

What's happening...

waterRIDE™

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www.waterRIDE.net

The team of engineering programmers based in WorleyParsons' Sydney office have been busy of late incorporating a host of new features into the waterRIDE suite of products. waterRIDE continues to evolve to serve the needs of its users and we encourage all users to send comments and suggestions through to us via email: waterRIDE@worleyparsons.com

Project Perspective: Allens Creek MIKE11 Conversion

Wollongong City Council invited WorleyParsons to convert detailed MIKE11 modelling carried out as part of the freeway upgrade across Allens Creek.

The MIKE11 modelling was carried out by Cardno and the network consisted of approximately 60 branches with almost 600 cross sections. A total of 240 model runs were carried out across a range of ARI's, from the 1 in 5 year to the PMF.

The model runs included various culvert blockage scenarios, and differing incident rainfall intensity/duration combinations for the various ARI's.

A 2D framework was developed for the MIKE11 model network using waterRIDE 1D Surface. This application automatically triangulates between upstream and downstream cross sections along a branch and features a toolset to rapidly adjust (stretch) the cross sections to ensure they cover the true flood extent, when ultimately mapped to a finer scale DEM.

waterRIDE 1D Surface automatically applies the 2D framework to *all* model runs. The model runs were then batch mapped using waterRIDE Batch to a 5m gridded DEM created from Aerial Laser Survey (ALS). The result was some 240 different flood surfaces, accessible at a 5m resolution.

The "Peak of Peaks" tool in waterRIDE FLOOD Manager was then used to rapidly determine the peak value (or envelope) of all hydraulic parameters (level, depth, velocity, VxD, hazard etc) across the full time series of all model runs for each ARI.

The resulting waterRIDE project providing access to the 1D MIKE11 model results as a 2D surface was delivered to Council, along with a separate project providing access to the "peak of peaks" datasets.

GIS datasets such as property databases (including surveyed floor levels), cadastral blocks, road networks and aerial photography were then integrated with the flooding datasets within waterRIDE FLOOD Manager.

Councils' flooding team have distributed access to the model results via a network license of waterRIDE FLOOD Manager and Viewer.

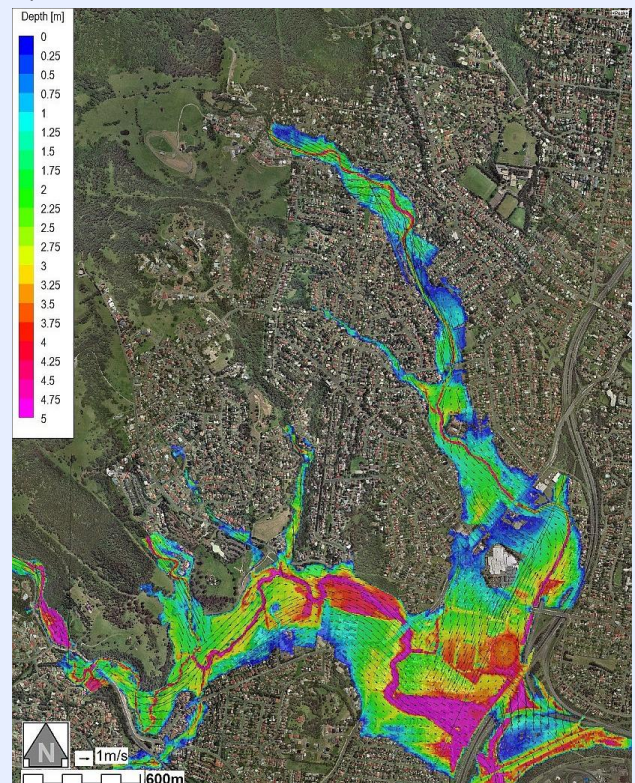
Upcoming Features

Unit Stream Power

Unit stream power can be used to assist an investigation into the susceptibility of various parts of a channel and the floodplain to erosion.

The current beta version of waterRIDE FLOOD Manager provides access to the unit stream power parameter in same manner as any other hydraulic parameter (ie thematic mapping, profile and time series plots, animation, peaks, exporting, integration with GIS datasets, parameter queries etc).

Unit stream power is available for all model results, allowing this useful investigative tool to be used on any of your modelling results. You are no longer limited to specific modelling packages to access this parameter.



Peak Of Peaks – Flood Depth with Velocity Vectors – Allens Creek MIKE11

Level 12 / 141 Walker St
North Sydney, 2060
Australia

PO Box 1812
North Sydney, 2059
Australia

ph: + 61 2 8456 7352
fx: + 61 2 8923 6877
em: waterRIDE@worleyparsons.com



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resources & energy