

## CURRICULUM VITA

### GLENN ALAN TOOTLE

PROFESSOR

DEPARTMENT OF CIVIL, CONSTRUCTION AND ENVIRONMENTAL ENGINEERING

THE UNIVERSITY OF ALABAMA

J. WILLIAM FULBRIGHT SCHOLAR & VISITING PROFESSOR

UNIVERSITÀ DI TRENTO, ITALY

CAPTAIN (RETIRED), UNITED STATES NAVY, CIVIL ENGINEER CORPS

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### EXECUTIVE SUMMARY

**RESEARCH & SCHOLARSHIP:** Dr. Tootle is currently active on ~\$9.7M of federal funding including ~\$4.7M with NSF and ~\$5M in recent (FY 2023) appropriations. In past research as Lead-PI, Dr. Tootle has received awards from the NOAA MS-AL Sea Grant Consortium, the United States Geological Survey, and the National Science Foundation. Active research includes:

- Co-PI, NSF, Innovations at the Nexus of Food, Energy and Water Systems (INFEWS)
- Senior Personnel, NSF, Research Traineeship (NRT)
- Co-PI / Executive Board, Bureau of Ocean Energy Management, Center for Paleo-environmental Records of Extreme Events (PROXE)

**TEACHING:** Since arriving at UA in Fall 2012, Dr. Tootle has consistently maintained a high teaching load providing instruction to over 1,300 UA students. Dr. Tootle provides a tremendous service to his department by serving as an instructor for CE 401-402-405 (Senior Design), CE 340 (Geotechnical Engineering) and, teaching courses with the Honors College and UA's Faculty Led study abroad program (<https://ua-abroad.weebly.com/>). Dr. Tootle's Student Opinions of Instruction (SOI) scores are consistently above average.

**SERVICE:** Dr. Tootle served as an Associate Editor with the American Society of Civil Engineers (ASCE), Journal of Hydrologic Engineering for six years. He has served on an ASCE national committee and has moderated several sessions at the ASCE World Water & Environmental Resources Congress. He has co-chaired sessions at the American Geophysical Union (AGU) Fall Meeting and served on a national AGU Hydrology Section committee. While at UA, he served for two years in the UA Faculty Senate and has provided support to his department by serving on various committees (ABET, etc.) and, on multiple occasions, as chairman of faculty search committees. He has been awarded several teaching awards and continues to serve as a reviewer for both journal articles and research proposals.

**MILITARY SERVICE:** Dr. Tootle retired in 2013 at the rank of Captain (O-6) after a ~25 year career in the United States Navy, Civil Engineer Corps. He was involuntarily recalled to active duty (post 9-11) on two separate occasions (US European Command and US Central Command). He served as a Junior Officer, Naval Mobile Construction Battalion (NMCB) FOURTEEN in Jacksonville, FL (1988-1996); as Executive Officer, NMCB EIGHTEEN in Fort Lewis, WA (2003 to 2005); and as Commanding Officer (CO), NMCB TWO-FIVE in Fort McCoy, WI (2009 to 2011). As CO, he led a commissioned unit of ~600 personnel including the successful deployment to support Humanitarian Assistance construction operations in US Southern Command while based at Guantanamo Bay, Cuba.

**J. WILLIAM FULBRIGHT SCHOLAR:** Dr. Tootle was selected as a J. William Fulbright Research and Teaching Scholar to the Università di Trento (Italy), Department of Civil, Environmental and Mechanical Engineering for 2021. He conducted hydroclimatic and paleohydrology research in northern Italy and Europe while teaching a graduate course (Paleohydrology-Hydroclimatology) to ~15 students from ~10 countries.

## EDUCATION

- University of Nevada, Las Vegas
  - Department of Civil Engineering and Environmental Engineering
    - Ph.D. in Engineering (2005)
- University of Florida
  - Department of Civil Engineering
    - Master of Civil Engineering (1987)
- University of Florida
  - Department of Civil Engineering
    - Bachelor of Science in Civil Engineering (1985)

## EXECUTIVE TRAINING

- Naval Post Graduate School, Monterey, CA, Naval Corporate Business Course (2010)
- Naval Supply School, Athens, GA, US Navy Advanced Management Planning Course (2009)

## PROFESSIONAL LICENSE

- State of Nevada (Inactive)
  - Professional Engineer (No. 14169)
- State of Florida (Inactive)
  - Professional Engineer (No. 48855)

## EMPLOYMENT

### ACADEMIC EXPERIENCE

- United States J. William Fulbright Scholar and Visiting Professor
  - University of Trento, Italy (2021 to present)
- University of Alabama (Tuscaloosa) –Professor
  - Department of Civil, Construction and Environmental Engineering (2020 to present)
- University of Alabama (Tuscaloosa) – Associate Professor
  - Department of Civil, Construction and Environmental Engineering (2012 to 2020)
- University of Tennessee (Knoxville) – Assistant Professor
  - Department of Civil and Environmental Engineering (2008 to 2012)
- University of Wyoming – Assistant Professor
  - Department of Civil and Architectural Engineering (2005 to 2008)
    - Involuntarily recalled to active duty (2006 to 2007)

### PROFESSIONAL EXPERIENCE

- USN Active Duty, US Central Command (2006 to 2007)
- USN Active Duty, US Southern Command and US European Command (2000 to 2002)
- Spink Corporation (Nimbus Engineers), Reno, NV (1999 to 2000)
- Water and Air Research, Inc., Gainesville, FL (1997 to 1999)
- Kelley Engineering, Inc., Gainesville, FL (1987 to 1997)

## TEACHING (SINCE JOINING UA IN 2012)

Number	Title	Credits
CE 378	Water Resources Engineering	3
CE 401-402-405	Senior Design	4
CE 485/585	Construction Site Erosion	3
CE 498	Undergraduate Research	3
CE 340	Geotechnical Engineering	4
CE 491	Special Topics	3
CE 475/575	Hydrology	3

Number	Title	Credits
CE 671/CE 570	Hydrologic Modeling	3
GY 207	Field Studies in Water and Climate	4
UH 400	Honors Special Topics	3
CE 271	Glaciology	4
CE 270/470	Water Resources: European Alps	4
UH 300	Honors Seminar: Paleohydrology	3

## POST DOCTORAL STUDENTS

- Clay Tucker, PhD; Emily Elliot, PhD; Sahar Sadeghi, PhD

## GRADUATE CHAIR

- Oubeidallah, Abdoul; Anderson, Sallyrose; Moser, Cody; Sadeghi, Sahar; Zhu, Lian; Barnett, Anthony; Bell, Jeb; Bellamy, John; Bowen, Amanda; Cheesbrough, Kyle; David, Chris; Edmunds, Jake; Follum, Mike; Geren, Tate; Hunter, Thad; Marks, Jeffrey; Moser, Cody; Ogle, Ross; Rudolph, Jordan; Soukup, Ty; Thompson, Derrick; Watson, Tom

## SELECTED PUBLICATIONS

Chaired graduate students are **highlighted**.

