Win **Cowger**

Environmental Scientist

Moore Institute for Plastic Pollution Research

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I use science, data, and software to tackle the global challenges of plastic pollution and waste. This CV was produced with an application I built hosted at `https://wincowger.shinyapps.io/DataDrivenCV/`

Education

University of California, Riverside — *Riverside, CA, USA*

PhD. Environmental Science Soil and Water — *2017 –> 2021*

- (3.6 GPA)

Employment

Moore Institute for Plastic Pollution Research — *Long Beach, CA, USA*

Research Scientist — *October 2021 –> Current*

- Leading research on plastic pollution, applying for grants, publishing peer reviewed papers, collecting field and lab based data.

Publications

Peer-reviewed Articles

PLOS ONE — *Global*

Second Author (Link: https://doi.org/10.1371/journal.pone.0281596) — *2023*

- Eriksen, M., Cowger, W., Erdle, L. M., Coffin, S., Villarrubia-Gómez, P., Moore, C. J., Carpenter, E. J., Day, R. H., Thiel, M., & Wilcox, C. (2023). A growing plastic smog, now estimated to be over 170 trillion plastic particles afloat in the world's oceans-Urgent solutions required. PloS One, 18(3), e0281596.

AGU: Community Science — *Pinole, CA, USA*

First Author (Link: https://doi.org/10.1029/2022CSJ000017) — *2023*

- Cowger, W., Gomez, I., Martinez-Rubin, N., Moriarty, A., Harwell, T., & Anich, L. (2023). Community science⊠informed local policy: A case study in Pinole creek litter assessment. Community Science, 2(1). https://doi.org/10.1029/2022csj000017

Environmental Science: Processes & Impacts — *Bangladesh*

Coauthor (Link: https://doi.org/10.1039/D3EM00014A) — *2023*

- Rakib, M. R. J., Al Nahian, S., Madadi, R., Haider, S. M. B., De-la-Torre, G. E., Walker, T. R., Jonathan, M. P., Cowger, W., Khandaker, M. U., & Idris, A. M. (2023). Spatiotemporal trends and characteristics of microplastic contamination in a large river-dominated estuary. Environmental Science. Processes & Impacts. https://doi.org/10.1039/d3em00014a

Atmouspheric Pollution Research — *Southern California, USA*

Coauthor (Link: https://doi.org/10.1016/j.apr.2023.101651) — *2023*

- Leonard, J., Borthakur, A., Koutnik, V. S., Brar, J., Glasman, J., Cowger, W., Dittrich, T. M., & Mohanty, S. K. (2023). Challenges of using leaves as a biomonitoring system to assess airborne microplastic deposition on urban tree canopies. Atmospheric Pollution Research, 14(2), 101651.

Journal of Hydrology: Regional Studies — *Southern California, USA*

First Author (Link: https://doi.org/10.1016/j.ejrh.2022.101264) — *2022*

- Cowger, W., Gray, A., Brownlee, S., Hapich, H., Deshpande, A., & Waldschläger, K. (2022). Estimating floating macroplastic flux in the Santa Ana River, California. Journal of Hydrology: Regional Studies, 44, 101264.

Chemosphere — *Global*

Second Author (Link: https://doi.org/10.1016/j.chemosphere.2022.137300) — *2022*

- Frond, H. D., Cowger, W., Renick, V., Brander, S., Primpke, S., Sukumaran, S., Elkhatib, D., Barnett, S., Navas-Moreno, M., Rickabaugh, K., Vollnhals, F., O'Donnell, B., Lusher, A., Lee, E., Lao, W., Amarpuri, G., Sarau, G., & Christiansen, S. (2022). What determines accuracy of chemical identification when using microspectroscopy for the analysis of microplastics? Chemosphere, 137300.

Science of the Total Environment
Global

Coauthor (Link: https://doi.org/10.1016/j.scitotenv.2022.158866) *2022*

- Koutnik, V. S., Leonard, J., El Rassi, L. A., Choy, M. M., Brar, J., Glasman, J. B., Cowger, W., & Mohanty, S. (2022). Children's playgrounds contain more microplastics than other areas in urban parks. The Science of the Total Environment, 158866.

