

## Curriculum Vitae

Aaron R. Mittelstet, PhD

---

Address:	Department of Biological Systems Engineering University of Nebraska – Lincoln 245 L.W. Chase Hall Lincoln, NE 68583-0726
Phone:	(402) 472-1427
Fax:	(402) 472-6338
Email:	<a href="mailto:amittelstet2@unl.edu">amittelstet2@unl.edu</a>
Website:	<a href="http://engineering.unl.edu/bse/faculty/aaron-mittelstet">http://engineering.unl.edu/bse/faculty/aaron-mittelstet</a>

---

## **Section 1**      **Education and Employment History**

---

### **Section 1.1**    **Education History**

Oklahoma State University, Ph.D., Biosystems and Agricultural Engineering, 2009-2015.

Graduated Summa Cum Laude

Thesis Topic: Quantifying phosphorus loads and streambank erosion in the Ozark Highland Ecoregion using the SWAT model

Oklahoma State University, M.S., Environmental Science, 2007-2009.

Graduated Magna Cum Laude

Thesis Topic: Effect of water rights and management policies on a river alluvial aquifer

Oklahoma State University, B.S., Zoology, 1996-2000.

### **Section 1.2**    **Employment History**

- *Assistant Professor*, University of Nebraska-Lincoln, Biological Systems Engineering Department (January 2016 – present)
- *Research Engineer*, Oklahoma State University, Biosystems and Agricultural Engineering (January 2009 – December 2015)
- *Graduate Research Assistant*, Oklahoma State University, Biosystems and Agricultural Engineering (June 2007 – July 2009)
- *Spanish and ESL Teacher*, Enid, Oklahoma, Enid Public Schools (August 2004 – May 2007)
- *Peace Corps Volunteer*, El Chal, Peten, Guatemala (May 2000 – August 2002)

## **Section 2**      **Research Accomplishments**

---

### **Section 2.1**    **Publication Record**

*The following subscripts are used to indicate graduate student co-authors*

*1: Masters student under my supervision*

*2: Ph.D. student under my supervision*

#### Section 2.1.1 Peer Reviewed Journal Publications in print

1. **Mittelstet, A.R.**, T.E. Gilmore, T. Messer, D.R. Rudnick and T. Heatherly, 2019. Evaluation of watershed characteristics to identify best management practices to reduce Nebraskan nitrate loads to the Mississippi/Atchafalaya River Basin. *Agriculture, Ecosystem and the Environment*. 277:1-10. (50%)
2. Zou, C.B., D. Twidwell, C.H. Bielski, D.T. Fogarty, **A.R. Mittelstet**, P.J. Starks, R.E. Will, Y. Zhong and B.S. Acharya, 2018. Impact of Eastern Redcedar proliferation on water resources in the Great Plains USA-Current state of knowledge. *Water*. 10(12):1768. (15%)
3. M.J. Wells, T.E. Gilmore, **A.R. Mittelstet**, D. Snow and S.S. Sibray, 2018. Assessing decadal trends of a nitrate-contaminated shallow aquifer in western Nebraska using groundwater isotopes, age-dating, and monitoring. *Water*. 10(8). (20%)
4. Van Liew, M.W. and **A.R. Mittelstet**, 2018. The comparison of three regionalization techniques for the prediction of streamflow in ungauged watersheds in Nebraska, USA using the SWAT model. *International Journal of Agricultural and Biological Engineering*. 11(3): 110-119. (40%)
5. Freiberger, R.P., D.M. Heeren, D.E. Eisenhauer, **A.R. Mittelstet** and G.A. Baigorria, 2018. Tradeoffs in model performance and model effort for long-term phosphorus leaching based on *in-situ* field data. *Vadose Zone Journal*. 17(1) (15%).
6. Korus, J.K., T.E. Gilmore, M.M. Waszgis and **A.R. Mittelstet**, 2018. Unit-bar migration and bar-trough deposition: impacts on permeability and grain size heterogeneity in a sandy streambed. *Hydrogeology*. 26(2): 553-561. (15%)
7. Dave, N.<sup>1</sup> and **A.R. Mittelstet**, 2017. Quantifying effectiveness of streambank stabilization practices on Cedar River, Nebraska. *Water*. 9(12), 930. (50%)
8. Abimbola, O.<sup>2</sup>, J. Wenninger, R. Venneker and **A.R. Mittelstet**, 2017. Assessment of Water Resources in Ungauged Catchments in Rwanda. *Journal of Hydrology: Regional Studies*. 13: 274-289. (20%)
9. Forsberg T.A., D.E. Radcliffe, C.H. Bolster, **A.R. Mittelstet**, D.E. Storm and D. Osmond, 2017. Evaluation of a quantitative phosphorus transport model for potential improvement of southern phosphorus indices. *Journal of Environmental Quality*. 46:1341-1348. (15%)
10. Bolster, C.H., T.A. Forsberg, **A.R. Mittelstet**, D.E. Radcliffe, D.E. Storm, J. Ramirez-Avila and D. Osmond, 2017. Comparing an annual and daily time step model for predicting field-scale phosphorus loss. *Journal of Environmental Quality*. 46:1314-1322. (30%)
11. **Mittelstet, A.R.**, D.E. Storm, G.A. Fox and P.M. Allen, 2017. Modeling streambank erosion on composite streambanks on a watershed scale. *Transactions of the ASABE*. 60(3): 753-767. (60%)

12. **Mittelstet, A.R.**, D.E. Storm and G.A. Fox, 2017. Testing of the modified streambank erosion and in-stream phosphorus routines for the SWAT model. *Journal of the American Water Resource Association*. 53(1): 101-114. (75%)
13. Worthington, T., T. Zhang, S. Brewer, **A.R. Mittelstet** and D. Logue, 2016. Landscape and flow metrics affecting the distribution of a federally-threatened fish: Improving management, model fit, and model transferability. *Ecological Modeling*. 342:1-18. (20%)
14. Agouridis, C.T., K.R. Douglas-Mankin, A.C. Linhoss and **A.R. Mittelstet**, 2016. Wetlands and coastal systems: protecting and restoring valuable ecosystems. *Transactions of the ASABE*. 59(5): 1299-1301. (20%)
15. **Mittelstet, A.R.** and D.E. Storm, 2016. Quantifying legacy phosphorus using a mass balance approach and uncertainty analysis. *Journal of the American Water Resource Association*. 52(6):1297-1310. (90%)
16. **Mittelstet, A.R.**, D.E. Storm and M.J. White, 2016. Using SWAT to enhance watershed-based plans to meet numeric water-quality standards. *Sustainability of Water Quality and Ecology*. 7:5-21. (70%)
17. Neupane, S., J.R. Vogel, D.E. Storm, B.J. Barfield and **A.R. Mittelstet**, 2015. Development of a turbidity prediction methodology for runoff-erosion models. *Water, Air and Soil Pollution*. 226(12):1-14. (15%)
18. **Mittelstet, A.R.**, D.E Storm and A. Stoecker, 2015. Using SWAT and an empirical relationship to simulate crop yields and salinity levels in the North Fork River Basin. *International Journal of Agricultural and Biological Engineering*. 8 (3): 110-123. (70%)
19. Miller, R.B., D.M. Heeren, G.A. Fox, T. Halihan, D.E. Storm and **A.R. Mittelstet**, 2014. The hydraulic conductivity structure of gravel-dominated vadose zones within alluvial floodplains. *Journal of Hydrology*. 513: 229-240. (10%)
20. Heeren, D.M., G.A. Fox, A.K. Fox, D.E. Storm, R.B. Miller and **A.R. Mittelstet**, 2014. Divergence and flow direction as indicators of subsurface heterogeneity and stage-dependent storage in alluvial floodplains. *Hydrological Process*. 28(3): 1307-1317. (10%)
21. White, M.J., D.E. Storm, **A.R. Mittelstet**, P. Busted, B. Haggard, and C. Rossi, 2014. Development and testing of an in-stream phosphorus cycling model for SWAT. *Journal of Environmental Quality*. 43(1): 215-223. (20%)
22. **Mittelstet, A.R.**, E.R. Daly, D.E. Storm, M.J. White, and G.A. Kloxin, 2012. Field scale modeling to estimate phosphorus and sediment load reductions using a newly developed graphical user interface for soil and water assessment tool. *American Journal of Environmental Sciences*: 8(6): 605-614. (50%)
23. Heeren, D.M., **A.R. Mittelstet**, G.A. Fox, D.E. Storm, A.T. Al-Madhhachi, T.L. Midgley, A.F. Stringer, K.B. Stunkel, and R.B. Tejral, 2012. Using rapid

