**

- Department of Civil and Environmental Engineering, Washington State University
- New course development

**3) Water Resources Engineering (CE 351, 3 credits)**

- Department of Civil and Environmental Engineering, Washington State University
- Existing course; new elements to course for hands-on inquiry-based learning (NSF funds)

**4) Graduate Seminar (CE 580, 1 credit)**

- Department of Civil and Environmental Engineering, Washington State University

Student evaluations for CE 351, CE 456, and CE 552.

Course Number	Course Title	Semester	Student Enrollment	*Average Evaluation
CE 351	Water Resources Engineering	Fall 2016	47	4.40
CE 550	Hydroclimatology	Fall 2015	16	4.16
CE 351	Water Resources Engineering	Spring 2015	49	4.50
CE 550	Hydroclimatology	Spring 2014	10	4.87
CE 351	Water Resources Engineering	Fall 2013	63	4.00
CE 552	Hydroclimatology	Fall 2012	9	4.15
CE 351	Water Resources Engineering	Spring 2012	68	4.59
CE 552	Hydroclimatology	Fall 2011	10	4.66
CE 351	Water Resources Engineering	Spring 2011	59	4.65
CE 552	Hydroclimatology	Spring 2011	10	4.94
CE 456	Sustainable Development in Water Resources	Fall 2010	31	4.51
CE 552	Hydroclimatology	Spring 2010	9	4.64
CE 351	Water Resources Engineering	Fall 2009	54	4.47
CE 456	Sustainable Development in Water Resources	Fall 2009	32	4.38
CE 351	Water Resources Engineering	Spring 2009	63	4.62
CE 543	Hydroclimatology	Fall 2008	6	4.55
CE 351	Water Resources Engineering	Spring 2008	60	4.32

\* Student evaluations on a scale of 1 to 5, with 5 representing the highest possible rating.

**ADVISING**

**Undergraduate Students**

- Faculty Advisor for approximately 5-15 undergraduate students per semester.
- Undergraduates advised in research activities: (17 students total)  
 Claire Pierson, EPF Intern from France (2008); Chelsea Nicholas (2009); Esther Lynch (2009); Will Cyrier (2009); Samantha Ortega (2009); David Johnson (2010); Julian Reyes (2010); Lisa Chen (2010); Cory Tobin (2010 to 2011); Schyler Hect (2011); Paige Pruisner (2011), REU student from CU, Boulder; Destry Seiler (2011 to 2012, 2014); Alicia Flatt (2011 to 2012); Chad Warren (2011 to 2012); Timothy Ho (2011 to 2012); Mark Urlacher (2012 to 2013); Destry Seiler (2014-current); Gianna Damiano (2015-2016), Gabe Cocking (2016-2017)

### **Graduate Students**

- Major Professor (Graduate Committee Chair/Co-Chair for 5 Ph.D. and 13 M.S.)
  - Jianning Ren, Ph.D., 2020 (exp)
  - Tung Nguyen, Ph.D., 2017 (exp), *Modeling co-management of water and nitrogen in the Yakima River basin*
  - Julian Reyes, Ph.D., 2017 (exp), *Modeling the impacts of management and Nitrogen deposition on terrestrial ecohydrology in grassland ecosystems*
  - Keyvan Malek, Ph.D., 2016, co-chaired by Claudio Stöckle, *Impacts of climate change and irrigation strategies on surface water availability, return flows, and crop yields in the Yakima River basin of Washington*
  - Kirti Rajagopalan, Ph.D., 2016, *Integrated hydrologic, cropping systems, and water management modeling to forecast the impacts of climate change and economic factors on Columbia River basin agricultural productivity*
  - Arif Rabbani, M.S., 2017 (exp), *Modeling the impacts of climate change and forest management activities on evapotranspiration*
  - Rushi Begum, M.S., 2016, *Assessing the environmental and economic impacts of change in the Columbia River Treaty*
  - Ryan Hull, M.S., 2016, *Upscaling of ecohydrologic models across the Pacific Northwest*
  - Heather Baxter, M.S., 2017 (exp), *Assessing the roles of climate change and pumping on surface-aquifer interactions in the Spokane River*
  - Shifa Dinesh, M.S., 2014, non-thesis coursework-only option
  - Gregory Gould, M.S., 2013, *Large-scale assessment of post-fire erosion over the Salmon River basin in Idaho*
  - Andrew Easley, M.S., 2012, co-chaired by Shane Brown, *Assessment of hands-on inquiry-based learning in undergraduate engineering courses to improve understanding of open channel flow concepts*
  - Jennifer Johnston, M.S., 2011, non-thesis project option, *Analysis of climate change impacts on the seasonal storage of water in snowpacks globally*
  - Jack Butler, M.S., 2011, non-thesis coursework-only option
  - David Johnson, M.S., 2011, non-thesis coursework-only option
  - Erika Ottenbreit, M.S., 2011, *Modeling climate change impacts on suspended sediment in the Potlatch River basin of Idaho* (currently consulting)
  - Gregory Karlovits, M.S., 2010, *Monte Carlo simulation to characterize runoff uncertainty in a changing climate* (currently an engineer with U.S. Army Corps)
  - Joshua Van Wie, M.S., 2010, *Hydrologic modeling of conventional and conservation farming practices in dryland agricultural region of Washington and Idaho* (currently in consulting)
  - Muhammad Barik, M.S., 2010, *Landslide susceptibility mapping to inform landuse management decisions in an altered climate* (currently a Ph.D. student at UCLA)
- Graduate Committee Member for Ph.D. (14 students)
  - Rubayet Mortuza, Ph.D. in Civil Engineering, 2018 (exp)
  - Merhawi Gebremichael, Ph.D. in Civil Engineering, 2018 (exp)
  - Will Forney, Ph.D. in Environmental Sciences, 2018 (exp)
  - Mengqi Zhao, Ph.D. in Civil Engineering, 2020 (exp)
  - Edom Moges, Ph.D. in Civil Engineering, 2017 (exp)
  - Muhammad Azeem Khan, Ph.D. in Biological Systems Engineering, 2016
  - Tsengel Nergui, Ph.D. in Environmental Science, 2017 (exp)
  - Sarah Anderson, Ph.D. in Biology, 2017 (exp)
  - Natalie Martinkus, Ph.D. in Civil Engineering, 2016
  - Lisa Dilley, Ph.D. in Civil Engineering, 2016
  - Justin Poinatte, Ph.D. in Biology, 2017 (exp)
  - Nadia Frye-Lustig, Ph.D. in Civil Engineering, 2016

Mark Siegenthaler, Ph.D. in Civil Engineering, 2017 (exp)  
 Robert Jeffers, Ph.D. in School of Earth and Environmental Sciences, 2013

- Graduate Committee Member for M.S. (19 students)

