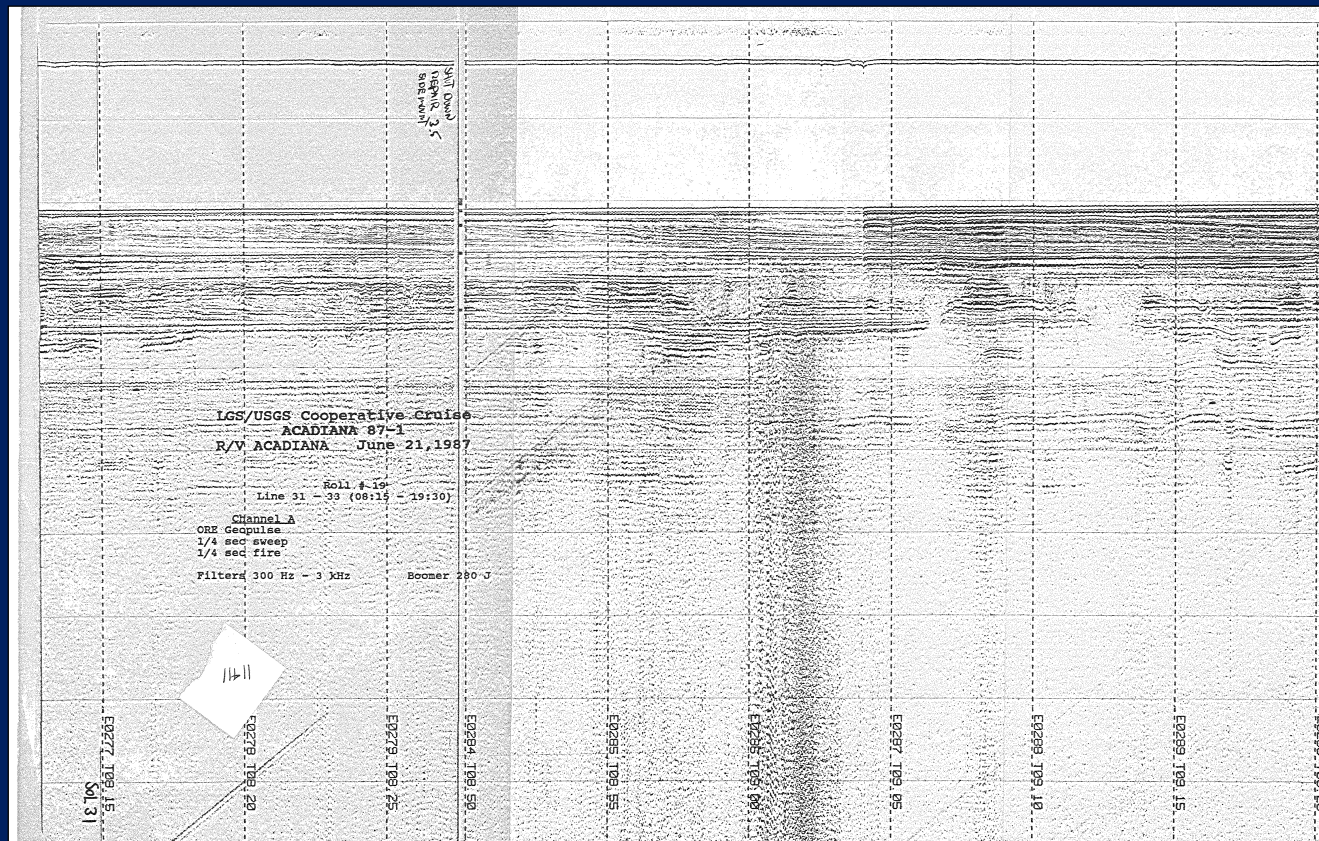


# Gulf of Mexico Outer Continental Shelf Analog Seismic Data Conversion and Preservation

James Flocks

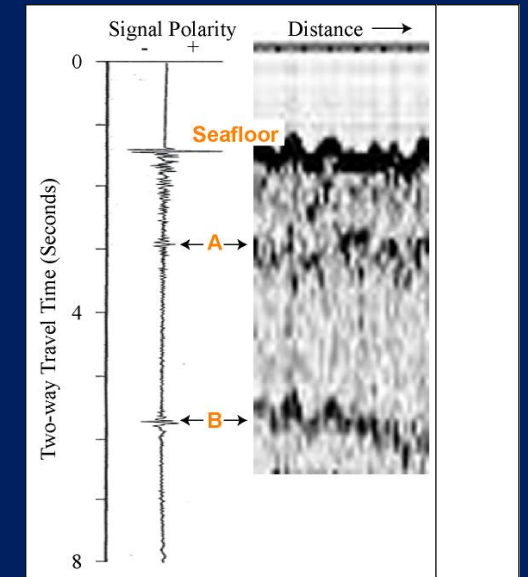
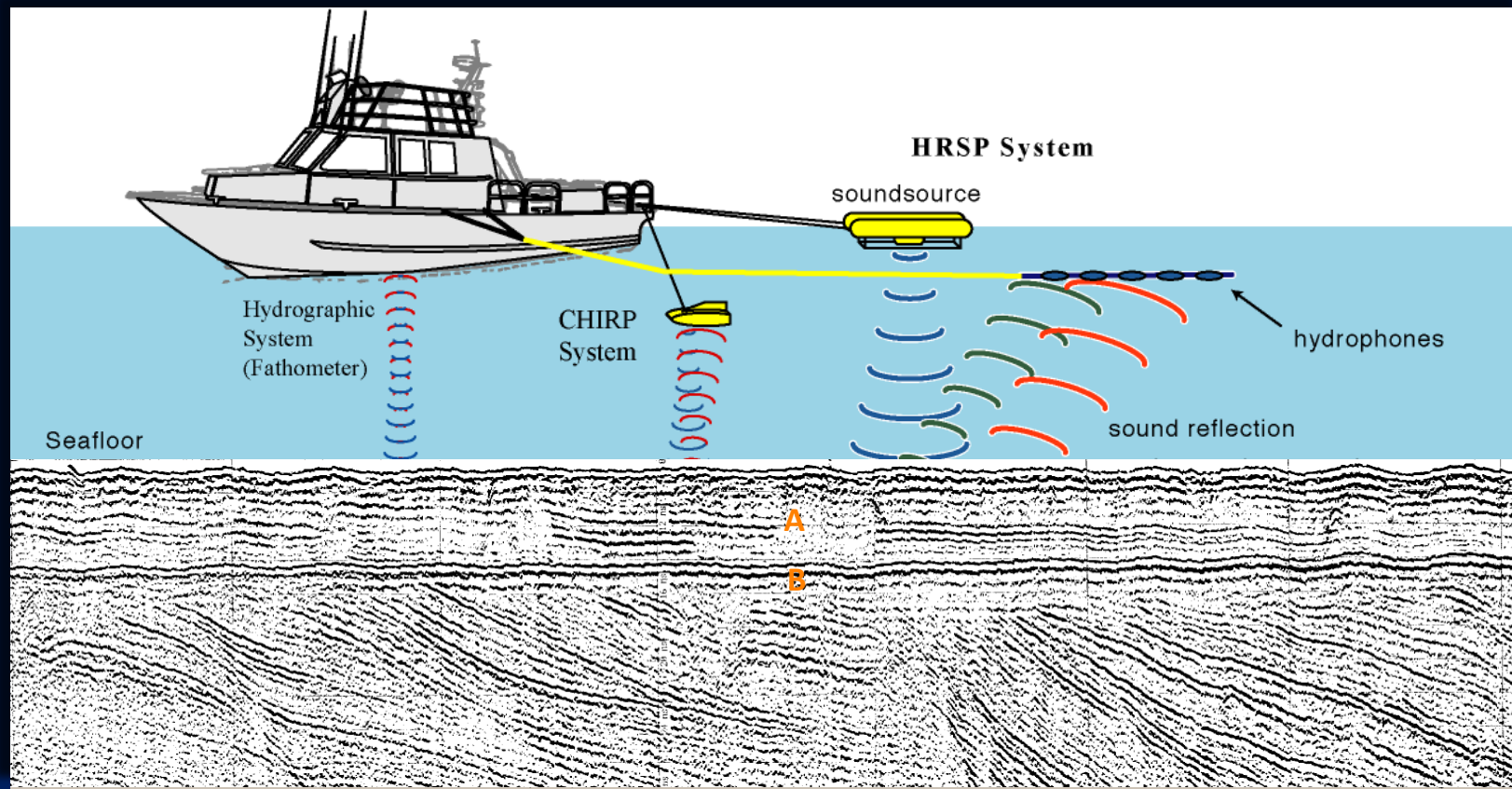
U.S. Geological Survey St. Petersburg Coastal and Marine Science Center

