Joshua K. Roundy

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Department of Civil, Environmental, and Architectural Engineering
University of Kansas
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http://hydrology.faculty.ku.edu/index.html
Google Scholar H-Index: 17, Total citations: 1790, Citations-2021: 282

EDUCATION

Ph.D. Princeton University: Civil & Environmental Engineering, (2014).
M.S. Utah State University: Civil & Environmental Engineering, Emphasis Water Resources, (2009).
B.S. Utah State University: Civil & Environmental Engineering, Mathematics Minor, (2009).

EMPLOYMENT HISTORY

Academic

Associate Professor, Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, Kansas, 2021 - Present

Assistant Professor, Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, Kansas, 2015 - 2021

Research

NASA Post-Doctoral Fellow, Hydrologic Science Branch, Goddard Space Flight Center, 2014 - 2015

TEACHING EXPERIENCE

List of Courses Taught

CE 455 Hydrology (Fall 2015) – Enrolled: 15, Average Student Evaluation: 4.36/5.0
CE 455 Hydrology (Spring 2016) – Enrolled: 38, Average Student Evaluation: 4.75/5.0
CE 751 Physical Hydrology (Fall 2016) – Enrolled: 11, Average Student Evaluation: 4.45/5.0
CE 625 Probability and Statistics (Spring 2017) – Enrolled: 3, Average Student Evaluation: 5.0/5.0
CE 455 Hydrology (Spring 2017) – Enrolled: 56, Average Student Evaluation: 4.58/5.0
CE 760 Stochastic Hydrology (Fall 2017) – Enrolled: 15, Average Student Evaluation: 4.55/5.0
CE 455 Hydrology (Spring 2018) – Enrolled: 46, Average Student Evaluation: 4.41/5.0
CE 552 Water Resources Engineering (Fall 2018) – Enrolled: 33, Average Student Evaluation: 4.2/5.0
CE 455 Hydrology (Spring 2019) – Enrolled: 54, Average Student Evaluation: 4.54/5.0
CE 751 Physical Hydrology (Spring 2019) – Enrolled: 11, Average Student Evaluation: 4.66/5.0
CE 552 Water Resources Engineering (Fall 2019) – Enrolled:41, Average Student Evaluation: 4.7/5.0
CE 455 Hydrology (Spring 2020) – Enrolled: 62, Average Student Evaluation: -/5.0
CE 760 Stochastic Hydrology (Spring 2020) – Enrolled: 10, Average Student Evaluation: -/5.0
CE 552 Water Resources Engineering (Fall 2020) – Enrolled:47, Average Student Evaluation: 4.8/5.0
CE 455 Hydrology (Spring 2021) – Enrolled: 66, Average Student Evaluation: 4.5/5.0
CE 625 Applied Probability (Spring 2021) – Enrolled: 27, Average Student Evaluation: 4.38/5.0
CE 625 Applied Probability (Summer 2021) – Enrolled: 8, Average Student Evaluation: 4.75/5.0
CE 552 Water Resources Engineering (Fall 2021) – Enrolled:53, Average Student Evaluation: 4.8/5.0
CE 751 Physical Hydrology (Fall 2021) – Enrolled: 11, Average Student Evaluation: 4.66/5.0
CE 455 Hydrology (Spring 2022) – Enrolled: 51, Average Student Evaluation: 4.31/5.0

Advising

Undergraduate Student Advising (49)
Undergraduate Research (9)
Masters (5)
Doctoral (3)

Awards

Center for Teaching Excellence Internal Grant: Integrating Python Based Active Learning Modules into the CEAE Curriculum. Total Award Amount: $3000.
HydroLearn Fellow (2020)
Center for Teaching Excellence Internal Grant: Incorporating project-based learning into the undergraduate hydrology course. Total Award Amount: $1284.

JOURNAL ARTICLES (21) * Indicates student

Michalek, A*, Husic, A, **Roundy, J. K** & Hansen, A. (2021). Assessment of Climatic and Anthropogenic Controls on Bridge Deck Drainage and Sediment Removal. ***Water***, 13, 24, 3556. doi.org/10.3390/w13243556.

Zhang, Y*, **Roundy, J. K** & Santanello, J. A. (2021). Evaluating the impact of model resolutions and cumulus parameterization on precipitation in NU-WRF: A case study in the Central Great Plains. ***Environmental Modelling & Software***, 145, 7403-7420. doi.org/10.1016/j.envsoft.2021.105184.