Clarissa Watkins, M.S. in Environmental Engineering, 2017 (exp)  
 Zannatul Haque, M.S. in Civil Engineering, 2016  
 Quentin Baret, M.S. in Civil Engineering, 2016  
 Ross Wickham, M.S. in Civil Engineering, 2015  
 Veronica Carillo, M.S. in Civil Engineering, 2015  
 Cody Miller, M.S. in School of the Environment, 2014  
 Tristan Mullis, M.S. in Computer Sciences, 2014  
 Anne Baghdanov, M.S. in Civil Engineering, 2013  
 Alicia Flatt, M.S. in Civil Engineering, 2013  
 Matthew McDonald, M.S. in Civil Engineering, 2013  
 Evan Miller, M.S. in Civil Engineering, 2013  
 Mark LaVanway, M.S., in Civil Engineering, 2012  
 Lanka Desilva, M.S. in Civil Engineering, 2011  
 Craig Jordan, M.S. in Civil Engineering, 2011  
 Kara Goodwin, M.S. in School of Earth and Environmental Sciences, 2010  
 Travis Lopes, M.S. in Civil Engineering, 2010  
 Lu Liu, M.S. in Civil Engineering, 2009  
 Dian Wen, M.S. in Civil Engineering, 2009  
 Amanda Tan, University of Washington M.S., 2008

***Honors and Awards by Graduate Student Advisees***

- Kirti Rajagopalan, PhD 2016, WSU CEE Dissertation Award, 2016
- Keyvan Malek, PhD 2016, UCOWR Dissertation Award, Honorable Mention, 2016
- Julian Reyes, current PhD, Fulbright Fellowship, University of Bonn, Germany, 2011-2012
- Julian Reyes, current PhD, National Science Foundation Graduate Research Fellowship, granted in 2012
- Greg Karlovits, MS 2010, American Geophysical Union (AGU) Outstanding Student Paper Award, Fall 2010
- Erika Ottenbreit, MS 2010, American Water Resources Association (AWRA) Fellow, 2010-2011

***Postdoctoral Associates***

- Erin Hanan, 2015 – present, *FireEarth*
- Alexandra Richey, 2015 – present, *Groundwater sustainability*
- Muhammad Barik, 2014 – present, *Columbia River Supply and Demand Forecast*
- Kiran Chinnayakanahalli, 2010 – 2011, *Coupling of a large-scale hydrologic model to a crop systems model to forecast Columbia River basin surface water supply and irrigation water demand under climate change* (currently consulting)
- Mingliang Liu, 2011- 2012, *Development of a regional-scale Biosphere-relevant Earth Systems Model (BioEarth) to inform land use management* (promoted to research assistant professor in 2012)

***Host for Visiting Scientist***

- Yekta Ozkan (Turkey Ministry of Food Agriculture and Livestock), training on climate change (spring 2013)
- Sinan Anan and Ozgul Altuntas (Turkey Ministry of Food Agriculture and Livestock), training on remote sensing of evaporation (winter 2015-2016)

**OUTREACH ACTIVITIES**

- Related to our 2016 Water Supply and Demand Forecast
  - Project-specific stakeholder meetings (Richland, Wenatchee, Spokane; June 2016)

- Columbia River Policy Advisory Group (January 29, 2015 and August 4, 2016)
- Water Resources Advisory Committee (March 16, 2015 and July 11, 2016)
- Bonneville Power Administration and Chelan Public Utility District representatives (May 5, 2015)
- Eastern Washington County Commissioners Policy Advisory Group (June 11, 2015 and July 15, 2016)
- Agency discussion of the Columbia River Treaty (July 7, 2015)
- state agency outreach meeting (August 4, 2016)
- Columbia Basin Development League's Annual Conference (November 3, 2016)
- Lake Roosevelt Forum's Conference (November 15, 2016)
- The Washington Small Fruit Conference (December 2, 2016)
- BioEarth stakeholder workshops
  - Carbon and Nitrogen Management (Seattle; Feb 27, 2013)
  - Water Supply Issues (Seattle; Feb 28, 2013)
  - Rangeland Management (Richland; Feb 25, 2014)
  - Water Quality (Vancouver; Mar 12, 2015)
  - Integrated Agricultural Scenarios (Richland; February 16, 2016)

#### INVITED TALKS, POSTERS, and SEMINARS

- 29) Hanan, E.J., C. Tague, J. Choate, M. Liu, and **J.C. Adam**, 2017. Combining remote sensing data with mechanistic carbon cycling models to project biogeochemical and hydrologic fluxes in disturbance prone watersheds. *American Meteorological Society 31<sup>st</sup> Conference on Hydrology*. Seattle, WA., Jan. 24.
- 28) **Adam, J.C.**, 2016. Columbia Basin water and agriculture in a changing climate. *USDA-ARS Liaison Committee Meeting*, Pullman, WA. Oct 13.
- 27) **Adam, J.C.**, R. Hull, C.L. Tague, and M.L. Liu, 2016. Where should fine-resolution heterogeneity be captured within Earth system models? *Observations and Modeling Across Scales: Symposium in Honor of Eric Wood*. Princeton University, Jun. 2-3.
- 26) **Adam, J.C.**, et al., 2016. BioEarth: A regional biosphere-relevant Earth system model to inform agricultural and natural resource management decisions. *Seminar given at PNNL*, Richland, WA. Mar. 11.
- 25) **Adam, J.C.**, et al., 2016. Columbia Basin water and agriculture in a changing climate, *Agriculture in a Changing Climate: Implications for Educators, Industry, and Producers Workshop*. Kennewick, WA, Mar. 9-11.
- 24) **Adam, J.C.**, R.E. Hull, C.L. Tague, J. Reyes, and M.L. Liu, 2015. Where should fine-resolution spatial heterogeneity be captured within Earth System Models, *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 23) **Adam, J.C.**, 2015. Impacts of a changing climate on water resources availability and cropping systems. Washington State Tree Fruit Association (WSTFA) Annual Meeting. Yakima, WA, Dec. 7.
- 22) **Adam, J.C.**, and K. Rajagopalan, 2015. Direct and Indirect effects of climate change on cereal productivity in the Pacific Northwest region of the U.S., REACCH International Meeting, Minneapolis, MN, Nov. 13-14.
- 21) **Adam, J.C.**, 2015. The Columbia River basin long-term water supply and demand forecast. *American Water Resources Association-WA 2015 State Conference*, Oct. 22.
- 20) **Adam, J.C.**, 2015. Scientific inputs to managing natural and agricultural resources in a changing climate. *WSU Extension Agricultural and Natural Resources Unit Summer Meeting*, Spokane, WA, Jul 22.
- 19) **Adam, J.C.**, K. Rajagopalan, C.O Stockle, G. Yorgey, C.E. Kruger, K. Chinnayakanahalli, R. Nelson, 2014. Assessing the impacts of climate change on agricultural production in the Columbia

