


Water Quality Research Group

CE-QUAL-W2

Hydrodynamic and Water Quality Model

Portland State
UNIVERSITY

Home

History

Application History

Forum

W2 Model

Contacts

WQRG Projects

Workshop

Links

Model Description

CE-QUAL-W2 is a water quality and hydrodynamic model in 2D (longitudinal-vertical) for rivers, estuaries, lakes, reservoirs and river basins. It models eutrophication processes such as temperature-nutrient-algae-dissolved oxygen-organic matter and sediment relationships.

The current model release is Version 4.0 (see Model blog below and model history for details). The model release includes executables, the model and preprocessor. There is also a stand-alone V4 GUI preprocessor as part of the download package. There is a post-processor since the V3.7 model by the DSI, Inc. group and an Excel macro utility that aids the model user in writing out files compatible with CE-QUAL-W2 updates and fixes is included below. Model Versions 3.1, 3.2, 3.5 and 3.6 are no longer supported but are available from the download page.

Model Capabilities: Longitudinal-vertical hydrodynamics and water quality in stratified and non-stratified systems, nutrients-dissolved oxygen interactions, fish habitat, selective withdrawal from stratified reservoir outlets, hypolimnetic aeration, multiple algae, epiphyton/periphyton, CBOD, sediment diagenesis model (Version 4), and generic water quality groups, internal dynamic pipe/culvert model, hydraulic structures including for submerged and 2-way flow over submerged hydraulic structures, dynamic shading algorithm based on topographic and vegetation.

Model Limitations: Well-mixed in lateral direction (but can be used in a Quasi-3-D mode by use of additional model branches), hydrostatic momentum equation.

[Download the Model](#) **Last Updated: November 18, 2016**

Problems with the website?: Contact Dr. Chris Berger berger@pdx.edu

Note: The W2 Users Forum is located at w2forum.cee.pdx.edu

[Learn more about the Water Quality Research Group](#)

[W2 blog about model updates and changes in the code from Scott Wells](#)

[Release notes for version 4.0](#) [CE-QUAL-W2 User Manual Version 4.0](#)

The PSU Water Quality Group is not supported by the Corps of Engineers for model maintenance and code bug fixes, and updates. If you would like to make a contribution to model development, please follow this link to the PSU Foundation. Thank you in advance for your support.