

**ICOLD2026 Guadalajara, Mexico, International Symposium**  
**Theme | Water, Energy, and Society: The Evolving Role of Dams in a Changing World**  
**ABSTRACT**

**PAPER TITLE**

Study of the Effectiveness of Measures to Reduce Overtopping Risk

**Relevant Topic:**

- *Water Planning, Water Management, and Climate Resilience*
- ***Dam Safety Policy and Governance***
- *Dam Construction and Rehabilitation: Innovation and Lifecycle Extension*
- *Dam Performance Monitoring*
- *Flood Resiliency in Developed and Developing Countries*
- *Sedimentation Management and Reservoir Longevity*
- *Fish Passage, Biodiversity & Environmental Integration*
- *Community Engagement in Dam Development*
- *Tailings Dam Safety*
- *Dam Decommissioning & Removal*

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**PUBLISHED PAPER and PRESENTATION ONLY (Both options are highlighted, as we intend to publish the paper and give an oral presentation at the conference.)**

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**ENGLISH VERSION OF ABSTRACT:**

An integrated safety management system based on risk analysis is being implemented in the 55 large dams of the Guadalquivir River Basin Authority (Confederación Hidrográfica del Guadalquivir), allowing for the prioritization of investments to be made. An important focus has been the identification of possible measures to reduce risk.

This article presents an analysis and comparison of the measures proposed in the quantitative phase to reduce the hydrological risk of dam overtopping. The analysis considers, among other factors, the influence of the measure's nature, as well as the characteristics of the dam and the basin, on the reduction of dam risk. The objective is to identify the most effective measures, so that this can serve as a support tool in proposing measures for future risk analysis studies.

**SPANISH TRANSLATION OF ABSTRACT:**

En las 55 Grandes Presas de la Confederación Hidrográfica del Guadalquivir se está implantando un sistema de gestión integral de la seguridad basado en el análisis de riesgos, permitiendo una priorización de las inversiones a realizar. Un enfoque importante ha sido la identificación de posibles medidas para reducir el riesgo.

En el presente artículo se realiza un análisis y comparación de las medidas planteadas en la fase cuantitativa para reducir el riesgo hidrológico de la presa por sobrevertido. Para ello se analiza, entre otros, la influencia de tipo de la medida, así como las características de la presa y de la cuenca sobre la reducción del riesgo de la presa. El objetivo es identificar las medidas más efectivas, de manera que pueda servir como herramienta de apoyo en el planteamiento de medidas para futuros estudios de análisis de riesgo.