- River basin: incorporating water management. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 18) **Adam, J.C.**, C.L. Tague, M.L. Liu, E. Garcia, J. Reyes\*, J. Choate, T. Mullis, R. Hull, J. Vaughan, A. Kalyanaraman, and T. Nguyen, 2014. Upscaling a catchment-scale ecohydrology model for regional-scale earth system modeling. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
  - 17) **Adam, J.C.**, C.L. Tague, M.L. Liu, E. Garcia, K. Rajagopalan, S. H. Chung, X. Jiang, J. Harrison, T. Nergui, A. Guenther, C. Miller, J. Reyes, J. Choate, E.P. Salathé, C.O. Stöckle, 2014. Climate Model Bias and Land Surface Heterogeneity: Two Factors that Impact the Usefulness of Earth System Models for Natural Resource Management. *CUAHSI biennial colloquium*, Shepherdstown, WV, Jul. 28-30.
  - 16) Rajagopalan, K., and **Adam, J.C.**, 2013. Integrated Modeling over the Pacific Northwest Region for Sustainable Natural and Agricultural Resource Management. Invited talk, *AWRA Annual Water Resources Conference*, Portland, OR, Nov. 4-7.
  - 15) **Adam, J.C.**, 2013. "Integrated Modeling for Sustainable Natural and Agricultural Resource Management in the Columbia River Basin," Pacific Northwest National Laboratory Seminar, Richland, WA, Jul 19.
  - 14) **Adam, J.C.**, 2013. "Integrated Modeling for Sustainable Natural and Agricultural Resource Management in the Columbia River Basin," Department of Agronomy Seminar, Purdue University, Purdue, IN, Apr. 15.
  - 13) **Adam, J.C.**, 2013. "Integrated Modeling for Sustainable Natural and Agricultural Resource Management in the Columbia River Basin," University of Washington Earth and Space Sciences Seminar, Seattle, WA, Feb. 7.
  - 12) **Adam, J.C.**, C.O. Stockle, and C.E. Kruger, 2012. "Regional-Scale Earth System Models to Inform Land and Water Management Decisions: Limitations and Current Developments," *ASA, CSSA, and SSSA International Annual Meetings*, Cincinnati, OH, Nov 3-6.
  - 11) **Adam, J.C.**, 2012. "Direct and Indirect Impacts of Climate Change on Cropping Systems in Eastern Washington," *Water, Washington and the World: 5<sup>th</sup> Annual Meeting of the Washington State Academy of the Sciences*, Seattle, WA, Sep 20.
  - 10) **Adam, J.C.**, 2012. "A Regional-Scale Earth System Model to Inform Land Management Decisions," *Annual Meeting of the America Association for the Advancement of the Sciences (AAAS)*, Vancouver, BC, Canada. Feb. 17.
  - 9) **Adam, J.C.**, 2012. "A Regional-Scale Earth System Model to Inform Natural and Agricultural Resource Management Decisions," *University of Idaho Climate Panorama Series*, Moscow, ID, Feb 13.
  - 8) **Adam, J.C.**, 2011. Water and Sustainability in the Columbia Basin. *Center for Sustaining Agriculture and Natural Resources (CSANR) Advisory Committee Meeting*, Ellensburg, WA, Dec. 13.
  - 7) Chinnayakanahalli, K., **J.C. Adam**, C.S. Stockle, R. Nelson, M. Brady, K. Rajagopalan, M.E. Barber, S. Dinesh, K. Malek, G. Yorgey, C. Kruger, T. Marsh, and J. Yoder, 2011. Incorporating agricultural management into an earth system model for the Pacific Northwest region: Interactions between climate, hydrology, agriculture, and economics, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 6.
  - 6) **Adam, J.C.**, 2011. Columbia River Basin Water Supply and Demand Forecast for the 2030s, *Idaho water Resources Research Institute Hydrology Seminar*, Moscow, ID, Oct. 11.
  - 5) **Adam, J.C.**, 2011. Progress Towards Earth System Modeling of the Pacific Northwest Region, *University of Idaho Climate Panorama Series*, Moscow, ID, Apr. 20.
  - 4) **Adam, J.C.**, 2011. Earth System Modeling: A Framework for Interdisciplinary Research, *WSU Soils Seminar*, Pullman, WA, Jan 31.
  - 3) **Adam, J.C.**, 2010. Climate change impacts on Pacific Northwest Hydrology, *WSU Biological Systems Engineering Seminar*, Pullman, WA, Feb. 5.

- 2) **Adam, J.C.**, 2009. Numerical modeling of the impacts of climate change on Pacific Northwest hydrology, *WSU Chemical Engineering Seminar*, Oct. 12.
- 1) **Adam, J.C.**, and D.P. Lettenmaier, 2007. Application of the VIC model to explore the role of permafrost in observed Eurasian Arctic streamflow changes, *Eurasian Hydroclimatology Workshop*, Fairbanks, AK, Nov. 11-14.

#### OTHER MEETING ABSTRACTS

- 127) Hanan, E.J., C. Tague, J. Choate, and **J.C. Adam**, 2016. Combining remote sensing and watershed modeling for regional-scale carbon cycling studies in disturbance-prone systems. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 126) Reyes, J.J., C.L. Tague, and **J.C. Adam**, 2016. Assessing the impact of parameter uncertainty in modeling grass biomass using a hybrid allocation strategy. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 125) Malek, K., **J.C. Adam**, C. Stockle, and M. Brady, 2016. Downstream consequences of switching to more efficient irrigation technologies. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 124) Rushi, B.R., M. Barik, S.Y. Lee, K. Rajagopalan, M. Brady, J. Petrie, M. Barber, J. Boll and **J.C. Adam**, 2016. Columbia River Treaty renegotiation: Potential impacts on agriculture, hydropower and flood risk in the context of an altered climate. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 123) Nguyen, T., C. Tague, and **J.C. Adam**, 2016. The role of catchment soil and geologic properties in governing mountain streamflow response to climate change. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 122) Rabbani, G.A., **J.C. Adam**, W.J. Elliot, and H. Liu, 2016. Forest surface energy balance and evapotranspiration estimated from four eddy covariance towers. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 121) Barik, M., B. Rushi, K. Malek, K. Rajagopalan, S. Hall, C. Kruger, M. Brady, C. Stockle, and **J.C. Adam**, 2016. Assessment of long-term irrigation water availability over the highly managed and economically important agricultural region of the Columbia River basin. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- 120) Malek, K., **J.C. Adam**, C. Stockle, and M. Brady, 2016. How does climate change impact farmers' investment decisions? 7<sup>th</sup> Annual Northwest Climate Conference, Stevenson, WA. Nov 14-16.
- 119) Rajagopalan, K., **J.C. Adam** and C.E. Kruger, 2016, Forecasting Water Supply and Demand for the Columbia River Basin and beyond. Skagit Ag Summit. Mt. Vernon, WA, March 2016.
- 118) Reyes, J.J., C.L. Tague, C. Kruger, K.A. Johnson, and **J.C. Adam**. 2016. Integrated response of grassland biomass along co-varying gradients of climate and grazing management using an eco-hydrologic model. Poster at the Agriculture in a Changing Climate Workshop, Kennewick, WA, Mar 9-11
- 117) Allen, E., J. Stephens, G. Yorgey, C. Kruger, S. Ahamed, **J. Adam**, 2016. What do Agricultural Decision-Makers in the Northwest US Need to Know about Climate Change? Pacific Northwest Agriculture in a Changing Climate Conference. Kennewick WA, March 9-11.
- 116) Malek, K., J. C. Adam, , C. Stockle, M. Brady, 2016, When Should Irrigators Invest in More Water Efficient Technology, Pacific Northwest Direct Seed Association, Kennewick, WA, January 12-13.
- 115) Nguyen, T., and **J.C. Adam**, 2015. Impacts of climate change on groundwater recharge and streamflow in headwater catchments in the Yakima River basin. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 114) Nergui, T., R.D. Evans, **J.C. Adam**, and S.H. Chung, 2015. The El Niño Southern Oscillation (ENSO)-induced modulations in precipitation and nitrogen wet deposition rates in the continental United States. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.

