Monitoring Completed Navigation Projects (MCNP) Program

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Funding Source

O&M

MCNP Projects Defined As:

- Deep- and Shallow-Draft Navigation Projects Located in the Coastal Zone, Estuaries, Rivers, Lakes, and Reservoirs
- Completed Navigation Projects Operated and Maintained by the Corps of Engineers

MCNP Monitored Project Sites

US Army Corps of Engineers

Coastal and Hydraulics Laboratory - ERDC

MCNP Current Projects

Morro Bay Harbor, CA

Periodic Inspections (Ofu Harbor Breakwater)
Tedious Creek, MD
Upper MS River Training Structures
Tom Bevill Lock and Dam, AL
Aguadilla Harbor, Puerto Rico
Houston Ship Channel, TX
Pocket Wave Absorber, Great Lakes
Greenville Bridge Reach Bendway Weirs, MS

Morro Bay, CA

Monitoring Study

Wave measurements (inside and outside the harbor)

Tidal currents

Bathymetry

Structure stability

PI: ERDC - Thompson

SPL - Shak

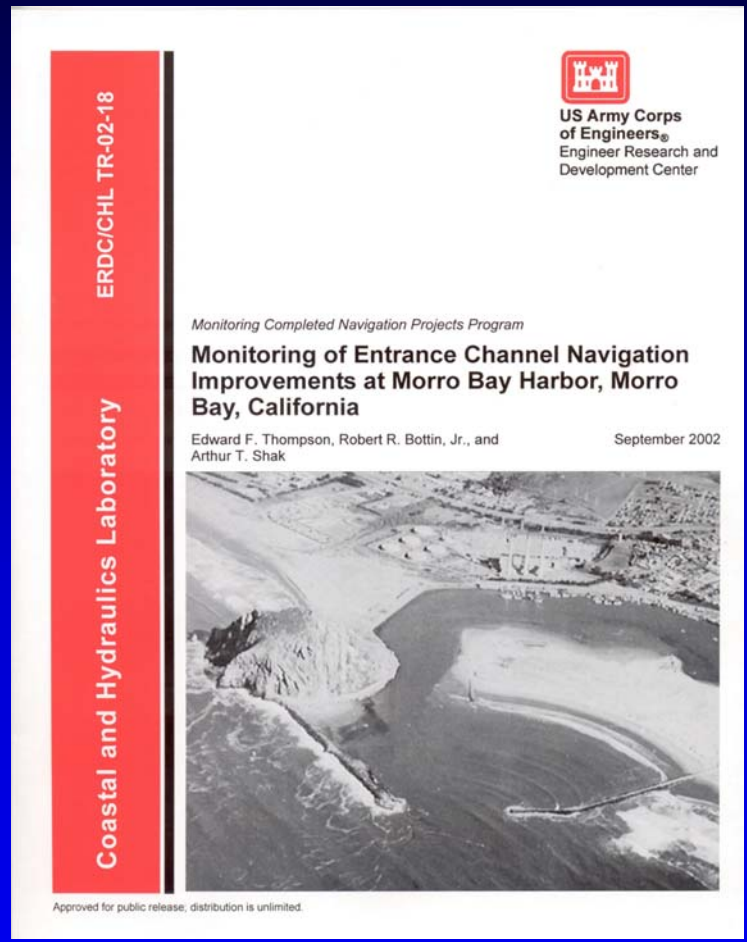
Morro Bay, CA

PRODUCTS:

CHETN – Physical/Numerical Model and Prototype Wave Data Comparison

CHETN – Sedimentation Rates vs. Predictions

TR – Final Monitoring Report



Periodic Inspections

Periodic low-level monitoring of coastal structures to determine their response to the environment over a period of years

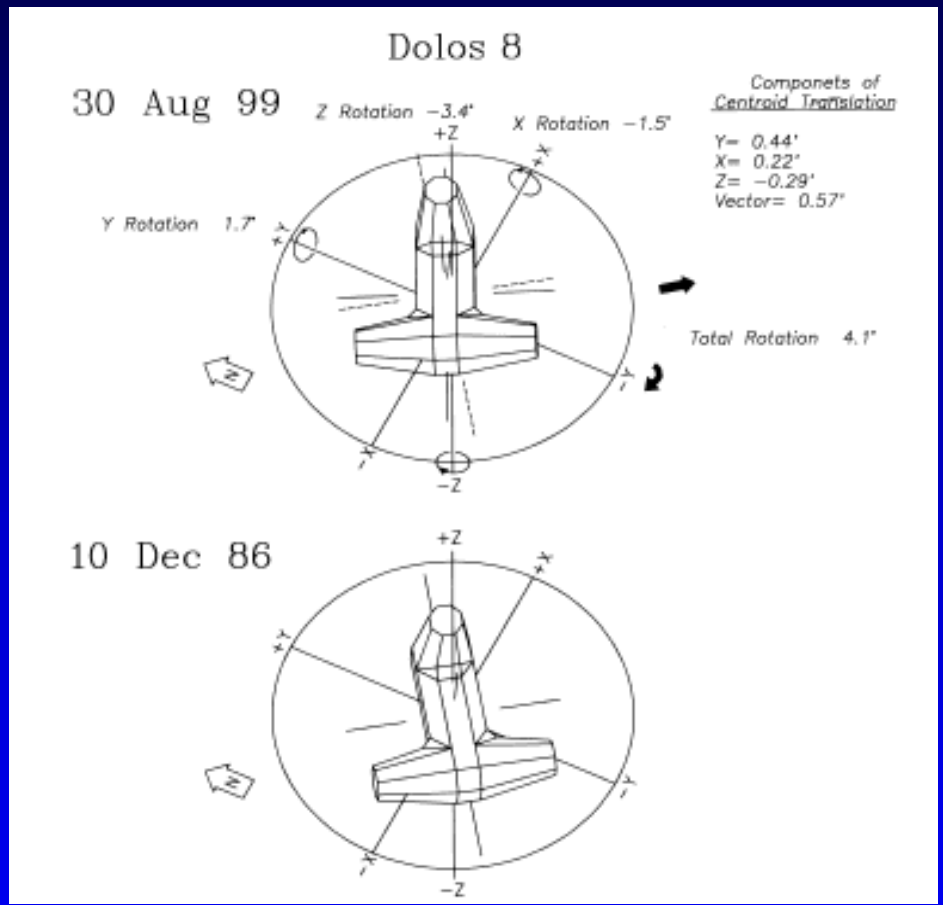
Use relatively low-cost remote sensing technologies

