



Restoring Littoral Drift Along a Jettied Shoreline

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Overview

Existing Conditions

Primary Concerns

Proposed Solutions

Numerical Model

Recommendations

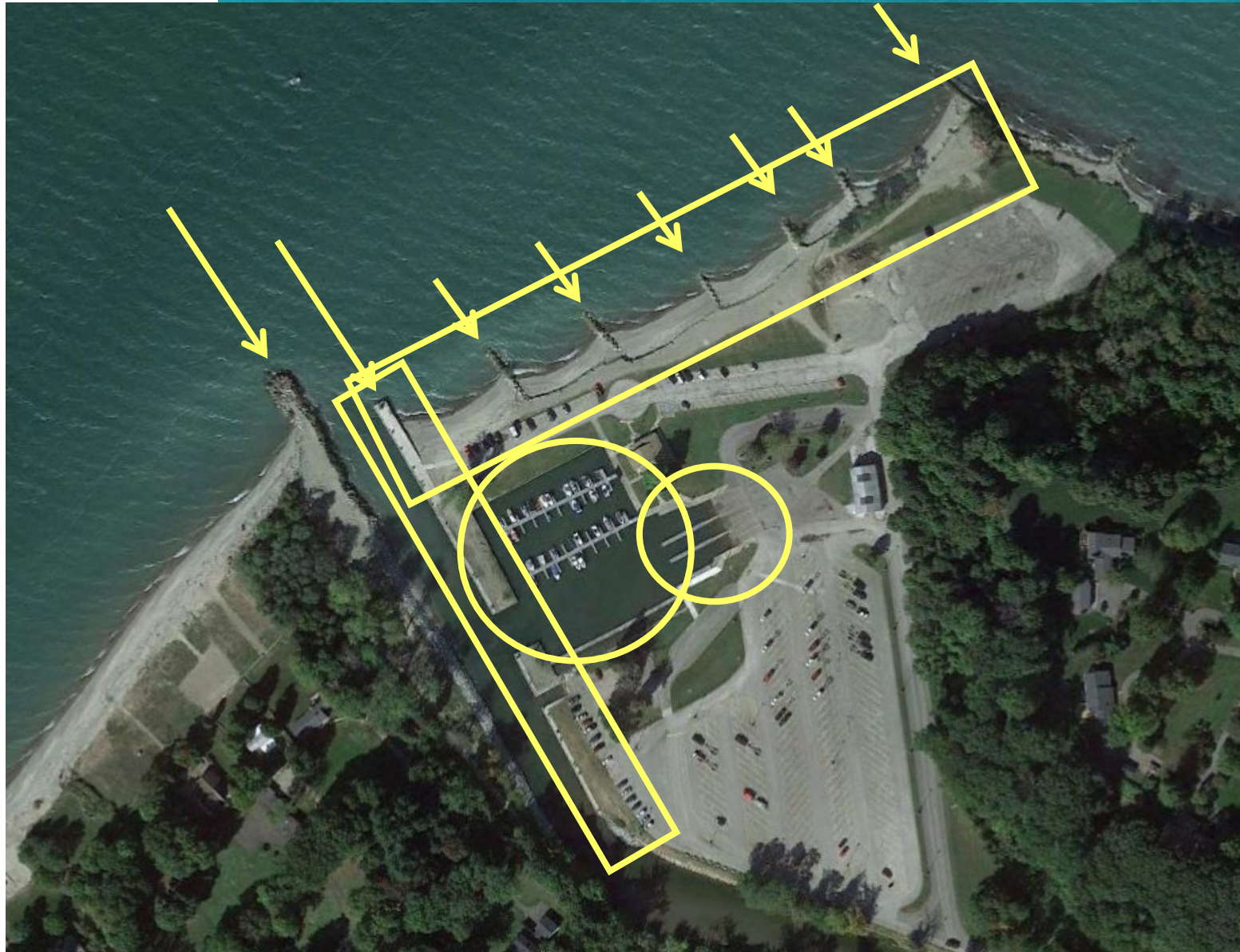


Existing Conditions – Where Are We?



Walnut Creek Access Area

- Public Boat Launch
- 72-Slip Marina
- Public Beach
- Popular Fishing Spot
- Jetties at Creek Mouth
- Groins Along Beach



Sediment Transport
West to East



Primary Concerns

- Severe sedimentation in creek mouth and marina basin
- Frequent dredging required to manually bypass sediment



Proposed Solutions



East Jetty Extension



East Jetty Extension and West Groin



West Dogleg and East Jetty Extensions



West Dogleg Extension



West Dogleg
Extension with Spur



Shortened West Dogleg
Extension with Spur



Numerical Model

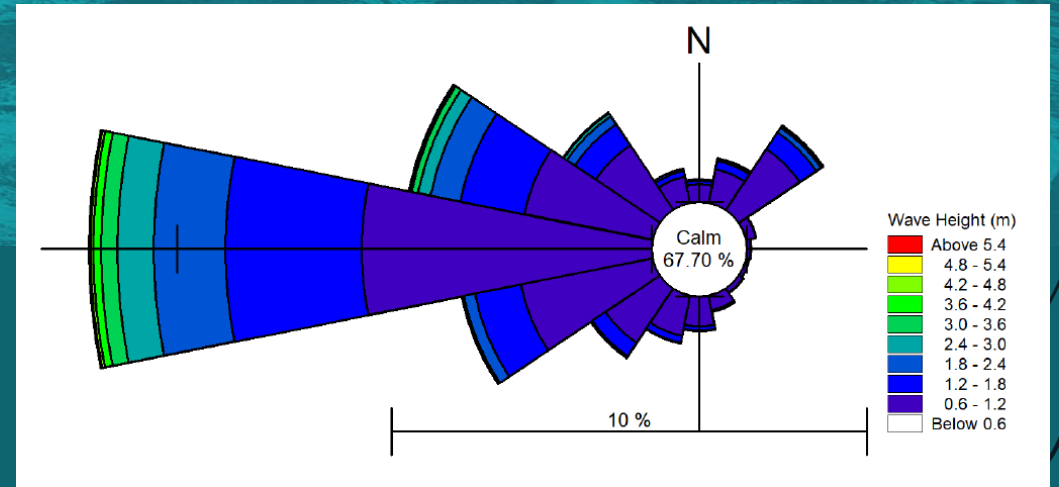
- MIKE 21 Modeling Software
 - Spectral Wave Module
 - Hydrodynamic Module
 - Sediment Transport Module



