RIVER AND ESTUARINE ENGINEERING

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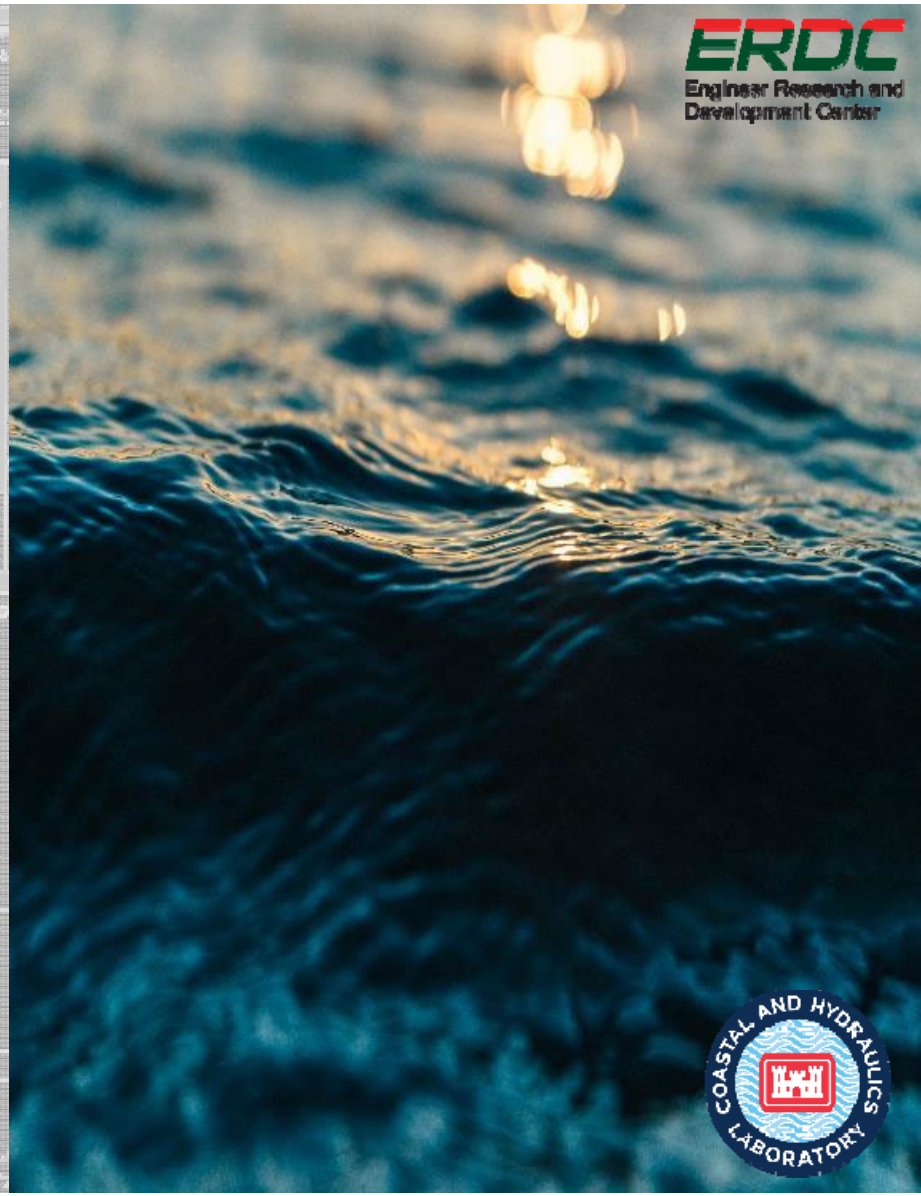
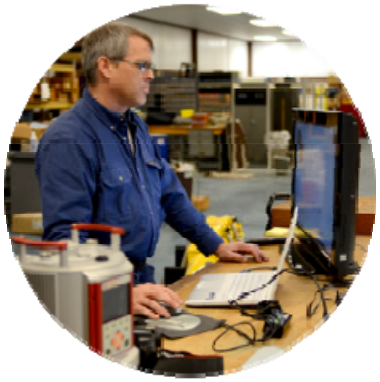
Chief, River and Estuarine Engineering Branch
Coastal and Hydraulics Lab, ERDC
15 April 2019



