CONTENTS

Kirti Rajagopalan

Assistant Professor
Department of Biological Systems Engineering
Washington State University, Pullman, WA 99164

PACCAR 354 | +1-(509) 335-0174 | kirtir@wsu.edu | SEAS+ Lab | Google Scholar

Summary

My research focuses on securing sustainable agricultural ecosystems amidst the challenges of a growing population, changing climate, and limited natural resources. Our Sustainable Environments and Agricultural Systems (SEAS+) laboratory explores the nexus between agriculture, resource management, and environmental preservation. We develop and apply biophysical modeling, science-guided data driven approaches, and data assimilation techniques to understand complex model behavior, develop forecasts to inform agricultural and water management decisions, and develop "what-if" scenarios for data- and science-informed policy making. The lab is funded by USDA and NSF programs among other funding sources and publications span a variety of interdisciplinary venues including Water Resources Research, Environmental Research Letters, Journal of Hydrology, Climatic Change, Journal of Cleaner Production, and Nature Food. I am also an author of the 5th National Climate Assessment Report. Our interdisciplinary projects bring together experts from engineering, computer science, economics, entomology, crop physiology, and agronomy. Our close collaboration with stakeholders including growers, consultants, irrigation districts, and agencies ensures that our work is grounded in real-world issues and relevant to our partners.

Education

- **Ph.D. Civil and Environmental Engineering** — *2017*
  Washington State University — WA, USA
- **MBA/MS in Information Systems Dual Degree** — *2005*
  Iowa State University — IA, USA
- **BE Civil Engineering** — *2000*
  Visvesvaraya National Institute of Technology — Nagpur, India

Employment

- **Washington State University** — *2020 - present*
  Assistant Professor, Dept. of Biological Systems Engineering — WA, USA
- **Washington State University** — *2018 - 2019*
  Assistant Research Professor, Center for Sustaining Agriculture and Natural Resources — WA, USA
- **Washington State University** — *2015 - 2017*
  Associate in Research, Center for Sustaining Agriculture and Natural Resources — WA, USA
- **Washington State University** — *2010 - 2014*
  Research Assistant, Dept. of Civil and Environmental Engineering — WA, USA
- **Private Consultant** — *2008 - 2011*
  Marketing Analytics and Research — WA, USA
- **Deere and Co.** — *2005 - 2008*
  Analyst, Credit Division Marketing Analytics — IL, USA
- **Iowa State University** — *2003 - 2005*
  Graduate Assistant, College of Business — IA, USA
- **Magnasoft Consulting India Pvt. Ltd.** — *2001 - 2002*
  Software Engineer/Technical Lead — Bengaluru, India

Honors and Awards

- **Early Career Excellence Award** *2025*
  College of Agricultural, Human, and Natural Resource Sciences, Washington State University
- **John Roberson Dissertation Award** *2018*
  Dept. of Civil and Environmental Engineering, Washington State University
- **Outstanding Teaching Assistant** *2015*
  Dept. of Civil and Environemntal Engineering, Washington State University
- **Best Paper Award** *2012*
  Proceedings of American Marketing Association
- **OSCORE Performance Excellence Award** *2008*
  Deere and Co.
- **Reiman Scholar in Entrepreneurship** *2004*
  Iowa State University
- **Engineering Design National Award** *2000*
  Indian Society for Technical Education

Grants

As of May 2025, I have been involved in funded grants totaling >$45M as PI or co-PI **with $4.6M into my program**. As the **lead PI** I have secured **$1.57M**. The funding sources are a mix of competitive federal and regional programs, agency contracts and Washington State University internal grants. The majority of funding (67%) is from competitive federal programs including USDA NIFA, NSF, and NASA. Grants are listed in reverse chronological order.

My contributions to grants and contracts are listed based on the following keys: 1 = Contributed to initial ideas; 2 = Developed research/program design and hypotheses; 3 = Authorship of grant application; 4 = Developed and/or managed budget; 5 = Managed personnel, partnerships, and project activities.

Ongoing

32. Water for Extreme Weather Management in a Changing Climate: Implications for Agriculture and the Environment
    Role: PI
    Agency: USDA NIFA FAS BNRE
    Duration: 2024 – 2027
    Budget: $649,982 (My program: $468,224)

31. Preparing U.S. Pome Fruit Production for Extreme Temperatures in a Changing Climate
    Role: co-PD; [1, 2, 3, 4, 5]; Modeling Team Lead
    Agency: USDA NIFA SCRI
    Duration: 2024 – 2028
    Budget: $6,748,437 (My program: $644,121)

30. Evaluating the Effects of Agricultural Practices on Carbon and Climate Resilience in the Northwest U.S.
    Role: co-PI; [1, 2, 3, 4, 5]; Co-lead the project with PI Georgine Yorgey
    Agency: United States Forest Service
    Duration: 2024 – 2028
    Budget: $467,931 (My Program: $243,666)

29. EAGER: A Joint Research and Innovation Partnership Toward Securing an AI-enabled Future in Agricultural Production and Climate Resilience
    Role: co-PI; [1, 2, 3, 4, 5]
    Agency: NSF
    Duration: 2024 – 2026
    Budget: $300,000 (My Program: $43,619)

28. Scalable Assessment of Soil Organic Carbon for Carbon Incentive Programs
    Role: PI; [1, 2, 3, 4, 5]
    Agency: Washington State University Internal BIOAg Program
    Duration: 2024 – 2025
    Budget: $40,000 (My Program: $22,254)

27. Weather and Geospatial Data-Guided Irrigation and Fertilization Management Decision Support Tool
    Role: co-PI; [2, 3, 4]
    Agency: Washington State Department of Agriculture
    Duration: 2024 – 2025
    Budget: $282,080 (My Program: $117,407)

26. Organic and Climate Smart Agriculture Evaluation
    Role: co-PI; [2, 4, 5]
    Agency: Washington State Conservation Commission
    Duration: 2023 – 2025
    Budget: $160,000 (My Program: $44,243)

25. Climate Resilience Planning for Washington Agriculture
    Role: co-PI; [2, 4]
    Agency: Washington State Department of Agriculture
    Duration: 2023 – 2025
    Budget: $40,000 (My Program: $21,194)

24. Analogs for Dialogs: An Academy to Catalyze Climate Change Adaptation for U.S. Specialty Crops
    Role: co-PI; [1, 2, 3, 4, 5]
    Agency: USDA NIFA Climate Hub Extension Program
    Duration: 2023 – 2026
    Budget: $1,500,000 (My Program: $415,664)

23. Phenomics and Modeling-Enabled Decision Support for Climate-Adapted Wheat Germplasm Development
    Role: co-PI; [1, 2, 3, 4, 5]
    Agency: USDA NIFA PHPPP Program
    Duration: 2022 – 2025
    Budget: $650,000 (My Program: $231,781)