- geomorphic assessments to assess streambank stability in Oklahoma Ozark streams. *Transactions of the ASABE*. 55(3): 957-968. (35%)
24. **Mittelstet, A.R.**, D.M. Heeren, G.A. Fox, D.E. Storm, M.J. White, and R. B. Miller, 2011. Comparison of subsurface and surface runoff phosphorus. *Agriculture, Ecosystems, and Environment*. 141: 417-425. (50%)
  25. Fox, G.A., D.M. Heeren, R.B. Miller, **A.R. Mittelstet**, and D.E. Storm. 2011, Flow and transport experiments for a streambank seep originating from a preferential flow pathway. *Journal of Hydrology*. 403: 360-366. (20%)
  26. Heeren, D.M., G.A. Fox, R.B. Miller, D.E. Storm, A.K. Fox, C.J. Penn, T. Halihan, and **A.R. Mittelstet**, 2011. Stage-dependent transient storage of phosphorus in alluvial floodplains. *Hydrological Processes*. 25(20): 3230-3243. (10%)
  27. **Mittelstet, A.R.**, M.D. Smolen, G.A. Fox, and D.A. Adams, 2011. Comparison of aquifer sustainability under groundwater administrations in Oklahoma and Texas. *Journal of the American Water Resource Association*. 47(2): 424-431. (60%)

Section 2.1.2 Peer Reviewed Journal Publications accepted for publication with or without revision

Section 2.1.3 Peer Reviewed Journal Publications submitted for review but not yet accepted or accepted with “re-review required” or equivalent

28. Abimbola, O.<sup>2</sup>, **A.R. Mittelstet**, T.E. Gilmore and J.K. Korus. Influence of sediment routing on streambed hydraulic conductivity across multiple stream orders. Submitted to *Nature Scientific Reports*. In Review.
29. Dave, N.<sup>1</sup>, **A.R. Mittelstet**, J. Korus and M. Waszgis. Impact of an extreme flood event on streambank retreat on Cedar River, Nebraska. To be submitted to *Journal of the American Water Resource Association*.
30. Abimbola, O.<sup>2</sup>, G. E. Meyer and **A.R. Mittelstet**. Fuzzy logic based approach for predicting soil temperature at different depths using data transformation. Submitted to *Computers and Electronics in Agriculture*. In Review.
31. Hansen, S., T.L. Messer and **A.R. Mittelstet**. Mitigating the risk of atrazine exposure across Nebraska, USA: Identifying hot spots and hot times in surface water watersheds. Submitted to *Journal of Environmental Management*. In Review.
32. Keilhauer, M.G., T.L. Messer, **A.R. Mittelstet**, J.R. Corman and T.G. Franti. Nitrate removal potential of floating treatment wetlands amended with spent coffee: A mesocosm scale evaluation. Submitted to *Transactions of the ASABE*. In Review.
33. Wells, M.J., T.E. Gilmore, N. Nelson, **A.R. Mittelstet** and J.K. Bohlke. Determination of vadose and saturated zone lag times using long-term

groundwater nitrate monitoring and statistical machine learning. To be submitted to *Hydrology and Earth System Sciences*.

Section 2.1.4 Books and Book Chapters

Not applicable

Section 2.1.5 Conference Proceedings: Peer reviewed abstract and/or peer reviewed paper

Not applicable

Section 2.1.6 Conference Proceedings: Other than peer reviewed

1. Mittelstet, A.R., T.E. Gilmore and D.R. Rudnick. July 2017. Development of multiple regression models to predict nitrate concentrations in Nebraska surface waters. ASABE Annual International Meeting, Paper No. 1700294, Spokane, WA.
3. Lisenbee, W.A., G.A. Fox, C. Zou, D.E. Storm, C. Penn, E. Stebler and A.R. Mittelstet. July 2015. Predicted influence of eastern redcedar removal on water quantity and quality using the Water Erosion Prediction Project (WEPP). ASABE Annual International Meeting, New Orleans, LA.
4. Mittelstet A.R., D.E. Storm and A.L. Stoecker. July 29-August 1, 2012. Using SWAT to predict crop yields and salinity levels due to future weather scenarios in the North Fork watershed in southwest Oklahoma. ASABE Annual International Meeting, Paper No. 121336702, Dallas, TX.
5. Bhadbhade, N.M., J.R. Vogel, D.E. Storm, B.J. Barfield, A.R. Mittelstet, H. Azawi, K.M. Garbrecht, and A.G. Tobergte. September 18-21, 2011. Measurement of the parameters affecting the formation and breakage of flocs. ASABE International Symposium on Erosion and Landscape Evolution, Anchorage, AK.
6. Mittelstet, A.R., M.D. Smolen, and G.A. Fox. June 21-25, 2009. Using MODFLOW to compare management alternatives for a river alluvial aquifer. ASABE Annual International Meeting, Reno, NV. 10 pages.
7. Mittelstet A.R., E.R. Daly, D.E. Storm, A.G. Tobergte, M.J. White, and G.A. Kloxin. June 15-17, 2011. Field scale modeling to estimate phosphorus and sediment load reduction using a simplified GUI for SWAT. 2011 International SWAT Conference, Toledo, Spain.
8. Heeren, D.M., R.B. Miller, G.A. Fox, D.E. Storm, A.R. Mittelstet, and C.J. Penn. June 20-23, 2010. Impact of preferential flow paths on alluvial groundwater flow patterns and phosphorus transport. ASABE Annual International Meeting, Paper No. 1008729, Pittsburgh, PA.

9. Miller, R.B., D.M. Heeren, G.A. Fox, D.E. Storm, T. Halihan, and A.R. Mittelstet. June 20-23, 2010. Geophysical mapping of preferential flow paths across multiple floodplains. ASABE Annual International Meeting, Paper No. 1008730, Pittsburgh, PA.
10. Mittelstet, A.R., D.M. Heeren, D.E. Storm, G.A. Fox, M.J. White, and R.B. Miller. November 14-17, 2010. Comparison of subsurface and surface runoff phosphorus transport capacities in alluvial floodplains. ASABE TMDL 2010: Watershed Management to Improve Water Quality, Baltimore, MD.
11. Heeren, D.M., R.B. Miller, G.A. Fox, D.E. Storm, A.K. Fox, and A.R. Mittelstet. May 16-20, 2010. Impact of preferential flow paths on stream and alluvial groundwater interaction. ASCE World Environmental and Water Resources Congress, Providence, RI.
12. Miller, R.B., D.M. Heeren, G.A. Fox, T. Halihan, D.E. Storm, and A.R. Mittelstet. May 16-20, 2010. Use of multi-electrode resistivity profiling to estimate saturated- and vadose-zone hydraulic properties of preferential flow paths in alluvial floodplains. ASCE World Environmental and Water Resources Congress, Providence, RI.

#### Section 2.1.7 Conference Presentations

1. Russell, M., A.R. Mittelstet and T. Messer. 2019. Quantification of erosional and depositional processes near implemented streambank stabilization practices. UNL Spring Research Fair. Lincoln, NE. April 15, 2019. Poster presentation.
2. Shretha, N., A.R. Mittelstet, V. Zlotnik, C.M. Neale, T.E. Gilmore and O. Abimbola. 2019. Exploring hypothetical correlations between drought and lake area of groundwater-fed lakes in Western Sandhills. Daugherty Water for Food Institute Research Forum. Lincoln, NE. April 4, 2019. Poster presentation.
3. Cherry, Mikaela, T. Gilmore, A.R. Mittelstet, Didier Gastmans and John Gates. 2018. Isotopic composition of groundwater and precipitation in Nebraska, USA. XX Congresso Brasileiro De Aquas Subterraneas, Campinas, SP, Brazil. November 7, 2018. Oral presentation.
4. Cherry, M., T.E. Gilmore, A.R. Mittelstet, D. Gastmans and J. Gates. 2018. Isotopic composition of groundwater and precipitation in Nebraska, USA. Nebraska Water Center Symposium. Lincoln, NE. October 24-26. Poster presentation.
5. Satiroff, J., T.L. Messer and A.R. Mittelstet. 2018. Removal of Common Use Pesticides by Floating Treatment Wetlands in the Midwest. Nebraska Water Center Symposium. Lincoln, NE. October 24-26. Poster presentation.
6. Richards, G.I., T.E. Gilmore and A.R. Mittelstet. 2018. Survey of Groundwater Transit Times and Nitrate Delivery to Bazile Creek. Nebraska Water Center Symposium. Lincoln, NE. October 24-26. Poster presentation.