U.S.ARMY

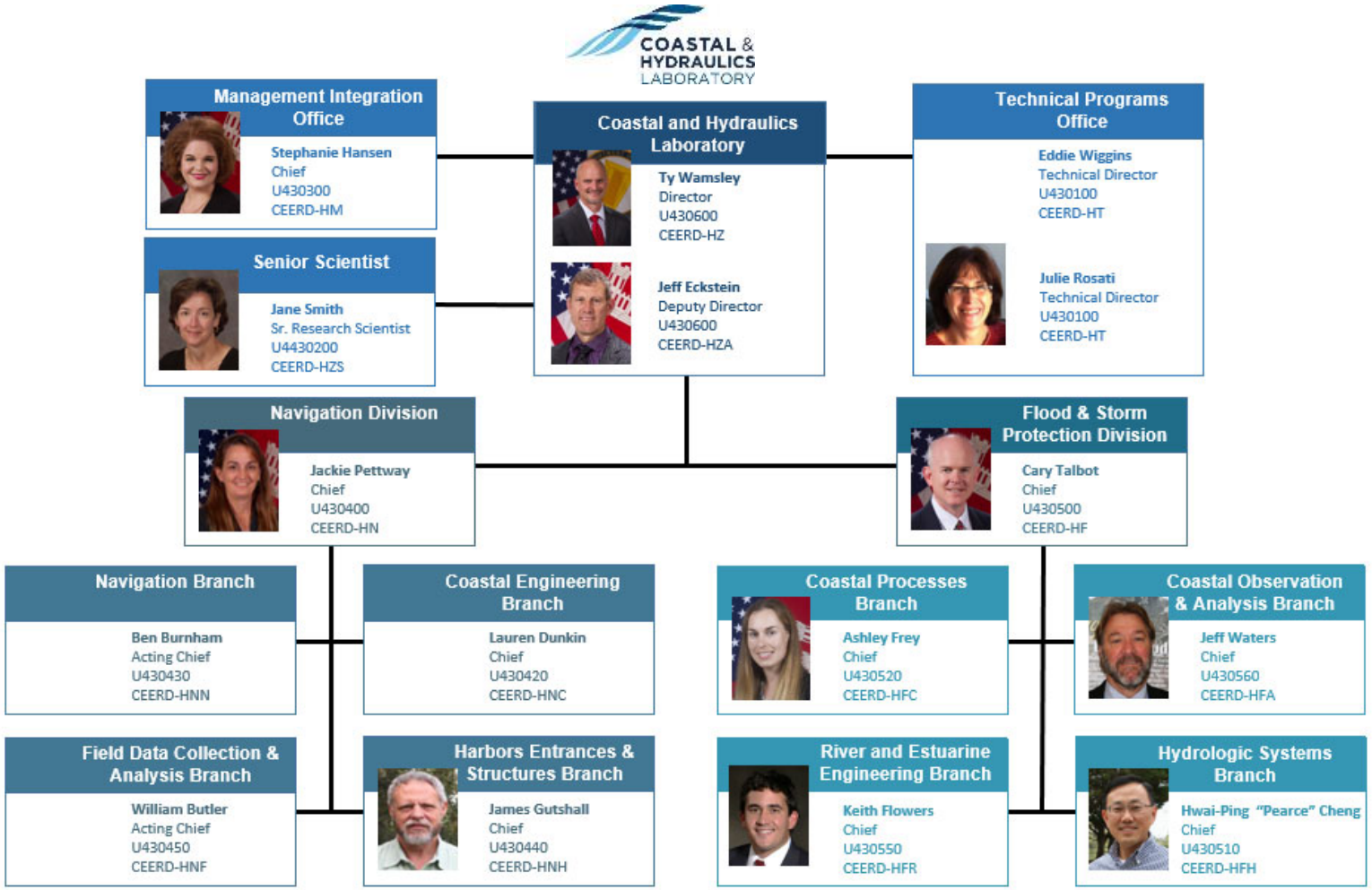
US Army Corps of Engineers®

MISSION



- To deliver ***solutions*** to our Nation's most challenging ***water resources*** problems through ***research***, ***development*** and application of ***cutting-edge science***, ***engineering and technology***.

