SUDERSHAN GANGRADE

Research & Development Associate
(Water Resources Engineer)
Environmental Sciences Division,
Oak Ridge National Laboratory, Oak Ridge, TN
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EDUCATION

Aug 2016 – Dec 2019	Ph.D., Energy Science and Engineering **University of Tennessee, Knoxville, TN** Focus Area: Environmental and Climate Sciences *Dissertation Topic: Assessing Hydrologic Vulnerability and Resilience of Critical Energy-Water Infrastructures in a Changing Environment*
Aug 2010 – Aug 2012	M.S., Environmental Engineering and Science **Clemson University, Clemson, SC** *Dissertation Topic: Evaluation of use of EM38-MK2 as a Tool to Understand Field Scale Changes in Soil Properties*
Aug 2006 – May 2010	B.Tech., Environmental Engineering **Indian School of Mines, Dhanbad, India**

PROFESSIONAL APPOINTMENTS

Dec 2019 – Present	Research & Development Staff (Water Resources Engineer) Environmental Sciences Division **Oak Ridge National Laboratory, Oak Ridge, TN** *Research Area: Large Scale Hydrologic and Land Surface Modeling, Hydrodynamic Flood Simulation, Hydroclimate Impact Assessment, Water Resources Management, Extreme Flood Events*
Aug 2016 – Dec 2019	Bredesen Center Fellow **University of Tennessee, Knoxville, TN and** **Oak Ridge National Laboratory, Oak Ridge, TN**
Jun 2019 – Aug 2019	Visiting Researcher, Research Applications Laboratory **National Center for Atmospheric Research, Boulder, CO**
Mar 2014 – Jun 2016	Post Masters Research Associate, Environmental Sciences Division **Oak Ridge National Laboratory, Oak Ridge, TN**
Jan 2013 – Mar 2014 Oct 2012 – Dec 2012	Staff Environmental Engineer/Geophysicist Engineering Intern **Mundell & Associates, Inc., Indianapolis, IN**
Aug 2010 – Aug 2012	Graduate Research Assistant Department of Environmental Engineering and Earth Sciences **Clemson University, Clemson, SC**
Jun 2010 – Jul 2010 & May 2009 – Jun 2009	Summer Intern Society of Exploration Geophysicists-Geoscientists Without Borders **Clemson University, Clemson, SC**

RESEARCH PROJECTS

Jan 2023 – Present	Water Power Technologies Office (WPTO) FY22 Hydropower Seedlings. Sponsor: Water Power Technologies Office, U.S. Department of Energy. Role: Co-I (Principal Investigators: Dan Lu, Debjani Singh, Ganesh Ghimire). (i) Flood hazard and uncertainty assessment tool for evaluating dam safety under climate change. (ii) An Uncertainty-Aware, Machine Learning-Enabled Hydropower Seasonal Forecast Model. (iii) Basin Scale Water Quality Modeling and its impact on Hydropower Reservoir Operation using the Soil and Water Assessment Tool.
Oct 2020 – Present	Advancing Watershed System Science using Machine Learning and Data-Intensive Extreme-Scale Simulation. Sponsor: U.S. Department of Energy. *Role: Research Associate* (Principal Investigator: Scott Painter, ORNL)
Jul 2018 – Present	Air Force/ Oak Ridge National Laboratory R&D Collaboration. Sponsor: U.S. Air Force. *Role: Research Associate* (Principal Investigator: K.J. Evans, ORNL)
Oct 2017 – Present	Effects of Climate Change on Federal Hydropower – The Third 9505 Assessment. Sponsor: Water Power Technologies Office, U.S. Department of Energy. *Role: Research Associate* (Principal Investigator: S.-C. Kao, ORNL)
Jun 2017 – May 2018	Development of Ensemble based Probabilistic Flood Maps for Probable Maximum Flood. Sponsor: Hydro Research Foundation Research Awards. *Role: Principal Investigator (under supervision of S.-C. Kao, ORNL)*
Aug 2015 – Mar 2016	Review of Site-Specific Probable Maximum Precipitation Analyses. Sponsor: Office of New Reactors, U.S. Nuclear Regulatory Commission. *Role: Research Associate* (Principal Investigator: S.-C. Kao, ORNL)
Mar 2014 – Mar 2017	Effects of Climate Change on Federal Hydropower – The Second 9505 Assessment. Sponsor: Water Power Technologies Office, U.S. Department of Energy. *Role: Research Associate* (Principal Investigator: S.-C. Kao, ORNL)
Mar 2014 – Sep 2015	Towards the Development of an Integrated Energy-Water Risk Assessment Tool for Probable Maximum Precipitation and Flood. Sponsor: Laboratory Directed Research and Development Program, Oak Ridge National Laboratory. *Role: Research Associate* (Principal Investigator: S.-C. Kao, ORNL)
Jun 2010 – Aug 2012	Addressing the Water Crisis in Rural India using Electromagnetic Induction. Sponsor: SEG Geoscientists Without Borders. *Role: Research Associate* (Principal Investigator: Stephen Moysey, Clemson University)

