

Further information:

Edenvale Young Associates

www.edenvaleyoun.com

Project Contact:

Dr. Chris Whitlow
Director

chris.whitlow@edenvaleyoun.com

0117 214 0530

Project Description number:

EVY0272

Project Type

Flood Risk/Consequence Assessment

Flood Forecasting

Detailed Design

Calibration & Optimisation

Flood Map Challenges

Scour & Geomorphology

Water Framework Directive

Environmental Impact Assessment

Training

Marine and Coastal

Key Words:

Flood Forecasting

Tidal and Fluvial Modelling (ISIS, TUFLOW, Calibre, Delft3D, MIKE21)

SWAN Wave Modelling

Client and stakeholders:

SEPA

Royal Haskoning Ltd

Forth and Tay Coastal Flood Warning

Edenvale Young and Royal Haskoning were commissioned by SEPA to introduce flood forecasting capabilities for a new flood warning scheme as Phase 3 of the 2006 Scottish Flood Warning Improvements program.



Illustration 1: Wave over-topping

Project Details

The objectives of the study were to produce a coastal flood forecasting system which:

- Transforms tidal surge forecasts to flood warnings
- Transforms offshore wave forecasts to inshore wave and over-topping forecasts
- Is efficient and reliable in real time

Existing fluvial and tidal models and sea state data were used to calibrate a forecasting system for sites in Flood Warning Target Areas. The forecasting sites

were chosen according to historical flooding and their level of flood risk.

For each area a threshold level was determined over which flooding is likely to occur. Flood warnings are triggered and issued according to these threshold values.

Grading of flood severity and site susceptibility are also considered in the warning system.

Calibration and verification of tidal, fluvial and wave data resulted in very good agreement and therefore high confidence in forecasting.