

# Australia TUFLOW 2017 **Extra Training Sessions**

The 2017 version of TUFLOW has some of the most exciting new computational features for several years. Following the sell-out of our midyear training and workshop days we will be re-visiting Brisbane, Sydney and Melbourne showcasing the new features of TUFLOW and offering 'hands on' introductory and advanced training sessions.

TUFLOW is a world-leading, powerful 1D and 2D computational engine for simulating floods, tides and pipe network hydraulics. It has been successfully applied world-wide to a diverse range of applications, from coastal storm tide inundation to broad scale whole of catchment flooding and fine-scale urban flooding with complex pipe networks.

The additional training days in November and December, 2017 are focused on our grid based modelling platform, which includes the TUFLOW "Classic" and heavily parallelised (GPU enabled) solvers.

Facilitated by the developers of TUFLOW, the training will provide you with direct access to specialist advice on model setup, review and the latest tips and tricks. We look forward to seeing you there and if you have any questions, please don't hesitate to get in contact @ training@tuflow.com.

#### Trainers and Presenters

The sessions will be conducted by three of Australia's leading hydraulic modelling experts: Bill Syme, Mitchell Smith and Phillip Ryan. Collectively the trio have over 50 years TUFLOW modelling experience!



Bill Syme Software Manager and TUFLOW Author



Mitchell Smith TUFLOW Training and Support Lead



Phillip Ryan TUFLOW Development Lead

#### Introductory TUFLOW Training

This computer based training is aimed at new TUFLOW modellers. The course includes TUFLOW theory, followed by practical model creation and review of results.

#### Advanced TUFLOW Training

This computer based training is aimed at existing TUFLOW modellers. The course familiarises TUFLOW users with new features and efficient modelling practices in detail.

#### Preparation

Introductory Training Day: All required training material, including laptops will be provided.

Advanced Training Day: All required training material, including laptops will be provided. Optionally, you can bring a laptop if you've pre-installed and licensed software on your machine (GIS, Text Editor, Excel etc.). Dongles are not required.

#### **Dates and Locations**

Location	Beginner Training	Advanced Training
Brisbane	22 <sup>nd</sup> November	23 <sup>rd</sup> November
Sydney	29 <sup>th</sup> -November FULL	30 <sup>th</sup> November
Melbourne	6 <sup>th</sup> -December-FULL	7 <sup>th</sup> December

#### Costs

Costs for each training day are outlined below.

Introductory or Advanced	\$880/person (inc. GST)
TUFLOW Training	



Phillip Ryan – TUFLOW Development Lead facilitating an Advanced Training Day.

#### Registration and Payment

Training) to:

BMT WBM Pty Ltd Level 8, 200 Creek S Brisbane, Queenslar ABN 54 010 830 421 Tel: + 61 7 3831 674

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# Introductory TUFLOW Training

#### 8:45

#### **TUFLOW Introduction**

- Technical overview of TUFLOW.
- Presentation of the interactions between TUFLOW, GIS, 3rd Party providers and text control files.

#### 9:45

#### **2D Model Theory**

- Template files.
- Model geometry.
- Boundaries.
- Running TUFLOW simulations.

#### 10:15

Tea break

### 10:45

#### **2D Model Development**

- · How to create and run 2D only floodplain model.
- · Review results.

#### 12:30

Lunch (provided).

### 13:15

#### **Model Performance**

- Model check files.
- Model health / performance.

### 13:45

#### **2D Topography Modification**

- How to use break lines.
- How to modify topography using cut/fill regions.
- Using model check files.

### 14:30

#### **Embedding 1D structures**

- 1D/2D linking mechanisms.
- · How to embed 1D structures in a 2D model.
- · How to review structure performance.

#### 15:30

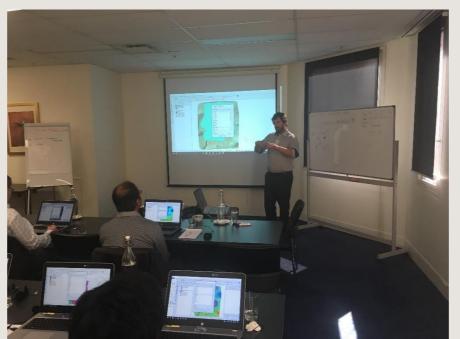
Afternoon tea and networking.

#### 16:00 - 17:00

- Embedding 1D structures (continued).
- Q&A session.



Bill Syme - Founder of TUFLOW at an 'Inside the Black Box' training session.



Mitchell Smith - Training and Support Lead running through the Introductory Training day.



# **Advanced TUFLOW Training**

# 8:45

### Handy new TUFLOW features

### 10:30

Morning Tea and Networking.

#### 10:45

# Hands on - TUFLOW HPC (Heavily Parallelised Compute) **CPU & GPU Solver**

- on multi-threaded CPUs.

#### 12:15

Lunch (provided)

### 13:15

### AR&R blockage.

### **Tuflow on the Cloud**

- TUFLOW cloud offering.

# 15:30

Afternoon tea and networking.

#### 16:00 - 17:00

- Training day recap.
- Q&A session.

#### **TUFLOW Introduction, Theory and Applied Hydraulics**

 Technical overview – Inside the Black Box of the two solvers! Lecture – New techniques for urban flood modelling.

 Speeding up model initialisation – Full model binary and XF outputs. · New output formats and python visualisation tools.

• Monte Carlo simulation management and result processing.

• In-depth overview of the new GPU enabled solver.

• Using 1<sup>st</sup> order and new 2<sup>nd</sup> order solutions.

• Detailed discussion on comparisons to TUFLOW Classic.

• Solver selection, implication for runtimes, hardware usage, running

### Hands on – Australian Rainfall and Runoff

• Automation and setup of AR&R ensembles through AR&R data hub. · Batch file tips and tricks for large event sets.

· Post processing tools for ensemble datasets.

 Recent advancements in TUFLOW Cloud computing. • Migrating production modelling to the cloud.