

# FY 12 RSM IPR

## JACKSONVILLE DISTRICT

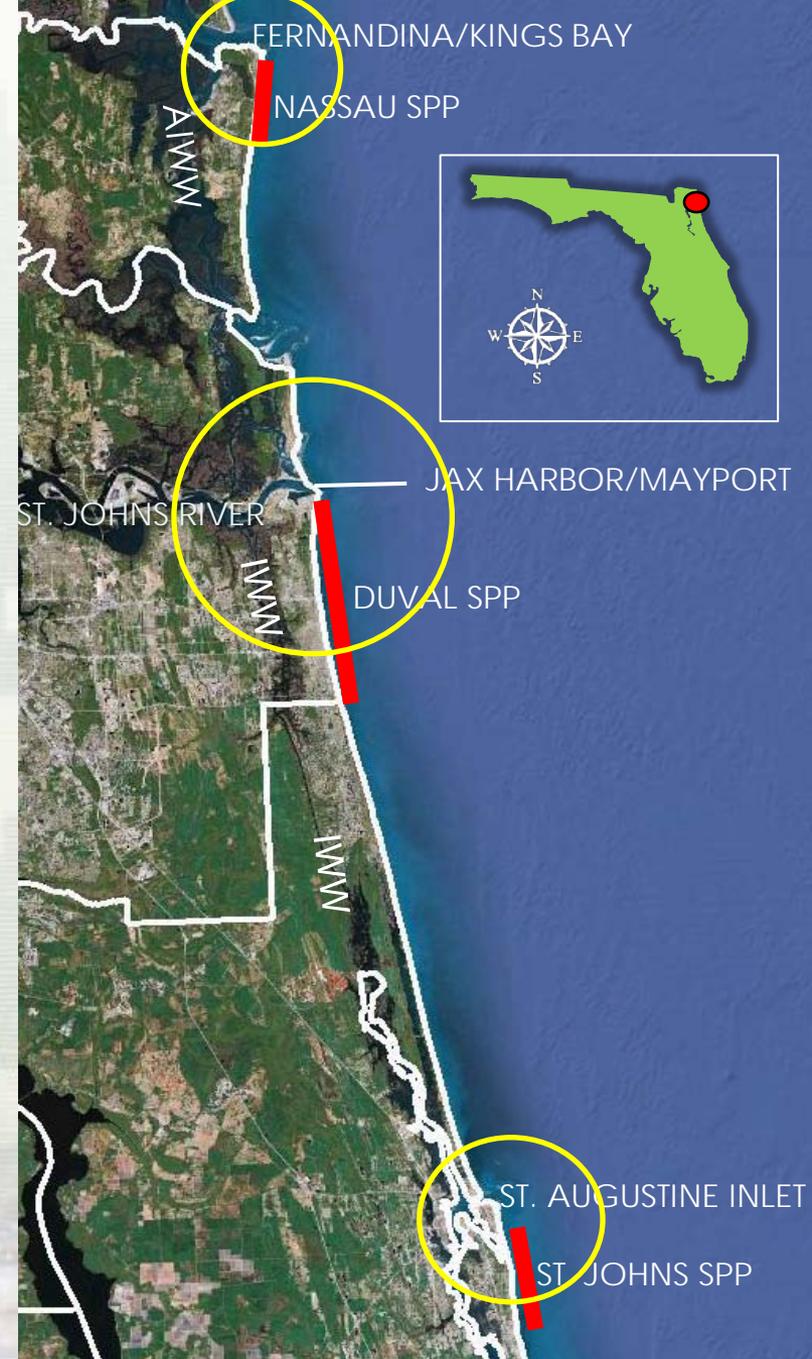
NASSAU, DUVAL, ST. JOHNS COUNTIES  
FLORIDA RSM