- Fang, B., J. Kam, E. Elliott, G. Tootle, M. Therrell, and V. Lakshmi, 2022. The Recent Decline of Apalachicola–Chattahoochee–Flint (ACF) River Basin Streamflow. *Hydrology*, 9, 8:140. <https://doi.org/10.3390/hydrology9080140>.
- Formetta, G.; G. Tootle; M. Therrell, 2022. Regional Reconstruction of Po River Basin (Italy) Streamflow, *Hydrology*, 9, 10:163. <https://doi.org/10.3390/hydrology9100163>
- Formetta, G.; Tootle, G.; Bertoldi, G., 2021. Streamflow Reconstructions Using Tree-Ring Based Paleo Proxies for the Upper Adige River Basin (Italy). *Hydrology*, 9, 8. <https://doi.org/10.3390/hydrology9010008>
- Formetta, G.; Kam, J.; **Sadeghi, S.**; Tootle, G.; Piechota, T., 2021. Atlantic Ocean Variability and European Alps Winter Precipitation. *Water*, 13, 3377. <https://doi.org/10.3390/w13233377>
- Vines, M., G. Tootle, L. Terry, E. Elliott, J. Corbin, G.L. Harley, J. Kam, **S. Sadeghi**, and M. Therrell, 2021. A Paleo Perspective of Alabama and Florida (USA) Interstate Streamflow. *Water*, 13, 657, <https://doi.org/10.3390/w13050657>.
- Therrell, M., E. Elliott, M. Meko, J.C. Bregy, C. Tucker, G.L. Harley, J. Maxwell, and G. Tootle, 2020. Streamflow variability and false ring formation in bald cypress (*Taxodium distichum*). *Forests*, 11(10).
- Thakur, B., A. Kalra, V. Lakshmi, K. Lamb, W.P. Miller and G. Tootle, 2020. Linkage between ENSO phases and western US snow water equivalent. *Atmospheric Research*, Volume 236, 15 May 2020, 104827, <https://doi.org/10.1016/j.atmosres.2019.104827>.
- Sadeghi, S.**, G. Tootle, E. Elliott, V. Lakshmi, M. Therrell, and A. Kalra, 2019. Implications of the 2015–2016 El Niño on Coastal Mississippi-Alabama Streamflow and Agriculture. *Hydrology*, 6(4), 96; <https://doi.org/10.3390/hydrology6040096>.
- Sadeghi, S.**, G. Tootle, E. Elliott, V. Lakshmi, M. Therrell, J. Kam and B. Bearden, 2019. Atlantic Ocean Sea Surface Temperatures and Southeast United States streamflow variability: Associations with the recent multi-decadal decline. *Journal of Hydrology*, 576 (2019) 422-429.
- Oubeidillah, A.**, G. Tootle and T. Piechota, 2019. Incorporating Antecedent Soil Moisture into Streamflow Forecasting. *Hydrology*, 6(2), 50; <https://doi.org/10.3390/hydrology6020050>.
- Anderson, S., R. Ogle**, G. Tootle and **A. Oubeidillah**, 2019. Tree-Ring Reconstructions of Streamflow for the Tennessee Valley. *Hydrology*, 6(2), 34; <https://doi.org/10.3390/hydrology6020034>.
- Ahmadi, B., A. Ahmadalipour, G. Tootle, and H. Moradkhani, 2019. Remote Sensing of Water Use Efficiency and Terrestrial Drought Recovery across the Contiguous United States. *Remote Sensing*, 11(6), 731; <https://doi.org/10.3390/rs11060731>.
- Tootle, G.A., A. Pelle and G. Kerr, 2017. Glacial Melting and Runoff Modeling, *Handbook of Applied Hydrology*, Second Edition. McGraw-Hill Education.

- Marks, J.,** J. Piburn, G. Tootle, G. Kerr and A. Oubeidillah, 2015. Estimates of Glacier Mass Loss and Contribution to Streamflow in the Wind River Range in Wyoming: Case Study. American Society of Civil Engineers Journal of Hydrologic Engineering, DOI: 10.1061/(ASCE)HE.1943-5584.0001050.
- Maloo, A.,** J. Piburn, G. Tootle and G. Kerr, 2014. Recent Alpine Glacier Variability: Wind River Range, Wyoming, USA. Geosciences, 4(191-201); doi:10.3390/geosciences4030191.
- Oubeidillah, A.A.,** S.C. Kao, M. Ashfaq, B. S. Naz, and G. Tootle. 2014. A Large-Scale, High-Resolution Hydrological Model Parameter Dataset for Climate Change Impact Assessment for the Conterminous United States. Hydrology and Earth System Sciences, 18:67–84.
- Bellamy, J.,** G.A. Tootle, S. Huzurbazar, L. Pochop and **A. Barnett**, 2013. Case Study of Drought Frequency and Risk in Upper Green River Basin Reconstructed Streamflow, Wyoming (USA). American Society of Civil Engineers Journal of Hydrologic Engineering, 18:888-896.
- Edmunds, J.,** G. Tootle, G. Kerr, R. Sivanpillai and L. Pochop, 2012. Glacier Variability (1967-2006) in the Teton Range, Wyoming, USA. Journal of the American Water Resources Association, 48(1):187-196.
- Bell, J.,** G. Tootle, G. Kerr, L. Pochop and R. Sivanpillai, 2012. Glacier Impacts on Summer Streamflow in the Wind River Range, Wyoming, USA. American Society of Civil Engineers Journal of Hydrologic Engineering, 17(4):521-527.
- Anderson, S., O. Aziz,** G. Tootle, H. Grissino-Mayer and **A. Barnett**, 2012. Using Pacific Ocean Climatic Variability to Improve Hydrologic Reconstructions. Journal of Hydrology, 434:69–77.
- Anderson, S.,** G. Tootle, and H. Grissino-Mayer, 2012. Reconstructions of Soil Moisture for the Upper Colorado River Basin using Tree-Ring Chronologies, 2012. Journal of the American Water Resources Association, 48(4):849-858.
- Anderson, S., C. Moser,** G.A. Tootle, H.D. Grissino-Mayer, J. Timilsena and T. Piechota, 2012. Snowpack Reconstructions Incorporating Climate in the Upper Green River Basin (Wyoming). Tree Ring Research, 68(2):105-144.
- Acharya, A., T. Piechota, and G. Tootle, 2012. Quantitative Assessment of Climate Change Impacts on the Hydrology of the North Platte River Watershed, Wyoming. American Society of Civil Engineers Journal of Hydrologic Engineering, 17:1071-1083.
- Oubeidillah, A.A.,** G.A. Tootle and **S. Anderson**, 2012. Atlantic Ocean Sea Surface Temperatures and Adour Garonne (France) Regional Streamflow Variability. Journal of Hydrological Sciences, 57(3):496 – 506.
- Oubeidillah, A.A.,** G.A. Tootle, **C. Moser**, T. Piechota and K. Lamb, 2011. Upper Colorado River and Great Basin Streamflow and Snowpack Forecasting using Pacific Oceanic-Atmospheric Variability. Journal of Hydrology, 410(3-4):169-177.
- Moser, C.L.,** G. A. Tootle, **A.A. Oubeidillah**, and V. Lakshmi, 2011. A comparison of SNOTEL and AMSR-E snow water equivalent datasets in western U.S. watersheds. International Journal of Remote Sensing, 32(21):6611-6629.
- Lamb, K.W., T.C. Piechota, **O.A. Aziz** and G. A. Tootle, 2011. Basis for Extending Long-Term Streamflow Forecasts in the Colorado River Basin. American Society of Civil Engineers Journal of Hydrologic Engineering, 16(12):1000-1008.
- Acharya, A., T. Piechota, H. Stephen and G. Tootle, 2011. Modeled Streamflow Response Under Weather Modification in the North Platte River Watershed. Journal of Hydrology, 409(1-2):305-314.
- Thompson, D.,** G. Tootle, G. Kerr, R. Sivanpillai and L. Pochop, 2011. Glacier Variability in the Wind River Range, Wyoming, USA. American Society of Civil Engineers Journal of Hydrologic Engineering, 16(10):798-805.
- Barnett, F.A.,** S. Gray and G. Tootle, 2010. Upper Green River Basin (United States) Streamflow Reconstructions. American Society of Civil Engineers Journal of Hydrologic Engineering, 15(7):567-579.
- Aziz, O. A.,** G. A. Tootle, S. T. Gray, and T. C. Piechota, 2010. Identification of Pacific Ocean sea surface temperature influences of Upper Colorado River Basin snowpack. Water Resources Research, 46:W07536.
- Aziz, O.,** G. Tootle, T. Piechota and **C. Moser**, 2010. 2009-2010 El Niño: Predicted Hydrologic Response in the United States. Proceedings of the ASCE World Water & Environmental Resources Congress 2010, May 16-21, 2010, Providence, Rhode Island.
- Watson, T., F.A. Barnett,** S. Gray and G. Tootle, 2009. Reconstructed Streamflow for the Headwaters of the Wind River, Wyoming USA. Journal of the American Water Resources Association, 45(1):224-236.