Kam, J. Kim, S & **Roundy, J. K**. (2021). Did a skillful prediction of near-surface temperatures help or hinder forecasting of the 2012 US drought? ***Environmental Research Letters***, 16(3), 034044. doi.org/10.1088/1748-9326/abe1f6.

Zeng, Dingwen, Yuan, Xing & **Roundy, J. K**. (2019). Effect of Teleconnected Land-atmosphere Coupling on Northeast China Persistent Drought in Spring-Summer of 2017. ***Journal of Climate***, 32(21), 7403-7420. doi:10.1175/JCLI-D-19-0175.1.

Santanello, J. A., Dirmeyer, P. A., Ferguson, C. R., Findell, K. L., Tawfik, A. B., Berg, A., Ek, M., Gentine, P., Guillod, B., van Heerwaarden, C., **Roundy, J. K.**, and Wulfmeyer, V. (2018). Land-Atmosphere Interactions: The LoCo Perspective. ***Bulletin of the American Meteorological Society***, 99(6). doi: 10.1175/BAMS-D-17-0001.1.

Roundy, J. K., & Santanello, J. A. (2017). Utility of Satellite Remote Sensing for Land-Atmosphere Coupling and Drought Metrics. ***Journal of Hydrometeorology,*** 18(3), 863–877. doi: 10.1175/JHM-D-16-0171.1.

Demaria, E. M., **Roundy, J. K**., Wi, S., & Palmer, R. N. (2016). The Effects of Climate Change on Seasonal Snowpack and the Hydrology of the Northeastern and Upper Midwest United States. ***Journal of Climate***, 29(18), 6527-6541.

Lievens, H., De Lannoy, G., Al Bitar, A., Drusch, M., Dumedah, G., Franssen, H.-J. H., Kerr, Y., Tomer, S. K., Martens, B., Merlin, O., Pan, M., **Roundy, J. K**., & Other. (2016). Assimilation of SMOS soil moisture and brightness temperature products into a land surface model. ***Remote Sensing of Environment***, 180, 292-304. doi:10.1016/j.rse.2015.10.033

Demaria, E. M., Palmer, R. N., & **Roundy, J. K.** (2016). Regional climate change projections of streamflow characteristics in the Northeast and Midwest US. ***Journal of Hydrology: Regional Studies***, 5, 309-323. doi:10.1016/j.ejrh.2015.11.007

Song, H.-J., Ferguson, C. R., & **Roundy, J. K.** (2016). Land-atmosphere coupling at the Southern Great Plains Atmospheric Radiation Measurement (ARM) field site and its role in anomalous afternoon peak precipitation. ***Journal of Hydrometeorology***, 17(2), 541-556. doi:10.1175/JHM-D-15-0045.1

Yuan, X., **Roundy, J. K.**, Wood, E. F., & Sheffield, J. (2015). Seasonal forecasting of global hydrologic extremes: system development and evaluation over GEWEX basins. ***Bulletin of the American Meteorological Society***, 96(11). doi:10.1175/BAMS-D-14-00003.1

Lievens, H., Kumar Tomer, S., Al Bitar, A., De Lannoy, G. J.M., Drusch, M., Dumedah, G., Hendricks Franssen, H.-J., Kerr, Y., Pan, M., **Roundy, J. K.**, Vereecken, H., Walker, J. P., Wood, E. F., Verhoest, N. E.C., & Pauwels, V. R.N. (2015). SMOS soil moisture assimilation for improved hydrologic simulation in the Murray Darling Basin, Australia. ***Remote Sensing of Environment***, 168, 146–162. doi:10.1016/j.rse.2015.06.025

Santanello, J. A., **Roundy, J. K.**, & Dirmeyer, P. A. (2015). Quantifying the Land-Atmosphere Coupling Behavior in Modern Reanalysis Products over the U.S. Southern Great Plains. ***Journal of Climate***, 28(14), 5813–5829. doi:10.1175/JCLI-D-14-00680.1

Roundy, J. K., Yuan, X., Schaake, J., & Wood, E. F. (2015). A framework for analyzing seasonal prediction through canonical event analysis. ***Monthly Weather Review***, 143(6), 2404–2418. doi:10.1175/MWR-D-14-00190.1