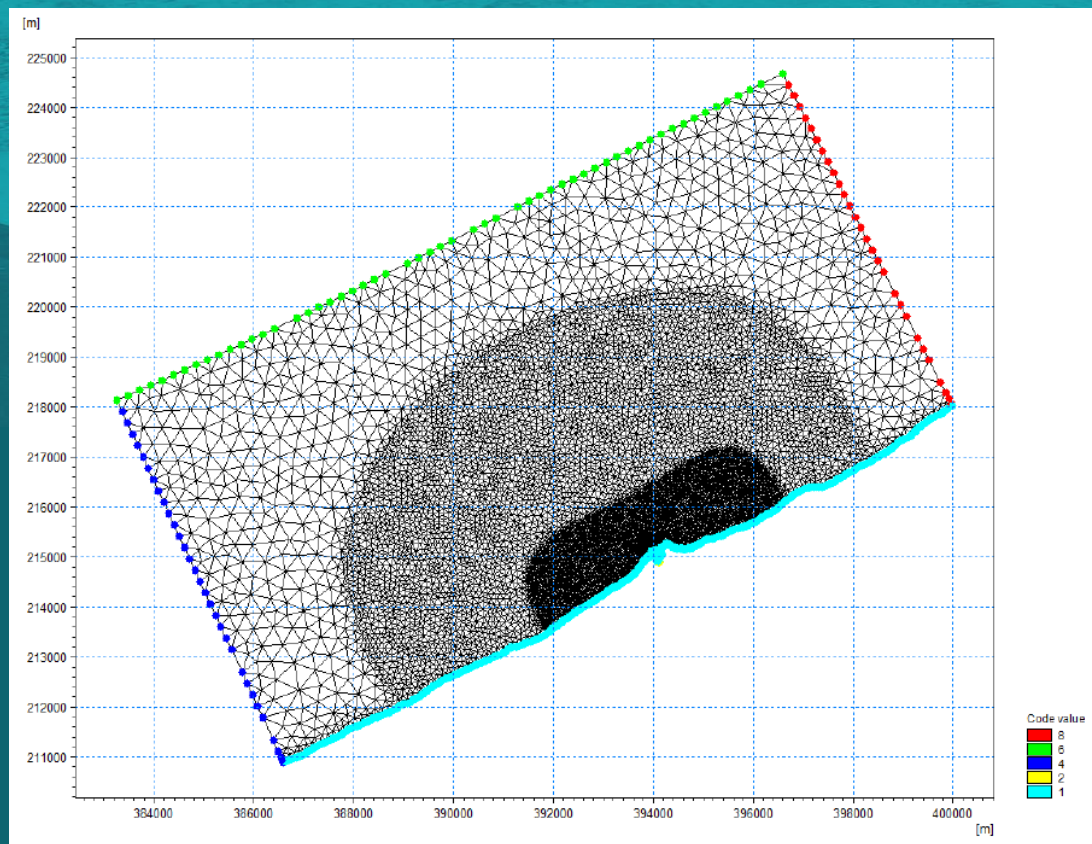
MIKE 21 Domain



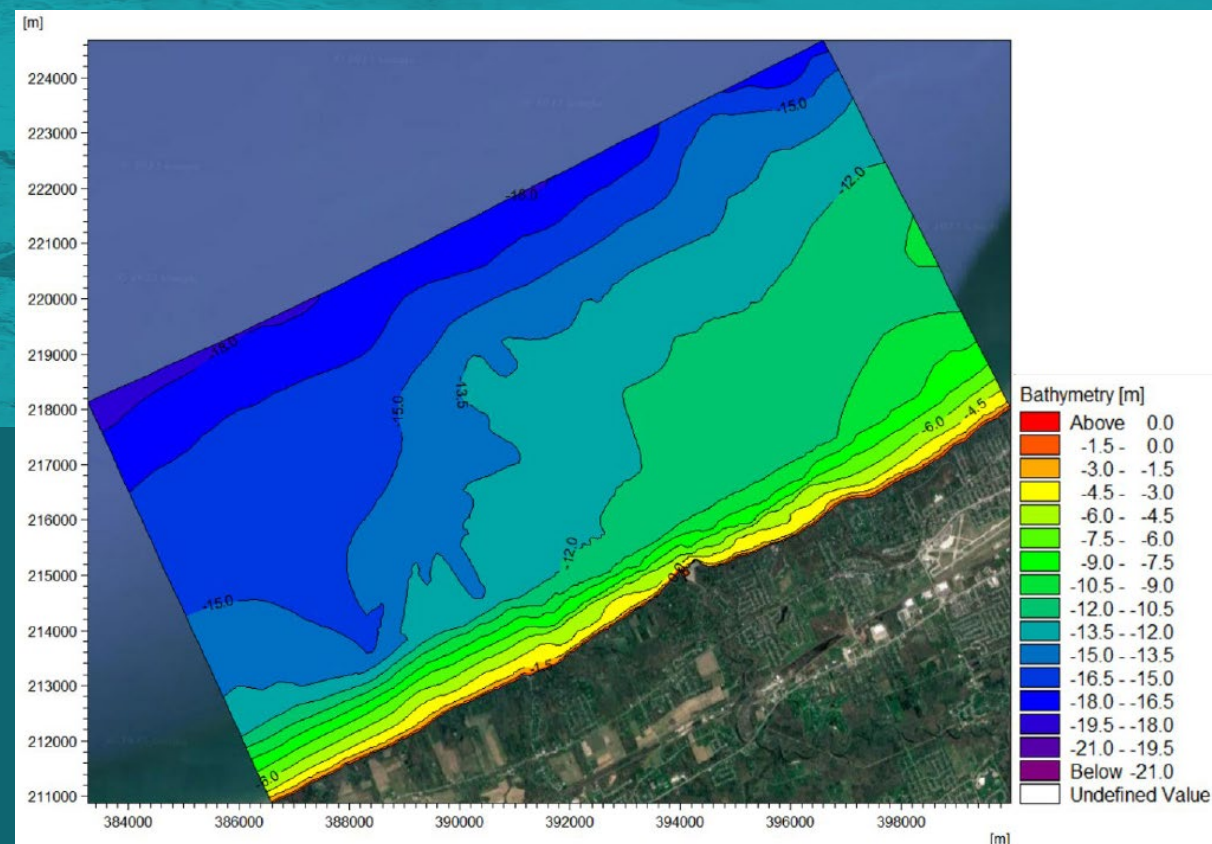
