Megan Rippy, Ph.D.
Education:

- **Doctor of Philosophy, Oceanography**, June 2012
  Scripps Institution of Oceanography, University of California San Diego, La Jolla, USA;
  Dissertation: Physical and Biological Dynamics of Surfzone Bacterial Pollution: Sources, Transports, and Removal Mechanisms;
- **Masters, Marine Biology**, October 2010
  Scripps Institution of Oceanography, University of California San Diego, La Jolla, USA;
- **Bachelors of Science, Marine Biology**, June 2005
  University of California Santa Cruz, Santa Cruz, USA;
  Thesis: Natural selection in *M. californianus:* a study of antimicrobial peptides (Thesis Honors)

Professional Experience:

- **Assistant Professor**, Charles E. Via, Jr., Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, USA *(Northern Virginia Campus at the Occoquan Watershed Monitoring Lab, Manassas, USA)*: August 2018 – present
- **Assistant Project Specialist**, Department of Civil and Environmental Engineering, Henry Samulei School of Engineering, University of California Irvine, Irvine, USA: January 2018 – August 2018
- **Postdoctoral Fellow**, Department of Civil and Environmental Engineering, Henry Samueli School of Engineering, University of California Irvine, Irvine, USA: July 2013 – January 2018
- **Assistant Research Specialist**, Department of Civil and Environmental Engineering, Henry Samulei School of Engineering, University of California Irvine, Irvine, USA: February 2013 – July 2013
- **Postdoctoral Fellow**, Scripps Institution of Oceanography, University of California San Diego, La Jolla, USA: June 2012 – February 2013

Summary of Scholarly Work:
The candidate's research focuses on urban water sustainability and lies at the intersection of environmental engineering and social ecology. Her work explores ecosystem service provisioning by engineered landscapes and the implications of current trends in stormwater management for urban landscape perceptions and performance (e.g., the capacity of green infrastructure to meet human and environmental needs). Her work also aims to facilitate systems level understanding of emerging water quality challenges such as inland freshwater salinization and reduce barriers to collective management through stakeholder-engaged convergence research. Her research is multidisciplinary, spanning engineering, ecology and the social sciences and is strongly connected to her teaching mission. She leverages her research to provide learning experiences that help students work across disciplines and is committed to fostering a next generation of boundary spanning engineers. Her mentorship and teaching have been well received, as evidenced by positive student reviews and two teaching awards, one for technology-enhanced learning and a second, awarded by student alumni, for teaching excellence. She has published extensively in high-impact, internationally recognized journals (42 peer reviewed articles to date) and has developed productive international collaborations with researchers in Australia.

Advising (Chair)
<u>PhD – in progress</u>

- Alisha Sutton (Virginia Tech)
  Research topic: *Wild food safety - PFAS, phthalate, and PAH accumulation in animal tissues*
- Megan Blumenauer (Virginia Tech)
  Research topic: *Multifunctional design - Ecosystem service provisioning by stormwater bioretention*
- Ali Gagnon (Virginia Tech)
  Research topic*: Data driven feedforward-feedback control systems for water resource recovery*

facilities

PhD - completed

- Dr. Lauren Krauss (Virginia Tech)
  Completion date: *Completed – March 2025*
  Research topic: *The effects of vegetation on ecosystem services provisioning by stormwater bioretention*
- Dr. Benjamin Roston (Virginia Tech)
  Completion date: *Completed – May 2025*
  Research topic: *Using fuzzy cognitive maps to engage stakeholders in the search for solutions to emerging environmental challenges*

Masters – completed

- Ms. Lauren Krauss (Virginia Tech)
  Completion date: *Completed – December 2020*
  Research topic: *The effect of plant functional type on infiltration to harvest ratios in stormwater bioretention cells*
- Mr. Benjamin Roston (Virginia Tech)
  Co-advised with Landon Marston
  Completion date: *Completed – December 2021*
  Research topic: *Simulating flood risk decision-making with systems modeling*
- Ms. Kaitlin Fausey (Virginia Tech)
  Completion date: *Completed – September 2022*
  Research topic: *A role for turf-replacement programs, conservation and green infrastructure in combating eco-grief in urban areas*
- Mr. Samuel Long (Virginia Tech)
  Completion date: *Completed – May 2023*
  Research topic: *The impact of freshwater salinization on engineered ecosystems: implications for performance, resilience, and self-repair through phytoremediation*
- Ms. Valeria LeBron (Virginia Tech)
  Completion date: *Completed – May 2023*
  Research topic: *The impact of green infrastructure planning/implementation archetypes on multifunctionality*
- Ms. Megan Blumenauer (Virginia Tech)
  Completion date: *Completed – May 2025*
  Research topic: *Ecological drivers of the cultural service sense of place*

Postdoctoral – in progress

- Dr. Sydney Turner
  Degree and Institution: PhD, Dept. of Civil and Env. Engineering, University of Virginia
  Employed: August 2023-present
  Co-supervised with Stanley Grant and Mark Widdowson
  Research topic: *Salinity in our taps: Examining sodium levels and health disparities in public water systems*
- Dr. Lauren Krauss
  Degree and Institution: PhD. Dept. of Civil and Env. Engineering, Virginia Tech

Employed: May 2025 – present
Co-supervised with Stanley Grant
Research topic: *Building community resilience to drought, population growth, and cascading water quality challenges in a large one-water system*

Undergraduate – in progress

- Ms. Chloe Menchavez (Virginia Tech)
  Research topic: *The salt ion fingerprint of a microfabrication facility*

