

Texas Coastal Erosion Data Network – CMP Cycle 11 Final Report

Principal Investigator:
Dr. Timothy M. Dellapenna, TAMUG



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Texas Coastal Erosion Data Network

The screenshot shows a website with a dark red background. At the top is the title 'Texas Coastal Erosion Data Network' in yellow. Below it is a satellite image of a coastline with the Texas state seal in the center. The text 'Web-based Data Center' is in yellow, followed by 'Hosted by the Galveston Bay Information Center' in yellow and 'This site is under construction.' in small white text. On the left is a list of links: Bibliographies, Projects and Reports, About this site, Links to other resources, and TAMUG Coastal Geology Lab. At the bottom are two smaller images: one of a ship labeled 'Texas A&M Department of Oceanography College Station Teaching Through Research' and another of a campus labeled 'Texas A&M University at Galveston'.

Web-based Data Center
Hosted by the Galveston Bay Information Center
This site is under construction.

- [Bibliographies](#)
- [Projects and Reports](#)
- [About this site](#)
- [Links to other resources](#)
- [TAMUG Coastal Geology Lab](#)

Texas A&M Department of Oceanography
College Station
Teaching Through Research

Texas A&M University at Galveston

Texas Coastal Erosion Information Network and Data Repository (TCEDN)
<http://coastal.tamug.tamu.edu>

Mission Statement: Our mission is to serve as a research and information resource and data repository for data on coastal erosion and sand resources for the coast of Texas.

Introduction

In response to requests from the General Land Office of Texas and the West Galveston Property Owners Association, we have established a data repository and information center for data on coastal erosion and sand resources for the coast of Texas. The center is called the Texas Coastal Erosion Data Network (TCEDN), and can be found at <http://coastal.tamug.tamu.edu>. The Galveston Bay Information Center (GBIC) and the Galveston Bay Information Network (GBIN) are housed in the Jack K. Williams Library on the Mitchell Campus of TAMUG. Using the infrastructure already existing, the TCEDN is a unit within the GBIC. The goal is to provide long-term preservation and access to State research and, through cooperative partnerships with various agencies, universities, organizations and industries, to develop a reliable state-wide resource serving the research, public, and private community within Texas. The primary focus of CMP Cycle 6 was to develop a searchable website for the network; the Cycles 7 and 8 projects build on this effort and expanded this network and collection. Cycle 9 continued and expanded these efforts by implementing a GIS server and activating a series of GIS maps and layers which are available through the GIS server. Included in this is a series of historical oyster reef maps for Texas. During CMP Cycles 10 and 11 the GIS server was populated with a series of additional historical and environmental maps:

<http://coastal.tamug.edu/maps.html>. In addition, the entirety of all volumes of the Texas Coastal Fisheries Reports from 1958-1976 were digitally scanned and made available online: <http://coastal.tamug.edu/CoastalFisheries/fisheries.html>. Taken together, there were approximately 5,000 pages of new material added to the collection. This collection of data has proven to be the most valuable data set we have made available, it was essentially lost data until we made it available online. An outline of the TCEDN is provided in Appendix I.

Web-based Resources- <http://coastal.tamug.tamu.edu>.

The TCEDN has developed and will maintain efficient and useful research and information tools made accessible through the World Wide Web via <http://coastal.tamug.tamu.edu>. Within the GBIC, one of the most utilized tools is an initiative of the Galveston Bay Estuary Program (GBEP), **The Galveston Bay Information Network website-** <http://gbep.tamug.tamu.edu>. The electronic searchable databases accessible through this network are the Galveston Bay Bibliography, a bibliographic database dating back into the 1800's, and the Galveston Bay Plan Implementation Database containing descriptions of projects and programs conducted by many GBEP partners- agencies, industries, environmental organizations, students, researchers, and citizens. Other resources on the network are projects and activities of the GBEP and the Galveston Bay Council, a data mapping program, and extensive, organized links to other regional sources of information. The TCEDN is based on this model, developing both historical and current databases of coastal erosion and sand resources.