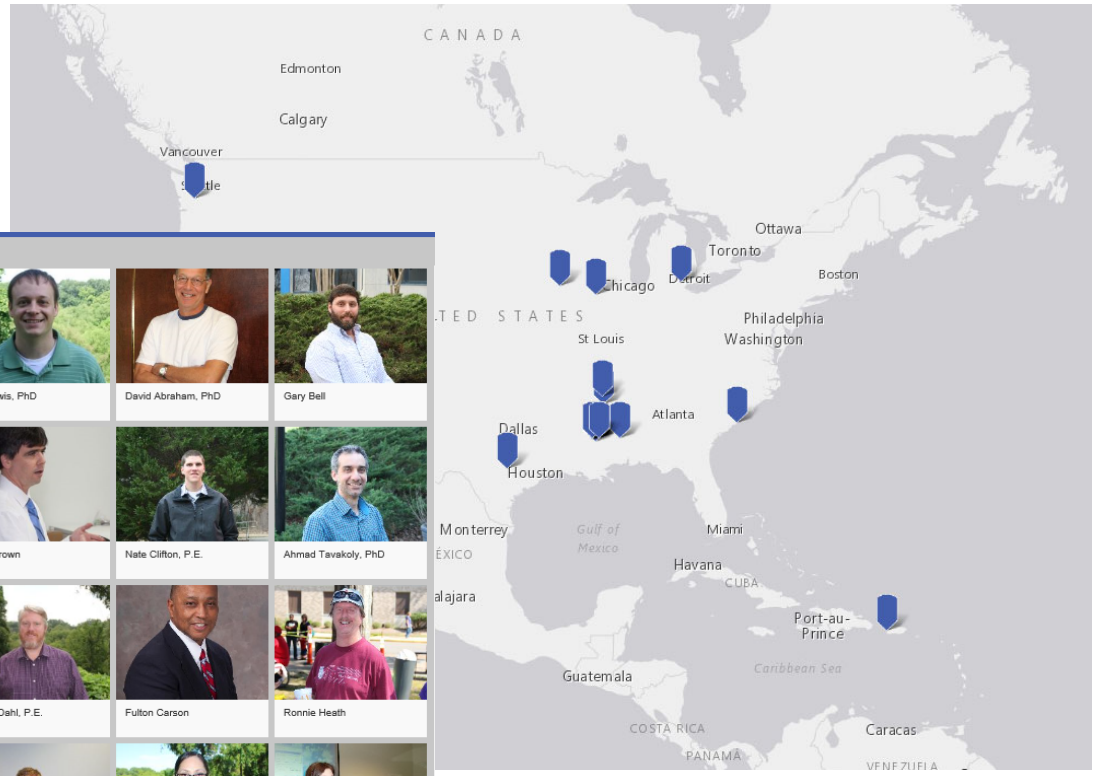
CHL ORG CHART

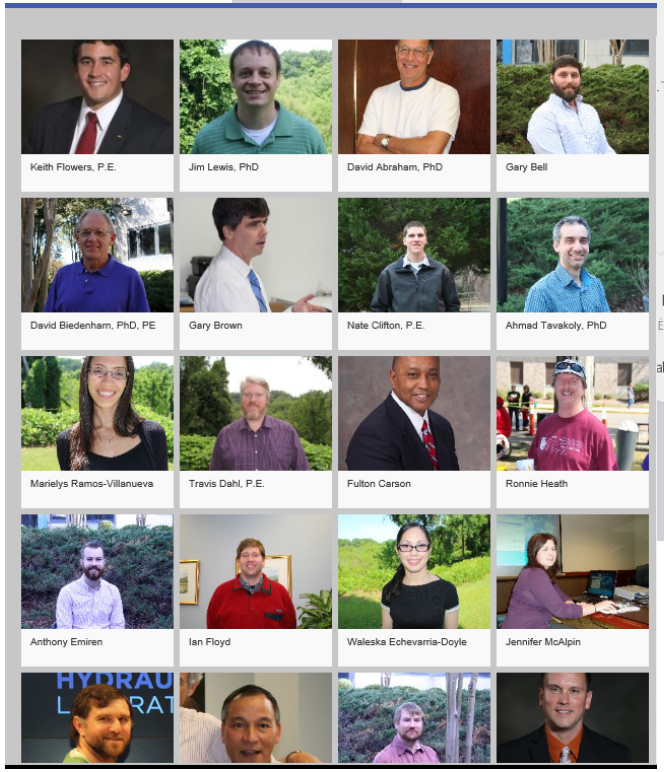


PEOPLE

- 32 Total
  - 2 Rehired Annuitants
  - 2 Remote Employees
  - 26 E&S

- Education Level
  - 8 Ph.D.'s (31%)
  - 13 M.S. (50%)
  - 4 Ph.D.'s in progress
  - 5 M.S. in progress





HISTORY

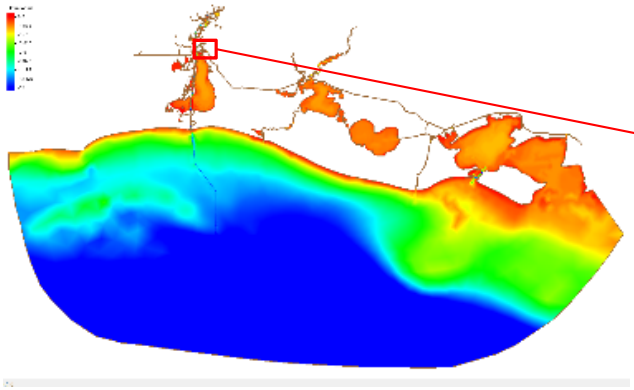
CAPABILITIES

- Hydraulic Modeling
- Sediment Transport Modeling
- Physical Model Studies
- Measurement Techniques
- Geomorphic Assessments
- R&D