Roundy, J. K., & Wood, E. F. (2015). The attribution of land-atmosphere interactions on the seasonal predictability of drought. ***Journal of Hydrometeorology***, 16(2), 793-810. doi:10.1175/JHM-D-14-0121.1

Chaney, N. W., **Roundy, J. K.**, Herrera, J. E., & Wood, E. F. (2015). High-Resolution Modeling of the Spatial Heterogeneity of Soil Moisture: Applications in Network Design and Spatial Downscaling. ***Water Resources Research***, 51(1), 619–638. doi:10.1002/2013WR014964

Roundy, J. K., Ferguson, C. R., & Wood, E. F. (2013). Impact of land-atmospheric coupling in CFSv2 on drought prediction. ***Climate Dynamics***, 43(1-2), 421-434. doi:10.1007/s00382-013-1982-7

Roundy, J. K., Ferguson, C. R., & Wood, E. F. (2013). Temporal Variability of Land–Atmosphere Coupling and Its Implications for Drought over the Southeast United States. ***Journal of Hydrometeorology***, 14(2), 622-635. doi:10.1175/JHM-D-12-090.1

Yuan, X., Wood, E. F., **Roundy, J. K.**, & Pan, M. (2013). CFSv2-based seasonal hydroclimatic forecasts over conterminous United States. ***Journal of Climate***, 26(13), 4828-4847. doi:10.1175/JCLI-D-12-00683.1

Wood, E. F., Roundy, J. K., et al. (2012). Reply to comment by Keith J. Beven and Hannah L. Cloke on "Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water". ***Water Resources Research***, 48(1), W01802. doi:10.1029/2011WR011202

Wood, E. F., **Roundy, J. K.**, et al. (2011). Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water. ***Water Resources Research***, 47(5), W05301. doi:10.1029/2010wr010090

Journal Articles In-Progress (3)

Yuqi Zhang*, Ferguson, C. & **Roundy, J.K**. (in preparation). Understanding the evolution of the 2018 Kansas-Missouri drought. *Climate Dynamics*

Roundy, J.K., Gallagher, M.A, Byrd, J.L. (In revisions). An Innovative Active Learning Module on Snow and Climate Modeling. *Frontiers Water*.

Hosseini, Atefeh*, **Roundy, J.K.** and Brunsell, Nathaniel (Under review). Understanding the Impact of Vegetation Dynamics on the Water Cycle in the Noah-MP Model. *Frontiers Water*.

BOOK CHAPTERS (2)

Roundy, J. K., Schaake, J., & Duan, Q. (2019). Hydrological Predictability, Scales, and Uncertainty Issues. In: Duan Q., Pappenberger F., Thielen J., Wood A., Cloke H., Schaake J. (eds) ***Handbook of Hydrometeorological Ensemble Forecasting.*** Springer, Berlin, Heidelberg. doi.org/10.1007/978-3-642-40457-3_8-1

Wood E.F., Yuan X., **Roundy J.K.**, Pan M., Luo L. Q. (2015). Seasonal Drought Forecasting on the Example of the USA. In: Duan Q., Pappenberger F., Thielen J., Wood A., Cloke H., Schaake J. (eds) ***Handbook of Hydrometeorological Ensemble Forecasting***. Springer, Berlin, Heidelberg. doi.org/10.1007/978-3-642-40457-3_52-1.

REPORTS (1)

Michalek, A*, Husic, A, **Roundy, J. K** & Hansen, A. (2021). Bridge Deck Drainage: Evaluation of KDOT's Current Design Guidance. ***Report for Kansas Department of Transportation***.

SCHOLARLY PRESENTATIONS (54)

Invited

Roundy, J. K. (2021, October). Drought Prediction, is it possible? Seminar Series Department of Civil Engineering The University of Iowa, Virtual (Oral).

Roundy, J. K. (2020, October). Global Trends in Land-Atmosphere Interactions. Seminar Series Department of Geological and Atmospheric Sciences, Iowa State, Virtual (Oral).

Roundy, J. K. (2020, August). Computational Hydrology Research Group. Hydroinformatics Lab, BYU, Virtual (Oral).

Roundy, J. K. (2019, November). Global Trends in the Coupling Drought Index. Workshop on Land–atmosphere feedbacks and dry extremes under changing climate, Ghent, Belgium (Oral).

Roundy, J. K. (2019, November). The National Water Model and the KU connection. USGS, Lawrence, Kansas (Oral).

