

# Mohammad Safeeq, PhD

## Curriculum Vitae

Assistant Research Scientist,  
Sierra Nevada Research Institute &  
Assistant Adjunct Professor, School of Engineering  
University of California, Merced; Merced, CA 95340

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### A. Research Interests

- Climate Change and Water Sustainability
- Climate Change and Hydrologic Extremes
- Watershed and Regional Scale Hydrologic Modeling
- Water Resources Sensitivity and Scenario Analysis
- Role of Vegetation Dynamics on Future Water Resources under Climate Change
- Agriculture and Forest Management Options for Climate Change Adaptation and Sustainability
- Application of Remote Sensing and LiDAR in Hydrologic Modeling and Natural Resources Evaluation and Management

### B. Education

**Ph.D. (2010) Natural Resources and Environmental Management**, University of Hawaii-Manoa  
Dissertation: Response of Different Hydrologic Processes under Changing Land Use/Land Cover and Climate in Mākaha Watershed, O'ahu.

**M.S. (2005) Agricultural & Food Engineering**, Indian Institute of Technology, Kharagpur, India.  
Dissertation: Assessment of the Reaction and Transformation Processes for Fertilizer Nitrogen during Transport in a Low Land Paddy Field.

**B.S. (2003) Agricultural Engineering**, CSA University of Agriculture & Technology, Kanpur, India.  
Senior Thesis: Design and Economical Analysis of Different Water Conveyance Systems

### C. Professional Experience

<b>2015-current</b>	<b>Assistant Adjunct Professor</b> , School of Engineering, University of California, Merced
<b>2014-current</b>	<b>Assistant Research Scientist</b> , Sierra Nevada Research Institute, University of California, Merced
<b>2013-2014</b>	<b>Postdoctoral Research Associate</b> , College of Earth, Ocean, and Atmospheric Sciences, Oregon State University
<b>2012-2013</b>	<b>Postdoctoral Research Scholar</b> , College of Earth, Ocean, and Atmospheric Sciences, Oregon State University
<b>2010-2012</b>	<b>Postdoctoral Research Scholar</b> , Department of Geosciences, Oregon State University
<b>2006-2010</b>	<b>Research/Teaching Associate</b> , Department of Natural Resources and Environmental Management, University of Hawaii-Manoa
<b>2005-2006</b>	<b>Design and Sales Engineer</b> , Jain Irrigation Systems Ltd.
<b>2003-2005</b>	<b>Research Fellow</b> , Department of Agricultural & Food Engineering, Indian Institute of Technology Kharagpur, India

## D. Honors and Awards

University of Hawaii at Manoa, Graduate Student Organization (GSO) travel award for American Geophysical Union Fall Meeting (AGU, 2009) 14–18 December, San Francisco, California, USA.  
Dr. Perry Phillip award for best PhD research presentation (poster), “21st Annual College of Tropical Agricultural and Human Resources, Student Research Symposium”. April 3-4, 2009  
Award for best student presentation (oral) “International Soil Moisture Sensing Technology Conference”, Honolulu, Hawai’i, March 19-21, 2007  
The Graduate Aptitude Test in Engineering (GATE) fellowship award by the Ministry of Human Resources and Development, Government of India, 2003-2005  
High School Merit Scholarship from the Department of Secondary Education Government, Uttar Pradesh, India 1993-1997

## E. Research Grants

### Funded

- Development of flow rating curves for discharge measurements in the headwaters of the American River Basin, The Nature Conservancy. **(Project budget \$35K), Role PI**
- Western watershed enhancement program hemlock forest-restoration project, Bureau of Reclamation. **(Project budget \$400K), Role Co-PI**
- Forests and water in changing climate: the role of forest management in keeping the balance, US Forest Service. **(Project budget \$75K), Role PI.**
- Climate change and peak flows: Knowledge-to-action to help managers address impacts on streamflow dynamics and aquatic habitat. Northwest Climate Science Center **(Project budget \$300K) Role, key personnel<sup>a</sup>.**
- Describing fine sediment delivery (fsd) regimes in streams using biologically relevant metrics across multiple spatiotemporal scales. NCASI **(Project budget \$20K) Role, key personnel<sup>a</sup>.**
- Graduate Student Organization (GSO), University of Hawaii-Manoa travel grant **(\$615).**

### Under-Review

- Incorporating time variable land cover into a large scale hydrologic model to improve understanding of short- to long-term changes in water budget and droughts over the continental United States. NOAA **(Project budget \$235K), Role PI**
- Assessment of climate change effects and impacts on the hydrology of southern Sierra Nevada basins. CA Department of Water Resources **(Project budget \$104K), Role PI**
- Climate change and public response to water variability. University of California, Office of the President **(Project budget \$290K), Role Co-PI**
- Western watershed enhancement program hemlock forest-restoration project-year 2. Bureau of Reclamation **(Project budget \$189K), Role Co-PI**