W IS Station Wave Rose



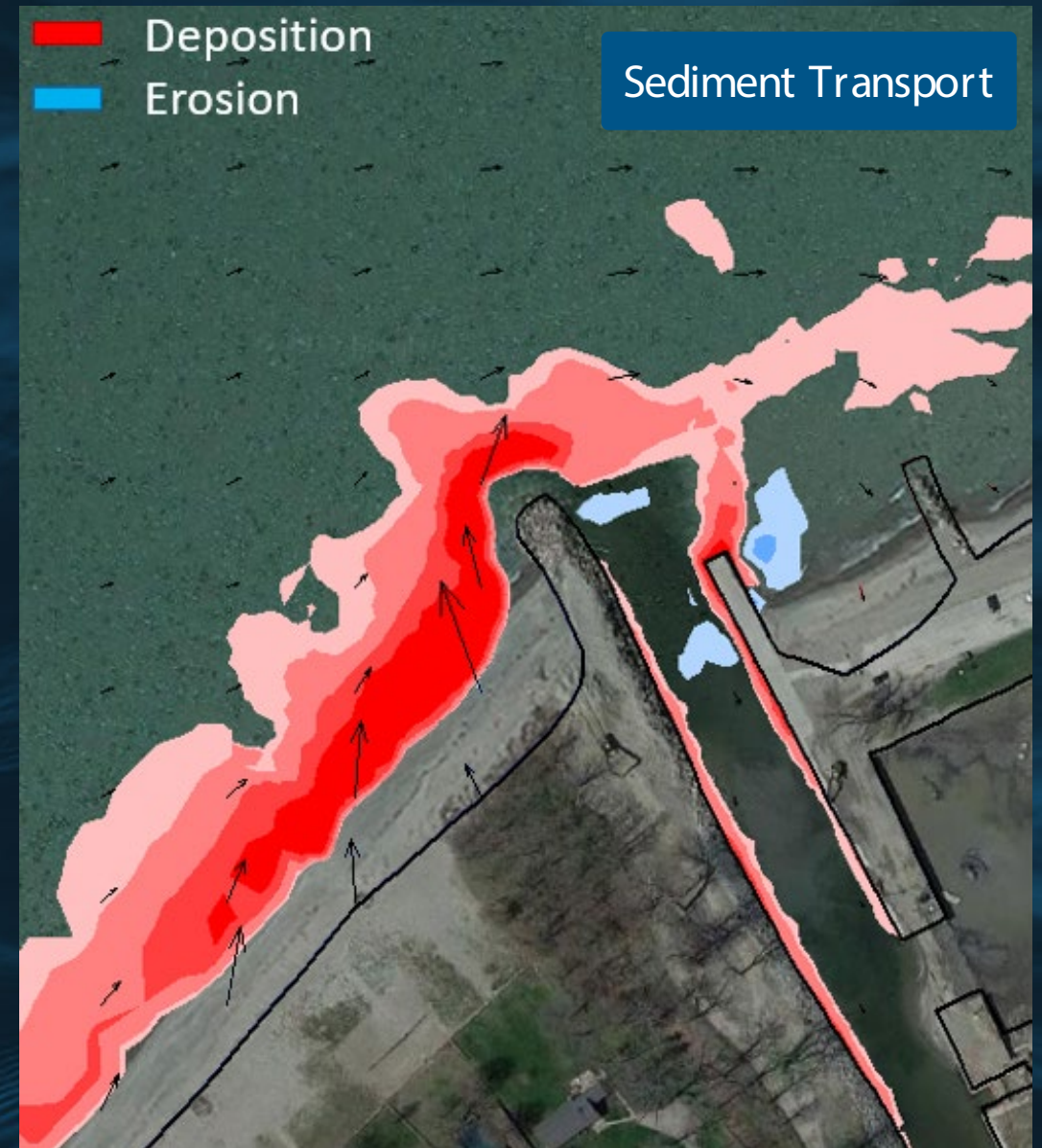
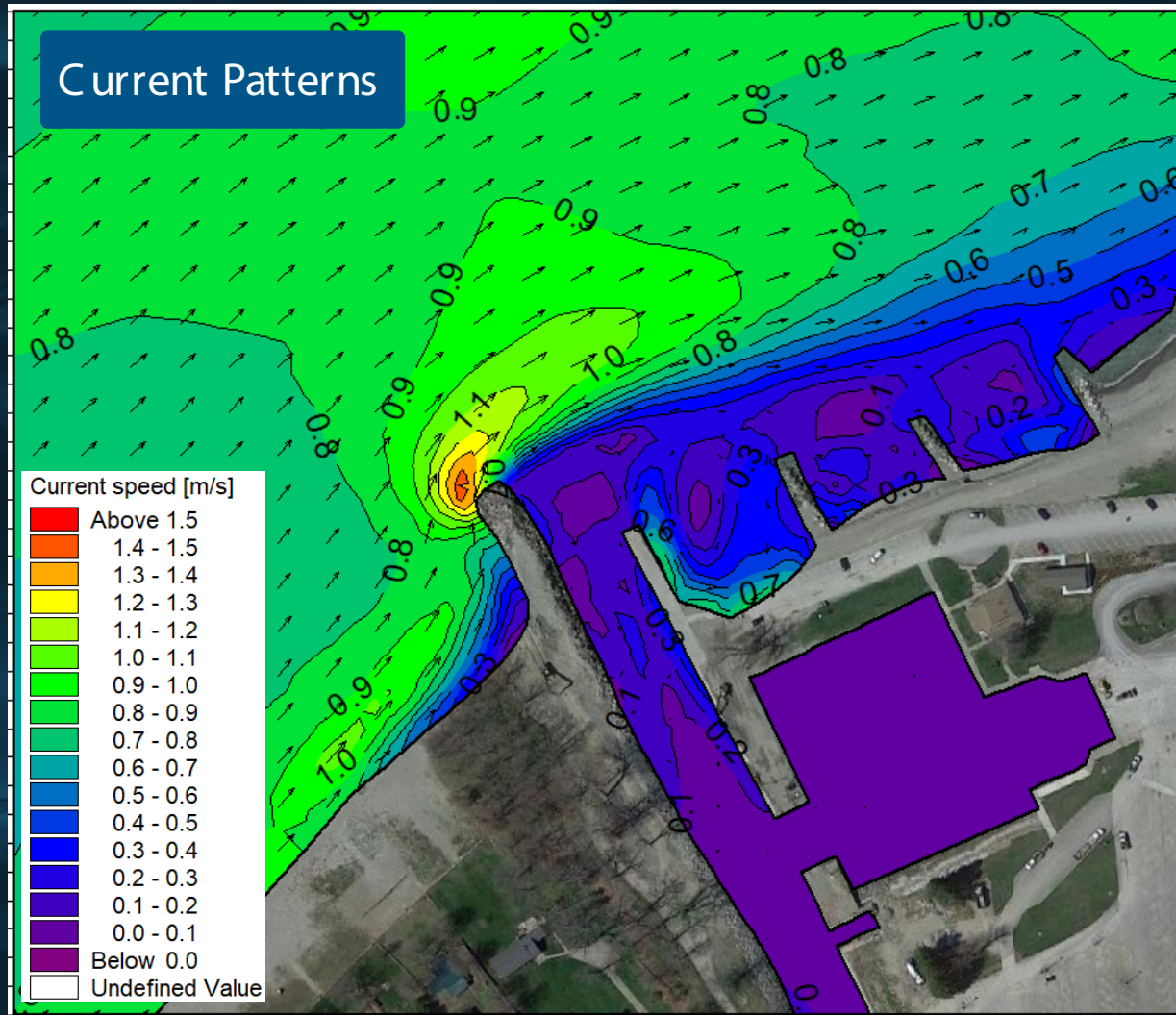
MIKE 21 Mesh



