

Data Documentation

Dataset Information

Dataset Title:

Oil rig and platform reefing in the Gulf of Mexico from 2020-12-23 to 2020-12-25

Description:

Blue Latitudes provided analysis of two ROV-based benthic surveys conducted on and around platform infrastructure reefed on the seafloor. These surveys were conducted in December 2020 within lease blocks East Cameron 270A (EC-270A) and South Marsh Island 205B (SM-205B), located in the northern Gulf of Mexico mesophotic zone (30-300 m) between Geyer Bank and Pinnacles Trend. The data includes diversity and abundance for corals and sponges. Mesophotic and Deep Benthic Communities Restoration: Coral Propagation Techniques (CPT) Project funded the annotations and performed a quality assurance/quality check prior to submitting the data to NCEI. The annotation data is formatted into two Excel spreadsheets, one for each site.

Purpose:

- Dataset purpose: To provide coral and sponge diversity and abundance estimates from ROV locations at 30-300 m depth in the northern Gulf of Mexico. This will assist in identifying previously unknown aggregations of species impacted by the Deepwater Horizon oil spill, allowing for identification of healthy stocks of live coral colonies that can be sampled for husbandry, and grown out in the laboratory, as well as indications of habitat use by fish and mobile invertebrate species of interest.
- Project Purpose: The 2010 *Deepwater Horizon* (DWH) oil spill released approximately 3.2 million barrels of oil into the Gulf of Mexico (GOM), resulting in quantified injury to an area of over 2,000 km² (770 mi²) of deep-sea benthic habitats surrounding the wellhead. Damage assessment also documented hydrocarbon exposure to an additional area of over 12,000 km² extending up the continental slope and onto the continental shelf, as well as substantial losses to corals, other benthic invertebrates, and the associated fish and water column community in an approximately 10 km² area of mesophotic reef habitats of the Pinnacles Trend off the coast of Mississippi and Alabama. The full extent of damage to mesophotic and deep benthic communities (MDBC) from the DWH oil spill remains unknown, and knowledge gaps regarding MDBC distribution create significant challenges for restoring MDBC communities and achieving restoration goals prescribed by the Final DWH Programmatic Damage Assessment and Restoration Plan / Programmatic Environmental Impact Statement (DWH PDARP / PEIS).

This analysis was performed by Blue Latitudes to better understand the ecological implications of reefing the oil and gas platform topside deck materials and to develop

benchmarks for the diversity and abundance of marine life expected on these structure types. The data annotations in this accession were funded by the Mesophotic and Deep Benthic Communities Restoration: Coral Propagation Techniques (CPT) Project.

Members of the CPT Project performed a quality check on the annotations prior to submission to NCEI. This project is one of many selected by the Open Ocean Trustee Implementation Group to restore natural resources injured by the 2010 Deepwater Horizon oil spill in the Gulf of Mexico.

Partners:

- Blue Latitudes, LLC
- US DOC; NOAA; NOS; National Centers for Coastal Ocean Science (NCCOS)

Methods:

ROV-based surveys were completed as continuous transects following sequential movements of the ROV. The structures surveyed at EC-270A and SM-205B include a reefed topside deck and jacket. No natural benthic substrates were surveyed at EC-270A and SM-205B.

Methods for annotation followed the Deep-sea Coral Research and Technology (DSCRTP) [schema](#) and methodology for data submission. After Blue Latitudes annotated the data, the MDBC CPT Project checked the data for organism identification accuracy and ancillary data desired by MDBC prior to submission to NCEI.

Cited Publications:

- Blue Latitudes LLC, 2022. Unpublished raw data

Data Sources:

- Blue Latitudes LLC, 2022. Unpublished raw data

Associated Datasets:

- NA

People & Projects

Dataset Authors:

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Principal Investigator:

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Additional Principal Investigators:

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Primary Point of Contact:

- Bassett, Rachel, rachel.bassett@noaa.gov, US DOC; NOAA; NCCOS through CSS, Inc. and MDBC HAE

Collaborators:

- Peter Etnoyer, US DOC; NOAA; NCCOS and MDBC CPT

Partners:

- Deepwater Horizon Natural Resource Damage Assessment, MDBC Coral Propagation Technique Development (CPT) Project

Extents

Start Date: 2020-12-23

End Date: 2020-12-25

Northern Boundary: 28.4622

Southern Boundary: 27.5540

Western Boundary: -92.6623

Eastern Boundary: -91.5410

Keywords

Mandatory keywords for all MDBC archival packages:

- MDBC (GCMD and NODC Project Keyword)
- NRDA
- DWH
- OOTIG

Additional keywords

- Mesophotic
- Diversity
- Abundance
- Coral
- Sponge
- Oil platform
- Artificial substrate
- Oculina sp.
- Ellisella sp.
- Demospongiae
- Stichopathes sp.
- Antipathes sp.

ISO 19115 Topic Category

- Biota

Sea Areas, Water Bodies, Marine Protected Areas:

- Northeast Gulf of Mexico

NOAA Ships, Other Ships, Platforms:

- *HOS Bayou*

NCCOS Keywords: (see [Appendix](#) for NCCOS Keywords)

