Briana M. Wyatt

CONTACT

Texas A&M University
Department of Soil & Crop Sciences
2474 TAMU
College Station, TX 77843

Email: briana.wyatt@tamu.edu
Google Scholar: Briana M. Wyatt
ORCID iD: 0000-0002-3393-1157

EDUCATION

Ph.D., Soil Science (Applied Soil Physics & Hydrology) 2019
Oklahoma State University

M.S., Plant and Soil Sciences (Applied Soil Physics & Hydrology) 2015
Oklahoma State University

B.S., Environmental Science (Natural Resources) 2013
Oklahoma State University

PROFESSIONAL EXPERIENCE

Assistant Professor, Department of Soil and Crop Sciences 2020 - present
Texas A&M University

Postdoctoral Research Associate, Department of Plant and Soil Sciences 2020
Oklahoma State University

SUMMARY OF PROFESSIONAL ACCOMPLISHMENTS

Peer-reviewed papers: 12 published, 5 as lead author, 1 led by undergraduate mentee
Grants and contracts: 10 funded for a total of $11,676,800; $723,261 to BMW
Teaching: 4 courses over 3 semesters, 81 undergraduate & 16 graduate students (rated 4.54/5.0)
Invited presentations: 9
h-index (Google Scholar): 3

MENTORING

Degree Program	Chair	Committee Member
M.S.	1	1 (GEOG)
Ph.D.	4	1 (ECCB)

Undergraduates: 3 mentored resulting in 2 presentations at scientific meetings and 1 peer-reviewed manuscript

PEER-REVIEWED PUBLICATIONS

$^{(G)}$ indicates graduate student, $^{(U)}$ indicates undergraduate student

Published

12. Patrignani, A., **B.M. Wyatt**, T. Knappenberger, and S.E. Marshall. 2022. Review of *Rain or Shine* soil physics textbook. Vadoze Zone Journal. e20194. doi: 10.17605/OSF.IO/Z4RBT.
11. Glazer, Y.R., D.M. Tremaine, J.L. Banner, M. Cook, R.E. Mace, J. Nielsen-Gammon, E. Grubert, K. Kramer, A.M.K. Stoner, **B.M. Wyatt**, A. Mayer, T. Beach, R. Correll, and M.E. Webber. 2021. Winter Storm Uri: A test of Texas' water infrastructure and water resource resilience to extreme winter weather events. Journal of Extreme Events. doi: 10.1142/S2345737621500226.
10. Flynn, K.D.$^{(U)}$, **B.M. Wyatt**, and K.J. McInnes. 2021. Novel cosmic ray neutron sensor accurately captures field-scale soil moisture trends under heterogeneous soil textures. Water. doi: 10.3390/w13213038.
9. E.S. Krueger, T.E. Ochsner, M.R. Levi, J.B. Basara, G.J. Snitker, and **B.M. Wyatt**. 2021. Grassland productivity estimates informed by soil moisture measurements: statistical and mechanistic approaches. Agronomy Journal. doi: 10.1002/agj2.20709.
8. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2021. Estimating root zone soil moisture across diverse land cover types by integrating in-situ and remotely sensed data. Agricultural and Forest Meteorology. doi: 10.1016/j.agrformet.2021.108471.
7. **Wyatt, B.M.**, T.E. Ochsner, J. Brown, D.C. Diggins, B.G. Illston, and C.A. Fiebrich. 2021. MesoSoilv2.0 - An updated soil physical property database for the Oklahoma Mesonet. Vadose Zone Journal. doi: 10.1002/vzj2.20134.
6. Dere, A., C. Engelmann, M. Holzer, D. Lindbo, C. Robinson, T. Wilson, and **B.M. Wyatt**. 2021. Soil: More than the dirt under your feet! The Earth Scientist 50(1).
5. **Wyatt, B.M.** 2021. Insights into student participation in an introductory soil physics course during COVID-19 emergency online learning. Natural Sciences Education. doi: 10.1002/nse2.20036.
4. Sun, X., B.P. Wilcox, C.B. Zou, E. Stebler, J.B. West, A. Hyodo, and **B.M. Wyatt**. 2021. Partitioning of evapotranspiration in a subhumid grassland via the isotopic approach: seasonal variations and responses to precipitation. Agricultural and Forest Meteorology. doi: 10.1016/j.agrformet.2021.108321.
3. **Wyatt, B.M.**, T.E. Ochsner, E.S. Krueger, and E.T. Jones. 2020. In-situ soil moisture data improve seasonal streamflow forecast accuracy in rainfall-dominated watersheds. J. Hydrology. doi: 10.1016/j.jhydrol.2020.125404.
2. Zhang, Y., W. Zhao, T.E. Ochsner, **B.M. Wyatt**, H. Liu, and Q. Yang. 2019. Estimating deep drainage using deep soil moisture data under young irrigated cropland in a desert-oasis ecotone, Northwest China. Vadose Zone J. doi: 10.2136/vzj2018.10.0189.
1. **Wyatt, B.M.**, T.E. Ochsner, C.A. Fiebrich, C.R. Neel, and D.S. Wallace. 2017. Useful drainage estimates obtained from a large-scale soil moisture monitoring network by applying the unit-gradient assumption. Vadose Zone J. doi: 10.2136/vzj2017.01.0016.