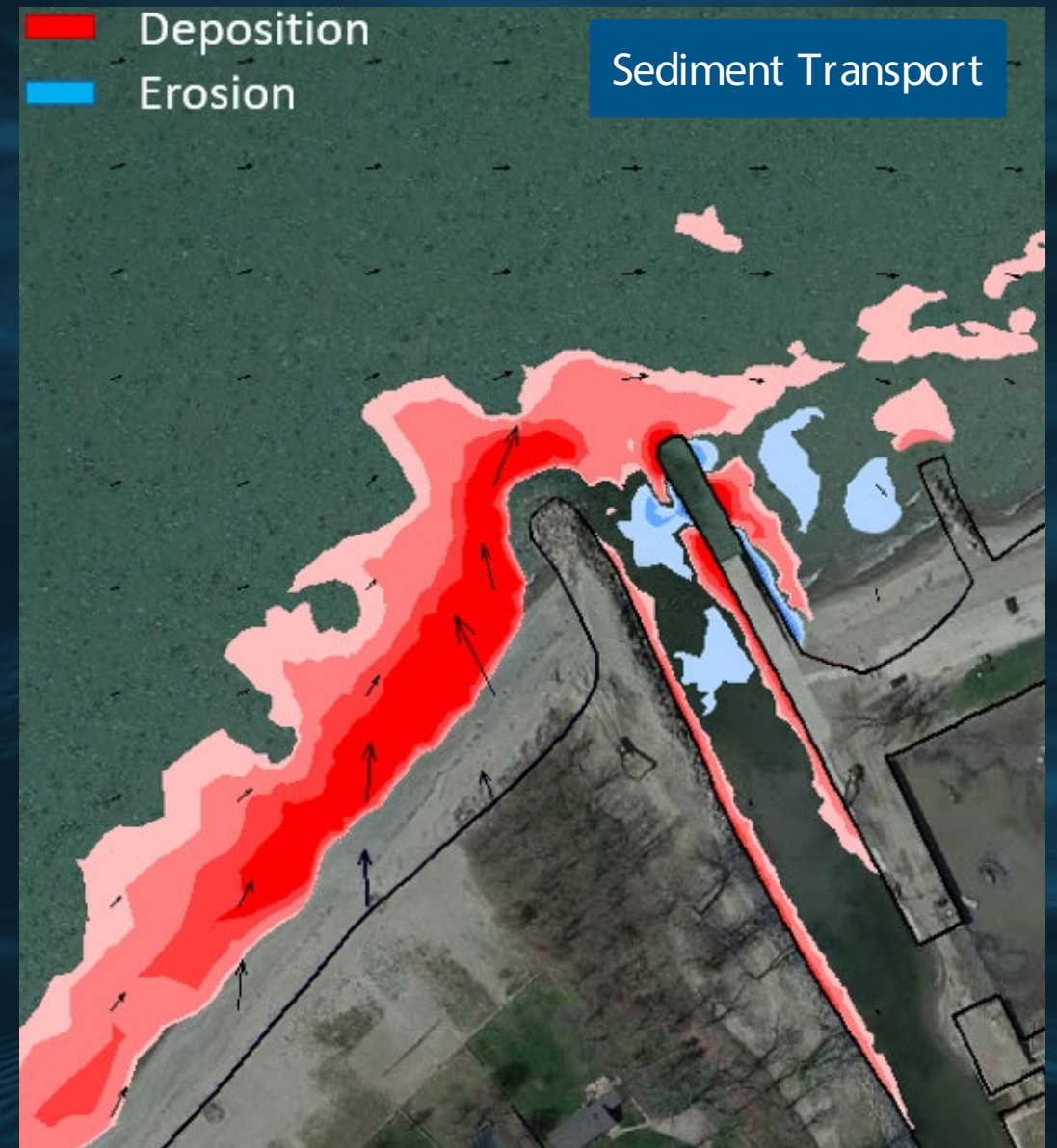
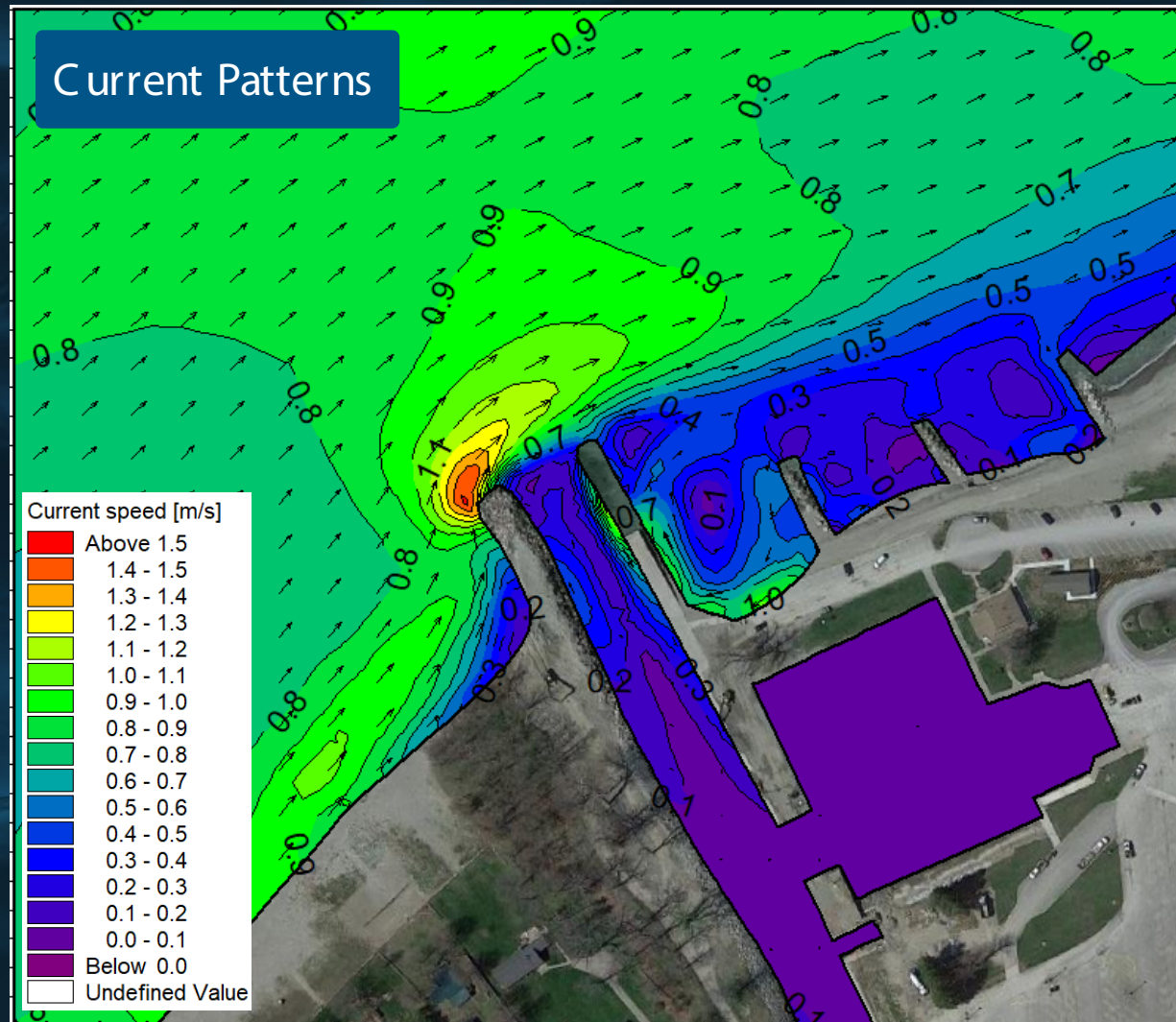
MIKE 21 Bathymetry