7. Hansen, S.P., T.L. Messer and A.R. Mittelstet. 2018. Spatiotemporal Analysis of Atrazine and Nitrate in Surface Waters across Nebraska. Nebraska Water Center Symposium. Lincoln, NE. October 24-26. Poster presentation.
8. Abimbola, O., A.R. Mittelstet, T.E. Gilmore and J. Korus. 2018. Spatial variability of streambed hydraulic conductivity across multiple stream orders. ASABE Annual International Meeting, Detroit, MI. Oral presentation.
9. Abimbola, O., A.R. Mittelstet, T.E. Gilmore and J. Korus. 2018. Geostatistical features of streambed vertical hydraulic conductivity in the Frenchman Creek watershed in Western Nebraska. ASABE Annual International Meeting, Detroit, MI. Oral presentation.
10. Dave, N. and A.R. Mittelstet. 2018. Impact of an extreme event on streambank retreat on Cedar River, Nebraska. ASABE Annual International Meeting, Detroit, MI. Oral presentation.
11. Hansen, S, T. Messer and A.R. Mittelstet. 2018. Mitigating the risk of atrazine in surface waters across Nebraska. ASABE Annual International Meeting, Detroit, MI. Oral presentation.
12. Wells, M., T.E. Gilmore, N. Nelson, A.R. Mittelstet, D. Snow and S. Sebray. 2018. Utilizing  $3\text{H}/3\text{He}$  age-dating tracers to model and evaluate influence of water resources management on groundwater quality, Dutch Flats, NE. ASABE Annual International Meeting, Detroit, MI. Oral presentation.
13. Dave, N. and A.R. Mittelstet. 2017. Quantifying the Effectiveness of Streambank Stabilization Practices on Cedar River, Nebraska. ASABE Annual International Meeting, Spokane, WA. Oral presentation.
14. Dave, N. and A.R. Mittelstet. 2018. Impact of an extreme flood event on streambank retreat on Cedar River, Nebraska. National Academy of Science, Nebraska Wesleyan University, Lincoln, NE. Oral presentation.
15. Wells, J. W., T.E. Gilmore, A.R. Mittelstet, N. Nelson, S. Sibray, D. Snow. 2018. Evaluating influence of water resources management and environmental factors on groundwater quantity and quality, Dutch Flats, NE. UNL Graduate Spring Research Fair, Lincoln, NE. Poster presentation.
16. Dave, N. and A.R. Mittelstet. 2018. Impact of an extreme flood event on streambank retreat on Cedar River, Nebraska. UNL Graduate Spring Research Fair, Lincoln, NE. Poster presentation.
17. Brewer, S.K., T. Worthington, T. Zhang, D.R. Logue and A.R. Mittelstet. 2018. Landscape factors affecting the distribution of a federally-threatened Great Plains minnow. The Southern Division of the American Fisheries Society. San Juan, Puerto Rico. Oral presentation.
18. Abimbola, O.P., A.R. Mittelstet and T.L. Messer. 2017. Impact of Conservation Practices on Pollutant Loads in the Big Sandy Creek Watershed. Nebraska Water Center Symposium. Lincoln, NE. Poster presentation.



19. Hansen, S.P., T.L. Messer and A.R. Mittelstet. 2017. Natural Contributions of *E. coli* at a Nebraska Animal Facility. Nebraska Water Center Symposium. Lincoln, NE. Poster presentation.
20. Dave, N. and A.R. Mittelstet. 2017. Quantifying Cost-Efficiency on Streambank Stabilization Practices on Cedar River, Nebraska. Nebraska Water Center Symposium. Lincoln, NE. Poster presentation.
21. Rix, J., F. Abimbola, A.R. Mittelstet and T.E. Gilmore. 2017. Spatial Variability of Streambed Hydraulic Conductivity across Multiple Stream Orders. Nebraska Water Center Symposium. Lincoln, NE. Poster presentation.
22. Dave, N. and A.R. Mittelstet. 2017. Quantifying Cost-Efficiency on Streambank Stabilization Practices on Cedar River, Nebraska. Water for Food Conference. Lincoln, NE. Poster presentation.
23. Abimbola, O.P., J. Wenninger, R. Venneker and A.R. Mittelstet. 2017. Assessment of Water Resources in Ungauged Catchments in Rwanda. Water for Food Conference. Lincoln, NE. Poster presentation.
24. Mwape, M.R., D.M. Heeren, D. Eisenhauer, L. Hayde and A.R. Mittelstet. 2017. Design and Development of Community Irrigation Systems in Zambia. Water for Food Conference. Lincoln, NE. Poster presentation.
25. Mwape, M.R., D.M. Heeren, D. Eisenhauer, L. Hayde and A.R. Mittelstet. 2017. Design and Development of Community Irrigation Systems in Zambia. Nebraska Association of Resource Districts Legislative Conference. Lincoln, NE. Poster presentation.
26. Radcliffe, D, A. Forsberg, C. Bolster, A.R. Mittelstet, D.E. Storm, J. Ramirez-Avila and D. Osmond. 2016. Evaluation of the TBET Model for Improving P-Indices in Southern States. Annual Soil and Water Conservation Society Meeting, Louisville, KY.
27. Osmond, D., C. Bolster, M. Cabrera, S. Feagley, A. Forsberg, C. Mitchell, A.R. Mittelstet, R. Mylavarapu, L. Oldham, D. Radcliffe, J. Ramirez-Avila, A. Sharpley, D. Storm, F. Walker, and H. Zhang. 2016. Southern P Indices, Water Quality Data, and Modeling Results: A Comparison. Annual Soil and Water Conservation Society Meeting, Louisville, KY.
28. Brewer, S.K., T. Worthington, T. Zhang, A.R. Mittelstet and D. Logue. August, 2016. Landscape and flow metrics affecting the distribution of a federally-threatened fish: Improving management, model fit and model transferability. Southern Division of the American Fisheries Society Annual Meeting, Kansas City, MO.
29. Mittelstet, A.R., D.E. Storm, G.A. Fox and P. Allan. July 29, 2015. Estimating streambank erosion and phosphorus loads for the Barren Fork Creek watershed in eastern Oklahoma. ASABE Annual International Meeting, New Orleans, LA.

30. Mittelstet, A.R., D.E. Storm, G.A. Fox and P. Allan. July 29, 2015. Application of SWAT to predict watershed-scale streambank erosion on composite streambanks. ASABE Annual International Meeting, New Orleans, LA.
31. Mittelstet, A.R. and D.E. Storm. June 5, 2015. Application of SWAT to predict watershed-scale streambank erosion on composite streambanks. 15<sup>th</sup> Annual American Ecological Engineering Society Meeting, Stillwater, OK.
32. Mittelstet, A.R. and D.E. Storm. June 5, 2015. Application of SWAT to predict watershed-scale streambank erosion on composite streambanks. 15<sup>th</sup> Annual American Ecological Engineering Society Meeting, Stillwater, OK.
33. Lisenbee, W., G.A. Fox, C. Zou, D.E. Storm, C. Penn, E. Stebler and A.R. Mittelstet. June 5, 2015. Predicted influence of red cedar removal on water quantity and quality using WEPP. 15<sup>th</sup> Annual American Ecological Engineering Society Meeting, Stillwater, OK.
34. Mittelstet, A.R.\*, D.E. Storm, G.A. Fox and P. M. Allen. April 8-9, 2015. Application of SWAT to Predict Watershed-Scale Streambank Erosion on Composite Streambanks. 24th Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
35. Purvis, R.\*, G.A. Fox, C.J. Penn, A.R. Mittelstet and D.E. Storm. April 8-9, 2015. Characterization of Erosion and Phosphorus Levels of Protected and Unprotected Streambanks along Spavinaw Creek. 24th Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
36. Lisenbee, W., G.A. Fox, D.E. Storm, E. Stabler and A.R. Mittelstet. April 8-9, 2015. Predicted influence of eastern red cedar removal on water quantity and quality using WEPP. 24th Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
37. Zhang, T., T.A. Worthington, S.K. Brewer, D.E. Storm, A.R. Mittelstet and D. Logue. April 9, 2015. How Flow Metrics Affect the Declining Distribution of Arkansas River Shiner. 24th Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.
38. Osmond, D., A. Forsberg, D. Radcliffe, J. Ramirez-Avila, D. Storm, A.R. Mittelstet, and C. Bolster. 2015. Estimation of Phosphorus Loss from Agricultural Land in the Southern Region of the USA Using the APEX, TBET, and APLE Models. 2015 Waste to Worth Conference. March 30 – April 4, 2015. Seattle, WA.
39. Ramirez-Avila, J., D. Osmond, S. Ortega-Achury, A. Forsberg, C. Bolster, D. Storm, A.R. Mittelstet, K. Alexander, D. Radcliffe, L. Oldham, M. Cabrera, D. Line, M. Locke, and A. Sharpley. 2015. Evaluating Analytic and Risk Assessment Tools to Estimate Sediment and Nutrients Losses from Agricultural Lands in the Southern Region of the USA. ASCE-EWRI Watershed Management Symposium. Reston, VA.