### Not-Funded

- Developing a novel, fully integrated, systemwide, multiagent modeling system for FEW nexus analysis and resource management in the San Joaquin River Basin. National Science Foundation **(Project budget \$3M), Role Co-PI**
- Monitoring and evaluating hydrologic impacts of forest restoration in the headwaters of American River basin. The Wildlife Conservation Board **(Project budget \$1M), Role PI**
- Silviculture and Hydrologic Assessment of Forest Restoration. California Landscape Conservation Cooperative **(Project budget \$132K), Role Co-PI**

- Climate change and drought: connecting snowpack dynamics with subsurface hydrology to advance drought monitoring and prediction in the western U.S. US Geological Survey (**Project budget \$475K), Role Co-PI.**
- A coupled hydrological modeling framework for investigating the climate-vegetation-groundwater nexus: assessing resilience and vulnerability to climate change. National Science Foundation (**Project budget \$548K), Role PI**
- Incorporating vegetation dynamics into hydrologic models to improve prediction of future water resources under climate change in the Pacific Northwest US. National Aeronautics and Space Administration (**Project budget \$1,450K), Role Co-PI**
- Will our infrastructure withstand future floods? Coupling state of the art climate predictions to hydrologic models to evaluate vulnerability. Department of Defense (**Project budget \$707K), Role, key personnel<sup>a</sup>.**
- Understanding linkages between hydrological conditions and the phenology of Pacific Salmon under a warming climate. Department of Defense (**Project budget \$487K Role, key personnel<sup>a</sup>.**

<sup>a</sup>Note: As per the College of Earth Ocean and Atmospheric Science at Oregon State policy postdocs can only be listed as key personnel.

## F. Publications (Publications with \*identify students that I mentored)

### Journal Articles (published)

1. **Safeeq, M.**, and C.T. Hunsaker, 2016. Characterizing Runoff and Water Yield from Headwater Catchments in the Southern Sierra Nevada. *Journal of American Water Resources Association*, (in press).
2. \*Cooper, M., A., Nolin, and **M. Safeeq**, 2016. Testing the Recent Snow Drought as an Analog for Climate Warming Sensitivity of Cascades Snowpacks. *Environmental Research Letters* 11(8), doi:10.1088/1748-9326/11/8/084009.
3. Fares, A., **M. Safeeq**, R. Awal, S. Fares, and A. Dogan, 2016. Temperature and Probe-to-Probe Variability Effects on the Performance of Capacitance Soil Moisture Sensors in an Oxisol. *Vadose Zone Journal* 15(3), doi: 10.2136/vzj2015.07.0098.
4. **Safeeq, M.**, S. Shukla, I. Arismendi, G. Grant, and A. Nolin, 2016. Influence of Winter Season Climate Variability on Snow-Precipitation Ratio in the Western U.S. *International Journal of Climatology*, 36(9) 3175–3190.
5. **Safeeq, M.**, G. Grant, S.L. Lewis, and B. Staab, 2015. Predicting Landscape Sensitivity to Present and Future Floods in the Pacific Northwest, USA. *Hydrological Processes*, 29 (26) 5337–5353.
6. \*Penaluna, B.E, J.B. Dunham, S.F. Railsback, I. Arismendi, S. Johnson, R.E. Bilby, **M. Safeeq**, and A.E. Skaugset, 2015. Local Variability Explains Vulnerability of Trout Populations to Land Use and Climate Change. *Plos One*, 10(8): e0135334. doi: 10.1371/journal.pone.0135334.
7. Shukla, S., **M. Safeeq**, A. AghaKouchak, K. Guan, and C. Funk, 2015. Temperature Impacts on the Water Year 2014 Drought in California. *Geophysical Research Letters*, 42(11) 4384–4393.
8. **Safeeq, M.**, and A. Fares, 2014. Interception Losses in Three Non-native Hawaiian Forest Stands. *Hydrological Processes*, 28(2) 237-254.
9. **Safeeq, M.**, G. Grant, S.L. Lewis, M. Kramer, and B. Staab, 2014. A Geohydrologic Framework for Characterizing Summer Streamflow Sensitivity to Climate Warming in the Pacific Northwest, USA, *Hydrol. Earth Syst. Sci.*, 18, 3693–3710.
10. **Safeeq, M.**, G. Grant, I. Arismendi, A. Hamlet, Se-Y Lee, and G. S. Mauger, 2014. Uncertainties in Large-Scale Hydrological Model Predictions in the Pacific Northwest: Effects of Climate and Groundwater. *Journal of Hydrometeorology*, 15, 2501–2521.