Geology of Coastal Margins Team



Seismic profile from a  
1987 R/V Acadiana Survey, GOM

# High Resolution Seismic Profiling 1970s – 1990s (Boomer, Sparker, Air Gun)





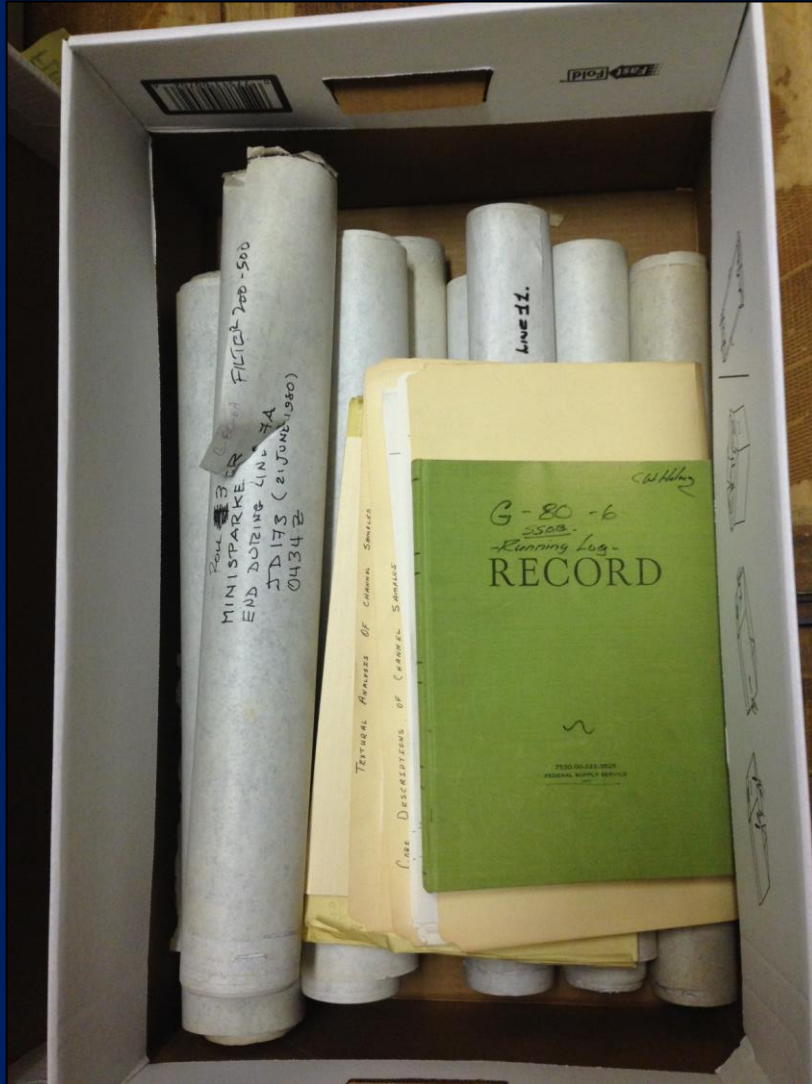
# Analog data holdings

(Federal agencies, state geological surveys, academic institutions)



# Analog data holdings

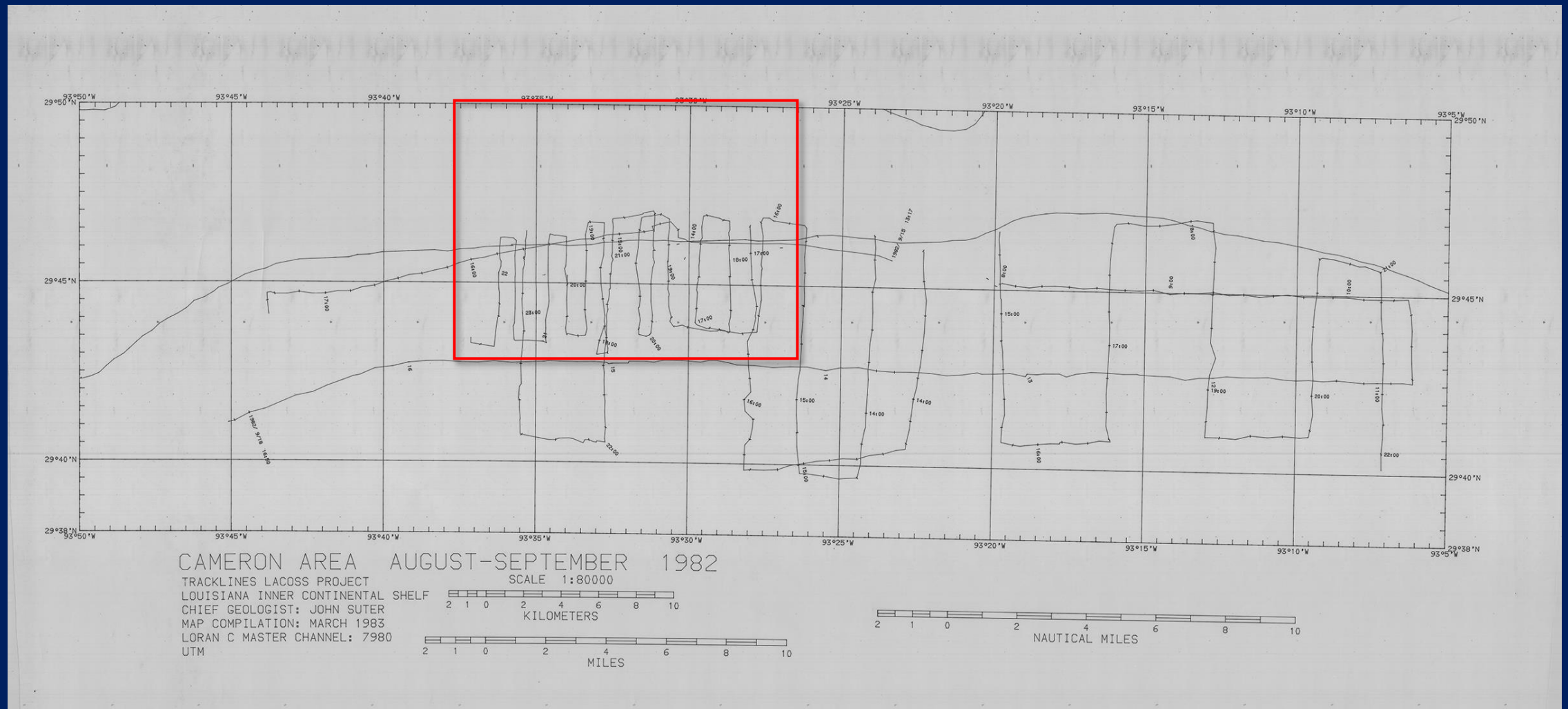
Paper rolls,  
vellums, fanfolds.  
Cruise logs  
(maybe),  
Navigation files  
(maybe)