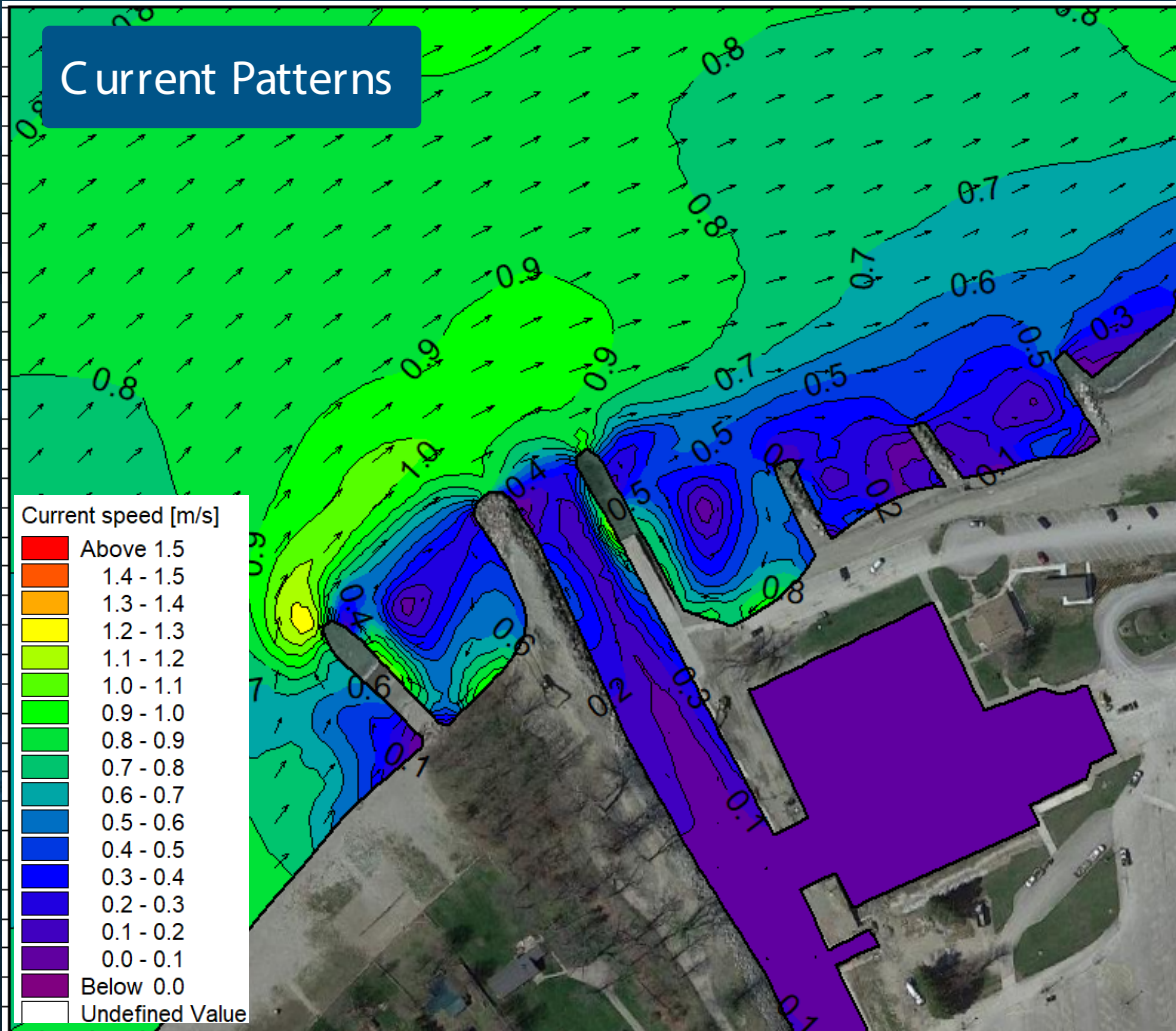
Existing Conditions



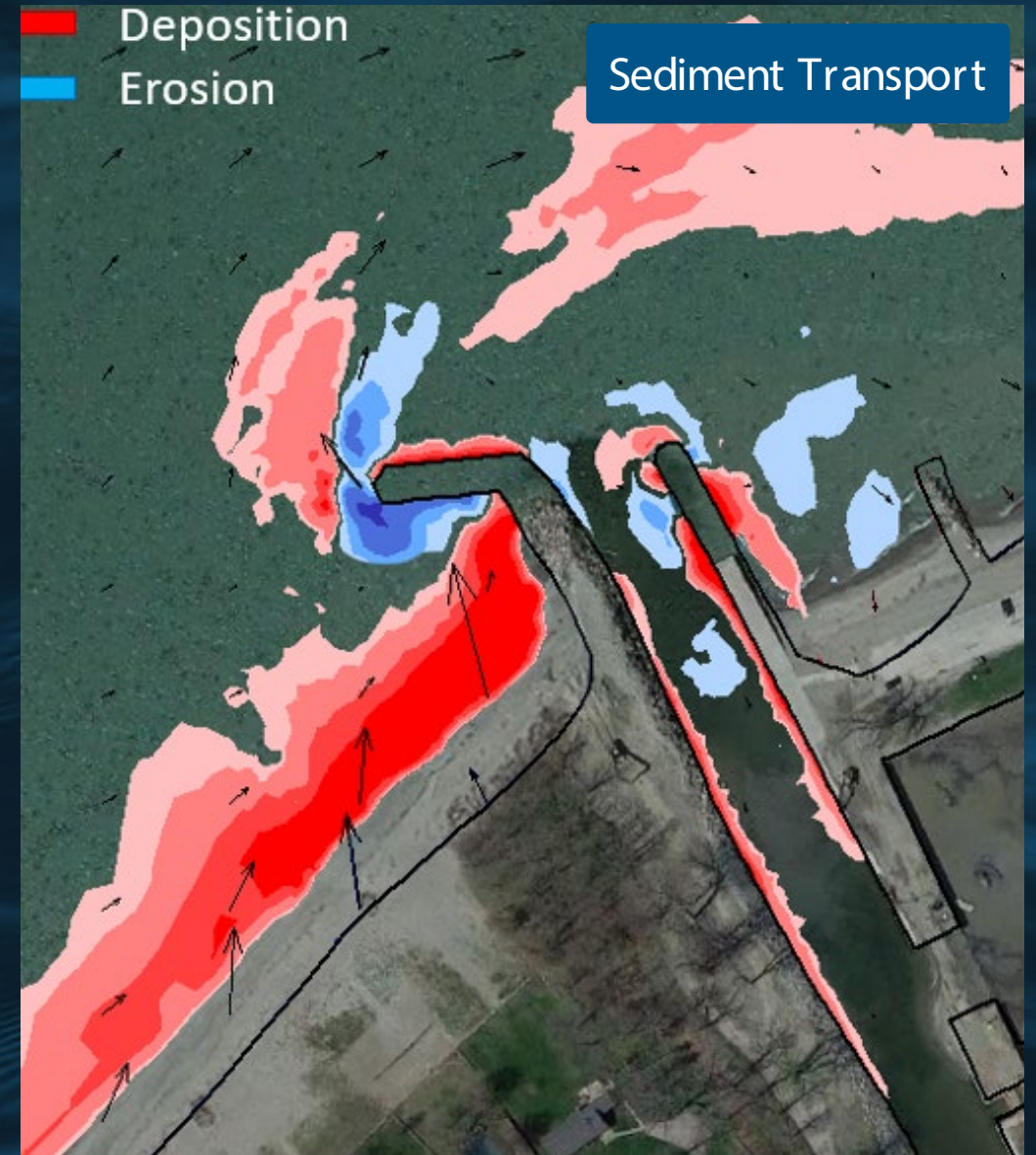
