

Monitoring Completed Navigation Projects (MCNP) Program

HQUSACE Program Monitors

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(FY04)

Funding Source

O&M

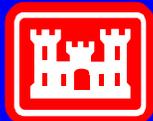


MCNP Projects Defined As:

- 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



MNCP Monitoring Sites



US Army Corps
of Engineers

Coastal and Hydraulics Laboratory - ERDC

MCNP Projects

Morro Bay Harbor, CA

Periodic Inspections (Ofu Harbor Breakwater)

Tedious Creek, MD

Upper MS River Training Structures

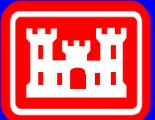
Tom Bevill Lock and Dam, AL

Aguadilla Harbor, Puerto Rico

Houston Ship Channel, TX

Pocket Wave Absorber, Great Lakes

Greenville Bridge Reach Bendway Weirs, MS



US Army Corps
of Engineers

Coastal and Hydraulics Laboratory - ERDC

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:

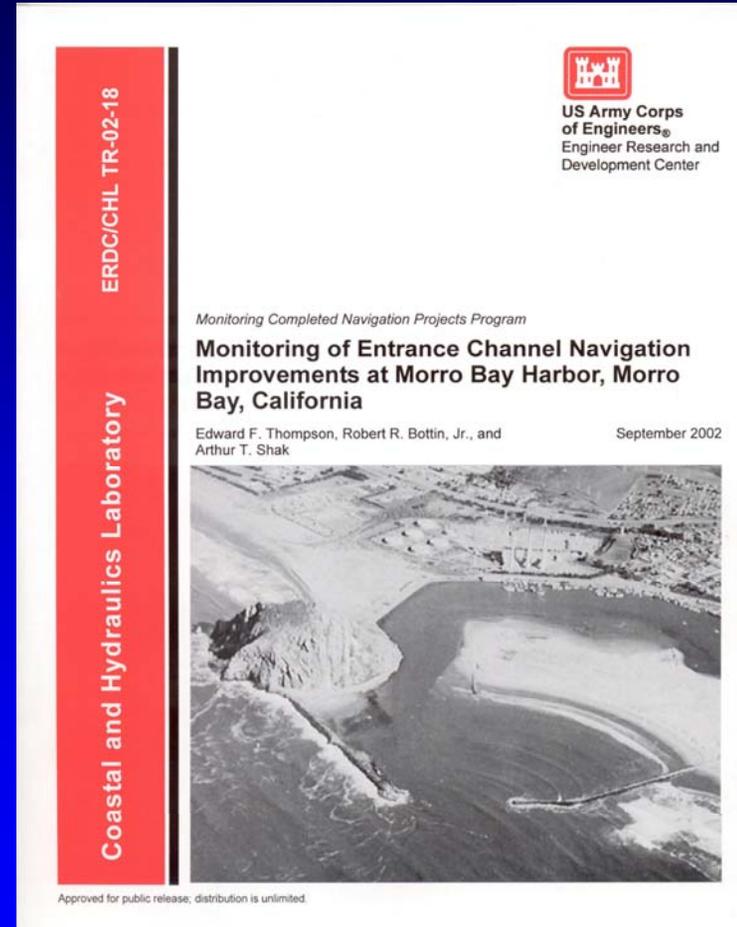
**CHETN – Physical/Numerical
Model and Prototype Wave
Data Comparison**

**CHETN – Sedimentation Rates
vs. Predictions**

TR – Final Monitoring Report



US Army Corps
of Engineers



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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

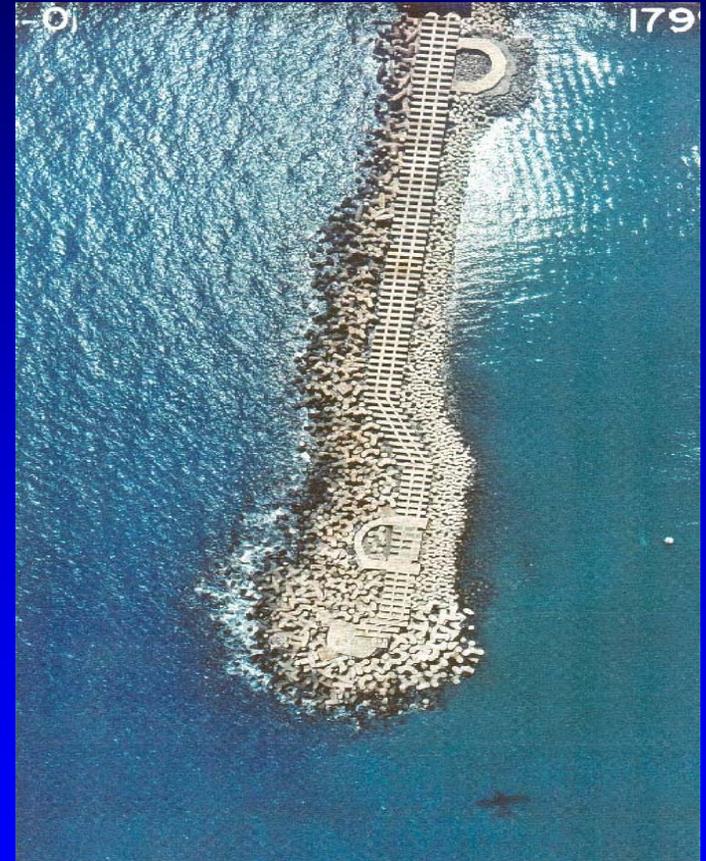
PI: ERDC – Bottin

POH – Meyers;