11. Arismendi, I., **M. Safeeq**, S.L. Johnson, J.B. Dunham, and R. Haggerty, 2014. Can Air Temperature be used to Project Influences of Climate Change on Stream Temperature? *Environmental Research Letters* 9 (8), 084015.
12. Ahmad, A.A., A. Fares, N. V. Hue, **M. Safeeq**, T. Radovich, F. Abbas, and M. Ibrahim. 2014. Root Distribution of Sweet Corn (*Zea mays*) as affected by Manure Types, Rates and Frequency of Applications. *Journal of Animal & Plant Sciences (JAPS)*, 24(2): 592-599.
13. Abbas, F., A. Ahmad, **M. Safeeq**, S. Ali, F. Saleem, H. Hammad, and W. Farhad, 2013. Changes in Precipitation Extremes over Arid to Semi-arid and Sub-humid Punjab, Pakistan. *Theoretical and Applied Climatology*, 116 (3) 671-680.
14. **Safeeq, M.**, G. Grant, S. Lewis, and C. Tague, 2013. Coupling Snowpack and Groundwater Dynamics to Interpret Historical Streamflow Trend in the Western United States. *Hydrological Processes*, 27(5) 655-668.
15. Arismendi, I., **M. Safeeq**, S.L. Johnson, J.B. Dunham, and R. Haggerty, 2013. Increasing Synchrony of High Temperature and Low Flow in Western North American Streams: Double Trouble for Coldwater Biota? *Hydrobiologia*, 712 (1) 6 1-70.
16. **Safeeq, M.**, A. Mair, and A. Fares, 2012. Temporal and Spatial Trends in Surface Air Temperature on the Island of Oahu, Hawai'i. *International Journal of Climatology*, 33: 2816–2835.
17. **Safeeq, M.**, and A. Fares, 2012. Hydrologic Effect of Groundwater Development in a Small Mountainous Tropical Watershed. *Journal of Hydrology*, 428–429: 51–67.
18. **Safeeq, M.**, and A. Fares, 2011. Hydrologic Response of a Hawaiian Watershed to Future Climate Change Scenarios. *Hydrological Processes*, 26(18) 2745–2764.
19. **Safeeq, M.**, and A. Fares, 2011. Accuracy Evaluation of ClimGen Weather Generator and Daily to Hourly Disaggregation Methods in Tropical Conditions. *Theoretical and Applied Climatology* 106(3-4): 321-341.
20. Fares, A., **M. Safeeq**, and D.M. Jenkins, 2009. Adjusting Temperature and Salinity Effects on Single Capacitance Sensors. *Pedosphere* 19(5): 588-596.
21. Garg, K.K., B. S. Das, **M. Safeeq**, and P. B. S. Bhadoria, 2009. Measurement and Modeling of Soil Water Regime in a Lowland Paddy Field Showing Preferential Transport. *Agricultural Water Management* 96(12) 1705–1714.
22. Fares A, F. Abbas, A. Ahmad, J. Deenik and **M. Safeeq**, 2008. Response of Selected Soil Physical and Hydrological Properties to Manure Amendment Rates, Level and Types. *Soil Science* 173(8): 522-533.
23. Fares, A., **M. Safeeq**, and D.M. Jenkins, 2006. Temperature Dependent Scaled Voltage to Improve the Performance of Single Capacitance Sensors. ASABE annual meeting Proceeding, Portland Oregon July 9-12, paper number 062121.

#### **Journal Articles (in Review/Near Submission)**

24. Jefferson, A., Sarah L., **M. Safeeq**, and G. E. Grant, Revisiting watershed drainage density: new considerations for hydrologic prediction. *Water Resources Research* (*under agency review*).
25. Flitcroft, R.L., S.L. Lewis, I. Arismendi, R. LovellFord, M. Santelman, and **M Safeeq**, Let the Fish do the Talking: Linking Hydroclimate with Fish Phenotypes. *PLOS One* (*minor revision*).
26. Murphy, S., S., Haig, J., Matthews, I., Arismendi, and **M., Safeeq**, Waterbird Response to Climate Altered Wetland Conditions in North America's Great Basin. *Global Change Biology* (*under agency review*).
27. Grant, G., S.K., Hayes, **M., Safeeq**, and S Lewis, Disentangling effects of forest harvest on long-term hydrologic and sediment dynamics, Western Cascades, Oregon. *Water Resources Research* (*under agency review*).

28. \*Danner, A.G., **M. Safeeq**, C. Wickham, D. Tullos, G.E. Grant, and M.V. Santelmann, Scenario-Based and Scenario-Neutral Assessment of Climate Change Impacts on Operational Performance of a Multipurpose Reservoir, *JAWRA (revised submission in review)*.

### **Book Chapters & Other Relevant Publications (published)**

1. **Safeeq, M.**, and A. Fares, 2016. Groundwater and Surface Water Interactions in Relation to Natural and Anthropogenic Landuse Changes. *In Emerging Issues in Groundwater Resources*, pp. 289-326. DOI: 10.1007/978-3-319-32008-3\_11
2. Andrea Watts, A. G. Grant, and **M. Safeeq**, 2016. Flows of the Future—How Will Climate Change Affect Streamflows in the Pacific Northwest? *Science Findings*, 187, USDA Forest Service, Portland Oregon <http://www.fs.fed.us/pnw/science/scifi187.pdf>.
3. Clifton, C.F., K.T. Day, K. Dello, G.E. Grant, J.E. Halofsky, D.J. Isaak, C.H. Luce, **M. Safeeq**, B.P. Staab, and J. Stevenson, 2015. Climate Change and Hydrology in the Blue Mountains, *In Halofsky J.E. and D.L. Peterson eds. Climate Change Vulnerability and Adaptation in the Blue Mountains Region*. U.S. Department of Agriculture, Forest Service Pacific Northwest Research Station Portland, Oregon, General Technical Report PNW-GTR-xxxx.
4. Fares, A., **M. Safeeq**, A. Kimoto, and A. Dogan, 2010. Use of buffers to reduce nitrogen transport to water bodies. In Delgado, J.A., and R.F. Follett, eds. *Advances in Nitrogen Management for Water Quality*. Ankeny, IA: Soil and Water Conservation Society.