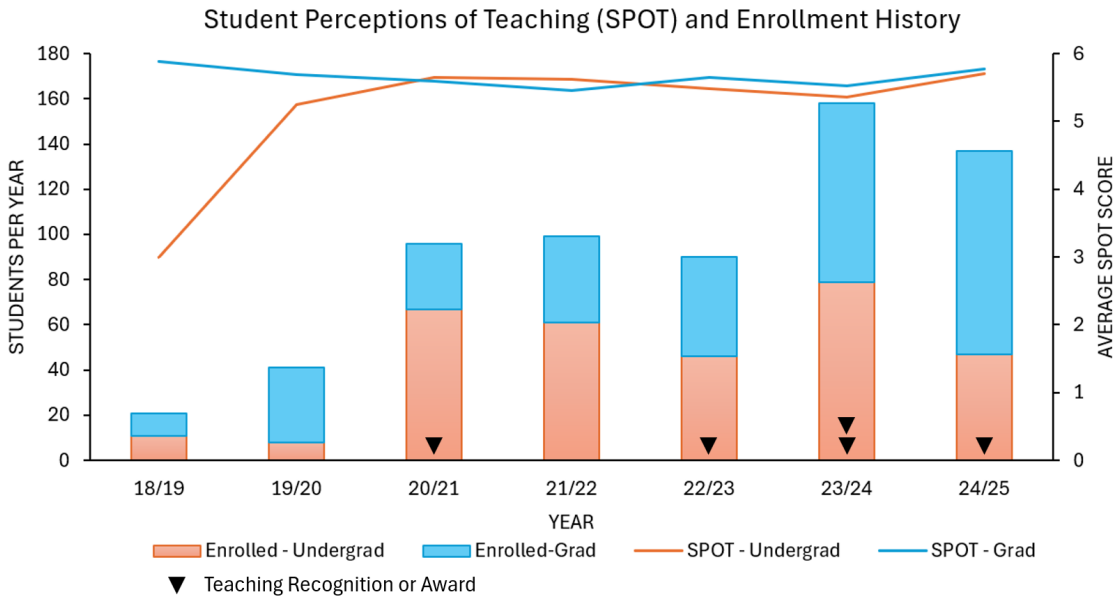
Undergraduate – completed

- Ms. Nina Poppe (Virginia Tech)
  Completion date: *Completed – August 2019*
  Research topic: *Can bioretention co-provide multiple ecosystem services?*
- Ms. Maureen Saywer (Virginia Tech)
  Completion date: *Completed – September 2020*
  Research topic: *A human subjects protocol for evaluating the impact of green infrastructure planning/implementation archetypes on multifunctionality*

Teaching:

- CEE 4394: Urban Water Sustainability (undergrad level)
- CEE 5390: Advanced Urban Water Sustainability (graduate level; conjoint with CEE 4394)
- CEE 5174: Applied Analytics for Environmental Science and Civil Engineering (graduate level)
- CEE 3804: Computer Applications (undergrad level)
- CEE 5944: Environmental and Water Resources Engineering Graduate Seminar

Teaching and Advising Effectiveness:



- Alumni Award for Teaching Excellence in Engineering (Fall 2024)
- XCaliber award for technology enriched teaching and learning (Sp. 2024) - This award was for the development of a virtual reality-enhanced serious game experience for undergraduate and graduate

students enrolled in Urban Water Sustainability and Advanced Urban Water Sustainability at Virginia Tech (123 students).

- Dean's list for teaching excellence (2022/2023 & 2023/2024 academic years) – awarded to teachers with a 5.2/6 or higher student perception of teaching score, who taught > 30 students and ≥ 3 classes

Research publications:

Book chapters (*: *author is a student of Dr. Rippy,* ***bold****: lead author, c: corresponding author*)

- [c]**Kaushal, S**., Mayer, P.M., Shatkay, R.R., Maas, C.M., Cañedo-Arguelles, M., Hintz, D.W., Wessel, B.M., Tully, K., Rippy, M.A., Grant, S.B. 2025 "Salinization of Inland Waters," in *Treatise on Geochemistry (3rd edition).* Ed. Anbar, A., Weis, D. 6, 151-191. https://doi.org/10.1016/B978-0-323-99762-1.00042-5
- [c]**Schenk, T.**, *Roston, B., Rowles, K., Rippy, M.A., Birkland, T., Grant, S.B. 2025. "Joint fact-finding to tackle difficult water challenges: Addressing inland freshwater salinization." *The Water Diplomacy Handbook*. Ed. Smith, K. *in press*

Journal Articles (*: *author is a student of Dr. Rippy,* ***bold****: lead author, c: corresponding author*)

- **Marin, D.E.**, [c]Grant, S.B., Bhide, S.V., Rippy, M.A., Gomez-Velez, J.D., Brent, R.N., Kaushal. S.S., Post, H., Shelton, S., Misra, S., Hotchkiss, E.R., Monofy, A., Alvi, D., Schmitz, B., Curtis, S., Davis, C.C., Vikesland, P., Husic, A. Ion clusters reveal the sources, impacts, and drivers of freshwater salinization. Environmental Science and Technology. *in press*
- ***Long. S**., [c]Rippy, M.A., *Krauss, L., Stacey, M., *Fausey, K. 2025. The impact of deicer and anti-icer use on plant communities in stormwater detention basins: Characterizing salt stress and phytoremediation potential. Science of the Total Environment, 962, 178310.
- [c]**Kaushal, S.S.**, Shelton, S.A., Mayer, P.M., Kellmayer, B., Utz, R.M., Reimer, J.E., Baljunas, J., Bhide, S.V., Mon, A., Rodriquez-Cardona, B.M., Grant, S.B., Newcomer-Johnson, T.A., Malin, J.T., Shatkay, R.R., Collison, D.C., Papageorgiou, K., Escobar, J., Rippy, M.A., Likens, G.E., Najjar, R.G., Mejia, A.I., Lassiter, A., Li, M., Chant, R.J. 2025. Freshwater faces a warmer and saltier future from headwaters to coasts: climate risks, saltwater intrusion, and biogeochemical chain reactions. Biogeochemistry, 168, https://doi.org/10.1007/s10533-025-01219-6
- [c]**Rippy, M.A.**, *Roston, B., Berglund, E., Aminpour, P., *Krauss, L., Bhide, S., Schenk, T., Rowles, K., Misra. S., Birkland, T., Kaushal, S., Grant, S.B. 2024. Characterizing the social-ecological system for inland freshwater salinization using fuzzy cognitive maps: Implications for collective management. Ecology and Society, 29, doi.org/10.5751/ES-15536-290447.
- ***Fausey, K.**, [c]Rippy, M.A., Pierce, G., Feldman, D., Winfrey, B., Mehring, A., Levin, L., Holden, P., Bowler, P., Ambrose, R. 2024. Ecosystem service values support conservation and sustainable land development: Perspectives from four University of California campuses. Ecological Engineering 208, 107379
- ***Krauss, L.** [c]Rippy, M.A. 2024. Plant adaptive strategy influences hydrologic services provisioning by stormwater bioretention. Ecological Engineering 198, 108148. doi.org/10.1016/j.ecoleng.2023.107148
- [c]**Misra, S.**, Rippy, M.A., Grant, S.B. 2024. Analyzing knowledge integration in convergence research. Environmental Science and Policy 162, 103902. https://doi.org/10.1016/j.envsci.2024.103902.