PUBLICATIONS

Peer Reviewed [17]

1. Ghimire, G.R., C. Hansen, **S. Gangrade**, S.-C. Kao, P.E. Thornton, and D. Singh (2023), Insights from Dayflow: A Historical Streamflow Reanalysis Dataset for the Conterminous United States. *Water Resources Research*, Accepted.
2. **Gangrade, S.**, D. Lu, S.-C. Kao, and S.L. Painter (2022), Machine Learning Assisted Reservoir Operation Model for Long-Term Water Management Simulation. *JAWRA Journal of the American Water Resources Association,* 1–12, https://doi.org/10.1111/1752-1688.13060.
3. Li X., D.Fu, J. Nielsen-Gammon, **S. Gangrade**, S.-C. Kao, P. Chang, M. Morales Hernández, N. Voisin, Z. Zhang, and H. Gao H (2022), Impacts of Climate Change on Future Hurricane Induced Rainfall and Flooding in A Coastal Watershed: A Case Study on Hurricane Harvey, *Journal of Hydrology*, 616, 128774, https://doi.org/10.1016/j.jhydrol.2022.128774.
4. Zhou T., S.-C. Kao, W. Xu, **S. Gangrade**, and N. Voisin N (2022), Impacts of Climate Change on Subannual Hydropower Generation: A Multi-model Assessment of the United States Federal Hydropower Plants, *Environmental Research Letters*, Accepted.
5. Li X., C. Rankin, **S. Gangrade**, G. Zhao, K. Lander, N. Voisin, S.-C. Kao, M. Shao, M. Morales-Hernández, and H. Gao (2021), Evaluating precipitation, streamflow, and inundation forecasting skills during extreme weather events: A case study for an urban watershed, *Journal of Hydrology*, 603 (2021): 127126. https://doi.org/10.1016/j.jhydrol.2021.127126.
6. Dullo T.T., **S. Gangrade**, M. Morales Hernández, M. B. Sharif, S.-C. Kao, A. J. Kalyanapu, S. K. Ghafoor, and K.J. Evans (2021), Simulation of Hurricane Harvey Flood Event through Coupled Hydrologic-hydraulic Models: Challenges and Next Steps. *Journal of Flood Risk Management*, e12716, https://doi.org/10.1111/jfr3.12716.
7. Dullo T.T., G.K. Darkwah, **S. Gangrade**, M. Morales-Hernández, M.B. Sharif, A.J. Kalyanapu, S.-C. Kao, S. K. Ghafoor, and M. Ashfaq (2021). Assessing climate-change-induced flood risk in the Conasauga River watershed: an application of ensemble hydrodynamic inundation modeling. *Natural Hazards and Earth System Sciences*, 21(6), 1739-1757, https://doi.org/10.5194/nhess-21-1739-2021.
8. Lu D., G. Konapala, S.L. Painter, S.-C. Kao, and **S. Gangrade** (2021), Streamflow Simulation in Data-scarce Basins Using Bayesian and Physics-informed Machine Learning Models, *Journal of Hydrometeorology*, 22(6), 1421–1438, https://doi.org/10.1175/JHM-D-20-0082.1.
9. Morales Hernández M., M.B. Sharif, A.J. Kalyanapu, S.K. Ghafoor, T.T. Dullo, **S. Gangrade**, S.-C. Kao, M. Norman, and K.J. Evans (2021). TRITON: A Multi-GPU Open Source 2D Hydrodynamic Flood Model, *Environmental Modelling & Software*, 141, 105034, https://doi.org/10.1016/j.envsoft.2021.105034.
10. **Gangrade, S.**, S.-C. Kao, and R. A. McManamay (2020), Multi-model Hydroclimate Projections for the Alabama-Coosa-Tallapoosa River Basin in the Southeastern United States, *Scientific Reports*, 10, 2870, https://doi.org/10.1038/s41598-020-59806-6.
11. Morales Hernández, M., M. B. Sharif, **S. Gangrade**, T. T. Dullo, S.-C. Kao, A. Kalyanapu, S. K. Ghafoor, K. J. Evans, E. Madadi Kandjani, and B. R. Hodges (2020), High Performance Computing in Water Resources Hydrodynamics. *Journal of Hydroinformatics*, https://doi.org/10.2166/hydro.2020.163.
12. **Gangrade, S.**, S.-C. Kao, T.T. Dullo, A.J. Kalyanapu, and B.L. Preston (2019). Ensemble-based Flood Vulnerability Assessment for Probable Maximum Flood in a Changing Environment. *Journal of Hydrology*, *576,* 342-355, https://doi.org/10.1016/j.jhydrol.2019.06.027.
13. **Gangrade, S.**, S.-C. Kao, B.S. Naz., D. Rastogi, M. Ashfaq, N. Singh, and B.L. Preston (2018), Sensitivity of probable maximum flood in a changing environment, *Water Resources Research, 54*(6), 3913-3936, https://doi.org/10.1029/2017WR021987.

