STATE OF THE COASTAL INLETS RESEARCH PROGRAM

02 December 2025

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PROBLEM

- 153 Federal coastal inlets & navigation projects → **$1B USD / year for O&M!**
  - Inlet channel
  - Associated jetties and breakwaters
  - Adjacent beaches and inland waterways

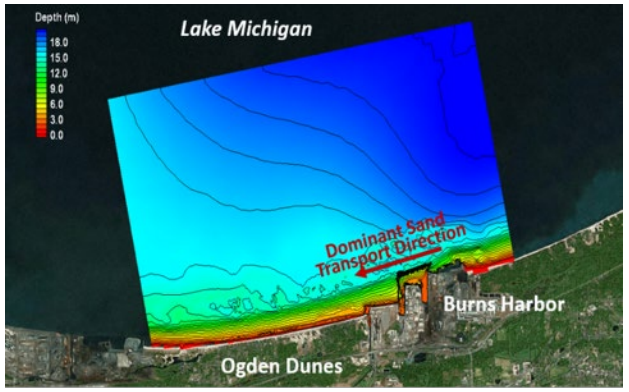
- Coastal inlets
  - Military, commercial, recreational navigation
  - Beach stability and estuary health
  - Water, sediment, and nutrient exchange

- Coastal dynamics
  - Infilling of navigation channels
  - Short- and long-term migration trends
  - Interactions among inlets, beaches, and estuaries

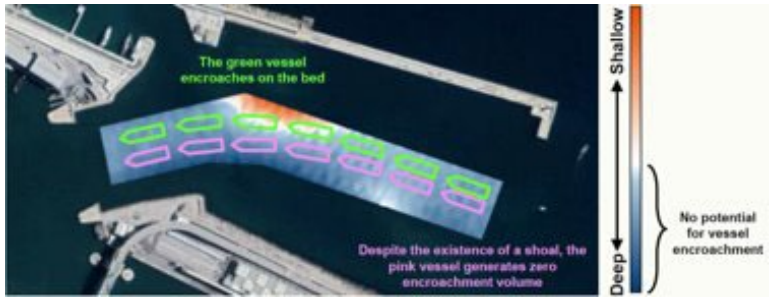
https://cirp.usace.army.mil/

FOCUS AREAS

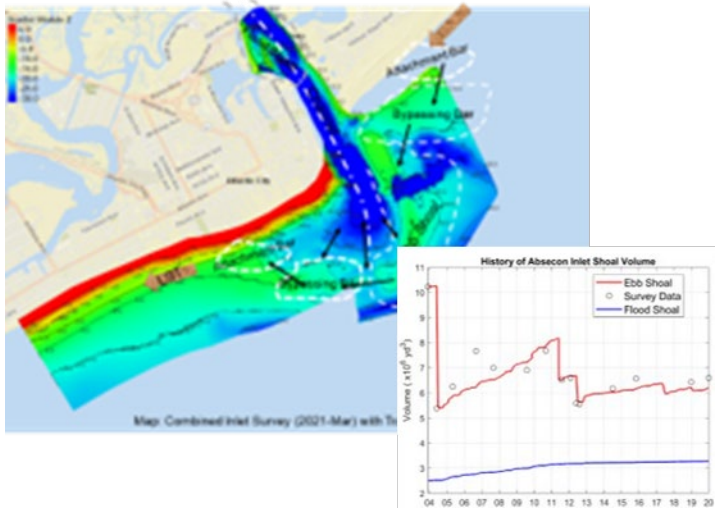
- Advance state-of-knowledge and engineering technology to better predict future channel shoaling and stability



- Provide quantitative, practical predictive tools and engineering guidance to reduce the costs of dredging and maintenance of navigation structures