In Preparation

7. Basant, S., B.P. Wilcox, B.D. Newman, **B.M. Wyatt**, C.L. Morgan, C. Parada. Thicketized Oak Woodlands Reduce Groundwater Recharge. *In preparation.*
6. Wang, M.$^{(G)}$, **B.M. Wyatt**, and T.E. Ochsner. Improving seasonal streamflow forecasts by incorporating soil moisture information derived from remote sensing. *In preparation.*
5. Le Collazo, J., C.L.S. Morgan, G. Moore, J.L. Hielman, and **B.M Wyatt**. An accuracy assessment of long term soil moisture monitoring in Texas. *In preparation.*
4. Cook, M., D.M. Tremaine, J.L. Banner, M. Berg, S. Glenn, R. Bare, Y. Glazer, B. Hirsch, R.E. Mace, **B.M. Wyatt**, G.R. Miller, C. Callison, J. Charles, J. Seefeldt, J. Nielsen-Gammon, T. Bruno, D. Nyogi, and A. Fuller. Addressing challenges to ensuring equity, justice, and sustainability in policy and infrastructure for Texas water resources in the 21st century. In preparation.
3. **Wyatt, B.M.**, B. Osei, M. Conyers, and N. Leber. Technical overview of the TexMesonet- a network of networks for improved water management and prediction in Texas. *In preparation.*
2. Stewart, R., **B.M Wyatt**, et al. Emerging Issues and Research Opportunities in Vadose Zone Processes. *In preparation.*
1. **Wyatt, B.M.**, B. Acharya, and G. Kharel. Ecohydrological Models: A Review.

EXTENSION PUBLICATIONS

2. **Wyatt, B.M.**, D.B. Arnall, and T.E. Ochsner. 2019. Nutrient loss and water quality. Oklahoma Cooperative Extension Service Fact Sheet PSS-2286. doi: 10.13140/RG.2.2.16478.38720.
1. **Wyatt, B.M.**, S. Taghvaeian, and T.E. Ochsner. 2018. State-wide estimates of potential groundwater recharge. Oklahoma Cooperative Extension Service Fact Sheet BAE-1539. doi: 10.13140/RG.2.2.15257.67689.

GRANTS & CONTRACTS

$^{(G)}$ indicates graduate student, $^{(U)}$ indicates undergraduate student

31. **Wyatt, B.M.** 2022. Installation and calibration of soil moisture sensors in US Forest Service lands in Texas. Memorandum of Understanding with Texas Water Development Board and US Forest Service. *In preparation.*
30. **Wyatt, B.M.** and S. Quiring. 2022. Evaluation of CMIP6 soil moisture predictions and potential drought impacts under various climate change mitigation scenarios. NSF Hydrologic Sciences Program. $500,000. *In preparation.*
29. Tabassum, S., N. Rajan, and **B.M. Wyatt**. 2022. Development and testing of a novel, plant-wearable phytohormone sensor for water stress detection. NSF Electrical, Communications, and Cyber Systems program. $500,000. *In preparation.*
28. **Wyatt, B.M.** and F. Aburto. 2022. Soil Change Detection. NRCS Soil and Plant Science Soil Science Collaborative Research Program. $300,000. *Under review.*

27. **Wyatt, B.M.** and M. Wang$^{(G)}$. 2022. Prediction of seasonal streamflow by incorporating remote sensing soil moisture and groundwater into a regression-based model. TWRI Graduate Student Research Program. $7,500. *Under review.*

26. **Wyatt, B.M.** and D. Williams$^{(G)}$. 2022. Evaluation of the Environmental Impact of Using Alternative Materials for Rain Garden Design. TWRI Graduate Student Research Program. $7,500. *Under review.*

25. **Wyatt, B.M.** 2022. Soil Survey for Soil Moisture Monitoring and Estimation in Agricultural Lands. NRCS Dynamic Soil Survey Initiative contract. $200,000. *Under Review.*

24. Banner, J., C. Gerald, K.L. Jones, M.D. Ramirez-Andreotta, C.A. West-Olatunji, R. Awal, C. Cheng, R.A. Duke, A. Fares, K. Johnson, M. Mackert, C. Valdez, S. Vincent, **B.M. Wyatt**. WATE^{3}R - Water Alliance for Training and Engaging in Environment and Equity for Resilience. National Science Foundation Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF-INCLUDES). $10,000,000. *Under Review.*

23. Sprenger, M., P.L Sullivan, J.R. Nimmo, T. Xu, J. Groh, H. Ajami, D. Hirmas, D. Gimenez, N. Chaney, Y. Cheng, N. Singh, **B.M Wyatt**, O. Crompton, and S. O. 2022. Using a network of networks for high-frequency multi-depth soil moisture observations to infer spatial and temporal drivers of subsurface preferential flow. USGS Critical Zone Collaborative Synthesis program. $153,830.50. *Under Review.*

22. Deng, Y., **B.M. Wyatt**, J. Aitkenhead, M. Bagavathiannan, J. Cason, T. Gentry, J. Howe, J. Mowrer, T. Provin, N. Rajan, E. Septiningsih, and P. Smith. Optimizing Martian regolith and environment for space food production. SpaceX Space Agriculture Research and Education. $2,500,000. *Under review.*

21. **Wyatt, B.M.** 2021. TexMesonet Soil Characterization Project. Three-year contract with Texas Water Development Board for $141,702. Funded.

