

## **Accounting for Climate Change Uncertainty in Long-Term Dam Risk Management**

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**Video title:** *Incorporating Climate Uncertainties in Dam Safety Management and Governance*

### **Video Script**

Ensuring dam safety requires the implementation of effective risk assessment strategies and informed decision making. Risk assessments must incorporate risks arising from climate-induced uncertainties while prioritizing cost-effectiveness. However, current risk assessments often assume that risks remain static over time. Hence, they need to be updated account for climate-induced uncertainties.

Recently, a team of researchers from Europe proposed a new methodology termed ‘multi-prior weighted scenarios ranking’ to incorporate climate uncertainties in dam safety management. It consists of a six-step strategy to assign probabilities for different climate scenarios and a cost-benefit analysis to prioritize optimal risk management strategies. To test it, the team applied it to a case study of Santa Teresa Dam in Spain, to quantify its current and future climate risks.

The methodology successfully predicted a progressive deterioration in dam risks which helped outline risk-reduction measures. It did so by prioritizing them based on their efficiency in minimizing climate-induced accumulated risks.

To conclude, this methodology can support decision makers to effectively manage risks while optimizing economic resources for dam safety under different climate scenarios.