- **Monofy, A.,** [c]Grant, S.B., Boano, F., Rippy, M.A., Gomez-Velez, J.D., Kaushal, S.S., Hotchkiss, E., Shelton, S. Towards a universal model of hyporheic exchange and nutrient exchange in streams. AGU Advances 5, e2024AV001373. https://doi.org/10.1029/2024AV001373.
- **Malin, J.T.**, [c]Kaushal, S.S., Mayer, P.M., Maas, C.M., Hohman, S.P., Rippy, M.A. 2024. Longitudinal stream synoptic (LSS) monitoring to evaluate water quality in restored streams. Environmental Monitoring and Assessment, 196, https://doi.org/10.1007/s10661-024-12570-w
- **Shelton, S.**, [c]Kaushal, S.S., Mayer, P.M., Shatkay, R.S., Rippy, M.A., Grant, S.B., Newcomer-Johnson, T.A. 2024. Salty chemical cocktails as water quality signatures: Longitudinal trends and breakpoints along different US streams. Science of the Total Environment. 930, https://doi.org/10.1016/j.scitotenv.2024.172777
- [c]**Kaushal, S.S.**, Likens, G.E., Mayer, P.M., Shatkay, R.R., Shelton, S.A., Grant, S.B., Utz, R.M., Yaculak, A.M., Maas, C.M., Reimer, J.E., Bhide, S.V., Malin, J.T., Rippy, M.A. 2023. The anthropogenic salt cycle. Nature Reviews Earth and Environment. 4, 770-784. doi:10.1038/s43017-023-00485-y.
- **Maas, C.M.**, [c]Kaushal, S.S., Rippy, M.A., Mayer, P.M., Grant, S.B., Shatkay, R.R., Malin, J.T., Bhide, S.V., Vikesland, P., *Krauss, L., Reimer, J.E., Yaculak, A.M. 2023. Frontiers in Environmental Science 11, 1106581. https://doi.org/10.13016/zyic-ebii
- [c]**Kaushal, S.S.**, Maas, C.M., Mayer, P.M., Newcomer-Johnson, T.A., Grant, S.B., Rippy, M.A., Shatkay, R.R., Leathers, J., Gold, A.J., Smith, C., McMullen, E.C., Haq, S., Smith, R., Duan, S., Malin, J., Yaculak, A., Reimer, J.E., Newcomb, K.D., Raley, A.S., Collison, D.C., Galella, J.G., Grese, M., Sivirichi, G., Doody, T.R., Vikesland, P., Bhide, S.V., *Krauss, L., Daugherty, M., Stavrou, C., Etheredge, M., Ziegler, J., Kirschnick, A., England, W., Belt, K.T. 2023. Longitudinal stream synoptic monitoring tracks chemicals along watershed continuums: a typology of trends, Frontiers in Environmental Science 11, 1122485 doi.org/10.3389/fenvs.2023.1122485
- [c]**Kaushal, S.S.**, Mayer, P.M., Likens, G.E., Reimer, J.E., Maas, C.M., Rippy, M.A., Grant, S.B., Hart, I., Utz, R.M.l., Shatkay, R.R., Wessel, B.M., Maietta, C.E., Pace, M.L., Duan S., Boger, W.L., Yaculak, A.M., Galella, J.G., Wood, J.L., Morel, C.J., Nguyen, W., Querubin, S.E.C., Sukert, R.A., Lowein, A., Houde, A.W., Roussel, A., Houston, A.J., Cacopardo, A., Ho, C., Talbot-Wendlandt, H., Widmer, J.M., Slagle, J., Bader, J.A., Chong, J.H., Wollney, J., Kim, J., Shepherd, L., Wilfong, M.T., Houlihan, M., Sedghi, N., Butcher, R., Chaudhary, S., Becker, W.D. 2023. Five state factors control progressive stages of freshwater salinization syndrome. Limnology and Oceanography Letters. 8, 190-211. https://doi.org/10.1002/lol2.10248.
- ***Krauss, L.** [c]Rippy, M.A. 2022. Adaptive strategy biases in engineered ecosystems: implications for plant community dynamics and the provisioning of ecosystem services to people, People and Nature 6, 1655-1663
- [c]**Rippy, M.A.,** Pierce, G., Feldman, D., Winfrey, B., Mehring, A.S., Holden, P.A., Ambrose, R., Levin, L. 2022. Perceived services and disservices of natural treatment systems for urban stormwater: Insight from the next generation of designers, People and Nature 4, 481-504.
- [c]**Grant, S.B.**, Rippy, M.A., Birkland, T.A., Schenk, T., Rowles, K., Misra, S., Aminpour, P., Kaushal, S., Vikesland, P., Berglund, E., Gomez-Velez, J.D., Hotchkiss, E.R., Perez, G., Zhang, H.X., Armstrong, K., Bhide, S.V., *Krauss, L., Maas, C., Mendoza, K., Shipman, C., Zhang, Y., Zhong, Y. 2022. Can common pool resource theory catalyze stakeholder-driven solutions to the freshwater salinization syndrome? Environmental Science and Technology 56, 13517-13527.
- **Rugh, M.B.,** Grant, S.B., Hung, W., Jay, J.A., Parker, E.A., Feraud, M., Li, D., Avasarala, S., Holden, P.A., Liu, H., Rippy, M.A., van de Werfhorst, L.C., Kefela, T., Peng, J., Shao, S., Graham,

K.E., Boehm, A.B., Choi, S., Mohanty, S.K., [c]Cao, Y. 2022. Highly variable removal of pathogens, antibiotic resistance genes, conventional fecal indicators and human-associated fecal source markers in a pilot-scale stormwater biofilter operated under realistic stormflow conditions. Water Research. 219: 118525. https://doi.org/10.1016/j.watres.2022.118525.

- [c]**Rippy, M.A.**, *Krauss, L., Pierce, G., Winfrey, B. 2021. Plant functional traits and viewer characteristics co-regulate cultural services provisioning by stormwater bioretention. Ecological Engineering 158, 106284.
- [c]**Pierce, G**., Gmoser-Daskalakis, K., Rippy, M.A., Holden, P.A., Grant, S.B., Feldman, D.L., Ambrose, R.F. 2021. Environmental attitudes and knowledge: do they matter for support and investment in local stormwater infrastructure? Society and Natural Resources 34, doi: 10.1080/08941920.2021.1900963.
- **Bhide, S.V.**, [c]Grant, S.B., Parker, E.A., Rippy, M.A., Godrej, A.N., Kaushal, S., Prelewicz, G., Saji, N., Curtis, S., Vikesland, P., Maile-Moskowitz, A., Edwards, M., Lopez, K.G., Birkland, T.A., Schenk, T. 2021. Addressing the contribution of indirect potable reuse to inland freshwater salinization. Nature Sustainability. 4, 699-707.
- **Parker, E.A.**, [c]Grant, S.B., Cao, Y., Rippy, M.A., McGuire, K.J., Holden, P.A., Avasarala, S., Liu, H., Hung, W.C., Rugh, M., Jay, J., Peng, J., Shao, S., Li, D. 2021. Predicting solute transport through green stormwater infrastructure with unsteady transit time distribution theory. Water Resources Research. 47, e2020WR028579.
- [c]**Pierce, G**., Gmoser-Daskalakis, K., Jessup, K., Grant, S.B., Mehring, A., Winfrey, B., Rippy, M.A., Feldman, D., Holden, P., Ambrose, R., Levin, L. 2021. University stormwater management within urban environmental regulatory regimes: barriers to progressivity or opportunities to innovate? Environmental Management. 67, 12-25.
- [c]**Grant, S.B.**, Duong, K., Rippy, M.A., Pierce, G., Feldman, D., Zanetti. E., McNulty, A. 2020. From yards to cities: a simple and generalizable probabilistic framework for outdoor consumption behavior. Environmental Research Letters 15, 054010.
- **Huang, X.**, **Rippy, M.A.**, Mehring, A.S., Winfrey. B.K., [c]Jiang, S.C., Grant, S.B. 2018. Shifts in dissolved organic matter and microbial community composition are associated with enhanced removal of fecal pollutants in urban stormwater wetlands. Water Research. 137: 310-323.
- [c]**Grant, S.B.**, Azizian, M., Cook, P., Boano, F., Rippy, M.A. 2018. Factoring stream turbulence into global assessments of nitrogen pollution. Science, 359 (6381): 1266-1269.
- **Azizian, M.**, Boano, F., Cook, P.L.M., Detwiler, R.L., Rippy, M.A., [c]Grant, S.B. 2017. Ambient groundwater flow diminishes nitrate processing in the hyporheic zone of streams. Water Resources Research. 53: 3941–3967.
- **Parker, E.A.**, Rippy, M.A., Mehring, A., Winfrey, B., Ambrose, R.F., Levin, L.A., [c]Grant, S.B. 2017. The predictive power of clean bed filtration theory for fecal indicator bacteria removal in biofilters. Environmental Science and Technology. 51: 5703–5712. DOI: 10.1021/acs.est.7b00752
- **Rippy, M.A.**, Deletic, A., Black, J., Aryal, R., Lampard, J-L., Tang, J., McCarthy, D., Kolotelo, P., Sidhu, J., [c]Gernjak, W. 2017. Pesticide occurrence and spatio-temporal variability in urban run-off across Australia. Water Research. 115: 245-255.
- **Hemati, A.**, [c]Rippy, M.A., Grant, S.B., Davis, K., Feldman, D. 2016. Deconstructing demand: the anthropogenic and climatic drivers of urban water consumption. Environmental Science and Technology. 50: 12557-12566. DOI: 10.1021/acs.est.6b02938.
- [c]**Peng, J.**, [c]**Cao, Y.**, Rippy, M.A., Afrooz, ARM N., Grant, S.B. 2016. Indicator and Pathogen