20. Howe, J. and **B.M. Wyatt**. 2021. Evaluation of surfactant's impact on soil moisture. Corbet Scientific contract. $45,398. Funded.

19. **Wyatt, B.M.** and A.P. Smith. 2021. Determination of baseline soil carbon status across Texas. Texas Corn Producers Board. $22,580. Not funded.

18. Straw, C.M., **B.M. Wyatt**, and J. Howe. 2021. Comparing nitrogen status on golf course fairways between several vegetation indices using an unmanned aerial vehicle. 2021 Golf Course Superintendent's Association of America Research Endowment. $30,000. Not funded.

17. **Wyatt, B.M.** and T.E. Ochsner. 2021. Developing a sustainable framework for incorporating soil moisture observations to improve operational seasonal streamflow forecasts. NASA Earth Sciences Applications: Water Resources program. $450,000. Not funded.

16. Straw, C.M., **B.M. Wyatt**, and J. Howe. 2021. Variable-rate versus conventional nitrgoen application methods to golf course fairways. US Golf Association Turfgrass and Environmental Research Program. $90,000. Funded.

15. Straw, C.M., **B.M. Wyatt**, J. Howe, and J. Young. 2021. Precision turfgrass management on golf course fairways to reduce inputs and environmental impacts. USDA-AFRI Foundation and Applied Sciences Program. $750,000. Not funded.

14. Chapman, S., **B.M. Wyatt**, M. Holzer, J. DeBruyn, and M. Walia. 2021. Developing interactive content for K-12 student engagement in soil, environmental, and Earth sciences. NRCS Education and Outreach Improvement Collaborative Agreement. $118,740. Funded.

13. Wilcox, B.P., **B.M. Wyatt**, S. Basant, and H. Olariu. 2021. Thicketization Of Oak Savannas: Can Restoration Lead To Greater Regional Groundwater Recharge? USDA-NIFA Foundational and Applied Science RFA-AERC Program. $750,000 total, $132,331 to B.M. Wyatt. Funded.
12. Lewis, K.L., T.A. Berthold, A. Rocateli, W. Keeling, P. DeLaune, A. Jilling, M. Udvardi, M. Maeda, B. McCarl, D. McCallister, S. Ale, R. Rathmann, J. Bell, **B.M. Wyatt**, K. Wagner, B. Guerrero, and C. Morgan. 2021. Improving agricultural and ecosystem sustainability via regenerative agriculture. USDA NIFA AFRI Sustainable Agricultural Systems. $10,000,000 total, $192,191 to B.M. Wyatt. Funded.
11. Patrignani, A., C. Remley, J. Parsley, **B.M. Wyatt**, M. Cosh, and T.E. Ochsner. 2021. An in-situ testbed for soil moisture sensing and technology transfer. NRCS Dynamic Soil Properties Initiative contract. $500,000 total, $188,218 to B.M. Wyatt. Funded.
10. W-4188 Multi-state research project. 2019-2023, joined in 2021. Soil, Water, and Environmental Physics to Sustain Agriculture and Natural Resources.
9. Frauenfeld, O.W., R.J. Bombardi, and **B.M. Wyatt**. 2021. Applications for global rainy and dry season variability. Texas A&M University T3: Triads for Transformation program. $30,000 total, $10,000 to B.M. Wyatt. Funded.
8. **Wyatt, B.M.**. 2021. Improving seasonal streamflow forecasts for irrigation districts by incorporating soil moisture information derived from remote sensing. Bureau of Reclamation WaterSMART Applied Science Program. $59,960. Funded.
7. Ochsner, T.E., **B.M. Wyatt**, and W.T. Crow. 2019. Adapting seasonal streamflow forecasts to incorporate soil moisture information derived from remote sensing data. U.S. Geological Survey 104(b) Competitive Water Research Grants Program. $25,000. Not funded.
6. Ochsner, T.E., **B.M. Wyatt**. 2018. Comparing methods of integrating remotely-sensed data for producing high-resolution soil moisture estimates. National Aeronautics and Space Administration (NASA) Earth and Space Science Fellowship. $45,000. Not funded.
5. Ochsner, T.E., E.S. Krueger, **B.M. Wyatt**, and E.T. Jones. 2018. Developing seasonal streamflow forecasts to inform surface water management in Oklahoma. U.S. Geological Survey 104(b) Competitive Water Research Grants Program. $25,000. Funded.
4. **Wyatt, B.M.** 2017. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. American Geophysical Union Horton Hydrology Grant Program. $10,000. Not funded.
3. Ochsner, T.E., **B.M. Wyatt** 2017. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. National Aeronautics and Space Administration (NASA) Earth and Space Science Fellowship. $45,000. Not funded.
2. Ochsner, T.E., **B.M. Wyatt**, and C.B. Zou. 2017. Modeling soil moisture under various land cover types: Using long-term grassland monitoring data to estimate soil moisture in Oklahoma forests. U.S. Geological Survey 104(b) Competitive Water Research Grants Program. $5,000. Funded.
1. **Sallee, B.M.** and S. Sharma. 2014. Effects of *Juniperus virginiana* encroachment and growth on soil physical and hydraulic properties in a native grassland. Soil Physics Measurement Techniques course project competitive grant. $1,000. Funded.

