



Coastal Engineering Technical Note



Coastal Engineering Data Retrieval System (CEDRS)

PURPOSE: The Corps's needs for wave data range from estimates of probability of extreme wave heights for structural design to directional wave climate for sediment transport calculations. Since these needs are so varied, the PC- based Coastal Engineering Data Retrieval System (CEDRS) was designed to give access to a comprehensive database of both hindcast and measured data.

BACKGROUND: CEDRS replaces the Sea-State Engineering Analysis System (SEAS) which was a mainframe-based system containing the Wave Information Study (WIS) hindcast data for all United States coastlines. CEDRS is designed to provide access to the WIS data, and to various measured and observed data sets as well, in the PC environment. The database is subdivided into regional areas generally following coastal Corps of Engineers District boundaries. Data extends beyond area boundaries to allow calculation of boundary conditions if desired. This regional database approach allows storage in the PC environment of a comprehensive data set applicable to requirements of individual coastal Districts.

SYSTEM DESCRIPTION: Each regional CEDRS system resides completely on a large external disk (600-2000 megabytes) which is delivered with all necessary software and hardware to be attached to an IBM PC-AT class computer already available in most Corps offices for the Automated Coastal Engineering System (ACES). Databases are stored using ORACLE database management software, but user access is provided through ACES-look screens rather than via ORACLE commands. No training in use of database management software is required.

DATA INCLUDED: Applicable data from the sources below are included in regional databases:

CERC Wave Information Study (WIS) hindcasts for U.S. coastlines
Atlantic Ocean - 20-year time series 1956-75 for 108 stations
Pacific Ocean - 20-year time series 1956-75 for 60 stations
Gulf of Mexico - 20-year time series 1956-75 for 51 stations
Great Lakes - 32-year time series 1956-87 for 317 stations

NOAA National Data Buoy Center (NDBC) stations for all U.S. coastlines
~100 stations covering various portions of period 1978-1992

CERC Littoral Environment Observation (LEO) System
 ~200 stations covering various portions of period 1966-1992

CERC Field Wave Gaging Program (FWGP)
 Scripps Coastal Data Information Program
 ~38 stations covering various portions of period 1976-1992
 Florida Coastal Data Network
 ~15 stations covering various portions of period 1979-1991
 Other CERC project measurement sites

INSTALLATION SCHEDULE: The initial CEDRS pilot system was installed in the Jacksonville District in March 1990. Since that time additional regional systems have been completed for the Gulf of Mexico, Atlantic, Pacific and Great Lakes coastlines. District contacts are given for the installed systems.

Corps Office	Contact	Telephone	Email
Alaska	Ken Eisses	(907) 753-2742	smtplink&Kenneth_Eisses_at_NPA-A@smtplink.npd.usace.armu.mil
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Charleston	Clyde Hammond	(803) 727-4267	erik.w.matthews@mail.usace.army.mil
Chicago	Erik Matthews	(312) 353-6517	
Detroit	Charles Thompson	(313) 226-6792	c-lyle@cedar.cic.net
Jacksonville	Dave Schmidt	(904) 232-1697	
Galveston	Wayne Crull	(409) 766-6352	
Los Angeles	Art Shak	(213) 894-0432	ashak@smtp.spd.usace.army.mil
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New Orleans	Robert Bass	(504) 862-1749	
New York	Gil Nersesian	(212) 264-9080	
Norfolk	Mark Hudgins	(804) 441-7771	Mark.Hudgins@naoqm.nao-wc.usace.army.mil
Pacific Ocean	George Young	(808) 438-8869	Geroge_Young@ccmail.pod.usace.army.mil
Philadelphia (EN)	Keith Watson	(215) 656-6688	K=Watson&EN-H%NAP@vines.nap.usace.army.mil
Philadelphia (PL)	Doug Gaffney	(215) 656-6574	
Portland	Bruce Duffe	(503) 326-6447	
San Francisco	Tom Bonigut	(415) 744-3361	tbonigut@smtp.spd.usace.army.mil
Savannah	Susan Brinson	(912) 652-5519	
Seattle	Eric Nelson	(206) 764-3557	
Wilmington	Tom Jarrett	(919) 251-4455	

Table 1. CEDRS Contacts

DOCUMENTATION: A CEDRS User's Guide is provided for each system. The User's Guide contains instructions for accessing and using the database and specific availability information for all data sets included in an individual regional database. "Help" files containing all of this information may also be accessed interactively from CEDRS.

SYSTEM UPDATES: Another major element in CEDRS planning is the provision for systematic updating to add new data as it becomes available. Once all initial CEDRS databases are installed, data will continue to be gathered from all original sources as it becomes available. Updates are planned for measured or observed data sets. WIS hindcast data updates will be scheduled as new data sets become available.

CEDRS II PLANS: Preliminary efforts are underway to design and develop an expanded and improved version of CEDRS for the workstation environment to include such additional coastal data as water levels, currents and bathymetry. Development of this expanded CEDRS is being closely coordinated with ACES 2.0 also now being developed for workstations.

ADDITIONAL INFORMATION Contact Doyle Jones at (601) 634-2069 or by Internet at jonesd@coafsl.wes.army.mil of the Coastal Oceanography Branch, Coastal Engineering Research Center, WES.