SPN - Romanoski

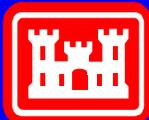
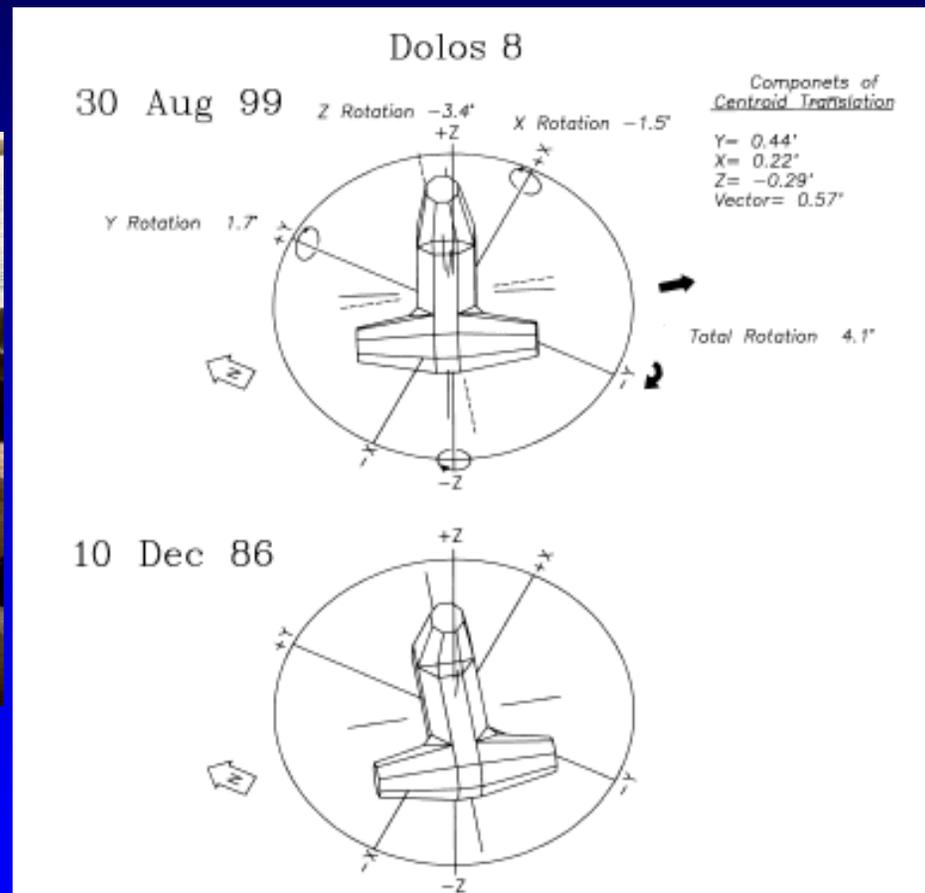


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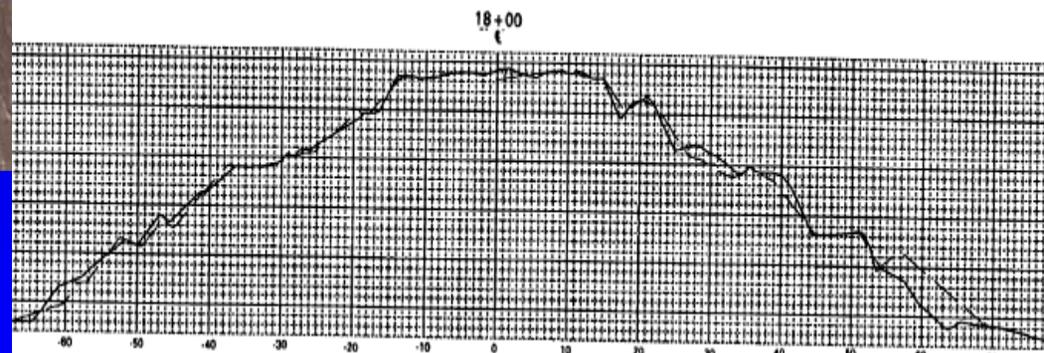
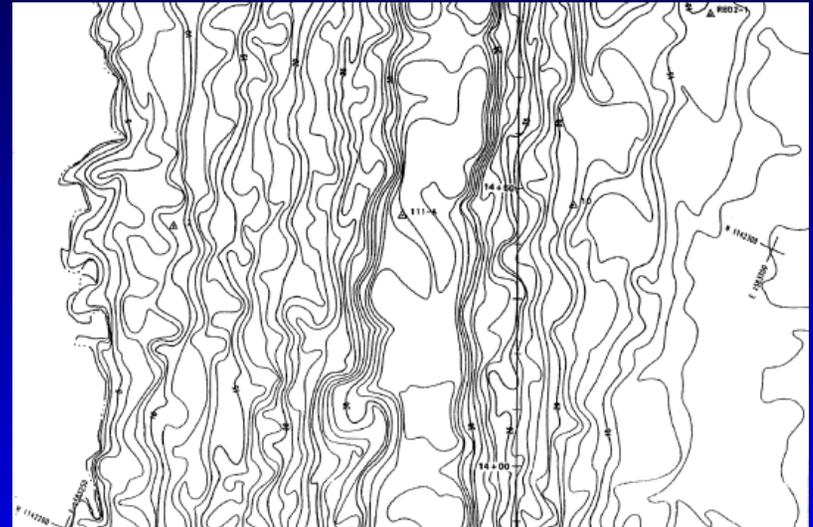
Periodic Inspections