Removal by Low Impact Development Best Management Practices. Water. 8: 12-24.

- [c]**Walsh, C.J.**, Booth, D.B., Burns, M.J., Fletcher, T.D., Hale, R.L., Hoang, L.N., Livingston, G., Rippy, M.A., Roy, A.H., Scoggins, M., Wallace, A. 2016. Principles for urban stormwater management to protect stream ecosystems. Freshwater Science. 35(1): 398-411.
- [c]**Rippy, M.A.**, Weiden, L., Cooper, W., Deletic, A., Grant, S.B. 2016. Microlayer enrichment in natural treatment systems (NTS): linking the surface microlayer to urban water quality. WIREs Water. 3(2): 269-281. DOI:10.1002/wat2.1128.
- [c]**Mehring, A.S.**, Hatt, B.E., Kraikittikun, D., Orelo, B.D., Rippy, M.A., Grant, S.B., Gonzalez, J.P., Jiang, S.C., Levin, L.A. 2016. Soil invertebrates in Australian rain gardens and their potential roles in storage and processing of nitrogen. Ecological Engineering. 97: 138-143.
- **Azizian, M.**, [c]Grant, S.B., Kessler, A., Cook, P., Rippy, M.A., Stewardson, M. 2015. Bedforms as biocatalytic filters: a pumping and streamline segregation (PASS) model for nitrate removal in permeable sediments. Environmental Science and Technology. 49: 10993–11002. DOI:10.1021/acs.est.5b01941.
- **Askarizadeh, A.**, Rippy, M.A., Fletcher, T., Feldman, D., Peng, J., Bowler, P., Mehring, A., Winfrey, B., Vrugt, J., AghaKouchak, A., Jiang, S., Sanders, B., Levin, L., Taylor, S., [c]Grant, S.B. 2015. From Rain Tanks to Catchments: Use of Low-Impact Development to Address Hydrologic Symptoms of the Urban Stream Syndrome. Environmental Science and Technology. 49: 11264-11280. DOI:10.1021/acs.est.5b01635.
- [c]**Rippy, M.A.** 2015. Meeting the Criteria: linking biofilter design to fecal indicator bacteria removal. WIREs Water. 2: 577-592. DOI:10.1002/wat2.1093.
- **Rippy, M.A.**, Stein, R., [c]Sanders, B., Davis, K., McLaughlin, K., Skinner, J., Kappeler, J., Grant, S.B. 2014. Small drains, big problems: the impact of dry weather runoff on shoreline water quality at enclosed beaches. Environmental Science and Technology. 48: 14168-14177.
- [c]**Rippy, M.A.**, Franks, P.J.S., Feddersen, F., Guza, R, Warrick, J.A. 2013. Beach nourishment impacts on bacteriological water quality and phytoplankton bloom dynamics. Environmental Science and Technology. 47: 6146-6154.
- [c]**Rippy, M.A.**, Franks, P.J.S., Feddersen, F., Guza, R, Moore, D.F. 2013. Factors controlling variability in nearshore fecal pollution: is mortality important? Marine Pollution Bulletin. 66: 191-198.
- [c]**Rippy, M.A.**, Franks, P.J.S., Feddersen, F., Guza, R, Moore, D.F. 2013. Physical dynamics controlling variability in nearshore fecal pollution: Fecal Indicator Bacteria as passive particles. Marine Pollution Bulletin. 66: 151-157.

Papers and posters presented at professional meetings (**: student of Dr. Rippy,* ***bold****: lead author*, *underlined: presenter*)

Oral Presentations

- **Rippy, M.A.**, *Krauss, L., *Blumenauer, M. An exploration of cultural services provisioning by green stormwater infrastructure. 2025. American Ecological Engineering Society (AEES) Annual Meeting 2025. Atlanta, GA, USA.
- **Misra, S.**, Rippy, M.A., Grant, S.B. Analyzing knowledge integration in convergence research. Interdisciplinary Integration Research Careers Hub Team (INTEREACH). 2025.
- **Misra, S.**, Rippy, M.A., Grant, S.B. Analyzing knowledge integration in convergence research.

Association for Clinical and Translational Science (ACTS) Team Science Professionals SIG Meeting. 2025.