Roundy, J. K. (2018, April). Robust and Resilient Engineering Through Prediction of the Water and Climate System. Utah Valley University, Orem, Utah (Oral).

Roundy, J. K., & Santanello, J. (2017, December). The Impact of Land-Atmosphere Coupling on the 2017 Northern Great Plains Drought. AGU Fall Meeting, New Orleans, LA (Oral).

Roundy, J. K. (2016, May). A Stochastic Model for Seasonal Prediction of Drought. Computational and Applied Math Seminar at the University of Kansas, Lawrence, KS.

Roundy, J. K. (2016, March). The Water Time Machine. Kansas Geological Survey, Lawrence, KS.

Roundy, J. K. (2015, November). Using Satellite Remote Sensing for Drought Monitoring and Prediction. Department of Geography, University of Kansas, Lawrence, KS.

Roundy, J. K. (2015, October). Using Satellite Remote Sensing for Drought Monitoring and Prediction. University at Albany, Albany, New York.

Roundy, J. K. (2015, March). Water Sustainability through seasonal prediction. Arizona State University, Tempe, AZ.

Other

Roundy, J. K., Arnold, E. and Miller, B. (2022, January). Improved Hydrological Modeling in the Black Hills of South Dakota from Airborne Snow Depth Retrievals. AMS Annual Meeting, Virtual (Oral).

Makhasana, P.*, **Roundy, J. K**., Lawston-Parker, P., and Santanello, J.A. (2021, December). The Capability of SMAP for Understanding Drought Mechanisms. AGU Annual Meeting, (Oral).

Hillman, C.*, **Roundy, J. K**., Hosseini, A*., Harris, T., and Kumar, S. (2021, December). Assimilation of Satellite Data for Predicting CyanoHABs in Kansas. AGU Annual Meeting, (Poster).

Hosseini, A.*, Morales, J., Kniola, K, Kessler, R., Baker, D, **Roundy, J. K.**, & Harris, T. (2021, December). Sensor-Based Detection of Deep Water Algal Blooms: A Case Study in Cross Reservoir, Kansas. KBS Ecology Seminar , Virtual (Oral).

Roundy, J. K., & Santanello, J. A. (2021, October). The Impact of Switching from AIRS v6 to v7 on Diagnosing the Land-Atmosphere Coupling. NASA Sounder Science Team Meeting, Virtual (Oral).

Hosseini, A.*, **Roundy, J. K.**, Ladwig, R, & Harris, T. (2021, October). The Effect of Water Column Stability on Biological Behaviors of Marion Reservoir in Kansas. GLEON Annual Meeting, Virtual (Poster).

Roundy, J. K., Zhang, Y.* (2021, January). Global Trends in Land-Atmosphere Coupling. AMS Annual Meeting, Virtual (Poster).

Roundy, J. K., Zhang, Y.* (2020, December). Improved Hydrological Modeling in the Black Hills of South Dakota from Airborne Snow Depth Retrievals. AGU Annual Meeting, Virtual (Poster).

Zhang, Y.*, **Roundy, J. K**. (2020, December). The impact of using G3D-UW cumulus scheme on NU-WRF soil moisture-precipitation feedback during a drought evolution in Central US. AGU Annual Meeting, Virtual (Poster).

Hosseini, A.*, **Roundy, J. K.**, & Harris, T. (2020, October). High-frequency temperature and dissolved oxygen monitoring of a discontinuous polymictic reservoir in the Midwestern USA. GLEON Annual Meeting, Virtual (Poster).

Zhang, Y.*, **Roundy, J. K.**, & Santanello, J. (2020, January). Evaluating the Influence of Resolution and Cumulus Parameterization at 4 km on Spatial Precipitation Patterns of NU-WRF in Eastern Kansas and Western Missouri. AMS Annual Meeting, Boston, MA (Poster).

Roundy, J. K., & Arnold, E. (2020, January). Airborne Snow Depth Retrieval for Improved Hydrological Modeling in the Black Hills of South Dakota. AMS Annual Meeting, Boston, MA (Oral).

Hosseini, A.*, **Roundy, J. K.**, & Brunsell, N. (2019, December). Understanding the Impact of Vegetation Dynamic in the Noah-MP Land Surface Model over C3/C4 Grasslands. AGU Annual Meeting, San Fransisco, CA (Poster).