Services

The TCEDN is equally committed to providing “the people component,” or support services. The TCEDN provides a venue for patrons to utilize more completely the research and information resources available to them. A few of the support services that are provided are:

- Full-time staff to answer questions and provide preliminary and in-depth assistance;
- Borrowing privileges for patrons unable to visit the Information Center;
- Public/data locator service for finding difficult to locate materials;
- Repository and Databases

The TCEDN provides a repository for reports related to erosion rates and sand resources from State of Texas Agencies such as the General Land Office (GLO), Bureau of Economic Geology (BEG), and Texas Parks and Wildlife, as well as Federal Agencies such as the U. S. Army Corps of Engineers (USACE), Minerals Management Service (MMS), NOAA and USGS. Efforts to expand our database include, but are not limited to, trips to the USACE office in Galveston to make copies of reports, a trip to Corpus Christi to meet with engineering firms, including Shiner Mosely and Associates, TAMU-Corpus Christi, and a trip to Austin to locate and copy CEPRAs reports and to meet with project managers and Eddie Fisher at the GLO office in an effort to improve data sharing between the TGLO and TCEDN.

TCEDN Data Management Plan

Reviewing the data involved in this project we identified the following types of data which need to be accommodated:

- Bibliographic information
- Text/pdf files
- Geographic Information System (GIS) data sets
- Ongoing academic research/presentations
- Conference powerpoint presentations

Bibliographic Information – We decided to store bibliographic information in the bibliographic Access data base using Reference Manager Software that is used by the Galveston Bay Information Center (GBIC). The advantages of this approach include, reduced development time of the data base, existing web based search routines for the data base and the advantage of one search providing a variety of information on Coastal Erosion and Galveston Bay. We have made minor changes to this data base to accommodate storing TCEDN data.

We are using Reference Manager as a tool to facilitate searching and retrieving bibliographic data for inclusion in the data base.

Text and pdf files – These are stored and made available to the public via the TCEDN web site maintained by GBIC. Access is by both static links and dynamically via a search of the bibliographic data base.

Geographic Information System (GIS) data sets (with new modules in development) – Increasingly raw data is becoming available in GIS data sets. This data has great value but was previously available only if you had (and knew) the GIS program the data was available in. As part of another project, GBIC has established an Arc GIS server. This server allows access to GIS data from any desktop browser. This will allow broad public and researcher access to this data. Since demonstrating the feasibility of serving up GIS data to any desktop browser, we have requested funding to support adding additional GIS data in future grant cycles in order to continue to develop the ArcMAP user query-able site maps and data access.

This map-clickable search for data sets/reports enables interested parties to click on the location they are interested in thereby minimizing search time and allowing for quick comparisons of data availability.

Data Sets in the Data Network

There are three basic types of data which are currently being repositied and are available via TCEDN, they are: 1) Bibliographic References, 2) Projects and Reports, 3) Links to other web-based resources. In conjunction with the GBIC, the network and server went through considerable upgrades and reconfiguration to accommodate more data and to provide updated capabilities. This is an ongoing project and funding has been provided through CMP Cycle 10 and 11, but has not received funding after March 2008. After the end of funding, we intend to keep the TCEDN online as long as GBIC receives funding.

Bibliographic References

The bibliographic database has been populated with the citations relevant to coastal geology, coastal engineering, and coastal sand resources. The bibliographic references have been added to the GBIC database rather than managing two separate databases.

Projects, Publications, and Reports

The TCEDN currently has an extensive series of reports (typically either web links or PDF files), directly related to Texas coastal erosion and beach nourishment (see Appendix II). In addition, in Cycle 7 we identified two target data sets we are attempting to fill in with as much detail as possible, these are: 1) Economics of Beaches and Coastlines; 2) News Releases / Press Articles, during subsequent funding cycles, we continued to populated these modules as the data becomes available. During Cycle 8 Metadata capabilities were added and sites populated. During Cycle 9, web-based GIS

were added and initial population was initiated. During Cycle 10, the GIS server was populated and the entire set of Coastal Fisheries Reports was added.