HONORS AND AWARDS

1. Outstanding Ph.D. student, Department of Plant and Soil Sciences 2020
2. Outstanding Reviewer, Journal of Environmental Quality 2020

TEACHING EXPERIENCE

3. SCSC 309 - Water in Soils and Plants. Spr '21, '22. Texas A&M University. 65 undergraduate students taught.
2. SCSC 689 - Soil Physics Field and Laboratory Methods. Spr '22. Texas A&M University. 5 graduate student taught.
1. SOIL 4683 - Soil, Water, and Weather. Spr '20. Oklahoma State University. 15 undergraduate and 11 graduate students taught.

TEACHING PREPARATION

3. College of Agricultural Sciences and Natural Resources Teaching Workshop, Oklahoma State University. 2019, 2017.
2. Graduate Teaching Assistant Conference on Teaching, Oklahoma State University Institute for Teaching and Learning Excellence. August 2017.
1. AGED 5813 - College Teaching of Agriculture and Natural Resources. Spring 2017.

INVITED PRESENTATIONS

9. **Wyatt, B.M.** 2022. Soil water measurement across scales- applications and impacts. Texas A&M University Department of Geography Departmental Colloquium.
8. **Wyatt, B.M.** 2021. Soil and Water Conservation in Ethiopia. Seeds of Change Workshop hosted by Bethel Environmental and Agricultural University and Training Center. Woliso, Ethiopia.
7. **Wyatt, B.M.** 2021. Cultivating interdisciplinary collaborations at Texas A&M. Texas A&M University Department of Ecology and Conservation Biology departmental seminar.
6. **Wyatt, B.M.** 2021. Building a soil water research program in Texas. Texas Soil Survey and Land Resource Workshop.
5. **Wyatt, B.M.**, T.E. Ochsner, E.S. Kruger, and E.T. Jones. 2019. Developing seasonal streamflow forecasts to inform surface water management in Oklahoma. Oklahoma Water Research Advisory Board Meeting. Oklahoma City, OK.
4. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2018. Modeling soil moisture under various land cover types. Oklahoma Water Research Advisory Board Meeting. Oklahoma City, OK.
3. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2016. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. Oklahoma Water Research Advisory Board Meeting. Stillwater, OK.
2. **Wyatt, B.M.**, T.E Ochsner, C.A. Fiebrich, and C.R. Neel. 2015. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma Water Research Advisory Board. Ada, OK.

1. Ochsner, T.E., **B.M. Sallee**, C.A. Fiebrich, and C.R. Neel. 2014. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma Water Research Advisory Board. Stillwater, OK.

ABSTRACTS - NATIONAL & INTERNATIONAL MEETINGS

† indicates award-winning, $^{(G)}$ indicates graduate student, $^{(U)}$ indicates undergraduate student

23. Straw, C., **B.M. Wyatt**, A.P. Smith, K. Watkins$^{(U)}$, S. Hong, and W. Floyd. 2022. Investigating spatial relationship of apparent electrical conductivity with turfgrass and soil characteristics in sand-capped golf course fairways. International Society of Precision Agriculture Annual Meeting. Minneapolis, MN.
22. **Wyatt, B.M.**, M. Wang$^{(G)}$, and T.E. Ochsner. 2022. Improving Seasonal Streamflow Forecasts for Surface Water Irrigation Districts By Incorporating Soil Moisture Information Derived from Remote Sensing. American Meteorological Society Annual Meeting. Houston, TX.
21. **Wyatt, B.M.** 2022. Update from the soil physics group at Texas A&M University. W-4188 Soil, Water, and Environmental Phyiscs to Sustain Agriculture and Natural Resources Technical Meeting.
20. **Wyatt, B.M.**, M. Wang$^{(G)}$, and T.E. Ochsner. 2021. Improving Seasonal Streamflow Forecasts for Surface Water Irrigation Districts By Incorporating Soil Moisture Information Derived from Remote Sensing. American Geophysical Union Annual Fall Meeting. New Orleans, LA.
19. **Wyatt, B.M.**, J. DeBruyn, and M. Szulczewski, A. Ludwig, and J. Dong. 2021. K-12 Outreach and Education to Increase Diversity, Equity, and Inclusion in Earth Sciences. American Geophysical Union Annual Fall Meeting. New Orleans, LA.
18. **Wyatt, B.M.**, J. DeBruyn, and M. Szulczewski, A. Ludwig, and J. Dong. 2021. Increasing Diversity, Equity, and Inclusion in the Soil and Agronomic Sciences through K-12 Outreach and Education. ASA-CSSA-SSSA Annual International Meeting. Salt Lake City, UT.
17. **Wyatt, B.M.**, K. Flynn$^{(U)}$, and K.J. McInnes. 2021. Novel Neutron Detector Technology for Field-Scale Soil Moisture Sensing. ASA-CSSA-SSSA Annual International Meeting. Salt Lake City, UT.
16. **Wyatt, B.M.**, M. Wang$^{(G)}$, and T.E. Ochsner. 2021. Improving Seasonal Streamflow Forecasts for Surface Water Irrigation Districts By Incorporating Soil Moisture Information Derived from Remote Sensing. ASA-CSSA-SSSA Annual International Meeting. Salt Lake City, UT.
15. **Wyatt, B.M.**, Mingxiu Wang$^{(G)}$, and T.E. Ochsner. 2021. Improving seasonal streamflow forecasts using remote sensing-based soil moisture information. Virtual Kirkham Conference.
14. **Wyatt,B.M.**, K. Flynn$^{(U)}$, and K.J. McInnes.2021. Testing a novel cosmic ray neutron detector in a field with highly variable soil texture. Virtual National Soil Moisture Workshop.
13. **Wyatt, B.M.**, M. Wang$^{(G)}$, and T.E. Ochsner. 2021. Improving seasonal streamflow forecasts by incorporating soil moisture information derived from remote sensing. Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) Virtual Biennial Colloquium.

