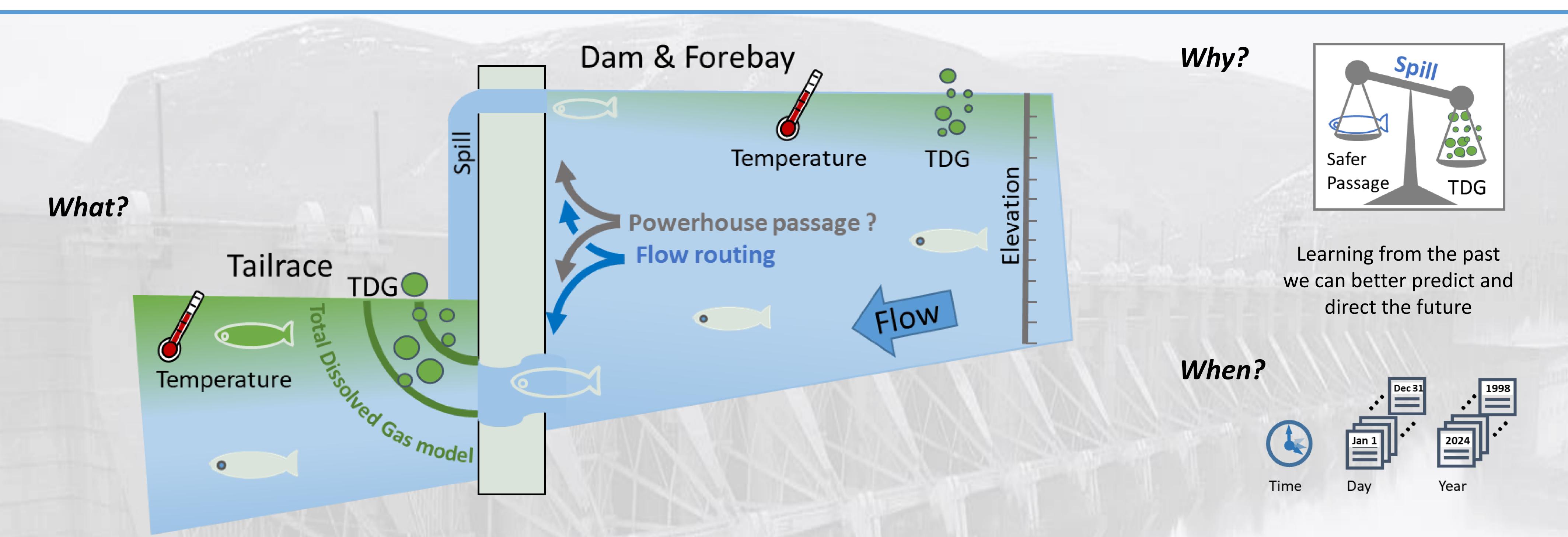
Visualizing Environmental and Dam-Operation Drivers on Total Dissolved Gas (TDG) and Juvenile Salmon Passage