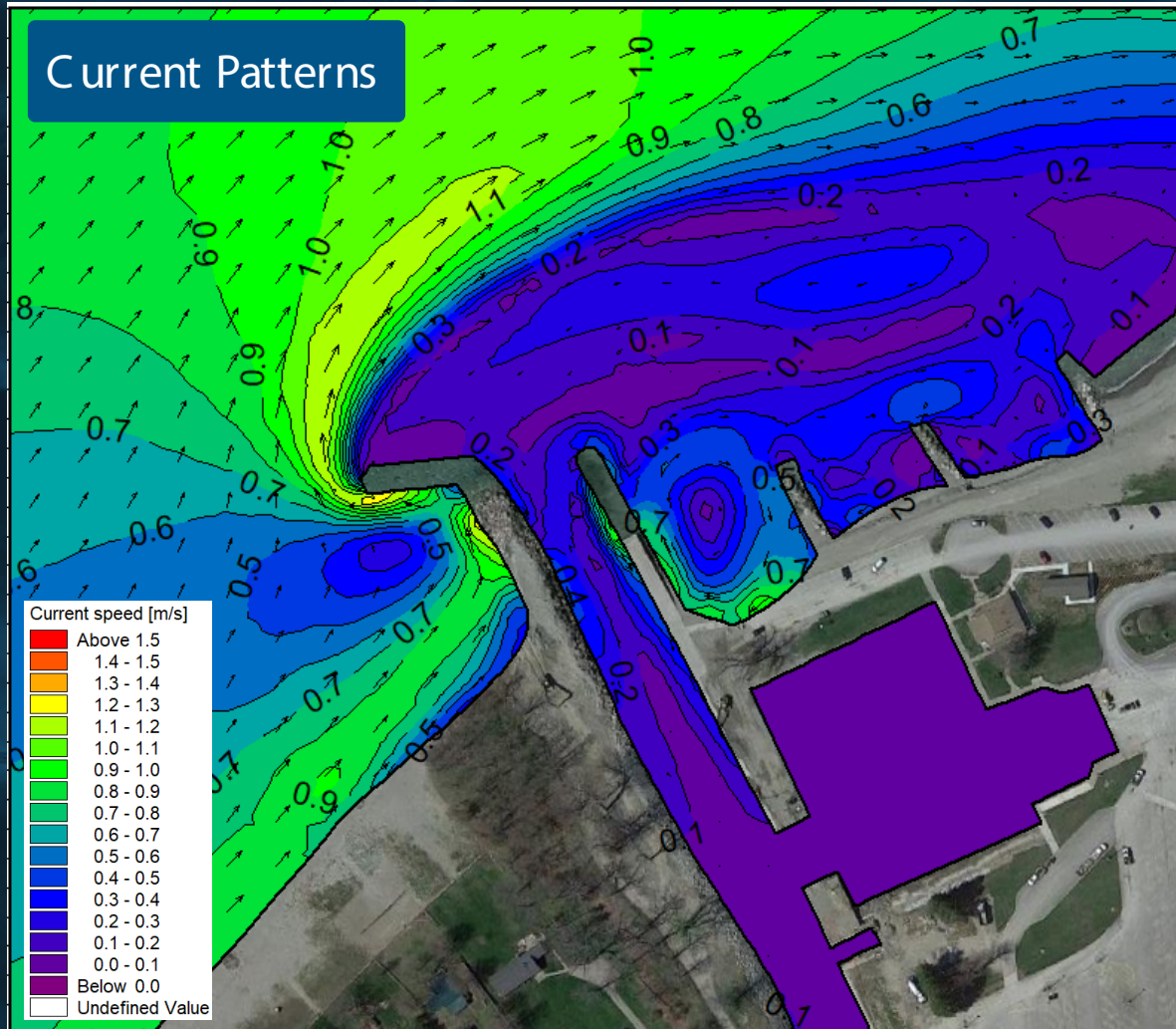
East Jetty Extension