- Timilsena, J., T.C. Piechota, G. Tootle and A. Singh, 2009. Associations of Interdecadal/Interannual Climate Variability and Long-Term Colorado River Basin Streamflow. *Journal of Hydrology*, 365(3-4), 289-301.
- Soukup, T., O., Aziz, G.** Tootle, S. Wulff and T. Piechota, 2009. Long Lead-time Streamflow Forecasting of the North Platte River Incorporating Oceanic-Atmospheric Climate Variability. *Journal of Hydrology*, 368(1-4):131-142.
- Tootle G.A., T.C. Piechota, **O. Aziz**, W.P. Miller, V. Lakshmi, J.A. Dracup and C. Jerla, 2009. The 2009–2010 El Niño: Hydrologic Relief to U.S. Regions? *American Geophysical Union EOS Transactions*, 90(50), 481-482, <https://doi.org/10.1029/eost2009EO50>.
- Cheesbrough, K., J. Edmunds**, G. Tootle, G. Kerr and L. Pochop, 2009. Estimated Wind River Range (Wyoming, USA) Glacier Melt Water Contributions to Agriculture. *Remote Sensing*, 2009, 1(4):818-828.
- Aziz, O.** and G. Tootle, 2009. Paleo Pacific Ocean Sea Surface Temperature Variability and Upper Colorado River Basin Streamflow. *Proceedings of the ASCE World Water & Environmental Resources Congress 2009*, May 17-22, 2009, Kansas City, Missouri.
- Stephen, H., G. Tootle, **C. Moser** and **O. Aziz**, 2009. Weather Modification and Climate Variability Impacts on Streamflow. *Proceedings of the American Water Resources Association 2009 Spring Specialty Conference*, May 4-6, 2009. Anchorage, Alaska.
- Thompson, D., J. Bell, J. Edmunds**, G. Tootle and G. Kerr, 2009. Glacier Variability in Wyoming's Wind River Range and Teton Range. *Proceedings of the American Water Resources Association 2009 Spring Specialty Conference*, May 4-6, 2009. Anchorage, Alaska.
- Moser, C., O. Aziz**, G. Tootle, V. Lakshmi and G. Kerr, 2009. A Comparison of SNOTEL and AMSR-E Snow Water Equivalent Datasets in Western U.S. Watersheds. *Proceedings of the Third International Workshop on Knowledge Discovery from Sensor Data (SensorKDD-2009)*, June 28, 2009, Paris, France.
- Kalra, A., T.C. Piechota, R. Davies, and G.A. Tootle, 2008. Changes in U.S. Streamflow and Western U.S. Snowpack. *American Society of Civil Engineers Journal of Hydrologic Engineering*, 13(3), 156-163.
- Tootle, G.A., T.C. Piechota and F. Gutierrez, 2008. The Relationships between Pacific and Atlantic Ocean Sea Surface Temperatures and Colombian Streamflow Variability. *Journal of Hydrology*, 349(3-4), 268-276.
- Moser, C., T. Soukup**, G. Tootle and T. Piechota, 2008. An Expert System Approach to Improve Streamflow Forecasting in the North Platte River Basin, Wyoming, USA. *Proceedings of the ASCE World Water & Environmental Resources Congress 2008*, May 11-17, 2008, Honolulu, HI.
- Bellamy, J.**, G. Tootle, G. Kerr and L. Pochop, 2008. Frequency and Duration of Drought in the Green River Basin, WY, USA. *Proceedings of the ASCE World Water & Environmental Resources Congress 2008*, May 11-17, 2008, Honolulu, HI.
- Tootle, G.A., A.K. Singh, T.C. Piechota and I. Farnham, 2007. Long Lead-Time Forecasting of U.S. Streamflow Using Partial Least Squares Regression. *American Society of Civil Engineers Journal of Hydrologic Engineering*, 12(5), 442-451.
- Timilsena, J., T.C. Piechota, H. Hidalgo and G.A. Tootle, 2007. Five Hundred Years of Hydrological Drought in the Colorado River Basin. *Journal of the American Water Resources Association*, 43(3), 798-812.
- Tootle, G. A., and T. C. Piechota, 2006. Relationships between Pacific and Atlantic ocean sea surface temperatures and U.S. streamflow variability, *Water Resources Research*, 42(7):W07411.
- Hunter, T.**, Tootle, G.A., and T.C. Piechota, 2006. Oceanic-atmospheric variability and western U.S. snowfall. *Geophysical Research Letters*, 33(13):L13706.
- Tootle, G.A., and T.C. Piechota, 2006. Climate Variability, Water Supply, and Drought in Upper Colorado River Basin. In *Climate Variability, Climate Change and Water Resources Engineering (Book Chapter)*. American Society of Civil Engineers, pp. 132-142. ISBN 0-7844-0824-6.
- Kalra, A., T.C. Piechota, R. Davies and G.A. Tootle, 2006. Is Climate Change Evident in U.S. Streamflow? *Proceedings of the ASCE World Water & Environmental Resources Congress 2006*, May 21-25, 2006, Omaha, NE.
- Tootle, G.A., **T. Hunter** and T.C. Piechota, 2006. Pacific Oceanic / Atmospheric Variability and the Wind River Range. *Proceedings of the ASCE World Water & Environmental Resources Congress 2006*, May 21-25, 2006, Omaha, NE.
- Tootle, G.A., T.C. Piechota and A.K. Singh, 2005. Coupled Oceanic / Atmospheric Variability and United States Streamflow. *Water Resources Research*, 41(12):W12408.