### Description/Challenge

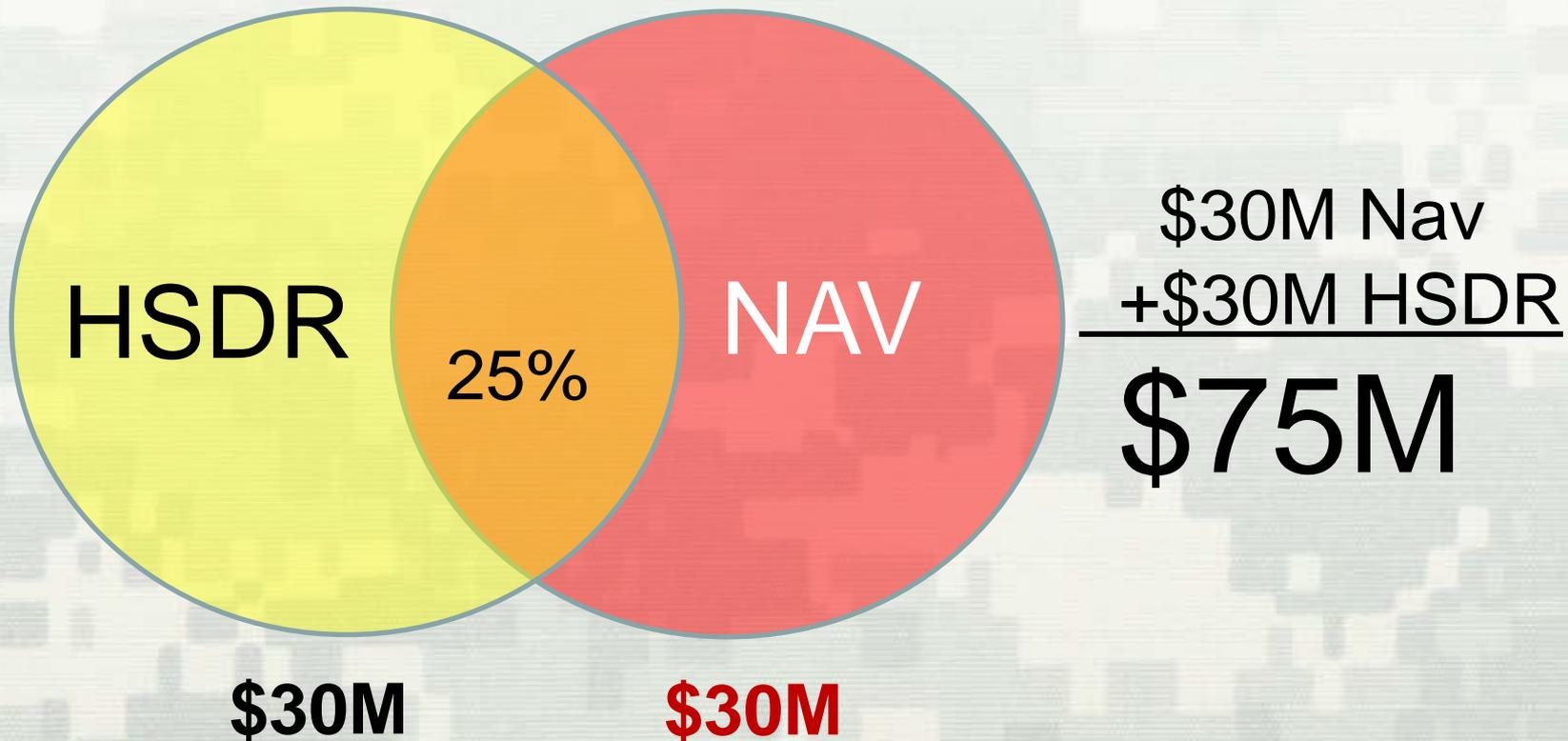
- Been doing a good job, but we need:
  - Further integration of projects
  - Integration of RSM into planning: GRRs, DMMPs, State plans

### Goals/Issues to Address

- Make navigation and shore protection program more sustainable and maximize benefits
- Decreasing sand sources and increasing environmental constraints for HSDR projects
- Unbudgeted IWW and shallow draft inlets
- Increasing capacity needs for upland and ODMDS



# Bottom Line



Economic Benefit: 2 for 1 construction plus



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## JACKSONVILLE DISTRICT

### NASSAU, DUVAL, ST. JOHNS COUNTIES - FLORIDA RSM

#### District PDT Members

- Sirisha Rayaprolu - Project Management (Ops)
- Jason Engle, Kelly Legault- Coastal Engineering
- Mike Neves – Geotech
- Paul DeMarco – Environmental
- Geoff Klug – Permitting
- Matt Schrader, Marty Durkin, Stephanie Groleau, Eddie Douglas – Planning
- Idris Dobbs – Economics

#### Leveraging/Collaborative Opportunities

- Duval - Jacksonville Harbor , Duval Co. SPP, Mayport (Navy), IWW, Ft. George Inlet
- St. Johns – St. Johns SPP, IWW, St. Augustine Inlet
- Nassau – King’s Bay (Navy) O&M, Nassau Co. SPP, AIWW