### **G. Teaching Experience**

- 2016 **Instructor**, ENVE/ESS 110 “Hydrology and Climate” University of California, Merced
- 2009 **Teaching Assistant**, NREM/TPSS 463 “Irrigation and Water Management”, University of Hawai’i-Manoa, prepared course materials and graded homework assignments, introduced basic soil physics and GIS-IManSys modeling framework to students as a guest lecturer.
- 2008 **Teaching Assistant**, NREM 662 “Watershed Hydrology”, University of Hawai’i-Manoa, taught and assisted students in laboratory sessions; prepared class materials and graded homework assignments; introduced HYDRUS-1D/2D modeling framework to students.
- 2008 **Teaching Assistant**, NREM 203 “Applied Calculus for Management, Life Sciences, and Human Resources”, University of Hawai’i-Manoa, taught and assisted students with laboratory sessions, graded homework assignment, held office hours.
- 2007 **Teaching Assistant**, NREM 660/CEE 625 “Hydrologic Processes in Soils”, University of Hawai’i-Manoa, taught and assisted students with laboratory session; prepared course materials and graded homework assignments; introduced HYDRUS-1D/2D modeling framework to students.
- 2007 **Teaching Assistant**, NREM 600 “Evaluation of Natural Resource Management”, University of Hawai’i-Manoa, taught and assisted students with laboratory session; prepared and graded homework assignments.

### **H. Mentoring**

<b>Joe Rungee</b>	PhD (Environmental Systems) (current) Hydrological Response to Multi-year Dry Periods in the U.S. Mountain West.
<b>Philip Saksa</b>	PhD (Environmental Systems) 2015 Forest Management, Wildfire, and Climate Impacts on the Hydrology of Sierra Nevada Mixed-Conifer Watersheds.

**Mathew Cooper** MS (Water Resources Science) 2015  
Modeling Snowpack Sensitivity to Warming Temperature across the Elevation  
and Climate Gradient of the Cascade Mountains.

## **I. Invited Talks / Lectures**

1. **Safeeq M.** Hydrologic Sensitivity of the Western US Streams to Climate Change: A Retrospective Analysis and Future Projections. LTER Science hour, Corvallis, OR, 2012.
2. **Safeeq M.** Hydrology of the Hawaiian Island in the Era of Change. Advances in Water Resources Engineering Seminar, Water Resources Seminar Series, Oregon State University, 2013.
3. **Safeeq, M.** Streamflow Sensitivity to Climate Change in the Willamette River Basin, Environmental Science Class Guest Lecture, Central Linn High School, Halsey, OR, 2013.
4. **Safeeq, M.** Climate Change in The Western US: Implications for Streams and Lakes, Limnology 456 class guest lecture, Oregon State University, 2014.
5. **Safeeq, M.** Climate Change & Water: Impact and Adaptation for Agriculture, Climate & Agriculture Summit, UC Davis, 2015.
6. **Safeeq, M.** Managing Water in Forested Landscapes under Climate Change: An Integrated View, Mariposa County Health Department, 2015.
7. **Safeeq, M.** Forests and Water in the Sierra Nevada: Kings River Experimental Watershed and Ecosystem Monitoring Project, Sierra Nevada Alliance, 2015.
8. **Safeeq, M.** Forests and Water in the Sierra Nevada: Kings River Experimental Watershed and Ecosystem Monitoring Project, 22nd Annual California Bioassessment Workgroup Meeting, 2015.
9. **Safeeq, M.** Patterns of Hydrologic Sensitivity to Climate in the Western US: Implications for Future Predictions, AGU Fall Meeting, 2015.
10. **Safeeq M.** Combining in-Situ and Remotely Sensed Data to Understand the Interactions between Forests and Water in the Sierra Nevada. Perspectives across the Hydrologic Cycle, Water Resources Seminar Series, Oregon State University, 2016.
11. **Safeeq M.** Snow and Drought: What the Past Can Tell Us About the Future? Watershed University, 2016.