22. AI Institute: Agricultural AI for Transforming Workforce and Decision Support (AgAID)
    Role: co-PI; [1, 2, 3, 4, 5]
    Agency: USDA NIFA AI Institutes Program
    Duration: 2021 – 2026
    Budget: $20,000,000 (My Program: $631,489)

21. DISES: RUI: Understanding the Use of Discretion and Its Socio-Environmental Consequences for Reservoir Systems
    Role: co-PI; [2, 4]
    Agency: NSF
    Duration: 2021 – 2025
    Budget: $1,600,000 (My Program: $41,783)

20. Stop the Rot: Combating Bacterial Diseases in Onions
    Role: co-PI; [2, 3, 4]
    Agency: USDA NIFA
    Duration: 2019 – 2025
    Budget: $4,044,300 (My Program: $133,956)

Completed

19. Adoption of Conservation Practices in Agriculture and Associated Benefits
    Role: PI; [1, 2, 3, 4, 5]
    Agency: Washington State Conservation Commission
    Duration: 2024 – 2024
    Budget: $30,243 (My Program: $30,243)

18. Trends in Rangeland Productivity and Drivers of Changes
    Role: PI; [1, 2, 3, 4, 5]
    Agency: USFS
    Duration: 2022 – 2024
    Budget: $155,700 (My Program: $155,700)

17. Integrating Agricultural Water Use for Extreme-Weather Management into Climate Change Impact Assessments
    Role: PI; [1, 2, 3, 4, 5]
    Agency: United States Geological Services via the Washington Water Research Center
    Duration: 2022 – 2023
    Budget: $29,894 (My Program: $29,894)

16. Extreme Weather Exposure Risk for Washington State Perennial Fruit Crops
    Role: PI; [1, 2, 3, 4, 5]
    Agency: Washington State University Internal Emerging Research Initiatives Program
    Duration: 2022 – 2024
    Budget: $79,761 (My Program: $79,761)

15. Long-Term Mapping and Trend Analysis of Double-Cropping Extent in the Columbia River Basin with Landsat and Google Earth Engine
    Role: co-PI; [1, 2, 3, 4, 5]
    Agency: NASA JPL
    Duration: 2021 – 2022
    Budget: $100,000 (My Program: $74,970)

14. Weather and Rangeland Productive Impacts on Cattle Inventory
    Role: PI; [1, 2, 3, 4, 5]
    Agency: United States Forest Service
    Duration: 2021 – 2024
    Budget: $102,807 (My Program: $89,768)

13. Automated Approaches for Regional-Scale Estimation of Tillage Practices
    Role: PI; [1, 2, 3, 4, 5]
    Agency: Washington State University Internal BIOAg Program
    Duration: 2021 – 2022
    Budget: $40,000 (My Program: $40,000)

12. Skagit Basin Water Supply and Demand
    Role: co-PI; [2, 3, 4]
    Agency: Washington State Department of Ecology
    Duration: 2020 – 2021
    Budget: $703,396 (My Program: $57,446)

11. Estimating Double-Cropping Extent Using Satellite Imagery
    Role: PI; [1, 2, 3, 4, 5]
    Agency: United States Geological Service via the Washington Water Research Center
    Duration: 2020 – 2021
    Budget: $29,995 (My Program: $29,995)

10. Improving the Potential for Nutrient Recovery to Contribute to Improved Nutrient Export and Nutrient Management by Dairies
    Role: co-PI; [2, 3, 4]
    Agency: Washington State University Internal Appendix A Funding
    Duration: 2020 – 2022
    Budget: $60,000 (My Program: $30,000)

9. Statistical Analogs for Rangelands
    Role: PI; [1, 2, 3, 4, 5]
    Agency: United States Forest Service
    Duration: 2019 – 2024
    Budget: $12,500 (My Program: $12,500)

8. 2021 Long-Term Columbia River Water Supply and Demand Forecast
   Role: co-PI; [2, 3, 4]; Curtailment modeling team lead
   Agency: Washington State Department of Ecology, Office of Columbia River
   Duration: 2019 – 2021
   Budget: $1,500,000 (My Program: $125,222)

7. 2020 Modified Flows Irrigation Depletion Calculations
   Role: co-PI; [1, 2, 3, 4, 5]; Technical lead
   Agency: BPA
   Duration: 2018 – 2020
   Budget: $513,284 (My Program: $175,724)

6. Decision Support for Managing Climate Risks in Tree-Fruit and Grapes
   Role: PI; [1, 2, 3, 4, 5]
   Agency: Washington State Department of Agriculture, Specialty Crop Block Grant
   Duration: 2018 – 2021
   Budget: $249,971 (My Program: $103,109)

5. Tech for Trade: New Tools and Rules for Improving Water Use Efficiency in Agriculture and Beyond
   Role: co-PI; [1, 2, 3, 4, 5]; Seasonal forecasting team lead
   Agency: USDA NIFA
   Duration: 2018 – 2024
   Budget: $5,000,000 (My Program: $449,881)

4. Decreasing Winter Chill: Risks and Implications for Northwest Tree-Fruit Producers
   Role: PI; [1, 2, 3, 4, 5]
   Agency: USDA Western ERME
   Duration: 2018 – 2019
   Budget: $50,000 (My Program: $37,000)

3. Extension of the Online Climate Visualization Tool to Western Washington
   Role: PI; [1, 2, 3, 4, 5]
   Agency: Snohomish CD
   Duration: 2017 – 2018
   Budget: $14,976 (My Program: $14,976)

2. Exploration of Changing Lagoon Storage Needs/Risks in Whatcom and Surrounding Counties
   Role: PI; [1, 2, 3, 4, 5]
   Agency: Whatcom CD
   Duration: 2017 – 2018
   Budget: $13,853 (My Program: $13,853)

1. Building Resilience of Northwest Tree Fruit to Changing Pest Pressures Under Climate Change
   Role: PI; [1, 2, 3, 4, 5]
   Agency: USDA NW Climate Hub
   Duration: 2017 – 2019
   Budget: $70,000 (My Program: $48,554)

PUBLICATIONS

In the list below, my name in **underline** indicates that I was the corresponding author and/or played a lead role in shepherding the paper. Other **bold** names indicate students and postdocs from my research group. Journal publication avenues include Water Resources Research, Journal of Hydrology, Environmental Research Letters, Scientific Reports, Climatic Change, Journal of Cleaner production, Agriculture and Forest Meteorology, and Nature Food.

Key to indicators or description of contributions to Publications and Creative Work: 1 = Developed the initial idea; 2 = Obtained or provided funds or other resources; 3 = Collected data; 4 = Analyzed data; 5 = Wrote/created product; 6 = Edited product.