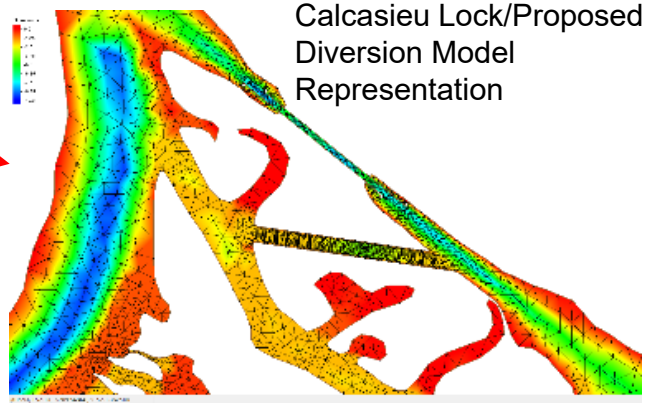
CALCASIEU LOCK DRAINAGE STUDY

Domain

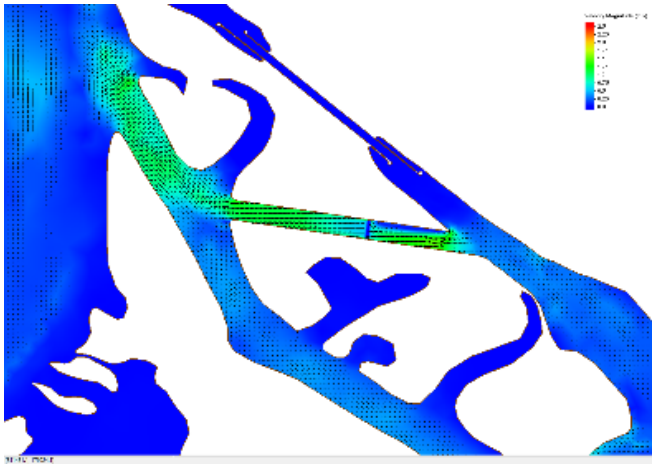
Bathymetry



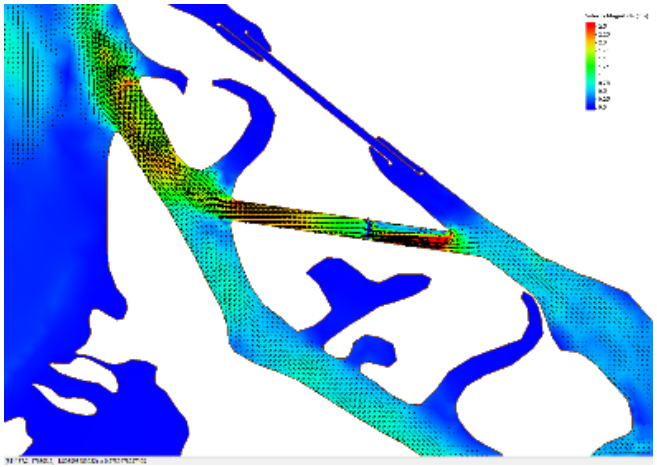
Calcasieu Lock/Proposed Diversion Model Representation