## **J. Professional Conferences (\*identify students that I mentored)**

1. **Safeeq, M.** and G.E. Grant, 2015. Patterns of Hydrologic Sensitivity to Climate in the Western US: Implications for Future Predictions. American Geophysical Union fall meeting December 14-18, San Francisco, CA.
2. **Safeeq, M.** and C. Hunsaker, 2015. Characterizing Runoff and Water Yield from Headwater Catchments in the Southern Sierra Nevada. American Geophysical Union fall meeting December 14-18, San Francisco, CA.
3. Bales, R., M Goulden, C. Hunsaker, M. Conklin, P. Hartsough, T. O'geen, J. Hopman, and **M. Safeeq**, 2015. Drought Effects on Evapotranspiration and Subsurface Water Storage in the Southern Sierra Nevada. American Geophysical Union fall meeting December 14-18, San Francisco, CA.
4. \*Cooper, M., A. Nolin, and **M. Safeeq**, 2015. Modeling Elevation-Dependent Climate Warming Impacts to Snow: Effects of Temperature Lapse Rates. 33<sup>rd</sup> International Conference on Alpine Meteorology, Innsbruck, Austria.
5. \*Hempel, LA. G. Grant, S. Lewis, and **M. Safeeq**, 2014. Change in Bedload Transport Frequency with Climate Warming in Gravel-Bed Streams of The Oregon Cascades. American Geophysical Union fall meeting December 15-19, San Francisco, CA.

6. \*Cooper, M., A. Nolin, and **M. Safeeq**, 2014. How Does the Representation of Altitudinal Variation of Temperature in Gridded Forcing Data Affect Modeled Assessment of Snow Sensitivity to Climate Warming? American Geophysical Union fall meeting December 15-19, San Francisco, CA.
7. **Safeeq M.**, G Grant, S Lewis, AW Nolin, LA Hempel, M Cooper, and C Tague, 2014. Integrated Snow and Hydrology Modeling for Climate Change Impact Assessment in Oregon Cascades. American Geophysical Union fall meeting December 15-19, San Francisco, CA.
8. Sarah L., **M. Safeeq**, G. E. Grant, 2014. Long-Term Hydrologic and Sediment Dynamics: Disentangling Effects of Forest Harvest, Western Cascades, Oregon. Geological Society of America Annual Meeting, October 19-22, Vancouver, BC.
9. \*Cooper, M., A. Nolin, **M. Safeeq**, and E.A. Sproles, 2014. Does Snowpack Sensitivity to Warming Temperature Differ Across the East/West Divide of the Cascade Mountains? 5<sup>th</sup> Annual Pacific Northwest Climate Science Conference, September 9-10, Seattle, WA.
10. Sarah L., **M. Safeeq**, A. Jefferson, G. E. Grant, 2013. Revisiting Watershed Drainage Density: New Considerations for Hydrologic Prediction. Geological Society of America Annual Meeting, October 27-30, Denver, CO.
11. **Safeeq M.**, G.E. Grant, S. Lewis, and B. Staab, 2013. Understanding Atmospheric and Landscape Level Drivers of Peak Flow Variability in the Pacific Northwest, USA. American Geophysical Union fall meeting December 9-13, San Francisco, CA.
12. Arismendi, I., **M. Safeeq**, S.L. Johnson, J.B. Dunham, and R. Haggerty, 2013 Can Air Temperature be Used to Project Influences of Climate Change on Stream Temperature? American Geophysical Union fall meeting December 9-13, San Francisco, CA.
13. **Safeeq M.**, G.E. Grant, S. Lewis, A. Nolin, L. Hempel, M. Cooper, and C. Tague, 2013. Assessment of Climate Change Impact on Peakflows in Oregon Cascades: Implications for fluvial Geomorphology and Aquatic Habitat. AWRA Annual Water Resources Conference, November 4-7, Portland OR.
14. \*Cooper, M., A. Nolin, G.E. Grant, **M. Safeeq**, S. Lewis, and L. Hempel, 2013. Changing Snow Cover in the Oregon Cascades: A Modeling Study of the McKenzie and Deschutes Headwater Catchments. AWRA Annual Water Resources Conference, November 4-7, Portland OR.
15. **Safeeq M.**, G.E. Grant, S. Lewis, C. Tague, M. Kramer, and B. Staab, 2013. Mapping Streamflow Sensitivities to Climate Warming in the Pacific Northwest, USA. AWRA Annual Water Resources Conference, November 4-7, Portland OR.
16. **Safeeq M.**, G.E. Grant, S. Lewis, C. Tague, M. Kramer, and B. Staab, 2013. Spatial Distribution of Long-Term Hydrologic Trends: Implications for Regional Streamflow Sensitivity to Climate Warming in the Pacific Northwest, USA. 4<sup>th</sup> Annual Pacific Northwest Climate Science Conference, September 5-6; Portland, OR.
17. Grant G., **M. Safeeq**, S.L. Lewis, B. Staab, and M. Kramer, 2012. A Geoclimatic Framework for Characterizing Summer Streamflow Vulnerability to Climate Warming in the Pacific Northwest, USA, American Geophysical Union fall meeting December 3-7, San Francisco, CA.
18. \*LovellFord, R., R. Flitcroft, M. V. Santelmann, G. Grant, **M. Safeeq** and S. Lewis, 2012. Identifying Biologically Relevant Cues in the Hydrologic Regime, American Geophysical Union fall meeting December 3-7, San Francisco, CA.
19. **Safeeq M.**, G. Grant, I. Arismendi, A. Hamlet, Se-Y Lee, and G. S. Mauger, 2012. Uncertainties in Large-Scale Hydrological Model Predictions in the Pacific Northwest: Effect of Climate and Groundwater. 3<sup>rd</sup> Annual Pacific Northwest Climate Science Conference, October 1-2; Boise, ID.
20. Arismendi, I., **M. Safeeq**, S.L. Johnson, J.B. Dunham, and R. Haggerty, 2012. Evaluating Historical Changes in Timing and Synchrony of Two Biologically-Relevant Annual Hydro-Climatic Events in Streams. American Fisheries Society 142nd Annual Meeting, August 19 - 23; Minneapolis - St. Paul, MN.

