

Miniaturizing America's tallest dam

June 9 2017



Engineers at the Utah Water Research Lab constructed a 1:50 scale model of the Oroville Dam spillway. Credit: Matt Jensen/Utah State University

Engineers at Utah State University's Utah Water Research Laboratory have constructed a 1:50 scale model of the Oroville Dam spillway.

Chief engineers Dr. Michael Johnson and Dr. Zachary Sharp worked

with a team of 15 engineers and technicians to construct the working [model](#) in just 40 days.

The approximately 100-foot-long, 60-foot-wide model replicates the spillway in its current state and features the terrain conditions that were formed following the damaging flow events in February. Johnson and his team are taking measurements on various sections of the model to determine depth of flows, wave action, pressures, velocity profiles and more.

Johnson, who specializes in fluid mechanics and experimental hydraulics, says the model will provide useful information about hydraulic conditions in and around the damaged spillway.

"Our goal is to assist the design team in California in making the best decisions moving forward with data from the model," said Johnson. "Data from the model will provide useful information that will help engineers make better-informed decisions about repair and replacement."

This is the second time a Utah Water Research Lab team has been involved with engineering efforts at Oroville Dam. Johnson helped design an engineering solution that improves the river valve outlet system in low-level reservoir [conditions](#). His work helped alleviate the effects of drought from 2014-2016.



Dr. Zachary Sharp, left, and Dr. Michael Johnson are the chief engineers on the project. Johnson specializes in experimental hydraulics and has designed other engineering solutions for Oroville Dam. Credit: Matt Jensen/Utah State University

Provided by Utah State University

Citation: Miniaturizing America's tallest dam (2017, June 9) retrieved 27 April 2024 from <https://phys.org/news/2017-06-miniaturizing-america-tallest.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.