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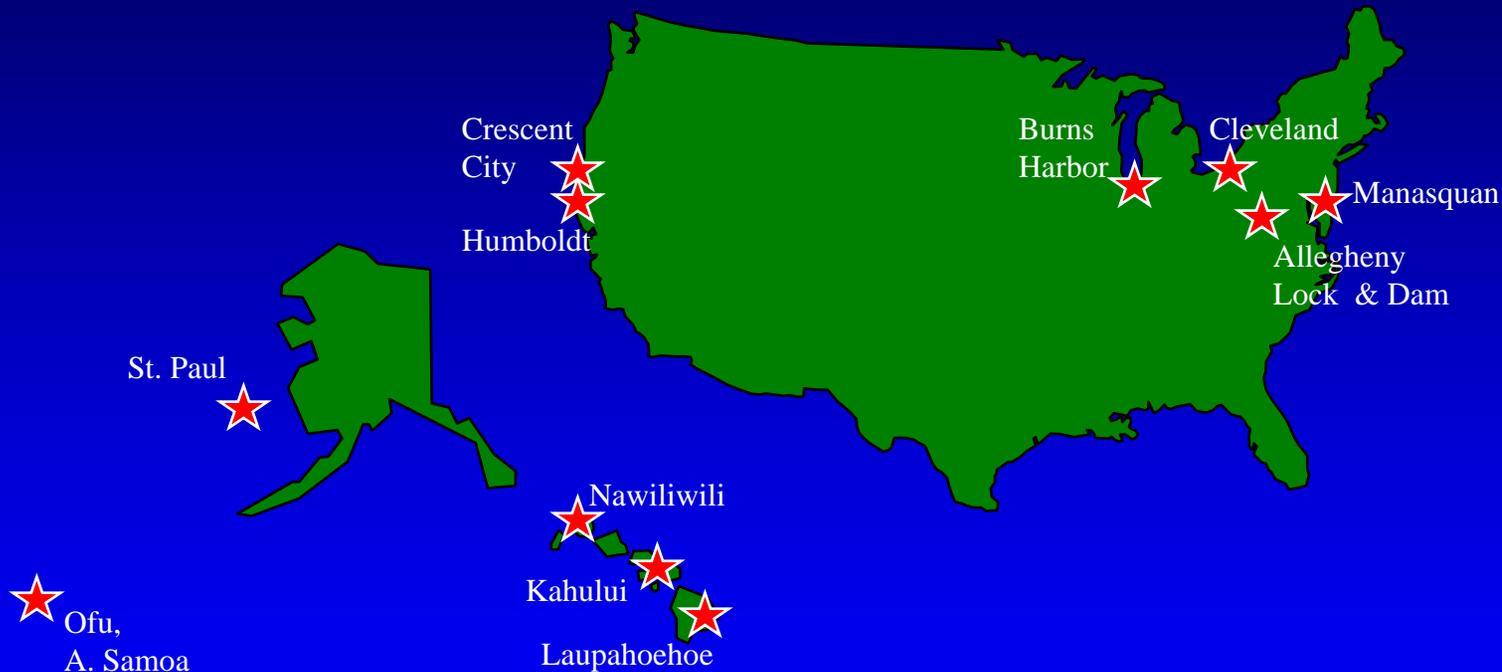
Periodic Inspections



