

FY20 RSM IPR



ERDC/NAO, Separation and Fate of Fine Sediment during Navigation Dredging, Jarrell Smith

BLUF: Expand beneficial use of navigation-dredged sediments by including dredge-induced changes in sediment composition.

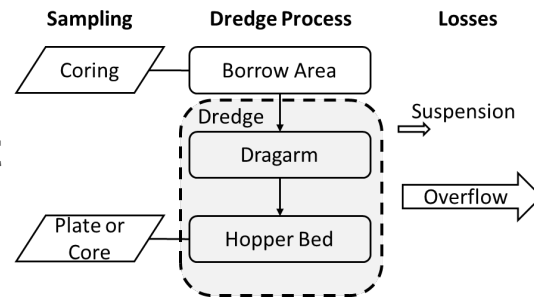
Challenge/Objectives

- Provide data (ultimately predictive tool) to inform sediment compatibility and ecosystem impact assessments



Approach

- Field sampling and measurement
 - Fines content
 - Concentration
 - Settling velocity
- Database and predictive tool development



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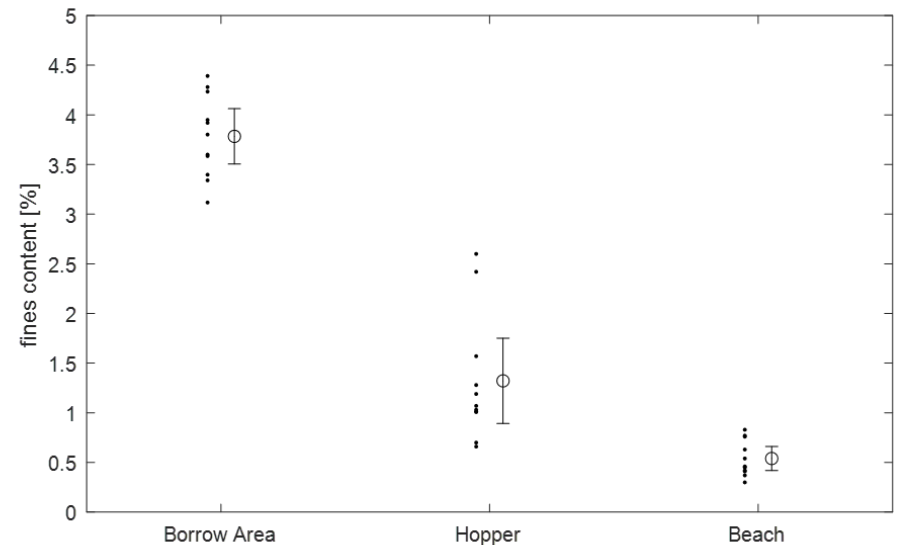
ERDC/NAO, Separation and Fate of Fine Sediment during Navigation Dredging



District/Other USACE PDT Members
Norfolk District – Rob Pruhs

Stakeholders/Partners
Zac Canody, Virginia Port Authority

Leveraging/Collaborative Opportunities
2018 BOEM, RSM, and SAJ research separation for offshore borrow areas.
2020 BOEM and SAJ continue offshore research



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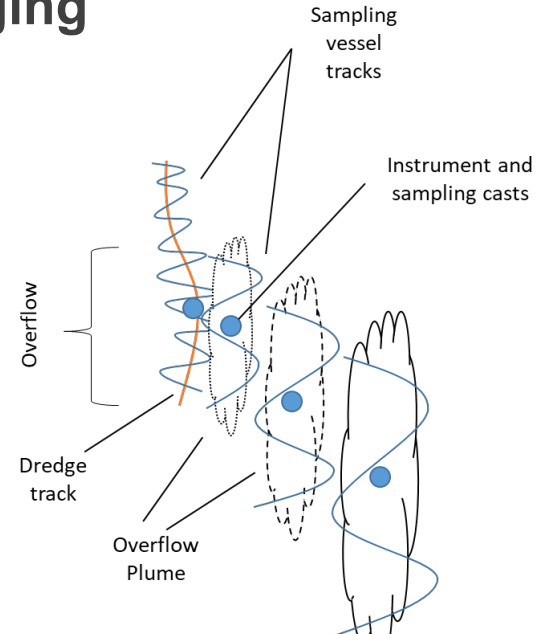
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Accomplishments/Deliverables

Lessons Learned

- COVID restrictions prohibited travel and vessel access to contract dredges (Weeks and GLDD)
- Sampling plan prepared for future continuation of this research.



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**Challenges: COVID restrictions prevented access to hopper for sampling.
Seeking opportunities to execute this research in FY21.**

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Benefits to USACE and Nation

- **Beneficial use of sandy sediments is limited by fines content.**
- **Sediment composition changes by dredging are not factored.**
- **This study will provide quantitative evidence supporting expanded BU applications of silty sand.**
 - **In the present Thimble Shoals deepening project, approximately 8.8 MCY of sediment with 10-50% fines is designated for placement offshore.**