

DUNEX: During Nearshore Event Experiment

What is DUNEX?

DUNEX is a multi-agency, academic, and non-governmental organization collaborative of the US Coastal Research Program (USCRP) to study nearshore coastal processes during one or more coastal storms. It is planned in several phases in vicinity of the Outer Banks, North Carolina, beginning with a pilot study in fall 2019, followed by focused storm measurements extending from fall 2020 into winter 2021.

Background

Three primary research needs were identified by the USCRP's nearshore coastal community as documented in *The Future of Nearshore Processes Research* (2015). The USCRP's primary research needs are to improve understanding of:

- Long-term coastal evolution due to natural and anthropogenic processes.
- Extreme Events: Flooding, erosion, and the subsequent recovery.
- The physical, biological and chemical processes impacting human and ecosystem health.

DUNEX will improve basic understanding and predictive technologies for extreme coastal storm impacts.

Goals of DUNEX:

- Improve prediction of storm processes and impacts;
- Estimate and validate numerical model accuracy for storm processes;
- Identify and reduce sources of error for storm processes;
- Improve strategies for short- and long-term coastal resilience; and
- Develop more effective communication methods for coastal communities impacted by storms.



DUNEX is planned for several storm landfall locations along the Outer Banks, NC, with continual measurements at the USACE's Field Research Facility (FRF) in Duck, NC

DUNEX Schedule & Facility Rental Fee

The proposed schedule for DUNEX is as follows:

- August-November 2019: DUNEX pilot project to test methods, equipment, and logistics.
- August 2020 – January 2021: DUNEX measurements prior to, during, and following one or more storms.

Academics writing DUNEX proposals and other participants should approximate a Facility Rental Fee which will cover logistics as shown in the table. For refined estimates, proposers are encouraged to contact the USACE's Field Research Facility (FRF) team for a customized estimate (Dr. Jeff Waters, Jeffrey.P.Waters@usace.army.mil). Estimated fees are additive, e.g., office space and data access (Fee Level I) plus support in deploying instruments and onsite facility use (Fee Level II) for a week is budgeted as \$500 + \$1500 = \$2000/investigator team/week.

Facility Rental Fee: Levels I, II, and III (additive)	\$/Week/Investigator
I: Office space, access to bathymetric and lidar data collected by USACE	\$500
II: Deploy instruments, utilize USACE ancillary support and facilities at the Field Research Facility (shop, power, etc.)	\$1500
III: Obtain USACE support for deployment or fabrication while deploying or retrieving instrumentation.	\$2500

More Information: Updates and additional DUNEX details will be posted to the USCRP website: <https://uscoastalresearch.org/>.