PI: ERDC – Bottin

POH – Meyers;

SPN - Romanoski

Periodic Inspections



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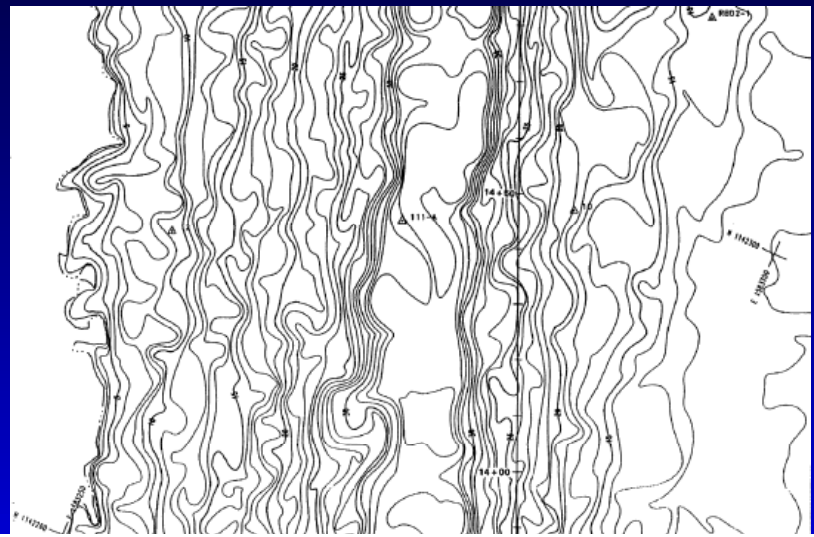
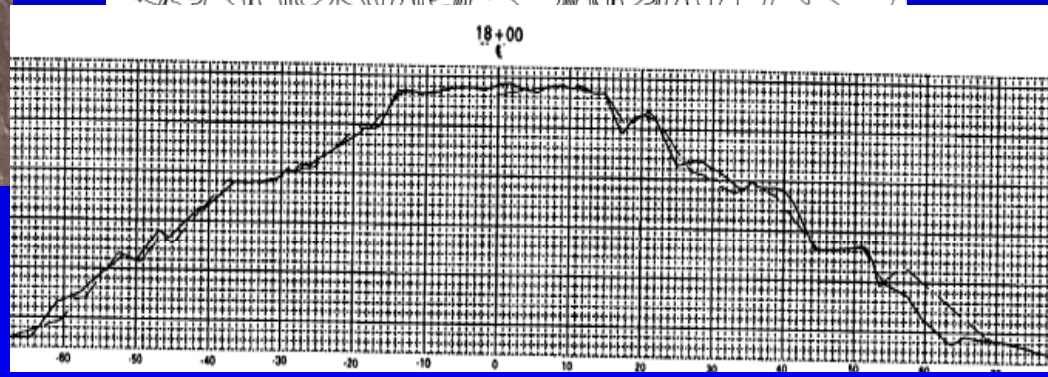
Periodic Inspections