12. Ochsner, T.E. and **B.M. Wyatt**. 2021. An Update from the Soil Physics Groups at Oklahoma State University and Texas A&M University. W-4188 Soil, Water, and Environmental Phyiscs to Sustain Agriculture and Natural Resources Technical Meeting.
11. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2020. Estimating root zone soil moisture across diverse land cover types by integrating in-situ and remotely-sensed data. ASA-CSSA-SSSA Annual International Meeting.
10. **Wyatt, B.M.**, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2020. In-situ soil moisture data improve seasonal streamflow forecast accuracy in rainfall-dominated watersheds. National Soil Moisture Network annual meeting.
9. **Wyatt, B.M.**†, T.E. Ochsner, and C.B. Zou. 2019. Integration of remote sensing and in-situ data to estimate soil moisture across mixed land cover types. ASA-CSSA-SSSA Annual International Meeting. San Antonio, TX.
8. **Wyatt, B.M.**, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. ASA-CSSA-SSSA Annual International Meeting. San Antonio, TX.
7. Ochsner, T.E., **B.M. Wyatt**, and E.S. Krueger. 2019. Soil Water as Natural Capital. ASA-CSSA-SSSA Annual International Meeting. San Antonio, TX.
6. **Wyatt, B.M.**†, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. National Soil Moisture Network annual meeting. Manhattan, KS.
5. **Wyatt, B.M.**, T.E. Ochsner, and E.S. Krueger. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. SSSA International Soils Meeting. San Diego, CA.
4. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2017. Integration of remote sensing and in-situ data to estimate soil moisture across mixed land cover types. ASA-CSSA-SSSA Annual International Meeting. Tampa, FL.
3. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2016. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. ASA-CSSA-SSSA Annual International Meeting. Phoenix, AZ.
2. **Wyatt, B.M.**, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2015. Estimating groundwater recharge using the Oklahoma Mesonet. ASA-CSSA-SSSA Annual International Meeting. Minneapolis, MN.
1. **Sallee, B.M.**, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2014. Estimating groundwater recharge using the Oklahoma Mesonet. ASA-CSSA-SSSA Annual International Meeting. Long Beach, CA.

ABSTRACTS - REGIONAL, STATE, & LOCAL MEETINGS

† indicates award-winning, $^{(G)}$ indicates graduate student, $^{(U)}$ indicates undergraduate student

31. Osei, B.$^{(G)}$ and **B.M. Wyatt**. 2022. Characterization of soil physical and hydraulic properties of TexMesonet Monitoring sites. Texas Water Observatory (TWO) Meeting. College Station, TX.

30. Wang, M.$^{(G)}$ and **B.M. Wyatt**. 2022. Improving seasonal streamflow forecasts for irrigation districts using remote sensing. Texas Water Observatory (TWO) Meeting. College Station, TX.
29. Watkins, K.$^{(U)}$ and **B.M. Wyatt**. 2022. Vertisols: Expanding Our Vision. Texas Water Observatory (TWO) Meeting. College Station, TX.
28. Osei, B.$^{(G)\dagger}$ and **B.M. Wyatt**. 2022. Characterization of soil physical and hydraulic properties of TexMesonet Monitoring sites. Texas Soil Survey and Land Resource Workshop. College Station, TX.
27. Wang, M.$^{(G)}$ and **B.M. Wyatt**. 2022. Improving seasonal streamflow forecasts for irrigation districts using remote sensing. Texas Soil Survey and Land Resource Workshop. College Station, TX.
26. Watkins, K.$^{(U)\dagger}$ and **B.M. Wyatt**. 2022. Vertisols: Expanding Our Vision. Texas Soil Survey and Land Resource Workshop. College Station, TX.
25. Flynn, K.$^{(U)}$, K.J. McInnes, and **B.M. Wyatt**. 2021. An applied approach to evaluating less expensive Cosmic Ray Neutron Sensors for soil moisture monitoring. Texas A&M University Student Research Week.
24. **Wyatt, B.M.**, T.E. Ochsner, E.S. Krueger, and E.T. Jones. 2019. In-situ soil moisture data improve seasonal streamflow forecast accuracy in rainfall-dominated watersheds. Oklahoma Governor's Water Conference and Research Symposium. Midwest City, OK.
23. **Wyatt, B.M.**†, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. Oklahoma State University Plant and Soil Sciences Department Research Symposium. Stillwater, OK.
22. **Wyatt, B.M.**, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. Oklahoma Clean Lakes and Watersheds Association Annual Meeting. Stillwater, OK.
21. **Wyatt, B.M.**, T.E. Ochsner, E.S. Kreuger, and E.T. Jones. 2019. Improving seasonal streamflow forecasts by incorporating soil moisture data. Oklahoma State University Plant and Soil Sciences Department Seminar. Stillwater, OK.
20. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2018. Modeling soil moisture under various land cover types. Oklahoma Governor's Water Conference and Research Symposium. Midwest City, OK.
19. **Wyatt, B.M.**, T.E. Ochsner, E.S. Krueger, and E. Jones. 2018. Improving seasonal streamflow forecasts by incorporating soil moisture data. National Institutes for Water Resources Regional Symposium. Lincoln, NE.
18. **Wyatt, B.M.**, T.E. Ochsner, E.S. Krueger, and E. Jones. 2018. Improving seasonal streamflow forecasts by incorporating soil moisture data. Marena, Oklahoma In-situ Sensor Testbed (MOISST) annual meeting. Lincoln, NE.
17. **Wyatt, B.M.** †, T.E. Ochsner, E.S. Krueger, and E. Jones. 2018. Improving seasonal streamflow forecasts to inform surface water management in Oklahoma by incorporating soil moisture data. Oklahoma State University Plant and Soil Sciences Department Research Symposium. Stillwater, OK.