40. Forsberg, A., A.R. Mittelstet, D. Radcliffe and D.E. Storm. November 5, 2014. Testing the Texas Best Management Practice Evaluation Tool to inform the phosphorus index. ASA, CSSA, & SSSA International Annual Meeting, Long Beach, CA.
41. Zhang, T.J., D.E. Storm, A.R. Mittelstet, S.K. Brewer and T.A. Worthington. October 23, 2014. Flow regime influences on the truncated distribution of the Arkansas River shiner. OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK.
42. Purvis, R. \*, G.A. Fox, C.J. Penn, Mittelstet, A.R. and D.E. Storm. October 22, 2014. Characterization of Erosion and Phosphorus Levels of Protected and Unprotected Streambanks along Spavinaw Creek. OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK. Poster presentation.
43. Mittelstet, A.R.\* and D.E. Storm. October 22, 2014. Phosphorus mass balance of the Illinois River and Eucha-Spavinaw Basins. OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK. Poster presentation.
44. Mittelstet, A.R.\* and D.E. Storm. October 22, 2014. Using SWAT to enhance watershed-based plans in the Lake Eucha-Spavinaw and Illinois Rive watersheds of Oklahoma. OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK. Poster presentation.
45. Mittelstet, A.R.\* and D.E. Storm. September 25, 2014. Phosphorus mass balance of the Illinois River and Eucha-Spavinaw Basins. Illinois River Watershed Research and Extension Symposium, West Siloam Springs, OK. Poster presentation.
46. Mittelstet, A.R.\* and D.E. Storm. September 25, 2014. Using SWAT to enhance watershed-based plans in the Lake Eucha-Spavinaw and Illinois Rive watersheds of Oklahoma. Illinois River Watershed Research and Extension Symposium, West Siloam Springs, OK. Poster presentation.
47. Forsberg, A., A.R. Mittelstet, D. Radcliffe and D.E. Storm. July 22, 2014. Southern CIG: TBET Results Ga, MS and NC. SERA17 Annual Meeting, Des Moines, Iowa.
48. Mittelstet, A.R. and D.E. Storm. July 15, 2014. Using SWAT to enhance watershed-based plans in the Lake Eucha-Spavinaw and Illinois River watersheds of Oklahoma. ASABE Annual International Meeting, Montreal, Quebec, Canada.
49. Neupane, S., J.R. Vogel, D.E. Storm, B.J. Barfield, B.C. Rogers, A.R. Mittelstet and A. McLemore. June 3, 2014. Numerical modeling for construction site runoff turbidity. ASCE 2014 World Environmental & Water Resources Congress, Portland, OR.
50. Mittelstet, A.R. and D.E. Storm. April 3, 2014. Using SWAT to enhance watershed-based plans in the Lake Eucha-Spavinaw and Illinois River

- watersheds of Oklahoma. 23<sup>rd</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.
51. Mittelstet, A.R.\* and D.E. Storm. April 3, 2014. Using SWAT to enhance watershed-based plans in the Lake Eucha-Spavinaw and Illinois River watersheds of Oklahoma. 23<sup>rd</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
  52. Zhang, T.J., D.E. Storm, A.R. Mittelstet and S.K. Brewer. April 3, 2014. Evaluating historical flow regimes effects on the declining numbers and distribution of the Arkansas River shiner. 23<sup>rd</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
  53. Mittelstet, A.R.\*, D.E. Storm and A.L. Stoecker. Using SWAT to Predict Crop Yields and Salinity Levels Due to Future Weather Scenarios in the North Fork Watershed in Southwest Oklahoma. October 22-23, 2013. 2013 OWRII Oklahoma Water Research Symposium, Midwest City, OK. Poster presentation.
  54. Mittelstet, A.R.\*, A.G. Tobergte, D.E. Storm, B.C. Rogers and J.R. Vogel. July 22, 2013. Flocculant properties for stormwater runoff. ASABE Annual International Meeting, Kansas City, MO. Poster presentation.
  55. Neupane, Sager, A.R. Mittelstet\*, B.C. Rogers, A. McLemore, J.R. Vogel, D.E. Storm and B.J. Barfield. July 22, 2013. Developing Turbidity and Suspended Sediment Concentration Relationships for Construction Site Runoff. ASABE Annual International Meeting, Kansas City, MO. Poster presentation.
  56. Mittelstet, A.R., A.G. Tobergte, D.E. Storm, B.C. Rogers and J.R. Vogel. April 18-19, 2013. Measurement of flocculant parameters for stormwater runoff. 22<sup>nd</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
  57. Bhadbhade, N.M.\*, J.R. Vogel, D.E. Storm, B.J. Barfield, S. Harp, A.R. Mittelstet and B.C. Rogers. February 20, 2013. Measurement of the parameters affecting the formation and breakage of flocs. 22<sup>nd</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. Poster presentation.
  58. Mittelstet, A.R.\*, A.G. Tobergte, D.E. Storm, B.C. Rogers and J.R. Vogel. February 20, 2013. Measurement of flocculant parameters for stormwater runoff. Oklahoma State University 24<sup>rd</sup> Annual Research Symposium, Stillwater, OK. Poster presentation.
  59. Bhadbhade, N.M.\*, J.R. Vogel, D.E. Storm, B.J. Barfield, S. Harp, A.R. Mittelstet and B.C. Rogers. February 20, 2013. Measurement of the parameters affecting the formation and breakage of flocs. Oklahoma State University 24<sup>rd</sup> Annual Research Symposium, Stillwater, OK. Poster presentation.
  60. Mittelstet, A.R.\*, A.G. Tobergte, D.E. Storm, B.C. Rogers and J.R. Vogel. November 13-14, 2012. Measurement of flocculant parameters for stormwater

- runoff. 2012 OWRRI Oklahoma Water Research Symposium , Tulsa, OK. Poster presentation.
61. Mittelstet, A.R.\*, E.R. Daly, D.E. Storm, M.J. White and G.A. Kloxin. November 13-14, 2012. Field scale modeling to estimate phosphorus and sediment load reduction using a simplified GUI for SWAT. 2012 OWRRI Oklahoma Water Research Symposium, Tulsa, OK. Poster presentation.
  62. Purvis, R.\*, K. Criswell\*, G.A. Fox, C. J. Penn, A.R. Mittelstet, R.B. Miller and D.E. Storm. November 13-14, 2012. Characterization of erosion and phosphorus levels of protected and unprotected streambanks in the Barren Fork Creek watershed. 2012 OWRRI Oklahoma Water Research Symposium , Tulsa, OK. Poster presentation.
  63. Storm, D.E., A.R. Mittelstet, and M.J. White. October 16, 2012. TBET Workshop, Texas BMP Evaluation Tool. 20<sup>th</sup> National Nonpoint Source Monitoring Workshop, Tulsa, OK.
  64. Mittelstet, A.R., E.R. Daly, D.E. Storm, M.J. White and G.A. Kloxin. October 15, 2012. Field scale modeling to estimate phosphorus and sediment load reduction using a simplified GUI for SWAT. 20th Annual Nonpoint Source Monitoring Workshop, Tulsa, OK. Poster presentation.
  65. Daly E.R., D.E. Storm, G.A. Fox, E.J. Langendoen, A. Simon, A.G. Tobergte, A.R. Mittelstet, A. Almadhhachi, and D. Kilmetz. July 30-August 1, 2012. Targeting streambank restoration implementation sites at a basin scale. ASABE Annual International Meeting, Dallas, TX.
  66. Mittelstet A.R., E.R. Daly, D.E. Storm, A.G. Tobergte, and M.J. White. February 22, 2012. Field scale modeling to estimate phosphorus and sediment load reduction using a simplified GUI for SWAT. Oklahoma State University 23rd Annual Research Symposium, Stillwater, OK.
  67. Daly, E.R.\*, D.E. Storm, G.A. Fox, A.R. Mittelstet, A.G. Tobergte, A.T. Al-Madhhachi, D. Klimetz, A. Simon, and E. Langendoen. February 23, 2012. Data collection for the prioritization of streambank stabilization implementation. Oklahoma State University 23rd Annual Research Symposium, Stillwater, OK. Poster presentation.
  68. Fox, G.A., D.M. Heeren, R.B. Miller, A.R. Mittelstet, and D.E. Storm. August 7-10, 2011. Flow and transport experiments for a streambank groundwater seep originating from a preferential flow pathway. ASABE Annual International Meeting, Louisville, KY.
  69. Daly, E.R.\*, A.G. Tobergte, A.R. Mittelstet, D.E. Storm, G.A. Fox, E. Langendoen, and A. Simon. October 18, 2011. Determining optimal stream order for streambank restoration implementation. 2011 OWRRI Oklahoma Water Research Symposium, Norman, OK. Poster presentation.
  70. Bhadbhade, N.M.\*, J.R. Vogel, D.E. Storm, B.J. Barfield, A.R. Mittelstet, H. Azawi, K.M. Garbrecht, and A.G. Tobergte. October 18, 2011. Measurement of