Peer-reviewed journal publications

Under review

37. **Singh, B.**, Liu, M., Abatzoglou, J., Adam, J., and **Rajagopalan, K.**, Under review. Dynamic precipitation phase partitioning improves modeled simulations of some snow and streamflow metrics across the Northwest US. *Journal of Hydrology*. [IF 5.9] [Role: 1, 2, 5, 6]

36. **Xu, C.**, **Rajagopalan, K.**, Adam, J.C., and Brady, M., Under review. Do seasonal drought forecasts have value in agricultural water leasing decisions? *Journal of Agricultural and Resource Economics*. [IF 1.7] [Role: 1, 2, 5, 6]

35. Basu, R., Gifford, J., Brady, M., Cook, J., **Rajagopalan, K.**, and Yoder, J., Under review. An Agent-Based Model for Assessing Agricultural Water Markets Structure and Function. *Water Resources and Economics*. [IF 2.3] [Role: 3, 6]

34. **Noorazar, H.**, Jones, V.P., Yorgey, G.G., Hall, S.A., Kruger, C.E. and **Rajagopalan, K.**, Under review. Codling moth pest pressures and pest control efficacy under climate change. *Climatic Change*. [IF 4.2] [Role: 1, 2, 5, 6]

Under revision

33. **Khan, M. R. A.**, Brady M. P., **Singh, B., Yourek, M.,** Yoder, J., Cook, J. , Yorgey, G. G., and **Rajagopalan, K.**, Under revision. Concurrent irrigation pauses can create stream flow pulses for fish during critical low flow periods. *Water Resources Research*. [IF 4.6] [Role: 1, 2, 5, 6]

32. Deol, S., Yorgey, G., Yoder, J., **Rajagopalan, K.**, Brady, M., Haller, D., Padowski, J., Peters, T., Young, R., and Cook, J., Under revision. Water Management Technology, Regulation, and Market Perspectives Among Washington State Irrigators. *Journal of American Water Resources Association*. [IF 2.6] [Role: 6]

31. **Savalkar, S.**, Pumphrey, M., Campbell, K., Scarpare, F., Ferdousi, T., Swarup, S., Stöckle, C. and **Rajagopalan, K.**, Under revision. Earlier planting in a future climate fails to replicate historical production conditions for US spring wheat. *Communications Earth and Environment*. [IF 8.4] [Role: 1, 2, 5, 6]

30. **Norouzi Kandelati, A.**, Stahl, A.T., Yan, Y., **Chaudhary, S.**, Vleet, S.V., Gustafson, D.I., Kok, H. and **Rajagopalan, K.**, Under revision. Regional-Scale Field-Level Estimation and Mapping of Tillage Practices in Areas with Crop Diversity. *Remote Sensing of Environment*. [IF 9.2] [Role: 1, 2, 5, 6]

29. **Yourek, M.**, Haller, D., Potter, N., **Rajagopalan, K.**, Garcia, K.S., and Yoder, J., Under revision. Water Right Forfeiture in Washington State from 1967 to 2019. *Water Resources Research*. [IF 4.6] [Role: 2, 6]

28. Malek, K., **Yourek, M.**, Adam, J., Hamlet, A., **Rajagopalan, K.**, and Reed, P., Under revision. RColSim: An Open-Source Regional Water Management Model for the Columbia River Basin. *Journal of Open Research Software*. [IF NA] [Role: 2, 6]

Published/accepted

27. Abatzoglou, J. T., Parker, L.E., Viers, J. H., Medellín-Azuara, J. , Escriva-Bou, A., Huntington, J. L., Williams, E. L., and **Rajagopalan, K.**, 2025. Shorter Growing Seasons May Moderate Climate Change Effects on Crop Water Demands. *Environmental Research Letters*, 20. DOI: 10.1088/1748-9326/adb1f5. [IF 5.6] [Role: 6]

26. Yang, M., Schlatter, D., LaTourneau, M., Wen, S., Mavrodi, D., Mavrodi,O., Thomashow, L., **Kandlati, E.**, **Rajagopalan, K.**, Weller, D., and Paulitz, T. C., 2025. Eight years in the soil: temporal dynamics of wheat-associated bacterial communities under dryland and irrigated conditions. *Phytobiomes Journal*. DOI: 10.1094/PBIOMES-02-24-0028-R. [IF 3.3] [Role: 4, 6]

25. **Noorazar, H., Savalkar, S.**, Brady M. P., **Kandelati A. N.**, Liu, M., Beale, P., McGuire, A., Waters, T., and **Rajagopalan, K.**, 2025. Monitoring double cropped extent with remote sensing in areas with high crop diversity. *Plants*,14, p.1362. DOI: 10.3390/plants14091362. [IF 4.0] [Role: 1, 2, 5, 6]

24. **Singh, B.**, Ferdousi, T., Abatzoglou, J.T., Swarup, S., Adam, J.C., and **Rajagopalan, K.**, 2024. Sensitivity of snow magnitude and duration to hydrology model parameters. *Journal of Hydrology*, 645, p.132193. DOI: 10.1016/j.jhydrol.2024.132193. [IF 5.9] [Role: 1, 2, 5, 6]

23. Preston, S., **Rajagopalan, K.**, **Yourek, M.**, Kalcsits, L. and Singh, D., 2024. Changing climate risks for high-value tree fruit production across the United States. *Environmental Research Letters*. DOI: 10.1088/1748-9326/ad90f4. [IF 5.6] [Role: 1, 2, 5, 6]

22. **Kondal, A.**, Hegewisch, K., Liu, M., Abatzoglou, J.T., Adam, J., Nijssen, B., and **Rajagopalan, K.**, 2024. Seasonal forecasts have sufficient skill to inform some agricultural decisions. *Environmental Research Letters*. DOI: 10.1088/1748-9326/ad8bde. [IF 5.6] [Role: 1, 2, 5, 6]

21. **Savalkar, S., Ahmad, Md. R., Singh, B., Pruett, M.**, Stockle, C.O., Peters, R. T., Hills, S.E., and **Rajagopalan, K.**, 2024. Errors in temporal disaggregation of temperature can lead to non-negligible biases in agroecosystem risk assessment. *Agricultural and Forest Meteorology*, 349, p.109952. DOI: 10.1016/j.agrformet.2024.109952. [IF 5.6] [Role: 1, 2, 5, 6]

20. **Rajagopalan, K.**, DeGrandi-Hoffman, G., **Pruett, M.**, Jones, V.P., Corby-Harris, V., Pireaud, J., Curry, R., Hopkins, B., and Northfield, T., 2024. Changing honey bee overwintering dynamics under warmer autumns and winters create new risks for pollination services. *Scientific Reports*. DOI: 10.21203/rs.3.rs-1394621/v1. [IF 4.3] [Role: 1, 2, 5, 6]