Trackline maps

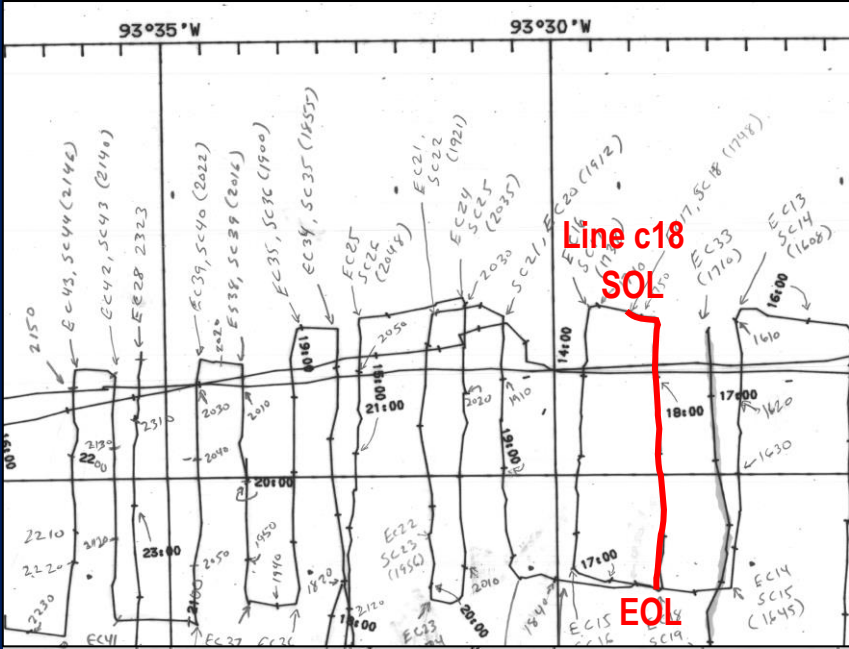


# Recovering navigation from trackline maps



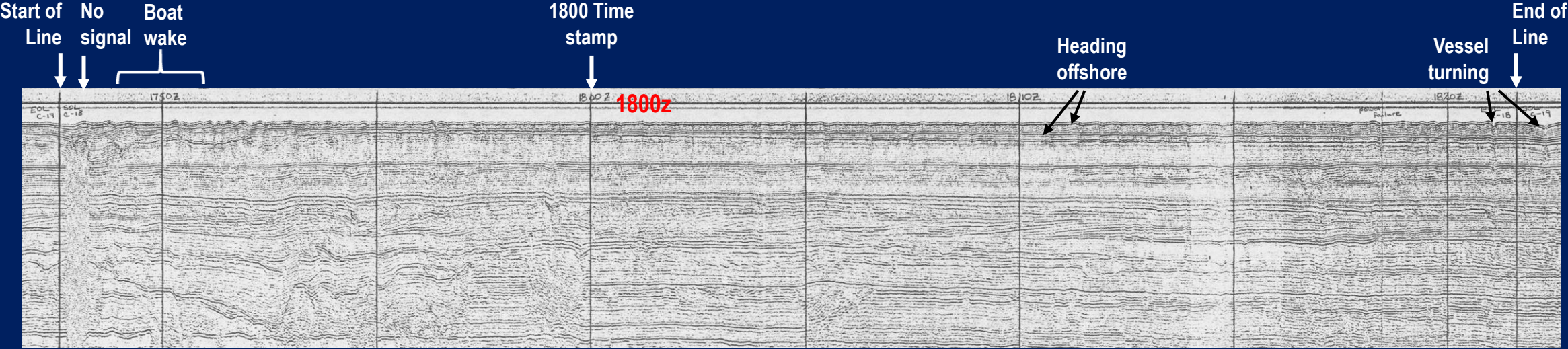
1982 Lacoss project survey, offshore Cameron La, GOM

# Recovering navigation from trackline maps



New information included  
In archive for reproducibility

Lacoss 83-3, c 18





# Recovering navigation from trackline maps

Global Mapper v19.0 (b092017) [64-bit] [+Lidar] - REGISTERED (testmap\_LatLong.gmw)

File Edit View Tools Analysis Layer Search GPS Help

Control Center (3 Layers)

Image Rectifier [Automatic] (DECCA\_georefmap.tif)

File Options

Entire Image

Zoomed View (Click for Pixel Coordinates)

Reference Images (Load into Main View First)

Ground Control Point (GCP) Entry

Pixel X: 0 X/Easting/Lon: 0 Add Point to List

Pixel Y: 0 Y/Northing/Lat: 0 Update Selected Point

Ground Control Points (Double-click to Center on Control Point)

Point Name	Pixel X	Pixel Y	Projected X	Projected Y	Longitude	Latitude	Delete
<input checked="" type="checkbox"/> Top Left	0	0	-86.0599221064	30.1025727312	86° 03' 35.7196" W	30° 06' 09.2618" N	OK
<input checked="" type="checkbox"/> Bottom Right	13981	8490	-82.5632650197	27.9731457470	82° 33' 11.7541" W	27° 58' 23.3247" N	Apply

Scale: 0 km 25 km 50 km 75 km 125 km

1:1371700 GEO (NAD83) (-86.7833363280, 28.1677902622) 28° 10' 04.0449" N, 86° 47' 00.0108" W

# USGS Digital Archives/Metadata

USGS CMG ACAD89-1 Metadata

http://walrus.wr.usgs.gov/infobank/a/a1891a/html/a-1-89-1a.meta.html

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Coastal & Marine Geology  
USGS CMG ACAD89-1

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**CMGP Field Activity Information Search**

USGS Home  
Contact USGS  
Search USGS

USGS > Coastal and Marine Geology Program > Coastal and Marine Geoscience Data System

Field Activity Information Search

This form will search for field activity and data information collected by the Coastal and Marine Science Center. The search results will be displayed in a table. A combination approach to determine the results. Search results must match all of the selections made. Sidescan activities will appear. If you select 'sonar/sidescan' and starting year of '2005' then only the sidescan activities will appear. The results will appear below the search box and in the map display. Click on the pins in the map to view details. The select 'clear' the form resets all selections and you can start over.

Activities: by  
Activity First Letter: A  
Metadata & Data: Metadata  
Formal Metadata: Formal  
Google Earth: Google Earth  
Google Maps: Google Maps

Metadata

ID  
Also Known As  
Organization  
Project  
Chief Scientist  
Platform  
Area of Operation

**Search Form**

Search for Data Type:

- Biological Field Study (Transect Study, Experiment)
- Electro-Magnetic (Resistivity, GPR, Magnetics)
- Environmental Data (Meteorology, CTD, temperature)
- Geochemical Field Study (SHARQ, MICA)
- Imagery (Photo, Video)
- Location/Elevation (Profiles, Navigation, Benchmarks, LIDAR)
- Mathematical modeling
- Sampling
- Seismics (Chirp, boomer, Multichannel)
  - Air Gun / Water Gun
  - Boomer
  - Bubble Gun
  - Multichannel
  - Ocean Bottom Seismometer
  - Sonobuoy
  - Sparker
  - Sub Bottom Profiler
- Sonar (Bathymetry, Sidescan)
- Time Series (Moorings)
- Visual Identification (Species ID, Ground Truthing)
- Other

Select as many as needed.

**+ Time span (years):** from 1970 to 1990  
If only one year is desired, enter '0000' in the start year, and leave the end year blank.

+ Location: Gulf of Mexico

+ Person:

+ Center:

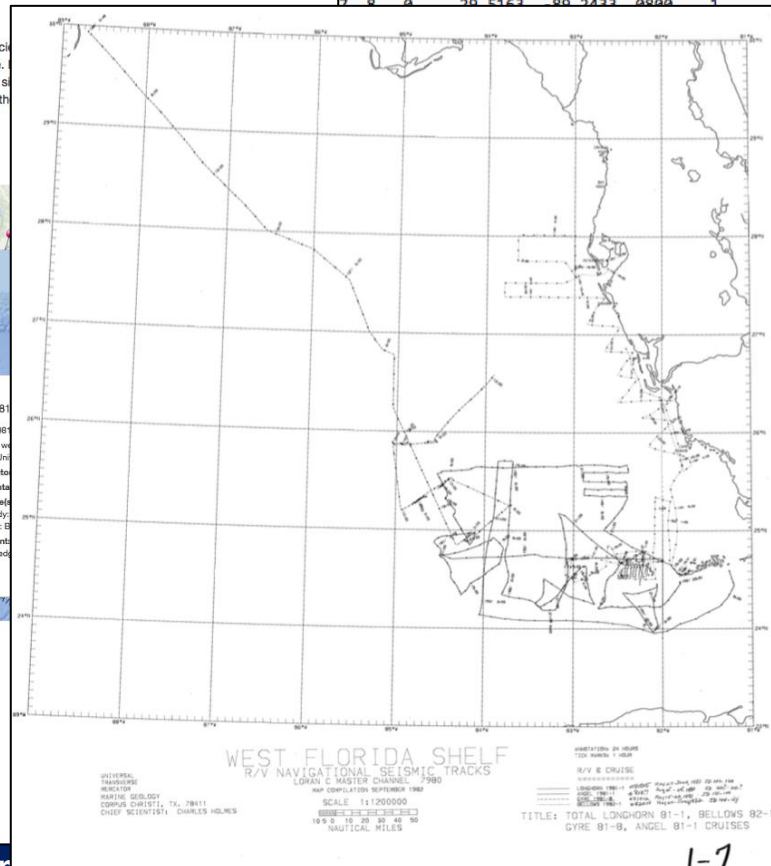
+ Organization:

+ Project:

+ Platform:

+ Field Activity ID: Enter field activity number (FAN, AKA, etc.)