Zhang, Y.*, **Roundy, J. K.**, & Santanello, J. (2019, January). A Case Study of the Impact of Land-Atmosphere Coupling on a Persistent Regional Drought in Northeastern Kansas and Northern Missouri. AMS Annual Meeting, Phoenix, AZ (Oral).

Crowl, M.*, & **Roundy, J. K.** (2019, January). Incorporating Climate Model Projections into the Development of IDF Estimates for the Kansas City Area. AMS Annual Meeting, Phoenix, AZ (Poster).

Hosseini, A.*, **Roundy, J. K.**, & Brunsell, N. (2019, January). The Impact of Vegetation Dynamics on Surface Fluxes in the Noah-MP Land Surface Model. AMS Annual Meeting, Phoenix, AZ (Poster).

Roundy, J. K., Ferguson, C. R. & Santanello, J. (2018, May). The Impact of Land-Atmosphere Coupling on the development of Flash Droughts. GEWEX 8th Open Science Meeting, Canmore, Alberta, Canada (Oral).

Roundy, J. K., Zhang, Y.* & Santanello, J. (2018, April). Impact of Spatio-Temporal Resolutions on Dynamical Downscaling of Precipitation Over CONUS. EGU General Assembly, Vienna, Austria (Oral).

Zhang, Y.*, **Roundy, J. K.**, & Santanello, J. (2018, January). Evaluation of precipitation from WRF models at multiple spatio-temporal resolutions in CONUS. AMS Annual Meeting, Austin, TX (Poster).

Roundy, J. K., Ferguson, C. R. & Santanello, J. (2018, January). Current trends in land-atmosphere coupling related to drought. AMS Annual Meeting, Austin, TX (Poster).

Roundy, J. K., & Roth, G.* (2017, January). Optimal drought forecasts from a multi-model framework. AMS Annual Meeting, Seattle, WA (Oral).

Roundy, J. K., & Santanello, J. (2016, December). Utility of Satellite Remote Sensing for Land-Atmosphere Coupling and Drought Metrics. AGU Fall Meeting, San Francisco, CA (Oral).

Johnson, F.* & **Roundy, J. K.** (2016, November). Seasonal Streamflow Predictions for Kansas that Utilize a Simple Large Scale Routing Scheme that Includes Reservoir Characteristics. Governors Water Conference, Topeka, Kansas (Poster).

Roundy, J. K., & Johnson, F.* (2016, September). A simple large-scale routing scheme for seasonal streamflow predictions that includes reservoir characteristics. GEWEX: Including Water Management in Large Scale Models, Gif-sur-Yvette, France (Oral).

Roundy, J. K., & Santanello, J. (2016, June). Impact of Dynamical Downscaling on Land Surface Model Forcings. HEPEX Workshop, Quebec City, Canada (Poster).

Roundy, J. K., & Santanello, J. A. (2016, January). Satellite remote sensing observations of land-atmosphere interactions for understanding drought mechanisms. AMS Annual Meeting, New Orleans, LA (Poster).

Roundy, J. K., Santanello, J. A., & Ferguson, C. R. (2015, December). Impact of dynamical downscaling on model representation of land-atmosphere coupling strength. AGU Annual Meeting, San Fransisco, CA (Poster).

Roundy, J. K., & Santanello, J. A. (2015, October). Satellite remote sensing observations of land-atmosphere interactions for monitoring and understanding mechanisms of drought. NASA Sounder Science Team Meeting, Greenbelt, MD (Oral).

Roundy, J. K., & Santanello, J. A. (2015, April). Land-atmosphere coupling metrics from satellite remote sensing as a global drought-monitoring tool. EGU Annual Meeting, Vienna, Austria (Oral).

Roundy, J. K., & Santanello, J. A. (2015, January). The potential use of land-atmosphere coupling metrics as a global drought-monitoring tool. AMS Annual Meeting, Phoenix, AZ (Oral).

Roundy, J. K., Santanello, J. A., Koster, R., & Wood, E. F. (2014, December). The attribution of land-atmosphere interactions on the seasonal predictability of drought. AGU Fall Meeting, San Francisco, CA (Poster).

Roundy, J. K., Santanello, J. A., & Wood, E. F. (2014, July). The attribution of land-atmosphere interactions on the seasonal predictability of drought. 7th International Scientific Conference on the Global Water and Energy Cycle, The Hague, Netherlands (Poster).