- **Rippy, M.A.**, *Krauss, L., *Blumenauer, M. Leveraging virtual spaces for human-centered design. 2024. A Community for Ecosystem Services (ACES). Austin, TX, USA.
- ***Krauss, L.**, *Blumenauer, M., Rippy, M.A. 2024. Leveraging virtual reality for green infrastructure design: implications for the cultural services aesthetics and sense of place. A Community for Ecosystem Services (ACES). Austin, TX, USA.
- **Rippy, M.A.**, *Roston, B., Berglund, E.Z., *Krauss, L., Bhide, S.V., Schenk, T., Rowles, K., Misra, S., Birkland, T.A., Kaushal, S., Grant, S.B. 2024. Characterizing the social-ecological system for inland freshwater salinization using fuzzy cognitive maps: Implications for collective management. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #GC31I-08
- **Rippy, M.A.** 2024. Where we agree – collaborative opportunities for managing salt. Salt Watch Kickoff Webinar, Izaak Walton League of America, VA, 2024.
- **Kaushal., S.** Mayer, P.M., Belt, K., Johnson, T.A.N., Shelton, S., Maas, C., Malin, J., Shatkay, R., Yaculak, A., Reimer, J., Rippy, M.A., Grant, S.B. 2024. The urban watershed continuum: A global concept with regional applications. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #B43J-01
- **Grant. S.B.**, Bhide, S.V., Rippy, M.A., Misra, S., Kaushal, S., Birkland, T.A., Schenk, T., Vikesland, P.J., Knocke, W., Gomez-Velez, J.D. 2024. Catalyzing bottom-up solutions to the salinization of critical water supplies: a case study of sodium in the Occoquan Reservoir. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #GC3I1-01
- **Shah, V.**, Pal, L., Post, J., Saksena, S., Chilton, W., Baran, A., Rippy, M.A., Grant, S.B., Goulet, N. 2024. Advancing water quality and quantity (WQQ) predictions through coupled modeling approaches in urban watersheds. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #H51B-02
- **Bhide, S.V.**, Grant, S.B., Rippy, M.A., Monofy, A., Kaushal, S., Misra, S., Schenk. T., Shelton, S., Turner, S. 2024. Transit times link pollution sources to drinking water quality in a one water system. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #H52B-06
- **Rippy, M.A.**, *Fausey, K. 2024. A role for turf replacement programs, conservation, and green infrastructure in combatting eco-grief. 2024. American Ecological Engineering Society (AEES). Blacksburg, VA, USA.
- ***Krauss, L.**, Rippy, M.A. Plant adaptive strategy influences hydrologic services provisioning by nature-based solutions for urban stormwater management. 2024. American Ecological Engineering Society (AEES). Blacksburg, VA, USA.
- **Bhide, S.V.,** Grant, S.B., Rippy, M.A., Kaushal, S., Whitley, H., Stacey, M. 2023. Transit times link sodium sources to drinking water quality in a one water system. AGU Fall Meeting 2023. Abstract: #H41F-06.
- **Rippy, M.A.** 2023. Salt stress in engineered ecosystems: implications for plant community dynamics and self-repair through phytoremediation. Annual Virginia Water Monitoring Council Conference, Richmond, VA, 2023.
- **Rippy, M.A.** 2023. Characterizing the impact of deicers on engineered ecosystems, Virginia Tech Water Research Colloquium, Blacksburg, VA, 2023.
- **Rippy, M.A.**, *Krauss, L. 2022. Eliciting cultural services through virtual experiences with green

stormwater infrastructure. A Community for Ecosystem Services (ACES), 2022, Washington D.C., USA.

- ***Krauss, L.**, Rippy, M.A. 2022. Adaptive strategy biases in engineered ecosystems: Implications for plant community dynamics and the provisioning of ecosystem services to people. A Community for Ecosystem Services (ACES), 2022, Washington D.C., USA.
- **Rippy, M.A.**, 2022. Situating green infrastructure for environmental justice: bringing community voices into green infrastructure design. VWEA Stormwater Seminar, Richmond VA.
- **Grant, S.B.**, Rippy, M.A., Birkland, T.A., Kaushal, S., Vikesland, P.J. 2022. Catalyzing bottom-up solutions to environmental grand challenges through transdisciplinary research: application to the freshwater salinization syndrome. AGU Fall Meeting 2022. Abstract: #H36G-03.
- **Gomez-Velez, J.D.**, Perez, G., Grant, S.B., Mendoza, K., Rippy, M.A., Vikesland, P.J. 2022. A novel modeling framework to understand the fate and transport of salts in sanitary sewer systems. AGU Fall Meeting 2022. Abstract: #H22L-05.
- **Shipman, C.**, Grant, S.B., Mendoza, K., Vikesland, P., Perez, G., Gomez-Velez, J., Rippy, M.A., Schenk, T., Birkland, T.A. 2022. The potential contribution of household detergents to inland freshwater salinization. AGU Fall Meeting 2022. Abstract #H22L-04.
- *Roston, B., **Rippy, M.A.**, 2022. Identifying opportunities and barriers for collective management of urban water commons using information theoretic approaches that unpack Ostrom's second level variable "Understanding the SES". EWRI Congress, Atlanta GA. Abstract Number: #1100329.
- **Rippy, M.A.**, *Krauss, L. 2021. Connecting people to nature in urban areas through cultural services provisioning by green stormwater infrastructure: a role for ecological engineering and plant functional traits. AGU Fall Meeting, 2021. Abstract: #GC32D-01.
- **Rippy, M.A.**, *Krauss, L., Pierce, G., Winfrey, B. 2021. Plant functional traits and viewer characteristics co-regulate cultural services provisioning by stormwater bioretention. American Ecological Engineering Society (AEES), Spring, 2021.
- ***Krauss, L.**, Rippy, M.A. 2021. Adaptive strategy biases in engineered ecosystems: implications for plant community dynamics and ecosystem services provisioning. American Ecological Engineering Society (AEES), Spring, 2021.
- **Monofy, A.**, Boano, F., Grant, S.B., Rippy, M.A. A diffusive description of vertical mixing in the benthic biolayer. EGU General Assembly Conference, Spring 2021, Vienna, Austria. Abstract #EGU21-843.
- **Parker, E.A.**, ᶜGrant, S.B., Cao. Y., Rippy, M.A., McGuire, K.J., Holden, P.A., Feraud, M., Avasarala, S., Liu, H., Hung, W.C., Rugh, M., Jay, J., Peng, J., Shao, S., Li, D. Predicting unsteady pollutant removal in green stormwater infrastructure with transit time distribution theory. AGU Fall Meeting, 2020. Virtual. Abstract: #688090.
- **Rippy, M. A.** 2018. Perceived Services and Disservices of Natural Treatment Systems for Urban Stormwater. A Community for Ecosystem Services (ACES), 2018, Washington D.C., USA.
- **Azizian, M.**, Boano, F., Cook, P., Detwiler, R., Rippy, M.A., Grant, S.B. 2018. Groundwater flow diminishes nitrate processing in the hyporheic zone of streams. EGU General Assembly Conference Spring 2018, Vienna, Austria. Abstract: p.1682
- **Azizian, M.**, Grant, S.B., Rippy, M.A., Detwiler, R., Boano, F., Cook, P.L.M. 2018. Ambient groundwater flow diminishes nitrogen cycling in streams. AGU Fall Meeting 2018, New Orleans, USA. Abstract: #H11N-03,