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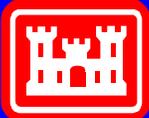
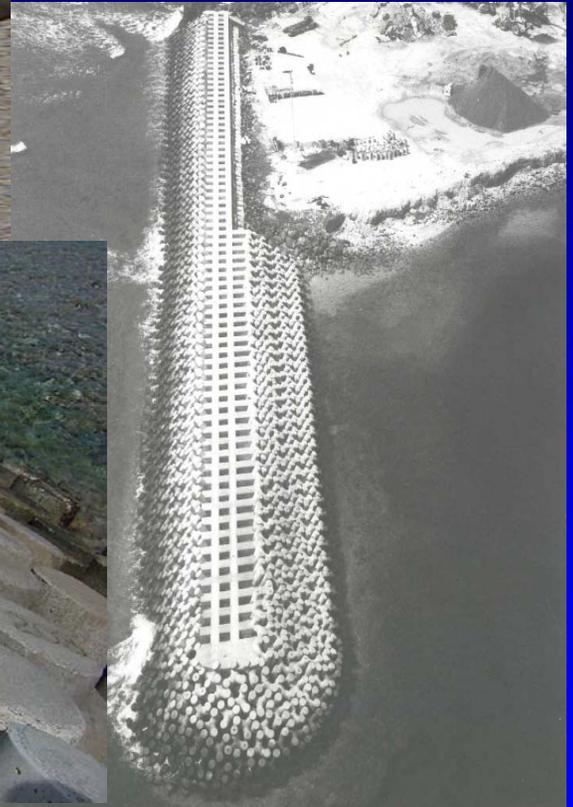
MCNP Periodic Inspections