Links to Other Resources

This portion of the project includes more general links related to coastal erosion; coastal geology and coastal engineering related to the data network (see Appendix III for a detailed list of these links and resources). The idea is to provide a clearinghouse of web-links which relates not only to Texas, but also the Gulf Coast, the United States and other relevant work related to coastal erosion from international sources. Included also is a more generalize bibliographic reference list of published journal articles. In addition, this portion of the website will contain student research projects being conducted through TCEDN. Typically, we have at least two undergraduates a semester working on senior research projects related to issues of relevance to TCEDN and this work will be posted.

Stakeholder Group:

The primary goal of the TCEDN is to provide one stop shopping for information on coastal erosion for Texas and to provide a broader web-based resource for coastal erosion. To this end, we are establishing a Stakeholder Group to advise and direct the direction the TCEDN is taking. The preliminary Stakeholder group will include:

Dr. Timothy M. Dellapenna- Assistant Professor, Department of Oceanography,
Texas A&M University/ Department of Marine Science, TAMUG
Dr. William Seitz- Professor and Head of the Department of Marine Science,
Texas A&M University at Galveston
Ms. Natalie Weist- Library Director, Jack K. Williams Library, TAMUG;
Director, Galveston Bay Information Center
Mr. Steven Conway, Director of Computer and Information Services, TAMUG
Dr. Juan Moya, Coastal Projects Division, Texas General Land Office
Mr. Jerry Mohn, President, West Galveston Island Property Owners Association

Public Outreach:

The TCEDN has continued to be utilized in the teaching, data source, and presentations for numerous activities and various stakeholders:

- Armand Bayou Teacher Workshop Oct. 2007
- Galveston State of the Bay January 2007
- NOAA Envisioning the Future of Coastal Management June 2007
- Galveston Bay Day Spring 2007
- Restore American Estuaries Meeting-New Orleans, LA Dec. 2006
- International Association of Aquatic and Marine Science Libraries Oct. 2006
- Disaster Preparedness Workshop-Amigos Library Services Aug. 2006

- Armand Bayou Watershed working group June 2006
- Galveston Bay Estuary Program Community Openhouses-
 - Charting the Course Feb, March and April 2006
- United Space Alliance Earth Day Event April 2006
- Recreational Equipment Incorporated (REI)- recreational day Jan. 2006
- Galveston County Science Fair Jan. 2006

- Coastal Erosion Technical Conference
 - Clear Lake, Texas Fall 2005
- Galveston Economic Development Partnership
 - Galveston Summer 2005
- S.A.L.T. Camp; Science camp for high school students
 - TAMUG Summer 2005
- Geological Society of America (GSA), South-Central Section Meeting
 - College Station Fall 2004
 - San Antonio Fall 2005
- The American Society of Limnology and Oceanography (ASLO),
 - National Annual Meeting: Salt Lake City, UTAH Spring 2005
- West End Land Use Policy Committee:
 - Galveston City Council Spring 2005
- West Galveston Property Owners Association (WGIPOA) Spring 2005
- TAMUG 1st Annual Student Research Symposium Spring 2005
- TAMU Student Research Week: Spring 2004
- 2nd Annual Texas A&M University System Pathways Research Symposium
 - Corpus Christi Fall 2004
- Academy for Lifelong Learning @UTMB classes:
 - Sand Resources of the Upper Texas Coast Spring 2004
 - Beach Morphodynamics Spring 2004
 - Beach Morphological Monitoring Fall 2004

MetaData:

NOAA approached the TCEDN requesting its involvement as pioneers in populating its MERMAID MetaData clearing house. Work on this is ongoing and current.

Usage of the Website

The TCEDN Website was launched in early September 2003. Appendix III shows the statistics on the website. Between 10/05 and 8/08 there have been 1,852,630 hits on the website, with 273,787 visitors with a total of 767,023 pages viewed.