Search Clear



#84  
#81012

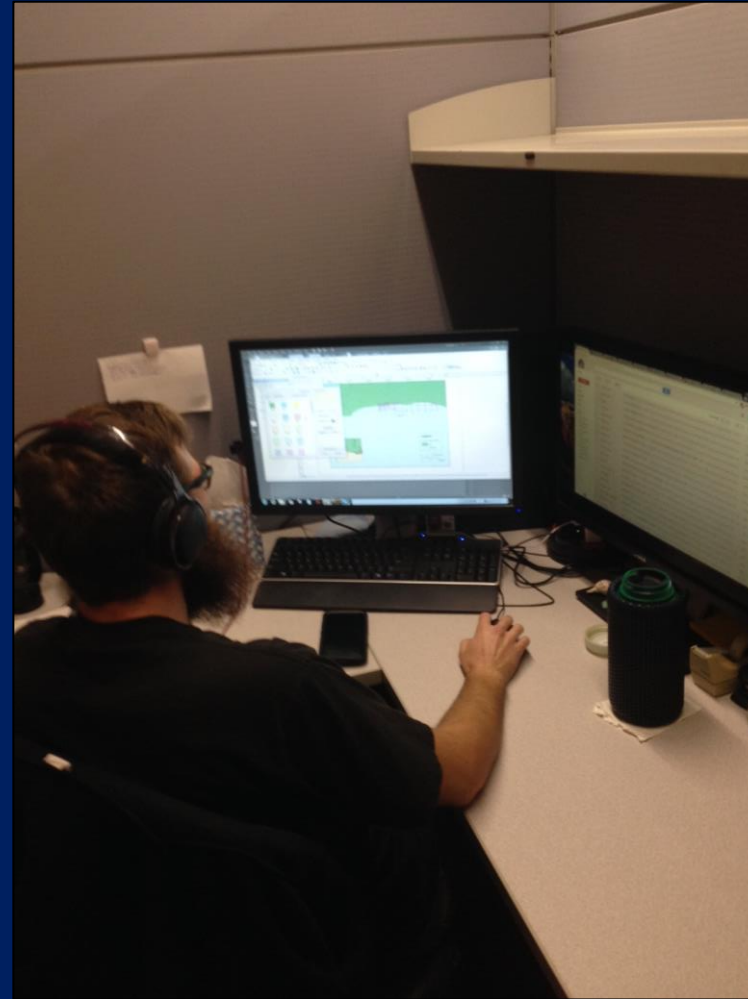
Cruise Report

- Ship Name: R/V Gyre
- Cruise No/Leg: 81-G-8
- Parent Project: West Florida Shelf
- Funding Agency: S.I.R.
- Funding Amount: \$41,000
- Contract Number: -----
- Contract Start/End: -----
- Area of Operation: West Florida Shelf
- Date: May 15 - May 20, 1981
- Chief Scientist: Charles W. Holmes
- Scientific Staff: Larry Doyle U. of So. Florida  
Paul Schoeder USGS  
Greg Bnolls U. of So. Florida  
Rick Wall U. of So. Florida  
Steve Walker U. of So. Florida  
Charles Steltling USGS  
Margie M. Mitchell USGS  
Angie Varga USGS  
Madelynn Krobot USGS  
Elizabeth Gum USGS  
James McFarlen USGS  
Barry Erwin USGS  
Richard Elsie Captain
- Purpose of Cruise: To sample viacore and dredge targets determined by seismic information obtained during G80-6A.
- Navigation: Loran C
- Equipment Employed: 3.5 kHz Subbottom Profiler  
Piston Core  
Van Veen Grab  
Rock Dredge
- Tabulation of Information: 5 - days at sea  
540 - 3.5 kHz profiles  
6 - rock dredges  
5 - grab  
3 - Piston cores retrieved

[https://cmgds.marine.usgs.gov/data\\_search.php](https://cmgds.marine.usgs.gov/data_search.php)



# Digitizing data & GIS development







# Generate new metadata for analog datasets

## Header information appended to digital files

ID	Acadiana 87-1
Chief Scientist	John R. Suter
Organizations	LGS, DU, USGS, LUMCON
Vessel	R/V Acadiana
Location	Chandeleur Islands, Mississippi Barriers, onshore and offshore
Trackline Name	1(b)
Segment	2 of 3
Filename	A87-2 1b
Equipment	ORE Geopulse. Benthos 10 element Hydrophone, EPC 3200 Recorder, ORE 5210 Receiver, ORE 5420A Power Supply, ORE 3.5 kHz Subbottom Profiler with ORE Transmitter
Navigation Equipment	Northstar 6000 LORAN with Texas Instruments Silent 700 EPC Delay box
Start Date / Day / Time	16 June 1987 / 167 / 04:05Z
End Date / Day / Time	16 June 1987 / 167 / 07:45Z
Filter (high/low)	3000 / 500 Hz
Scale / Fire / Sweep (Subbottom Profiler)	1/5 / .25 sec / .25 sec
Scale / Fire / Sweep (ORE Geopulse)	
Scan Date / DPI / Format / By	01 August 2016 / 210 / 8-bit grey-scale TIFF / S. Bosse
Scanner	Contex SD 3600
Software	NEXImage 4.3
Post-Scan Process History	A header was created using Microsoft Word, was then converted to .pdf file format and then attached to each line segment via Adobe Photoshop
Comments	

## FGDC-compliant Metadata add to archive

Identification\_Information:

Citation:

Citation\_Information:

Originator: Stephen T. Bosse

Originator: James G. Flocks

Originator: Arnell S. Forde

Publication\_Date: 20170622

Title: Archive of digitized analog boomer seismic reflection data collected during U.S. Geological Survey cruise Acadiana 87-2 in the northern Gulf of Mexico, June 1987

Geospatial\_Data\_Presentation\_Form: Multimedia presentation

Series\_Information:

• • •  
• • •  
• • •

Spatial\_Domain:

Bounding\_Coordinates:

West\_Bounding\_Coordinate: -89.324

East\_Bounding\_Coordinate: -88.116

North\_Bounding\_Coordinate: 30.2467

South\_Bounding\_Coordinate: 29.1042

Keywords:

• • •  
• • •  
• • •

Contact\_Voice\_Telephone: (727) 502-8000

Contact\_Electronic\_Mail\_Address: sbosse@usgs.gov

Metadata\_Standard\_Name: Content Standard for Digital Geospatial Metadata

Metadata\_Standard\_Version: FGDC-STD-001-1998

# Converting image profiles to Seg-y format (industry standard format for seismic data)

ERDA90-1\_HC-1b.tif

Pixel X: 424 Pixel Y:2450

Image Info

Image Size: 66605 X 4614

Bits per Pixel: 8

File Type: 17 Size on Disk:294171736

Resolution DPI: 210 X 210

Rotate 90 CW Rotate 90 CCW Rotate...