Two Year Flow

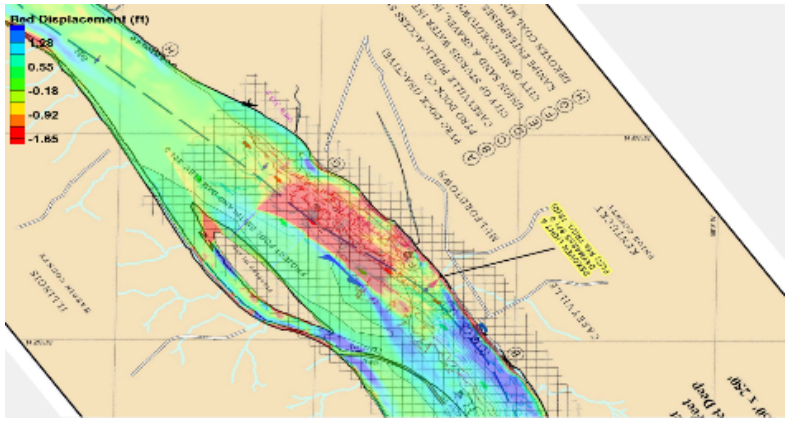


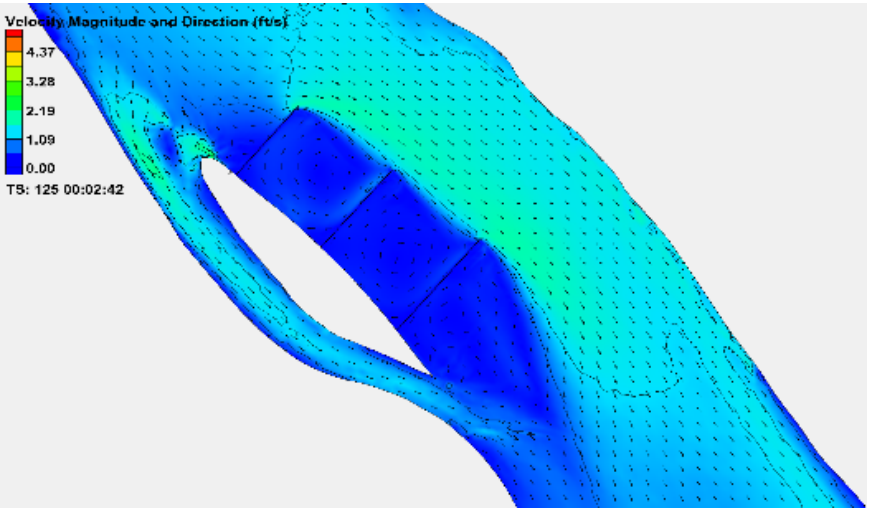
Ten Year Flow

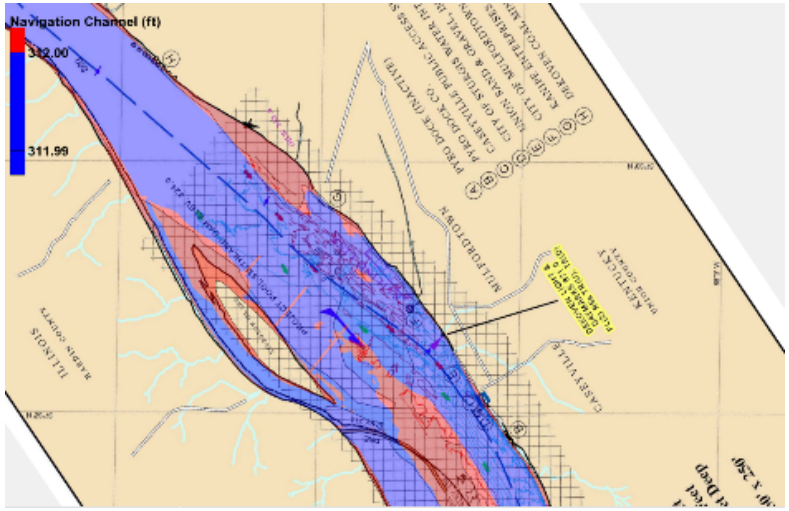


Flow Trace Visualization

SEDIMENT TRANSPORT MODELING

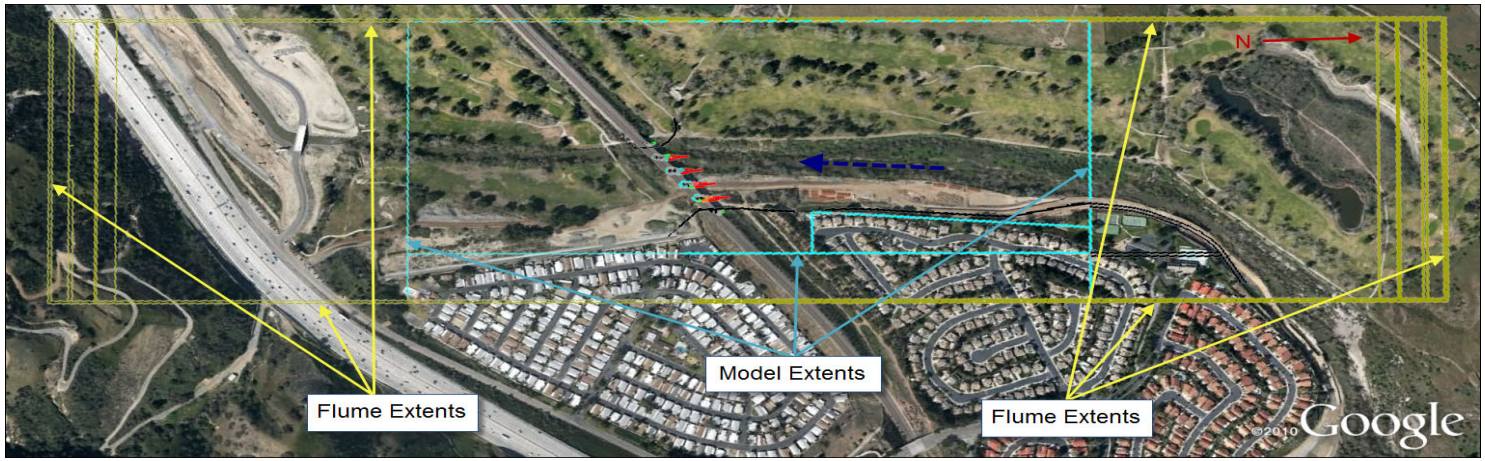


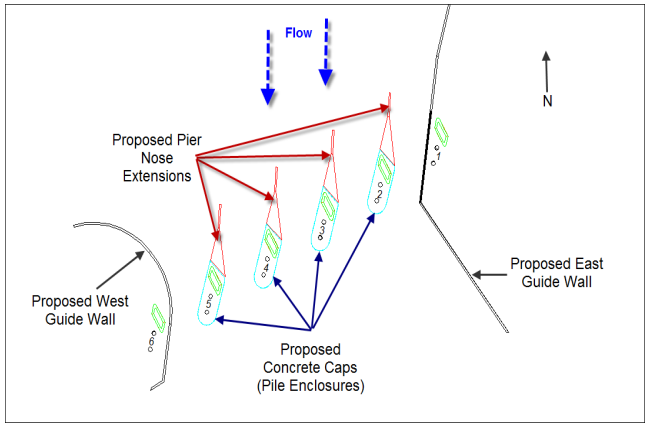




PHYSICAL MODEL STUDIES