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Periodic Inspections



Tedious Creek, MD

Monitoring Study

Wave measurements

Tidal els/currents

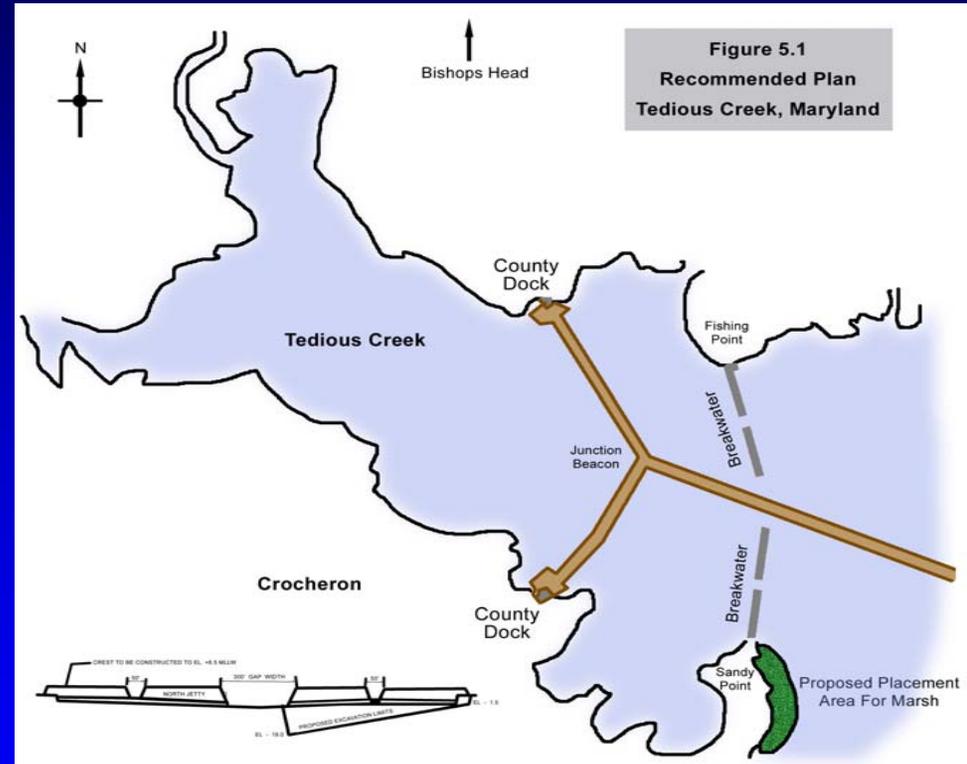
Sedimentation processes

Wetland accretion/erosion

Structure stability

PI: ERDC – Donnell

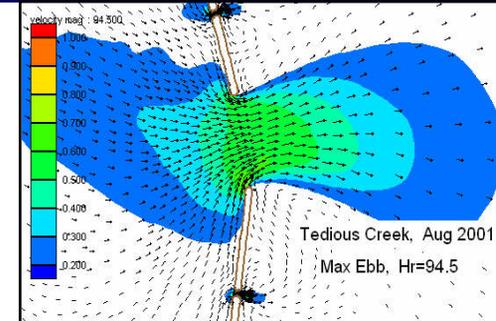
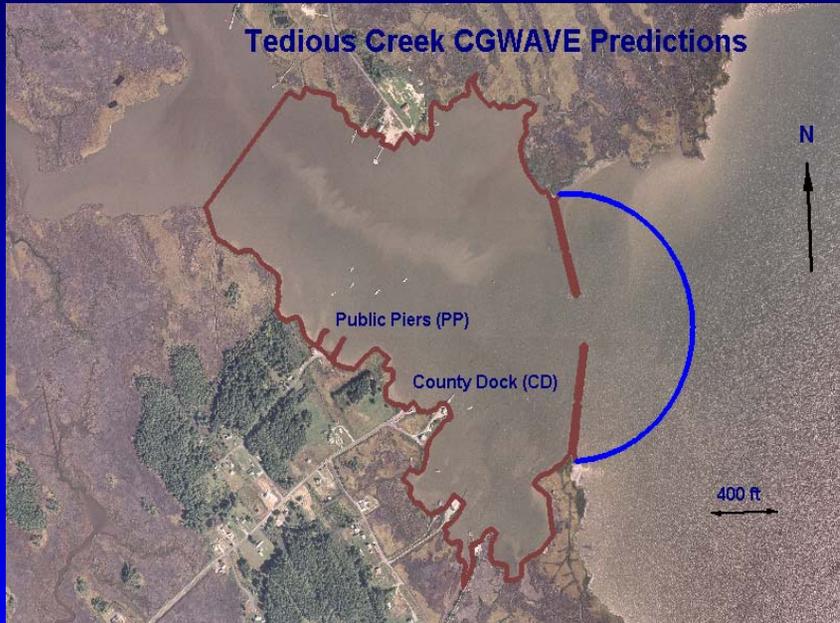
NAB - Nook



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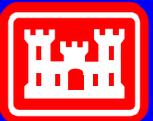
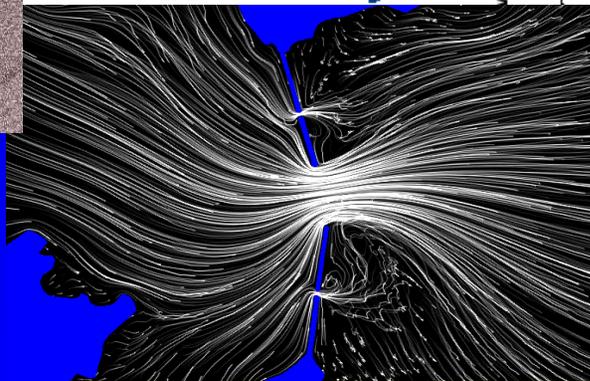
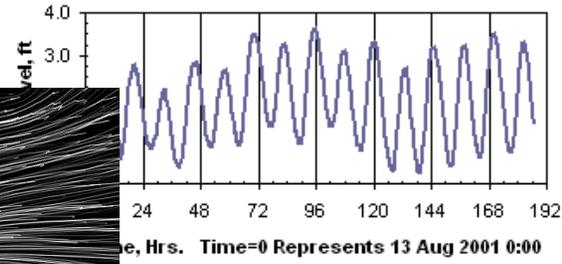
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Tedious Creek, MD



Tide-349

Tedious Creek: TG 349, Aug 2001



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

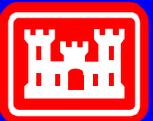
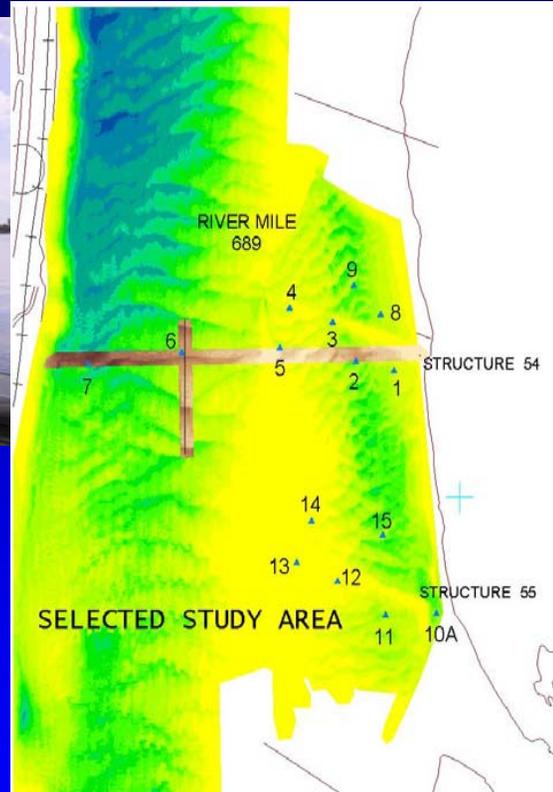
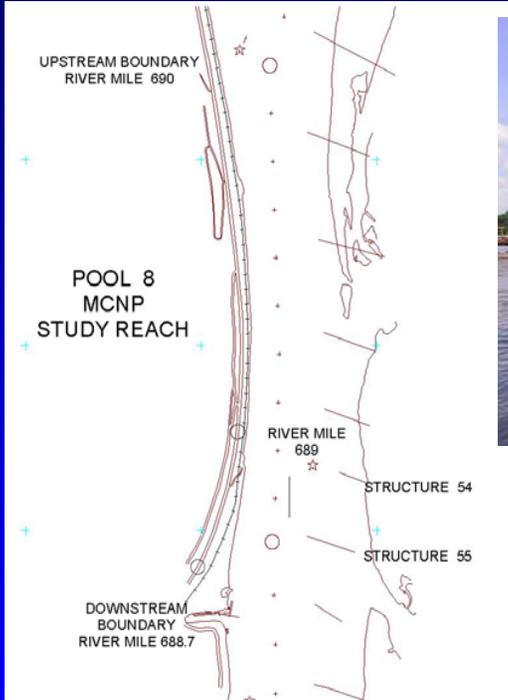
MVR - Landwehr



