



# Regional Sediment Management

St. Johns County, Florida

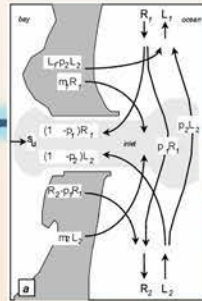
USACE Jacksonville District (SAJ), Regional Sediment Management (RSM) & Coastal Inlets Research Programs (CIRP)

U.S. Army Engineer Research & Development Center • Coastal & Hydraulics Laboratory

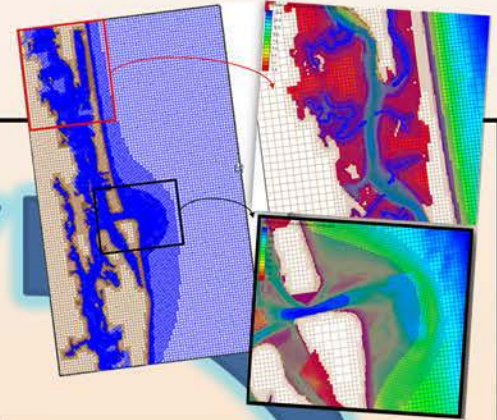


## Compiling the Sediment Budget

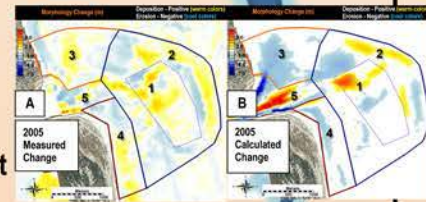
Gather and analyze all of the sediment fluxes over regional reaches and for different morphologic features such as tidal inlets.



Sediment Budget for St. Johns County and St. Augustine Inlet Using the Bodge Method (CEM-V-VI)

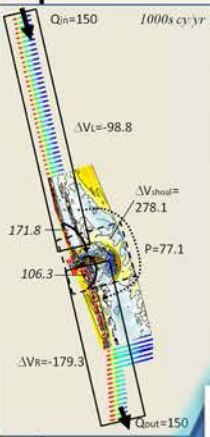


Numerical Modeling of Sediment Pathways Utilize numerical morphologic models to calculate complicated sediment transport pathways and sediment fluxes for alternative management practices.

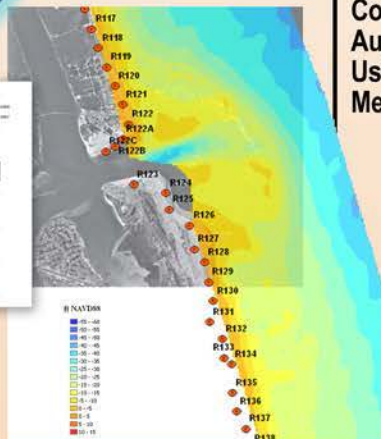
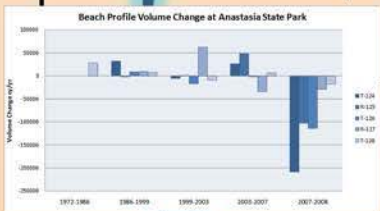


## Optimization of Sand Management

GenCode, a regional shoreline change model, is applied to optimize sediment management alternatives.



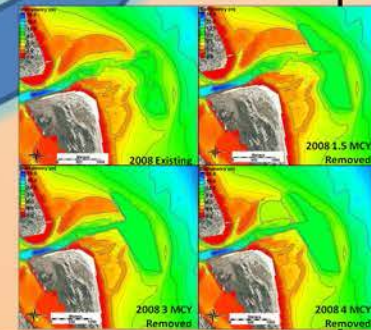
Beach Profile Volumetric Analysis



Improved sand management for local projects and regional extents, considering time scales of operations and sediment transport processes.



Results of Alternative Designs in GenCode



## Summary

- Coordinated analyses on local and regional scales developed an understanding of short- and long-term sediment transport pathways and geomorphic evolution
- Provides framework from which interrelated projects are optimized to develop new sand management strategies for the region