19. Hall, S.A., Whittemore, A., Adam, J.C., Yourek, M., Padowski, J., Yorgey, G., **Rajagopalan, K.**, Scarpare, F.V., Gustine, R., Brady, M., and McLarty, S., 2024. Concurrently assessing water supply and demand is critical for evaluating vulnerabilities to climate change. *Journal of the American Water Resources Association*. DOI: 10.1111/1752-1688.13192. [Role: 2, 6]

18. **Chaudhary, S.**, **Rajagopalan, K.**, Kruger, C., Brady, M., Fraisse, C., Gustafson, D., Hall, S., Hoogenboom, G., Melnick, R., Reyes, J., and Stöckle, C., 2023. Analogs for dialogs: a network to catalyze climate change adaptation for US specialty crops. *Scientific Reports*. DOI: 10.21203/rs.3.rs-1883387/v1. [IF 4.3] [Role: 1, 2, 5, 6]

17. Willsea, N., Blanco, V., **Rajagopalan, K.**, Campbell, T., Howe,O., and Kalcsits, L., 2023. Reviewing the tradeoffs between sunburn mitigation and red color development in apple under a changing climate. *Horticulturae*, 9(4), p.492. DOI: 10.3390/horticulturae9040492. [IF 3.1] [Role: 6]

16. Yourek, M., Liu, M., Scarpare, F., **Rajagopalan, K.**, Malek, K., Boll, J., Huang, M., Chen, M., and Adam, J.C., 2023. Downscaling global land-use/cover change scenarios for regional analysis of food, energy, and water subsystems. *Frontiers in Environmental Science*, 11, p.86. DOI: 10.3389/fenvs.2023.1055771. [IF 3.3] [Role: 6]

15. Gustafson, D., Asseng, S., Fraisse, C., Guan, K., Hoogenboom, G., Kruger, C., Kruse, J., Matlock, M., Melnick, R., Parajuli, R., and **Rajagopalan, K.**, 2022. In pursuit of more fruitful food systems. *The International Journal of Life Cycle Assessment*, 27(12), pp.1267–1269. DOI: 10.1007/s11367-022-02101-5. [IF 4.8] [Role: 4, 6]

14. Singh, N., Kogan, C., **Chaudhary, S., Rajagopalan, K.**, and LaHue, G.T., 2022. Controlled drainage and subirrigation suitability in the United States: A meta-analysis of crop yield and soil moisture effects. *Vadose Zone Journal*, 21(5), p.e20219. DOI: 10.1002/vzj2.20219. [IF 2.5] [Role: 2, 6]

13. Maureira, F., **Rajagopalan, K.**, and Stöckle, C.O., 2022. Evaluating tomato production in open-field and high-tech greenhouse systems. *Journal of Cleaner Production*, 337, p.130459. DOI: 10.1016/j.jclepro.2022.130459. [IF 9.8][Role: 5, 6]

12. Scarpare, F.V., **Rajagopalan, K.**, Liu, M., Nelson, R.L. and Stöckle, C.O., 2022. Evapotranspiration of Irrigated Crops under Warming and Elevated Atmospheric CO2: What Is the Direction of Change? *Atmosphere*, 13(2), p.163. DOI: 10.3390/atmos13020163. [IF 2.5] [Role: 2, 5, 6]

11. **Noorazar, H.**, Kalcsits, L., Jones, V.P., Jones, M.S., and **Rajagopalan, K.**, 2022. Climate change and chill accumulation: implications for tree fruit production in cold winter regions. *Climatic Change*, 171(3). DOI: 10.1007/s10584-022-03339-6. [IF 5.4] [Role: 1, 2, 5, 6]

10. Khanal, R., Brady, M.P., Stöckle, C.O., **Rajagopalan, K.**, Yoder, J., and Barber, M.E., 2021. The economic and environmental benefits of partial leasing of agricultural water rights. *Water Resources Research*, 57(11), p.e2021WR029712. DOI: 10.1029/2021WR029712. [IF 4.6] [Role: 2, 4, 5, 6]

9. Malek, K., Adam, J., Yoder, J., Givens, J., Stöckle, C., Brady, M., Karimi, T., **Rajagopalan, K.**, Liu, M. and Reed, P., 2021. Impacts of irrigation efficiency on water-dependent sectors are heavily controlled by region-specific institutions and infrastructures. *Journal of Environmental Management*, 300, p.113731. DOI: 10.1016/j.jenvman.2021.113731. [IF 8.0] [Role: 6]

8. Gustafson, D., Asseng, S., Kruse, J., Thoma, G., Guan, K., Hoogenboom, G., Matlock, M., McLean, M., Parajuli, R., **Rajagopalan, K.**, and Stöckle, C., 2021. Supply chains for processed potato and tomato products in the United States will have enhanced resilience with planting adaptation strategies. *Nature Food*, 2(11), pp.862-872. DOI: 10.1038/s43016-021-00383-w. [IF 23.6] [Role: 4, 6]

7. Malek, K., Adam, J., Stöckle, C., Brady, M., and **Rajagopalan, K.**, 2018. When should irrigators invest in more water-efficient technologies as an adaptation to climate change? *Water Resources Research*, 54(11), pp.8999-9032. DOI: 10.1029/2018WR022767. [IF 4.6] [Role: 6]

6. **Rajagopalan, K.**, Chinnayakanahalli, K.J., Stöckle, C.O., Nelson, R.L., Kruger, C.E., Brady, M.P., Malek, K., Dinesh, S.T., Barber, M.E., Hamlet, A.F., and Yorgey, G.G., 2018. Impacts of near-term climate change on irrigation demands and crop yields in the Columbia River basin. *Water Resources Research*, 54(3), pp.2152-2182. DOI: 10.1002/2017WR020954. [IF 4.6] [Role: 1, 3, 4, 5, 6]

5. Yorgey, G.G., Hall, S.A., Allen, E.R., Whitefield, E.M., Embertson, N.M., Jones, V.P., Saari, B.R., **Rajagopalan, K.**, Roesch-McNally, G.E., Van Horne, B., and Abatzoglou, J.T., 2017. Northwest US agriculture in a changing climate: collaboratively defined research and extension priorities. *Frontiers in Environmental Science*, 5, p.52. DOI: 10.3389/fenvs.2017.00052. [IF 3.3] [Role: 5, 6]

4. Malek, K., Stöckle, C., Chinnayakanahalli, K., Nelson, R., Liu, M., **Rajagopalan, K.**, Barik, M., and Adam, J.C., 2017. VIC–CropSyst-v2: A regional-scale modeling platform to simulate the nexus of climate, hydrology, cropping systems, and human decisions. *Geoscientific Model Development*, 10(8), pp.3059-3084. DOI: 10.5194/gmd-10-3059-2017. [IF 6.1] [Role: 4, 6]