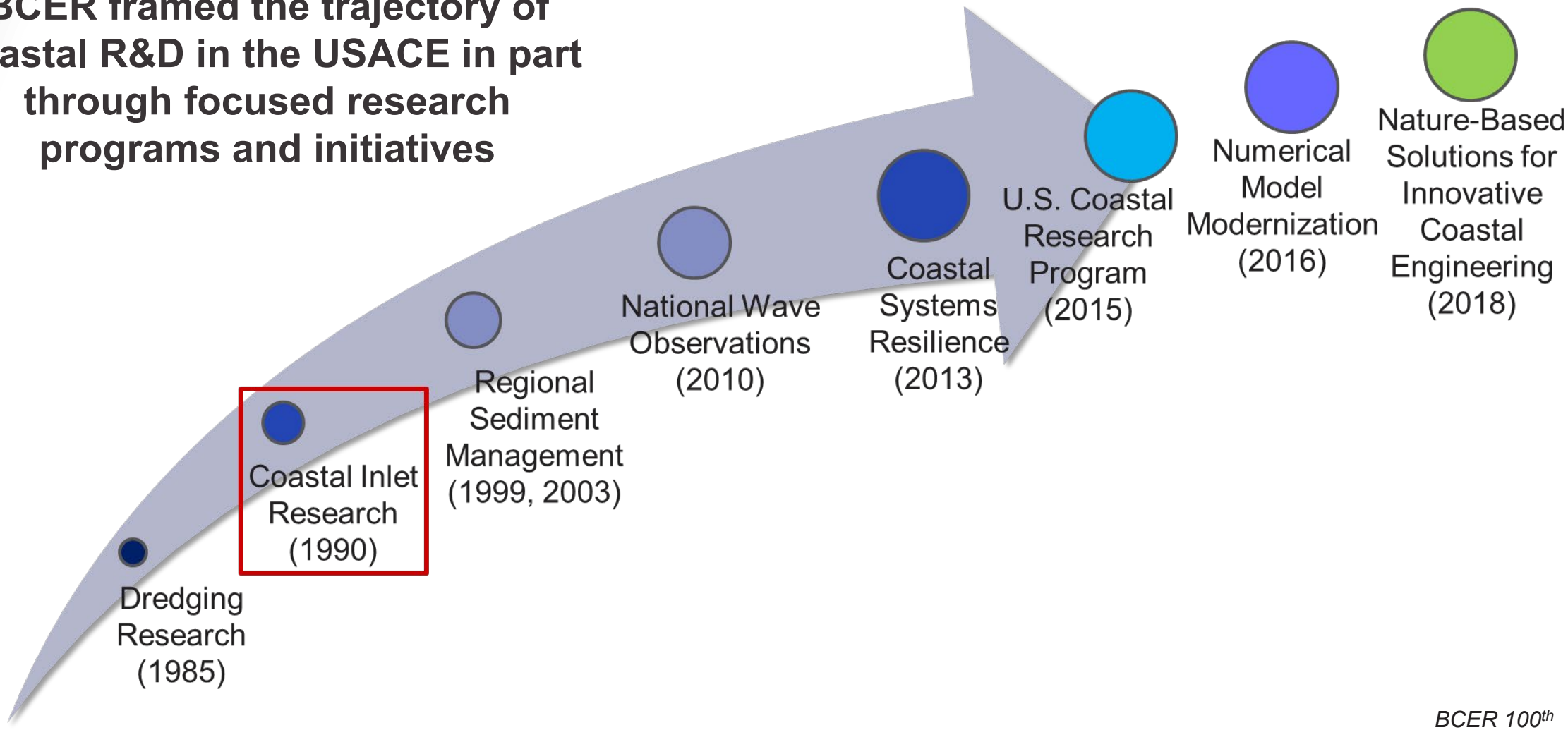


- Quantify potential unintended consequences, identify mitigation strategies, and understand future conditions for coastal navigation



HISTORICAL ROOTS

BCER framed the trajectory of coastal R&D in the USACE in part through focused research programs and initiatives