14. Jager, H. I., A.W. King, **S. Gangrade,** A. Haines, C. DeRolph, B.S. Naz, and M. Ashfaq (2018), Will future climate change increase the risk of violating minimum flow and maximum temperature thresholds below dams in the Pacific Northwest?, *Climate Risk Management*, *21*, 69-84, https://doi.org/10.1016/j.crm.2018.07.001.
15. Naz, B. S., S.-C. Kao, M. Ashfaq., H. Gao, D. Rastogi, and **S. Gangrade** (2018), Effects of climate change on streamflow extremes and implications for reservoir inflow in the United States, *Journal of Hydrology, 556*, 359-370, https://doi.org/10.1016/j.jhydrol.2017.11.027.
16. Rastogi, D., S.-C. Kao, M. Ashfaq, R. Mei, E.D. Kabela, **S. Gangrade**, ... and V.G. Anantharaj, (2017), Effects of climate change on probable maximum precipitation: A sensitivity study over the Alabama-Coosa-Tallapoosa River Basin, *Journal of Geophysical Research: Atmospheres, 122*(9), 4808-4828, https://doi.org/10.1002/2016JD026001.
17. Ashfaq, M., D. Rastogi, R. Mei, S.-C. Kao, **S. Gangrade**, B.S. Naz, and D. Touma (2016), High-resolution ensemble projections of near-term regional climate over the continental United States, *Journal of Geophysical Research: Atmospheres, 121*(17), 9943-9963, https://doi.org/10.1002/2016JD025285.

RESEARCH PRODUCTS

Software [1]

1. **TRITON : Two- dimensional Runoff Inundation Toolkit for Operational Needs**
   https://triton.ornl.gov/
   Morales Hernández, M., K.J. Evans, S. Gangrade, S.-C. Kao, M.B. Sharif, S.K. Ghafoor, A.J. Kalyanapu, and T.T. Dullo (2020). TRITON (Version 00). Computer software. https://www.osti.gov//servlets/purl/1630725.

Technical Report [1]

1. Kao S-C, M. Ashfaq, D. Rastogi, S. Gangrade, R.U. Martinez, A. Fernandez, G. Konapala, N. Voisin, T. Zhou, W. Xu, H. Gao, B. Zhao and G. Zhao (2022), The Third Assessment of the Effects of Climate Change on Federal Hydropower, Oak Ridge National Lab.(ORNL), Oak Ridge, TN (United States).

Datasets [4]

1. Kao S-C, M. Ashfaq, D. Rastogi, and S. Gangrade (2022), CMIP6-based Multi-model Hydroclimate Projection over the Conterminous US. HydroSource. Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. DOI: https://doi.org/10.21951/SWA9505V3/1887469.
2. Ghimire GR, Hansen C, Gangrade S, Kao S-C, Thornton PE, Singh D (2022), Dayflow: CONUS Daily Streamflow Reanalysis, Version 1, HydroSource, Oak Ridge National Laboratory, https://doi.org/10.21951/Dayflow/1847639.
3. Hansen CH, Ghimire GR, Gangrade S (2021), Hydropower Energy Storage Capacity Dataset, HydroSource, Oak Ridge National Laboratory, https://doi.org/10.21951/HESC/1822833.
4. Samu N.M., D. Singh, M. Johnson, S.-C. Kao, S. Gangrade, S. Curd, and B.T. Smith (2020). The 2020 National Hydropower Map, Version 1. United States. 2020. Oak Ridge National Laboratory, Oak Ridge, TN. https://doi.org/10.21951/NationalHydropowerMap_FY20/1634829.