3. Adam, J.C., Stephens, J.C., Chung, S.H., Brady, M.P., Evans, R.D., Kruger, C.E., Lamb, B.K., Liu, M., Stöckle, C.O., Vaughan, J.K., and **Rajagopalan, K.**, 2015. BioEarth: Envisioning and developing a new regional earth system model to inform natural and agricultural resource management. *Climatic Change*, 129, pp.555-571. DOI: 10.1007/s10584-014-1115-2. [IF 5.4] [Role: 6]

2. Liu, M., **Rajagopalan, K.**, Chung, S.H., Jiang, X., Harrison, J., Nergui, T., Guenther, A., Miller, C., Reyes, J., Tague, C., and Choate, J., 2014. What is the importance of climate model bias when projecting the impacts of climate change on land surface processes? *Biogeosciences*, 11(10), pp.2601-2622. DOI: 10.5194/bg-11-2601-2014. [IF 4.5] [Role: 4, 5, 6]

1. Barber, M.E., Adam, J., **Rajagopalan, K.**, and Mahler, G.Y.R., 2013. Impacts of climate and municipal water demand changes on ecological flows in the Columbia River basin, USA. *WIT Transactions on Ecology and the Environment*, 175, p.87. DOI: 10.2495/ECO130081. [IF unknown] [Role: 4, 6]

Peer-reviewed conference proceedings

Published/Accepted

5. Hoque, O. B., Adiga, A., Adiga, A., Chaudhary, S., Marathe, M., Ravi, S. S., **Rajagopalan, R.**, Wilson, A., & Samarth, S., 2025. IGraSS: Learning to Identify Infrastructure Networks from Satellite Imagery by Iterative Graph-constrained Semantic Segmentation. Proc. *Thirty-Fourth International Joint Conference on Artificial Intelligence (IJCAI)*, AI and Social Good Track. (∼18% track acceptance rate). [Role: 1, 3, 6]

4. Gharsallaoui, M.A., **Singh, B.**, **Savalkar, S.**, Deshwal, A., Yan, Y., Kalyanaraman, A., **Rajagopalan, K.**, and Doppa, J.R., 2024. Streamflow Prediction with Uncertainty Quantification for Water Management: A Constrained Reasoning and Learning Approach. Proc. *Thirty-third International Joint Conference on Artificial Intelligence (IJCAI)*, August 3-9, 2024. Jeju, South Korea. pp. 7269-7277. DOI: 10.24963/ijcai.2024/804. (∼20% track acceptance rate). [Role: 1, 2, 6]

3. Adiga, A., Trabelsi, Y., S. S. Ravi., Swarup, S., Vullikanti, A. K., Wilson, M., Marathe, M., Kraus, S., Basu, R., **Savalkar, S., Yourek, M., Rajagopalan, K.**, Yoder, J., Brady, M., and Ferdousi, T., 2024. Value-based Resource Matching with Fairness Constraints: Application to Agricultural Water Trading. *Twenty-Third International Conference of Autonomous Agents and Multiagent Systems (AAMAS 2024)*, May 6-10, 2024, Auckland, New Zealand. [Role: 6]

2. Thapa, K., **Singh, B.**, **Savalkar, S.**, Fern, A., **Rajagopalan, K.**, and Kalyanaraman, A., 2024. Attention-based Models for Snow-Water Equivalent Prediction. *Proceedings of the AAAI Conference on Artificial Intelligence: Emerging AI Applications Track*. February 22-24, 2024 Vancouver, Canada. pp. 22969-22975. DOI: 10.1609/aaai.v38i21.30337. (24% track acceptance rate). [Role: 1, 2, 5, 6]

1. Ferdousi T., Liu M., **Rajagopalan, K.**, Adam, J.C., Adiga, A., Wilson M., Ravi S.S, Vullikanti A., Marathe M.V., and Swarup S., 2023. A machine learning framework to explain complex geospatial simulations: a climate change study. *2023 Winter Simulation Conference*. December 10-13, San Antonio, TX. DOI: 10.1109/WSC60868.2023.10408406. [Role: 2, 6]

Other publications/technical reports

11. Whittemore, A., Kruger, C.E., **Rajagopalan, K.**, Doonan, K., Phelps, M., Hall S.A., LaHue, G., Gelardi. D., and Yorey, G.G., 2024. Anticipated Climate Impacts to Cropland and Livestock Agriculture in Washington State. *Center for Sustaining Agriculture and Natural Resources, Washington State University*. 24 pp.[Role: 5, 6]

10. Chang, M., L. Erikson, K. Araújo, E.N. Asinas, S. Chisholm Hatfield, L.G. Crozier, E. Fleishman, C.S. Greene, E.E. Grossman, C. Luce, J. Paudel, **Rajagopalan, K.**, E. Rasmussen, C. Raymond, J.J. Reyes, and V. Shandas, 2023. Ch. 27. Northwest. In: Fifth National Climate Assessment. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. *U.S. Global Change Research Program, Washington, DC, USA*. https://doi.org/10.7930/NCA5.2023.CH27 [Role: 5, 6]

9. Pickering, N., Haller, D., Yorgey, G., Peters, R. T., Stöckle, C., Barber, M., Khot, L., Liu, M., **Rajagopalan, K.**, Chandel, A., Khanal, R., Kadam, S., Molaei, B., and Yoder, J., 2021. Comparison of Evapotranspiration Methods Used in Washington. *The Water Report*. [Role: 6]

8. Yoder, J., Chaudhary, S., Duarte, B., Greene, C., Jobe, J., LaHue, G., Maroney, C., Mauger, G., Morgan, H., Padowski, J., **Rajagopalan, K.**, Raymond, C., Rogers, M., Rossman, N., Singh, N., Timpane-Padgham, B., Wiseman, C., and Won, J., 2021. Skagit Water Supply and Demand Synthesis. *Story Map Series Prepared for the State of Washington Joint Legislative Task Force on Water Supply*. https://doi.org/10.7273/4n11-9k73 [Role: 2, 5, 6]

7. Hills, K., **Pruett, M.**, Liu, M., Scarpare, F., Adam, J.C., Stöckle, C., Nelson, R., and **Rajagopalan, K.**, 2020. 2020 level irrigation depletions for 2020 Modified Flows. *Technical Report. Bonneville Power Administration*. [Role: 1, 2, 5, 6]

6. Allen, E., Hall, S.E., Yorgey, G.G., **Rajagopalan, K.**, Adam, J.C., Brady, M.P., Barber, M.E., Stöckle, C.O., Barik, M., and Kruger, C.E., 2018. Modeling Environmental Change: A Guide to Understanding Scenarios. *Washington State University Extension Publication, Pullman, WA*. [Role: 6]

