

# Flood Impact Assessment & Infrastructure Design

Assessing the impact on flooding and associated socio-economic risks of floodplain developments and infrastructure is needed for government approvals and corporate risk management of capital expenditure.

Accurately understanding the flood risk profile during construction and post development, and to disseminate these risks along with mitigation options to stakeholders, is crucial if informed decisions are to be made and best practice sustainable design and community trust are to ensue.

Due to recent advancements in TUFLOW the industry is now better placed than ever to meet these challenges.

The TUFLOW software suite, continually developed and enhanced over three decades, offers industry-leading accuracy, superior computational speed and numerical stability, and advanced functionalities to model the most challenging hydraulic conditions encountered in flood impact assessments.

Enable your team to tackle the most complex flood impact assessments with TUFLOW.

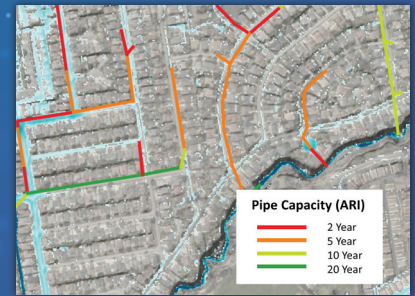
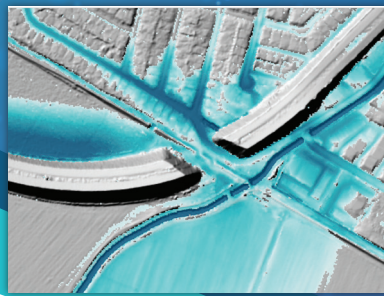
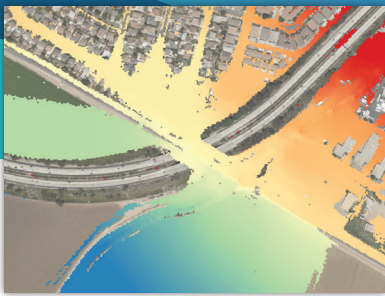
As researchers, scientists and engineers we work in a range of industries that solve complex environmental problems. Our assessments span scales from the molecular to global, from the instantaneous to the inter-decadal. Our projects require flexible, accurate, fast and powerful tools backed up by research, benchmarking and support.



# Design iterations made easy using TUFLOW's scenario management & data layering system

## TUFLOW Feature Focus

- Quadtree meshes allows targeted fine-scale cell resolutions around the floodplain developments being assessed.
- All types of hydraulic structures encountered in infrastructure can be represented using TUFLOW's advanced 1D and 2D structure representations.
- Powerful multiple scenario and event management options to quality control and rapidly assess numerous infrastructure design iterations.
- Industry leading data layering and in-built topography modification features allows infrastructure designs to be simply added or removed without duplicating base data.
- Direct support for topographic surfaces from external design software (12d, CAD, Civil 3D).
- GPU acceleration provides major benefits to project productivity, turning over simulations and design iterations much much faster than CPUs.



TUFLOW offers industry-leading accuracy, speed and numerical stability. Combined with TUFLOW's powerful event/scenario management options, TUFLOW is ideal for rapid turnover of design iterations and option testing for flood impact assessments of developments.

Flood impact mapping is also quick and efficient thanks to TUFLOW's high level of GIS integration and support for non-proprietary industry standard output formats.

TUFLOW's sub-grid topography sampling means flood impacts distant to the focus area caused by changing the mesh or cell sizes is non-existent or minimal compared with other software.

Quadtree further enhances impact assessments by simply reducing the cell sizes over and around the proposed works producing higher resolution hydraulic analysis and outputs where needed.

All TUFLOW Products are extensively benchmarked against lab-scale experiments and real-world historic flood events. The adaptability of TUFLOW across all scales whilst maintaining accuracy allows users to confidently conduct detailed design and flood impact assessments from small scale developments to major infrastructure works.

TUFLOW is uniquely integrated with numerous Geographic Information System (GIS) software such as ArcGIS, QGIS and MapInfo and supports common civil design formats. This gives the user greater flexibility to utilise the strengths of different GIS and CAD software to optimise workflow efficiency. TUFLOW's flexibility facilitates easier mapping and communication of results cross-discipline, helping planners, designers, drafters, and stakeholders understand and interrogate results.

For more information:  
[info@tuflow.com](mailto:info@tuflow.com)  
[www.tuflow.com](http://www.tuflow.com)