Roundy, J. K., & Wood, E. F. (2014, February). The importance of land-atmosphere coupling for seasonal drought prediction. WMO-NOAA Seasonal to Subseasonal International Conference, College Park, MD (Oral).

Roundy, J. K., & Wood, E. F. (2014, January). The importance of land-atmosphere coupling for seasonal drought prediction. AMS Annual Meeting, Atlanta, GA (Poster).

Roundy, J. K., Ferguson, C. R., & Wood, E. F. (2013). Land-atmosphere coupling and seasonal forecast skill over the Great Plains and the Southeast United States. AMS Annual Meeting, Austin, TX (Oral).

Roundy, J. K., Yuan, X., & Wood, E. F. (2013). The optimal time and space scale for downscaling the CFSv2 forecast for seasonal hydrologic predictions. AGU Chapman Conference on Seasonal to Interannual Hydroclimate Forecasts and Water Management, Portland, OR (Oral).

Roundy, J. K., Ferguson, C. R., & Wood, E. F. (2012). The temporal variability of land-atmosphere coupling regimes in the Southeast United States. Poster, 4th WCRP International Conference on Reanalysis, Silver Spring, MD (Poster).

Roundy, J. K., Yuan, X., & Wood, E. F. (2012). Land surface model calibration and hydrologic forecasting over the Southeastern United States. HEPEX Workshop, Beijing, China (Oral).

Roundy, J. K., Chaney, N., & Wood, E. F. (2011). Assessment of large scale and regional scale models for application to a high resolution global land surface model. AGU Fall Meeting, San Francisco, CA (Oral).

Roundy, J. K., Ferguson, C. R., & Wood, E. F. (2011). Local Land-Atmosphere Coupling (LoCo): Forecast precipitation skill for different land-atmosphere coupling regimes in the Southeast United States. Poster, WCRP Open Science Conference, Denver, CO (Poster).

Roundy, J. K., Sheffield, J., Wood, E. F., Mo, K. C., & Dobur, J. (2011). Drought monitoring and forecasting in the Apalachicola-Chattahoochee-Flint River Basin in the Southeastern United States. AMS Annual Meeting, Seattle, WA (Oral).

Roundy, J. K., Bastidas, L. A., Goncalves, L. G., & Shuttleworth, W. J. (2008). Data- and parameter induced uncertainty estimation for Land Surface Models. Poster, AGU Fall Meeting, San Francisco, CA (Poster).

GRANT FUNDING

Proposals Funded

Roundy, J. K. (**Principal**) and Richard Rockel. Incorporating Climate Uncertainty into Water Allocations in Kansas. Bureau of Reclamation **$195,648**, (January 2021 - December 2023)

Roundy, J. K. (**Principal**) and Alexandra Kondyli. Mitigating Concentrated Sheet Flow of Water at Ends of Super Elevated Curves. **$78,650**, (Aug 2021 - Jan 2023)

Roundy, J.K. (Principal). Appendix C: SMD Earth Sciences Division - Assimilation of Satellite Data for Prediction Cyanohabs in Kansas. Kansas NASA EPSCoR **$99,711**, (June 2021 - September 2022).

Roundy, J. K. (**Principal**) and Joseph Santanello. Global Satellite Based Prediction of Drought Evolution. National Aeronautics and Space Administration, SMAP ST, **$449,806,** (November 2020 – October 2023).

Roundy, J. K. (Co-Principal), Emily Arnold (PI). Airborne Snow Depth Retrieval for Improved Hydrological Modeling. National Oceanic and Atmospheric Administration **$499,926**, (September 2019 - September 2022).

Proposals Completed

Roundy, J. K. (**Principal**), Amy Hansen and Admin Husic. Bridge Deck Drainage: Evaluation of KDOT's Current Design Guidance. Kansas Department of Transportation **$65,638**, (June 2019 - May 2021)

SERVICE RECORD

Committees and Panels

NASA Grant Review Panel (Feb and Jun 2021)
Appointed Panel Liaison between GEWEX GLASS and GHP, (2020 - Present).
GEWEX Global Land/Atmosphere System Study (GLASS) Panel, Member. (2016-Present)
Hydrology Committee, American Meteorological Society, Member. (2012 - 2021)
Program Chair 33rd Conference on Hydrology, AMS Annual Meeting, Phoenix, Arizona, (2018-2019)
Organizing Committee GEWEX 8th International Open Science Meeting, Canmore, Canada, May 2018.
NASA Grant Review Panel (2018)
Grant Reviewer, U.S. Department of Energy, (2017)
Program Chair 32nd Conference on Hydrology, AMS Annual Meeting, Austin Texas, (2017-2018)
NASA Grant Review Panel (2016)
Advisory Panel for GEWEX North American Regional Hydroclimate Project, Member. (2016-2018)
Organizing Committee GEWEX 7th International Conference The Hague, Netherlands (2014).