#### Stakeholders and Partners

- FL Dept. of Env. Protection (FDEP)
- Project Sponsors (FIND, port authorities, beach sponsors)
- Florida State Parks
- University of North Florida

#### Milestones/Deliverables

- GenCade (St. Johns/Duval) tech note
- CMS (Duval) tech note
- Final Jacksonville Harbor DMMP
- St. Johns RSM Strategies tech note
- Nassau/Duval SBAS sediment budget



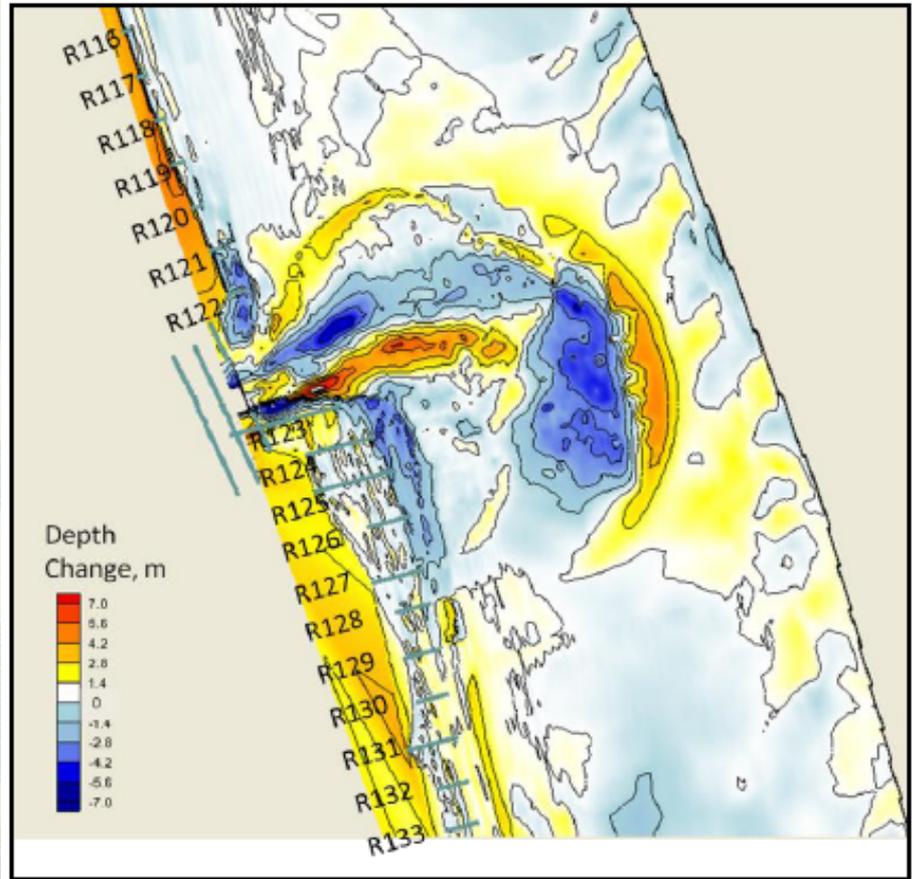
# Tools and Technology: surveys & LIDAR

## Nassau/Duval

- Need for data north of St. Johns River

## St Johns

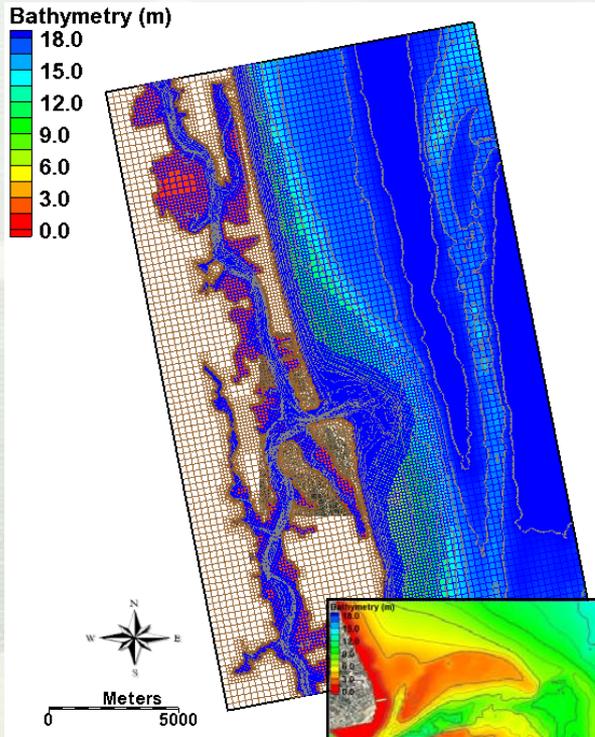
- Extensive data set
- 8 inlet single/multi-beam ebb shoal surveys
- 10 beach profile surveys
- 3 LIDAR surveys from JABLTx