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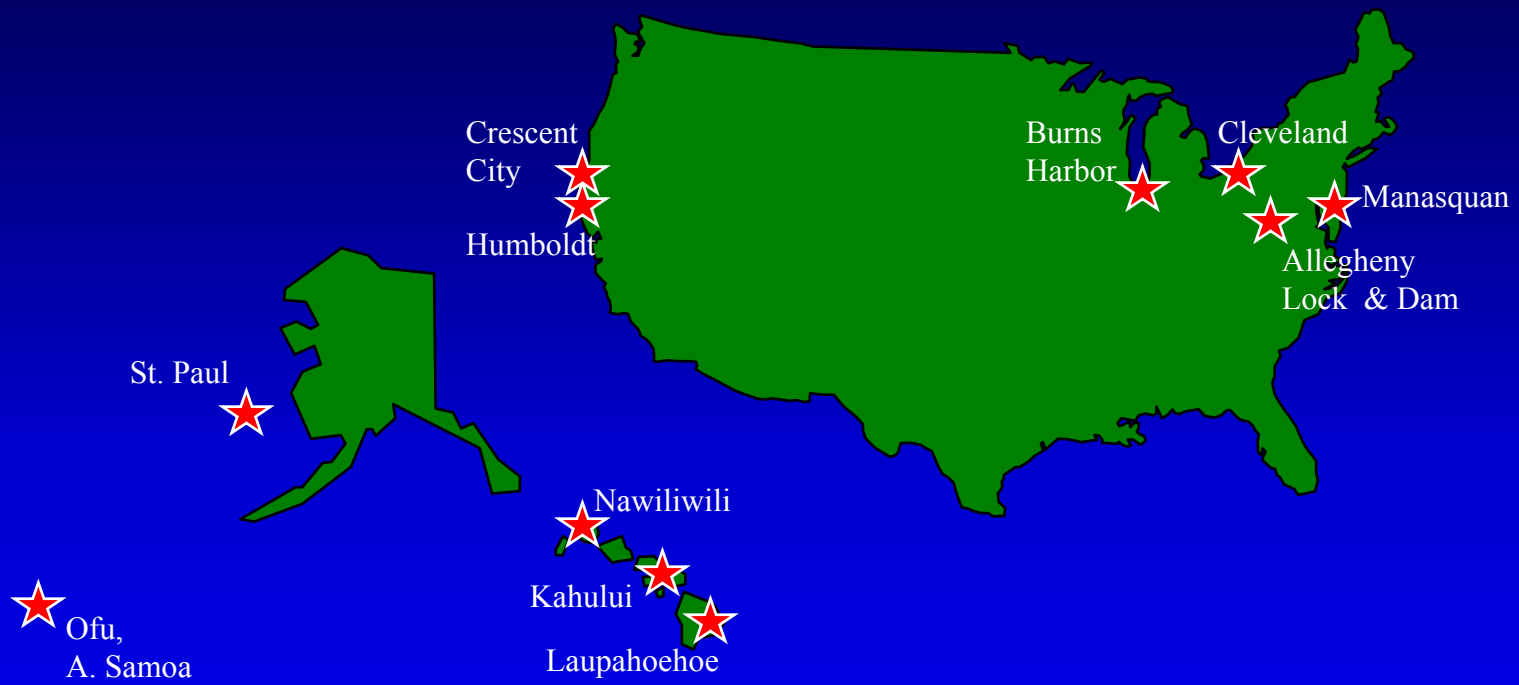
MCNP Periodic Inspections



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Periodic Inspections

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Coastal and Hydraulics Laboratory - ERDC