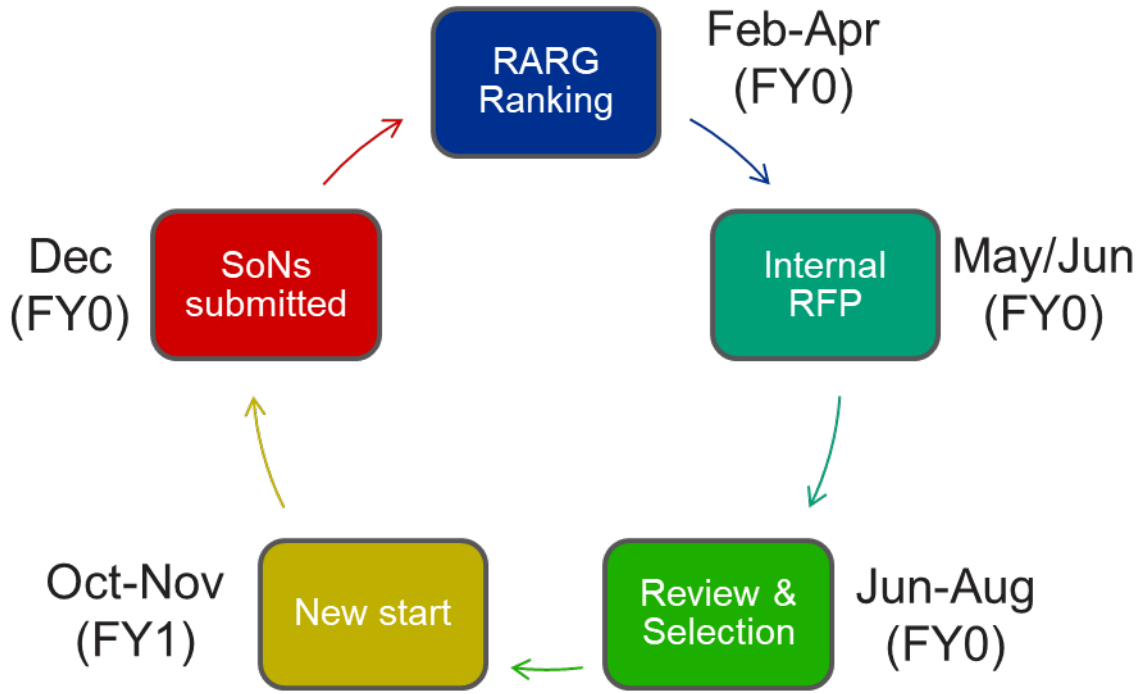
THE CIRP CYCLE

- Tactical research program
  - SoN-driven
  - Product-focused
  - 1–3-year projects

Strategic R&D	Tactical R&D	Innovation
Centrally funded Research and Development (R&D) to develop next-generation, leap-ahead capability.	Centrally funded R&D to address near-term practitioner requirements via the Statements of Need (SoN) process.	Project-funded that "operationalizes" Technology to "buy down" project risk and/or create better project/regional solutions.

https://usace-cw-research.erdc.dren.mil/plan-of-action/

- Proposal cycle
  - SoN submission
  - Research Area Review Group (RARG) meetings
  - Request for proposals (RFP)