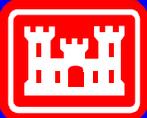
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Upper Mississippi River Training Structures



Upper Mississippi River Training Structures



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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

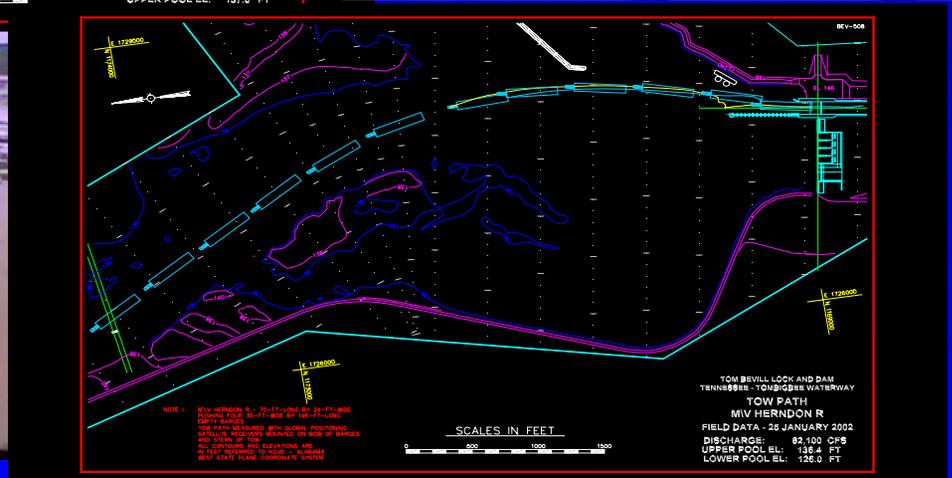
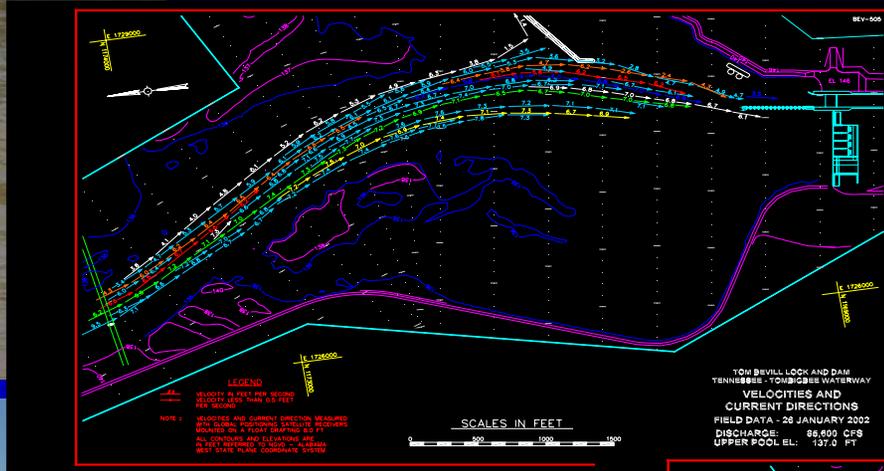


SAM - Bufkin

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Tom Bevill Lock and Dam, AL



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Aguadilla Harbor, Puerto Rico

