ICE WaRM
International Centre of Excellence in Water Resources Management

5th HEC-RAS WATER MODELLING

Monday 11th September to Friday 15th September, 2017 | Brisbane, Australia

HEC-RAS is recognised as an industry-standard hydraulic modelling program that is widely used throughout the world. Using the latest version of HEC-RAS (5.0) this week-long workshop will cover basic, intermediate and advanced levels across both 1D and 2D. You will learn to build, run, and animate flood models using the free HEC-RAS software. The new version includes two-dimensional floodplain modelling, unsteady sediment transport, bank erosion, water quality, and the RAS Mapper GIS interface.

Workshop Chair

Krey Price
Surface Water Solutions

Krey is one of the world's leaders in computational modelling & engineering design

Joining Krey are:
Robert Keller, Monash University
& Mark Forest, HDR Engineering

This week consists of five courses, run consecutively, and you can attend any combination of courses with respect to your level of experience and understanding.

Who should attend?

People working in:

- Private, public and consulting agencies
- Local, State and Commonwealth Government agencies
- Engineering, environment, agriculture, farming, irrigation, mining
- Education and research sectors
- Water authorities and power utilities

What's included

- Presentations by experienced water professionals
- Course notes - hard copy and electronic
- Tutorials, discussions
- Linking with other industry professionals
- Small group size to allow greater interaction
- Catering: lunch, morning and afternoon teas

Early bird special!

If you register by Monday 14th August you will receive a 20% discount on fees

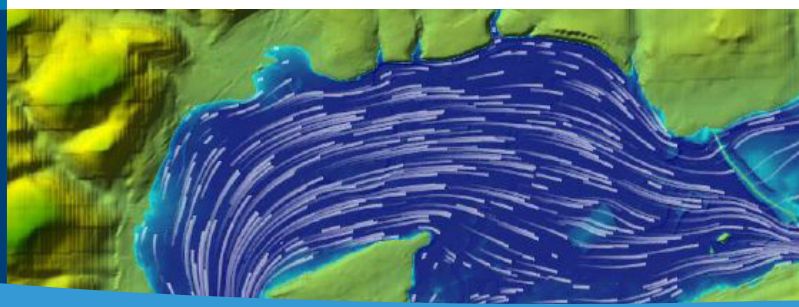
REGISTER NOW

What will we learn?

- Understand the methods used by HEC-RAS software in modelling channel and flood plain storage
- Undertake hands-on HEC-RAS modelling exercises with full instruction
- Know when it is appropriate to build an expensive model and when back-of-envelope will do

What will be covered?

- Open Channel Hydraulics & Introduction to HEC-RAS
- One Dimensional Flow Profiles in Context
- Cross Section Locations & Friction Slope Options
- Bridge Analysis and Modelling
- 1D, 2D and Coupled 1D/2D Floodplain Modelling
- Introduction to Sediment Transport Modeling



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For more information

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Presenters include:

Krey Price, Surface Water Solutions

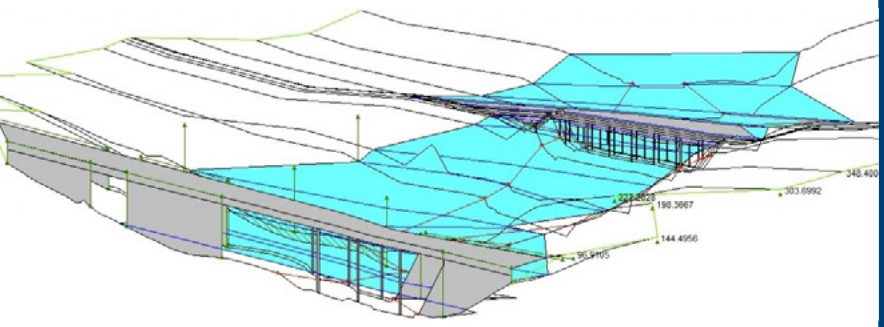
Krey is a widely experienced hydraulic engineer whose career includes 15 years developing hydraulic models for the U.S. Army Corps of Engineers. Krey has recently completed and presented benchmarking studies comparing the results of HEC-RAS 5.0 to other industry-standard hydraulic models for Australian river systems. Krey's specialties include: 2D hydraulic modelling, bridge and culvert replacement, bank stabilisation, landform design, mine closure, coastal engineering, river mechanics, environmental restoration, geomorphic design, fish passage, and dam decommissioning.

Mark Forest, HDR Engineering

Mark has over 34 years of experience in water resources engineering, specialising in flood control planning and design, floodplain management, rainfall/runoff modelling, hydraulic modelling, dam breach analysis, and alluvial fan modelling. Mark has also conducted numerous hydrologic and hydraulic modelling and floodplain management training courses, including HEC-RAS 2D analysis for individual clients and technical society conferences.

Robert Keller, Monash University

Robert has over thirty years of experience in Civil Engineering Hydraulics his main areas of expertise are: Open channel flow, flood plain hydraulics, physical and numerical modelling, sediment transport, hydraulic structures, urban hydraulics. He has carried out many flood studies using the HEC-RAS program and has conducted many training courses in the use of HEC-RAS.



Day 1

The first day is designed for those who wish to develop an understanding of flow profile modelling and basic use of the HEC-RAS model

- **Introduction**
- **Basic open flow channel hydraulics**
- **Principles of water surface profiles computation**

Day 2

Designed for those who already have a basic understanding of flow profile modelling and wish to extend their knowledge to solve more complex design problems

- **Junction analysis, split flow modelling**
- **Bridge and culvert modelling**

Day 3

Designed for those who require a more in-depth understanding of 1D modelling and additional features of HEC-RAS

- **Dam break modelling**
- **An introduction to sediment transport modelling and changes in mobile bed boundaries**
- **Pushing the boundaries with HEC-RAS:**

Day 4

This day assumes a rudimentary prior knowledge of one-dimensional unsteady HEC-RAS modelling and is intended to prepare participants to construct and run 2D models

- **Introduction to HEC-RAS 2D**
- **Creating & refining 2D flow areas**
- **Predictive uncertainty analysis in models**
- **RAS Mapper & GIS interfacing**

Day 5

This day assumes a rudimentary prior knowledge of 2D HEC-RAS modelling and is intended to prepare participants to view, troubleshoot, and interpret 2D models and combined 1D/2D models

- **Viewing 2D output & results**
- **Creating & refining inline 2D areas**
- **Troubleshooting & reviewing 2D models**
- **2D model calibration**
- **HEC-RAS 5.0 vs other 2D models**
- **Creating a 2D model from scratch**