Fit to Window 2X Zoom Normal

Custom Zoom

Define Export Area

Delph Compatible SEG-Y

Top Pixel 165

Depth at Top 0 (m) (ms)

Bottom Pixel 3791

Depth at Bottom 112.5

Left Pixel 421

Left Time 6/14/1990 10:06:00 AM

Right Pixel 66511

Right Time 6/14/1990 12:42:00 PM

Pix X	Northing...	Easting/...	Fix
421	3° 14.72400' 3° 21.12000'		0
2953	3° 14.74200' 3° 20.73600'		0
5503	3° 14.62800' 3° 20.32200'		0
8148	3° 14.40000' 3° 19.90800'		0

Navigation Data Point

Bitmap Coords:421 3088

Latitude 30° 15.00000' N

Longitude 089° 21.00000' W

Fix Number 0

Enter Geodetic Coordinates

Enter Grid Coordinates

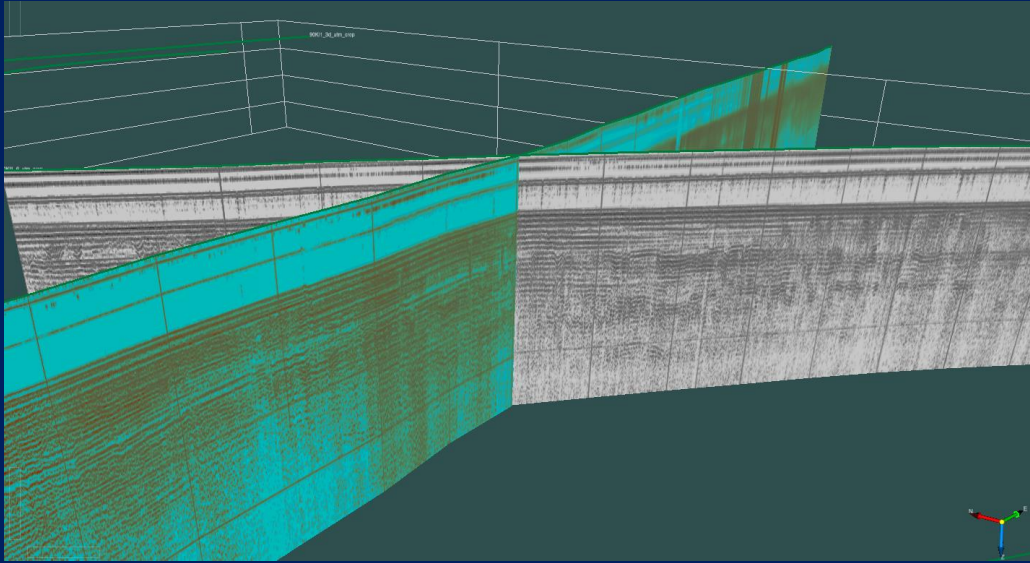
OK

Cancel

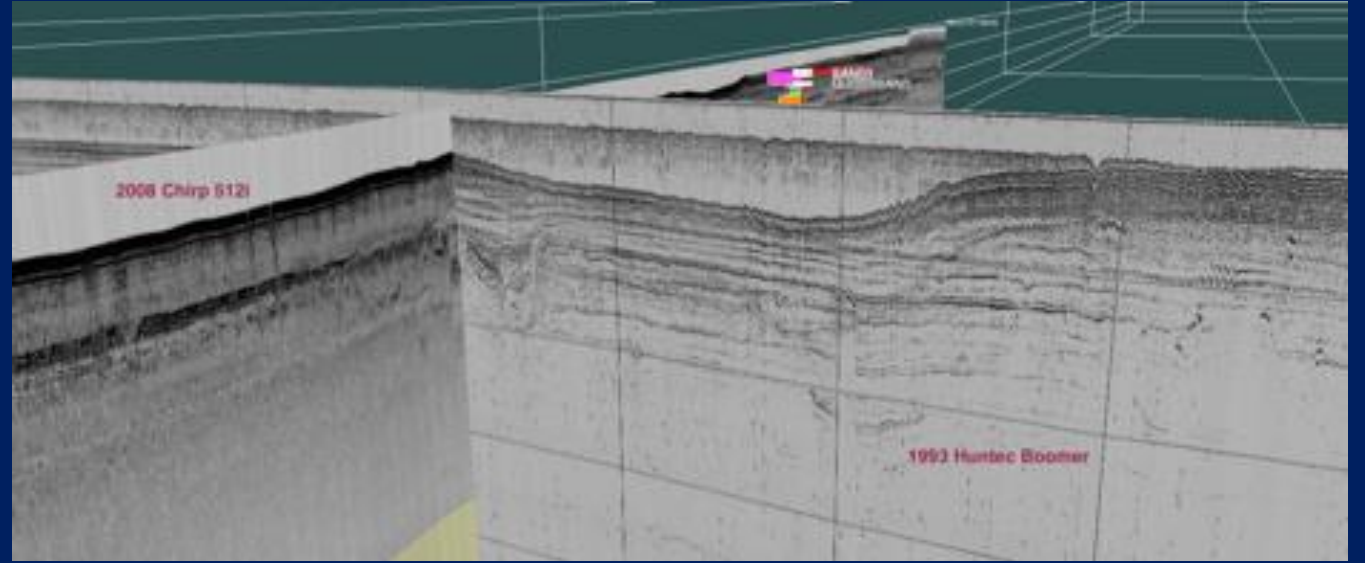


# Converting image profiles to Seg-y format

## Data integration

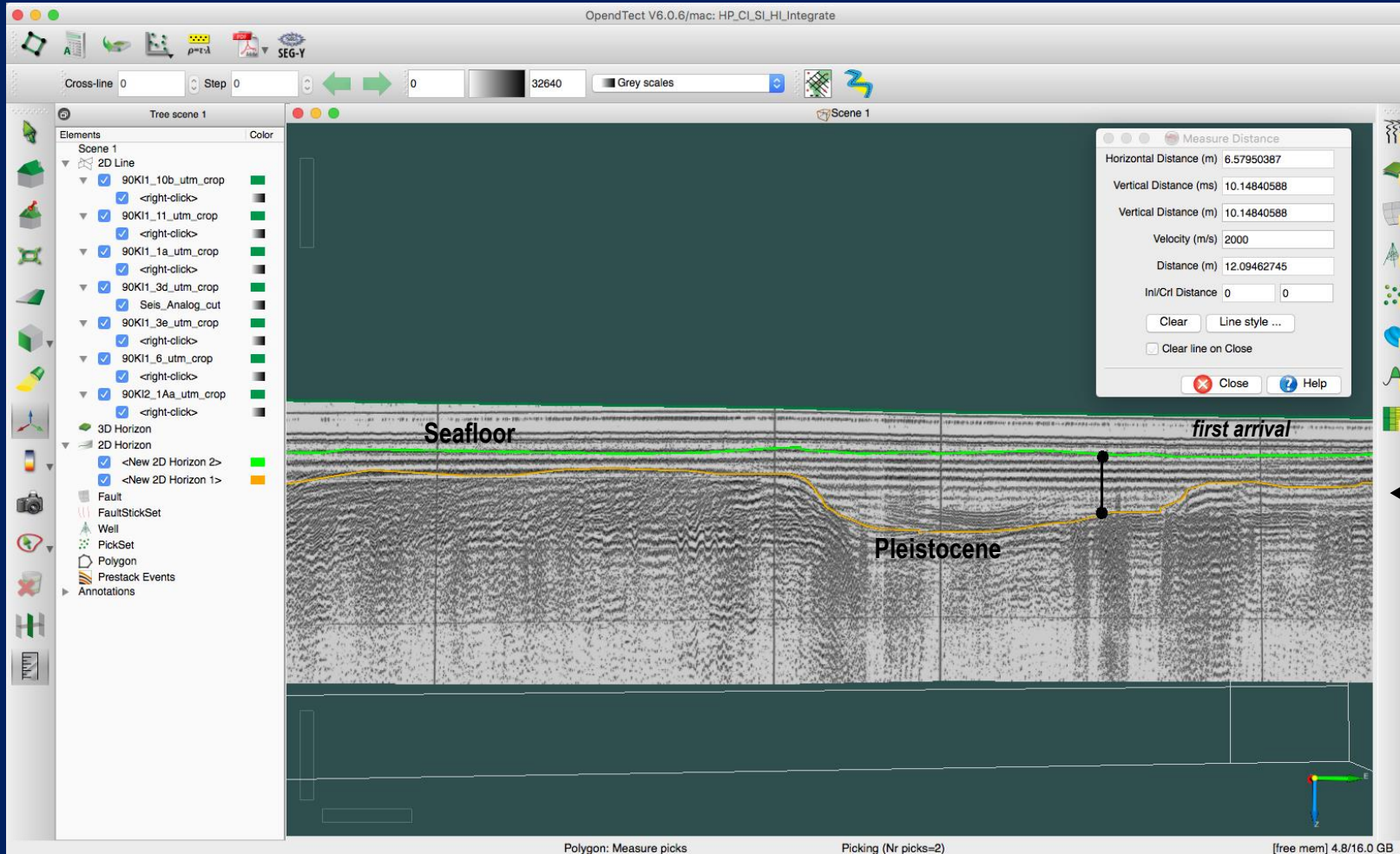


1990 Kit Jones Survey, GOM

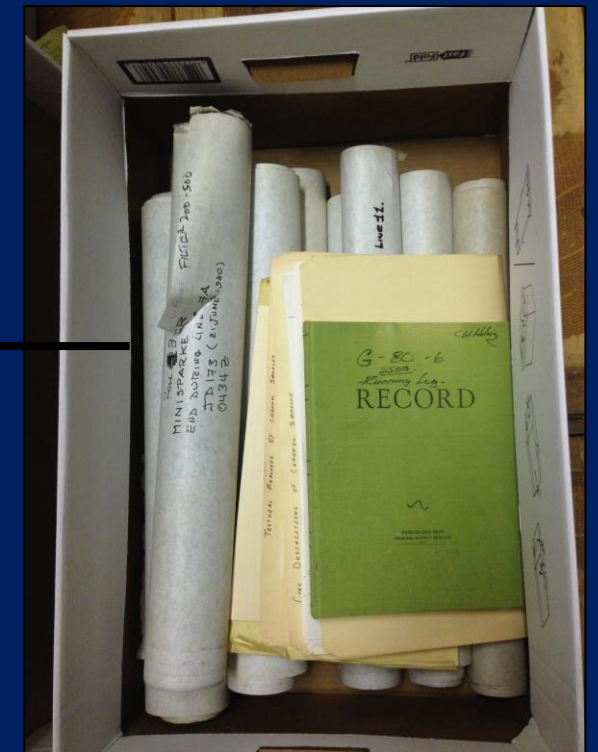


1993 Carancahua Survey, GOM

# Converting image profiles to Seg-y format Data integration



Geologic data recovered, preserved  
and re-introduced

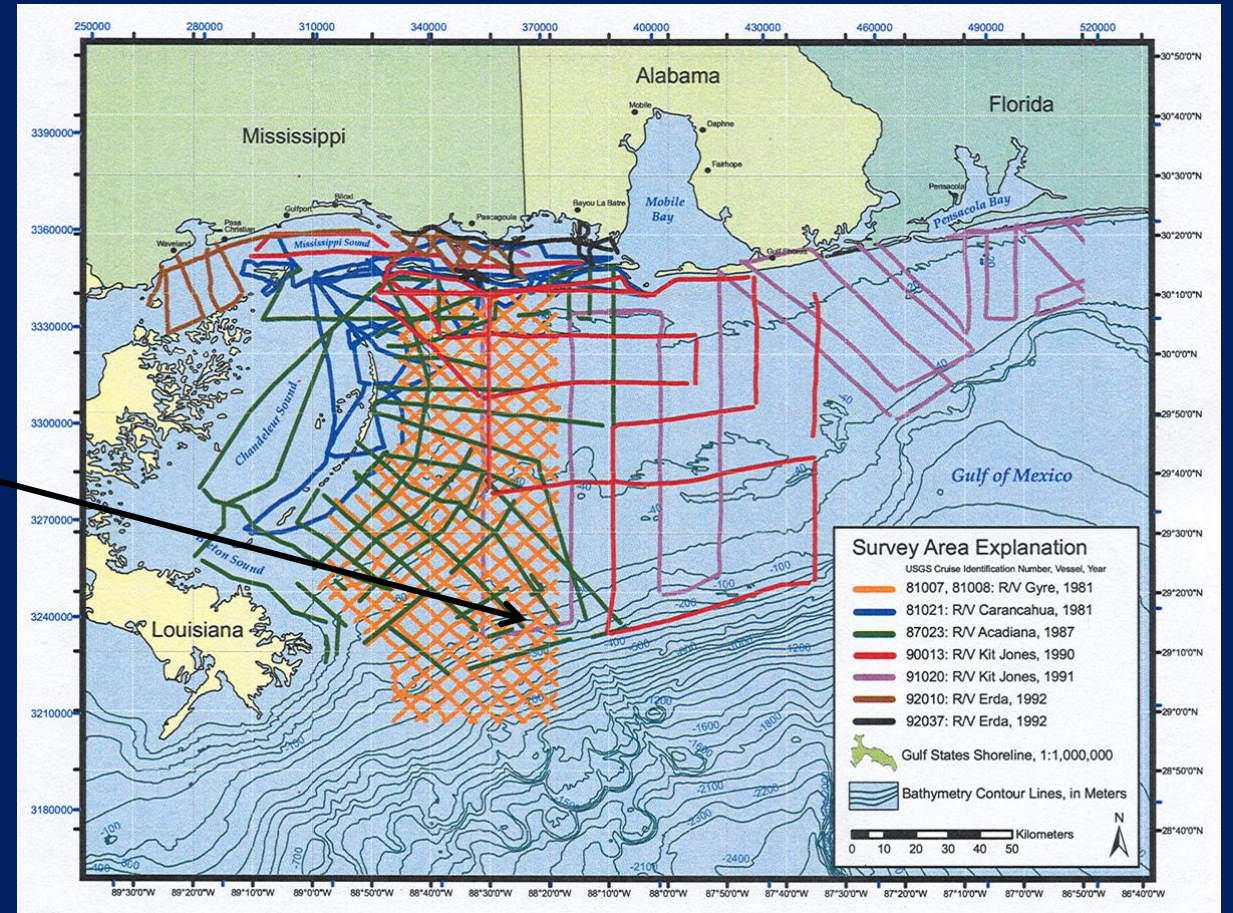
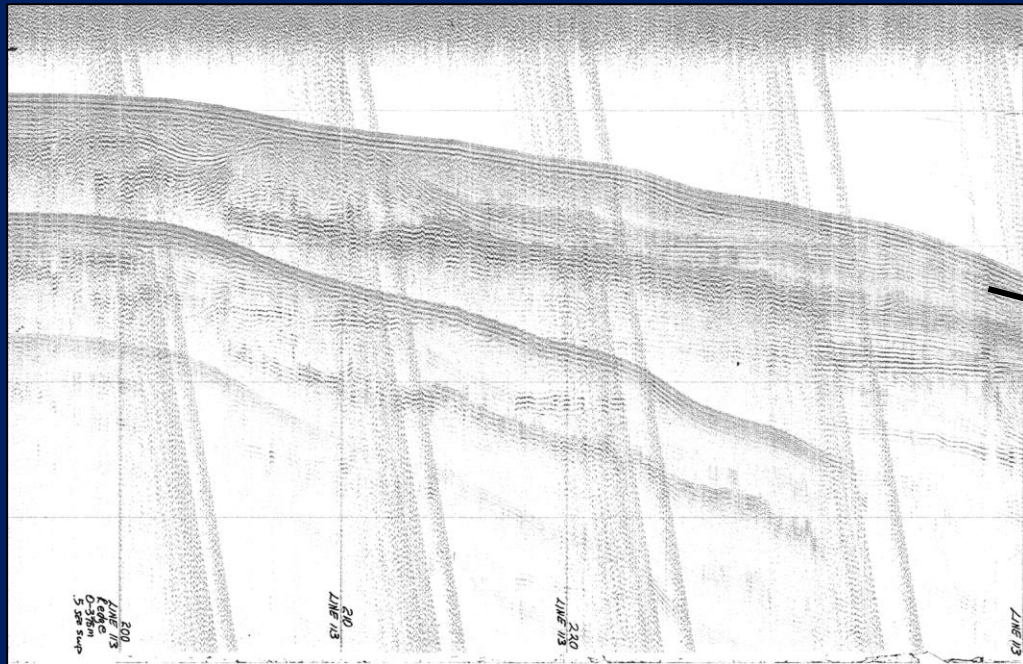