SELECTED PRESENTATIONS

Selected Presentations [30]

1. **Gangrade S**, G.R. Ghimire, S.-C. Kao, M. Morales Hernández, M. Kelleher, and A.J. Kalyanapu (2022), Towards the Development of a High-Resolution Historical Flood Inundation Reanalysis Dataset for the Conterminous United States, American Geophysical Union 2022 Fall Meeting, December 12–16, Chicago, IL.

2. Iftikhar B, **S. Gangrade**, D. Lu, S.-C. Kao, S.L. Painter, and E. Coon (2022), Simulating Operation Behaviors of Cascade Reservoirs Using Physics-Based Machine Learning Models: A Case Study for Gunnison River Basin, American Geophysical Union 2022 Fall Meeting, December 12–16, Chicago, IL.
3. Ghimire GR, C. H. Hansen, **S. Gangrade**, S.-C. Kao (2022), Insights from Dayflow: A Spatiotemporally Continuous Historical Streamflow Reanalysis Dataset for the Conterminous United States, American Geophysical Union 2022 Fall Meeting, December 12–16, Chicago, IL.
4. Kao S-C, M. Ashfaq, D. Rastogi, **S. Gangrade**, R. Uría Martínez, N. Voisin, A. Fernandez, T. Zhou, W. Xu, H. Gao and B. Zhao B (2022), Effects of Climate Change on US Federal Hydropower Generation – CMIP6-based Assessment with Focus on Understanding the Uncertainty, American Geophysical Union 2022 Fall Meeting, December 12–16, Chicago, IL.
5. Jager H., E. Parish, S. Nair, C. Derolph, R. Efroymson, Y. Liu, **S. Gangrade**, and G.R. Ghimire, Ecosystem Services from Partially-harvested Riparian Buffers, American Geophysical Union 2022 Fall Meeting, December 12–16, Chicago, IL.
6. **Gangrade S**, M. Morales-Hernández, S.-C. Kao, G.R. Ghimire, G. Darkwah, A.J. Kalyanapu and M. Sharif M (2022), TRITON: a multi-architecture open source 2D hydraulic model, IAHR World Congress, Jun. 19-24, Granada, Spain
7. Ghimire GR, **S. Gangrade**, S.-C. Kao, M. Morales-Hernández, A.A. Tavakoly, J.L. Gutenson, K.H. Sparrow, G.K. Darkwah, A.J. Kalyanapu, and M.L. Follum (2022), Unraveling an extreme flooding event using high-performance computing: A case study for the 2021 Middle Tennessee flooding, AGU Frontiers in Hydrology Meeting, June 19–24, Puerto Rico.
8. **Gangrade S**, D. Rastogi, S.-C. Kao, M. Ashfaq (2022), Evaluation of CMIP6 based Multi-Model Ensemble Hydroclimate Projections and their Associated Uncertainties over the Conterminous United States, World Environmental & Water Resources Congress 2022, June 5–8, Atlanta, GA.
9. Darkwah GK, A.J. Kalyanapu, **S. Gangrade**, S.-C. Kao, M.B. Sharif, S.K. Ghafoor, M. Morales Hernández, G.R. Ghimire (2022), The Applicability of Deep Learning Techniques in Developing a Surrogate Flood Inundation Model for Operational Needs, World Environmental & Water Resources Congress 2022, June 5–8, Atlanta, GA.
10. **Gangrade, S.**, D. Lu, S.-C. Kao, S.L. Painter, and E. Coon, (2021). Evaluation of Machine Learning Assisted Reservoir Operation Models for Long-Term Water Management Simulation. American Geophysical Union 2021 Fall Meeting, Dec. 13–17.
11. **Gangrade S.**, M. Morales-Hernández, A.J. Kalyanapu, T.T. Dullo, and S.-C. Kao (2021). Applications of a High-Resolution, Multi-GPU Accelerated 2D Hydrodynamic Flood Model (TRITON) for Large-Scale Floodplain Modeling, World Environment & Water Resources Congress, June 7–11.
12. Zhao, B., G. Zhao, **S. Gangrade**, and H. Gao (2021). Evaluating Future Reservoir Evaporation Losses from CMIP6-Based Projections in the Conterminous United States. American Geophysical Union 2021 Fall Meeting, Dec. 13–17.
13. Darkwah, G., A. J. Kalyanapu, **S. Gangrade**, S.-C. Kao, M.B. Sharif, S.K. Ghafoor, and M. Morales-Hernández (2021). Development of a Deep Learning Surrogate Model in the TRITON Inundation Modeling Framework. American Geophysical Union 2021 Fall Meeting, Dec. 13–17.
14. Li, X., D. Fu, P. Chang, J.W. Nielsen-Gammon, **S. Gangrade**, M. Morales-Hernández, S.-C. Kao, N. Voisin, and H. Gao (2021). Evaluating the Potential Impacts from Climate Change on Compound Flooding at a Coastal Watershed. American Geophysical Union 2021 Fall Meeting, Dec. 13–17.
15. **Gangrade, S.**, M. Morales-Hernandez, A.A. Tavakoly, K.R. Arsenault, J. Wegiel, K. McCormack, M. Wahl, S.V. Kumar, C.D. Peters-Lidard, S.-C. Kao, and K.J. Evans (2020). Towards the Development of a High-resolution, Global Streamflow and Flood Forecasting System-An US Interagency Collaboration Effort. EGU General Assembly Conference Abstracts (p. 10285).
16. Sharif, M.B., S.K. Ghafoor, T.H. Hines, M. Morales Hernández, K.J. Evans, S.-C. Kao, A.J. Kalyanapu, T.T. Dullo, and **S. Gangrade** (2020), Performance Evaluation of a Two Dimensional Flood Model on