St. Augustine Inlet vicinity



# Tools and Technology: Coastal Modeling System (CMS)

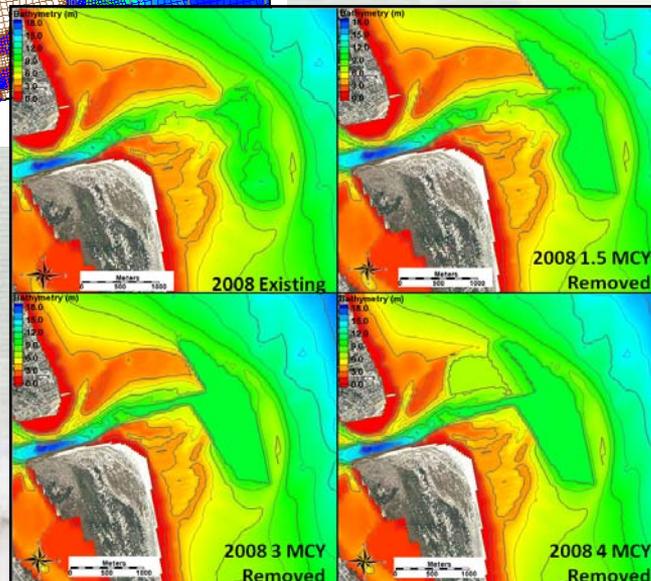


## Duval County

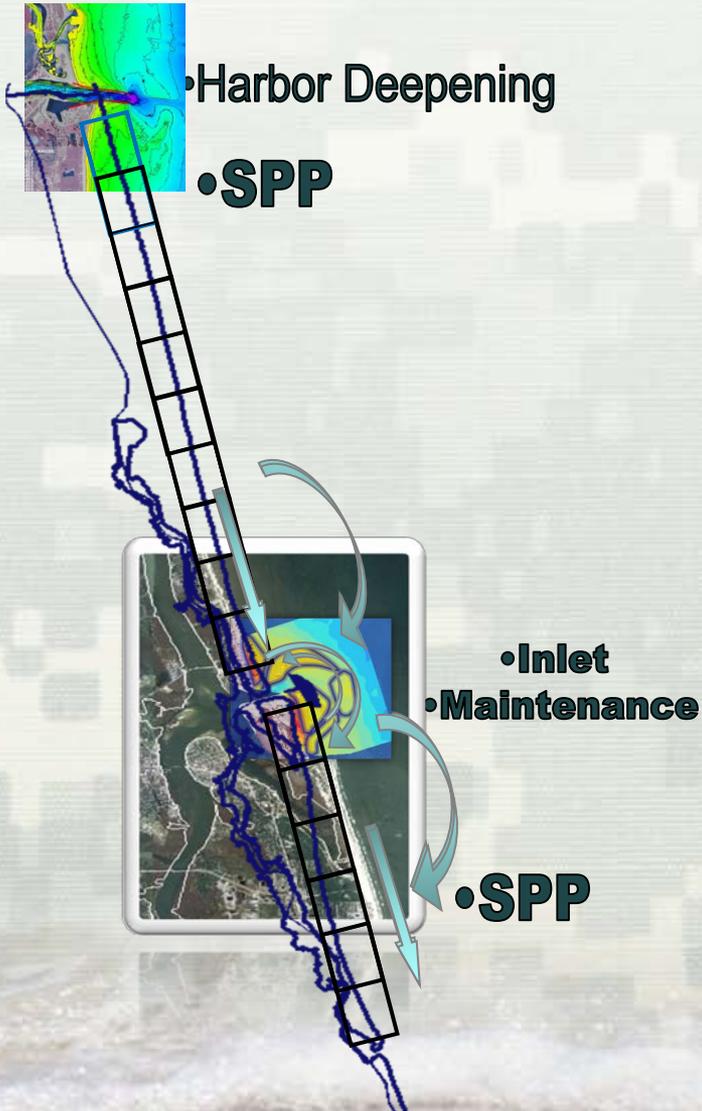
- St. Johns River entrance
- Used to understand dredging impacts on adjacent beaches and ebb shoal impacts
- Potential to extend grid north of inlet