- Tootle, G.A., T. Mirti, and T.C. Piechota, 2005. Magnitude and Frequency of 2004 Hurricane Rainfall in Florida (Technical Note). *Journal of Floodplain Management*, 5(1), 32-37.
- Tootle, G.A., and T.C. Piechota, 2005. Interdecadal and Interannual Oceanic / Atmospheric Variability and United States Seasonal Streamflow. *Proceedings of the ASCE World Water & Environmental Resources Congress 2005*, May 16-20, 2005, Anchorage, AK.
- Piechota, T.C., Hidalgo, H., Timilsena, J., and G.A. Tootle, 2004. Western U.S. drought: How bad is it? *American Geophysical Union EOS Transactions*, 85(32), 301-308.
- Tootle, G.A., and T.C. Piechota, 2004. Suwannee River Long-Range Streamflow Forecasts based on Seasonal Climate Predictors. *Journal of the American Water Resources Association*, 40(2), 523-532.
- Tootle, G.A., and T.C. Piechota, 2004. Forecasting of Lower Colorado River Basin Streamflow Using Pacific Ocean Sea Surface Temperatures and ENSO. *Proceedings of the ASCE World Water & Environmental Resources Congress - Arid Lands Symposium*, June 26-July 1, 2004, Salt Lake City, Utah, American Society of Civil Engineers, Washington D.C.
- Tootle, G.A., and T.C. Piechota, 2003. Drought and the 2002-2003 El Niño in the Southwest U.S., *Proceedings of the ASCE World Water & Environmental Resources Congress 2003*, June 22-26, 2003, Philadelphia, Pennsylvania, American Society of Civil Engineers, Washington D.C.
- Motz, L.H., P.A. Chadik, B.L. Koopman, K. Hatfield, R.L. Hutton, G.A. Tootle and R.W. Watts, 1992. Use of Groundwater Models to Simulate Remediation. *Proceedings of the Hydraulic Engineering Sessions at ASCE Water Forum '92* (pages 281-286, ASCE 0-87262-879-5, 1280 pages).
- Motz, L.H., K. Hatfield and G.A. Tootle, 1991. Transport Models to Simulate Nitrate Contamination. *ASCE Symposium on Ground Water - Proceedings of the International Symposium* (pages 238-243, ASCE 0-87262-817-5, 336 pages).
- Tootle, G.A., K. Hatfield and L.H. Motz, 1989. Spreadsheet Applications to Analytical Groundwater Modeling of the Floridan Aquifer. *Computing in Civil Engineering: Computers in Engineering Practice - Proceedings of the ASCE Sixth Conference* (pages 685-690, ASCE 0-87262-722-5, 961 pages).
- Tootle, G.A. and K. Hatfield, 1988. Spreadsheet Applications to Stormwater Management. *Computing in Civil Engineering: Microcomputers to Supercomputers - Proceedings of the ASCE Fifth Conference* (pages 700-709, ASCE 0-87262-635-0, 860 pages).

## SELECTED PRESENTATIONS

Chaired graduate students and mentored undergraduate researchers are **highlighted**

- Vines, M., G. Tootle, and L. Terry, 2021. Utilizing Tree Ring Chronologies to Reconstruct Paleo Streamflow: A Case Study at the Alabama-Florida State Border. Presentation at American Geophysical Union (AGU) Fall Meeting, December 13-17, 2021, New Orleans, Louisiana.
- Kam, J., G. Tootle, M. Therrell, and E. Elliott, 2021. Future Streamflow in a Southeastern US watershed from a Paleo Perspective: A case study of St. Mary's River, Florida. Presentation at the 101st American Meteorological Society Annual Meeting, January 15, 2021.
- Cleffi, R., E. Coomes, S. Littmann, S. Ryba, B. Hughes, M. Murphy**, and G. Tootle, 2020. A Paleo Perspective of Florida's Interstate Rivers: The Perdido River and Escambia River (Undergraduate Research). Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), April 2020, Tuscaloosa, Alabama.
- Connick, E., T. Hill, R. Kolling, N. Sremac, J. McManmon, M. Lush**, and G. Tootle, 2020. A Paleo Perspective of Florida's Interstate Rivers: The Ochlockonee River and The Suwannee River (Undergraduate Research). Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), April 2020, Tuscaloosa, Alabama.
- Smith, H., M. Vines, M.G. Johnson, D. Cheek, K. Clark, S. Moon**, and G. Tootle, 2020. A Paleo Perspective of Florida's Interstate Rivers: The Choctawhatchee River and Apalachicola River (Undergraduate Research). Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), April 2020, Tuscaloosa, Alabama.
- Tootle, G. and J. Kam, 2019. Southeastern United States Interstate Streams and a Changing Climate: A Paleo Perspective. Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2019, San Francisco, California.

- Sadeghi, S.,** G. Tootle, E. Elliott, V. Lakshmi, M. Therrell, J. Kam and B. Bearden, 2019. Atlantic Ocean Sea Surface Temperatures and Southeast United States Streamflow Variability. Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2019, San Francisco, California.
- Engstrom, J., B. Bearden, G. Guthrie and G. Tootle, 2019. Declining water resources in Alabama and Mississippi, as identified by the GRACE satellites. Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2019, San Francisco, California.
- Ahmadi, B., A. Ahmadalipour, G. Tootle, and H. Moradkhani, 2019. Investigation of the Impacts of Drought Severity on Ecosystem Water-Use Efficiency and Drought Recovery across the Contiguous United States. Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2019, San Francisco, California.
- Tootle, G., 2019. Declining Stream Flows in SE US. Presentation at Southeast Waters: Wading into our Future - 6th Annual Center for Water Resource & Economics Conference, October 22-23, 2019, Phenix City, Alabama.
- Therrell, M. and G. Tootle, 2019. Panel Discussion: Increasing community resilience in coastal watersheds of Alabama by risk assessment of past, present and future trends in hydrologic and hydroclimatic extremes. Presentation at the Alabama State Water Resources Conference, September 4-6, 2019, Orange Beach, Alabama.
- Hughes, B., M. Murphy,** G. Tootle, W. Gurgiser and L. Davis, 2019. Atlantic Ocean Sea Surface Temperatures and European Snowpack Variability. Presentation at the Arts & Sciences Summit for Undergraduate Research, Scholarship, and Creative Activity (URSCA), April 12, 2019, Tuscaloosa, Alabama.
- Spoor, B., C. McNeill, D. Fonesca, G. Angst, H. Alexander, I. Dugas, K. Morgan, K. Wolf, M. Ebel, M. Noyes, R. Huston, R. Anderson, R. Partain, S. Gillen, and W. Strong** (G. Tootle Advisor), 2019. Paleo-Analysis of Lake City, FL Precipitation and Tree Ring Chronologies Surrounding the St. Mary's River. Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), March 27, 2019, Tuscaloosa, Alabama.
- Bryant, J., and L. Mayes** (G. Tootle Advisor), 2019. Reconstruction Potential of Gulf of Mexico Streams. Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), March 27, 2019, Tuscaloosa, Alabama.
- Daidone, J., and B. Nagel** (G. Tootle Advisor), 2019. Streamflow Reconstruction Study (Undergraduate Research). Presentation at the Undergraduate Research and Creativity Activity Conference (URCA), March 27, 2019, Tuscaloosa, Alabama.
- Tootle, G., M. Therrell, J. Kam, E. Elliott, B. Bearden, G. Harley and J. Maxwell, 2018. Southeast U.S. Streamflow Drought Variability: Past, Present and Future. Presentation at American Geophysical Union (AGU) Fall Meeting, December 10-14, 2018, Washington, D.C.
- Weber, M., A. Sokolenko, J. Knight, C. Berry, E. Mandel, A. Thibeaux,** G. Tootle, E. Elliott, and M. Therrell, 2018. Reconstruction Potential for Gulf of Mexico Streams (Undergraduate Research). Presentation at the Bays and Bayous Conference, November 28, 2018, Mobile, Alabama.
- Sokolenko A., S. Sadeghi,** G. Tootle, E. Elliott, J. Kam, M. Therrell, and B. Bearden, 2018. Climate Variability in Southeast US Coastal Precipitation and Streamflow (Undergraduate Research). Presentation at the Bays and Bayous Conference, November 28, 2018, Mobile, Alabama.
- Elliot, E., M. Therrell, G. Tootle and J. Kam, 2018. Panel Discussion: Increasing community resilience in coastal watersheds of Alabama by risk assessment of past, present and future trends in hydrologic and hydroclimatic extremes. Presentation at the Alabama State Water Resources Conference, September 6, 2018, Orange Beach, Alabama.
- Sadeghi, S.,** G. Tootle, J. Kam, G. Harley, M. Therrell, E. Elliott, and B. Bearden, 2018. Comparing Paleo, Observed and Future Streamflow in Coastal SE US. Presentation at the Water Policy Summit, National Water Center, Tuscaloosa, Alabama (March 28, 2018).
- Elliott, J., N. Butler, C. Gilmer, L. Haney, D. Homan,** and G. Tootle, 2018. Estimating Total Annual Evapotranspiration (ET) Depth in Southeast US Coastal Streams using the Annual Watershed Balance Concept and Comparing to the North American Land Data Assimilation System (NLDAS-2). Presentation(s) at the Water Policy Summit, National Water Center, Tuscaloosa, Alabama (March 28, 2018) and the University of Alabama, Undergraduate Research and Creativity Activity Conference, Tuscaloosa, Alabama (March 29, 2018).