- 113) Richey, A., J. Richey, and **J.C. Adam**, 2015. Assessing the use of remote sensing and crop growth model to improve modeled streamflow in Central Asia. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 112) Reyes, J.J., C.L. Tague, C.E. Kruger, K.A. Johnson, and **J.C. Adam**, 2015. Integrated response of grassland biomass along co-varying gradients of climate and grazing management using an eco-hydrologic model. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 111) Li, D. M. Wrzesien, M. Durand, **J.C. Adam**, and D.P. Lettenmaier, 2015. How much of the streamflow in the U.S. originates as snow? *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 110) Barik, M., M.L. Liu, C.O. Stockle, J. Abatzoglou, and **J.C. Adam**, 2015. Is snowpack drought an increasing threat in the Pacific Northwest? *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 109) Barik, M., M. Liu, K. Malek, K. Rajagopalan, B. Rushi, R. Nelson, C. Kruger, M. Brady, C. Stockle, and **J.C. Adam**, 2015. Modeled crop yield response to various types of drought events in the Pacific Northwest. *Northwest Climate Science Conference*, Coeur d'Alene, ID, Nov. 3-5.
- 108) Baret, Q., S.H. Chung, **J.C. Adam**, and V. Walden, 2015. Impact of aerosols from wildfires on crop growth in the Pacific Northwest, PNW Science Climate Conference, Coeur d'Alene, ID, Nov. 3-5.
- 107) Reyes, J.J., C.L. Tague, C.E. Kruger, K.A. Johnson, and **J.C. Adam**, 2015. Coupled response of grassland biomass to changes in climate and grazing management using an eco-hydrologic model. *Northwest Climate Science Conference*, Coeur d'Alene, ID, Nov. 3-5.
- 106) Malek, K., **J.C. Adam**, C.O. Stockle, and M.P. Brady, 2015. When would irrigators invest in more water-efficient technologies as an adaptation to climate change? *Northwest Climate Science Conference*, Coeur d'Alene, ID, Nov. 3-5.
- 105) Rajagopalan, K., **J.C. Adam** et al., 2015. Indirect impacts of climate change through changes in water availability on agricultural production in the Columbia River basin. *Northwest Climate Science Conference*, Coeur d'Alene, ID, Nov. 3-5.
- 104) Rushi, B., M. Barik, K. Rajagopalan, S.L. Lee, M. Brady, J. Petrie, M. Barber, and **J.C. Adam**, 2015. The impacts of the Columbia River Treaty scenarios on agriculture, hydropower production, and flood risk in a future climate. *Northwest Climate Science Conference*, Coeur d'Alene, ID, Nov. 3-5.
- 103) Baxter, H., T. Nguyen, **J.C. Adam**, M. Barik, M. Barber, A. Hossain, 2015. Impacts of future changes on low flow in highly-connected river-aquifer systems: A case study of the Spokane River and the Spokane Valley-Rathdrum Prairie Aquifer. *Northwest Scientific Association*, Pasco, WA, Apr. 1-4.
- 102) Baxter, J., **J.C. Adam**, T. Nguyen, M. Barik, A. Hossain, and M.E. Barber, 2015. Spokane River low flow trends and modeling in a changing environment, *Universities Council on Water Resources Annual Conference*, Henderson, NV, Jun. 16-18.
- 101) Reyes, J., **J.C. Adam**, and C.L. Tague, 2015. Assessing environmental controls on biomass in grasslands using an eco-hydrologic model. *Ecological Society of America Annual Meeting*, Baltimore, MD, Aug 9-14.
- 100) Malek, K., S. Claudio, **J. Adam**, R. Nelson, and M. Brady, 2015. When would irrigators invest in more water-efficient technologies as an adaptation to climate change? *ASABE annual meeting*, New Orleans, LA, Jul. 26-29
- 99) Rajagopalan, K., K. Malek, M. Barik, M.L. Liu, R. Nelson, C.O. Stockle, C.E. Kruger, M.P. Brady, and **J.C. Adam**, 2015. Food for thought: strategies for sustainable agricultural production in the Columbia River basin in an altered future. NOAA Climate Prediction Applications Science Workshop (CPASW), Mar 24-26, 2015.
- 98) Liu, M. K. Malek, **J.C. Adam**, C.O. Stockle, K. Rajagopalan, and R. Nelson, 2014. Changing water and nitrogen use efficiency over agricultural lands of the inland Pacific Northwest during the 21st century: implications for adaptation. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.