- Funding: ~$2-2.3M

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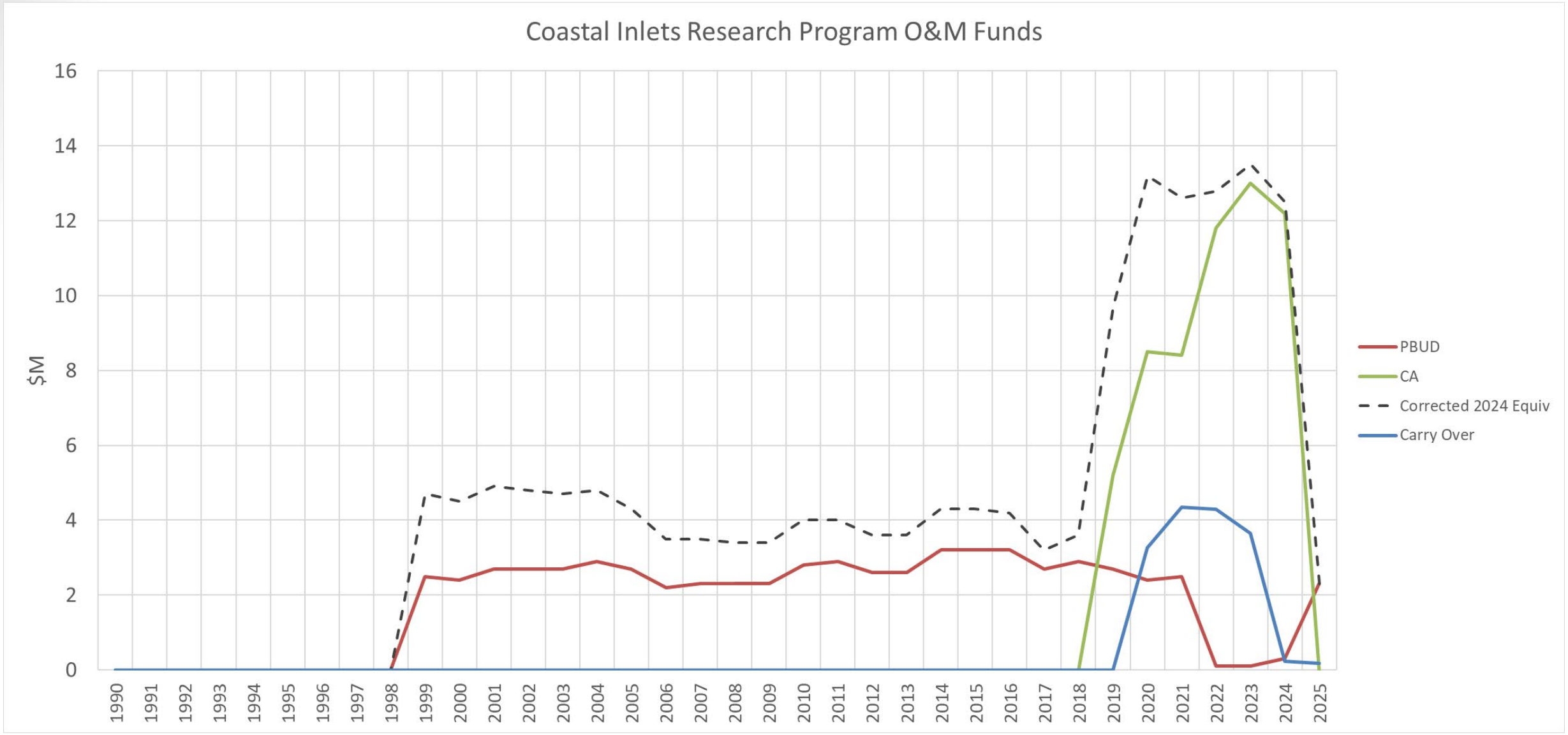
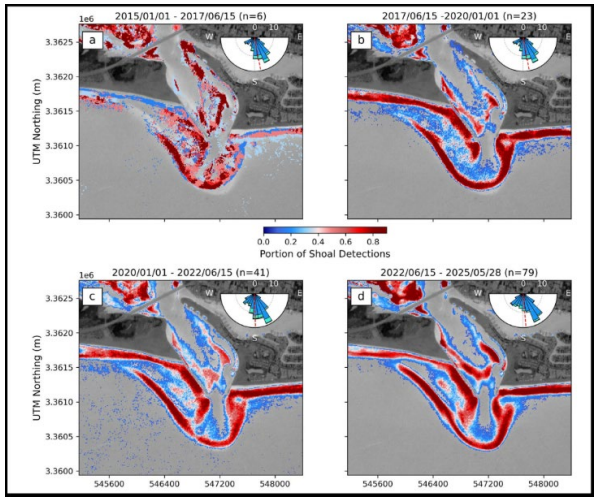
HISTORICAL FUNDING LEVELS



THE CIRP TODAY: FY26

- $2M expected
- 10.5 Continuing work units, no new starts
  - Inlets Atlas 2.0
  - NextGen Coastal Volumes
  - Hazardous shoals x2
  - Rubblemound hindcasting
  - SBAS-Aeolian
  - CSHORE-Veg
  - Multiscale CMS-CSHORE
  - CMS Dev
  - CSAT Dev
  - FUNWAVE guidance (wrap up)
- 11 SoNs actively being addressed
- 5 CMS Reimbursables
- 3 Technical discussions so far!

