

Researcher raises awareness on the health of rivers and lakes—by swimming in them

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By swimming the length of the Danube, chemist Andreas Fath hoped to bring attention to the condition of the rivers that affect communities, measuring pollution and performing outreach activities along the way. At

the same time, other researchers are working to understand the impacts of this summer's high temperatures and droughts on lakes and rivers.

On April 22, Fath jumped into the Danube River in Ulm, Germany. He would spend the next eight weeks swimming over 1,600 miles along the river, writes Senior Editor Laura Howes. Passive sampling membranes stuck to the legs of his wetsuit absorbed [persistent organic pollutants](#) in the water, while scientists traveling with him took samples to measure the water's chemistry and quality. One risk Fath particularly cares about is microplastics in the water. They can soak up pollutants and are then eaten by fish, concentrating the pollutants in their bodies. But that's not the only risk to the wildlife in lakes and rivers. This past summer, a [toxic algal bloom](#) in the Oder River in Europe killed hundreds of thousands of fish. Other researchers have found that the river was susceptible to this ecological disaster because of warmer water temperatures, changes in the oxygenation levels of the water and lower water levels. As lakes and rivers globally suffer from the effects of climate change and pollution, there are also potential consequences for [human health](#) and the economy. Dust containing arsenic is being blown aloft as the Great Salt Lake shrinks, cargo transport on the Yangtze and Rhine Rivers has been disrupted, and low water levels limit the amount of power that can be generated by [hydroelectric plants](#).

As he traveled the Danube River, Fath stopped at towns along the route to perform workshops on [environmental risks](#)—including Belgrade, Serbia, where Fath received significant attention from the media when he paused his swim because the water quality was so poor. In other countries, scientists are also raising a red flag regarding the health of rivers and lakes, with policymakers and the public beginning to take note. Fath has now swum the lengths of the Rhine, Tennessee and Danube Rivers, believing that public awareness will be key to inspiring people to protect these bodies of water.

More information: "What happens when the water in our rivers and lakes reaches record lows?", *Chemical & Engineering News* (2022).
cen.acs.org/environment/climate/low-water-levels/100/i38

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