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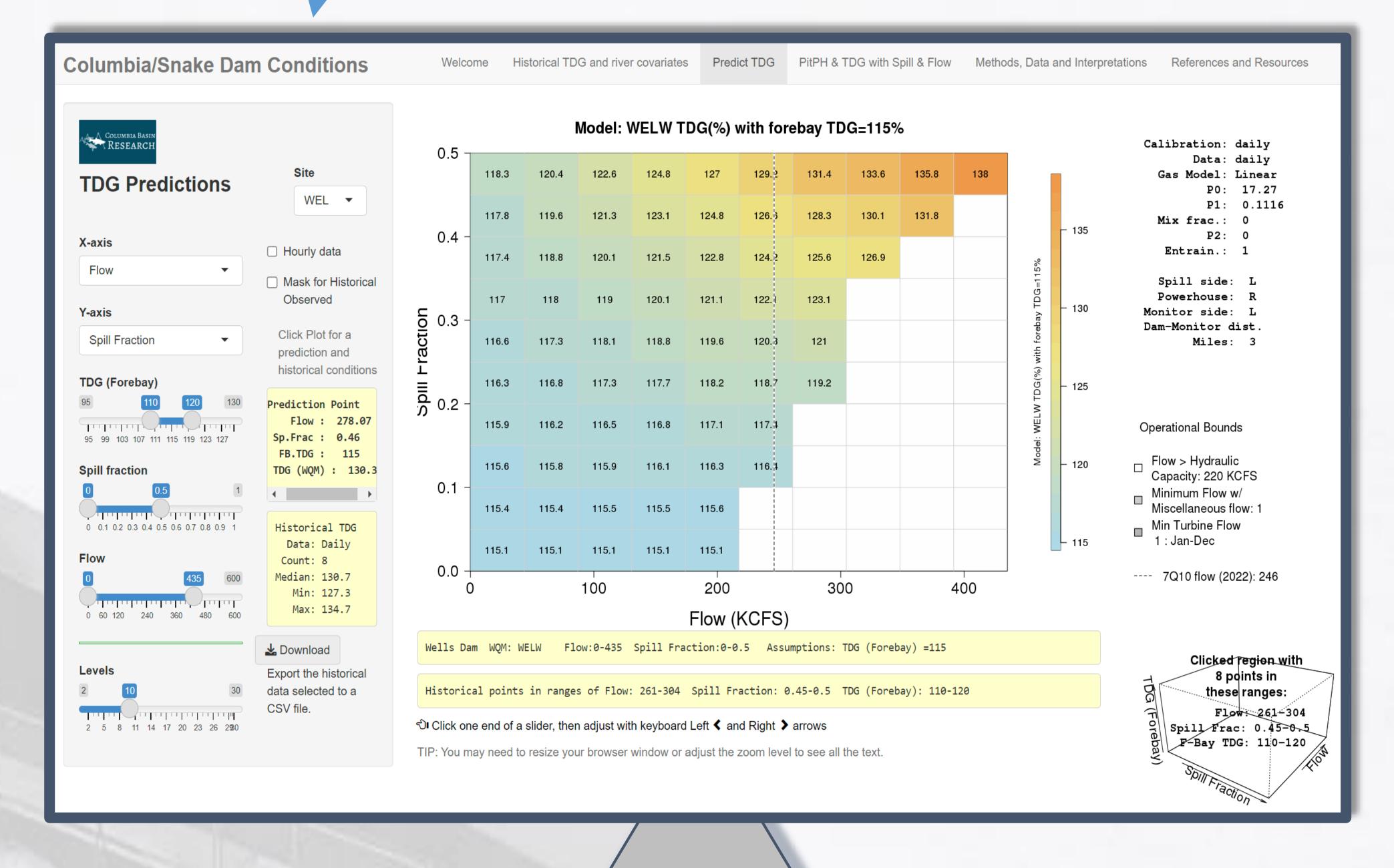


- How? Interactive App on Dam Conditions web page: www.cbr.washington.edu/shiny/DAM_CONDITIONS/
- Where? Assembles, filters, and illustrates data and predictions of environmental conditions, operations, and juvenile salmon passage at 14 Columbia and Snake river dams in Washington and Oregon.

Spill-influenced trade-offs between powerhouse passage and TDG

Columbia/Snake Dam Conditions Historical TDG and river covariates Predict TDG PitPH & TDG with Spill & Flow Methods, Data and Interpretations References and Resources MCPW TDG > 100% MCN PitPH & TDG with Spill & Flow 2018 2019 2021 0 2022 Adjust Value Levels for years with the "Year Range" slider **TDG** model **PitPH Species** TDG isolines 0.2 ---- with forebay Operational Bounds TDG=110% Flow > Hydraulic Capacity: 232 KCFS By Year ___ CSS PP Difference for Forebay Miscellaneous flow: 5 Min Turbine Flow Total Project Flow (KCFS) MCN Chinook PitPH=CSS TDG=On TDG data=By Year Apr 1 - Jun 16 2008 to 2023 Flow and spill conditions influence salmon passage at Columbia and Snake River dams. The Powerhouse Passage Probability (PPP) is the proportion of the fish passing the dam under those conditions that enter the powerhouse (i.e. NOT spillway route). This varies between the projects as a function of the spill fraction and the total project flow. There are two methods of computing this based on their sources: The Comparative Survival Study (CSS) method, and Comprehensive Passage (COMPASS) method. Spill and flow also influence Total Dissolved Gas (TDG) generation which is monitored at stations downstream of the dams. Modeled TDG and corresponding observations at each dam can be displayed. This tool allows you to explore conditions at any of 8 FCRPS projects on the Columbia and Snake Rivers, and a summary of PPP across the system

Forecast TDG based on dam operations and environmental conditions



Background Image: John Day Dam ©US Army Corps of Engineers https://www.nwd.usace.army.mil/Media/Images/igphoto/2003015871/