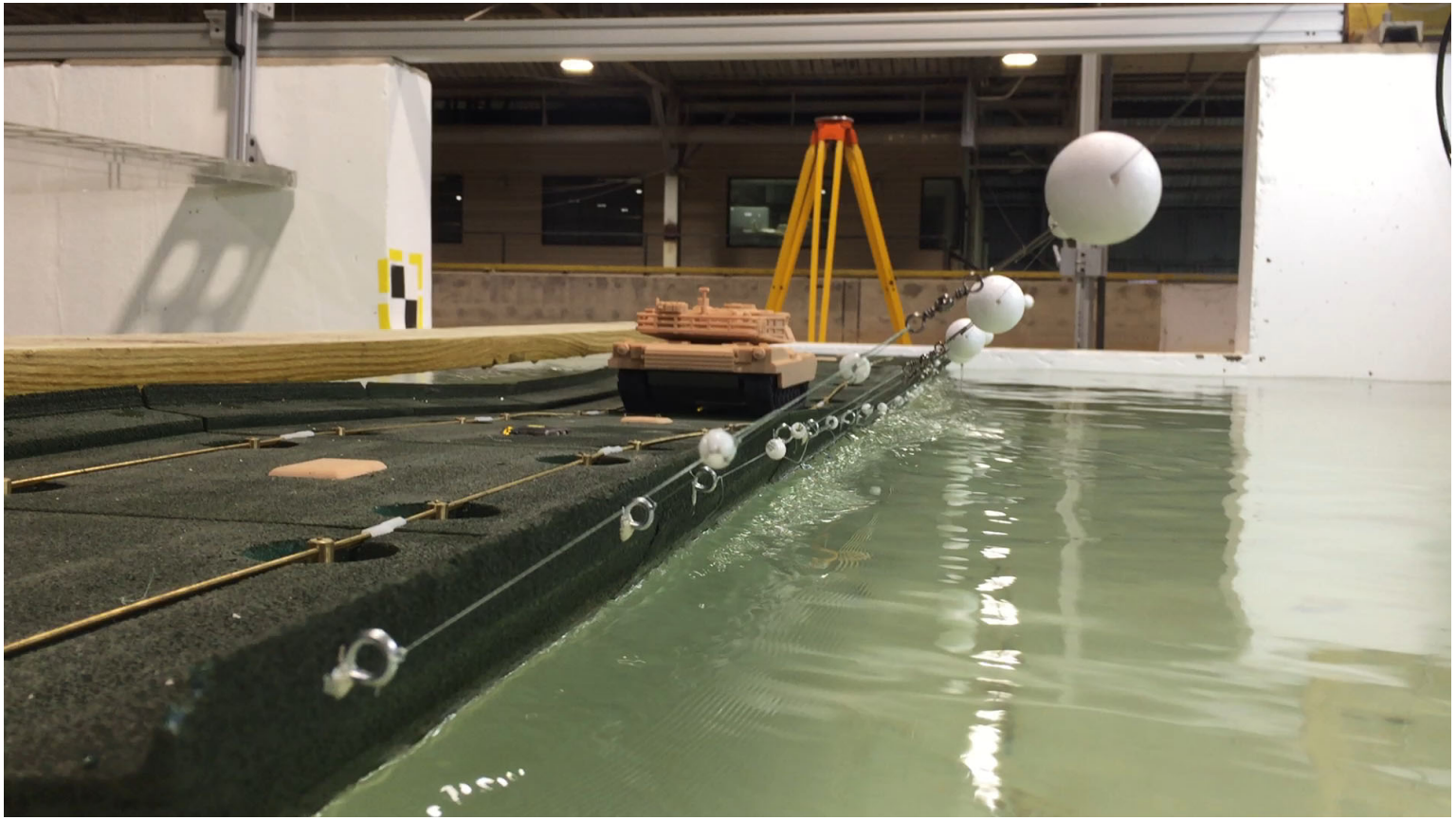
Santa Ana Physical Model



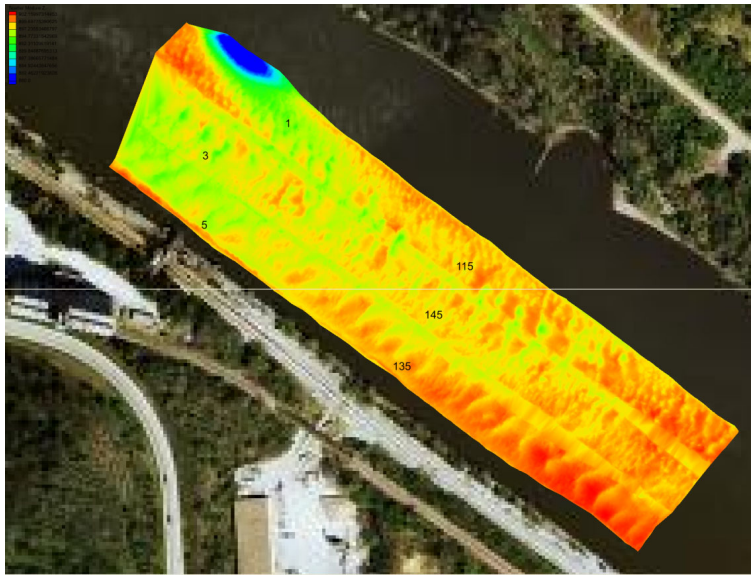


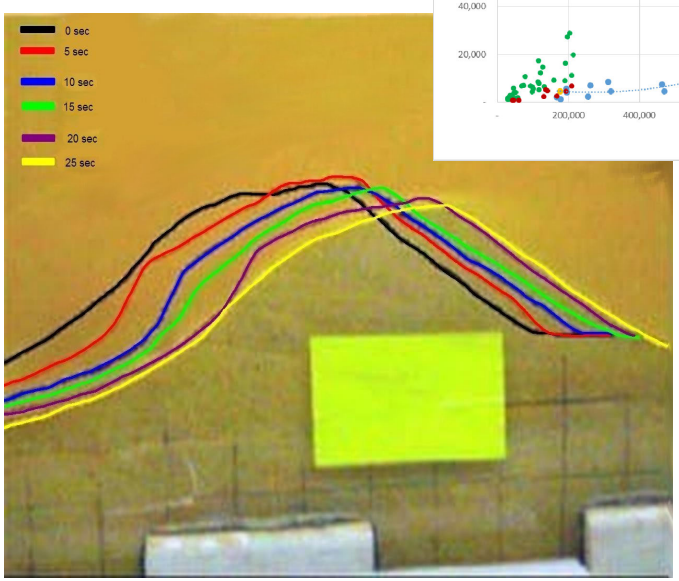
PHYSICAL MODEL STUDIES

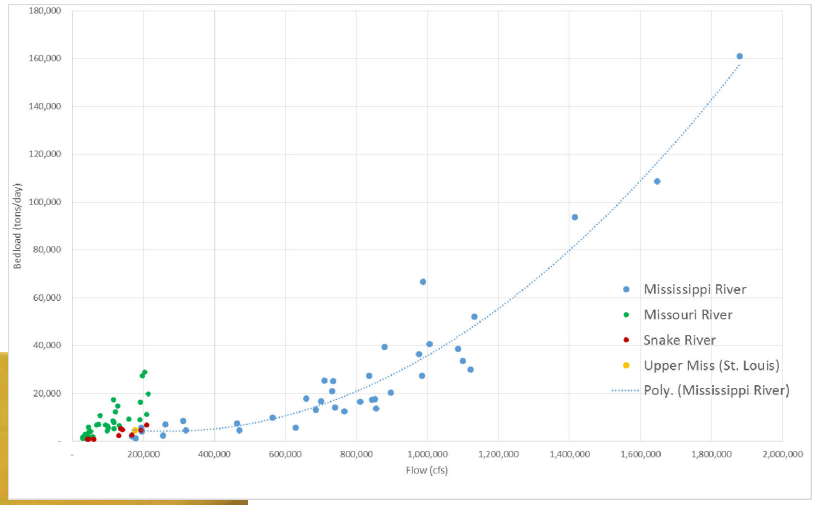
Improved Ribbon Bridge



BEDLOAD TRANSPORT MEASUREMENT



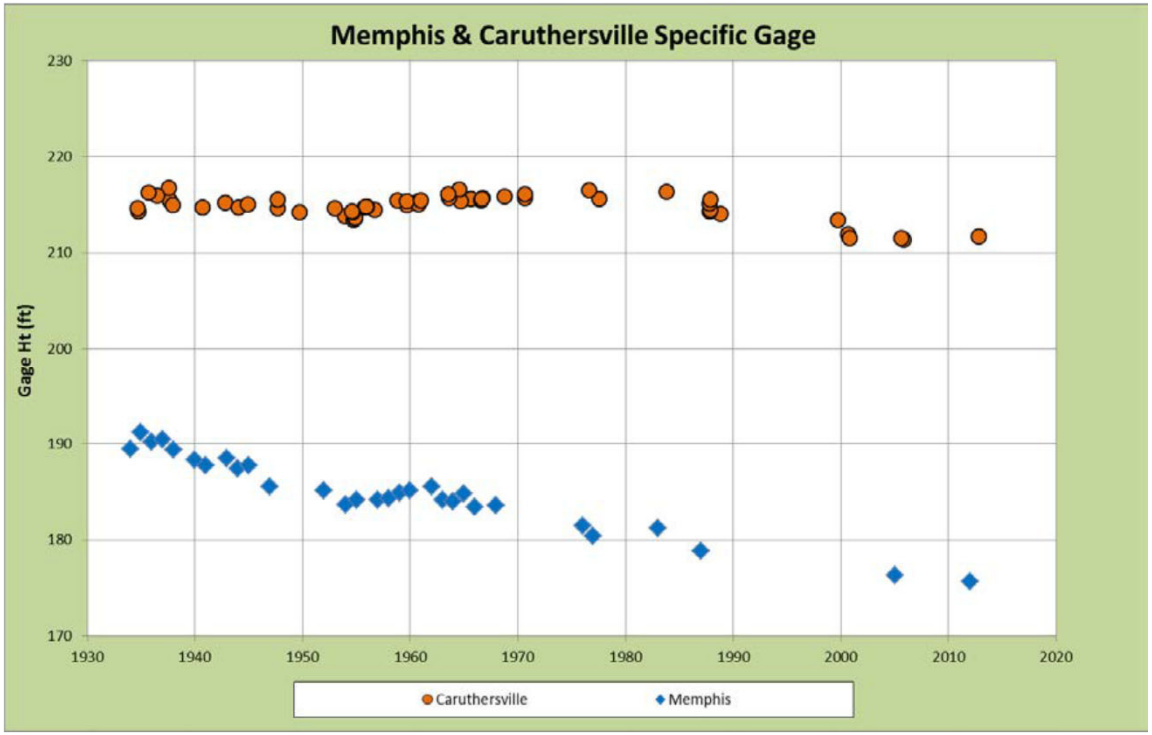


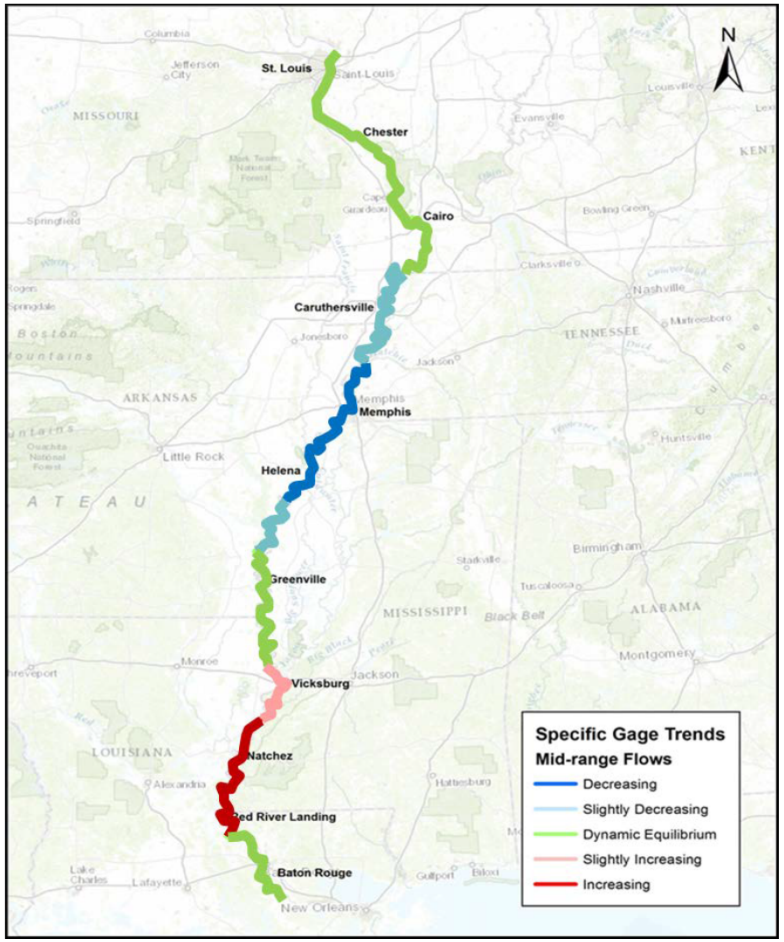