Chemosphere
Global

Coauthor (Link: https://doi.org/10.1016/j.chemosphere.2022.136449) *2022*

- Kotar, S., McNeish, R., Murphy-Hagan, C., Renick, V., Lee, C.-F. T., Steele, C., Lusher, A., Moore, C., Minor, E., Schroeder, J., Helm, P., Rickabaugh, K., De Frond, H., Gesulga, K., Lao, W., Munno, K., Thornton Hampton, L. M., Weisberg, S. B., Wong, C. S., … Rochman, C. M. (2022). Quantitative assessment of visual microscopy as a tool for microplastic research: Recommendations for improving methods and reporting. Chemosphere, 136449.

Microplastics and Nanoplastics
California, USA

Corresponding Author (Link: https://doi.org/10.1186/s43591-022-00035-1) *2022*

- Hapich, H., Cowger, W., Gray, A. et al. Trash Taxonomy Tool: harmonizing classification systems used to describe trash in environments. Micropl.&Nanopl. 2, 15 (2022).

Water Research
Southern California, USA

Coauthor (Link: https://doi.org/10.1016/j.watres.2022.118950) *2022*

- Koutnik, V. S., Leonard, J., Brar, J., Cao, S., Glasman, J. B., Cowger, W., Ravi, S., & Mohanty, S. K. (2022). Transport of microplastics in stormwater treatment systems under freeze-thaw cycles: Critical role of plastic density. Water Research, 222, 118950.

Earth-Science Reviews
Global

Coauthor (Link: https://doi.org/10.1016/j.earscirev.2022.104021) *2022*

- Waldschläger, K., Brückner, M. Z. M., Carney Almroth, B., Hackney, C. R., Adyel, T. M., Alimi, O. S., Belontz, S. L., Cowger, W., Doyle, D., Gray, A., Kane, I., Kooi, M., Kramer, M., Lechthaler, S., Michie, L., Nordam, T., Pohl, F., Russell, C., Thit, A., … Wu, N. (2022). Learning from natural sediments to tackle microplastics challenges: A multidisciplinary perspective. Earth-Science Reviews, 228, 104021.

Frontiers of Environmental Science & Engineering
Canada

Coauthor (Link: https://doi.org/10.3389/fenvs.2022.912107) *2022*

- Jenkins, T., Persaud, B. D., Cowger, W., Szigeti, K., Roche, D. G., Clary, E., Slowinski, S., Lei, B., Abeynayaka, A., Nyadjro, E. S., Maes, T., Thornton Hampton, L., Bergmann, M., Aherne, J., Mason, S. A., Honek, J. F., Rezanezhad, F., Lusher, A. L., Booth, A. M., … Van Cappellen, P. (2022). Current State of Microplastic Pollution Research Data: Trends in Availability and Sources of Open Data. Frontiers of Environmental Science & Engineering in China, 10.

Environmental Research Letters
Southern California, USA

First Author (Link: https://iopscience.iop.org/article/10.1088/1748-9326/ac3c6a) *2022*

- Cowger, W., Gray, A., Hapich, H., Osei-Enin, J., Olguin, S., Huynh, B., Nogi, H., Singh, S., Brownlee, S., Fong, J., Lok, T., Singer, G., & Ajami, H. (2022). Litter origins, accumulation rates, and hierarchical composition on urban roadsides of the Inland Empire, California. Environmental Research Letters: ERL, 17(1), 015007.

Funding

Ongoing

Natinal Renewable Energy Lab ($110,000)
USA

PI (Moore Institute) *2022 –> Current*

- Water Pact

Possibility Lab ($250,000)
California, USA

PI (Moore Institute, UCR, SFEI) *2022 –> Current*

- Microplastics Data Portal

Completed

UC Riverside ($14,400)
Riverside, CA, USA

PI (UCR) *2021 –> 2021*

- Dissertation Year Fellowship

NSF ($138,000)
Riverside, CA, USA

PI (Personal) *2018 –> 2021*

- National Science Foundation GRFP

UC Riverside ($40,000)
Riverside, CA, USA

PI (Personal) *2017 –> 2021*

- Chancellors Distinguished Fellowship