Monitoring Study

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

PI: ERDC – Hughes

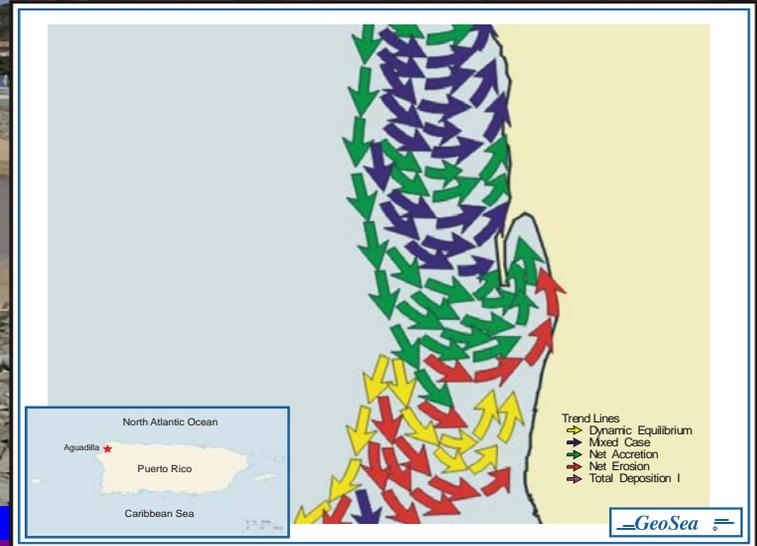
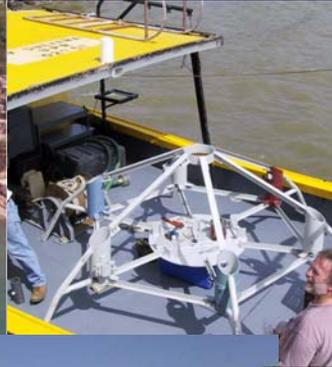
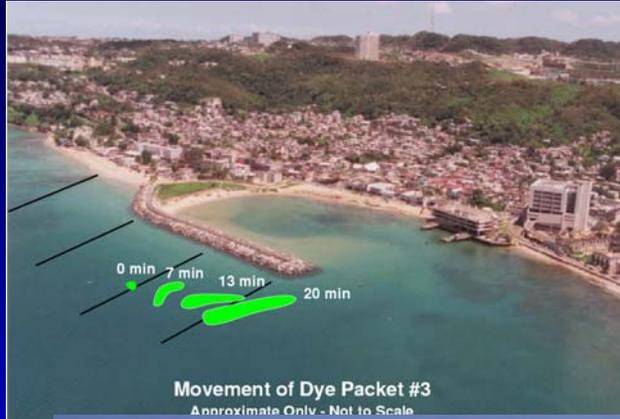
SAJ - Engle



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Aguadilla Harbor, Puerto Rico



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Houston Ship Channel, TX

Monitoring Study

Vessel Motions (DGPS-
six degrees of freedom)

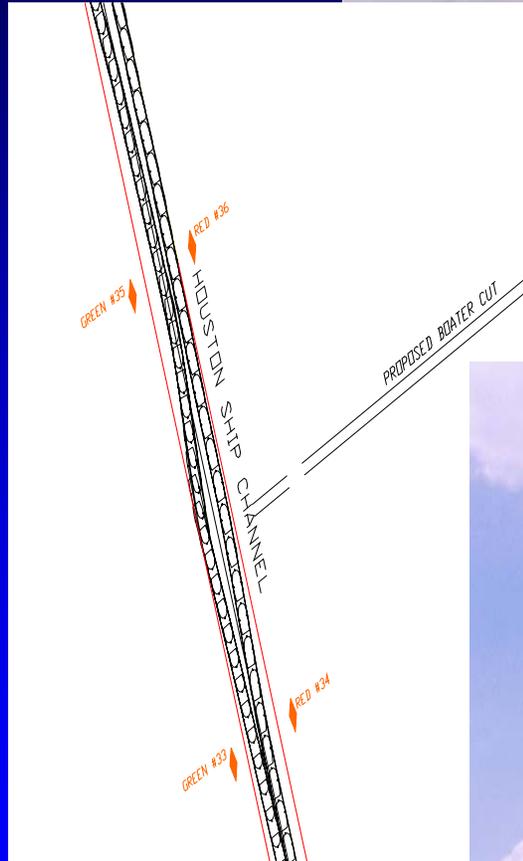
Numerical vessel models

Ship simulation model

Two-way vessel interaction

PI: ERDC – Webb

SWG - Meyer



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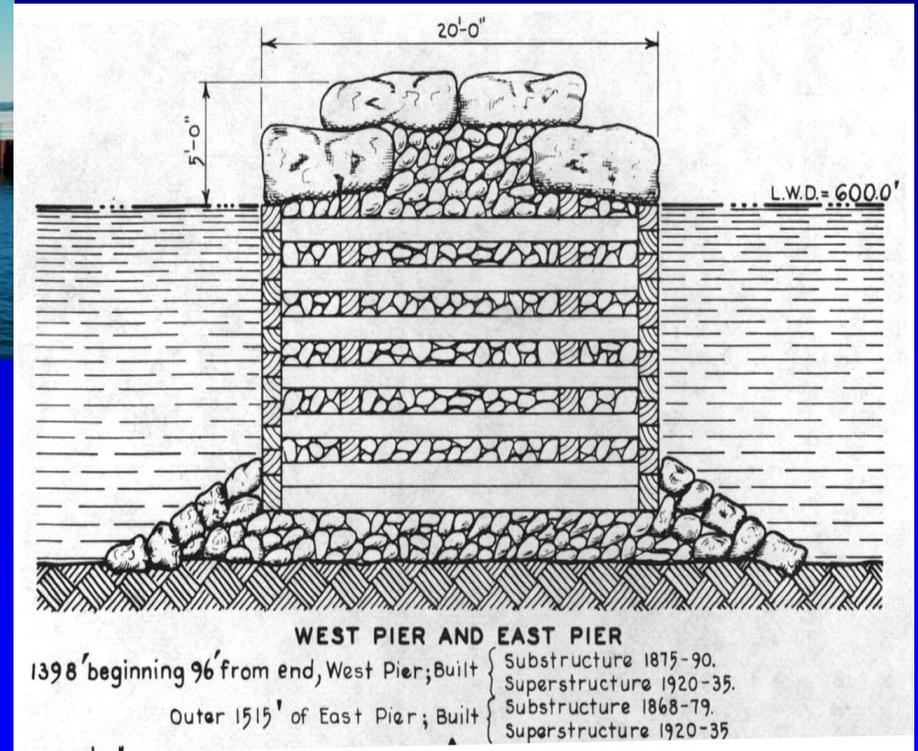
Houston Ship Channel, TX