16. **Wyatt, B.M.**†, T.E. Ochsner, and C.B. Zou. 2017. Integration of remote sensing and in-situ data to estimate soil moisture across mixed land cover types. Oklahoma Governor's Water Conference and Research Symposium. Norman, OK.
15. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2017. Integration of remote sensing and in-situ data to estimate soil moisture across mixed land cover types. Marena, Oklahoma In-situ Sensor Testbed (MOISST) annual meeting. Stillwater, OK.
14. **Wyatt, B.M.**†, T.E. Ochsner, and C.B. Zou. 2017. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. Oklahoma State University Plant and Soil Sciences Department Research Symposium. Stillwater, OK.
13. **Wyatt, B.M.** 2017. Recent advances in Earth science data and availability. Oklahoma State University Plant and Soil Sciences Department Seminar. Stillwater, OK.
12. **Wyatt, B.M.**, T.E. Ochsner, and C.B. Zou. 2016. First steps to modeling soil moisture in an oak forest using the FAO-56 dual crop coefficient model. Marena, Oklahoma In-situ Sensor Testbed Annual Meeting. Stillwater, OK.
11. **Wyatt, B.M.**†, T.E. Ochsner, and C.B Zou. 2016. Combining remote sensing and in-situ data to estimate soil moisture across mixed land cover types. Oklahoma Governor's Water Conference and Research Symposium. Norman, OK.
10. **Wyatt, B.M.**†, T.E. Ochsner, C.A. Fiebrich, C.R. Neel, and D.S. Wallace. 2016. A simple method for estimating drainage through long-term soil moisture monitoring. Oklahoma State University Student Water Conference. Stillwater, OK.
9. **Wyatt, B.M.**, T.E. Ochsner, C.R. Neel, and C.A. Fiebrich. 2016. A simple method for estimating drainage through long-term soil moisture monitoring. Oklahoma Clean Lakes and Watersheds Association Annual Meeting. Stillwater, OK.
8. **Wyatt, B.M.** 2016. Annual report of the Soil Physics group at Oklahoma State University. Multistate Research Project meeting "Soil, Water, and Environmental Physics Across Scales." Las Vegas, NV.
7. **Wyatt, B.M.**†, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2015. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma Governor's Water Conference and Research Symposium. Norman, OK.
6. **Wyatt, B.M.**, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2015. Estimating groundwater recharge using the Oklahoma Mesonet. Marena, Oklahoma In-situ Sensor Testbed (MOISST) annual meeting. Stillwater, OK.
5. **Sallee, B.M.**, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2015. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma State University Plant and Soil Sciences Department Seminar. Stillwater, OK.
4. **Sallee, B. M.**†, T.E. Ochsner, C.R. Neel, and C.A. Fiebrich. 2014. Estimating groundwater recharge using the Oklahoma Mesonet. Marena, Oklahoma In-situ Sensor Testbed Annual Meeting. Stillwater, OK.
3. **Sallee, B.M.**†, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2014. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma Governor's Water Conference and Research Symposium. Oklahoma City, OK.

2. **Sallee, B. M.**, T.E. Ochsner, C.R. Neel, and C.A. Fiebrich. 2014. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma State University Student Water Conference. Stillwater, OK.
1. **Sallee, B.M.**, T.E. Ochsner, C.A. Fiebrich, and C.R. Neel. 2013. Estimating groundwater recharge using the Oklahoma Mesonet. Oklahoma Governor's Water Conference and Research Symposium. Midwest City, OK.

PROFESSIONAL MEMBERSHIPS

1. Soil Science Society of America 2013 — present
2. American Society of Agronomy 2013 — present
3. American Geophysical Union 2015 — present
4. American Association for the Advancement of Science 2014 — present
5. Professional Soil Scientists Association of Texas 2021 — present
6. Earth Science Women's Network 2020 — present

PROFESSIONAL ACTIVITIES & SERVICE

2022

1. Review Panel Member, NASA Future Investigators in NASA Earth and Space Science and Technology (FINESST) program.
2. Secretary (Chair)-elect, W4188 "Soil, Water, and Environmental Physics to Sustain Agriculture and Natural Resources" Multi-State Hatch project.
3. Founding Member, TexMesonet Advisory Committee.
4. Member, 2024 Soil Science Society of America special meeting planning committee.
5. Member, Soil and Crop Sciences Departmental Seminar Committee.
6. Member, Soil and Crop Sciences International Agriculture Committee.

