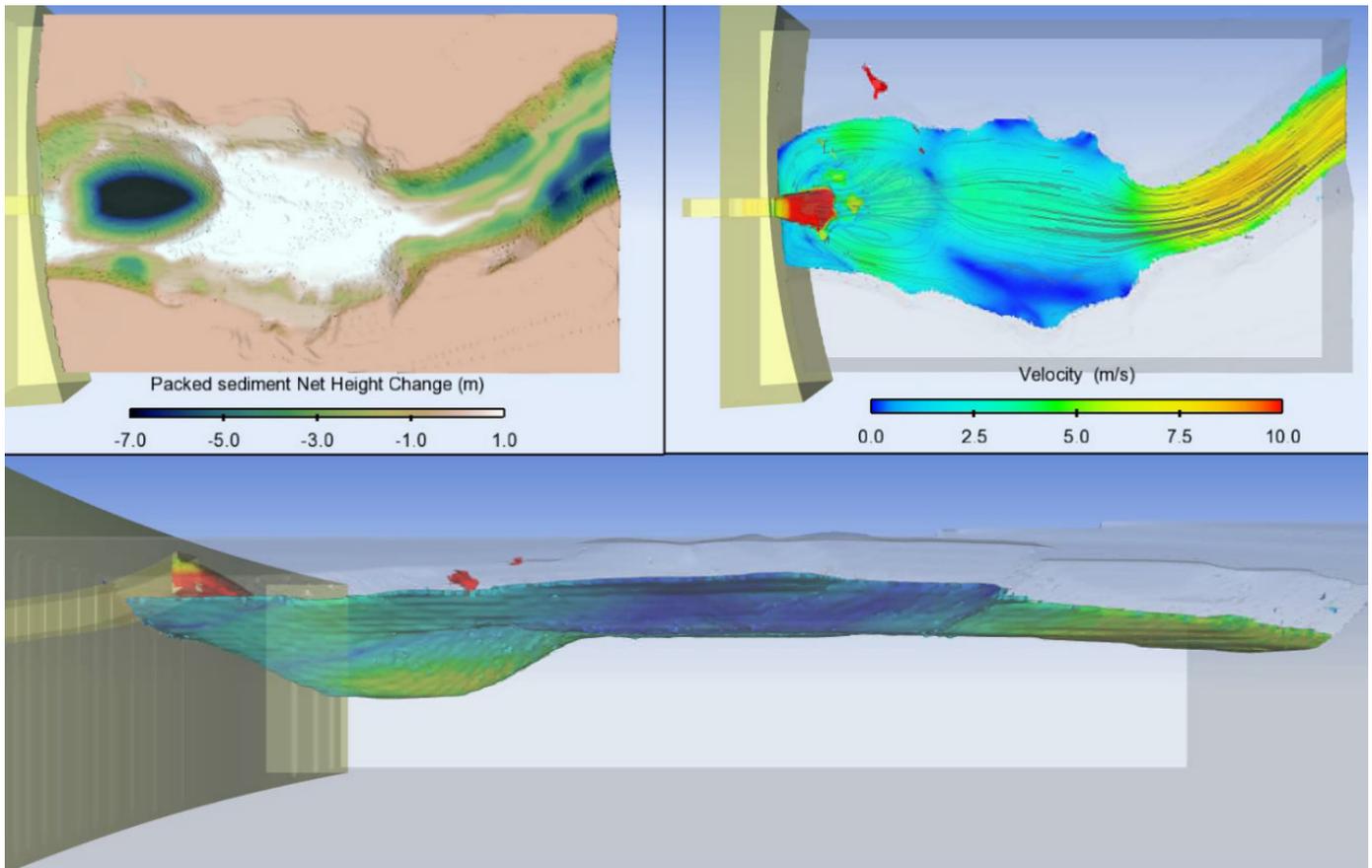


FLOW-3D[®]

HYDRO

SEDIMENT SCOUR



3D sediment transport modeling can be used to evaluate scour and deposition, where 3D dimensional flow components are driving the scouring process. **FLOW-3D HYDRO** solves the full unsteady non-hydrostatic Reynolds-averaged Navier-Stokes equations that describe the flow physics. The hydrodynamic solver is fully coupled with a sediment transport module that simulates bedload and suspended sediment transport and erosion.

All empirical relationships used in bedload, entrainment and settling processes are fully customizable, and up to 10 different sediment species can be defined. **FLOW-3D HYDRO** is ideal for simulating local scour over short episodic time scales.

