

Managing Reservoirs for Atmospheric Rivers – The uneven balance of flood risk and water supply

Lawrence Schick, U.S. Army Corps of Engineers, Water Management, 4735 East Marginal Way South, Seattle, WA 98134 USA; lawrence.j.schick@usace.army.mil; (206) 764-6898

Reservoirs, in the Western U.S., offer the best approach for mitigating the impacts of both major floods and extreme droughts. However, for water managers, these two responsibilities have different requirements. Flood risk protection necessitates reservoir storage space be available, when extreme AR rainfall threatens. But, to avoid water supply shortfalls, involves capturing abundant AR rainfall runoff and filling the reservoir.

The presenter will explain how decisions are made during a flood and what AR research information may be beneficial for water managers to make informed choices. Recent examples of water management flood risk and water supply decisions will be shown. The examples will illustrate the competing aspects of different water management strategies for flood risk management vs water supply. To highlight the water management difficulties of flood risk reservoir operations and water supply, a review of the infamous Brisbane, Australia drought, then flood of January 2011 (not an AR) will be presented.

This presentation will also address other AR issues related to the U.S. Army Corps of Engineers, like Probable Maximum Precipitation (PMP) and cataloging past extreme storms.