Tedious Creek, MD

Monitoring Study

Wave measurements

Tidal els/currents

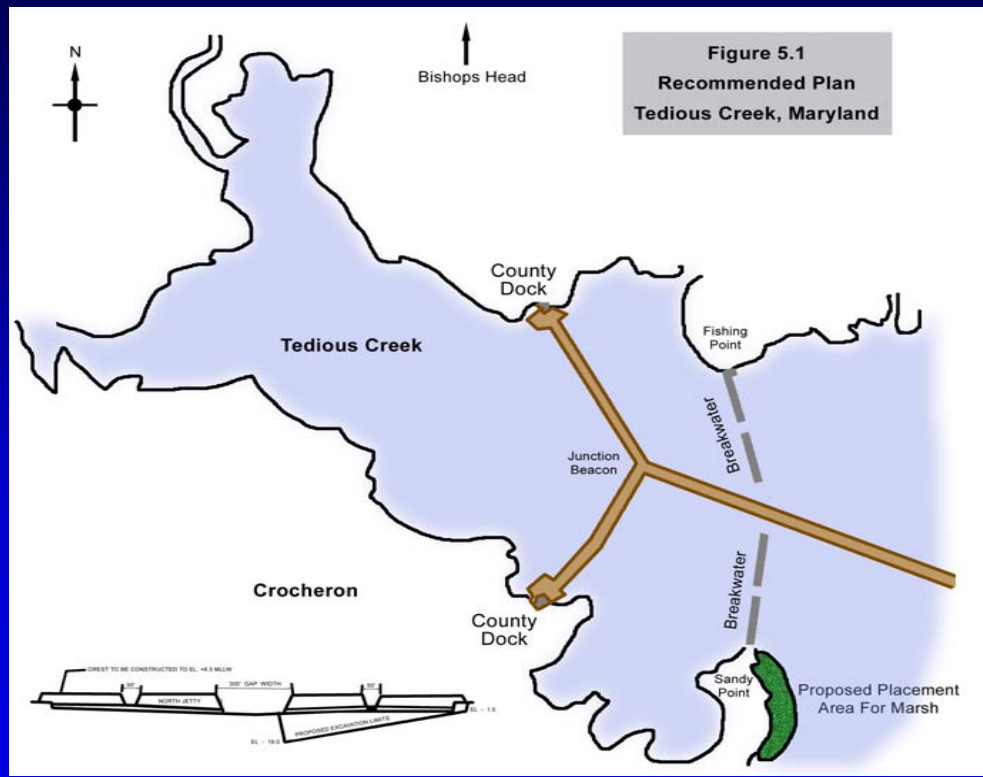
Sedimentation processes

Wetland accretion/erosion

Structure stability

PI: ERDC – Donnell

NAB - Nook



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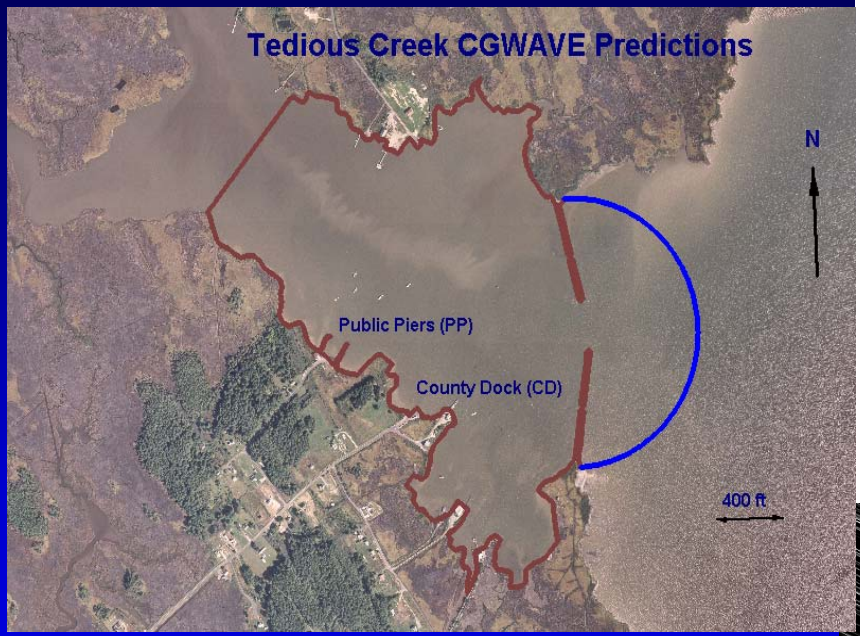
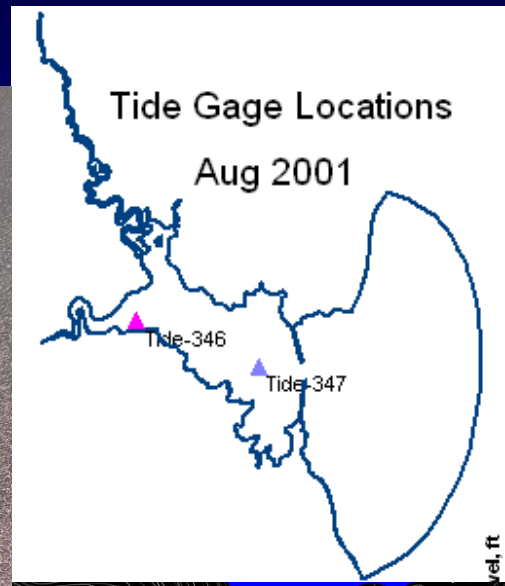
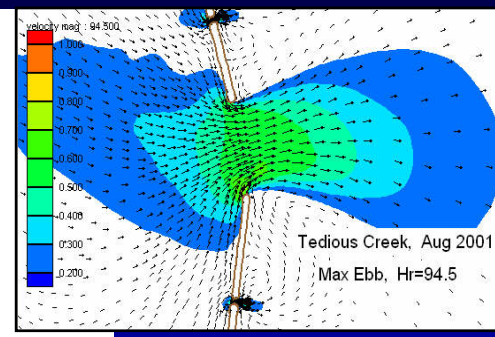
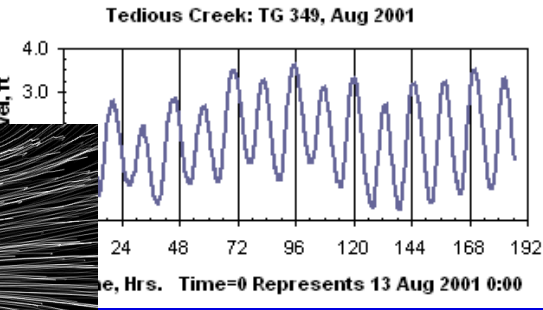
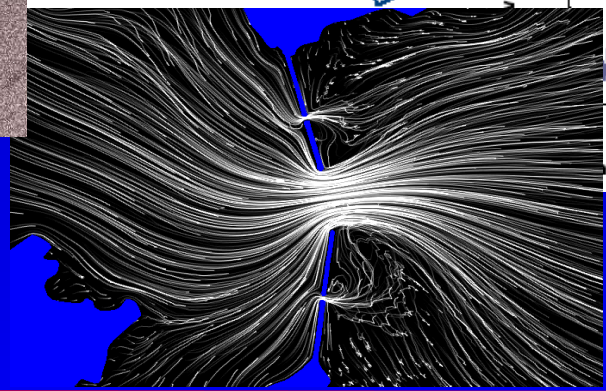
Tedious Creek, MD











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Upper Mississippi River Training Structures