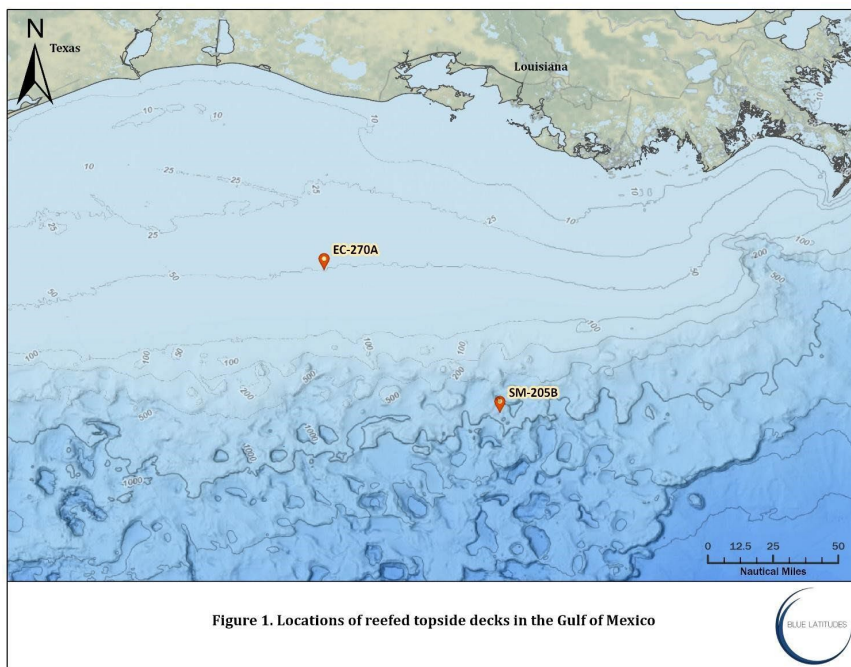
- NCCOS Research Priority > Marine Spatial Ecology
- NCCOS Research Topic > Ecological and Biogeographic Assessments
- NCCOS Research Location > Region > Gulf of Mexico
- NCCOS Research Location > U.S. States and Territories > Louisiana
- NCCOS Research Data Type > Field Observations

Data File Format(s):

- Standard spreadsheet formats:
 - XLSX
- 20220630_DSCRTP_Submission_SM205B_BlueLatitudes.xlsx
- 20220630_DSCRTP_Submission_EC270A_BlueLatitudes.xlsx

Documentation Files:

- BrowseGraphic.JPG: Browse_Graphic_map_Blue_Latitude_sites



- DataDocumentation.PDF: Oil Rig and Platform Reefing Gulf of Mexico from 2020-12-23 to 2020-12-25.pdf

Data Dictionary [copy/paste/fill out this table for each data file]

- The Data Dictionary for the files
“20220630_DSC RTP_Submission_SM205B_BlueLatitudes.xlsx” and
“20220630_DSC RTP_Submission_EC270A_BlueLatitudes.xlsx” can be found within the
files themselves under the “Data Dictionary” tab.

Parameter Information

List of major parameters included in this accession:

- Coral species present
- Sponge species present
- Habitat
- Depth
- Condition

Parameter Description:

Parameter: Coral species present

Property Type: calculated

Units: count

Observation Category: in situ

Sampling Instrument: ROV

Sampling and Analyzing Method: Still image. Count by individual.

Data Quality Method: NA

Parameter: Sponge species present

Property Type: calculated

Units: count

Observation Category: in situ

Sampling Instrument: ROV

Sampling and Analyzing Method: Still image. Count by individual.

Data Quality Method: NA

Parameter: Habitat

Property Type: observed

Units: NA

Observation Category: in situ

Sampling Instrument: ROV

Sampling and Analyzing Method: Still image. Observed by individual

Data Quality Method: NA

Parameter: Depth

Property Type: reported
Units: meters
Observation Category: in situ
Sampling Instrument: ROV
Sampling and Analyzing Method: derived from ship GPS
Data Quality Method: NA

Parameter: Condition
Property Type: observed
Units: Live, Damaged, Dead
Observation Category: in situ
Sampling Instrument: ROV
Sampling and Analyzing Method: Still image. Observed by individual
Data Quality Method: NA

Document Information

Date: 2022-07-11

Resource Provider: Kirstie Francis

Comment:

This data documentation describes data files archived as a NOAA NCEI data accession, and is intended to provide dataset-level metadata for the purposes of discovery, use, and understanding.

Use Limitation:

NOAA makes no warranty, expressed or implied, regarding these data, nor does the fact of distribution constitute such a warranty. NOAA cannot assume liability for any damages caused by any errors or omissions in these data.

Keyword Appendices

NCCOS Discovery Keywords

[Research Priorities](#)

- Marine Spatial Ecology
- Stressor Impacts and Mitigation
- Coastal Change: Vulnerability, Mitigation, and Restoration
- Social Science

Research Topics

- Ecological and Biogeographic Assessments
- Habitat Mapping
- Regional Ecosystem Science

- Coastal Aquaculture Siting and Sustainability
- Harmful Algal Bloom (HAB) Detection and Forecasting
- Biological Effects of Contaminants and Nutrients
- Vulnerability and Risk Assessment
- Natural and Nature-based Features
- Climate Impacts on Ecosystems
- Restoration
- Ecosystem Services Valuation
- Assessing Human Use

Research Locations

- Regions
 - Atlantic Ocean
 - Bering Sea
 - Caribbean Sea
 - Great Lakes
 - Gulf of Mexico
 - Pacific Ocean
 - International
- U.S. States and Territories

- [list all applicable]

Research Data Types

- Field Observation
- Long-term Monitoring
- Geospatial
- Derived Data Product
- Model
- Field Experiment
- Laboratory Experiment

Assessing Vulnerability and Resilience

Institutions

- US DOC; NOAA; NOS; National Centers for Coastal Ocean Science (NCCOS)
- US DOC; NOAA, NMFS, Southeast Fisheries Science Center (SEFSC)
- US DOC; NOAA, NMFS, Office of Habitat Conservation (OHC)
- US DOC; NOAA; NESDIS; NCEI; Oceanographic and Geophysical Science and Services Division
- US DOI; US Geological Survey (USGS)