1990 Kit Jones survey, GOM



# Recovered analog seismic data

1981 Gyre survey, GOM





# Recovered data archive & publication

<https://coastal.er.usgs.gov/data-release/doi-F7F47MC2/>

<https://pubs.usgs.gov/ds/429/>

<https://pubs.usgs.gov/ds/428/>

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St. Petersburg Coastal and Marine Science Center

**Data Release**

Archive of Digitized Analog Boomer Seismic Reflection Data Collected During U.S. Geological Survey Cruise Acadiana 87-2 in the Northern Gulf of Mexico, June 1987

By Stephen T. Boss, James G. Flocks, and Arnel S. Flores

**Summary**

The U.S. Geological Survey (USGS) Coastal and Marine Geology Program has actively collected geophysical and sedimentological data in the northern Gulf of Mexico for several decades, including shallow subsurface data in the form of high-resolution seismic reflection profiles (HRSP). Prior to the mid-1990s most HRSP data were collected in analog format as paper rolls of continuous profiles up to 30 meters long. As part of the National Geological and Geophysical Data Preservation Program, scientists at the USGS St. Petersburg Coastal and Marine Science Center are converting the analog paper records to digital format using a large-format continuous scanner.

This data release serves as an archive of seismic profiles with headers, converted SEG-Y files, navigation data, and trackline shapefiles for digitized boomer seismic data collected from the Research Vessel (R/V) Acadiana, the Acadiana 87-2 geophysical cruise collected seismic data collected in the northern Gulf of Mexico, Chandler Sound, and Mississippi Sound from June 15-26, 1987. USGS Data Series 1047.

Rouse, S.T., Flocks, J.G., and Flores, A.S., 2017. Digitized analog boomer seismic-reflection data collected during U.S. Geological Survey cruises Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3 in Mississippi Sound, June 1990 and September 1991. U.S. Geological Survey Data Series 1047. <https://doi.org/10.3133/ds1047>

File Name and Description	Metadata (XML format)	Metadata (text format)	Download File
Acadiana 87-2			
<b>Profileswithheaders_A87-2.zip</b> Profiles with headers (with headers) (.zip)	<a href="#">Acadiana_Metadata.xml</a>	<a href="#">Acadiana_Metadata.txt</a>	<a href="#">Profileswithheaders_A87-2.zip</a> (5.8 GB)
<b>SEGY_A87-2.zip</b> Digitally-converted seismic profiles, in SEG-Y format (.seg).	Same as above	Same as above	<a href="#">SEGY_A87-2.zip</a> (3 GB)
<b>Navigation_A87-2.zip</b> Long range navigation (LORAN) system geographic position data (.txt).	Same as above	Same as above	<a href="#">Navigation_A87-2.zip</a> (2.8 KB)
<b>CruiseTracklines_A87-2.zip</b> Cruise trackline location shapefile (.shp).	Same as above	Same as above	<a href="#">CruiseTracklines_A87-2.zip</a>

Supplemental Information

Logbook\_A87-2.zip Not applicable

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U.S. Geological Survey Data Series 429

**Archive of Digitized Analog Boomer Seismic Reflection Data Collected from the Mississippi-Alabama-Florida Shelf During Cruises Onboard the R/V Kit Jones, June 1990 and July 1991**

By Jordan M. Sanford,<sup>1</sup> Arnel S. Harrison,<sup>2</sup> Dana S. Wises,<sup>1</sup> and James G. Flocks<sup>1</sup>

<sup>1</sup>U.S. Geological Survey, St. Petersburg, FL 33701; <sup>2</sup>Texas Technology Inc., St. Petersburg, FL 33701.

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U.S. Geological Survey  
Fossil Energy Research Center - St. Petersburg

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**Project Summary**

In June and July of 1991, the U.S. Geological Survey (USGS) conducted geophysical surveys to investigate the shallow geologic framework of the Mississippi-Alabama-Florida Shelf in the northern Gulf of Mexico. This work was conducted aboard the Texas A&M University R/V Caranahua and the R/V Core as part of a project to study coastal erosion and offshore sand resources. This report is part of a series to digitally archive a legacy analog data collected from the Mississippi-Alabama Shelf (MAS) in the northern Gulf of Mexico. The MAS data release project was established to allow for better management of analog tape images within the MAS data release project. Each cruise received a unique field activity ID based on the year the data were collected, the first two digits of the survey vessel name, and the number of cruises made to date by that vessel that year (for example, Erida 90-1 and Erida 90-2). The new field activity ID scheme is detailed in this report and is referred to as the Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3 in the Metadata and Download File sections. A data showing the naming convention for cruise IDs in the MAS data release series is included as a table in the Appendix. Digitized seismic reflection data (SEG-Y) images of the original boomer paper records, navigation files, trackline maps, Geographic Information System (GIS) files, cruise logs, and former Federal Geographic Data Committee (FGDC) metadata for cruises Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3.

The boomer system uses an acoustic energy source called a plane, which consists of electrodes charged to a high voltage and discharged through a transducer in the water. The source is towed on a sled, which when discharged emits a short acoustic pulse, or shot, which propagates through the water and sediment column. The acoustic energy is reflected at density boundaries, recorded by the hydrophone receiver, and the amplitude of the reflected energy is recorded by an Erida 91 Kit (E91) terminal station. This process is repeated at intervals (100 m) to create a series of profiles (shots) that are used to create a seismic reflection profile. The final images are also referred to as the shot images of the shot. This is the amount of time the receiver elyses takes to sense from the top of the report to the bottom of the report, thereby recording the amplitude of the reflected energy of one shot. This was consecutive receiver shots produce a two-dimensional (2-D) vertical image of the marine geologic structure beneath the ship track.

Many of the geophysical data collected by the USGS prior to the late 1990s was recorded in analog format and stored as paper copies. Scientists onboard made data available in digital format, but the data were not archived or stored in a digital format. Scientists onboard made data available in digital format, but the data were not archived or stored in a digital format. Scientists onboard made data available in digital format, but the data were not archived or stored in a digital format.

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U.S. Geological Survey Data Series 428

**Archive of Digitized Analog Boomer Seismic-Reflection Data Collected During U.S. Geological Survey Cruises 91-3 in Mississippi Sound, June 1990 and September 1991**

By Stephen T. Boss, James G. Flocks, and Arnel S. Flores

**Summary**

The U.S. Geological Survey Coastal and Marine Geology Program has actively collected geophysical and sedimentological data in the northern Gulf of Mexico for several decades, including shallow subsurface data in the form of high-resolution seismic reflection profiles (HRSP). Prior to the mid-1990s most HRSP data were collected in analog format as paper rolls of continuous profiles up to 30 meters long. As part of the National Geological and Geophysical Data Preservation Program, scientists at the USGS St. Petersburg Coastal and Marine Science Center are converting the analog paper records to digital format using a large-format continuous scanner.

This data release serves as an archive of seismic profiles with headers, converted SEG-Y files, navigation data, and trackline shapefiles for digitized boomer seismic data collected from the Research Vessel (R/V) Acadiana, the Acadiana 87-2 geophysical cruise collected seismic data collected in the northern Gulf of Mexico, Chandler Sound, and Mississippi Sound from June 15-26, 1987. USGS Data Series 1047.