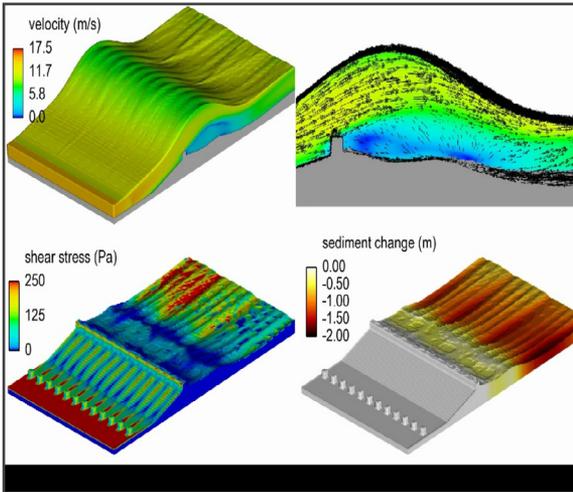
FLOW-3D[®] HYDRO

SEDIMENT SCOUR

MODELING CAPABILITIES

- Unsteady 3D mobile bed modeling
- Bedload and suspended sediment transport
- Non-cohesive sediment
- 10 individual grain size fractions
- Suspended sediment settling and entrainment
- Critical angle of repose

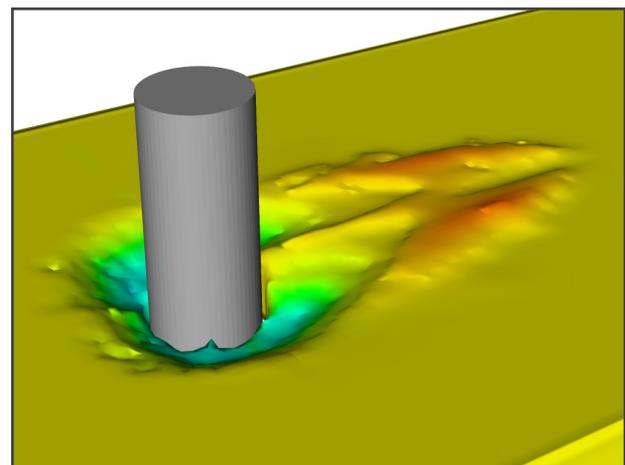
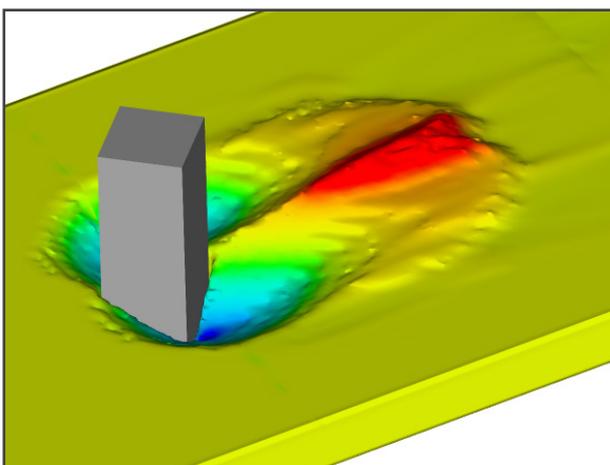
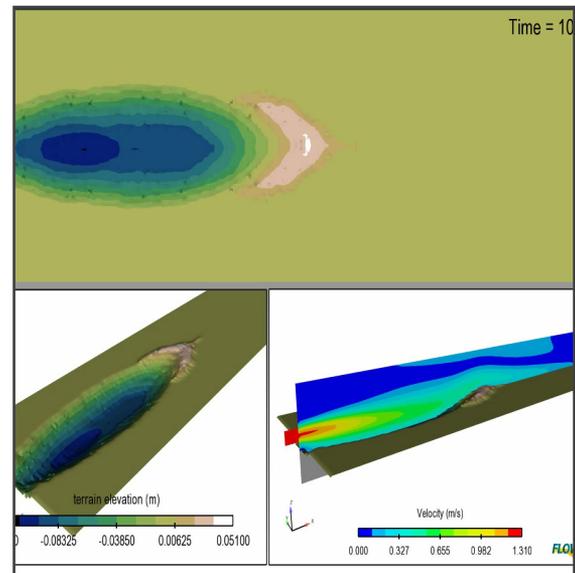
Velocity, shear stress and scour development predictions downstream of a stilling basin.



APPLICATIONS

- River and coastal morphodynamics
- Bridge pier and abutment scour
- Local scour at hydraulic structures
- Sedimentation basins
- Reservoir flushing

Validation of scour hole developed from a submerged 3D wall jet.



Equilibrium scour and deposition predicted for cylindrical and diamond pier shapes.