- the parameters affecting the formation and breakage of flocs. 2011 OWRRI Oklahoma Water Research Symposium, Norman, OK. Poster presentation.
71. Miller, R.B., D.M. Heeren\*, G.A. Fox, D.E. Storm, T. Halihan, and A.R. Mittelstet. August 8-10, 2011. Direct push borehole permeameter for gravel floodplains: design and application. ASABE Annual International Meeting, Louisville, KY. Poster presentation.
  72. Heeren, D.M., G.A. Fox, R.B. Miller, D.E. Storm, and A.R. Mittelstet. August 7-10, 2011. Groundwater phosphorus preferential transport in alluvial floodplains. ASABE Annual International Meeting, Louisville, KY.
  73. Mittelstet, A.R., Storm, D.E., G.A. Fox, D.M. Heeren, S. Phillips, C. DuBois, A.T. Al-Madhhachi, T.L. Midgley, A.F. Stringer, K.B. Stunkel, and R.D. Tejral. August 7-10, 2011. Using rapid geomorphic assessments and bank stability indices to assess Oklahoma Ozark streams. ASABE Annual International Meeting, Louisville, KY.
  74. Vogel, J.R., D.E. Storm, K. Garbrecht, N. Bhadbhade, B. Barfield, A.R. Mittelstet, A.G. Tobergte, and H. Azawi. August 7-10, 2011. Design, Modeling, and Testing of a passive flocculent injection system for controlling sediment concentrations in stormwater. ASABE Annual International Meeting, Louisville, KY.
  75. Heeren, D.M., A.R. Mittelstet, G.A. Fox\*, and D.E. Storm. May 22-26, 2011. Assessing streambank stability of Oklahoma Ozark streams with rapid geomorphic assessments. American Society of Civil Engineers Environmental Water Resources Institute Annual Meeting, Palm Springs, CA. Poster presentation.
  76. Mittelstet, A.R., Storm, D.E., G.A. Fox, D.M. Heeren, S. Phillips, C. DuBois, A.T. Al-Madhhachi, T.L. Midgley, A.F. Stringer, K.B. Stunkel, and R.D. Tejral. February 24, 2011. Using rapid geomorphic assessments and bank stability indices to assess Oklahoma Ozark streams. Oklahoma State University 22nd Annual Research Symposium, Stillwater, OK.
  77. Heeren, D.M., R.B. Miller, A.R. Mittelstet, G.A. Fox, D.E. Storm, C.J. Penn, and T. Halihan. November 3-5, 2010. Impact of preferential flow paths on subsurface phosphorus transport in floodplains with coarse gravel subsoils. North American Lake Management Society International Symposium, Oklahoma City, OK.
  78. Storm, D.E., G.A. Fox, D.M. Heeren, A.R. Mittelstet, S. Phillips, C. DuBois, A.T. Al-Madhhachi, T.L. Midgley, A.F. Stringer, K.B. Stunkel, and R.D. Tejral. October 26-27, 2010. Use of Rapid Geomorphic Assessments in Ozark streams for determining streambank stability. OWRRI Oklahoma Water Research Symposium, Oklahoma City, Okla.
  79. Mittelstet, A.R. \*, D.M. Heeren, G.A. Fox, and D.E. Storm. October 26, 2010. Quantifying subsurface phosphorus transport at two field sites in Northeast

- Oklahoma. 2010 OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK. Poster presentation.
80. Heeren, D.M., R.B. Miller, G.A. Fox, D.E. Storm, A.R. Mittelstet, C.J. Penn, and T. Halihan. October 26-27, 2010. Impact of preferential flow paths on subsurface phosphorus transport in Ozark floodplains. OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK.
  81. Mittelstet A.R. and M.D. Smolen. October 13-14, 2009. Water rights in Arkansas, Oklahoma, Texas and New Mexico. Water Policy and Economics Conference, 21<sup>st</sup> Century Water Issues in the Southern States, Gainesville, FL.
  82. Mittelstet, A.R.\* and M.S. Smolen. February 9, 2009. Water Policy Changes in New Mexico, Texas, Arkansas, and Florida Due to Urbanization and Drought. 2009 USDA-CSREES National Water Conference, St. Louis, MO. Poster presentation.
  83. Mittelstet, A.R.\*, M.S. Smolen, and G.A. Fox. October 28-30, 2008. Comparing the Water Rights of Arkansas, Oklahoma, Texas, and New Mexico. 2008 OWRRI Research Symposium, Oklahoma City, OK. Poster presentation.
  84. Mittelstet, A.R. and M.D. Smolen. April 5, 2008. What Oklahoma can learn from Texas' water management strategies. 17<sup>th</sup> Annual Oklahoma Clean Lakes and Watersheds Association Conference, Tulsa, OK.
  85. Mittelstet, A.R. and M.D. Smolen. October 15-18, 2007. Comparing the water rights and issues of Arkansas, Oklahoma, Texas and New Mexico. Southern Region Water Conference, Fayetteville, AR.

#### Section 2.1.8 Invited Talks or Keynote Speeches

1. A.R. Mittelstet and D. Snow (2018). "Long and Short Term Nutrient Monitoring for Water Quality", *Invited Speaker* at the Poultry Interest Team Webinar Series, Lincoln, NE, October 16, 2018.
2. A.R. Mittelstet (2018). "Spatial Variability of Streambed Hydraulic Conductivity across Multiple Stream Orders", *Invited Speaker* at the Spring 2018 Nebraska Water Center Advisory Board Meeting, UNL East Campus, Lincoln, NE, May 10, 2018.
3. A.R. Mittelstet (2018). "Instructional Improvement Plan: MSYM 354", *Invited Speaker* at the Annual Undergraduate Curriculum Workshop, Hillcrest Country Club, Lincoln, NE, May 8, 2018.
4. A.R. Mittelstet (2018). "Surface and Ground Water Models, their Applications and Limitations", *Invited Speaker* at the NARD Workshop, Kearney, NE, March 7, 2018.
5. A.R. Mittelstet, T.L. Messer and T.E. Gilmore (2017). "Managing Water Resources at the U.S. Meat and Animal Research Center", *Invited Speaker* at 3<sup>rd</sup> Annual Meeting of IANR ARD and US MARC on Enhanced Research

- Collaborations, US Meat Animal Research Center, Clay Center, NE, November 29, 2017.
6. A.R. Mittelstet and T.E. Gilmore (2017). “Groundwater Age: Applications from Brazil to Bazile”, *Invited Speaker* at Biological Systems Engineering Colloquium, University of Nebraska, Lincoln, NE, November 15, 2017.
  7. T.E. Gilmore and A.R. Mittelstet. (2017). “Groundwater in Nebraska”, *Invited Speaker* at UNESP, Sao Paulo University, Rio Claro, Brazil, September 29, 2017.
  8. A.R. Mittelstet. (2016) “Quantifying Phosphorus and Sediment Loads in the Ozark Highland Ecoregion Using the SWAT Model”, *Invited Speaker* at the Nebraska Environmental Quality Brown Bag Luncheon Seminar Series, Lincoln, NE, November 30, 2016.
  9. A.R. Mittelstet. (2016) “Water Quality Risks Associated with Poultry Production”, *Invited Speaker* for the Livestock & Poultry Expansion: Critical Issues for Discussion with Farmers & Communities, Lincoln, NE, July 22, 2016.
  10. A.R. Mittelstet and D.E. Storm. (2014) “Application of Remote Sensing to Watershed Hydrologic/Water Quality Modeling”, *Invited Speaker* at the Oklahoma Workshop on Remote Sensing Technology and Application, Norman, OK, November 12, 2014.
  11. A.R. Mittelstet. (2011) “Texas BMP Evaluation Tool”, *Invited Speaker* at the Southern Region Water Conference, Athens, GA, September 14, 2011.