2021

1. Organizer, Soil Science Faculty monthly meetings
2. Member, Soil and Crop Sciences 96-hr Ph.D. planning committee.
3. Chair elect and Member, American Geophysical Union (AGU) Hydrology Section Justice, Equity, Diversity, and Inclusion (JEDI) Committee.
4. Co-chair, Southern Regional National Cooperative Soil Survey (NCSS) Technology Committee.
5. Ad Hoc Proposal Reviewer, US Bureau of Reclamation Science and Technology Program.
6. Mentor, Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI) Biennial Meeting Mentorship Program. Paired with M.S. student from the University of Kansas Department of Geography and Atmospheric Science.
7. Facilitator, Universities Council on Water Resources (UCOWR) student-professional networking event at 2021 UCOWR annual meeting.

8. Advised USDA-NRCS personnel at Stephenville, TX and Stillwater, OK offices regarding soil moisture sensor calibration for field research sites.
9. Panelist, Peer Review Process Panel Discussion, 2021 ASA-CSSA-SSSA Annual International Meeting. Salt Lake City, UT.
10. Science Advisor, *Know Soil, Know Life* textbook Educator's Guide. https://serc.carleton.edu/kskl_educator/project_team.html.
11. Texas A&M University faculty delegate to the Universities Council on Water Resources (UCOWR), 2021-present.
12. Soil Physics and Hydrology division session organizer and moderator, "Developing sustainable systems through the use of soil physical information," 2021 ASA-CSSA-SSSA Annual International Meeting. Salt Lake City, UT.
13. Faculty Representative, Texas A&M University Department of Soil and Crop Sciences Freshman Recruitment Scholarship Committee, 2021-present.
14. Chair (2020-2022) and Member (2018-present), Soil Science Society of America K-12 Education and Outreach Committee.

2020

1. Ad Hoc Proposal Reviewer, National Science Foundation Hydrologic Sciences Program.
2. Soil Physics and Hydrology division symposium organizer, "Looking beyond the soil: Applications of soil moisture data in ecology, meteorology, and hydrology," 2020 ASA-CSSA-SSSA Virtual Annual International Meeting. Approximately 45 participants in attendance.
3. Judge, Soil Physics and Hydrology division symposium "Mapping and Modeling Soil Properties and Processes across Scales with Proximal and Remote Sensing" oral graduate student competition, 2020 ASA-CSSA-SSSA Virtual Annual International Meeting.
4. Judge, Soil and Water Management and Conservation division graduate student competition, 2020 ASA-CSSA-SSSA Virtual Annual International Meeting.
5. Judge, Soil Physics and Hydrology division general session graduate student oral and poster presentation competition, 2020 ASA-CSSA-SSSA Virtual Annual International Meeting.

2019 and earlier

1. Judge, Oklahoma Future Farmers of America (FFA) AgriScience Fair, 2019.
2. Fellow, South Central Climate Adaptation Science Center Early Career Researcher Professional Development Training. Baton Rouge, LA, 2018. Emphasis on creating actionable science, developing interdisciplinary research, interacting with stakeholders, and effective science communication.
3. Judge, Oklahoma State University Scholar Development Undergraduate Research Symposium, 2018.
4. Selected attendee, Graduate Student Leadership Conference, ASA-CSSA-SSSA Annual International Meeting. Tampa, FL, 2017.
5. Judge, Students of Agronomy, Soils, and Environmental Sciences (SASES) Undergraduate Speech Contest, ASA-CSSA-SSSA Annual International Meeting. Tampa, FL, 2017.

6. College of Agricultural Sciences and Natural Resources Graduate Student Representative, Oklahoma State University Academic Integrity Panel, 2017-2018.
7. Judge, Students of Agronomy, Soils, and Environmental Sciences (SASES) Undergraduate Poster Competition, ASA-CSSA-SSSA Annual International Meeting. Phoenix, AZ, 2016.

Editor

- Guest Editor, Special Issue in Water, "Ecohydrological Response to Environmental Change"
- Associate Editor, Soil Physics & Hydrology section, Soil Science Society of America Journal, 2022-present
- Earth and Space Science Open Archive (ESSOAr), 2021-present

Peer Reviewer

- Agroforestry Systems (1 article)
- Agronomy (1 article)
- Agronomy Journal (1 article)
- Agrosystems, Geosciences, & Environment (2 articles)
- Canadian Journal of Soil Science (1 article)
- Geoderma (6 articles)
- Hydrology and Earth System Sciences (2 articles)
- Journal of Contemporary Water Research and Education (1 article)
- Journal of Environmental Quality (2 articles)
- Journal of Hydrology (3 articles)
- Natural Sciences Education (1 article)
- Remote Sensing (1 article)
- Soil Science Society of America Journal (2 articles)
- Soil Systems (1 article)
- Soil & Tillage Research (1 article)
- Sustainability (1 article)
- Vadose Zone Journal (1 article)
- Water (2 articles)
- Water Resources Research (3 articles)

