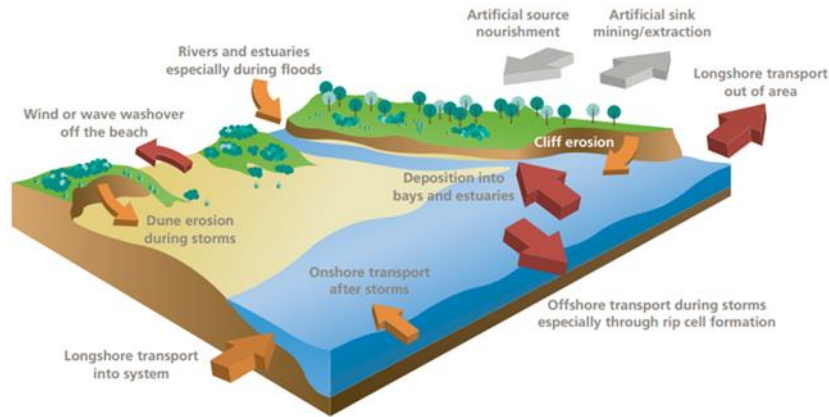




Improving Communication of Nearshore Nourishment Benefits

Description

This project addresses to pursue two of the major suggestions for the path forward following the Nearshore Placement Workshop which RSM and CIRP co-led in FY19. This project will to develop simple graphics of coastal processes governing nearshore nourishment projects in the broader littoral system and document viable metrics of success for these projects. The goal of this project is to improve the understanding and perception of nearshore nourishment projects for improved stakeholder and public engagement.



Example of a clear figure to describe beach processes from the Victorian Coastal Hazard Guidelines

Issue/Challenge To Address

Nearshore placement of dredged material as a beneficial use practice is a common practice for Operations & Maintenance (O&M) dredging within the Corps of Engineers. The nearshore placement of dredged sediment to nourish the profile has been recognized to follow the principles of Engineering with Nature (EWN) and Regional Sediment Management (RSM) by allowing the waves and tidal forces to winnow fine material and move sediment into alignment with the natural environment. Additional research into the processes governing nearshore nourishment projects, monitoring, and technical tools to inform design are all crucial elements of the path to advance the practice, but increasing the number of projects is also critical. Negative perceptions continue to inhibit nearshore placements in scenarios which are acceptable from safety and environmental perspectives. While substantial research questions remain, it is of paramount importance to continue to place sediment in the nearshore, where environmental and safety concerns permit, to continue to improve the knowledge bank on the evolution of nearshore nourishments and “learn by doing”.

Successes Lessons Learned

Past deliverables include technical notes, technical reports, journal papers, conference papers, workshop presentations, and the development of the Sediment Mobility Tool (SMT) web application.



**Improving Communication of Nearshore Nourishment
Benefits**

**Projected Benefits
Cost Savings
Value Added**

Efficiently communicating the benefits and positive outcomes of nearshore nourishment projects can increase support of stakeholders and the public for these projects. The incorrect opinion that placing sediment in the nearshore is either a waste or not an effective use of dredged sediment can limit opportunities to address complex regional sediment budget problems. Effective and simple depictions of the role of sediment placed in the nearshore within the broader regional sediment system could help gather support. Additionally, unrealistic expectations on the impacts of sediment placed in the nearshore at particularly short timescales can portray previous projects as unsuccessful. Identification of quantifiable performance metrics can help convey the success of nearshore placement projects more effectively. This project intends to help Districts seek support for and convey the success of projects placing sediment in the nearshore.

Expected Products

A fact sheet with clear figures that can be easily copied into other documents or presentations for easy distribution to the public and a Technical Note describing performance metrics for nearshore nourishments.

Stakeholders/Users

This effort supports all coastal and Lakes Region Districts in the clarification and justification of project performance, and provides citable studies for acquiring new permits for future projects to move sediment. This study will provide materials that are intended to improve public and stakeholder engagement in District nearshore nourishment projects and there improve the feasibility of keeping sediment within the littoral system.

**Leveraging
Opportunities**

This project will be completed in conjunction with nearshore nourishment research being conducted through CIRP and DOER. The DOER research will involve compiling data from a variety of past nearshore nourishment projects. The CIRP research will investigate potential improvements to the Sediment Mobility Tool (SMT). The improvements to be investigated include developing the coding to allow the user to select the season of placement, adding the proposed nearshore nourishment to the Hands and Allison (1991) chart for comparison to historical nearshore berms, investigate the use of the CERC equation to estimate longshore transport and nearshore berm deflation, and investigate the feasibility of spectral wave transformation in the tool. The improvements that are successful and useful will be implemented into SMT in FY21.

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