5. Allen, E., Yorgey, G.G., **Rajagopalan, K.**, and Kruger, C.E., 2015. Modeling Environmental Change: A guide to understanding results from models that explore impacts of climate change on regional environmental systems. *Washington State University Extension Publication, Pullman, WA*. [Role: 5, 6]

4. Yorgey, G., Kruger, C.E., Brooke, S., Hall. S.A., Whitefield, E., Embertson, N., Jones, V.P., **Rajagopalan, K.**, Allen. E., Roesch McNally, G., Van Horne, B., Abatzoglou, J., Collins, H., Houston, L., Seavert, C., and Ewing, T., 2017. Agriculture in a Changing Climate: Research and Extension Priorities in the Northwest. *Technical Publication from the Agriculture in a Changing Climate Workshop, held in Kennewick, WA*, March 9-11, 2016. Published February 28, 2017. [Role: 5, 6]

3. Hall, S.A., J.C. Adam, M. Barik, J. Yoder, M.P. Brady, D. Haller, M.E. Barber, C.E. Kruger, G.G. Yorgey, Downes, M., Stöckle, C.O., Aryal, B., Carlson, T., Damiano, G., Dhungel, S., Einberger, C., Hamel-Reiken, K., Liu, M., Malek, K., McClure, S., Nelson, R., O'Brien, M., Padowski, J., **Rajagopalan, K.**, Rakib, Z., Rushi, B., and Valdez, W., 2016. 2016 Washington State Legislative Report: Columbia River Basin Long-Term Water Supply and Demand Forecast. Publication No. 16-12-001. *Washington Department of Ecology, Olympia, WA*. 216 pp. Available online at: https://fortress.wa.gov/ecy/publications/SummaryPages/1612001.html [Role: 4, 6]

2. Yorgey, G.G., **Rajagopalan, K.**, Chinnayakanahalli, K., Brady. M.P., Barber, M.E., Nelson, R., Stöckle C.O., Kruger, C.E., Dinesh, S., Malek, K., Yoder, J., and Adam, J.C., 2011. Columbia River Basin Long-Term Water Supply and Demand Forecast. *Washington State Legislative Report*. [Role: 3, 4, 5, 6]

1. **Rajagopalan, K.**, Yorgey, G.G., Chinnayakanahalli, K., Brady. M.P., Barber, M.E., Nelson, R., Stöckle C.O., Kruger, C.E., Dinesh, S., Malek, K., Yoder, J., and Adam, J.C., 2012. Technical Supplement for the Columbia River Basin Long-Term Water Supply and Demand Forecast. *Washington State Department of Ecology, Olympia, WA*. [Role: 1, 3, 4, 5, 6]

Presentations

Invited Presentations

24. Water demands in a changing climate. *Columbia River Transboundary Water governance & Ethics Symposium*, November 2024, Spokane, WA.

23. Emerging technologies in water resources management. *Washington Water Code: Law, Policy and Planning*, November 2024, Seattle, WA.

22. Irrigation demands: whys, hows, challenges, and opportunities. *US Bureau of Reclamation Water School*, October 2024, Boulder City, NV.

21. Weather data in crop modeling. *Spillman Farm Field Day*, July 2024, Pullman, WA.

20. Fifth National Climate Assessment, Pacific Northwest Chapter: Agricultural Implications. *Fifth National Climate Assessment Outreach Meeting*, Boise State University, May 2024, Boise, ID.

19. Irrigation demands: whys, hows, challenges, and opportunities. *US Bureau of Reclamation Water School*, Spring 2024, Virtual.

18. Irrigation demands: whys, hows, challenges, and opportunities. *US Bureau of Reclamation Water School*, October 2023, Boulder City, NV.

17. Subseasonal water leasing for environmental flows through short-term irrigation shutdown. *American Water Resources Association Summer Meeting*, July 2023, Denver, CO.

16. Irrigation demands: whys, hows, challenges, and opportunities. *US Bureau of Reclamation Water School*, April 2023, Boulder City, NV.

15. Irrigation demand considerations and ongoing efforts at Washington State University. *Columbia River Forecasting Group's Spring Meeting*, March 2023, Portland, OR.

14. Honeybee pollination services in a changing climate. *Indoor Storage of Honeybees Conference*, December 2022, Virtual.

13. Ongoing climate change work related to agriculture and natural resources management. *Extension Action in a Changing Climate*, WSU Extension Meeting, July 2022, Richland, WA.

12. Climate change impacts of perennial tree fruit systems. *Washington State Tree Fruit Association Annual Meeting*, December 2022, Wenatchee, WA.

11. Model and data informed water resources management in irrigated watersheds. *IEEE International Conference on High Performance Computing, Data, and Analytics.* December 2022, Bangalore, India.

10. Climate change impacts on honeybee overwintering survival. *USDA Grand Challenge Workshop: Creating Pollinator Landscapes and Beekeeping Practices for a Changing Climate*, May 2021, Virtual.

9. Climate change impacts on agriculture in the Pacific Northwest US. *Washington Mint Commission Annual Meeting*, December 2021, Kennewick WA.

8. Tech for Trade: New Tools and Rules for improving water use efficiency. *Law Seminars International Tribal Water in the Pacific Northwest*, September 2019, Seattle, WA.

7. Pest Pressures and Management: Implications for the Codling Moth under climate change. *Entomological Society of America—Pacific Annual Meeting*, March 2019, San Diego, CA.

6. Water availability in the Columbia River Basin: bringing demand into the discussion. *Law Seminars International Tribal Water in the Pacific Northwest*, July 2018, Seattle, WA.
5. Climate Change: outlook for agricultural production in the Columbia River basin. *Columbia Conservation District Annual Meeting*, January 2018, Dayton, WA.
4. Climate Change: outlook for agricultural production in the Columbia River basin. *Oregon State University Farm Fair*, November 2017, Hermiston, OR.
3. Food for thought: Agricultural production in the Columbia River basin under global change. *Climate for Water Conference*, January 2017, Skamania, WA.
2. Forecasting Water Supply and Demand for the Columbia River basin and beyond. *WA County Leaders Conference*, November 2015, Skamania, WA.
1. Forecasting water supply and demand for the Columbia River basin and beyond. *WSWRA Annual Conference*, December 2015, Spokane, WA.

