Reducing Precipitation Forecast Uncertainty: Progress and Future Directions

Wednesday 3 August 2022

2022 FIRO Workshop

2-4 August 2022 Hosted by the Center for Western Weather and Water Extremes



Center for Western Weather and Water Extremes

"FIRO is a flexible water management approach that uses data from watershed monitoring and improved weather forecasting to help water managers selectively retain or release water from reservoirs for increased resilience to droughts and floods. FIRO applies emerging science and technology to optimize water resources and adapt to climate change without costly infrastructure." - Feb 2021

Lake Mendocino FORECAST INFORMED RESERVOIR OPERATIONS FINAL VIABILITY ASSESSMENT

February 2021

Executive Summary

The Final Viability Assessment (FVA) is the culmination of a six-year effort led by the Lake Mendocino Forecast Informed Reservoir Operations (FIRO) multi-agency Steering Committee. The FVA demonstrates the viability of FIRO and provides strong support for the U.S. Army Corps of Engineers (USACE) to approve and adopt FIRO-based operations at Lake Mendocino, located in the Russian River watershed in northern California.

What is FIRO?

FIRO is a flexible water management approach that uses data from watershed monitoring and improved weather forecasting to help water managers selectively retain or release water from reservoirs for increased resilience to droughts and floods. FIRO applies emerging science and technology to optimize water resources and adapt to climate change without costly infrastructure.

The Case for FIRO at Lake Mendocino

Lake Mendocino has experienced significantly reduced water supply reliability since diversions from the Eel River were decreased in 2006. The goal of FIRO at Lake Mendocino is to update the 1950s-era Water Control Manual by applying forecasting advancements to increase water supply reliability without reducing—and while possibly enhancing—the existing flood protection capacity of Lake Mendocino and downstream flows for fish habitat.

Read the full Final Viability Assessment at https://escholarship.org/uc/item/3b63q04n.



















FIRO Requires Accurate and Reliable Forecasts





Lead Time (Days)

Lake Oroville Spillway | Feb 2017

FIRO Requires Accurate and Reliable Forecasts



How do we reduce precipitation forecast uncertainty?