Monitoring Study

Bathymetry

Velocity fields

Static velocity profiles

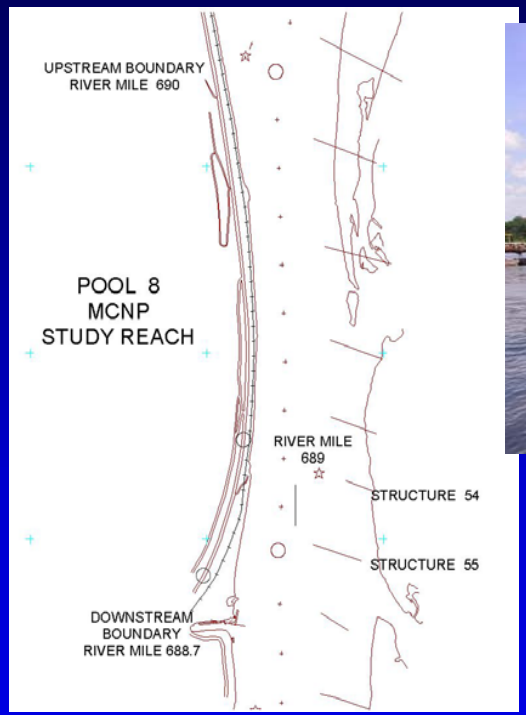
Suspended sediment samples

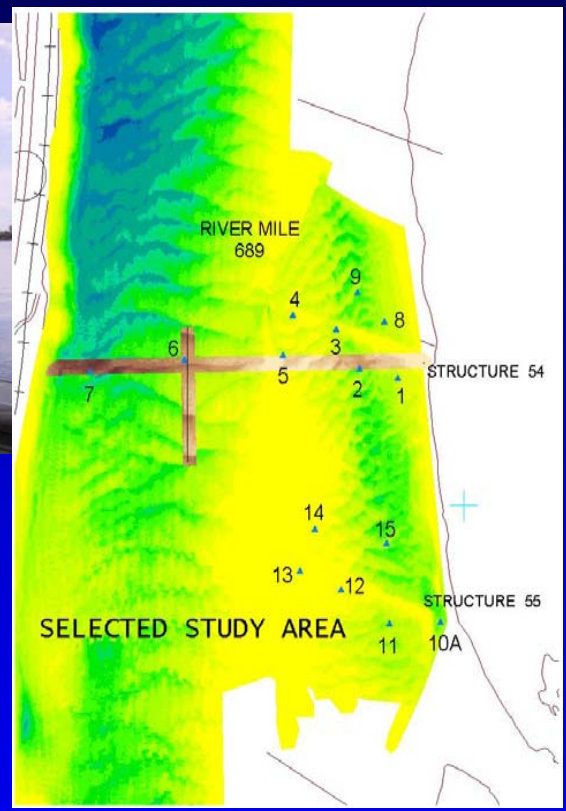
Bed load measurements

Bed material samples

PI: ERDC – Abraham
MVP – Hendrickson
MVR - Landwehr

Upper Mississippi River Training Structures





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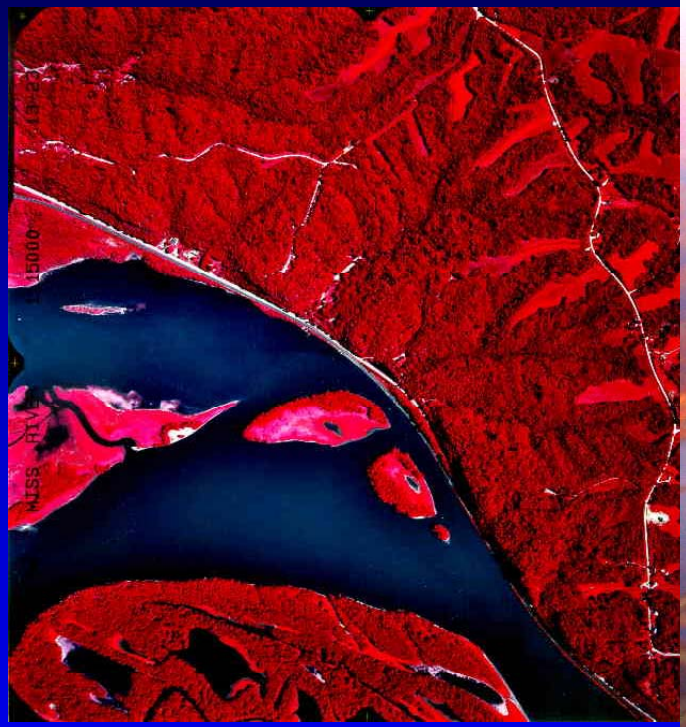
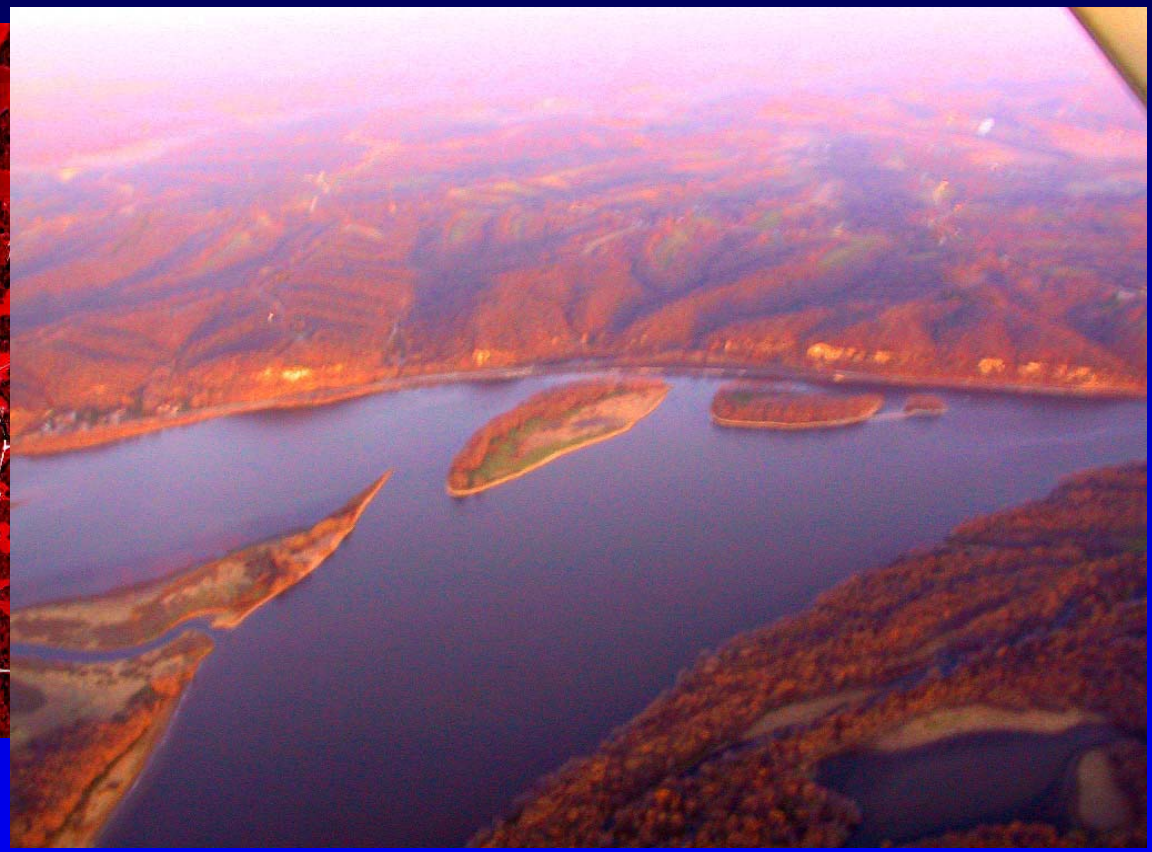
Coastal and Hydraulics Laboratory - ERDC