Other Presentations (First author or student/postdoc presentation)

25. Climate analogs for climate change communication and education: a case study with US Specialty Crops. *European Geophysical Union Meeting*, May 2025, Vienna, Austria.
24. Dynamic precipitation partitioning improves simulations of some snow and stream flow metrics in Northwestern US. *European Geophysical Union Meeting*, May 2025, Vienna, Austria.
23. Fractional residue cover predictions depend on residue type and age, in addition to scene moisture levels. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Student poster presentation by Amin Norouzi Kandelai.
22. Impact of Environmental Factors on Key Crop Performance Aspects of Soft White Spring Wheat. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Student poster presentation by Ehsan Norouzi Kandlai.
21. SoilScan: A mobile application for scalable tracking of crop residue cover fraction. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Highschool student poster presentation by Raksha Ravishankar.
20. The Role of Water Law in Managing Water Scarcity: Spotlight on Water Right Forfeiture. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Post doctoral poster presentation by Matthew Yourek.
19. Dynamic precipitation phase partitioning improves modeled simulations of snow across the Northwest US. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Student oral presentation by Bhupinderjeet Singh.
18. Improved precipitation phase partitioning in hydrology models results in less drastic projected climate change impacts. *American Geophysical Union Fall Meeting*, December 2024, Washington D.C. Student poster presentation by Supriya Savalkar.
17. Sub-seasonal water reallocation opportunities for streamflow augmentation. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. Student poster presentation by Md. Redwan Ahmad Khan.
16. Large-scale mapping of tillage practices in areas with diverse crops, climates and terrain. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. Student poster presentation by Amin Nourozi Kandelati.
15. Evaluation of earlier planting as an adaptation strategy to climate change: trade-offs associated with reductions in heat-stress exposure. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. Student oral presentation by Supriya Savalkar.
14. Evaluating a hydrology model's ability to simulate snow processes and identifying avenues for improvement. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. Student poster presentation by Bhupinderjeet Singh.
13. Double-cropped Fields with Remote Sensing in Areas with High Crop Diversity. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA.
12. Beyond Curve Fitting: Generating Hourly Temperature Data with Advanced AI-Based Disaggregation. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. Undergraduate student poster presentation by Nicholas Krabeel.
11. Errors in temporal disaggregation of meteorological variables lead to non-negligible biases in agroecosystem risk assessment. *ASABE Annual International Meeting*, July, 2022, Houston, TX. Student presentation by Supriya Savalkar.
10. Climate analogs: communicating actionable information for specialty crop production. *American Geophysical Union Fall Meeting*, December 2021, New Orleans, LA. Post doctoral presentation by Siddharth Chaudhary.

9. Seasonal forecast skill evaluation of meteorological and agricultural variables. *American Geophysical Union Fall Meeting*, December 2021, New Orleans, LA. Student presentation by Ashish Kondal.
8. ENSO impact of the hydroclimatic variability of the Pacific Northwest US. *American Geophysical Union Fall Meeting*, December 2021, New Orleans, LA. Student presentation by Jacky Xu.
7. Codling Moth pest pressures under climate change: management implications. *Pacific Northwest Climate Conference*, October 2019, Portland, OR.
6. Tech for trade: new tools and rules for improving water use efficiency. *University Council of Water Resources Annual Meeting*, June 2019, Snowbird UT.
5. Climate adaptation and mitigation opportunities for the two largest Solanaceae crops in the US: potatoes and tomatoes. *American Geophysical Union Fall Meeting*, December 2018, Washington D.C.
4. Columbia River water supply and demand forecast. *Climate for Water Conference*, January 2017, Skamiania, WA.
3. Food for thought: strategies for sustainable agricultural production in the Columbia River basin in an altered future. *NOAA's Annual Climate Prediction Applications Science Workshop*, March 2015, Las Cruses, NM.
2. Impacts of climate change on irrigated agriculture in the Columbia River Basin through water rights curtailment. *Pacific Northwest Climate Conference*, November 2015, Coeur d'Alene, ID.
1. An agricultural producer learning tool for the Columbia River basin. *Pacific Northwest Climate Conference*, November 2015, Coeur d'Alene, ID.

Workshop, Webinar, and Panel Organization as Lead

Workshops

- Application opportunities for the fifth National Climate Assessment: panel discussion — *May 2024*
  - ∼ 25 participants — Boise, ID
- Collaborations between the AgAID Institute and regional water management agencies — *Jun 2024*
  - ∼ 18 participants — Pullman, WA
- WSU collaborations with the WA Conservation Commission and Conservation Districts — *Jun 2024*
  - ∼ 24 participants — Pullman, WA
- Climate change policy careers: panel discussion — *Mar 2024*
  - ∼ 50 participants — Pullman, WA
- Climate change research and extension opportunities in an evolving policy landscape — *Mar 2024*
  - ∼ 50 participants — Pullman, WA
- Southeast US specialty crop climate analog dialogues — *Mar 2022*
  - ∼ 9 participants — Virtual

Webinars

- Using Climate analogs of US specialty crops for a national Extension network — *Jan 2022*
  - ∼ 95 participants — Virtual

Decision Support Tools

- **Chaudhary, S.**, **Rajagopalan, K.**, Pilli, E.N., Pireaud, J., and C.E. Kruger. 2022. Fruit & Vegetable Supply Chains: Climate Adaptation and Mitigation Opportunities: Analog Tool. https://agclimatechangetools.cahnrs.wsu.edu/

Teaching

Table 1: Course list, enrollment and evaluation summary

Item	Course	Credits	Semester	Enrollment	Evaluations		
					Course	Instructor	Learning
7	AFS 505 (3 modules)[1,†] co-taught with Mathew Yourek	3	Fall 2024	11	4.5/5	4.5/5	3.5/4
6	AFS 505 (3 modules)[1,†]co-taught with Steve Culman and Matt Yourek	3	Fall 2023	10	4.5/5	4.5/5	3.5/4
5	AFS 505 (3 modules)[1,†] co-taught with Sid Chaudhary	3	Fall 2022	15	4.3/5	4.7/5	3.6/4
4	BSysE 552: Agroecosystems Data and Modeling	3	Fall 2022	9	4.4/5	4.6/5	3.6/4
3	BSysE 552: Nutrient Cycling co-taught with Dr. Stöckle	3	Fall 2020	7	5/5	5/5	4/4
2	BSysE 552: Hydroclimatology	3	Fall 2020	6	5/5	4.8/5	4/4
1	CE351: Water Resources Eng.[‡]	3	Spring 2014	56	NA	4.35/5	NA

[1]I was the primary instructor

[†]The full course name for AFS 505 is Topics in Computational and Analytical Methods for Scientists. This course has three modules and average values across all three modules are reported.

[‡]I taught CE 351 as a graduate student.

Other curriculum development and delivery

- Surface water hydrology and forecasting, climate projections, and water demands modules for the National Judicial College's Water Science School for Washington State Judges in May 2025.
- Water demands module for the US Bureau of Reclamation's Water School held twice a year since 2022.
- Climate analogs module for the Climate Analog Academy's curriculum for US Specialty Crop Extension Professionals.