NextGen Coastal Vol



Multispectral NDWI

CoastSat whitewater

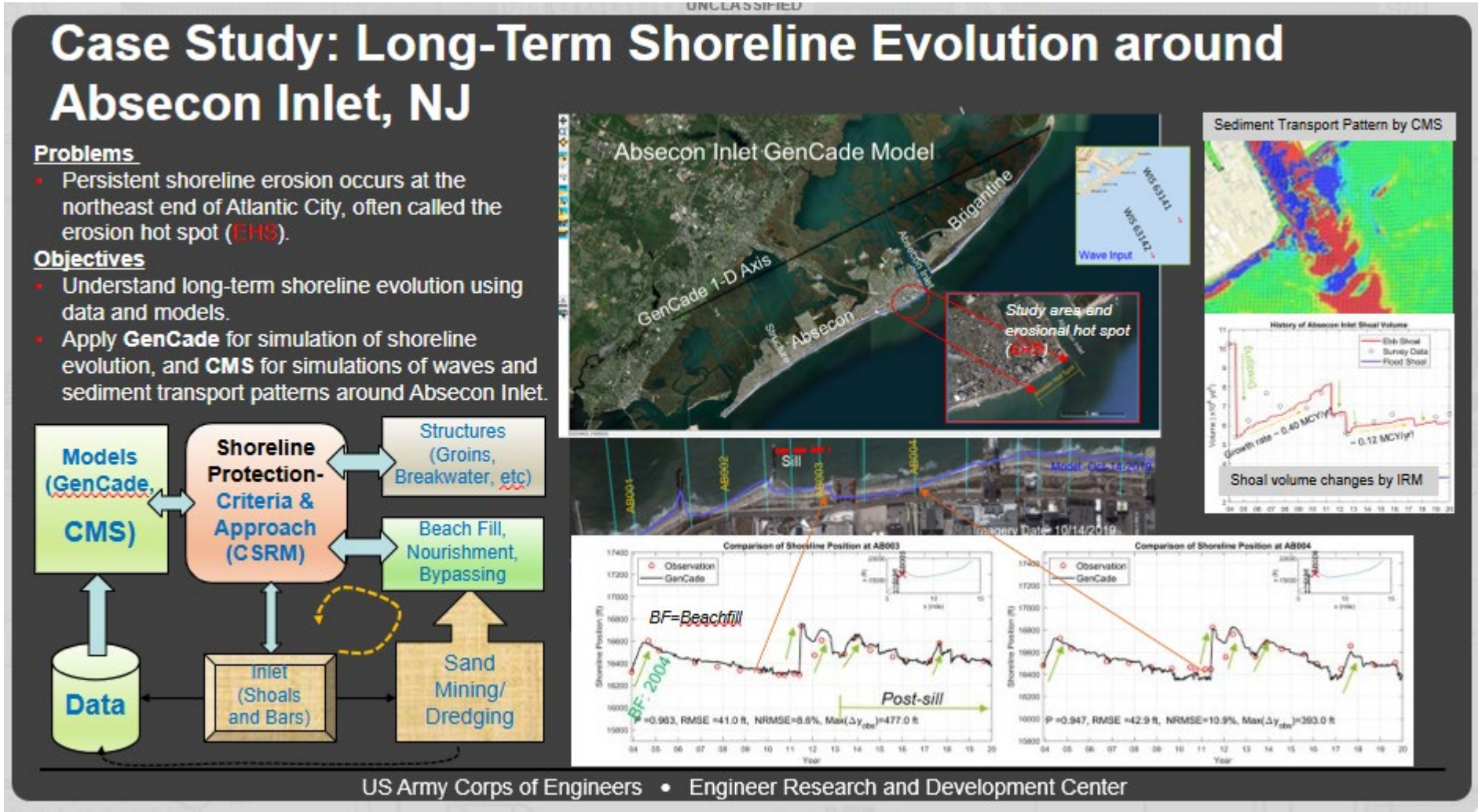
TOOLS & MODELS

- **CMS**
- **CSAT**
- **SandSnap**
- Aeolis
- SBAS
- **GenCade**
- SSM
- **SMT**
- CPT
- AISAP
- CNPM
- …