Upper Mississippi River Training Structures





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Coastal and Hydraulics Laboratory - ERDC

Tom Bevill Lock and Dam, AL

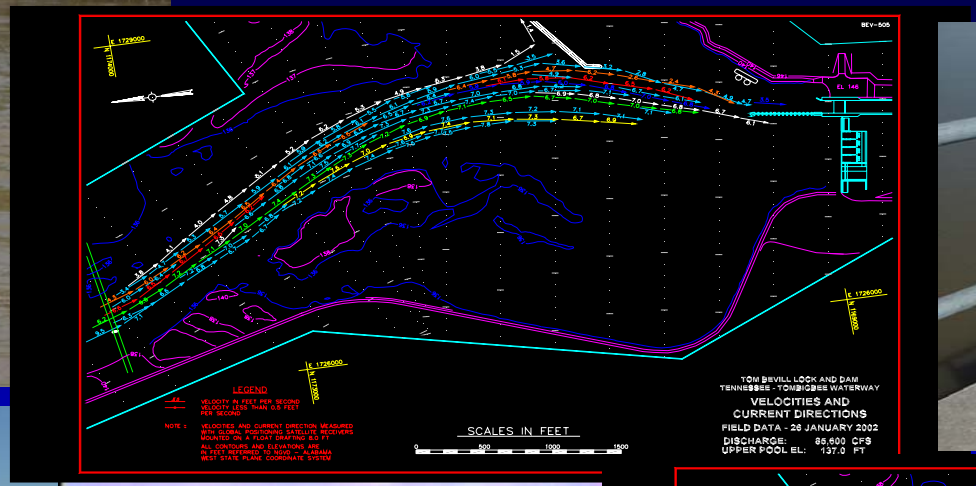
Monitoring Study

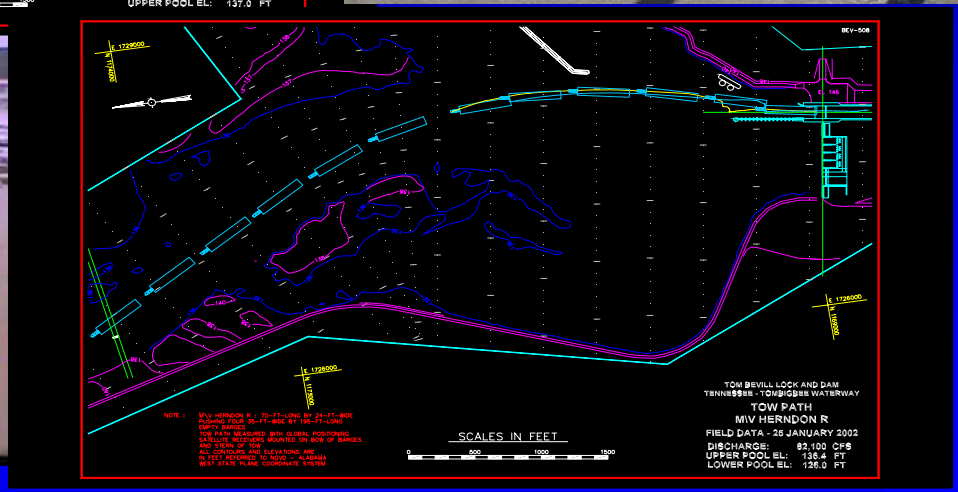
- **Time-lapse video (vessels)**
- **Current Data**
- **Bathymetric Data**
- **Tow Track Data**
- **Pool El/Gate Opening**
- **Head Differential**

PI: ERDC – Winkler

SAM - Bufkin

Tom Bevill Lock and Dam, AL





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Coastal and Hydraulics Laboratory - ERDC