21. \*LovellFord, R., B. Flitcroft, M. Santelmann, G. Grant, S. Lewis, **M. Safeeq**, and L. Jackson, 2012. Different Cues at Different Scales: Hydrologic Regimes Cue Upstream Migration of Coho Salmon (*Oncorhynchus kisutch*) at Different Locations in a Stream Network of the Umpqua River Basin. Ecological Society of America Annual Conference, August 5-10; Portland, OR.
22. Fares, A., F. Abbas, C. Evensen, A. El-Kadi, C. Chan-Halbrendt, S. Fares, A. Ahmad, and **M. Safeeq**, 2012. Designing and Evaluating Site Specific Native Species Based Precision Riparian Buffers. Land Grant and Sea Grant National Water Conference, May 20-24; Portland, OR.
23. Fares, A., **M. Safeeq**, S. Fares, and R. Awal, 2012. Improved Performance and Accuracy of Three New Soil Moisture Sensors in a Hawaiian Oxisol. Joint Meeting of the Second International Soil Sensing Technology Conference, the Soil Physics Technical Committee Annual Meeting, and the ASA Sensor-based Water Management Community, January 3-7, 2012, Honolulu, HI.
24. **Safeeq M.**, G.E. Grant, C. Tague, and S. Lewis, 2011. Coupling Snowpack and Groundwater Dynamics to Interpret Historical Streamflow Trend in the Western United States. American Geophysical Union fall meeting December 5-9, San Francisco, CA.
25. Fares, A., **M. Safeeq**, and S. Fares, 2011. Spatio-Temporal Variability of Gross Rainfall, Throughfall and Stemflow in a Non-Native Hawaiian Forest. American Geophysical Union fall meeting December 5-9, San Francisco, CA.
26. G.E. Grant, **M. Safeeq**, C. Tague, and S. Lewis, 2011. Coupling Groundwater and Snowpack Dynamics to Predict Future Streamflow Regimes in the Pacific Northwest. 2nd Annual Pacific Northwest Climate Science Conference September 13-14, Seattle, WA.
27. G.E. Grant, **M. Safeeq**, C. Tague, and S. Lewis, 2011. What Will Oregon's Future Streamflow Regimes Look Like? Integrating Snowpack and Groundwater Dynamics. The Oregon Water Conference, May 24-25, Corvallis, OR.
28. **Safeeq M.**, G.E. Grant, and C. Tague, 2011. Sensitivity of Oregon Watersheds to Streamflow Changes due to Climate Warming: A Geohydrological Approach. The Oregon Water Conference, May 24-25, Corvallis, OR.
29. **Safeeq M.**, and A. Fares, 2010. Observed Trends in Hawaiian Climate Extreme Indices during 1950-2008. *22<sup>th</sup> Annual College of Tropical Agricultural and Human Resources, Student Research Symposium*. April 9-10, Honolulu, HI.
30. **Safeeq M.**, and A. Fares, 2010. Interaction between Groundwater Pumping and Streamflow in a Flashy Mountainous Watershed: A Modeling Approach. *In Annual Hawai'i Conservation Conference [CD-ROM]*. HCA, August 4-6, Honolulu, HI.
31. **Safeeq M.**, and A. Fares, 2010. Groundwater Pumping Effects on Streamflow in a Flashy Mountainous Hawaiian Watershed. *In Annual meetings abstracts [CD-ROM]*. ASA, CSA, and SSSA, Long Beach, CA.
32. **Safeeq M.**, and A. Fares, 2009. Response of Streamflow to Groundwater Pumping in a Tropical Watershed, American Geophysical Union fall meeting December 14-18, San Francisco, CA.
33. **Safeeq M.**, and A. Fares, 2009. Trend Analysis of Surface Air Temperature: Impact of Autocorrelation. *21<sup>th</sup> Annual College of Tropical Agricultural and Human Resources, Student Research Symposium*. April 3-4, Honolulu, HI.
34. Fares, A, F. Abbas, **M. Safeeq**, A. Ahmad and J. Deenik, 2007. Response of Main Soil Hydrological Properties to Measuring Techniques and Organic Matter Types and Levels. *In Annual meetings abstracts [CD-ROM]*. ASA, CSSA, and SSSA, Madison, WI.
35. **Safeeq M.**, A. Fares, and Nghia D Tran, 2007. Modeling Runoff and Sediment Load from an Urbanized Tropical Watershed Using AnnAGNPS and N-SPECT model. *In Annual Hawai'i Conservation Conference [CD-ROM]*. HCA, July 25-27, Honolulu, HI.