- 97) Malek, K., **J.C. Adam**, J. Yoder, M. Brady, and C. Stockle, 2014. Informing sustainable irrigation management strategies in response to implementation of Washington State's Yakima Basin Integrated Plan (YBIP). *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 96) Reyes, J.J., C.L. Tague, J.S. Choate, and J.C. **Adam**, 2014. Eco-hydrologic modeling of rangelands: Evaluating a new carbon allocation approach and simulating ecosystem response to changing climate and management regimes. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 95) Chandrasekharan, B., K. Rajagopalan, K. Malek, M. Brady, **J.C. Adam**, and C.O. Stockle, 2014. A comparative study of spatial aggregation methodologies under the BioEarth framework. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- 94) Rajagopalan, K., K. Chinnayakanahalli, R. Nelson, C. Stockle, C. Kruger, M. Brady, and **J.C. Adam**, 2014. Food for thought: crop yields in the Columbia River basin in an altered future. *ASA, CSSA, and SSSA International Annual Meeting*, Long Beach, CA, Nov 2-4.
- 93) Adam, J.C.**, J.C. Stephens, S.H. Chung, M.P. Brady, R.D. Evans, C.E. Kruger, B.K. Lamb, M.L. Liu, C.O. Stöckle, J.K. Vaughan, K. Rajagopalan, J.A. Harrison, C.L. Tague, A. Kalyanaraman, Y. Chen, A. Guenther, F.Y. Leung, L.R. Leung, A.B. Perleberg, J. Yoder, E. Allen, S. Anderson, B. Chandrasekharan, K. Malek, T. Mullis, C. Miller, T. Nergui, J. Poinsatte, J. Reyes (*presenting*), J. Zhu, J.S. Choate, X. Jiang, R. Nelson, J.H. Yoon, G.G. Yorgey, K.J. Chinnayakanahalli, A.F. Hamlet, B. Nijssen, V. Walden, 2014. BioEarth: A regional biosphere-relevant earth system model to inform agricultural and natural resource management decisions. *PNW Science Climate Conference*, Seattle, WA, Sep. 9-10.
- 92) Baxter, H., T. Nguyen, M. Barber, A. Hossain, and **J.C. Adam**, 2014. Impacts of future changes on groundwater recharge and low flow in highly-connected river-aquifer systems: A case study of the Spokane River and the Spokane Valley-Rathdrum Prairie Aquifer. *PNW Science Climate Conference*, Seattle, WA, Sep. 9-10.
- 91) Malek, K., C.O. Stockle, **J.C. Adam**, R. Nelson, K. Chinnayakanahalli, and K. Rajagopalan, 2014. Impacts of irrigation management on water and energy fluxes over the Yakima River basin. *PNW Science Climate Conference*, Seattle, WA, Sep. 9-10.
- 90) Rajagopalan, K., K. Chinnayakanahalli, R. Nelson, C. Stockle, C. Kruger, M. Brady, and **J.C. Adam**, 2014. Food for thought: crop yields in the Columbia River basin in an altered future. *PNW Science Climate Conference*, Seattle, WA, Sep. 9-10.
- 89) Reyes, J.J. M. Liu, C.L. Tague, J.S. Choate, R.D. Evans, K.A. Johnson, and **J.C. Adam**, 2014. Eco-hydrologic modeling of rangelands: Evaluating a new carbon allocation approach and incorporating grazing impacts on ecosystem processes. *PNW Science Climate Conference*, Seattle, WA, Sep. 9-10.
- 88) Malek, K., J.C. Adam, C.O. Stockle, and R. Nelson, 2014. How does irrigation management change water and energy fluxes to the atmosphere. *AMS conference on mountain meteorology*, Portland, OR, Aug. 18-22.
- 87) Malek, K., C.O. Stockle, J.C. Adam, R. Nelson, and K. Chinnayakanahalli, 2014. Impacts of irrigation management on water and energy fluxes over the Yakima River basin. *ASABE annual meeting*, Montreal, Canada, Jul. 13-16.
- 86) Rajagopalan, K., Chinnayakanahalli, K.J., Nelson, R., Stockle, C., Kruger C., Brady, M., **Adam, J.C., 2013**. Food for thought: crop yields in the Columbia River basin in an altered future. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 9-13.
- 85) Reyes, J.J., M. Liu, C.L. Tague, J.S. Choate, R.D. Evans, K.A. Johnson, and **J.C. Adam**, 2013. Incorporating grazing into an eco-hydrologic model: Simulating coupled human and natural systems in rangelands. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 9-13.
- 84) **Adam, J.C.**, J.C. Stephens, S.H. Chung, M.P. Brady, R.D. Evans, C.E. Kruger, B.K. Lamb, M.L. Liu, C.O. Stöckle, J.K. Vaughan, K. Rajagopalan, J.A. Harrison, C.L. Tague, A. Kalyanaraman, Y. Chen, A. Guenther, F.Y. Leung, L.R. Leung, A.B. Perleberg, J. Yoder, E. Allen, S. Anderson, B. Chandrasekharan, K. Malek, T. Mullis, C. Miller, T. Nergui, J. Poinsatte, J. Reyes (*presenting*), J. Zhu, J.S. Choate, X. Jiang, R. Nelson, J.H. Yoon, G.G. Yorgey, K.J. Chinnayakanahalli, A.F. Hamlet,



- B. Nijssen, 2013. BioEarth: A regional biosphere-relevant earth system model to inform agricultural and natural resource management decisions. *4th annual Pacific Northwest Climate Science Conference*, Portland, OR, Sep. 5-6.
- 83) Reyes, J.J., M. Liu, C.L. Tague, J.S. Choate, R.D. Evans, K.A. Johnson, and **J.C. Adam**, 2013. Incorporating grazing into an eco-hydrologic model: Simulating coupled human and natural systems in grasslands. Poster presented at the *4th annual Pacific Northwest Climate Science Conference*, Portland, OR, Sep. 5-6.
- 82) Nergui, T., B.K. Lamb, R.D. Evans, **J.C. Adam**, and S.H. Chung, 2013. Correlations between inter-annual climate variability and nitrogen wet deposition in the United States. Poster presented at the *4th annual Pacific Northwest Climate Science Conference*, Portland, OR, Sep. 5-6.
- 81) Mullis, T., M. Liu, A. Kalyanaraman, J.K. Vaughan and **J.C. Adam**, 2013. Demonstration of Kepler workflows for efficient management of eco-hydrological model simulations over the Pacific Northwest region. Poster presented at the *4th annual Pacific Northwest Climate Science Conference*, Portland, OR, Sep. 5-6.
- 80) Liu, M., **J.C. Adam**, et al., 2013. "Uncertainties in impact studies of future climate change on natural and agricultural ecosystems by using modeled climate data with bias correction," *Ecological Science of America (ESA)*, Minneapolis, MN, Aug. 4-9.
- 79) Liu, M., **J.C. Adam**, C. Tague, 2013. "Zooming out from small patches and watersheds to regions: What is missing out in the modeling world?" *Ecological Science of America (ESA)*, Minneapolis, MN, Aug. 4-9.
- 78) Malek, K., C. Stockle, **J.C. Adam**, R. Nelson, and K. Chinnayakanahalli, 2013. Impacts of climate change and irrigation management strategies on soil moisture, evapotranspiration, irrigation water availability, and crop productivity," *American Society of Agricultural and Biological Engineers (ASABE)*, Kansas City, MO, Jul. 24.
- 77) **Adam, J.C.**, K. Rajagopalan, K. Chinnayakanahalli, M. Brady, C. Stockle, and C. Kruger, 2013. "Integrated modeling for natural and agricultural resource management," *University Coalition on Water Resources (UCOWR)*, Lake Tahoe, NV, Jun. 11.
- 76) Orr, C.H., **J.C. Adam**, A. Beall, M.E. Barber, and T. Nguyen, 2012. "Using linked models to study interactions between water use decisions and climate change-driven watershed processes in the Pacific Northwest region," *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 2-7.
- 75) Gould, G., **J.C. Adam**, C. Warren, M.E. Barber, J. Wagenbrenner, P. Robichaud, and K. Cherkauer, 2012. "Large-Scale Simulation of the Effects of Climate Change on Runoff Erosion Following Extreme Wildfire Events," *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 2-7.
- 74) Liu, M., **J.C. Adam**, R.D. Evans, Z. Zhu, and R.B. Myneni, 2012. "Responses of terrestrial water cycles to changes in climate and phenology over the Conterminous U.S. during 1983-2011," *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 2-7.
- 73) Rajagopalan, K. K. Chinnayakanahalli, **J.C. Adam**, K. Malek, R. Nelson, C. Stockle, M. Brady, S. Dinesh, M.E. Barber, G. Yorgey, and C. Kruger, 2012. "Integrated Modeling to Assess the Impacts of Changes in Climate and Socio Economics on Agriculture in the Columbia River Basin," *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 2-7.
- 72) Nergui, T., N. Thomas, M. Liu, B.K. Lamb, **J.C. Adam**, and S.H. Chung, 2012. "Evaluating Inter-Annual Climate Variability of Nitrogen Wet Deposition in the United States Using Wavelet Analysis," *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 2-7.
- 71) **Adam, J.C.**, K. Rajagopalan, C.O. Stockle, C.E. Kruger, M.P. Brady, M.E. Barber, K.J. Chinnayakanahalli, G.G. Yorgey, R.L. Nelson, S. Dinesh, K. Malek, J. Yoder, S. Chung, J.K. Vaughan, F. Leung, B.K. Lamb, R.D. Evans, J. Harrison, J. Stephens, A. Guenther, A. Kalyanaraman, L.R. Leung, M. Liu, C.L. Tague, A.B. Perleberg, Y. Chen, T.M. Norton, X. Jiang, and J. Zhu, 2012. "BioEarth: A Regional-Scale Earth System Model to Inform Land and Water Management Decisions," *ASA, CSSA, and SSSA International Annual Meetings*, Cincinnati, OH, Nov 3-6.
- 70) Barber, M.E., **J.C. Adam**, M. Brady, K. Chinnayakanahalli, S. Dinesh, C. Kruger, T. Peters, K. Rajagopalan, C. Stockle, J. Yoder, and G. Yorgey, 2012. "Climate Change Impacts on 2030 Water