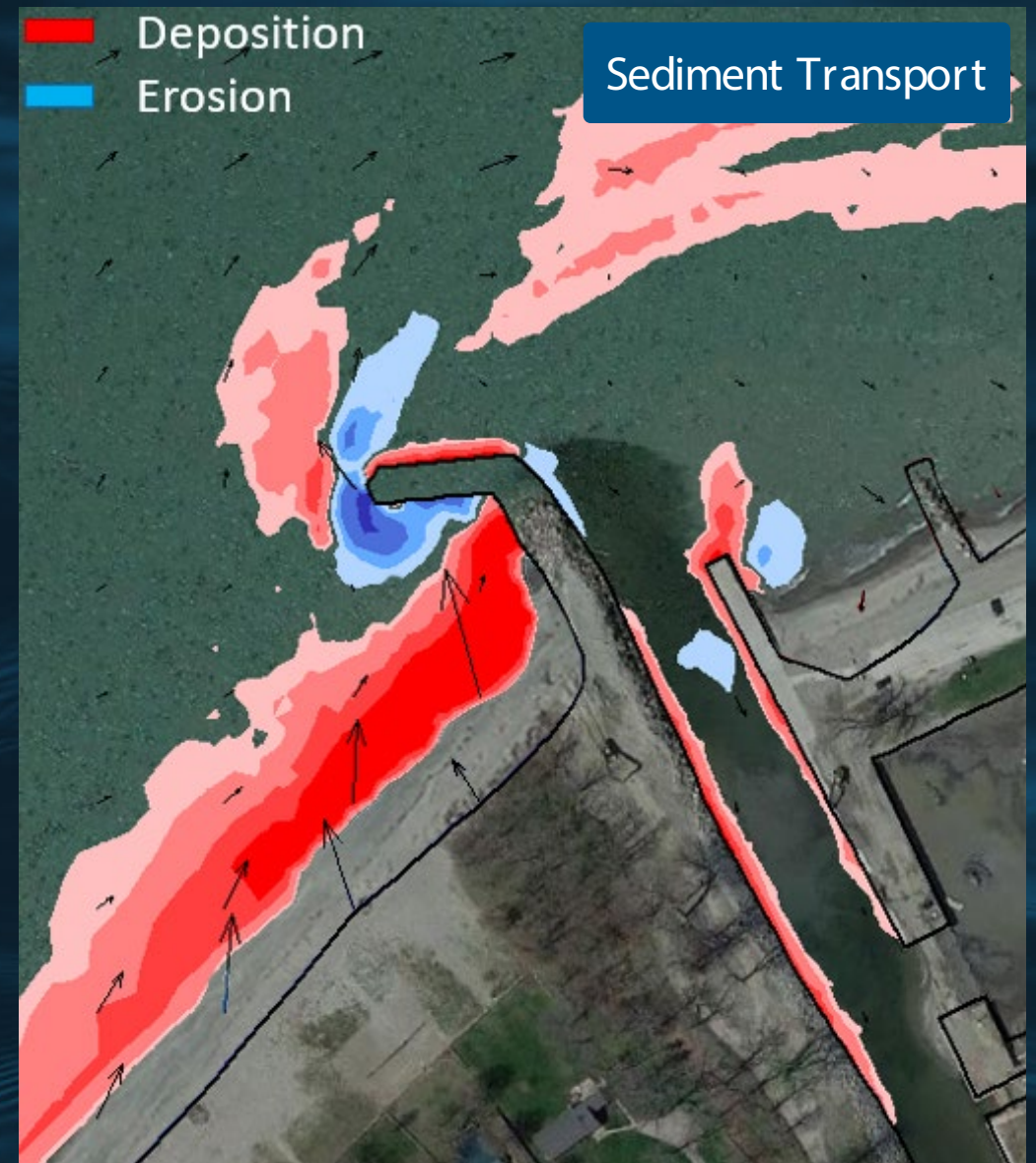
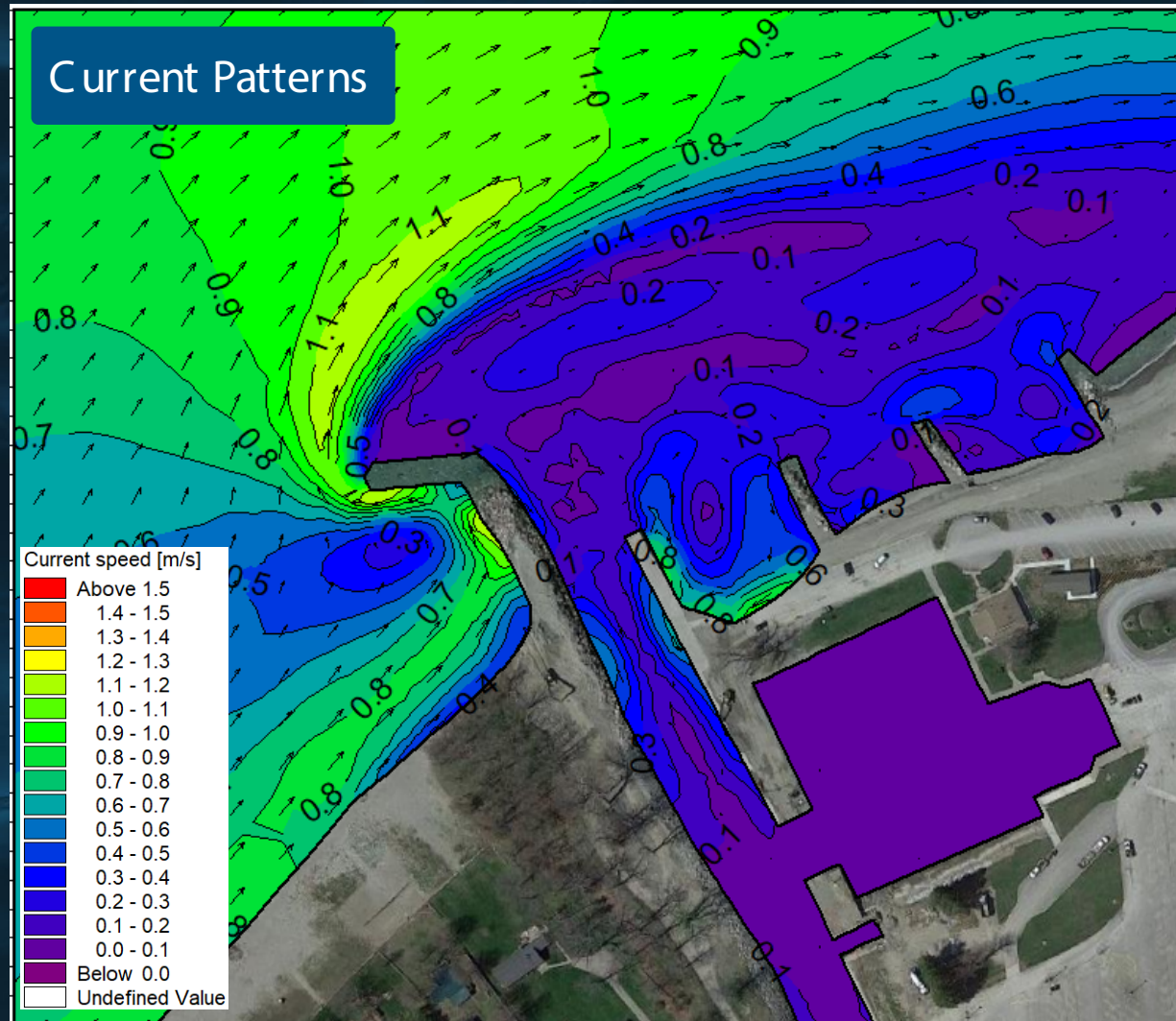
West Groin, East Jetty Extension



