

# Water Quality Modeling Basics and Beyond

## About the Water Quality Modeling Basics and Beyond Webinar Series

EPA's Water Quality Modeling Workgroup is hosting a series of webinars to help water quality professionals better understand surface water quality modeling and how models can be used to solve common problems that face water quality regulators. The webinars are focused on modeling as it applies to the Total Maximum Daily Load (TMDL), Standards, and Water Quality Permitting Programs, but they are applicable to a wide range of audiences. These two hour webinars cover everything from modeling basics (e.g., model setup and calibration) to applied water quality modeling of different pollutants. Webinars are recorded and archived on EPA's website at <https://www.epa.gov/waterdata/surface-water-quality-modeling-training>.

## Using the Water Quality Simulation Program (WASP) to Simulate Toxicant Concentrations in Surface Waters and Sediments

EPA's Water Quality Analysis Simulation Program (WASP) is a differential, spatially-resolved, mass balance, fate and transport modeling framework structured to allow users to simulate concentrations of environmental contaminants in surface waters and sediments. Recently, WASP version 8 has been updated with an Advanced Toxicant Module for simulating a range of toxicant contaminants. This presentation will discuss the advances in the toxicant module, including the available state variables, such as solute chemicals (e.g., metals, organics), nanomaterials (e.g., carbon-based, nano-metals), mercury, solids, and new processes, like multiple wavelength light attenuation. Specific case-study applications of the WASP Advanced Toxicant Module will be presented to provide real-world examples.

**Presentation Speaker: Christopher Knightes, EPA**

**April 21, 2021**

Eastern: 1–3 pm | Central: 12–2 pm | Mountain: 11–1 pm | Pacific: 10 am–12 pm | Alaska: 9 am–11 am

**Sponsored By: EPA Water Quality Modeling Workgroup**

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### Target Audience

The target audience is Clean Water Act (CWA) water quality regulators in programs such as TMDLs, monitoring, wetlands, standards, nonpoint sources, permitting, and assessment. The Webinar content assumes that audience members have an understanding of basic hydrology and water quality principles. The Webinars are open to everyone and will be relevant to anyone conducting water quality investigations.

**Registration:** You must register in advance to participate in this free Webcast. Please register here: [Registration for Using WASP to Simulate Toxicant Concentrations](#)

The materials in this Webcast have been reviewed by EPA staff for technical accuracy. However, the views of the speakers and the speaker's organization are their own and do not necessarily reflect those of EPA. Mention of any commercial enterprise, product, or publication does not mean that EPA endorses them.