#### Section 2.1.8 Other Publications

1. Storm, D.E. and A.R. Mittelstet. February 29, 2016. Quantifying Streambank Erosion and Phosphorus Loads for Watershed Assessment and Planning. Final report submitted to OWRRI USGS 104(b) Grants Program, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, OK.
2. Vogel, J.R., D.E. Storm, B.J. Barfield, S. Harp, N. Bhadbhade, A.R. Mittelstet, A. McLemore, B. Rogers, S. Neupane and K. Garbrecht. December 31, 2013. Investigation and Demonstration of Turbidity Reduction in Stormwater Runoff for Oklahoma Highway Construction Sites. Final report submitted to Oklahoma Department of Transportation, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, OK.
3. Smolen, M.D., A.R. Mittelstet and B. Harjo, 2012. Whose water is it anyway? Comparing the water rights frameworks of Arkansas, Oklahoma, Texas, New Mexico, Georgia, Alabama and Florida. E-1030. Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University.
4. Vogel, J.R., D.E. Storm, N. Bhadbhade, A.R. Mittelstet, A.G. Tobergte, E.R. Daly, K. Garbrecht, M.D. Beitz, and H.K. Azawi. March 12, 2012. Measurement



- of the flocculation parameters. Final report submitted to Oklahoma Transportation Center, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, OK.
5. A.R. Mittelstet and D.E. Storm. February 3, 2012. SWAT model development to support the analysis of chloride abatement in the Elm Fork and North Fork watersheds of the Red River in southwestern Oklahoma: Final report submitted to U.S. Army Corps of Engineers, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, OK.
  6. Storm, D.E., A.R. Mittelstet, E.R. Daly, and A.G. Tobergte. July 25, 2011. Estimating phosphorus and sediment load reductions from the North Canadian River watershed implementation project. Final report submitted to Oklahoma Conservation Commission, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, Okla.
  7. Vogel, J.R., D.E. Storm, K. Garbrecht, A.R. Mittelstet, H.K. Azawi, E.R. Daly, N.Bhadbhade, and B.J. Barfield. May 31, 2011. Analyze chemical feed systems and flocculant injection and maintenance needs. Final report submitted to Woolpert, Inc, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, Okla.
  8. Storm, D.E., P.R. Busted, A.R. Mittelstet, and M.J. White. June 9, 2010. Hydrologic modeling of the Oklahoma/Arkansas Illinois River basin using SWAT 2005. Final report submitted to the Oklahoma Department of Environmental Quality. Biosystems and Agricultural Engineering Department, Division of Agricultural Sciences and Natural Resources, Oklahoma State University.
  9. Fox, G.A., D.E. Storm, T. Halihan, C.J. Penn, G.O. Brown, D.M. Heeren, R.B. Miller, and A.R. Mittelstet. 2010. April 30, 2010. Riparian Buffers, Floodplain Management, and Subsurface Phosphorus Transport in Alluvial Floodplains in the Ozark Plateau. Final Report submitted to Oklahoma Conservation Commission, Department of Biosystems and Agricultural Engineering, Oklahoma State University: Stillwater, Okla.

## **Section 2.2 Grantsmanship Record**

### **Section 2.2.1 Internally Funded Research Grants**

- “Integrating Hydrological Modeling and Characterization Approaches across Scales to Understand the Effects of Efficient Irrigation Management on Groundwater/Surface Water Systems” (March 2018 to October 2022)

*Sponsor:* Approved Hatch project (UNL Agricultural Research Division and USDA National Institute of Food and Agriculture)

*PI:* A. R. Mittelstet (20%); *Co-PI:* D. Rudnick (20%); T. Gilmore (20%); J. Korus (20%); X. Qiao (20%).

*Sponsor Amount:* \$0

- “Nebraska Sandhills as a case study for understanding and communicating the complexity of coupled grassland and aquatic systems” (May 2018 to April 2019)  
*Sponsor:* University of Nebraska: System Science  
*PI:* M. Harner (40%); *Co-PI:* D. Dunigan (10%); A. Mittelstet (10%); M. Farrell (10%); M. Forsberg (10%); J. Van Etten (10%); D. Snow (10%).  
*Sponsor Amount:* \$20,000
- “Quantifying the Effects of Eastern Red Cedar Encroachment on Recharge in the Nebraska Sandhills” (August 2018 to July 2021)  
*Sponsor:* Water for Food Institute (WFI) Grad Student Research Support  
*PI:* A.R. Mittelstet (100%)  
*Sponsor Amount:* \$96,746
- “Application of Isotopic Tracers to Determine Water Residence Times in Multi-Scale Water Management” (May 2017 – April 2019)  
*Sponsor:* University of Nebraska: Sprint 4<sup>th</sup> Edition  
*PI:* T. Gilmore (50%) *Co-PI:* A. Mittelstet (30%), J. Korus (20%)  
*Sponsor Amount:* \$19,983
- “Managing Water Resources at the U.S. Meat and Animal Research Center” (July 3, 2017 – December 31, 2019)  
*Sponsor:* ARD & US MARC  
*PI:* A. Mittelstet (50%) *Co-PI:* T. Messer (30%), T. Gilmore (20%)  
*Sponsor Amount:* \$83,612

#### Section 2.2.2 Externally Funded Research Grants

- “Evaluation of Watershed-scale Groundwater Transit Time Distributions from Field Sampling and Numerical Modeling”  
*Sponsor:* National Science Foundation  
*PI:* T. Gilmore (50%) *Co-PI:* A.R. Mittelstet (40%), V. Zlotnik (10%)  
*Sponsor Amount:* \$880,944; UNL: \$387,030
- “Survey of Groundwater Transit Times and Nitrate Delivery to Bazile Creek” (June 2018 – May 2020)  
*Sponsor:* Department of Environmental Quality  
*PI:* T.G. Gilmore (50%); *Co-PI:* A.R. Mittelstet (40%); T.L. Messer (10%)  
*Sponsor Amount:* \$30,000
- “Quantifying Cost-Efficiency of Streambank Stabilization Practices on Cedar River” (Apr. 2018-Mar. 2020)

*Sponsor:* Nebraska Environmental Trust  
*PI:* A.R. Mittelstet (92%); *Co-PI:* Lower Loup RC&D (8%)  
*Sponsor Amount:* \$92,849

- “Quantifying the Effects of Eastern Red Cedar Encroachment on Recharge in the Nebraska Sandhills” (Jan. 2018-Dec. 2021)

*Sponsor:* Water Sustainability Fund  
*PI:* A.R. Mittelstet (60%); *Co-PI:* C. Neale (20%); Craig Allen (10%); Dirac Twidwell (10%)  
*Sponsor Amount:* \$144,716

- “Pesticide Exposure in Recreational Lakes” (Mar. 2018-Feb. 2019)

*Sponsor:* USGS 104b Program  
*PI:* T.L. Messer (50%); *Co-PI:* A.R. Mittelstet (25%); *Co-PI:* D. Snow (25%)  
*Sponsor Amount:* \$24,967

- “Pollutant Load Reduction Due to BMP Implementation in the Big Sandy Creek Watershed” (July 2017 to June 30, 2018)

*Sponsor:* Natural Resources Conservation Service  
*PI:* A. Mittelstet (100%)  
*Sponsor Amount:* \$25,031

- “Spatial Variability of Streambed Conductivity across Multiple Stream Orders” (June 2017 – May. 2018)

*Sponsor:* USGS 104b Program  
*PI:* A.R. Mittelstet (65%); *Co-PI:* T.E. Gilmore (35%)  
*Sponsor Amount:* \$19,992

- “Quantifying Streambank Erosion and Phosphorus Loads for Watershed Assessment and Planning” (Mar. 2015 – Feb. 2016)

*Sponsor:* USGS 104b Program  
*PI:* A.R. Mittelstet (50%); *Co-PI:* D.E. Storm (50%)  
*Sponsor Amount:* \$25,000

### Section 2.2.3 Internally Research Grants that have been submitted

### Section 2.2.4 Externally Research Grants that have been submitted

- “Developing Pedotransfer Functions for Predicting Streambed Vertical Hydraulic Conductivity across Multiple Stream Orders using Machine Learning”

*Sponsor:* U.S Geological Survey  
*PI:* A.R. Mittelstet (60%) *Co-PI:* T. Gilmore (30%), J. Korus (10%)  
*Sponsor Amount:* \$250,000  
*Date of Submission:* 02/13/19

- “Crop per Drop per Joule as a Measure of the Food-Energy-Water System Efficiency”

*Sponsor:* National Science Foundation  
*PI:* D. Rudnick (28%) *Co-PI:* C. Burr (18%), S. Irmak (18%), A.R. Mittelstet (18%), R. Werle (18%)  
*Sponsor Amount:* \$345,738  
*Date of Submission:* 09/03/18

#### Section 2.2.4 Externally Funded Research Grants Submitted but not Funded

- “Pipes or processes? Understanding the balance between nutrient transport and transformation in Nebraska streams and rivers”