- Sokolenko, A., S. Tiberi, B. Donahue, C. Griffith, K. Duerr** and G. Tootle, 2018. Climate Variability in Southeast US Coastal Precipitation and Streamflow. Presentation(s) at the Water Policy Summit, National Water Center, Tuscaloosa, Alabama (March 28, 2018) and the University of Alabama, Undergraduate Research and Creativity Activity Conference, Tuscaloosa, Alabama (March 29, 2018).
- Cook, B., L. Mayes, M. Velez, A. DeSario, A. Aron, R. Taylor** and G. Tootle, 2018. Paleo Reconstruction (using Tree Rings) Potential of Streamflow in SE US Coastal Watersheds. Presentation(s) at the Water Policy Summit, National Water Center, Tuscaloosa, Alabama (March 28, 2018) and the University of Alabama, Undergraduate Research and Creativity Activity Conference, Tuscaloosa, Alabama (March 29, 2018).
- Tootle, G., M. Therrell, B. Bearden and E. Elliott, 2017. Recent Decline of Alabama Streamflow. Presentation at the Alabama State Water Resources Conference, September 6, 2017, Orange Beach, Alabama.
- Tootle, G., V. Lakshmi, M. Therrell, R. Huffaker and E. Elliott, 2017. Multi-decadal Decline of Southeast United States Streamflow. Presentation at American Geophysical Union (AGU) Fall Meeting, December 11-15, 2017, New Orleans, Louisiana.
- Miller, W.P., B. Thakur, A. Kalra, K. Lamb, J. Fayne, G. Tootle, and V. Lakshmi, 2017. Snow Water Equivalent Variations across the western United States and its relation to of El Niño Southern Oscillation. Presentation at American Geophysical Union (AGU) Fall Meeting, December 11-15, 2017, New Orleans, Louisiana.
- Tootle, G, 2016. Keynote Address (Paleo, Climate and Alabama Water Resources) at the Alabama State Water Resources Conference, September 7, 2016, Orange Beach, Alabama.
- Tootle, G., J. Dhondia, **O. Aziz**, and B. Bearden, 2016. Climatic Teleconnections and Forecasting Coastal MS-AL Hydrology. Presentation at the Bays and Bayous Conference, November 30, 2016, Biloxi, Mississippi.
- Tootle, G., **S. Sadegh**, M. Therrell and B. Bearden, 2016. Future Projections of Coastal MS-AL Streamflow. Presentation at the Bays and Bayous Conference, November 30, 2016, Biloxi, Mississippi.
- Tootle, G., M. Therrell and B. Bearden, 2016. 2015-2016 El Nino and Coastal MS-AL Streamflow Response. Presentation at the Bays and Bayous Conference, December 1, 2016, Biloxi, Mississippi.
- Tootle, G., M. Therrell and B. Bearden, 2016. Paleo Reconstructions of the Pascagoula River. Presentation at the Bays and Bayous Conference, December 1, 2016, Biloxi, Mississippi.
- Lamb, K., J. Fayne, A. Kalra, W.P. Miller, V. Lakshmi, G. Tootle and T. Piechota, 2016. 2015-16 ENSO, Precipitation, and the Ridiculously Resilient Ridge. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-16, 2016, San Francisco, California.
- Tootle, G., M. Therrell, V. Lakshmi, W.P. Miller, K. Lamb, A. Kalra and N. Santos, 2016. The 2015-2016 El Niño and Alabama-Mississippi Hydrologic Response. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-16, 2016, San Francisco, California.
- Pathak, P., A. Kalra, M. Bernardez, K. Lamb, W.P. Miller, G. Tootle, J. Fayne, V. Lakshmi, N. Santos and T. Piechota, 2016. Trends and shift changes in the SWE in the western US. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-16, 2016, San Francisco, California.
- Santos, N., T. Piechota, W.P. Miller, K. Lamb, V. Lakshmi, G. Tootle, A. Kalra, M. Bernardez, J. Fayne and P. Pathak, 2016. The 2015-2016 El Niño: Impacts to the Lower Colorado River Basin. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-16, 2016, San Francisco, California.
- Tootle, G., M. Therrell, M. Meko, T. Moat and A. Greer, 2015. Streamflow Reconstruction Potential: Choctawhatchee River. Presentation at the Alabama State Water Resources Conference, September 10, 2015, Orange Beach, Alabama.
- Tootle, G., M. Therrell, T. Moat and M. Meko, 2015. Seasonal Streamflow Reconstructions of the Choctawhatchee River (AL-USA). Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2015, San Francisco, California.
- Lamb, K., W. Miller, V. Lakshmi, T. Piechota, G. Tootle, N. Santos, and A. Kalra, 2015. From Parched to Pouring: Can the 2015 – 2016 El Niño Event Bring Drought Relief to California and the Western U.S. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2015, San Francisco, California.
- Miller, W., K. Lamb, T. Piechota, V. Lakshmi, N. Santos, G. Tootle, A. Kalra and J. Fayne, 2015. An Application of Advanced Ensemble Streamflow Prediction Methods to Assess Potential Impacts of the 2015 – 2016 ENSO Event over the Colorado River Basin. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2015, San Francisco, California.



