

## Theodore Langhorst - Curriculum Vitae

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### Education

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**PhD Geological Sciences.** University of North Carolina at Chapel Hill. **Expected May 2023**

**M.S. Geological Sciences.** University of North Carolina at Chapel Hill. May 2019.

**B.S. Geophysics.** Ohio State University School of Earth Sciences. May 2016

### Professional Experience

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**Research Assistant** University of North Carolina at Chapel Hill  
6/2017 – Current.

Excl. TA semesters

**Teaching Assistant** University of North Carolina at Chapel Hill  
Spring 2019; Fall 2021

GEOL/ENEC324L: Water in Our World Lab

**Research Assistant** Ohio State University  
8/2015 – 6/2017

**Teaching Assistant** Ohio State University  
1/2016 – 5/2016

### Publications

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**Langhorst, T.**, Pavelsky, T. M., Frasson R. P. d. M., Wei, R., Domeneghetti, A., Altenau, E., Durand, M. T., Minear, J. T. Wegmann, K. W., Fuller, M. R., (2019). Anticipated improvements to river surface elevation profiles from the surface water and ocean topography mission. *Frontiers in Earth Science*, 7.

Eidam, E. F., **Langhorst, T.**, Goldstein, E. B., & McLean, M. (2022). OpenOBS: Open-source, low-cost optical backscatter sensors for water quality and sediment-transport research. *Limnology and Oceanography: Methods*, 20(1), 46–59. <https://doi.org/10.1002/lom3.10469>

Harlan, M. E., Gleason, C. J., Altenau, E. H., Butman, D., Carter, T., Chu, V. W., Cooley, S. W., Dolan, W. D., Durand, M. T., Eidam, E., Fayne, J. V., Feng, D., Ishitsuka, Y., Kuhn, C., Kyzivat, E. D., **Langhorst, T.**, Minear, J. T, Pavelsky, T. M., Peters, D. L., Pietroniro A., Pitcher, L. H. & Smith, L. C. (2021). Discharge Estimation From Dense Arrays of Pressure Transducers. *Water Resources Research*, 57(3), e2020WR028714

Yang, X., Pavelsky, T. M., Ross, M. R. V., Januchowski-Hartley, S. R., Dolan, W., Altenau, E. H., Belanger, M., Byron, D., Durand, M., Van Dusen, I., Galit, H., Jorissen, M., **Langhorst, T.**, Lawton, E., Lynch, R., Mcquillan, K. A., Pawar, S. & Whittemore, A. (2021). Mapping flow-obstructing structures on global rivers. *Water Resources Research*, e2021WR030386.

Whittemore, A., Ross, M. R., Dolan, W., **Langhorst, T.**, Yang, X., Pawar, S., Jorissen, M., Lawton, E., Januchowski-Hartley, S. & Pavelsky, T. (2020). A Participatory Science Approach to Expanding Instream Infrastructure Inventories. *Earth's Future*, 8(11), <https://doi.org/10.1029/2020EF001558>

- Kyzivat, E. D., Smith, L. C., Pitcher, L. H., Fayne, J. V., Cooley, S. W., Cooper, M. G., Topp, S. N., **Langhorst, T.**, Harlan, M. E., Horvat, C., Gleason, C. J., Pavelsky T. M., (2019). A high-resolution airborne color-infrared camera water mask for the NASA ABoVE campaign: Remote Sensing, v. 11, doi:10.3390/rs11182163.
- Tuozzolo, S., **Langhorst, T.**, Frasson, R. P. d. M., Pavelsky, T. M., Durand, M., Schobelock, J. J., (2019). The impact of reach averaging Manning's equation for an in-situ dataset of water surface elevation, width, and slope. *Journal of Hydrology*, 578.

## **Conference Submissions**

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- The first year of OpenOBS deployments: successful turbidity measurements in diverse environments and applications. *OSM 2022*
- Global riverbank migration from 36 years of satellite imagery. *AGU Fall Meeting 2021*.
- Variability and controls of riverbank erosion in the United States from 35 years of satellite imagery. *AGU Fall Meeting 2020*.
- Remotely sensed discharge and sediment flux of the Sagavanirktok River. *AGU Fall Meeting 2019*.
- Anticipated improvements to in-river DEMs from the Surface Water and Ocean Topography mission. *AGU Fall Meeting 2018*.

## **Funding**

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### Current:

- NSF proposal "Sediment fluxes in boreal rivers: determining relative seasonal loads and expanding long-term monitoring capability" (P.I. Emily Eidam, UNC).  
2 semesters tuition and stipend for 2022-2023 academic year.

### Past:

- UNC Department of Geological Sciences Summer funding, \$7,000 per year.  
UNC Masters Merit Assistantship, 2017-2018 academic year.