- **Rippy, M.A.** 2018. Evolutionary trajectories of urban water demand and our journey towards the water sensitive city. 255th ACS National Meeting, New Orleans, USA.
- **Duong, K.**, Grant, S.B., Rippy, M., Feldman, D. 2017. Social diffusion of water conservation: a study of residential turf rebate programs in Orange County, California. AGU Fall Meeting 2017, New Orleans, USA. Abstract: #H31O-05.
- **Rippy, M.A.**, Hemati, A., Grant, S.B. 2016. The Richter Scale of Reduction: decoupling management and climatic related drivers of water conservation behavior. EGU General Assembly Conference Spring 2016, Vienna, Austria. Abstract: EPSC2016-11119
- **Rippy, M.A.** 2016. Universal Adaptive Strategy Theory: Bringing "Bio" to the Forefront of Biofilter Design. Localizing California Waters: 2016 Meeting, Yosemite, USA.
- **Rippy, M.A.** 2016. An ecological framework for plant selection in biofilters. The California Stormwater Quality Association (CASQA) 2016 Meeting, San Diego, USA.
- **Rippy, M.A.**, Deletic, A., Gernjak, W. Urban stormwater quality: linking pesticide variability to our sustainable water future. AGU Fall Meeting 2015, San Francisco, USA. Abstract: #H32E-01
- **Rippy, M.A.**, Weiden, L., Cooper, W., Deletic, A., McCarthy, D., Grant, S.B. 2014. Micropollutants as hot-spots in low impact development (LID) systems: linking the surface microlayer to urban water quality. 3rd Symposium on Urbanization and Stream Ecology, 2014, Portland, USA.
- **Rippy, M.A.** 2013. Optimized Water Sensitive Urban Design: Trade-offs in Pollutant Removal Efficiency. California Stormwater Quality Association (CASQA) 2013 Meeting, Lake Tahoe, USA.
- **Rippy, M.A.**, Franks, P.J.S, Feddersen, F., & Guza, R. 2012. Spatio-Temporal Variability of Nearshore Fecal Indicator Bacteria: the relative importance of fluid dynamics and extra-enteric bacterial mortality. Ocean Sciences 2012 Meeting, Utah, USA. Abstract: #10515
- **Rippy, M.A.**, Warrick, J., Guza, R., & Franks, P.J.S. 2010. The Ecological Implications of a San Diego Beach Nourishment: Nutrients, Phytoplankton, and Fecal Indicator Bacteria. Ocean Sciences 2010 Meeting, Portland, USA. Abstract: #745472
- **Guza, R.T.**, Clark, D.B., Feddersen, F., Franks, P.J., MacMahan, J.H., Omand, M.M., Reilly, W.C., Rippy, M.A., Spydell, M.S. Waves, currents, mixing, chlorophyll, and bacteria in the nearshore: overview of IB 09 observations. Ocean Sciences 2010 Meeting, Portland, USA.
- **Rippy, M.A.**, Feddersen F., Leichter, J., Omand, M., Moore, D.F., McGee, C.D., and Franks, P.J.S. 2007. Spatio-Temporal Variability in Fecal Indicator Bacteria Concentrations at Huntington Beach: Connections to Physical Forcing. AGU Joint Assembly (Spring Meeting), 2007. Acapulco, Mexico. Abstract: #OS23G-08
- **Omand, M.M.,** Leichter, J.J., Feddersen, F., Franks, P.J., McKenna, M.F., Rippy, M., Guza, R. 2006. Chlorophyll fluorescence near the shoreline: connections to waves and wave-driven currents. AGU Fall Meeting 2006. San Francisco, USA. Abstract: #OS23D-02

Posters

- ***Blumenauer, M.**, *Krauss, L., Rippy, M.A. 2025. Ecological drivers of the cultural service sense of place. American Ecological Engineering Society (AEES) Annual Meeting 2025, Atlanta, GA, USA.
- **Rippy, M.A.**, Misra, S., Grant, S.B., Punjabi, S., Bhide, S.V., Monofy, A., Schenk, T., Turner, S., Vikesland, P.J., Okeshola, I., Kaushal, S., Birkland, T.A. 2024. Freshwater salinization from a distance: A quasi-experimental study on stakeholder decision-making in convergence research. AGU

Fall Meeting 2024. Abstract: #GC33N-0320.

- **Shelton, S.**, Kaushal. S., Mayer, P.M., Johnson, T.A.N., Shatkay, R., Mon, A., Rippy, M.A., Grant, S.B., Dann, A., Slaughter, W. 2024. Freshwater salinization syndrome creates organic and inorganic chemical cocktails across five major metropolitan regions in the U.S. AGU Fall Meeting 2024.
- **Bhide, S.V.**, Grant S.B., Monofy, A., Gomez-Velez, J.D., Rippy, M., Misra, S., Schenk, T., Turner, S. 2024. Accelerating stakeholder understanding and management of freshwater salinization through participatory modeling. AGU Fall Meeting 2024. Washington, D.C., USA. Abstract: #GC33N-0318,
- **Marin, D.,** Grant. S.B., Gomez-Velez, J., Rippy. M., Brent, R., Kaushal S., Post, H., Shelton, S., Misra, S., Bhide, S.V., Monofy, A., Alvi, D. 2024. Ion fingerprints reveal the sources, impacts, and drivers of freshwater salinization. AGU Fall Meeting 2024. Abstract: #GC33N-0319.
- **Kaushal. S.**, Mayer, P.M., Shatkay, R., Maas, C., Canedo-Arguelles, M., Hintz, W., Tulley, K.L., Wessel, B., Rippy, M., Grant, S.B. 2024. Salinization of inland waters as part of the anthropogenic salt cycle. AGU Fall Meeting 2024.
- **Monofy. A.**, Grant, S.B., Boano, F., Rippy, M.A., Gomez-Velez, J.D., Kaushal. S., Hotchkiss, E.R., Shelton, S. 2024. Toward a universal model of hyporheic exchange and nutrient cycling in streams. AGU Fall Meeting 2024. Abstract: #B41I-1407.
- **Rippy, M.A.**, *Fausey, K. 2023. Reversing urban homogenization – a role for turf replacement programs, native ecosystem conservation and green stormwater infrastructure in combating eco-grief in urban communities. AGU Fall Meeting 2023. Abstract: #GC33G-1231.
- **Rippy, M.A.**, *Long, S. 2023. Vulnerable or resilient: Characterizing the impact of freshwater salinization on engineered ecosystems and the services they provide. AGU Fall Meeting 2023. Abstract: #H33U-2068.
- ***Krauss, L.**, Rippy, M.A. 2023. Plant adaptive strategy influences hydrologic services provisioning by nature based solutions for urban stormwater management. AGU Fall Meeting 2023. Abstract: #CG41N-1316.
- ***Roston, B.**, Rippy, M.A. 2023. How stakeholders understand a socio-ecological system for inland freshwater salinization: a study of feedback loops and dynamic complexity. AGU Fall Meeting 2023. Abstract: #H23Z-1917.
- **Marin, D.E.**, Grant, S.B., Gomez-Velez, J.D., Rippy, M.A. 2023. Exploring site-specific salt ion mixtures in a highly urbanized watershed: implications for stream health. AGU Fall Meeting 2023. Abstract: #H43K-2231.
- **Trejo, L.**, Grant, S.B., Rippy, M.A. 2023. Drivers and human diet implications of sodium ion concentrations in public water supplies across the state of Virginia. AGU Fall Meeting 2023. Abstract: #H43K-2232.
- **Kent, M.**, Vikesland, P., Rippy, M.A., Grant, S., Schenk, T., Birkland, T. 2022. The contribution of laundry detergent to inland freshwater salinization and opportunities for product switching. AGU Fall Meeting 2022. Abstract: #H25S-1342.
- **Rippy, M.A.**, Grant, S.B., *Roston, B., Berglund, E.Z., *Krauss, L., Bhide, S.V., Schenk, T., Rowles, K., Birkland, T.A., Misra, S., Kaushal, S. 2022. The social-ecological system (SES) for inland freshwater salinization and implications for collective management. AGU Fall Meeting 2022. Abstract: #H25S-1344.
- ***Krauss, L.**, Rippy, M.A. 2021. Eliciting public perceptions through virtual experiences with rain gardens, Water Jam. 2021, Virginia Beach, USA.