- Tootle, G., M. Therrell, A. Greer and A. Pelle, 2014. Southeast US Drought: What needs to be done? Presentation at the Alabama State Water Resources Conference, September 4, 2014, Orange Beach, Alabama.
- Tootle, G., 2014. Paleohydrology, Glaciers and Weather Modification in the Upper Colorado River. Presentation at the University of Nevada, Las Vegas, October 22, 2014.
- Greer, A., M. Therrell and G. Tootle, 2014. Hydrologic Drought Reconstruction Potential in the Southeast US. Presentation at American Geophysical Union (AGU) Fall Meeting, December 15-19, 2014, San Francisco, California.
- Pelle, A., G. Tootle, L. Johnson, R. Cifelli and C. Hsu, 2014. Threshold Frequency Estimation for the Russian River, CA. Presentation at American Geophysical Union (AGU) Fall Meeting, December 15-19, 2014, San Francisco, California.
- Tootle, G., A. Pelle, **A. Oubeidillah** and G. Kerr, 2014. Relating Snowpack and Snowmelt in Weather Modified Watersheds. Presentation at American Geophysical Union (AGU) Fall Meeting, December 15-19, 2014, San Francisco, California.
- Malooof A.**, B. Fang, G. Tootle, V. Lakshmi and G. Kerr, 2013. Glacier Area and Mass Variability in the Wind River Range (Wyoming, USA): 2006 to 2012. Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2013, San Francisco, California.
- Tootle, G., **S. Anderson**, **A. Malooof** and G. Kerr, 2013. Drought in Paleo and Future Streamflow: North Platte River Basin (Colorado & Wyoming, USA). Presentation at American Geophysical Union (AGU) Fall Meeting, December 9-13, 2013, San Francisco, California.
- Tootle, G., **S. Anderson** and H. Grissino-Mayer, 2012. Reconstructions of Soil Moisture for the Upper Colorado River Basin using Tree Ring Chronologies. Presentation at American Geophysical Union (AGU) Fall Meeting, December 3-7, 2012, San Francisco, California.
- Pelle, A., S. Chapman, **S. Anderson**, **A. Oubeidillah**, G. Tootle and H. Grissino-Mayer, 2012. Climatic Drivers of Upper Colorado River Basin Dendrochronologic and Hydrologic Datasets. Presentation at American Geophysical Union (AGU) Fall Meeting, December 3-7, 2012, San Francisco, California.
- Conroy, J., S. Mandia, J. Abraham, S. Moffitt and G. Tootle, 2012. Environmental Litigation and the Role of Climate Scientists. Presentation at American Geophysical Union (AGU) Fall Meeting, December 3-7, 2012, San Francisco, California.
- Anderson, S.**, G. Tootle, S. Parkinson, P. Holbrook and D. Blestrud, 2012. Long Lead-Time Forecasting of Snowpack and Precipitation in the Upper Snake River Basin using Pacific Oceanic-Atmospheric Variability. Presentation at American Geophysical Union (AGU) Fall Meeting, December 3-7, 2012, San Francisco, California.
- Kerr, G., J. Piburn, **J. Rudolph**, G. Tootle and **J. Marks**, 2012. Use of Remote Sensed Imagery to Evaluate Land Cover Change: North Platte River Basin. Presentation at American Geophysical Union (AGU) Fall Meeting, December 3-7, 2012, San Francisco, California.
- Tootle, G., W. P. Miller, G. DeRosa and G. Kerr, 2011. Paleo Streamflow Variability in Glaciated and Non-Glaciated Watersheds: Wind River Range (Wyoming, USA). Presentation at American Geophysical Union (AGU) Fall Meeting, December 5-9, 2011, San Francisco, California.
- Tootle, G. and **C. Moser**, 2011. Reconstructions (using tree-rings) of Precipitation in the Tennessee Valley. Presentation at Discover Life in America's 2011 All Taxa Biodiversity Inventory Conference, April 8, 2011, Gatlinburg, Tennessee.
- Marks, J.**, G. Tootle and G. Kerr, 2011. Estimates of Glacier Mass Loss and Contributions to Streamflow: Wind River Range (Wyoming, USA). Presentation at American Geophysical Union (AGU) Fall Meeting, December 5-9, 2011, San Francisco, California.
- Anderson, S.**, G. Tootle, **O. Aziz**, **C. Moser**, and H. Grissino-Mayer, 2011. Reconstructions of Upper Green River Basin Snowpack Using Pacific Ocean Climatic Variability. Presentation at American Geophysical Union (AGU) Fall Meeting, December 5-9, 2011, San Francisco, California.
- Aziz, O.**, G. Tootle and **C. Moser**, 2011. Colorado River and Great Basin Streamflow and Snowpack Forecasting using Pacific Oceanic-Atmospheric Variability. Presentation at American Geophysical Union (AGU) Fall Meeting, December 5-9, 2011, San Francisco, California.
- Acharya, A., T. Piechota and G. Tootle. Development of Streamflow Projections for Various Climate Scenarios over the North Platte Watershed, Wyoming, 2011. Presentation at ASCE World Water & Environmental Resources Congress 2011, May 22-26, 2011, Palm Springs, California.