36. **Safeeq M.**, A. Fares, F. Abbas, and Nghia D Tran, 2007. Spatio-temporal Variability of Water Quality and Quantity in an Urbanized Watershed. *19<sup>th</sup> Annual College of Tropical Agricultural and Human Resources, Student Research Symposium*. April 6-7, Honolulu, HI.
37. Fares A., Hamdhani, **M. Safeeq**, and D. M. Jenkins, 2007. Temperature-Dependent Scaled Reading to Mitigate Temperature Effects on Selected Capacitance Sensors. Soil Moisture Sensing Technology Conference, March 19-21, Honolulu, HI.
38. **Safeeq M.**, A. Fares, 2007. Intra-Sensor Variability of Three Capacitance Sensors. Soil Moisture Sensing Technology Conference, March 19-21, Honolulu, HI.
39. Garg K. K., **Md. Safeeq**, B. S. Das, P. B. S. Bhadoria, 2006. Plot-scale Measurement and Modeling of Soil Water Regime in a Lowland Paddy Field. European Geosciences Union general assembly Vienna Austria, *Geophysical Research Abstracts, Vol. 8, 02094*.
40. **Safeeq M.**, A. Fares, 2006. Temperature and Salinity Dependent Scaled Voltage to Improve the Performance of ECHO Probe Sensors. *18<sup>th</sup> Annual College of Tropical Agricultural and Human Resources, Student Research Symposium*. April 7-8, Honolulu, HI.

## **K. Professional Service**

**Associate Editor**, Hydrological Processes Journal (2016-current)

**Guest Editor**, Advances in Meteorology (2016-2017)

### **Journal Reviewer for:**

Atmospheric Research; Environmental Management; Environmental Research Letters; Hydrological Processes; Hydrological Sciences Journal; Hydrology, Earth, System Science; Hydrology; International Journal of Climatology; Journal of American Water Resources Association; Journal of Environmental Science and health; Journal of Hydrologic Engineering; Journal of Hydrology; Journal of Hydrology Regional Studies; Soil Science Society of America Journal; Vadose Zone Journal; Water; Water Resources Research.

### **Grant Proposal Reviewer for:**

National Science Foundation, NASA Terrestrial Hydrology Program, Joint Fire Science

### **Session Chair:**

GC14A. Creating Policy-Relevant Resource Management Science under Climate Change II, 2013 AGU Fall Meeting, San Francisco CA.

GC51F. Forest Hydrology within the Context of Global Change and Forest Health, 2012 AGU Fall Meeting, San Francisco CA.

### **Organized Conference, Workshop and Field Day:**

- 2014 Member of the Organizing Committee for the 5<sup>th</sup> Annual Pacific Northwest Climate Science Conference, Seattle, Washington, September 9-10, 2014.
- 2013 Member of the Organizing Committee for the 4<sup>th</sup> Annual Pacific Northwest Climate Science Conference, Portland, Oregon, September 5-6, 2013.
- 2010 Controlling the nonpoint source pollution at the source: Performance of Piligrass, California, and Ahuawa in reducing nutrients and sediments, Honolulu, Hawai'i.
- 2007 Workshop on "Modeling water flow and contaminant transport in soils and groundwater using

- the HYDRUS software packages”, Honolulu, Hawai’i, November 12- 13 2007.
- 2007 Member of the Local Organizing Committee for Soil Moisture Sensing Technology Conference, Honolulu, Hawai’i, March 19-21, 2007.

## L. Professional Membership

- Member of American Geophysical Union (AGU) 2009-current
- Member of American Society of Agricultural and Biological Engineers (ASABE) 2006-current
- Member of the American Society of Agronomy and Soil Science Society of America (ASA-SSSA) 2006-2009