- Supply and Demand in the Columbia River Basin,” *3<sup>rd</sup> Annual Pacific Northwest Climate Science Conference*, Boise, ID, Oct. 1-2.
- 69) Kruger, C.E., **J.C. Adam**, A. Carter, E. Whitefield, and S. Eigenbrode, 2012. “Leaders of large regional agricultural projects: Panel discussion on agriculture and climate change in the Pacific Northwest,” *3<sup>rd</sup> Annual Pacific Northwest Climate Science Conference*, Boise, ID. Oct. 1-2.
- 68) **Adam, J.C.**, M.E. Barber, M.P. Brady, C.O. Stockle, C.E. Kruger, K. Chinnayakanahalli, K. Rajagopalan, G.G. Yorgey, R. Nelson, K. Malek, and S. Dinesh, 2012. “Regional-Scale Integrated Modeling Applications for Sustainable Land and Water Resource Management”, *Consortium of Universities for the Advancement of the Hydrologic Sciences (CUAHSI) 3<sup>rd</sup> Biennial Colloquium on Hydrologic Science and Engineering*, Boulder, CO, Jul. 14-19.
- 67) Rajagopalan, K., K.J. Chinnayakanahalli, **J.C. Adam**, R.L. Nelson, C.O. Stockle, M.P. Brady, K. Malek, S. Dinesh, M.E. Barber, G.G. Yorgey, and C.E. Kruger, 2012. "Assessing the Impact of Climate Change on Columbia River Basin Agriculture through Integrated Modeling,” *Fourth International Conference on Climate Change*, Seattle, WA, Jul. 12-13.
- 66) Liu, M., **J.C. Adam**, Z. Zhu, and R.B. Myneni, Responses of Terrestrial Water Cycles to Changes in Phenology in North America during 1981-2010,” *Fourth International Conference on Climate Change*, Seattle, WA, Jul. 12-13.
- 65) **Adam, J.C.**, K. Rajagopalan, C.O. Stockle, C.E. Kruger, M.P. Brady, M.E. Barber, K.J. Chinnayakanahalli, G.G. Yorgey, R.L. Nelson, S. Dinesh, K. Malek, J. Yoder, S. Chung, J.K. Vaughan, F. Leung, B.K. Lamb, R.D. Evans, J. Harrison, J. Stephens, A. Guenther, A. Kalyanaraman, L.R. Leung, M. Liu, C.L. Tague, A.B. Perleberg, Y. Chen, T.M. Norton, X. Jiang, J. Zhu, and J. Yoon, 2012. “Understanding Biogeochemical cycling in the context of climate variability using a regional Earth system modeling framework,” *NSF EaSM-1 PI Meeting*, Washington, DC, Jul 9-11.
- 64) **Adam, J.C.**, M.E. Barber, and C.E. Kruger, 2012. “Regional-Scale Integrated Modeling to Inform Land and Water Management Decisions in an Altered Climate: Current Developments”, Idaho National Laboratories Mountain West Water Institute (MWWI) “Water Ways and Means”, Idaho Falls, ID, May 15.
- 63) Yorgey, G.G., C.E. Kruger, **J.C. Adam**, K.J. Chinnayakanahalli, K. Rajagopalan, M.E. Barber, M.P. Brady, R.L. Nelson, C.O. Stockle, S. Dinesh, K. Malek, J. Yoder, and T.L. March, 2011. Forecasting water supply and demand in the Columbia River Basin. *Washington State Horticultural Association Annual Meeting*, Dec 7-9.
- 62) Rajagopalan, K., K. Chinnayakanahalli, **J.C. Adam**, C.S. Stockle, R. Nelson, M. Brady, M.E. Barber, S. Dinesh, K. Malek, G. Yorgey, C. Kruger, T. Marsh, and J. Yoder, 2011. Assessing the Impact of Climate Change on Columbia River Basin Agriculture through Integrated Crop Systems, Hydrologic, and Water Management Modeling, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 6.
- 61) **Adam, J.C.**, K. Rajagopalan, K. Chinnayakanahalli, C.S. Stockle, R. Nelson, M. Brady, M.E. Barber, S. Dinesh, K. Malek, G. Yorgey, C. Kruger, T. Marsh, and J. Yoder, 2011. Columbia River Basin Water Supply and Irrigation Demand Forecast for the 2030s, *Water in the Columbia Basin: Sharing a Limited Resource*, Stevenson, WA, Nov. 2-4.
- 60) Rajagopalan, K., K. Chinnayakanahalli, **J.C. Adam**, C.S. Stockle, R. Nelson, M. Brady, M.E. Barber, S. Dinesh, K. Malek, G. Yorgey, C. Kruger, T. Marsh, and J. Yoder, 2011. Assessing the Impact of Climate Change on Irrigation Demand and Water Availability in the Yakima River Basin, *Water in the Columbia Basin: Sharing a Limited Resource*, Stevenson, WA, Nov. 2-4.
- 59) Malek, K., **J.C. Adam**, K. Rajagopalan, K. Chinnayakanahalli, C.S. Stockle, R. Nelson, M. Brady, M.E. Barber, S. Dinesh, G. Yorgey, C. Kruger, T. Marsh, and J. Yoder 2011. Assessing the Impact of Climate Change on Columbia River Basin Agriculture through Integrated Crop Systems, Hydrologic, and Water Management Modeling, *Pacific Northwest Climate Science Conference*, Seattle, WA, Sep 13-14.
- 58) Chung S., **J.C. Adam**, R. Gonzalez-Abraham, B.K. Lamb, 2011. Introduction of a New Earth System Modeling Framework for Understanding Biogeochemical Cycling in the Pacific Northwest: BioEarth