Integrated Section Surface Difference Over Time (ISSDOTv2)

GEOMORPHIC ASSESSMENTS

Mississippi River Geomorphology and Potamology Program

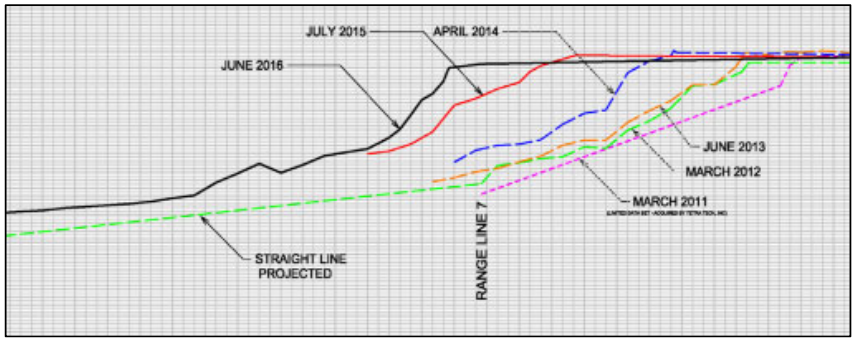


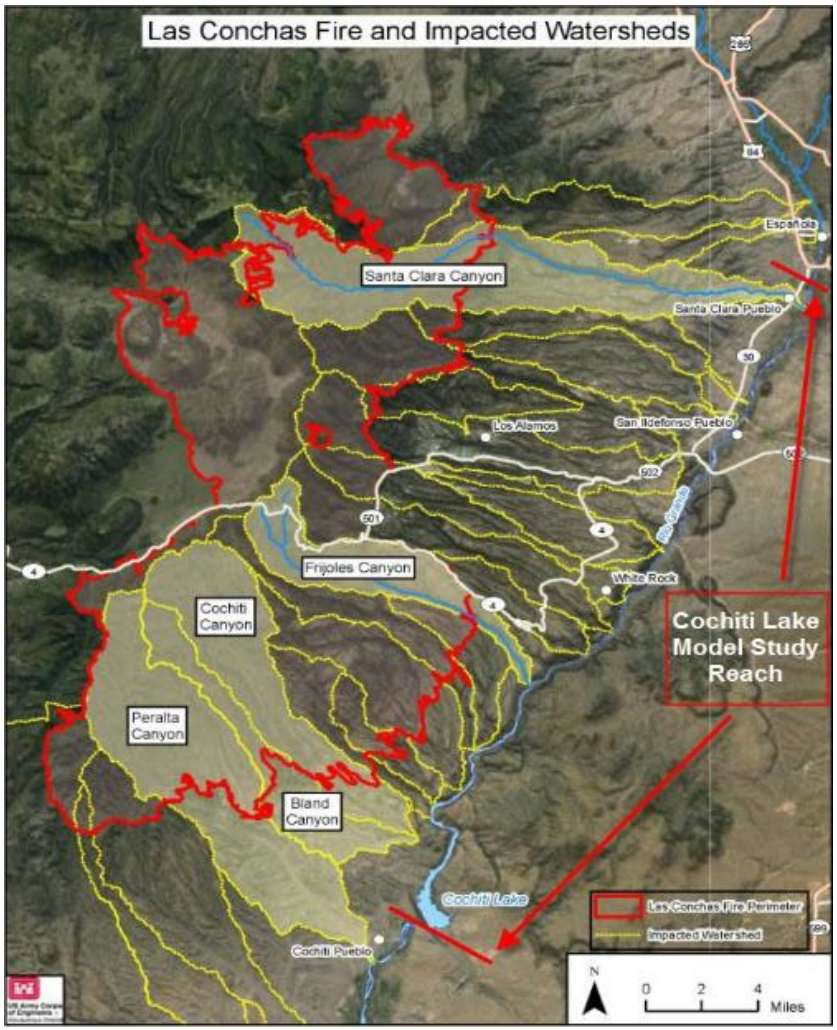


GEOMORPHIC ASSESSMENTS

Brazos River

POST WILDFIRE R&D





NEEDS/RECRUITING

- Interns
- Full-Time
- Lab Growth
- More Aggressive Recruiting Strategy
- Skills
  - H&H Modeling
  - Coding
  - GIS
  - Technical Writing
  - Effective Communication

QUESTIONS

U.S. Army Engineer Research and Development Center

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ERDC

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