## St. Johns County

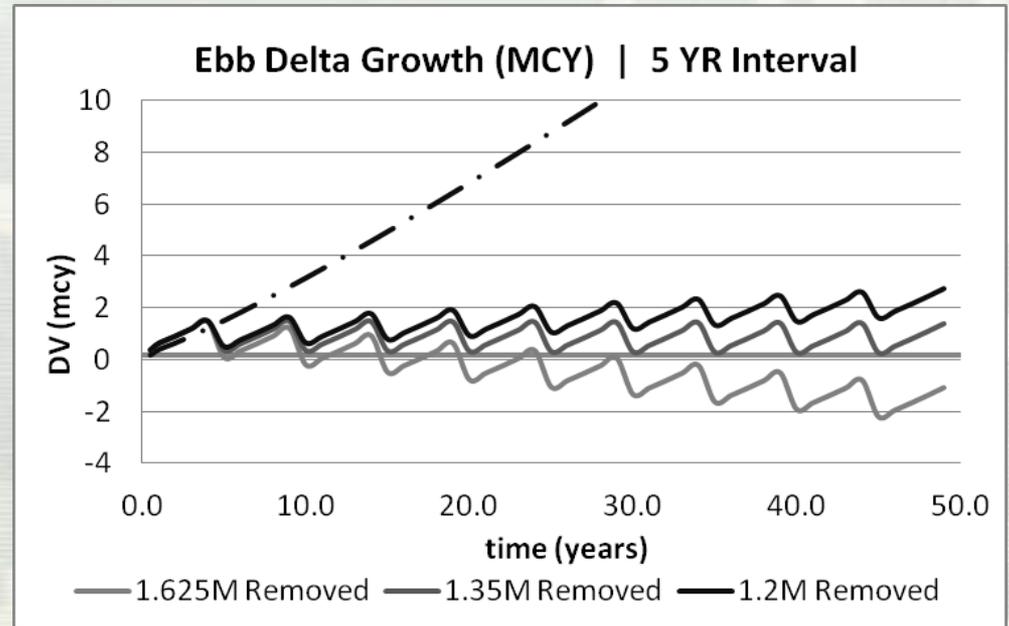
- St. Augustine Inlet
- Used to determine ebb shoal, and Vilano Shoal dredging impacts



# Tools and Technology: GenCade



## St. Johns County



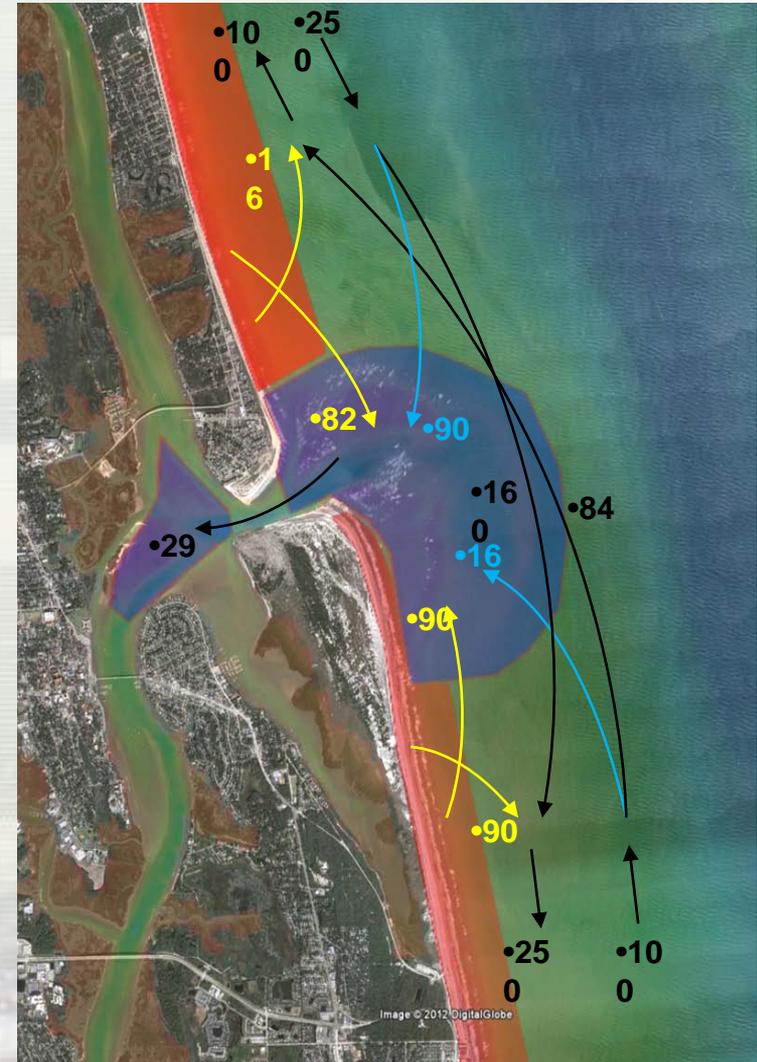
# Tools and Technology: Updated Sediment Budget

