What's Happening...

waterRIDE™

Advisian
WorleyParsons Group

At the recent Floodplain Management Australia Conference there was a significant buzz around the area of flood forecasting with many interested in entering this exciting space.

In this issue we take a brief look at what datasets you need to setup such a system, which you may already have!

We also look at what features are "on the way" in our next major release, v8.

Real-Time Flood Forecasting – What Data Do You Need?

Community expectations are rapidly growing in the areas of predicting natural hazards.

In the realm of real-time flood forecasting, some may be surprised that an effective flood forecasting system can be setup using readily available datasets.

For example, a simple system was recently built for a Council in NSW using their flood modelling outputs, a DEM, and a gauge at which they are issued a peak flood level by the BoM.

Such a system becomes highly useful when integrated with GIS datasets to help derive additional flood intelligence such as properties flooded above floor, evacuation route closure, and critical infrastructure operability.

As a minimum, the datasets required to setup a flood forecasting system are:

- Flood model peak water surfaces (covering small to large floods)
- A Digital Elevation Model (DEM)
- A location at which a forecast peak level/flow is issued/available

Increasing sophistication in a system may involve any of the following additional datasets/components:

- Fallen rainfall
- Forecast rainfall (totals and gridded surfaces)
- Real-time hydrologic modelling
- Real-time hydraulic modelling
- Overflow from upstream hydraulic controls (eg dams/weirs)
- Rainfall ARI
- Rainfall/Level lookup tables
- Rainfall/Flow lookup tables
- GIS layers for creation of flood intelligence.

As can be seen from the above lists, much of this data is created as part of flood or overland flow studies.

It may be that a real-time flood forecasting system is closer than you think!

waterRIDE™ v8 – New Features

Many have been asking about the upcoming major release, waterRIDE™ v8.

Some of the more significant features in v8 include:

Pipe results - access to *time-varying* pipe model results simultaneously with surface water (TUFLOW at present)

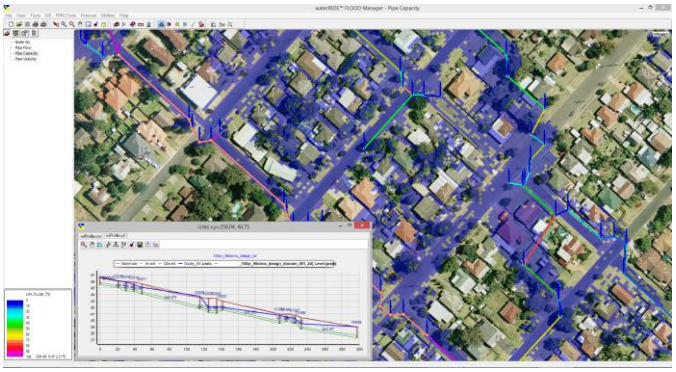
"Infinite Grid"- effectively no limit on the size of gridded datasets, even on 32-bit systems

Hydrology Outputs – Access to outputs from hydrologic modelling (RAFTS, URBS, RORB at present)

Expanded Gridded Forecast Rainfall – Support for BoM NowCast and MetService rainfall forecasts in addition to BoM ADFD and PME datasets

Flood Forecasting – Continued **e**xpansion of waterRIDE™'s flood forecasting capability

Enhanced Automated Certificates – Significantly expanded functionality included graphics from any view in the waterRIDE™ project



Visualisation of 2D Model Results including Piped Flow

Flow Surface – Automatically create a surface of maximum flow across the modelled area

GDAL v2.1 – Support for Google Maps/Bing/ESRI online imagery and TAB file editing

Searching and Reporting – Enhanced, multi-criteria searching and inclusion of a general reporting engine

Surface Interpolation – Easy access to waterRIDE™'s hydraulic interpolation algorithm (eg create an approximate 50yr flood using 20yr and 100yr modelling)

Interface Enhancements – Numerous improvements to the general waterRIDE™ interface and navigation tools