- Moser, C., R. Ogle, A. Bowen** and G. Tootle, 2010. A Tree-Ring Reconstruction of Precipitation in the Tennessee Valley. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2010, San Francisco, California.
- Acharya, A., T. Piechota, H. Stephen and G. Tootle, 2010. Weather Modification and its Hydrologic Impact on the North Platte Watershed, Wyoming. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2010, San Francisco, California.
- Aziz, O.,** G. Tootle and **S. Anderson**, 2010. Identificaiton of Atlantic Ocean Sea Surface Temperature Drivers of French Streamflow. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2010, San Francisco, California.
- Anderson, S.,** C. Moser, G. Tootle, H. Grissino-Mayer and G. Kerr, 2010. Snowpack Reconstructions Incorporating Climate for Mountain Ranges Implementing Weather Modification. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-18, 2010, San Francisco, California.
- Aziz, O.,** G. Tootle, T. Piechota and **C. Moser**, 2010. 2009-2010 El Niño: Predicted Hydrologic Response in the United States. Proceedings of the ASCE World Water & Environmental Resources Congress 2010, May 16-21, 2010, Providence, Rhode Island.
- Tootle, G.A., G. Kerr, **C. Moser, S. Anderson** and H. Stephen, 2010. Weather Modification and the North Platte River Basin, Wyoming. Presentation at the Weather Modification Association Annual Meeting, April 22, 2010, Santa Fe, New Mexico.
- Geren, T., R. Ogle, A. Bowen,** G. Tootle and H. Grissino-Mayer, 2009. Streamflow Reconstructions in Southern Appalachian Mountain Headwaters. Presentation at the Southern Appalachian Man and the Biosphere Conference, November 19, 2009, Asheville, North Carolina.
- Tootle, G.A., G. Kerr, **D. Thompson, J. Bell** and L. Pochop, 2009. Glacier Variability (1966 to 2006) in the Wind River Range, Wyoming, USA. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-19, 2009, San Francisco, California.
- Aziz, O.,** G.A. Tootle, T.C. Piechota, W.P. Miller, J.A. Dracup and C. Jerla, 2009. The 2009–2010 El Niño: Hydrologic Relief to U.S. Regions? Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-19, 2009, San Francisco, California.
- Stephen, H., G. Tootle, **C. Moser** and **O. Aziz**, 2009. Weather Modification and Climate Variability Impacts on Streamflow. Presentation at American Geophysical Union (AGU) Fall Meeting, December 12-19, 2009, San Francisco, California.
- Moser, C., O. Aziz,** G. Tootle, V. Lakshmi and G. Kerr, 2009. A Comparison of SNOTEL and AMSR-E Snow Water Equivalent Datasets in Western U.S. Watersheds. Presentation at the Third International Workshop on Knowledge Discovery from Sensor Data (SensorKDD-2009), June 28, 2009, Paris, France.
- Miller, P. and T. Piechota, 2009. Analysis of Hydrologic Variability Over the Colorado River Basin under Changing Climate Conditions. Presented by G. Tootle at ASCE World Water & Environmental Resources Congress 2009, May 17-22, 2009, Kansas City, Missouri.
- Aziz, O.** and G. Tootle, 2009. Paleo Pacific Ocean Sea Surface Temperature Variability and Upper Colorado River Basin Streamflow. Presentation at ASCE World Water & Environmental Resources Congress 2009, May 17-22, 2009, Kansas City, Missouri.
- Thompson, D., J. Bell, J. Edmunds,** G. Tootle and G. Kerr, 2009. Glacier Variability in Wyoming’s Wind River Range and Teton Range. Presentation at American Water Resources Association 2009 Spring Specialty Conference, May 4-6, 2009. Anchorage, Alaska.
- Stephen, H., G. Tootle, **C. Moser** and **O. Aziz**, 2009. Weather Modification and Climate Variability Impacts on Streamflow. Presentation at American Water Resources Association 2009 Spring Specialty Conference, May 4-6, 2009. Anchorage, Alaska.
- Bellamy, J.** and G. Tootle, 2008. Frequency, Duration and Risk Assessment of Drought in the Upper Green River Basin, Wyoming. Presentation at American Geophysical Union (AGU) Hydrology Days, March 26-28, 2008, Fort Collins, Colorado.
- Piechota, T. and G. Tootle, 2008. Use of Streamflow Reconstructions in Water Resources Planning. Presentation at the Bureau of Reclamation, Dendrochronology Workshop, November 13, 2008, Boulder City, Nevada.
- Soukup, T., O. Aziz, C. Moser** and G. Tootle, 2008. Incorporating Climate into a Long Lead-Time Non-parametric Streamflow Forecast. Presentation at American Geophysical Union (AGU) Fall Meeting, December 13-18, 2008, San Francisco, California.

- Follum, M.**, S. Gray and G. Tootle, 2008. Precipitation Reconstructions in the Wind River Range, Wyoming, USA. Presentation at American Geophysical Union (AGU) Fall Meeting, December 13-18, 2008, San Francisco, California.
- Aziz, O.** and G. Tootle, 2008. Pacific Ocean Sea Surface Temperature Variability and Western U.S. Snowpack. Presentation at CUASHI Annual Meeting, Boulder, CO.
- Bellamy, J.**, G. Tootle, G. Kerr and L. Pochop, 2008. Frequency and Duration of Drought in the Green River Basin, WY, USA. Presentation at ASCE World Water & Environmental Resources Congress 2008, May 11-17, 2008, Honolulu, HI.
- Moser, C., T. Soukup,** G. Tootle and T. Piechota, 2008. An Expert System Approach to Improve Streamflow Forecasting in the North Platte River Basin, Wyoming, USA. Presentation at ASCE World Water & Environmental Resources Congress 2008, May 11-17, 2008, Honolulu, HI.
- Edmunds, J., M. Follum,** and G. Tootle, 2008. Glacial Change in the Wind River Range. Presentation at Western Snow Conference, April 14-17, 2008, Hood River, OR.
- Barnett, F.A., T. Watson,** S. Gray and G. Tootle, 2007. Streamflow Reconstructions and Periods of Drought in the Upper Green River Basin, Wyoming, USA. Presentation at American Geophysical Union (AGU) Fall Meeting, December 10-14, 2007, San Francisco, California.
- Cheesbrough, K., J. Edmunds,** G. Tootle, G. Kerr and L. Pochop, 2007. Glacial Change in the Wind River Range. Presentation at American Geophysical Union (AGU) Fall Meeting, December 10-14, 2007, San Francisco, California. Awarded Outstanding Presentation (Student Division), 2007.
- Tootle, G., G. Kerr, **K. Cheesbrough, J. Edmunds** and L. Pochop, 2007. Glacial Change in the Wind River Range. Presentation at International Commission on Snow and Ice Hydrology (ICSIH) – Glaciers in Watershed and Global Hydrology Workshop, August 27-31, 2007, Obergurgl, Austria.
- Tootle, G., G. Kerr, **K. Cheesbrough, J. Edmunds** and L. Pochop, 2007. Glacial Change in the Wind River Range. Presentation at University of South Carolina, Department of Geology, Graduate Seminar, November 8, 2007, Columbia, SC.
- Tootle, G., G. Kerr, **K. Cheesbrough, J. Edmunds** and L. Pochop, 2007. Glacial Change in the Wind River Range. Presentation at University of Colorado, Department of Civil Engineering, Graduate Seminar, January 16, 2008, Boulder, CO.
- Tootle, G.A., **T. Hunter** and T.C. Piechota, 2006. Pacific Oceanic / Atmospheric Variability and the Wind River Range. Presentation at ASCE World Water & Environmental Resources Congress 2006, May 21-25, 2006, Omaha, NE.
- Kalra, A., T.C. Piechota, R. Davies and G.A. Tootle, 2006. Is Climate Change Evident in U.S. Streamflow?. Presentation at ASCE World Water & Environmental Resources Congress 2006, May 21-25, 2006, Omaha, NE.
- Hunter, T.** and G.A. Tootle, 2006. Oceanic-Atmospheric Variability and Western Snowfall. Presentation at American Geophysical Union (AGU) Hydrology Days, March 20-22, 2006, Fort Collins, Colorado.
- Cheesbrough, K., Watson, T.** and G.A. Tootle, 2006. Pacific Oceanic / Atmospheric Variability and the Wind River Range. Presentation at American Geophysical Union (AGU) Hydrology Days, March 20-22, 2006, Fort Collins, Colorado.
- Tootle, G.A., and T.C. Piechota, 2005. Coupled Oceanic / Atmospheric Variability and United States Streamflow. Presented at American Geophysical Union (AGU) Fall Meeting, December 4-9, 2005, San Francisco, California.
- Piechota, T.C., R. Davies, G.A. Tootle and A. Kalra, 2005. Trends and Step Changes in U.S. Streamflow Data. Presented at American Geophysical Union (AGU) Fall Meeting, December 4-9, 2005, San Francisco, California.
- Tootle, G.A., and T.C. Piechota, 2005. Long Lead-time Streamflow Forecasting using Pacific Ocean Climate Teleconnections. Presented at ASCE World Water & Environmental Resources Congress 2005, May 16-20, 2005, Anchorage, AK.
- Tootle, G.A., and T.C. Piechota, 2004. Hydrologic Impacts of the Pacific Decadal Oscillation on ENSO Influenced Regions. Presented at American Geophysical Union (AGU) Fall Meeting, December 13-17, 2004, San Francisco, California.
- Timilsena, J., T.C. Piechota, and G.A. Tootle, 2004. Hydrologic Drought in the Colorado River. Presented at American Geophysical Union (AGU) Fall Meeting, December 13-17, 2004, San Francisco, California.