*Sponsor:* USGS 104g  
*PI:* J. Corman (40%) *Co-PI:* S. Thomas (15%); A.R. Mittelstet (15%); T. Messer (15%); T. Gilmore (15%)  
*Sponsor Amount:* \$250,000  
*Date of Submission:* 02/13/18

- “A Systems Approach to Developing Sorghum for Short-Season, Semiarid Agriculture”

*Sponsor:* USDA AFRI  
*PI:* M. Yerka (40%); *Co-PI:* A.R. Mittelstet (10%); D. Rudnick (10%); R. Saha (10%); D. Santra (10%); S. Dishari (5%); B. Maharjan (5%); T. Obata (5%); Y. Shi (5%)  
*Sponsor Amount:* \$4,157,095  
*Date of Submission:* 08/02/17

- “Engaging Producers with Innovative Technique to Control Ephemeral Gully Erosion”

*Sponsor:* USDA CARE  
*PI:* T. Franti (70%); *Co-PI:* A.R. Mittelstet (10%); P. Jasa (10%); W. Woldt (10%)  
*Sponsor Amount:* \$144,716  
*Date of Submission:* 08/02/17

- “Crop per Drop per Joule as a Measure of the Food-Energy-Water System Efficiency”

*Sponsor:* National Science Foundation

*PI:* D. Rudnick (28%) *Co-PI:* C. Burr (18%), S. Irmak (18%), A.R. Mittelstet (18%), R. Werle (18%)

*Sponsor Amount:* \$345,738

*Date of Submission:* 03/03/17

- “Managing Water Resources in the Central Great Plains for Food and Energy”

*Sponsor:* National Science Foundation

*PI:* C. Ray *Co-PI:* A. Hassan, S. Banerjee, T. Franti, X. Li, A. Mittelstet, S. Nejati, W. Qiao, K. Weber

*Sponsor Amount:* \$2,988,525

*Date of Submission:* 01/31/17

- “Using Disaggregation Based Remote Sensing Methods to Estimate Inter Monthly Variation of Evapotranspiration and Recharge on a Field Scale”

*Sponsor:* USGS 104g

*PI:* Y. Li *Co-PI:* A.R. Mittelstet, S.M. Sundaram, S. Peterson

*Sponsor Amount:* \$120,000

*Date of Submission:* 02/14/17

- “Quantifying the Effectiveness of Improved Irrigation Practices at the Watershed Scale using Coupled Surface and Groundwater Models” (Apr. 2017-Mar. 2019)

*Sponsor:* Nebraska Environmental Trust

*PI:* The Nature Conservancy (74%); *Co-PI:* A.R. Mittelstet (26%)

*Sponsor Amount:* \$306,024

*Date of Submission:* 08/19/16

- “Quantifying Cost-Efficiency of Streambank Stabilization Practices on Cedar River” (Apr. 2017-Mar. 2019)

*Sponsor:* Nebraska Environmental Trust

*PI:* A.R. Mittelstet (92%); *Co-PI:* Lower Loup RC&D (8%)

*Sponsor Amount:* \$83,168

*Date of Submission:* 07/07/16

- “Quantifying the Effectiveness of Improved Irrigation Practices at the Watershed Scale” (Jan. 2017 – Dec. 2018)

*Sponsor:* Water Sustainability Fund

*PI:* The Nature Conservancy (80%); *Co-PI:* A.R. Mittelstet (20%)

*Sponsor Amount:* \$250,000

- “Quantifying the Effects of Eastern Red Cedar Encroachment on Recharge in the Nebraska Sandhills” (Jan. 2017 – Dec. 2019)

*Sponsor:* Water Sustainability Fund

*PI:* A.R. Mittelstet (100%); *Co-PI:* C. Neale

*Sponsor Amount:* \$138,782

- “Economic Effects and Management Options to Control the Eastern Red Cedar across the North Central Region” (Oct. 2017-Sept. 2019)

*Sponsor:* North Central SARE

*PI:* T. Moore (50%); *Co-PI:* A.R. Mittelstet (50%)

*Sponsor Amount:* \$135,000

*Date of Submission:* 10/20/16

#### Section 2.2.5 Internally Funded Research Grants Submitted but not Funded

- “Climate Change: Water Resources and Ecological Impacts in Brazil” (May 2018 to April 2020)

*Sponsor:* University of Nebraska: System Science

*PI:* C. Rowe (40%); *Co-PI:* C. Neale (20%); A. Mittelstet (20%); V. Boken

*Sponsor Amount:* \$297,462

*Date of Submission:* 01/12/18

- “Nitrogen Legacy in Anthropogenic Landscapes: Connecting Water Quality and Citizen Science” (May 2018 to April 2020)

*Sponsor:* University of Nebraska: System Science

*PI:* Y. Li (30%); *Co-PI:* S. Bartelt-Hunt (10%); A. Mittelstet (10%); T.

Gilmore (10%); M. Harner (10%); T. Messer (10%); E. Rogan (10%); D. Snow (10%).

*Sponsor Amount:* \$150,000

*Date of Submission:* 01/12/18

- “A Systems Approach to Developing Sorghum for Western Nebraska” (May 2017 to April 2018)

*Sponsor:* University of Nebraska: System Science

*PI:* M. Yerkes *Co-PI:* D. Santra, R. Werle, D. Rudnick, R. Saha, S. Dishari, P.

Twigg, J. Schnable, A. Mittelstet, Y. Shi, S. Knezevic, W. Woldt, S. Stepanovic.

*Sponsor Amount:* \$20,000

*Date of Submission:* 01/13/17

### Section 2.3 Research Patents and Awards

#### Section 2.3.1 Patents

Not applicable

Section 2.3.2 National and International Research Awards and Recognition

- Outstanding Manuscript Reviewer, ASABE (2013)

Section 2.3.3 Regional and Local Research Awards and Recognition

- 2018 College of Engineering Recognition for Highly Impactful Research
- \*Second Place in the Environmental Science Graduate Paper Presentations at the 2011 OWRRI Oklahoma State Water Research Symposium.
- 2009 Jimmie Pigg Environmental Policy Research Assistantship
- First place in Student Poster Contest
  - \*2014 23rd Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.
  - \*2014 OWRRI Oklahoma Water Research Symposium, Oklahoma City, OK.
  - 2013 22nd Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.
  - 2013 Oklahoma State University 24rd Annual Research Symposium, Stillwater, OK.
  - 2011 OWRRI Oklahoma Water Research Symposium, Norman, OK
- Second place in Student Poster Contest
  - \*2014 23rd Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.
  - \*Oklahoma State University 24rd Annual Research Symposium, Stillwater, OK.
  - 2011 OWRRI Oklahoma Water Research Symposium, Norman, OK.
- Third place in Student Poster Contest
  - \*2013 OWRRI Oklahoma Water Research Symposium, Midwest City, OK.
  - 2013 22nd Annual Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK.

\*Presenting author

Section 2.3.3 Student Awards

- Galen Richards: Second place in Student Poster Contest, 2018 NIWR Regional Symposium (\$300)

- Naisargi Dave: 2018 Gakemeir Swarts Travel Award (\$500)
- Olufemi Abimbola: 2018 Gakemeir Swarts Travel Award (\$500)
- Naisargi Dave: Graduate Student Association Graduate Travel Award (\$600)
- Galen Richards: 2018 recipient of a Chancellors Fellowship (\$4,000/year)
- Naisargi Dave: First place in Student Poster Contest, 2017 Water for Food Conference, Lincoln, NE (\$1,000)
- Naisargi Dave: 2017 Gakemeir Swarts Travel Award (\$500)
- Olufemi Abimbola: 2017 recipient of Widaman Distinguished Graduate Student (\$2,000)

#### **Section 2.4 Other Research Accomplishments**

Not applicable

### **Section 3 Teaching Accomplishments (other than classroom instruction)**

#### **Section 3.1 PhD Students**

##### Section 3.1.1 PhD students supervised

Not applicable

##### Section 3.1.2 PhD students currently in progress

1. Femi Abimbola (Expected December 2019)  
*Graduate Studies Funding Sources:* MARC/NRCS
2. Nawaraj Shrestha (Expected July 2021)  
*Graduate Studies Funding Sources:* Water Sustainability Fund
3. Caner Zeyrek co-advise with Troy Gilmore (Expected December 2021)  
*Graduate Studies Funding Sources:* National Science Foundation
4. Yaser Kishawi (Expected July 2021)  
*Graduate Studies Funding Sources:* Water Sustainability Fund