https://cirp.usace.army.mil/

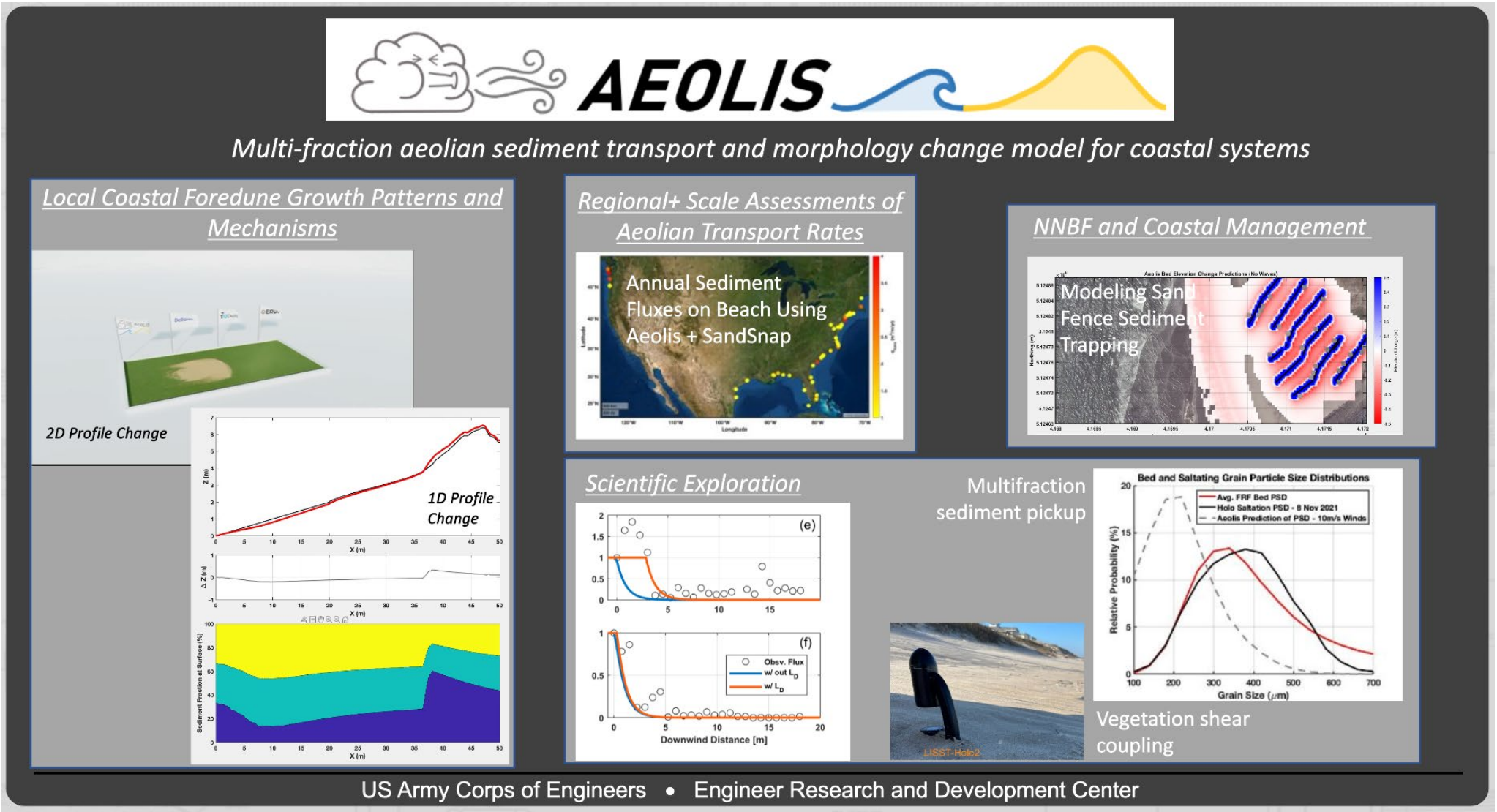
TOOLS & MODELS – EXAMPLE CASE STUDY

- **CMS**
- CSAT
- SandSnap
- Aeolis
- SBAS
- **GenCade**
- SSM
- SMT
- CPT
- AISAP
- CNPM
- …