- Overview and Initial Nitrogen Deposition Analyses, *Pacific Northwest Climate Science Conference*, Seattle, WA, Sep 13-14.
- 57) Reyes, J.J., **J.C. Adam**, C.L. Tague, J.S. Choate, J.K. Vaughan, S.H. Chung, and B.K. Lamb, 2011. Modeling impacts of atmospheric nitrogen deposition on terrestrial ecosystems: Linking ecology, hydrology and atmospheric processes. *3<sup>rd</sup> iLEAPS Science Conference*. Garmisch-Partenkirchen, Germany, Sep. 19-23.
  - 56) Reyes, J.J., **J.C. Adam**, C.L. Tague, and J.S. Choate, 2011. Building a biosphere-relevant Earth system modeling framework: Modeling impacts of atmospheric nitrogen deposition on the terrestrial biosphere. *96<sup>th</sup> Ecological Society of America Annual Meeting*. Austin, TX, Aug 7-12.
  - 55) Reyes, J.J., **J.C. Adam**, C.L. Tague, and J.S. Choate, 2011. Impacts of atmospheric nitrogen deposition on terrestrial ecosystems: Implications for climate change. *Gordon Research Conference, Catchment Science: Interactions of Hydrology, Biology, and Geochemistry*. Lewiston, ME, Jul 11-15.
  - 54) Adam, J.C.**, and J.M. Johnston, 2011. Predicted Changes of the Relative Magnitude of Water Storage Capacity in Seasonal Snowpack to Artificial Reservoirs at the Global Scale, *UCOWR/NIWR Annual Conference*, Boulder, CO, Jul. 11-15.
  - 53) Van Wie, B.J., et al., 2011. Multi-Disciplinary Project-Based Paradigm that Uses Hands-on Desktop Learning Modules and Modern Learning Pedagogies, *American Society for Engineering Education (ASEE) Annual Conference*, Vancouver, B.C. Canada, Jun 26-29.
  - 52) Guenther, A., et al., 2011. Progress Towards Earth System Modeling of the Pacific Northwest Region, *Regional Earth System Modeling and Analysis Symposium*, Beijing China, May 20.
  - 51) Rajagopalan, K., K. Chinnayakanahalli, S. Dinesh, **J.C. Adam**, M.E. Barber, R. Nelson, C. Stockle, M. Brady, and G. Yorgey, 2011. An integrated modeling framework to study the impacts of climate change on irrigated agriculture. *Regional Approaches to Climate Change Annual Meeting*, May 9.
  - 50) Vaughan, J.K., et al., 2011. A New Project – An Earth Systems Modeling Framework for Understanding Biogeochemical Cycling in the Context of Climate Variability, *1<sup>st</sup> INTERFACE Meeting on How DO We Improve Earth System Models?* Captive Island, FL, Feb 28- Mar 3.
  - 49) Van Wie, B.J., et al., 2011. Multi-Disciplinary Project-Based Paradigm that Uses Hands-on Desktop Learning Modules and Modern Learning Pedagogies, *NSF TUES Workshop*, Washington D.C., Jan 27-28.
  - 48) Karlovits, G.S., and **J.C. Adam**, 2011. Probabilistic Climate Change Analysis for Stormwater Runoff in the Pacific Northwest, *American Meteorological Society (AMS) 25<sup>th</sup> Conference on Hydrology*, Seattle, WA, Jan 25.
  - 47) Karlovits, G.S., and **J.C. Adam**, 2010. Monte Carlo Simulation to Characterize Stormwater Runoff Uncertainty in a Changing Climate, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 13-17.
  - 46) Ottenbreit, E., **J.C. Adam**, M.E. Barber, J. Boll, and J.L. Ullman, 2010. Modeling the Impacts of Climate Change and Agricultural Management Practices on Surface Erosion in a Dryland Agricultural Basin, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 13-17.
  - 45) Bartolini, E., **J.C. Adam**, and P. Claps, 2010. Global Snow Cover: Comparison of Modeling Results with Satellite-Derived Snow Cover Maps, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 13-17.
  - 44) Chinnayakanahalli, K.J., **J.C. Adam**, C. Stockle, R. Nelson, and M.E. Barber, 2010. A Coupled Hydrological and Process-Based Crop Dynamics Model for Studying Climate Change Impacts on Water resources and Agricultural Production, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 13-17.
  - 43) Karlovits, G.S., and **J.C. Adam**, 2010. Uncertainty Analysis of Climate Change Effects on Runoff for the Pacific Northwest, *WSU Water Forum*, Spokane, WA, Nov. 4-5.
  - 42) Ottenbreit, E., **J.C. Adam**, M.E. Barber, J. Boll, and J.L. Ullman, 2010. Modeling the Impacts of Climate Change on Suspended Sediment and Erosion in a Dryland Agricultural Basin, *WSU Water Forum*, Spokane, WA, Nov. 4-5.

