

Prize Competitions Recap



— BUREAU OF —
RECLAMATION

January 2022

In the Spotlight: [Snowcast Showdown](#)



— BUREAU OF —
RECLAMATION



DRIVEN DATA



ensemble

hero



NCAR

NATIONAL CENTER FOR
ATMOSPHERIC RESEARCH

USDA NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

USGS
science for a changing world



Reclamation and Collaborators [Launched the Snowcast Showdown Prize Competition on December 7, 2021!](#)

The goal of this challenge is to develop improved methods to estimate the snow water equivalent (SWE) at high spatial and temporal resolution over the Western United States using near real-time data sources. Snow is a critical water resource across the West. Snowpack acts as a natural reservoir by storing precipitation during winter months and releasing it as snowmelt when temperatures rise during the spring and summer. Improved SWE estimates will help to improve

runoff and water supply forecasts and help water managers respond to extreme events such as floods and droughts. The [Snowcast Showdown](#) focuses on improving SWE estimates using machine learning and artificial intelligence approaches. Solutions must be [submitted by February 15, 2022](#). Solutions will be evaluated against observed snow conditions between February 15 and July 1. The total prize purse for this competition is \$500,000.

Competition Updates:



Canal Safety Challenge: A virtual demonstration event for the [Canal Safety Challenge](#) was conducted at the Reclamation Technical Service Center's Hydraulics Laboratory in Denver, Colorado from November 15-23, 2021. Three finalists designed and fabricated a prototype of their concept to test in a laboratory flume. Devices were judged based on the ability to safely and reliably rescue a human dummy, while minimizing impacts to operation, managing debris, and limiting potential for attractive nuisance. Installation and anchoring requirements, cost and durability, and adaptability were also considered. The winner of the Canal Safety Challenge was announced on December 16, 2022.



Rust Busters: Phase 2 laboratory testing is complete on the five submissions for Reclamation's [Rust Busters](#) prize competition. Micheal Ahimbisibwe and Jeremy Martinez's team won the Best Laboratory Performance Award for robotic spray application of coal tar enamel. Field evaluation is nearly complete, and the highest overall score will be awarded the final prize purse of up to \$100,000.



Automated Maintenance of Protection Systems (AMPS) Challenge: Eight prizes across seven teams were [selected to receive \\$10,000 each](#) and continue to the second phase of the [AMPS Challenge](#). These teams will now develop their prototypes, with Reclamation testing the top five in 2022 and the overall

winner receiving \$100,000. Through this competition, Reclamation is seeking innovative solutions that make power systems more reliable by automating maintenance testing of protective relays and transformers.



Divide and Conquer Challenge: Reclamation, in partnership with NASA, the Federal Highway Administration, and Freelancer, has recently launched the [Divide and Conquer Challenge](#) that seeks efficient parallel linear solvers to improve the efficiency and execution speed of models that simulate flow hydraulics and sediment transport in rivers and reservoirs. Teams are competing for a share of the \$300,000 prize money, with [Phase I submissions due March 27, 2022](#). Four teams with the best solvers in Phase I of the competition will proceed to Phase II, where they will apply their technology to enhance Reclamation's [SRH model](#).

Click [here](#) to learn more about all of Reclamation's Prize Competitions
Interest in partnerships, potential topics, or questions can be emailed to prize@usbr.gov.

About Reclamation

Established in 1902, Reclamation is best known for the dams, powerplants, and canals it constructed in the 17 western states. The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Reclamation is leveraging prize competitions to help solve some of the most critical water resource problems in the areas of Water, Infrastructure, and Environment.