## St. Johns Co. – St. Augustine Inlet

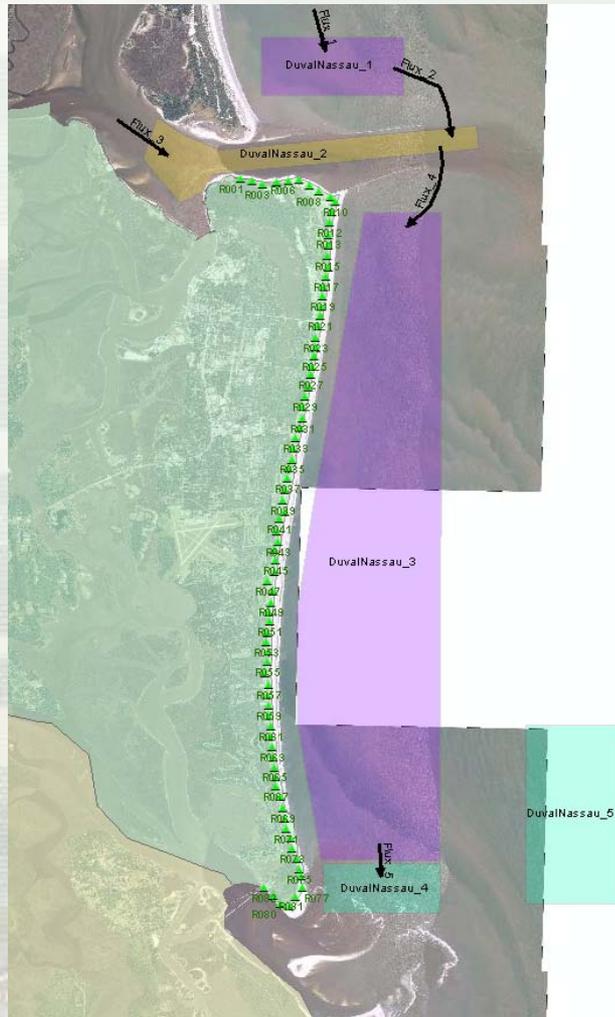
- Had volume change data but little transport rate data
- Used CEM/Bodge method to solve budget
- CIRP has created tool that automates method – Sediment Budget Calculator

## Recommended Future Actions

- Inlet shoaling rate ~280k cy/yr
- North back-passing goal ~100k cy/yr
- South bypassing goal ~180k cy/yr



# Tools and Technology: Sediment Budget Analysis System (SBAS)



## Nassau/Duval Counties

- Input existing budget into SBAS
- Evaluating existing documents to update budget
- Need surveys to improve budget (attempted LIDAR in 2012)



# Benefits

## Operational Benefits

- Conserve capacity in Upland/ODMDS
- Conserve scarce offshore sand sources
- Advanced maintenance opportunities

## Environmental Benefits

- Minimize dredging impacts
- Typical rules don't apply for beneficial use

## Institutional Benefits

- Execute with dwindling funds
- Stakeholder relationships



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### Opportunities to take action

- Jacksonville Harbor – environmental islands (10-30 mcy)
- Jacksonville Harbor – offloading upland sites (400,000 cy/yr)
- Duval/St. Johns – nearshore placement sites

### Volume of Sediment Moved

- St. Johns, St. Augustine Inlet/Beach – 2 mcy
- Duval , O&M beneficial use – 500k cy
- Nassau, AIWW beneficial use – 300k cy
- Nassau, King's Bay beneficial use – 400k cy

### Accomplishments

- St. Augustine Inlet/Beach – 2012
- Nearshore placement sites permitted (Duval and St. Johns)

### Lessons Learned

- Get ALL stakeholders together early, face-to-face (proponents and opponents)
- Everyone needs to see a benefit