#### **Section 3.2 MS Students**

##### Section 3.2.1 MS students (thesis option) supervised

1. Naisargi Dave (July 2018)



Section 3.2.2 MS students (thesis option) currently in progress

1. Galen Richards co-advise with Troy Gilmore (Expected July 2020)  
*Graduate Studies Funding Sources:* Department of Environmental Quality
2. Matt Russell (Expected May 2020)  
*Graduate Studies Funding Sources:* Nebraska Environmental Trust
3. Jess Satiroff co-advise with Tiffany Messer (Expected May 2020)  
*Graduate Studies Funding Sources:* Department of Environmental Quality

Section 3.2.3 Total number of non thesis option graduate students advised

Not applicable

Section 3.2.4 Total number of graduate student independent research projects supervised

Not applicable

**Section 3.3 Undergraduate Students**

Section 3.3.1 Undergraduate students supervised in independent research study

1. Bailey Monroe (August 2018-current): Undergraduate Research Assistant
2. Brody Zabel (May 2018-August 2018): Undergraduate Research Assistant
3. Jacob Rix (August 2017-May 2018): Undergraduate Research Assistant
4. Jacob Rix (June-August 2017): UCARE student; “Spatial Variability of Streambed Hydraulic Conductivity across Multiple Stream Orders”
5. Cecilia Hall (Aug.-Dec. 2016): Undergraduate Research Assistant
6. Carissa Raymond (August 2016- May 2017): UCARE student; “Impact and Analysis of Streambed Stabilization Practices”

Section 3.3.2 Average number of undergraduate students advised per year

Six undergraduate advisees, on average

**Section 3.4 Teaching Awards and Recognition**

Section 3.4.1 International and National Teaching Awards and Recognition

Not applicable

Section 3.4.2 Regional, Local and University Teaching Awards and Recognition

Not applicable

### **Section 3.5 Other Teaching Accomplishments**

#### Section 3.5.1 Course Taught

1. BSEN 892: Hydrological Modeling with HEC-HMS and WASP, Fall 2018
2. MSYM 354, Soil Conservation and Watershed Management, Fall 2016, 2017, 2018
3. BSEN/AGEN 112: Computer-Aided Problem-Solving, Spring 2017, 2018
4. AGEN 998: Hydrological Modeling with SWAT, Summer 2017
5. BSEN 896: GIS for Water Resources, Spring 2018

#### Section 3.5.2 Senior Design

1. 2018-2019 AGEN 470: University of Nebraska-Lincoln (Fountain Wars)
2. 2018-2019 AGEN 470: University of Nebraska-Lincoln (Streambank Erosion)
3. 2016 AGRO 405 project, University of Nebraska-Lincoln
4. Two 2011 BAE 1012 project, Oklahoma State University

#### Section 3.5.3 Participation on Other Student Thesis/Research Committees

##### *Ph.D. Students:*

##### *Master's of Science (MS) Students:*

1. Mary Keilhauer (2017-2019): Adviser – T. Messer
2. Sam Hanson (2017-2019): Advisor – T. Messer
3. Martin Wells (2015-2018): Advisor – T. Gilmore
4. Mumba Mwape (2016-2017): Advisor – D. Heeren

#### Section 3.5.4 Professional Development on Teaching

1. Annual Teacher Workshop (January 9, 2017)
2. Canvas Trainings (June 30 and July 30, 2016)
3. Annual Teacher Workshop (January 8, 2016)

## **Section 4 Service Accomplishments**

---

### **Section 4.1 Professional Service**

#### Section 4.1.1 Journal Editorships

1. *Transactions of the ASABE*: Associate Editor in NRES (2015-present)

2. *International Journal of Agricultural and Biological Engineering*: Associate Editor (2016-present)

Section 4.1.2a Journals for which you review papers

1. *Transactions of the ASABE* (12)
  - 2019 (2), 2018 (3), 2017 (4), 2016 (2); 2013, 2012, 2011
2. *Journal of the American Water Resources Association* (5)
  - 2017 (2), 2016, 2015, 2013
3. *International Journal of Agricultural and Biological Engineering* (2)
  - 2017 (2)
4. *Journal of Earth Sciences & Climate Change*
  - 2013
5. *Agriculture, Ecosystem and the Environment*
  - 2015
6. *Agricultural Water Management*
  - 2015
7. *Earth Sciences Research Journal*
  - 2016
8. *BioEnergy Research*
  - 2016
9. *Water* (4)
  - 2018 (2), 2017 (2)
10. *Journal of Hydrology: Regional Studies* (2)
  - 2018, 2017
11. *Journal of Soils and Sediments*
  - 2017
12. *Hydrogeology*
  - 2017
13. *Journal of Hydrology*

- 2018

14. *International Journal of Science and Technology*

- 2018

15. *Catena*

- 2018

16. *Hydrology and Earth System Sciences*

- 2019

17. *Land Degradation & Development*

- 2019

Section 4.1.2b Grant Reviews

- USGS 104(g), 2019
- USGS 104(b) for Iowa Water Center, 2017

Section 4.1.3 Leadership Positions in International and National Organizations

American Society of Agricultural and Biological Engineers (ASABE)

- NRES-25 Geomorphology, Streambank Stability & In-Stream Processes (Vice Chair, 2019-2020; Chair, 2021-2022)
- NRES-253 Riparian Zones, Floodplains and Wetlands (Vice Chair, 2012-2014; Chair, 2014-2016)
- NRES-223 Erosion Control Group (Vice Chair, 2011-2013; Chair, 2013-2015)

Section 4.1.4 Leadership Positions in Regional and Local Organizations

Not applicable

Section 4.1.5 Memberships in Professional Organizations

1. American Society of Agricultural and Biological Engineers (ASABE) (2008-present)

*Member (2008 – present)*

- Technical Committee on NRES-25 (2010-present)
- Technical Committee on NRES 22 (2009-2015)
- Technical Committee on NRES-21 (2013-present)

iv. Technical Committee on NRES-24 (2016-present)

Section 4.1.6 National and International Service Awards

Not applicable

Section 4.1.7 Regional and Local Service Awards

Not applicable

Section 4.1.8 Research Review panels and dates of service

Not applicable

**Section 4.2 University Service**

Section 4.2.1 Leadership positions on university wide committees

Not applicable

Section 4.2.2 Membership positions on university wide committees

1. Alpha Epsilon Treasurer, Oklahoma State University (2010-2011)
2. Society of Environmental Scientists Officer, Oklahoma State University (2009-2010)
3. Graduate Program Student Government Association Representative, Oklahoma State University (2008-2009)

**Section 4.3 College Service**

Section 4.3.1 Leadership positions on college wide committees

Not applicable

Section 4.3.2 Membership positions on college wide committees

Not applicable

**Section 4.4 Other Service Accomplishments**

1. Judge: ASABE NRES poster contest; Detroit, MI (July 2018)
2. Judge: Undergraduate poster contest, UNL Spring 2018 Research Fair; Lincoln, NE (April 2018)
3. Judge: ASABE NRES poster contest; Spokane, WA (July 2017)
4. Led two tours of water lab to high school students (July 2017)

5. Assisted Nebraska DEQ with hydrological model report and review
6. Assisted with Big Red Summer Camp (June 2017)
7. Judge: Senior High competition for the Nebraska Junior Academy of Sciences; Wesleyan University, Lincoln, NE (April 2017)
8. Guest lecturer: NRES 459 Limnology; Lincoln, NE (April 2017)
9. Lead Canvas training at brown bag luncheon; Lincoln, NE (April 2017)
10. Guest lecturer: BSEN 889; Lincoln, NE (Nov. 2016)
11. Judge: ASABE NRES poster contest; Orlando, FL (July 2016)
12. Judge: Senior High competition for the Nebraska Junior Academy of Sciences; Ashland, NE (April 2016)
13. Judge: Water for Food Institute Poster Competition (April 2016)
14. Guest lecturer: ENVE 990 (Jan. 2016)
15. Stream trailer and Enviroscape demonstrations and fish collection for Water Day; Highland Park Elementary, Stillwater, OK. (May, 2014)
16. Judge: Student Water Conference; Stillwater, OK (2012-2013)
17. Stream trailer demonstration: Nature Day Volunteer; Sangre Elementary School in Stillwater, OK (May 2011)
18. Volunteer: FAA Interscholastic Contest, Soil and Water Management; Oklahoma State University (2010-2011)
19. Blue Thumb Volunteer; Stillwater, OK from (2007-2010)
20. Pre-K Spanish Tutor: Westwood Elementary; Stillwater, OK (2007-2009)
21. Nature Day Volunteer; Sanburn Lake in Stillwater, OK (Oct. 2008)
22. REYAP (Retired Educators for Youth Agricultural Programs) volunteer; Oklahoma State University (July 2008)