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Pocket Wave Absorbers, Great Lakes

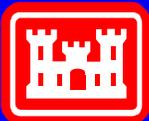


Wave Data, Modeling

Design guidance

PI: ERDC – Thompson/Bottin

LRE - Selegan



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Pocket Wave Absorbers, Great Lakes



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Greenville Bridge Reach Bendway Weirs, MS

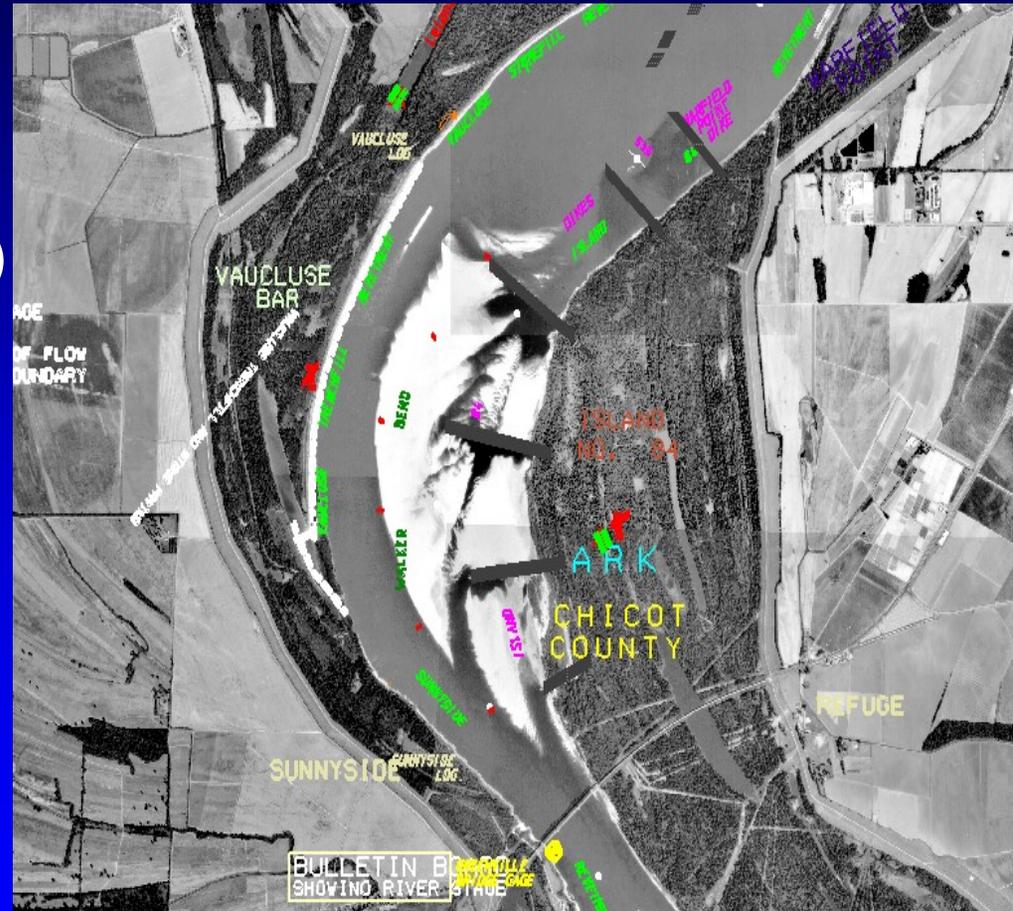
Monitoring Study

- 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

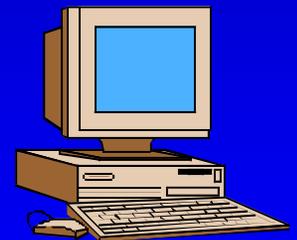


Improvement of Technology Transfer/Infusion Plans

Identify Project Benefits Derived from Lessons Learned through "Pull" Technology Transfer

Continue to Publish CHETNs/TRs

Enhance MCNP Web Site





Monitoring Completed Navigation Projects Program

US Army Corps
of Engineers

Engineer Research &
Development Center

Coastal & Hydraulics
Laboratory

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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](#).

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Program Manager

[Robert Bottin](#)

HQ Program Monitors

Barry Holliday

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