- Tootle, G.A., J. Timilsena, and T.C. Piechota, 2004. Magnitude and Frequency of Western U.S. Droughts. Presented at American Institute of Hydrology (AIH) Annual Meeting, October 18-21, 2004, Las Vegas, Nevada.
- Tootle, G.A., and T.C. Piechota, 2004. Forecasting of Lower Colorado River Basin Streamflow Using Pacific Ocean Sea Surface Temperatures and ENSO. Presented at ASCE World Water & Environmental Resources Congress 2004, June 26-July 1, 2004, Salt Lake City, UT.
- Tootle, G.A., and T.C. Piechota, 2004. Identification of Pacific Ocean Sea Surface Temperature Teleconnections with Upper Truckee River Streamflow. Presented at Nevada Water Resources Association Annual Conference, February 24-26, 2004, Mesquite, Nevada.
- Piechota, T.C., and G.A. Tootle, 2003. Climate Teleconnections for Improved Streamflow Forecasting in the Colorado River Basin. Presented at Nevada Water Resources Association Annual Conference, February 26-28, 2003, Sparks, Nevada.
- Tootle, G.A., and T.C. Piechota, 2003. Identification of Pacific Ocean Sea Surface Temperature Teleconnections with Western United States Streamflow. Presented at American Geophysical Union (AGU) Fall Meeting, December 8-12, 2003, San Francisco, California.
- Tootle, G.A., and T.C. Piechota, 2003. Drought and the 2002-2003 El Niño in the Southwest U.S. Presented at ASCE World Water & Environmental Resources Congress 2003, June 22-26, 2003, Philadelphia, PA.
- Tootle, G.A. and K. Hatfield, 1988. Spreadsheet Applications to Stormwater Management. Presentation at Computing in Civil Engineering: Microcomputers to Supercomputers - ASCE Fifth Conference, March 29-31, 1988, Alexandria, VA.

## **SELECTED RESEARCH AWARDS**

- Co-PI / Executive Board: Center for Paleo-environmental Records of Extreme Events (PROXE). Bureau of Ocean Energy Management. Total Budget: ~\$5M
- Senior Personnel: NSF Research Traineeship, Water: Research to Operations (Water R2O). National Science Foundation. Total Budget: ~\$3M
- Co-PI: Food-Energy-Water Nexus in the Deep South: A Latent System Primed for Transition from Rain-fed to Irrigation-fed Agriculture. National Science Foundation. Total Budget: ~\$1.7M
- Lead-PI: Collaborative Research: NSF P2C2 - Paleo-perspectives of streamflow variability for Southeastern Interstate Rivers. National Science Foundation Paleo-perspectives on Climate Change (P2C2). Total Budget: \$348K
- Co-PI: Increasing community resilience in coastal watersheds of Alabama by risk assessment of past, present and future trends in hydrologic and hydroclimatic extremes. United States Environmental Protection Agency (EPA) Gulf of Mexico Program (GMP). Total Budget: \$299K
- Co-PI: Beaver Impoundments as Flow Experiments: Effects of Dam Removal on Instream Flow, Water Quality and Species Diversity. United States Geological Survey (USGS). Total Budget: \$75K
- Lead-PI: Assessing Past, Present and Future Drought and Floods in Coastal Mississippi and Alabama. NOAA Mississippi-Alabama Sea Grant Consortium. Total Budget: \$120K
- Lead-PI: Analyzing Extreme Hydroclimate Events in Alabama Watersheds. Geological Survey of Alabama. Total Budget: \$52K
- Lead-PI: Streamflow Variability Due to Weather Modification. Wyoming Water Development Commission – Phase III. Total Budget: \$88K
- Lead-PI: Streamflow Variability Due to Weather Modification. Wyoming Water Development Commission – Phase II. Total Budget: \$74K
- Lead-PI: Improved Long Lead-time Forecasting of Streamflow and Snowpack. Idaho Power Company. Total Budget: \$69K
- Lead-PI: Upper Colorado River Basin Snowpack Reconstructions Incorporating Climate Variability – REU Supplement. National Science Foundation. Total Budget: \$20K
- Lead-PI: Upper Colorado River Basin Snowpack Reconstructions Incorporating Climate Variability. National Science Foundation. Total Budget: \$167K
- Lead-PI: Climate Extremes and Uncertainty. Oak Ridge National Lab. Total Budget: \$15K
- Lead-PI: Streamflow Variability Due to Weather Modification. Wyoming Water Development Commission. Total Budget: \$204K

- Lead PI: Drought Variability in Reconstructed Streamflow. United States Geological Survey. Total Budget: \$75K
- Lead-PI: Adaptation of Water Resource Systems to Climate Change through Weather Modification. Oak Ridge National Lab. Total Budget: \$75K
- Lead-PI: Weather Modification Impacts and Forecasting of Streamflow. United States Geological Survey. Total Budget: \$196K
- Lead-PI: Wind River Glacier Study. Wyoming Water Development Commission. Total Budget: \$218K
- Lead-PI: Glacial Change in Grand Teton National Park. Rocky Mountains Cooperative Ecosystems Studies Unit. Total Budget: \$10K
- Lead-PI: Climate Variability and Glacial Recession in the Wind River Range and Grand Teton Range, Wyoming. NASA EPSCoR. Total Budget: \$273K (Award remained in WY due to Lead-PI move to UT).
- Lead-PI: Predicting Drought in the Green River Basin. United States Geological Survey. Total Budget: \$65K
- Lead-PI: Atmospheric-Oceanic Variability and Western U.S. Snowfall. Wyoming NASA Space Grant Consortium 2006 Faculty Grant. Total Budget: \$9K
- Lead-PI: The Role of Sea Surface Temperature Variability and Watershed Soil Moisture, Awarded (2003-2005), Graduate Research Fellow, National Science Foundation, Nevada Experimental Program to Stimulate Competitive Research (EPSCoR) of the Advanced Computing in Environmental Sciences (ACES), research fellowship (UNLV).

### **SELECTED PROFESSIONAL AND ACADEMIC SERVICE**

- American Geophysical Union (AGU)
  - Graduate Committee Thesis Chair to Kyle Cheesbrough, Outstanding Student Presentation (Hydrology Division), Glacial Recession in the Wind River Range, AGU Annual Meeting (2007)
- American Society of Civil Engineers (ASCE)
  - Associate Editor, ASCE Journal of Hydrologic Engineering (2008 to 2014)
- Urban Watersheds Research Institute, Denver, CO. Instructor for two-day short course focusing on U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) HEC-RAS and HEC-GeoRAS models (2006 to 2008)
- University of Florida, Center for Training, Research and Education in Environmental Occupations (TREEO Center) Continuing Education. Instructor for short courses focusing on Stormwater Design and Permitting, Advanced Stormwater System Design, HEC-RAS and Groundwater modeling (1989 to 2003)