



The British Dam Society

EVENING MEETING

Monday 21 November 2022 at 6:00pm

One Great George Street, London (Nearest tube: Westminster)

Improving PMP and PMF estimation for UK reservoir safety

Duncan Faulkner, JBA Consulting
Daniel Hine, Clare Waller and Tim Hunt, Environment Agency



For synopsis and brief presenter biography see overleaf | Admission free | Teas available from 5.30pm

This meeting will be streamed live on the internet. For more details, including enjoying the live stream as part of a group at one of our Regional Hubs around the UK, please visit the meetings page on the BDS website: www.britishdams.org

For more information please contact the ICE on 020 7665 2147 or email: bds@ice.org.uk



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Synopsis

A project funded by the Environment Agency has comprehensively reviewed methods for estimating the probable maximum precipitation (PMP) and probable maximum flood (PMF). It has also updated cataloguing of observed extreme floods and rainstorms in the UK, finding several exceedances of current estimates of the probable maxima. A review of research and international practice has identified many opportunities for improving current estimation methods applied in the UK and the project has identified a recommended way ahead for development of new methods. In the interim, a restatement of the current method has been produced, along with an Excel software tool to assist practitioners with applying it.

This talk will outline the findings of the project, the type of methods recommended for development and some of the challenges, including the desire to reconcile the concept of the probable maximum with a risk-based approach to reservoir safety management.

One topic the talk will not be able to cover is the effect that the new methods will have on the size of PMF estimates. Until the next phase of the project has developed the new methods, this will not be fully known.

Presenter Biography

Duncan Faulkner is Chief Hydrologist at JBA Consulting. He has been fascinated by dam engineering from an early age, and during his physics degree found talks organised by the university Engineering Society far more engaging than anything about quarks. After an MSc in hydrology he worked for five years at the Institute of Hydrology, developing the FEH rainfall frequency method. Since 1999 he has worked at JBA Consulting, on a mixture of research and consultancy projects with an increasingly international focus. He has led flood studies for dams in the UK, Ireland, SE Asia and Australia.

Clare Waller is a lead technical advisor in the Environment Agency's National Flood Hydrology Team, having previously worked at various consultancies and in academia. Clare's team provide expert evidence and advice to inform flood risk management and incident response, including leading the Environment Agency's guidance on flood hydrology for reservoir safety studies. Clare's role in this project was as a senior user, reviewing the project outputs from the perspective of operational flood hydrology requirements.

Tim Hunt is a chartered civil engineer and has worked for the Environment Agency and its predecessor since 1991. His principal specialism in that period has been in coastal and fluvial flood risk assessment and modelling. This includes R&D on coastal modelling, wave overtopping and practical research in flood hydrology. Tim has been on the Supervising Engineer Panel since 2016 and supervises nine flood storage reservoirs in the southwest.

Daniel Hine has recently joined the Environment Agency joint FCERM research and development programme, where he is responsible for leading Reservoir Safety R&D. He has held a range of R&D and innovation delivery roles, most recently with the Environment Agency and Severn Trent Water.

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