Heterogeneous High-Performance Computing Architectures, Proceedings of the 2020 Platform for Advanced Scientific Computing Conference (PASC20), Article No. 8, 1-9, doi:10.1145/3394277.3401852 (peer-reviewed).

17. **Gangrade S.**, M. Shao, S.-C. Kao, G. Zhao, and H. Gao (2019), Robustness of reservoir operations in a changing environment – A case study for Allatoona Dam in Alabama-Coosa-Tallapoosa (ACT) River Basin, World Environmental & Water Resources Congress 2019, May 19 – 23, Pittsburgh, PA.
18. **Gangrade, S.,** S.-C. Kao, T. T. Dullo, and A. J. Kalyanapu (2018), Ensemble-based Probabilistic Flood Maps for Probable Maximum Flood, American Geophysical Union 2018 Fall Meeting, Dec. 10–14, Washington, D.C..
19. Dullo, T. T., **S. Gangrade**, A. J. Kalyanapu, S.-C. Kao, S. Ghafoor, and K. J. Evans (2018), High-resolution modeling of Hurricane Harvey Flooding for Harris County, TX using a calibrated GPU-accelerated 2D Flood Model, American Geophysical Union 2018 Fall Meeting, Dec. 10–14, Washington, D.C.
20. **Gangrade, S.,** S.-C. Kao, B. S. Naz, D. Rastogi, M. Ashfaq, N. Singh, and B. L. Preston (2018), Evaluating the Sensitivity of Probable Maximum Flood using a High-resolution Distributed Hydrologic Model, World Environmental & Water Resources Congress 2018, June 3-7, Minneapolis, MN.
21. Dullo, T. T., **S. Gangrade**, R. Marshall, S. R. Islam, S. Ghafoor, S.-C. Kao, and A. J. Kalyanapu (2017), A Large-scale Simulation of Climate Change Effects on Flood Regime - A Case Study for the Alabama-Coosa-Tallapoosa River Basin, American Geophysical Union 2017 Fall Meeting, Dec. 11-15, New Orleans, LA.
22. **Gangrade, S**., S.-C. Kao, D. Rastogi, M. Ashfaq, B. S. Naz, E. D. Kabela, V. Anantharaj, N. Singh, B. L. Preston, and R. Mei (2016), Evaluation of Probable Maximum Precipitation and Flood under Climate Change in the 21st Century, American Geophysical Union 2016 Fall Meeting, Dec. 12–16, San Francisco, CA.
23. Kao, S.-C., B. S. Naz, **S. Gangrade**, M. Ashfaq, and D. Rastogi (2016), Sensitivity of Hydrologic Extremes to Spatial Resolution of Meteorological Forcings: A Case Study of the Conterminous United States, American Geophysical Union 2016 Fall Meeting, Dec. 12–16, San Francisco, CA.
24. **Gangrade, S.**, S.-C. Kao, B. S. Naz, M. Ashfaq, and D. Rastogi (2016), Evaluating the Uncertainties of Future Water Availability Projections through the Choice of Different Hydrologic Models, World Environmental & Water Resources Congress 2016, May 22–26, West Palm Beach, FL.
25. Naz, B. S., S.-C. Kao, M. Ashfaq, D. Rastogi, R. Mei, and **S. Gangrade** (2016), Assessing Hydrological Impacts of Climate Change in the United States: Implication for Hydropower Facilities, World Environmental & Water Resources Congress 2016, May 22–26, West Palm Beach, FL.
26. **Gangrade, S.**, B. S. Naz, S.-C. Kao, M. Ashfaq, R. Mei, D. Rastogi, B. L. Preston, E. D. Kabela, N. Singh, and V. Anantharaj (2015), High Resolution Distributed Hydrological Modeling for Extreme Flood Events, World Environmental & Water Resources Congress 2015, May 17 – 21, Austin, TX.
27. S.-C. Kao, B. S. Naz and **S. Gangrade** (2015), Sensitivity of Regional Hydropower Generation to the Projected Changes in Future Watershed Hydrology, American Geophysical Union 2015 Fall Meeting, Dec. 14–18, San Francisco, CA.
28. Ashfaq, M., D. Rastogi, R. Mei, S.-C. Kao, B. S. Naz, and **S. Gangrade** (2015), Near-term Intensification of the Hydrological Cycle in the United State, American Geophysical Union 2015 Fall Meeting, Dec. 14–18, San Francisco, CA.
29. Naz, B. S., S.-C. Kao, M. Ashfaq, **S. Gangrade**, R. Mei, and D. Rastogi (2014), Climate Change Impacts on Reservoir Inflow in the United States, American Geophysical Union 2014 Fall Meeting, Dec. 14–19, San Francisco, CA.
30. Ashfaq, M., D. Rastogi, R. Mei, S.-C. Kao, B. S. Naz, and **S. Gangrade** (2014), Ultra High-resolution Ensemble Projections of the Near-term Climate Change over the U.S., American Geophysical Union 2014 Fall Meeting, Dec. 14–19, San Francisco, CA.