Rouse, S.T., Flocks, J.G., and Flores, A.S., 2017. Digitized analog boomer seismic-reflection data collected during U.S. Geological Survey cruises Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3 in Mississippi Sound, June 1990 and September 1991. U.S. Geological Survey Data Series 1047. <https://doi.org/10.3133/ds1047>

File Name and Description	Metadata (XML format)	Metadata (text format)	Download File
Erida 90-1 HC			
<b>Profileswithheaders_Erida_90-1_HC.zip</b> Profiles with headers (with headers) (.zip)	<a href="#">Erida_90-1_HC_Metadata.xml</a>	<a href="#">Erida_90-1_HC_Metadata.txt</a>	<a href="#">Profileswithheaders_Erida_90-1_HC.zip</a> (5.32 GB)
<b>SEGY_Erida_90-1_HC.zip</b> Digitally-converted seismic profiles, in SEG-Y format (.seg).	Same as above	Same as above	<a href="#">SEGY_Erida_90-1_HC.zip</a> (3.72 GB)
<b>Navigation_Erida_90-1_HC.zip</b> Long range navigation (LORAN) system geographic position data (.txt).	Same as above	Same as above	<a href="#">Navigation_Erida_90-1_HC.zip</a> (1.2 KB)
<b>CruiseTracklines_Erida_90-1_HC.zip</b> Cruise specific trackline shapefiles that were created using the LORAN navigation files (.shp, .amx).	Same as above	Same as above	<a href="#">CruiseTracklines_Erida_90-1_HC.zip</a> (28 KB)

Supplemental Information

Erida 90-1\_PBP

File Name and Description	Metadata (XML format)	Metadata (text format)	Download File
Erida 90-1_PBP			
<b>Profileswithheaders_Erida_90-1_PBP.zip</b> Profiles with headers (with headers) (.zip)	<a href="#">Erida_90-1_PBP_Metadata.xml</a>	<a href="#">Erida_90-1_PBP_Metadata.txt</a>	<a href="#">Profileswithheaders_Erida_90-1_PBP.zip</a> (5.32 GB)
<b>SEGY_Erida_90-1_PBP.zip</b> Digitally-converted seismic profiles, in SEG-Y format (.seg).	Same as above	Same as above	<a href="#">SEGY_Erida_90-1_PBP.zip</a> (3.63 GB)
<b>Navigation_Erida_90-1_PBP.zip</b> Long range navigation (LORAN) system geographic position data (.txt).	Same as above	Same as above	<a href="#">Navigation_Erida_90-1_PBP.zip</a> (1.4 KB)
<b>CruiseTracklines_Erida_90-1_PBP.zip</b> Cruise specific trackline shapefiles that were created using the LORAN navigation files (.shp, .amx).	Same as above	Same as above	<a href="#">CruiseTracklines_Erida_90-1_PBP.zip</a> (28 KB)

Erida 91-3

File Name and Description	Metadata (XML format)	Metadata (text format)	Download File
Erida 91-3			
<b>Profileswithheaders_Erida_91-3.zip</b> Profiles with headers (with headers) (.zip)	<a href="#">Erida_91-3_Metadata.xml</a>	<a href="#">Erida_91-3_Metadata.txt</a>	<a href="#">Profileswithheaders_Erida_91-3.zip</a> (5.18 GB)
<b>SEGY_Erida_91-3.zip</b> Digitally-converted seismic profiles, in SEG-Y format (.seg).	Same as above	Same as above	<a href="#">SEGY_Erida_91-3.zip</a> (3.64 GB)
<b>Navigation_Erida_91-3.zip</b> Long range navigation (LORAN) system geographic position data (.txt).	Same as above	Same as above	<a href="#">Navigation_Erida_91-3.zip</a> (1.3 KB)
<b>CruiseTracklines_Erida_91-3.zip</b> Cruise specific trackline shapefiles that were created using the LORAN navigation files (.shp, .amx).	Same as above	Same as above	<a href="#">CruiseTracklines_Erida_91-3.zip</a> (14 KB)

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U.S. Geological Survey Data Series 370

**Archive of Digitized Analog Boomer Seismic Reflection Data Louisiana, to Mobile Bay, Alabama, During Cruises Onboard the R/V Jordan M. Sanford, Arnel S. Harrison, Dana S. Wises, and James G. Flocks**

U.S. Geological Survey, St. Petersburg, FL 33701; Texas Technology Inc., St. Petersburg, FL 33701.

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- Request for Feedback

**Information Statement**

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**Project Summary**

In June and August of 1992, the U.S. Geological Survey (USGS) conducted geophysical surveys to investigate the shallow geologic framework from Lake Pontchartrain, Louisiana, to Mobile Bay, Alabama. This work was conducted aboard the Argonne National Laboratory R/V Erida 91-3 as part of a series to digitally archive a legacy analog data collected from the Mississippi-Alabama Shelf (MAS) in the northern Gulf of Mexico. The MAS data release project was established to allow for better management of analog tape images within the MAS data release project. Each cruise received a unique field activity ID based on the year the data were collected, the first two digits of the survey vessel name, and the number of cruises made to date by that vessel that year (for example, Erida 90-1 and Erida 90-2). The new field activity ID scheme is detailed in this report and is referred to as the Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3 in the Metadata and Download File sections. A data showing the naming convention for cruise IDs in the MAS data release series is included as a table in the Appendix. Digitized seismic reflection data (SEG-Y) images of the original boomer paper records, navigation files, trackline maps, Geographic Information System (GIS) files, cruise logs, and former Federal Geographic Data Committee (FGDC) metadata for cruises Erida 90-1, HC, Erida 90-1\_PBP, and Erida 91-3.

The boomer system uses an acoustic energy source called a plane, which consists of electrodes charged to a high voltage and discharged through a transducer in the water. The source is towed on a sled, which when discharged emits a short acoustic pulse, or shot, which propagates through the water and sediment column. The acoustic energy is reflected at density boundaries, recorded by the hydrophone receiver, and the amplitude of the reflected energy is recorded by an Erida 91 Kit (E91) terminal station. This process is repeated at intervals (100 m) to create a series of profiles (shots) that are used to create a seismic reflection profile. The final images are also referred to as the shot images of the shot. This is the amount of time the receiver elyses takes to sense from the top of the report to the bottom of the report, thereby recording the amplitude of the reflected energy of one shot. This was consecutive receiver shots produce a two-dimensional (2-D) vertical image of the marine geologic structure beneath the ship track.

<https://coastal.er.usgs.gov/data-release/doi-F7BV7DRT/>

<https://pubs.usgs.gov/ds/370/>



# Where to:

- Currently assessing status of GOM analog seismic data stored at the USGS Woods Hole field office:

<a href="#">FAN (AKA)</a>	<a href="#">Alternate ID</a>	<a href="#">PI(s)</a>	<a href="#">Location</a>	<a href="#">Start Date</a>	<a href="#">End Date</a>
1975-013-FA	Party 77	Louis E. Garrison	upper continental slope, Texas to Florida, Gulf of Mexico, United States	7/28/75	12/20/75
1980-014-FA	80-G-6A	Charles W. Holmes	West Florida Shelf, Florida, Alabama, Gulf of Mexico, United States	6/14/80	7/5/80
1989-008-FA	DEB-89-1; DEBB 89-1	Harley J. Knebel	Mobile Bay, Mississippi Sound, Alabama, Mississippi, United States	5/2/89	5/4/89
1985-034-FA	85 Leg 3A; FRNL 85-3A	David Twichell	eastern Gulf of Mexico, United States, North America, North Atlantic	10/2/85	10/22/85
1982-039-FA	LACOSS II 12/82	John West	Louisiana Shelf, Isles Dernieres, Grand Isle, Louisiana, United States	12/5/82	12/17/82
1982-042-FA	LACOSS I	John West	western Louisiana Continental Shelf, Louisiana, United States,	8/27/82	9/18/82
1983-010-FA	702-84 (83-1)	Ronald C. Circe, Lawrence Poppe	West Florida Escarpment and slope, Mississippi Canyon Reef, United States	10/16/83	11/5/83
2000-005-FA	IB O-5-00-GM	Kathryn Scanlon Catanach	Northeastern Gulf of Mexico, United States, North America, North Atlantic	2/15/00	3/2/00

*If anyone has/ knows of existing GOM OCS analog seismic datasets in need of recovery let me know*

- Continue Archive of data in St. Petersburg field office
- In collaboration with BOEM, USM – Division of Marine Science, & UT - School of Geosciences to Develop Seismic GOM OCS geologic database
- Integrate other geologic datasets (e.g. core logs) into restoration process