## M. Media Highlight

1. Sierra Nevada Snow Won’t End California’s Thirst (April 11, 2016). The New York Times <http://www.nytimes.com/2016/04/12/science/california-snow-drought-sierra-nevada-water.html>
2. University of California Merced News (January 13, 2016) History Doesn’t Indicate the Future of Climate Change. <http://www.ucmerced.edu/news/2016/researcher%E2%80%99s-work-shows-history-doesn%E2%80%99t-indicate-future-climate-change>
3. Tulare Basin Wildlife Partners "One Watershed" Series (October 14, 2015) Watershed Connections: Forest Health and Its Impacts Downstream <http://www.tularebasinwildlifepartners.org/one-watershed-series.html>
4. The fish site (October 13, 2015) Local Habitat Conditions Protect Trout from Climate Change <http://www.thefishsite.com/fishnews/26512/local-habitat-conditions-protect-trout-from-climate-change/>
5. UPI science news (October 2, 2015) Habitat variability key to protecting cutthroat trout [http://www.upi.com/Science\\_News/2015/10/02/Habitat-variability-key-to-protecting-cutthroat-trout/8381443736047/?spt=su&or=btn\\_tw](http://www.upi.com/Science_News/2015/10/02/Habitat-variability-key-to-protecting-cutthroat-trout/8381443736047/?spt=su&or=btn_tw)
6. Science Daily (October 1, 2015) Local habitat conditions can safeguard cutthroat trout against harvest, climate change. <https://www.sciencedaily.com/releases/2015/10/151001142220.htm>
7. Nature Commentary (August 26, 2015) Water and climate: Recognize anthropogenic drought. <http://www.nature.com/news/water-and-climate-recognize-anthropogenic-drought-1.18220>
8. The Climate CIRCulator (June 29 2015) Is Climate Change Related to California’s Drought? <http://pnwcirc.org/is-climate-change-related-to-californias-drought-corrected-version/>
9. Homeland Security News Wire (May 29, 2015) Warming amplifying adverse effects of California’s historic drought <http://www.homelandsecuritynewswire.com/dr20150529-warming-amplifying-adverse-effects-of-california-s-historic-drought>
10. Phys.org (May 29, 2015) Heat accelerates dry in California drought [http://phys.org/news/2015-05-california-drought\\_1.html](http://phys.org/news/2015-05-california-drought_1.html)
11. Epoch times (May 29, 2015) Why Record Heat Is Burning California to a Crisp <http://www.theepochtimes.com/n3/1373432-why-record-heat-burning-california-crisp/>
12. Futurity (May 27, 2015) Why record heat is burning California to a crisp. <http://www.futurity.org/california-heat-temperature-drought-928642/>
13. Central Coast Public Radio (May 26, 2015) UCSB study links drought severity to record heat. <http://kcbx.org/post/ucsb-study-links-drought-severity-record-heat>
14. University of California at Santa Barbara (May 26, 2015) The heat is on: <http://www.news.ucsb.edu/2015/015455/heat>
15. Summit County Voice (May 29, 2015) Heat worsens California drought, by a lot. <http://summitcountyvoice.com/2015/05/29/heat-worsens-california-drought-by-a-lot/>

16. Summit County Voice (October 19, 2014) Microclimates may buffer some streams from global warming. <http://summitcountyvoice.com/2014/10/19/microclimates-may-buffer-some-streams-from-global-warming/>
17. Summit County Voice (March 01, 2013) Global warming: Pacific Northwest study shows nuanced streamflow response to changing climatic conditions <http://summitcountyvoice.com/2013/03/01/global-warming-pacific-northwest-study-shows-nuanced-streamflow-response-to-changing-climatic-conditions/>
18. Eugene Weekly (February 28, 2013) OSU Study Looks at McKenzie Flows <http://www.eugeneweekly.com/article/osu-study-looks-mckenzie-flows>
19. Corvallis Gazette-Times (February 18, 2013) Study: Climate change impact on stream flow varies by location [http://www.gazettetimes.com/news/local/study-climate-change-impact-on-stream-flow-varies-by-location/article\\_d75c3604-7a06-11e2-bec9-001a4bcf887a.html](http://www.gazettetimes.com/news/local/study-climate-change-impact-on-stream-flow-varies-by-location/article_d75c3604-7a06-11e2-bec9-001a4bcf887a.html)
20. KEZI News: Climate change could reduce river flow <http://www.kezi.com/climate-change-could-reduce-river-flows/>
21. The Oregonian (November 04, 2012) Bad news for fish: Lowest fall stream flows moving closer to summer's high temperatures, study finds [http://www.oregonlive.com/environment/index.ssf/2012/11/bad\\_news\\_for\\_fish\\_falls\\_lowest.html](http://www.oregonlive.com/environment/index.ssf/2012/11/bad_news_for_fish_falls_lowest.html)
22. Northwest Cable News (November 2, 2012): Study links climate change to warmer Oregon streams <http://www.nwcn.com/home/?fid=176885211&fPath=%2Fnews%2Flocal&fDomain=10202>
23. Oregon State University News (November 01, 2012) Study: High stream temperatures, low flow create potential “double trouble” <http://oregonstate.edu/ua/ncs/archives/2012/nov/study-high-stream-temperatures-low-flow-create-potential-%E2%80%9Cdouble-trouble%E2%80%9D>
24. Corvallis Gazette-Times (November 01, 2012) Study: High stream temperatures, low flow create potential “double trouble” [http://www.gazettetimes.com/news/local/study-high-stream-temperatures-low-flow-create-potential-double-trouble/article\\_654ba2db-979c-560a-9919-b03d356aca7f.html](http://www.gazettetimes.com/news/local/study-high-stream-temperatures-low-flow-create-potential-double-trouble/article_654ba2db-979c-560a-9919-b03d356aca7f.html)