HONORS AND AWARDS

- Platform for Advanced Scientific Computing 2020 (PASC20) Conference Best Paper Award – Sharif et al. (2020) "Performance Evaluation of a Two Dimensional Flood Model on Heterogeneous High-Performance Computing Architectures"
- Bredesen Center Fellow, Aug 2016 – Dec 2019
- Hydro Research Foundation (HRF) Research Fellow, Jun 2017 – May 2018
- Featured in 'The Leading Edge' Magazine (Link : 2013 issue), Nov 2013
- Invited as the only international student representative in *Society of Exploration Geophysicists – Geoscientist Without Borders* Project Board Meeting, Tulsa, Oklahoma, Aug 2012.
- Graduate Research/Teaching Assistantship, Clemson University, Clemson, SC, 2010-2012.

PROFESSIONAL CERTIFICATIONS/ TRAININGS

- Engineer In Training (E.I.T) - NCEES Fundamentals of Engineering Examinations

PROFESSIONAL SERVICE AND LEADERSHIP ROLES

- Convener, "Recent Advances in Modeling, Monitoring, Mapping, and Forecasting of Floods", 103rd AMS Annual Meeting, American Meteorological Society, Jan. 8-12, 2023, Denver, CO.
- Primary Convener and Session Chair, Recent Advances in Large-Scale High-Resolution Hydrologic and Flood Modeling and Hydroclimatic Extremes Assessment", American Geophysical Union 2022 Fall Meeting, Dec. 12-16, Chicago, IL.
- Session Chair, "Continental-Scale Modeling: Process Heterogeneity from Summit to Sea IV Posters", American Geophysical Union 2019 Fall Meeting, Dec. 9–13, Washington, D.C.
- Primary Convener and Session Chair, "Recent Advances in Large-Scale, High-Resolution Hydrologic and Flood Modeling for Intensified Extreme Events in a Changing Environment", American Geophysical Union 2018 Fall Meeting, Dec. 10–14, Washington, D.C.
- Member, Hydroclimate Technical Committee, ASCE/EWRI, 2015-2016, 2018, 2019
- Member, Oak Ridge Post-Doctoral Association Executive Committee, 2015-2016
- Student Poster Judge, American Geophysical Union Fall Meeting, 2015.
- Journal Reviewer – *Water Resources Research, Journal of Hydrology, Journal of Hydrologic Engineering, Environmental Research Communications, Theoretical and Applied Climatology, Climate and Development, Journal of the American Water Resources Association, Water, Hydrology*
- Member, Student Advisory Committee, Environmental Engineering and Earth Sciences, Clemson University.