Aguadilla Harbor, Puerto Rico

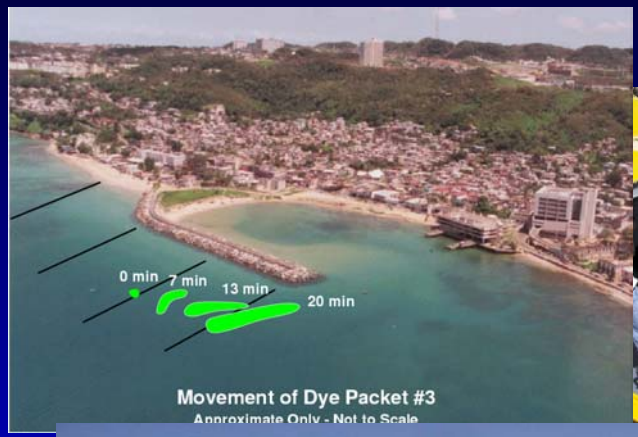
Monitoring Study

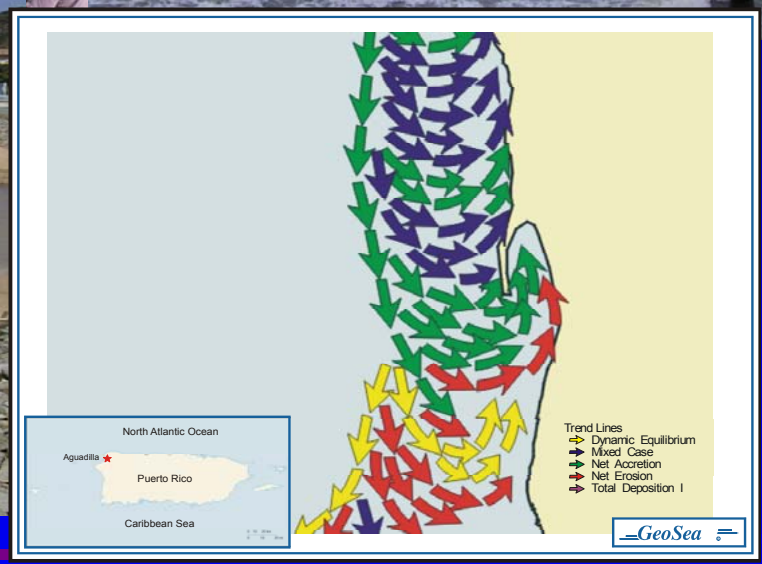
- **Wave measurements**
- **Beach/hydrographic surveys**
- **Sand transport through breakwater**
- **Structure stability**

PI: ERDC – Hughes

SAJ - Engle

Aguadilla Harbor, Puerto Rico





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Houston Ship Channel, TX

Monitoring Study

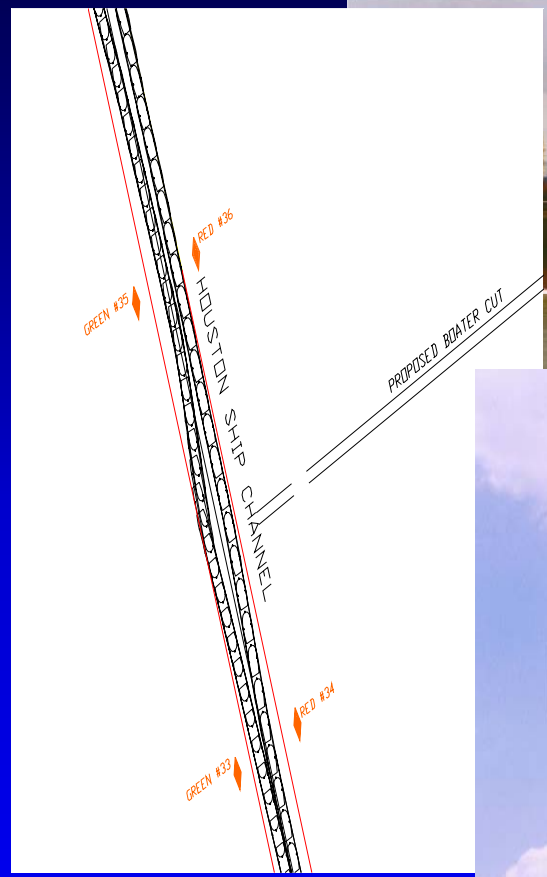
Vessel Motions (DGPS-six degrees of freedom)

Numerical vessel models

Ship simulation model

Two-way vessel interaction

PI: ERDC – Webb
SWG - Meyer



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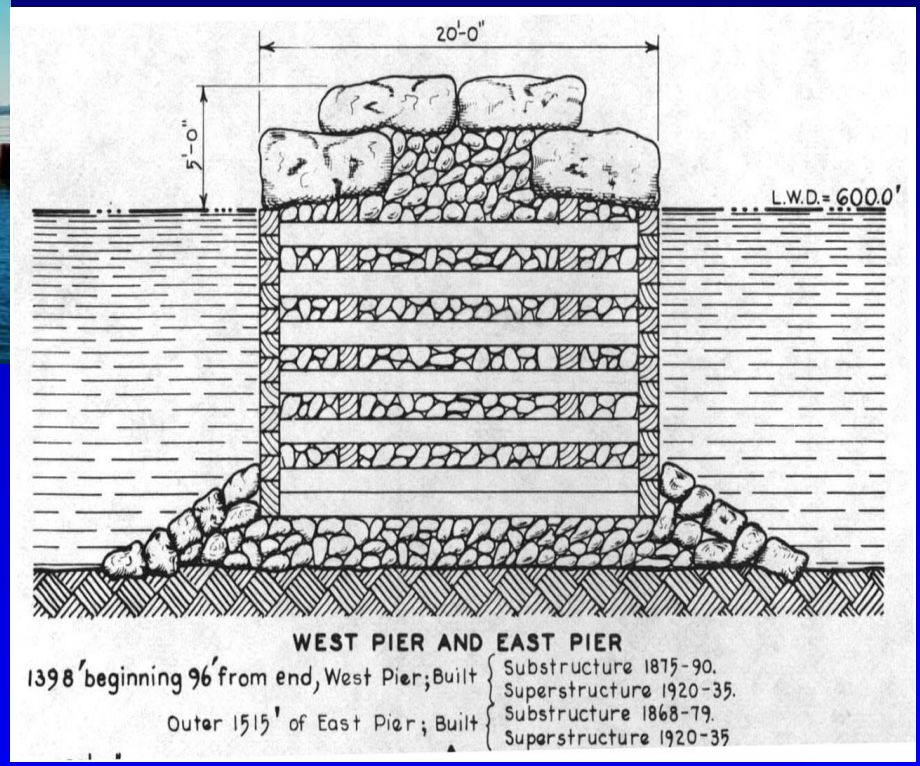
Coastal and Hydraulics Laboratory - ERDC