- 41) Chinnayakanahalli, K.J., **J.C. Adam**, C. Stockle, R. Nelson, and M.E. Barber, 2010. A Coupled Hydrological and Process-Based Crop Dynamics Model for Studying Climate Change Impacts on Agriculture and Water Resources, *WSU Water Forum*, Spokane, WA, Nov. 4-5.
- 40) Adam, J.C.**, K.J. Chinnayakanahalli, C. Stockle, and M.E. Barber, 2010. Climate Change Impacts on Water Supply and Irrigation Water Demand in the Columbia River Basin, *UCOWR/NIWR Annual Conference*, Seattle, WA, Jul. 13-15.
- 39) Lopes, T., M.E. Barber, **J.C. Adam**, and B. Muhunthan, 2010. Impacts of Spatial and Temporal Precipitation Distributions on Stormwater Runoff, *UCOWR/NIWR Annual Conference*, Seattle, WA, Jul. 13-15.
- 38) Ottenbreit, E., **J.C. Adam**, M.E. Barber, J. Boll, and J.L. Ullman, 2010. Modeling Climate Change Impacts on Suspended Sediment in the Potlatch River Basin, *UCOWR/NIWR Annual Conference*, Seattle, WA, Jul. 13-15.
- 37) Barik, M., and **J.C. Adam**, 2010. Landslide Susceptibility Mapping to Inform Land-use Management in an Altered Climate, *Steve Burges Retirement Symposium*, Seattle, WA, Mar. 24-26.
- 36) Van Wie, J., **J.C. Adam**, and J.L. Ullman, 2010. Hydrologic modeling of conservation farming practices on the Palouse, *Steve Burges Retirement Symposium*, Seattle, WA, Mar. 24-26.
- 35) Barik, M., and **J.C. Adam**, 2010. Landslide Susceptibility Mapping to Inform Land-use Management in an Altered Climate, *WSU Academic Showcase*, Pullman, WA, Mar. 25.
- 34) Van Wie, J., **J.C. Adam**, and J.L. Ullman, 2010. Hydrologic modeling of conservation farming practices on the Palouse, *WSU Academic Showcase*, Pullman, WA, Mar. 25.
- 33) Rawlins, M.A., M. Steele, M.M. Holland, **J.C. Adam**, et al, 2010. Analysis of the Arctic System for freshwater cycle intensification: observations and expectations, *State of the Arctic Conference: At the Forefront of Global Change*, Miami, FL, Mar. 16-19.
- 32) Adam, J.C.**, W.W. Budd, R.D. Evans, K.A. Johnson, C.K. Keller, B.K. Lamb, N.P. Lovrich, W.L. Pan, S.D. Stehr, 2009. NSPIRE Nitrogen Systems: Policy-oriented Integrated Research and Education. Workshop on N Deposition, Critical Loads and Biodiversity, Edinburgh, Scotland, Nov. 16-18.
- 31) Rawlins, M.A., M. Steele, M.M. Holland, **J.C. Adam**, et al, 2009. Analysis of the Arctic System for freshwater cycle intensification: observations and expectations, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 14-18.
- 30) Van Wie, J., and **J.C. Adam**, 2009. Modeling the widespread adoption of conservation farming, *Palouse Basin Water Summit*, Pullman, WA, Oct. 6.
- 29) Van Wie, J., **J.C. Adam**, and J.L. Ullman, 2009. Hydrologic modeling of conservation farming practices on the Palouse, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 14-18.
- 28) Barik, M., and **J.C. Adam**, 2009. Impacts of land use management and climate change on landslide susceptibility over the Olympic Peninsula of Washington State, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 14-18.
- 27) Barik, M., C. Jordan, T. Lopes, **J.C. Adam**, M. Barber, and B. Muhunthan, 2009. Analysis of long-term land cover and climate change effects on slope stability, *Water and Land Use in the Pacific Northwest: Integrating Communities and Watersheds*, Stevenson, WA, Nov. 4-6.
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- 25) Adam, J.C.**, and J. Van Wie, 2009. Climate change impacts on Pacific Northwest Hydrology: Implications for Agriculture and Water Resources, *Water and Land Use in the Pacific Northwest: Integrating Communities and Watersheds*, Stevenson, WA, Nov. 4-6.
- 24) Weedon, G.P. S. Gomes, P. Viterbo, H. Osterle, **J.C. Adam**, N. Bellouin, and O. Boucher, 2009. New global meteorological sub-daily forcing dataset for land-surface- and hydrological-models spanning the twentieth century. *Royal Meteorological Society Conference*, Reading, UK, June 29-July 2.
- 23) Barber, M., R. Mahler, and **J. Adam**, 2009. Climate Change and Western Prior Appropriation Water Laws in the United States: Compatible or Conflict? *Water Policy 2009 – International Conference* at

- CULS, Prague, Czech Republic, June 22-26.
- 22) Tan, A., **J.C. Adam**, and D.P. Lettenmaier, 2008. Trends in Eurasian Arctic runoff timing and their relationship to snow cover changes, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 15-19.
  - 21) Tan, A., **J.C. Adam**, M.C. Serreze, and D.P. Lettenmaier, 2008. The Sensitivity of Eurasian Arctic Runoff Changes to Snow Cover Related Surface Energy Flux Variations, *AGU Spring Meeting Abstracts*, Fort Lauderdale, FL, May 27-30.
  - 20) **Adam, J.C.**, and D.P. Lettenmaier, 2007. Application of the VIC model to explore the role of permafrost in observed Eurasian Arctic streamflow changes, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 5-9.
  - 19) Rawlins, M.A., **J.C. Adam**, C.J. Vorosmarty, M.C. Serreze, L.D. Hinzman, M. Holland, and A. Shiklomanov, 2007. An intensified Arctic water cycle? Trend analysis of the Arctic System Freshwater Cycle: Observations and expectations, *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 10-14.
  - 18) **Adam, J.C.**, I. Haddeland, F. Su, and D.P. Lettenmaier, 2006. Simulation of Reservoir Effects on Seasonal and Annual Streamflow for the Lena, Yenisei, and Ob Rivers. *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 11-15.
  - 17) Lettenmaier, D.P., **J.C. Adam**, and T. Barnett, 2006. Sensitivity of snow-dominated hydrologic regimes to global warming. *EGU Annual Meeting Abstracts*, Vienna, Austria, Apr. 2-7.
  - 16) **Adam, J.C.**, F. Su, and D.P. Lettenmaier, 2005. Exploring the effects of precipitation changes on the variability of pan-Arctic river discharge. *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 5-9.
  - 15) **Adam, J.C.**, T.P. Barnett, and D.P. Lettenmaier, 2005. Impacts of a warming climate on water availability in snow-dominated regions. *US Climate Change Science Program Workshop Abstracts*, Arlington, VA, Nov. 14-16.
  - 14) **Adam, J.C.**, D.P. Lettenmaier, F. Su, and L.C. Bowling, 2005: Exploring the contributing effects of climate and land surface changes on the variability of pan-Arctic river discharge and surface albedo. *1<sup>st</sup> Climate and Cryosphere International Science Conference Abstracts*, Beijing, China, Apr. 11-15.
  - 13) Su, F., **J.C. Adam**, L.C. Bowling, and D.P. Lettenmaier, 2005: Hydrological simulations for the pan-Arctic drainage system. *1<sup>st</sup> Climate and Cryosphere International Science Conference Abstracts*, Beijing, China, Apr. 11-15.
  - 12) **Adam, J.C.**, D.P. Lettenmaier, E. Clark, and E.F. Wood, 2005. Correction of global precipitation products for systematic bias and orographic effects. *85<sup>th</sup> AMS Annual Meeting Abstracts*, San Diego, CA, Jan. 8-14.
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  - 10) **Adam, J.C.**, D.P. Lettenmaier, E.A. Clark, and E.F. Wood, 2005. Correction of global precipitation products for orographic effects. *5th International Scientific Conference on the Global Energy and Water Cycle Abstracts*, Orange County, CA, Jun. 19-23.
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- 3) **Adam, J.C.**, and D.P. Lettenmaier, 2002. Bias correction of global gridded precipitation for solid precipitation undercatch. *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 6-10.
- 2) Maurer, E.P., A.W. Wood, **J.C. Adam**, B. Nijssen, and D.P. Lettenmaier, 2001. Derived continental U.S. land surface hydrologic fluxes and state variables, 1950-2000. *AGU Fall Meeting Abstracts*, San Francisco, CA, Dec. 10-14.
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