Appendix 1

Outline of TCEDN

Web-based Resources

I. Electronic searchable website

II. Service

A. Full-time staff to answer questions

B. Borrowing privileges of collection for remote patrons

C. Public/data locator for finding difficult to locate material

III. Bibliographies

A. Academic and Gray Literature Publications

- **Coastal Geology: Texas, Gulf Coast, Barrier Islands, Estuaries and Deltas**

- **Coastal Engineering**

- **Geotechnical Engineering-related to coastal Issues**

- **Texas Bureau of Economic Geology Pubs**

IV. Projects and Reports

A. CEPRA Reports - digital format

B. TGLO Engineering Reports and Projects

C. Coastal Management Program- reports and projects

V. Web Links

Libraries - GBIC, TAMUG, TAMU, UT, Rice and other Libraries

- A. State Agencies and programs- TGLO, CMP, CEPRA, UT-BEG, TPWD, River Authorities, TNRIS**
- B. Federal Agencies- USACE, EPA, NMFS, MMS, USGS, NOAA**
- C. University Websites - Rice University; Conrad Blucher Institute-TAMU-CC; TAMUG-LOER, TAMU-GERG, TAMU-Sustainable Margins**
- D. Meta Data Clearing House Node**
- E. GIS (Geographical Information Server)**
- F. Electronic/Physical collection**
- G. Historical Oyster Reef maps as GIS layers and maps available on GIS server.**

Appendix II

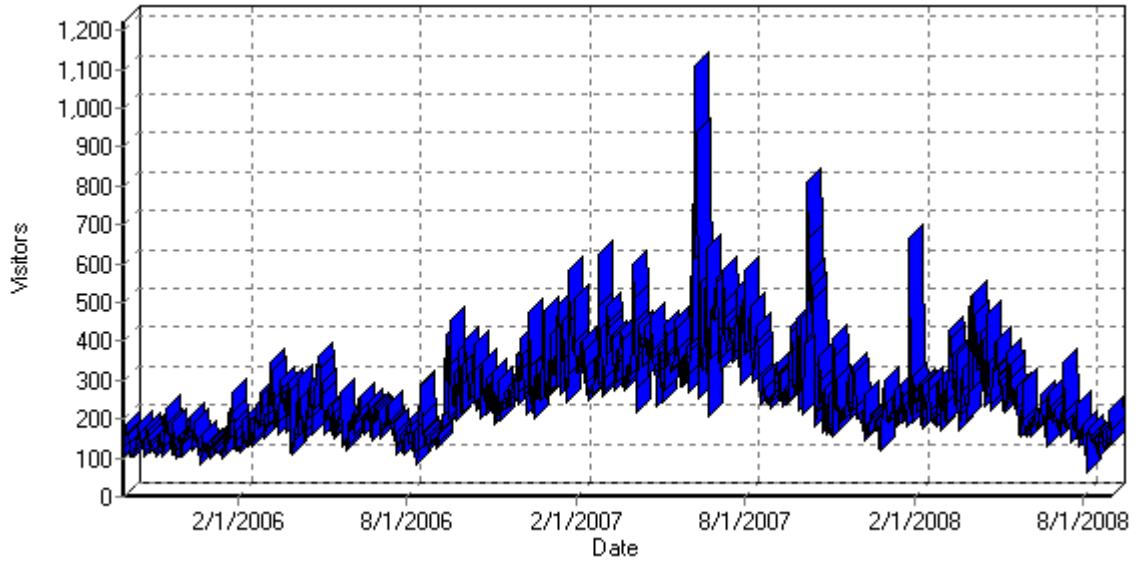
Appendix III

Summary of TCEDN Website Statistics

Summary

Hits	
Total Hits	1,852,630
Average Hits per Day	1,737
Average Hits per Visitor	6.77
Cached Requests	194,439
Failed Requests	322,819
Page Views	
Total Page Views	767,023
Average Page Views per Day	719
Average Page Views per Visitor	2.80
Visitors	
Total Visitors	273,787
Average Visitors per Day	256
Total Unique IPs	66,222
Bandwidth	
Total Bandwidth	0 B
Average Bandwidth per Day	0 B
Average Bandwidth per Hit	0 B
Average Bandwidth per Visitor	0 B

Daily Visitors



Daily Hits