- ***Krauss, L.**, Rippy, M.A. 2021. Eliciting cultural services through virtual experiences with green stormwater infrastructure. AGU Fall Meeting 2021. Abstract: #H35L-1164.
- **Rippy, M.A.** 2019. How The Next Generation Perceives Green Stormwater Infrastructure: Insight From Five University Campuses, AGU Fall Meeting 2019, San Francisco, USA. Abstract: #H13I-1791.
- ***Krauss, L.**, Rippy, M.A. 2020. Ecological and Engineering Controls on Saturated Hydraulic Conductivity in Rain Gardens, Freshwater Salinization Workshop, 2020, Fairfax, USA. Poster.
- **Rippy, M.A**, Grant, S.B. 2019. Perceived services and disservices of natural treatment systems for urban stormwater, 2019. ACS Fall Seminar, San Diego, USA. Abstract: #ENVR526.
- **Alyssa W.,** Holden, P., Feraud, M., Rippy, M.A. 2019. Practice versus promise: An assessment of design and maintenance guidelines relative to goals for stormwater natural treatment systems, 2019. ACS Fall Seminar, San Diego, USA. Abstract: #ENVR527.
- **Rippy, M.A.** 2018. Perceived services and disservices of natural treatment systems for urban stormwater. AGU, Fall Meeting 2018, Washington D.C., USA. Abstract: #H51U-1610.
- **Askarizadeh, A.**, Rippy, M.A., Grant, S.B. From Rain Tanks to Catchments: Use of low impact development to address hydrologic symptoms of the urban stream syndrome. Localizing California Waters: 2016 Meeting, Yosemite, USA.
- **Hemati, A.**, Rippy, M.A., Grant, S.B., Davis, K., Feldman, D. 2016 Deconstructing demand: the anthropogenic and climatic drivers of urban water consumption. Localizing California Waters: 2016 Meeting, Yosemite, USA.
- **Azizian, M.**, Rippy, M.A., Grant, S.B. 2016. Impacts of urbanization on nitrate processing in streams: insights from a simple process-based model. Localizing California Waters: 2016 Meeting, Yosemite, USA.
- **Parker, E.A.**, Grant, S.B., Rippy, M.A., Mehring, A.S., Winfrey, B.K., Vrught, J.A., Hatt, B.E. 2016. Fecal indicator bacteria removal in aging biofilters: investigating residence time distributions and plant effects. Localizing California Waters: 2016 Meeting, Yosemite, USA.
- **Hemati, A.**, Rippy, M.A., Davis, K., Grant, S.B. 2015. Dealing with drought: decoupling climatic and management-related drivers of water conservation behavior. AGU, Fall Meeting 2015, San Francisco, USA. Abstract #H41G-1439.
- **Ciglar, A.**, Rippy, M.A., Grant, S.B. 2015. Modeling storm drain pollution in Newport Bay. 2015. AGU, Fall Meeting 2015, San Francisco, USA. Abstract #H13L-1767.
- **Parker, E.A.**, Rippy, M.A., Mehring, A.S., Winfrey, B.K., Grant, S.B., Vrught, J.A., Hatt, B.E. 2015. Treating stormwater with green infrastructure: plants, residence time distributions, and the removal of fecal indicator bacteria. AGU, Fall Meeting 2015, San Francisco, USA. Abstract #H13J-1717.
- **Rippy, M.A.** 2015. Meeting the criteria: linking biofilter design to fecal indicator bacteria removal. Water Resource Sustainability Issues on Tropical Islands, 2015 Meeting, Honolulu, USA.
- **Rippy, M.A.**, Ciglar, A., Grant, S.B. 2014. Are fecal indicator bacteria like salt?: evaluating the contribution of freshwater urban runoff to bay-wide bacteriological water quality in Newport Bay. Ocean Sciences 2014 Meeting, Honolulu, USA. Abstract: #17763.

Sponsored Research (Grants)

- STAC State of the Science Workshop - State of the science of salinity risks in Chesapeake Bay and

its tributaries: connecting monitoring, modeling, and management
PI: Kaushal, S.
Co-PI: Grant, S.B., Beiber, S., Noe, G., Linker, L., Shenk, G., Gootman, K., Mayer, P., Keitzer, C., Rippy, M.A., Nelson, S., Fanelli, R., Filippino, K.C.
Funding Source: Chesapeake Bay Program
Award period: 06 2025 – 05 2026
Total Award Amount: $15,000

- Monitoring of synthetic organic chemicals in the Occoquan watershed
  PI: Rippy, M.A.
  Co-PI: Alvi, D., and Post, H.E.
  Funding Source: Fairfax County Department of Health
  Award period: 07 2024 – 06 2025
  Total Award Amount: $74,950

- Landuse impact modeling and assessment for the Occoquan Watershed
  PI: Saksena, S.
  Co-PI: Grant, S.B., Rippy, M.A., and Pal, L.
  Funding Source: Northern Virginia Regional Commission (NVRC)
  Award period: 02 2024 – 01 2025
  Total Award Amount: $176,000

- Support and continued development of the Occoquan model for fiscal year 2025
  PI: Saksena, S.
  Co-PI: Grant, S.B., Rippy, M.A., and Pal, L.
  Funding Source: Northern Virginia Regional Commission (NVRC)
  Award period: 07 2024 – 06 2025
  Total Award Amount: $310,000

- CIVIC-PG Track A: Building community resilience to drought, population growth, and cascading water quality challenges in a large one-water system
  PI: Grant, S.B.
  Co-PI: Rippy, M.A., Schenk, T.E.W., Bhide, S.B., Monofy, A., and Whitley. H.T.
  Funding Source: National Science Foundation
  Award period: 07 2024 to 01 2025
  Total Award Amount: $75,000

- DA 2.0: Learning landscape laboratory (Phase 1)
  PI: Engelke, J.
  Co-PI: Bell, N., Hession, C.W., Thompson, T.W., Powers, M.N., Rippy, M.A., Bagchi, R., Kiechle, M.A., Rosenberger, J., and Douglas, S.
  Funding Source: Office of the Executive Vice President and Provost, Destination Areas
  Award period: 01 August 2024 to 01 January 2024

- DA 2.0: Virginia Tech Public Interest Technology collaborative (Phase 1)
  PI: Misra, S.
  Co-PI: Katz, B., Roberts, P., Kurt. L., Grant, S.B., Rippy, M.A., and Zobel, C.
  Funding Source: Office of the Executive Vice President and Provost, Destination Areas
  Award period: 01 August 2024 to 01 January 2024
  Total award amount: $25,000

- Total award amount: $50,000GCR: Common pool resource theory as a scalable framework for catalyzing stakeholder-driven solutions to the freshwater salinization syndrome.