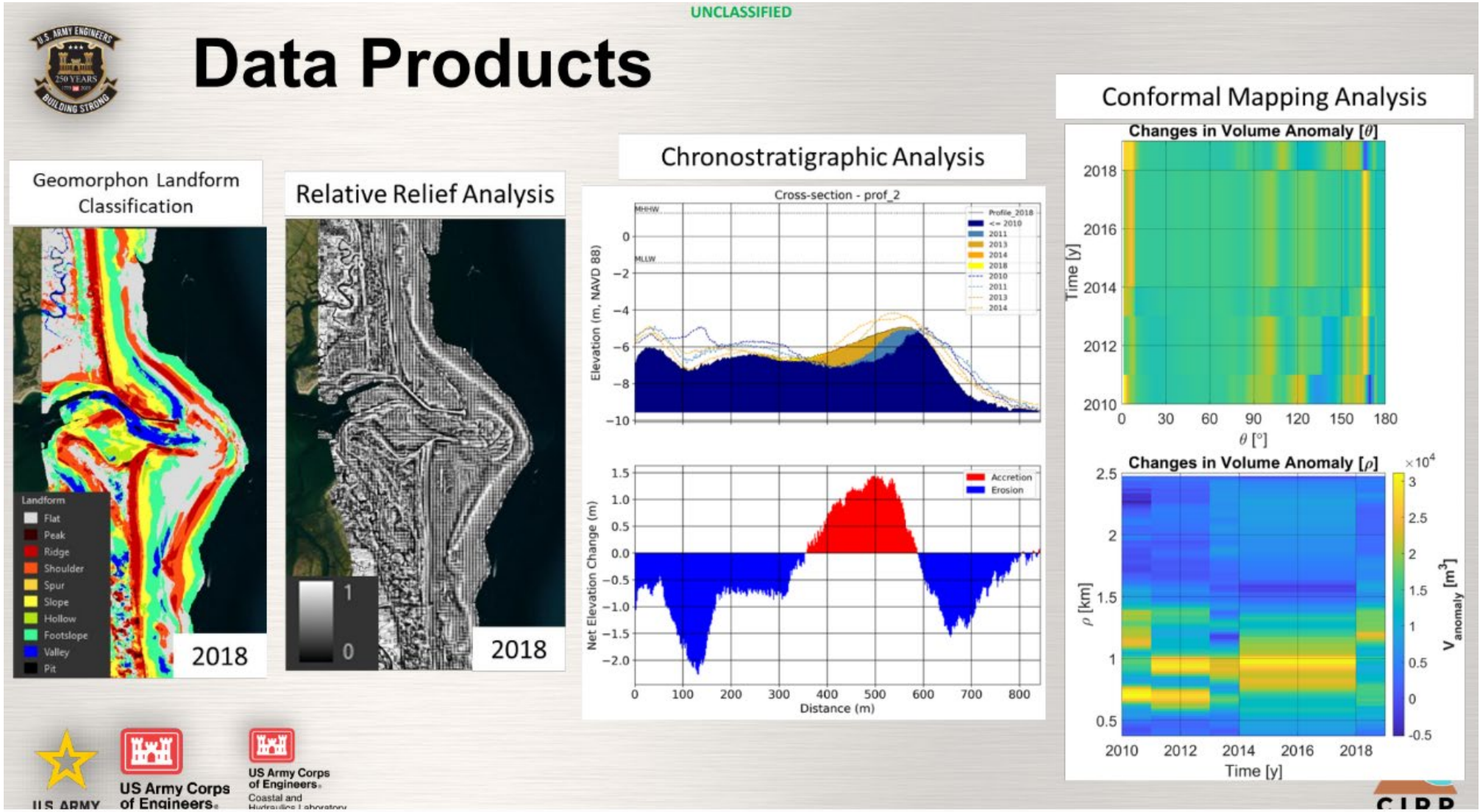
TOOLS & MODELS - AEOLIS

- **CMS**
- CSAT
- SandSnap
- **Aeolis**
- **SBAS***
- GenCade
- SSM
- SMT
- CPT
- AISAP
- CNPM
- …



TOOLS & MODELS - GEOSPATIAL

- CMS
- CSAT
- SandSnap
- Aeolis
- SBAS*
- GenCade
- SSM
- SMT
- CPT
- AISAP
- CNPM
- …



LEARN MORE

- CIRP Website
  - Technical Discussion seminar archive
  - Coastal Inlets Map
  - CIRP Publications Map

- SoN Website (31 DEC)

  https://cw-environment.erdc.dren.mil/needs

- Stay connected with CIRP & PIs

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