Mentoring

Awards received by students for work in the lab are listed as bullet points

Graduate student major advisor

Ph.D.

Current

- Amir Birjandi — *May 2025 – present*
- Ehsan Nourozi Kandlati — *Jan 2023 – present*
- Bhupinderjeet Singh — *Aug 2021 – present*
  - 2024 Anne and Russ Fuller Fellowship for Interdisciplinary Research/Scholarship, Graduate School, WSU
  - 2024 Arnie and Marta Kegel Fellowship, Department of Biological Systems Engineering, WSU
- Amin Nourozi Kandelati — *Aug 2021 – present*
  - 2024 Arnie and Marta Kegel Fellowship, Department of Biological Systems Engineering, WSU
- Md. Redwan Ahmad Khan — *Aug 2021 – present*
- Supriya Savalkar — *Jan 2021 – present*
  - Third place, 2024 collegiate competition, North American Chapter of the Society of Women Engineers
  - 2024 Richard R. and Constance M. Albrecht Scholarship, Graduate School, WSU
  - 2023 Arnie and Marta Kegel Fellowship, Department of Biological Systems Engineering, WSU

Completed

- Chen (Jacky) Xu — *Jan 2019 – Aug 2024*
  - Co-advised with Dr. Jennifer Adam
- Ashish Kondal — *Jan 2019 – Aug 2024*
  - Now, Data Scientist, Paradigm Environmental
  - Co-advised with Dr. Jennifer Adam

M.S.

Current

- Thomas Burke — *Aug 2024 – present*

◦ Co-advised with Dr. Joan Wu

Graduate student committee member

Ph.D.

Current

- Will Ottenbrite, School of Economic Sciences, WSU
- Chamaporn Paiboonvorachatt, Biological Systems Engineering, WSU
- Kwabena Sarapong, Crop and Soil Sciences, WSU
- Igbagbolere Adeoluwa David, Crop and Soil Sciences, WSU
- Veronica Crow, Biological Systems Engineering, WSU
- Krishu Thapa, School of Electrical Engineering and Computer Science, WSU

Completed

- Gajanan Kothwade, Biological Systems Engineering, WSU
- Samrat Dahal, Biological Systems Engineering, WSU
- John Paulo Sacdalan, Biological Systems Engineering, WSU
- Mathew Yourek, Civil Engineering, WSU
- Jui Sen, School of Economic Sciences, WSU
- Claire Marie Castillo , Biological Systems Engineering, WSU

M.S.

Completed

- Madhulika Gurazada, School of the Environment, WSU
- Elda Bezuayene, Biological Systems Engineering, WSU
- Shawn Preston, School of the Environment, WSU
- Samantha Grieger, School of the Environment, WSU
- Jose Almodovar, Biological Systems Engineering, WSU

Postdoctoral associates/Research associates

- Dr. Nivedita Dubey — *April 2025 – present*
- Dr. Matthew Yourek — *May 2023 – present*
- Dr. Hossein Noorazar — *Feb 2019 – present*
- Roger Nelson — *Aug 2020 – present*
- Dr. Fabio Scarpare — *Aug 2022 – Aug 2023*
  - Now, Climate Hub Fellow, USDA ARS, Pullman, Washington
- Dr. Siddharth Chaudhary — *Jun 2020 – Nov 2022*
  - Now, Research Scientist, NASA IMPACT Program, Huntsville, Alabama
- Mathew Pruett — *Jan 2019 – Mar 2020; Jun 2021 – May 2022*
  - Now, Environmental Consultant, Vancouver, British Columbia

Undergraduate interns

- Jamie Jacob and Brandon Xu — *Jun 2024 – present*
- Nicholas Kraabel — *Jun 2023 – Aug 2024*
  - 2024 Undergraduate Research Excellence Award, WSU
- Wendy Haw — *Jun 2023 – Aug 2023*
- Mathew Zaragoza and Sienna Alicea — *Jun 2022 – Dec 2022*
- Ayaka Smart and Brandt Geist — *Jun 2022 – Aug 2022*
- Kendahl Heckstall and Abdullah Islam — *Jun 2021 – Aug 2021*

High school interns

- Raksha Ravishankar — *Aug 2023 – present*
- Kieran Hampson — *Jun 2022 – Dec 2022*

Professional Memberships

- The American Geophysical Union (AGU) *2012 – present*
- The Universities Council Water Resources (UCOWR) *2019 – 2022*
- The American Society of Agricultural and Biological Engineers (ASABE) *2023 – present*

Service

- **National Policy**
  - U.S. Global Change Research Program; Author, 5th National Climate Assessment *2022 – 2024*

- **Federal Funding Agency Review Panels**
  - USDA NIFA
  - NOAA

- **Washington State University Service**
  - Center for Sustaining Agriculture and Natural Resources, Faculty leadership team *2020 – present*
  - CSNAR BIOAg Seed Grant Review Panel
  - D1GITAL AgATH0N, Organizing committee *2023, 2025*
  - Inaugural D1GITAL AgATH0N, Lead organizer *2021*
  - College-level search committees *2020, 2023, 2024*

- **Journal Reviewer**
  - Water Resources Research, Nature Food, Agriculture and Forest Meteorology, and Climatic Change

- **Blog Article Contributor**
  - Ag Climate Network *2015 – present*

- **Conference Session Chair/Convener**
  - American Geophysical Union Fall Meeting *2018, 2019*
  - University Council on Water Resources Annual Conference *2019*

- **Agency Needs Assessment Workshop Participation**
  - AI for Agriculture, Visioning Conference, Washington DC *2024*
  - NASA Needs Assessment for Water Resources Management in the Columbia Basin, Portland, OR *2020*
  - NSF workshop on Integrated Analysis for Agricultural Management Strategies, San Jose, CA *2015*
  - NSF workshop on Food Water Energy Nexus, Seattle, WA *2015*

Select Media Coverage

- WSU researchers taking steps to protect washington apples from climate change. *MyNorthwest News, Jan 2025*
- Project aims to better understand water demands from extreme heat. *WSU Insider, Aug 2024*
- Western honeybee colonies at risk of collapse, WSU study finds. *Seattle Times, Apr 2024*
- Warmer autumns put honey bees in peril. *UPI, Mar 2024*
- Improved AI process could better predict water supplies. *WSU Insider, May 2024*
- New AI Model Captures the Big Picture of Snowpack for Water Prediction. *Azo Robotics, May 2024*
- WSU scientists highlight Northwest climate risks in national report. *WSU Insider, Nov 2023*
- Apples in extreme heat. *Good Fruit Grower, May 2022*
- NSF-funded research examines socio-economics of flexible environmental rules. *WSU Insider, Oct 2021*