PI: Grant, S.B.
Co-PI: Rippy, M.A., Schenk, T., Hotchkiss, E., Vikesland, P.J., and Edwards, M.A.
Funding Source: National Science Foundation
Award period: 09 2020 – 08 2025
Total Award Amount: $2,034,934

- Water quality sample analysis and microbial source tracking (MST)
  PI: Pruden-Bagchi, A.
  Co-PI: Alvi, D., Grant, S.B., Post, H.E., and Rippy, M.A.
  Funding Source: Metropolitan Washington Council of Governments (COG)
  Award period: 07 2023 – 10 2024
  Total Award Amount: $184,933

- Support and continued development of the Occoquan model for fiscal year 2024
  PI: Saksena, S.
  Co-PI: Grant, S.B., and Rippy, M.A.
  Funding Source: Northern Virginia Regional Commission (NVRC)
  Award period: 07 2023 – 06 2024
  Total Award Amount: $119,000

- Update to the Virginia Runoff Reduction Method.
  PI: Widdowson, M.A.
  Co-PI: Rippy, M.A., and Young, K.D.
  Funding Source: Virginia Department of Environmental Quality (VDEQ)
  Award period: 08 2022 – 04 2023
  Total Award Amount: $150,926

- Field testing the effectiveness of using halophytes growing in biochar-amended soil to capture and remove salt from highway and parking lot stormwater runoff
  PI: Alden, A.S.
  Co-PI: Rippy, M.A., Welbaum, G., and Druta, C.
  Funding Source: Virginia Department of Environmental Quality (VDEQ)
  Award period: 07 2021 – 06 2022
  Total award amount: $ 175,000

- Procurement of a micro-portable LGR greenhouse gas analyzer for measuring carbon dioxide, methane, and water vapor fluxes from soil
  PI: Rippy, M.A.
  Funding Source: SCHEV
  Award period: 11/2019
  Funding amount: $14,184

- Planning Grant: Engineering Research Center for the Global Environment Nutrient Network (GEN-2)
  PI: Grant, S.B.
  Co-PI: Boehm, A., Ferraro, P., Gomez-Valez, J., and McNair, L.D.
  Senior Personnel: Rippy, M.A., Boano, F., Cook, P., Davis, K.A., Feldman, D.L., Foufoula-Georgiou, E., Godrej, A.N., Holden, P.A., Hotchkiss, E.R., Laskowski, K., Lesko, J.J., Levin, L.A., Marusic, I., Poole, G.C., Schenk, T., Stewardson, M.J., Wang, Z., Widdowson, M.A.
  Funding Source: National Science Foundation
  Award period: 09 2018 – 08 2019 *(extended to 08 2021)*
  Total award amount: $100,000

- Multifunctional stormwater infrastructure for coastal communities

PI: Rippy, M.A.
Co-PI: Badgley, B., and Schenk, T.
Funding Source: Coastal@VT Seed Funds through the Fralin Life Sciences Institute at Virginia Tech
Award period: 01 October 2018 to 01 July 2019
Total award amount: $15,000

Professional affiliations

- American Geophysical Union (2007-present)
- American Society of Civil Engineers (2020 – present)
- American Ecological Engineering Society (2021-present)
- British Ecological Society (2021-present)

Stakeholder Engagement

- Co-organizer of four "One Water" focus groups with elected officials, environmental NGOs, land developers, and practitioners. These focus groups are intended to facilitate the co-development of a web-deployed water quality and hydrologic model for the Occoquan Reservoir (*Fall, 2024*)
- Co-organizer/participant in the DA 2.0 design charette, a full day workshop for stakeholders, VT faculty and students to re-envision stormwater infrastructure on the Blacksburg campus (*Fall, 2024*)
- Salt Watch Kickoff Webinar – Salt Watch is a community science monitoring program run by the Izaak Walton League of America. The webinar was part of a two-part series intended to inform and motivate community volunteers prior to the winter monitoring season (*Fall, 2024*)
- Co-organizer of six quarterly meetings with 39-50 Northern Virginia stakeholders on freshwater salinization. This stakeholder group is known as the Executive Committee on the Occoquan System (ECOS). *(Sp., 2021*-present*)*.
- Co-organizer and facilitator of the Occoquan Watershed Modeling Workshops, Fairfax, VA (25-31 participants, *Sp. 2023 - present*)
- Member of the VT Stormwater Advisory Team - worked with Arcadis and VA DEQ's Stormwater Advisory Group to update VA's stormwater management handbook (2023)
- VWEA 2022 Spring Stormwater Seminar. A continuing education opportunity for professional engineers licensed in Virginia – Invited Speaker, 2022
- Panelist for the "Freshwater Salinization Workshop" led by the Occoquan Watershed Monitoring Laboratory to discuss freshwater salinization in Northern Virginia and build common ground with stakeholders, Virginia, USA, 2020
- Participant in the Rotating Resilience Roundtables (2-day workshop focused on bringing stakeholders and academics together to identify consensus coastal zone challenges in Virginia), Virginia Tech, 2018
- Presentation to stakeholder members of VT-CAWRI (the Virginia Tech Center for Applied Water Research and Innovation), 2018

IRB-approved Human Subjects Research Projects *(*graduate students or student interns of Dr. Rippy, **bold**: research lead)*

<u>Active</u>

- **Rippy, M.A.** Learning landscape lab. HS#25-413 (VT, 2025-present)
- **Rippy, M.A., ***Krauss, L., *Blumenauer, M. Unreal engine bioretention visualization project. HS#20-488 (VT, 2023-present)
- **Schenk, T.,** Rippy, M.A., Grant, S.B., Hotchkiss, E.R., Lopez, K.G., Vikesland, P.J., *Sawyer, M.,

Maile-Moskowitz, A.Z., Parker, E.A., Bhide, S.V., Shipman, C.M., Rowles, K., Edwards, M.A., *Krauss, L., *Fausey, K. GCR: Common-pool resource theory as a scalable framework for catalyzing stakeholder-driven solutions to the freshwater salinization syndrome. HS #20-648 (VT, 2021-present)

- **Rippy, M.A.,** *LeBron, V., *Fausey, K., *Krauss, L., *Sawyer, M. Planning/ implementing green infrastructure projects. HS #20-571 (VT, 2020-present)
- **Rippy, M.A.,** Schenk, T., *Krauss, L., *Shah, P. Green Infrastructure Perceptions. HS #19-529 (VT, 2019-present)

<u>Completed</u>

- **Rippy, M.A.**, Feldman, D., Grant, S.B. Fighting Drought with Stormwater: the services and disservices of natural treatment systems. HS #2017-3998. (UCI, 2017 - 2018; *transferred UCI IRB to S.B. Grant in Fall 2018*)
- **Rippy, M.A.** Fighting Drought with Stormwater: the services and disservices of natural treatment systems. HS #18-1143. (in support of continued work at VT, 2019-2025)