Conference Sessions

Drought Analysis and Prediction, 36th Conference on Hydrology, AMS Annual Meeting, Virtual, Session Co-Chair. (January 2022)
Drought Analysis and Prediction, 35th Conference on Hydrology, AMS Annual Meeting, Virtual, Session Co-Chair. (January 2021)
Drought Analysis and Prediction, 34th Conference on Hydrology, AMS Annual Meeting, Boston, MA, Session Co-Chair. (January 2020)
Precipitation processes and observations for atmospheric, land surface, and hydrological modeling, 33rd Conference on Hydrology, AMS Annual Meeting, Phoenix, AZ, Session Co-Chair. (January 2019)
Ensemble hydro-meteorological forecasting techniques and predictive uncertainty estimation, EGU General Assembly, Session Co-Chair. (April 2018)
Drought Analysis and Prediction, 32nd Conference on Hydrology, AMS Annual Meeting, Austin, TX, Session Co-Chair. (January 2018)
Predictability and predictive uncertainty estimation in hydrologic forecasting, EGU General Assembly, Session Co-Chair. (April 2017)
Drought Analysis and Prediction, 31st Conference on Hydrology, AMS Annual Meeting, Seattle, WA, Session Chair. (January 2017)
Predictability and predictive uncertainty estimation in hydrologic forecasting, EGU General Assembly, Session Co-Chair. (April 2016)
Drought Analysis and Prediction, 30th Conference on Hydrology, AMS Annual Meeting, New Orleans, Session Chair. (January 2016)

Journal Article Reviewer

Journal of Climate, Journal of Hydrometeorology, Journal of Geophysical Research-Atmospheres,, Water Resources Research, Journal of Hydrology, Climate Dynamics, Scientific Reports-Nature, Weather and Forecasting, Earth System Dynamics, Remote Sensing, Environmental Modeling & Software, Journal of Meteorological Research, Geoscientific Model Development, Journal of Environmental Management, Water, Journal of Hydrologic Engineering, Hydrological Processes, Journal of Advances in Modeling Earth Systems, Geophysical Research Letters, Hydrology and Earth

System Science Discussions, Reviews of Geophysics, Journal of Arid Environments, Journal of Geophysical Research, Advances in Water Resources, Journal of Applied Meteorology and Climatology, Agriculture and Forest Meteorology, NPJ-Climate and Atmospheric Science, Journal of Geophysical Research Letters

University/Department Service

Faculty Senate Research Committee (2021)
EWRE Seminar Organizer (Spring 2021)
EWRE Qualification Exam Organizer (2020 and 2021)
Search Committee for faculty position in Environmental Engineering. Member. Civil, Environmental & Architectural Engineering. (Fall 2017 - Spring 2018).
Search Committee for faculty position in Water Resources. Member. Civil, Environmental & Architectural Engineering. (Fall 2017 - Spring 2018).
Search Committee for faculty position in Atmospheric Science. Member. (Fall 2017 - Spring 2018).
Facilitated the implementation of the Masters Accelerator Program. (2017-2018)
ABET Committee. Member. Civil, Environmental & Architectural Engineering. (2016 - Present).
Fundamentals of Engineering Exam Review Series. Lecturer. (2016 - Present).
Search Committee for faculty position in Atmospheric Science. Member. (Fall 2015 - Spring 2016).

PROFESSIONAL ORGANIZATIONS

American Geophysical Union, (2008 - Present)
American Meteorological Society, (2008 - Present)
Hydrologic Ensemble Prediction Experiment, (2012 - Present)
European Geophysical Union, (2014 - Present)
American Society of Civil Engineers, (Fall 2015 - Present)

AWARDS

Gould Teaching Award (2022)
Chair's Council Assistant Professor (2020)
AMS STAC Outstanding Service Award (2020)
AMS Hydrology Chair Appreciation (2018)
Winner of the GEWEX and WCRP ECR Video Competition (2016)