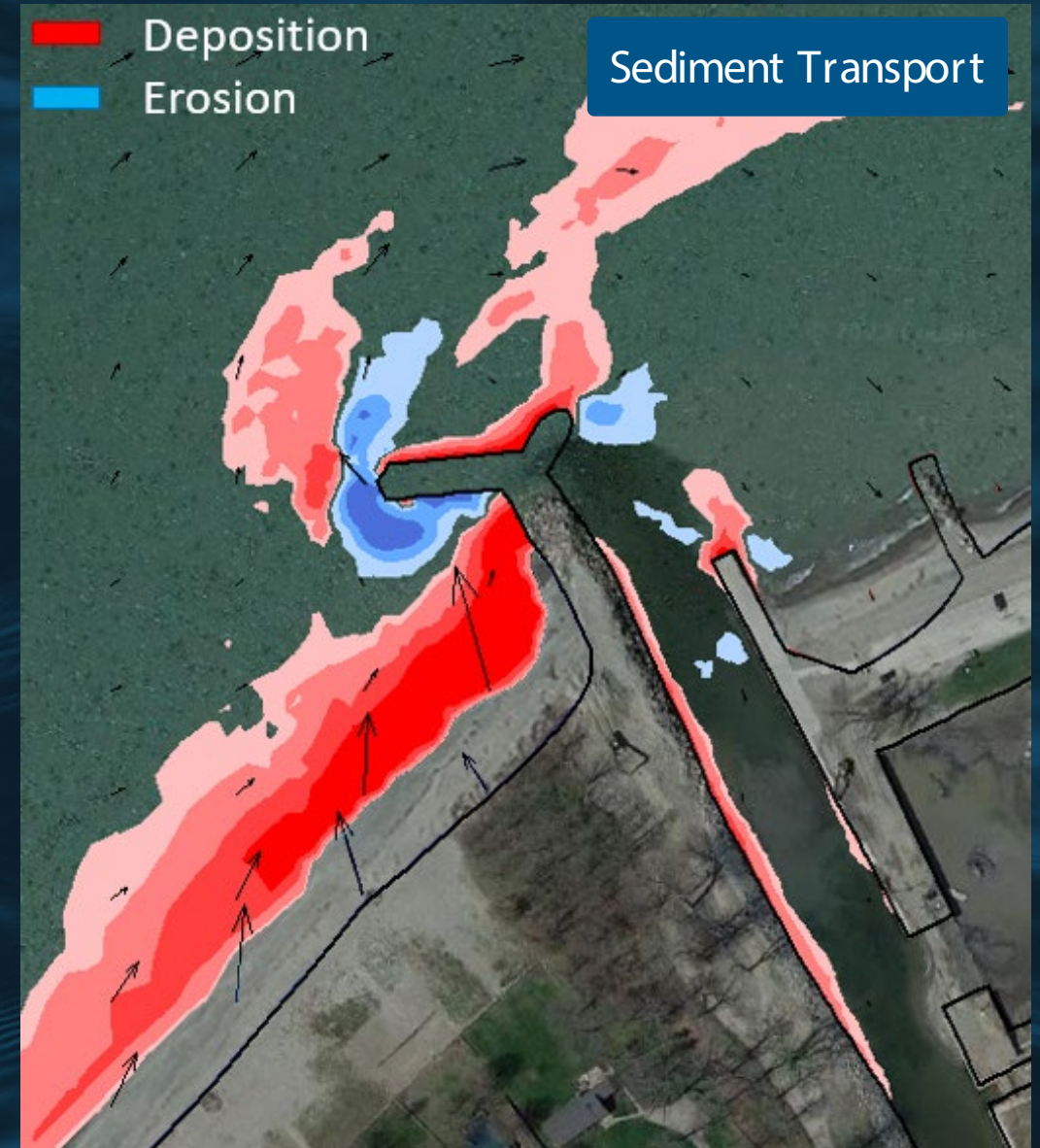
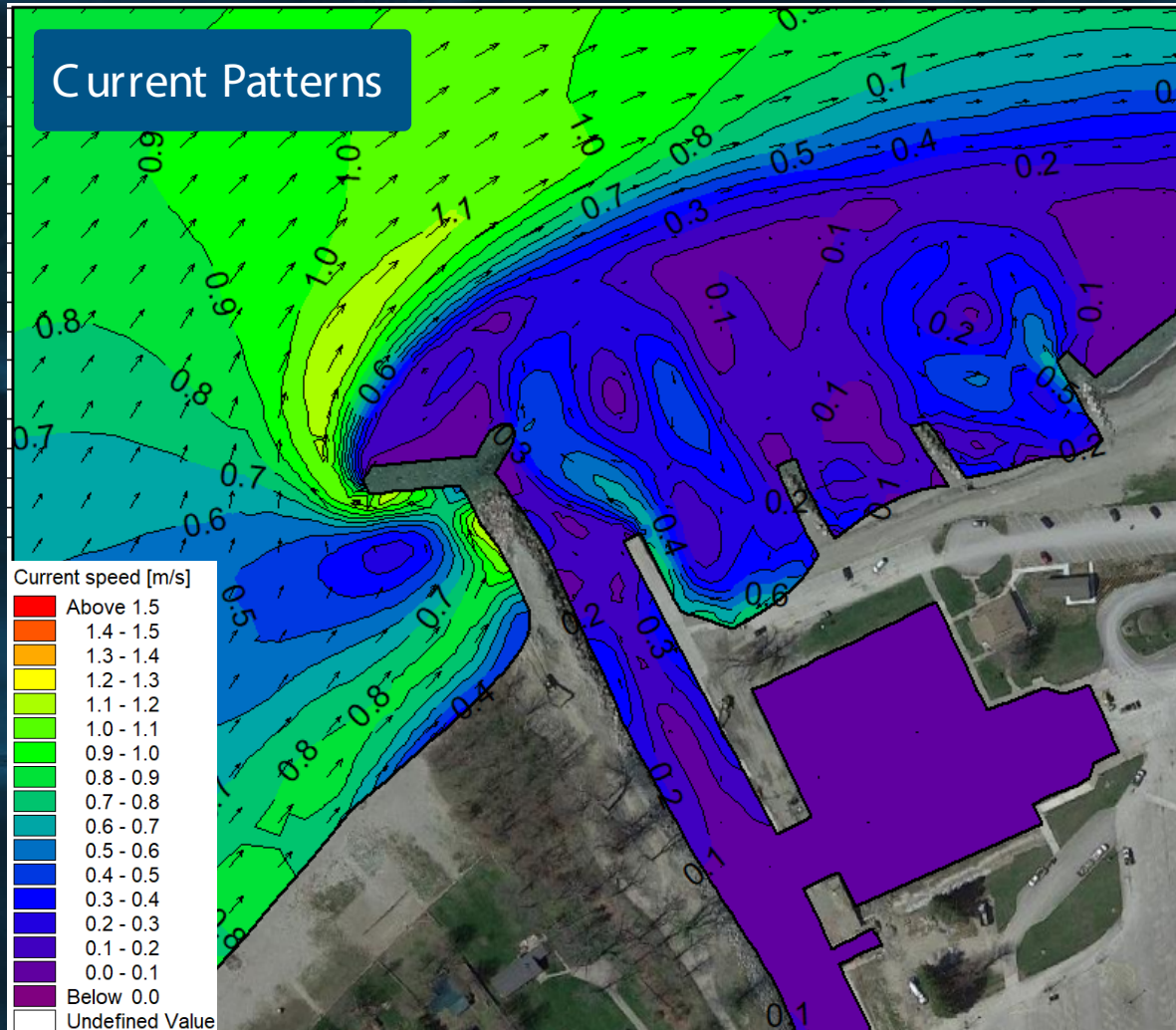
West Dogleg Extension, East Jetty Extension



West Dogleg Extension



West Dogleg Extension with Spur



Recommendations

- Sediment diversion from channel minimizes frequency of dredging
- Optional dogleg spur
- Further analysis would include additional wind directions and water levels






Edgewater
resources

Thank You Any Questions?

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