Houston Ship Channel, TX

Pocket Wave Absorbers, Great Lakes



Wave Data, Modeling

Design guidance

PI: ERDC – Thompson/Bottin

LRE - Selegean

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Coastal and Hydraulics Laboratory - ERDC

Pocket Wave Absorbers, Great Lakes

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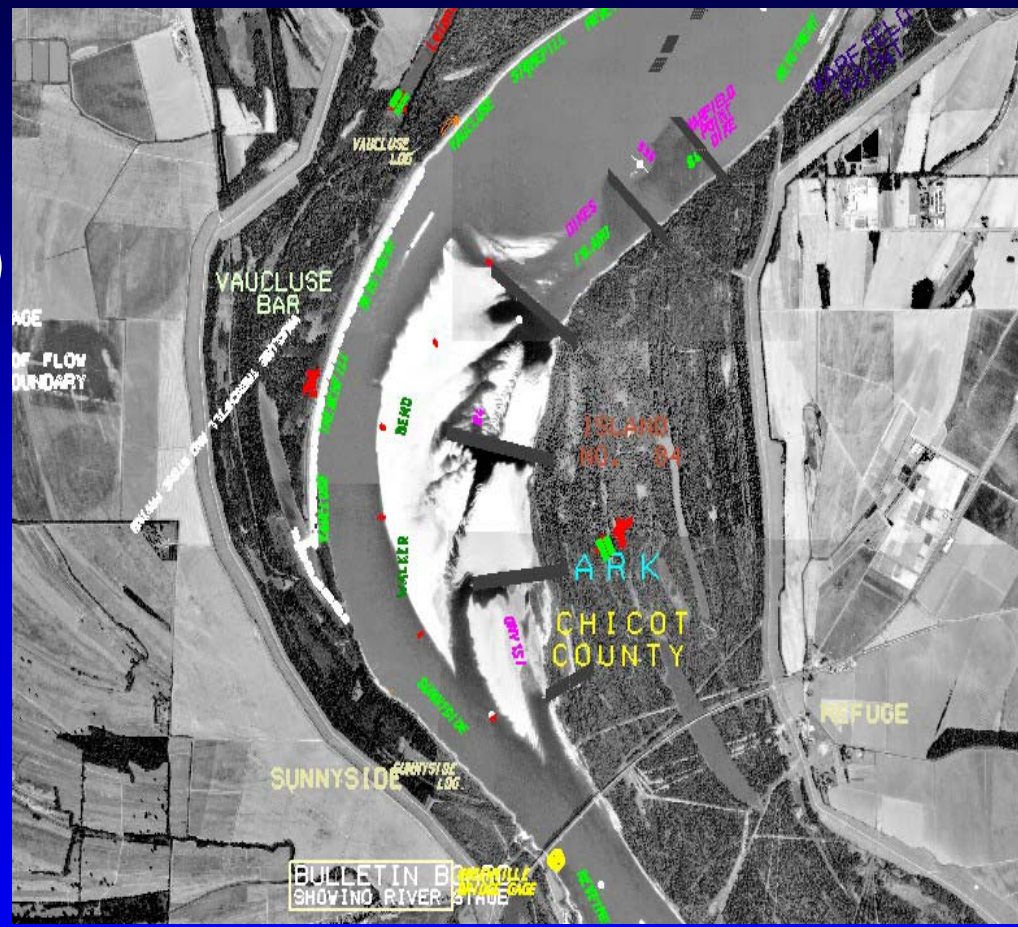
Coastal and Hydraulics Laboratory - ERDC

Greenville Bridge Reach
Bendway Weirs, MS

Monitoring Study

- Time lapse video (vessels)
- Bathymetric data
- Current data
- Tow track data



PI: ERDC – Winkler

MVK - Hill

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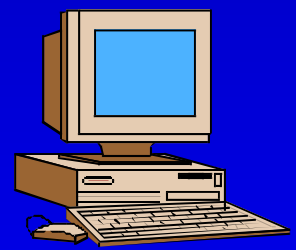
Past MCNP Products

- Forty-Eight Technical Reports Published
- Thirty-One Technical Notes Published
- Numerous Journal Articles/Conference Papers Published

Improvement of Technology Transfer/Infusion Plans

- Identify Project Benefits Derived from Lessons Learned through "Pull" Technology Transfer
- Continue to Publish CHETNs/TRs
- Enhance MCNP Web Site



Homepage - MCNP Web Site

Monitoring Completed Navigation Projects Program

MCNP

US Army Corps of Engineers | Engineer Research & Development Center | Coastal & Hydraulics Laboratory

- Home
- Overview
- Engineer Regulation
- Monitored Project Sites
- Periodic Inspection Sites
- Current Projects
- Technology Infusion
- Lessons Learned

Program Description

The Monitoring Completed Navigation Projects (MCNP) program evaluates the performance of completed civil works navigation projects. Its objective is to obtain information for verifying or improving navigation project performance. Monitoring is conducted to (1) determine if the project is functioning as designed, (2) improve design procedures, (3) improve construction methods, and (4) improve operations and maintenance techniques.

For complete description in Adobe PDF format click here.

To get Adobe PDF Reader click here.

Program Manager
Robert Bottin

HQ Program Monitors
Barry Holliday
Dave Wingerd
Charles Chesnutt

What's New | MCNP Publications | Related MCNP Links

Coastal and Hydraulics Laboratory
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