PROGRAMMING LANGUAGES

1. MATLAB - fluent
2. Python - proficient
3. Structured Query Language (SQL) - proficient
4. LaTeXtypesetting system - proficient
5. R - beginner
6. Google Earth Engine Code Editor (JavaScript API) - beginner
7. Linux - beginner

SOFTWARE EXPERIENCE

1. Git version control system
2. MINITAB statistical software
3. ESRI ArcGIS/ArcMap
4. HYDRUS-1D vadose zone flow model
5. PetraSim subsurface flow model
6. CrunchFlow reactive transport software
7. Visual MINTEQ geochemical model
8. PHREEQC geochemical model

COMPUTATIONAL AND RESEARCH TRAINING

1. Climate Models, Downscaling, and Assessments online course, South Central Climate Adaptation Science Center. Fall 2021. Certificate of completion available upon request.
2. Parallel Computing with MATLAB workshop. 2021. Hosted by Texas A&M University High Performance Research Computing group.
3. Satellite Remote Sensing for Agricultural Applications online training, NASA Applied Remote Sensing Training (ARSET). 2020. Certificate of completion available upon request.
4. Managing for a Changing Climate online course, South Central Climate Adaptation Science Center. Fall 2019. Certificate of completion available upon request.
5. Fundamentals of Remote Sensing, NASA Applied Remote Sensing Training (ARSET). 2019.
6. Nonlinear Dynamics: Mathematical and Computational Approaches, Complexity Explorer Massive Open Online Course (MOOC), Santa Fe Institute. Spring 2019. Certificate of completion available upon request.
7. Open Science Framework workshop, Oklahoma State University Institute of Teaching and Learning Excellence. October 2017.
8. "Python for MATLAB Users" training, Enthought. October 2017.

OUTREACH ACTIVITIES

1. Co-developed "Erosion in a bottle" calendar activity on behalf of the SSSA K-12 Education and Outreach committee for the American Geosciences Institute 2021 Earth Science Week themed "Water Today and for the Future." This activity demonstrates to K-12 students the impact of soil cover in decreasing water erosion.
2. National Association of Geoscience Teachers Webinar: "Soil Biology, Chemistry, and Physics... Oh My!" Dr. Wyatt presented this webinar along with Dr. Jenn DeBruyn and Dr. Owen Duckworth with the goal of increasing the use of the SSSA K-12 committee's resources for teachers. Estimated 65 teachers reached, rated 9.44/10 by participants.
3. Dr. Wyatt regularly assists and advises faculty and graduate students in a variety of disciplines regarding field work, laboratory methods, and computer modeling. Her expertise in these areas and her openness to interdisciplinary cooperation has facilitated her work with colleagues in the fields of geography, ecohydrology, natural resource ecology, and engineering.
4. This website contains maps of long-term and mean annual drainage rates for over 75 sites in Oklahoma. Drainage rates from the soil profile are indicative of potential groundwater recharge rates in areas of the state. These publicly available maps are one output of Dr. Wyatt's research work.

DIVERSITY AND INCLUSION ACTIVITIES

1. Dr. Wyatt led the SSSA K-12 committee in contributing to the "Diversity in Agronomy, Crops, Soil and Environment Committee: Past, Present and Future" session at the 2021 ASA-CSSA-SSSA annual meeting and to the "Sharing Science: Enabling Scientists to Engage Diverse Audiences" session at the 2021 American Geophysical Union annual meeting. The goal of these sessions was to draw awareness to the historically low participation of women, people of color, and other minority groups in the agricultural and Earth sciences and to develop action plans for increasing participation in the fields by these groups. The contributed poster described three outreach efforts by K-12 Education and Outreach committee members aimed at increasing interest in soil and environmental science among young women, underprivileged students, and racial and ethnic minorities.
2. Dr. Wyatt organized and led a hands-on activity booth titled "Soil: Nature's Water Filter" at the 2019 National Science Foundation Established Program to Stimulate Competitive Research (NSF EPSCoR) Women in Science Conference at the Oklahoma Science Museum. This annual event brings together more than 1,500 students in grades 6-12 in order to introduce them to new scientific disciplines and the roles that women hold in those disciplines.
3. ¡Unidos se Puede! Summer Academy - Dr. Wyatt assisted Dr. Tyson Ochsner in presenting a hands-on introductory soil science workshop to potential first-generation college students with the goal of increasing their interest in attending a university.
4. Attended "A Diverse Soil Science Future" hosted by the U.S. National Committee for Soil Sciences, the Soil Science Society of America, and The National Academies of Sciences, Engineering, and Medicine. The event was aimed at increasing participation of women and minorities in soil science.

POPULAR PRESS COVERAGE

1. Soil Biology, Chemistry, and Physics...Oh My! CSA News article. 2021.
2. Texas A&M AgriLife Today article. 2020.
3. ASA-CSSA-SSSA journals peer review testimonial. 2020.
4. "Preparing for Oklahoma's Future: Estimating Groundwater Recharge Rates." Oklahoma Water Resources Center. 2017.
5. "Words from a Winning Presenter." Oklahoma Water Resources Center. 2016.
6. Oklahoma Student Profile, The National Institutes for Water Resources. 2015.