

CETACEAN



Credit: NOAA Fisheries/J. Cotton



Credit: NOAA Alaska Fisheries Science Center/Kim Sheldon



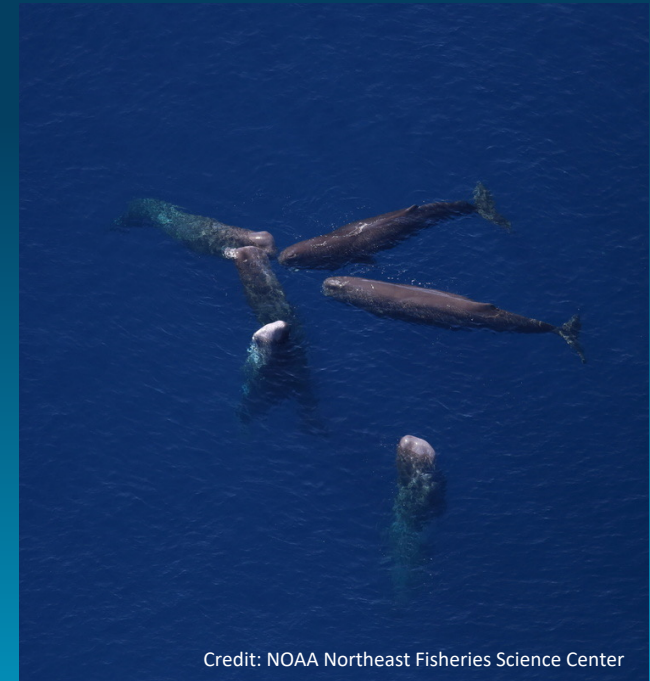
Credit: NOAA Fisheries

CETACEAN

Compilation of Environmental, Threat,
and Animal Data for Cetacean
Population Health Analyses Platform

CETACEAN is a NOAA-led 5-year project funded by the *Deepwater Horizon* (DWH) Open Ocean Trustee Implementation Group to

- Aggregate Gulf of Mexico cetacean data,
- Develop a web-based platform and provide user-friendly access to datasets,
- Provide data visualizations designed to provide insight into the health of cetacean stocks and the stressors that threaten them over time and space.
- Focal species include: Rice's whales, sperm whales, Risso's dolphins, beaked whales, oceanic bottlenose dolphins, and pantropical spotted dolphins



Credit: NOAA Northeast Fisheries Science Center

CETACEAN Project Data Platform Needs Assessment

Goal: Identify and prioritize data needs for intended users (e.g., conservation managers, restoration planners, responders)

- The CETACEAN Executive Committee identified high priority functions in which the CETACEAN platform would increase the efficiency and efficacy of decision-making in Gulf of Mexico cetacean restoration.

Stressor Reduction Planning
Strategic Planning
Understand Restoration Outcomes
Stakeholder Outreach
Designing Effective Threat Reduction
Understanding Animal Movement
Predicting Animal Distributions
Understanding Project Impact on Cetaceans
Stranding Summary Reports
Processing Take reports
Populations
Effect Analysis/ ESA Take Estimates

Stock Assessment
Stranding Response Coordination
Oil Spill Damage Assessment
Research Data Management
Research Planning
Oil Spill Incident Response Decisions
Improve Outcomes for Stranded/ At Risk Marine Mammals
Support extreme weather/disaster response
Gulf of Mexico Sperm Whale decline
Determine Health Trends in Individuals and Specific

CETACEAN Project Data Platform Needs Assessment

Subject Matter Expert Interviews

- Interviews were conducted with SME's with professional experience and responsibilities pertaining to the high priority functions for feedback on key data needs and product requirements for CETACEAN
- Interviewee's provided essential insights about:
 - data requirements for high priority functions included in their primary work
- Current tools and assessment products used in their work
- Pro's and con's of existing data sources
- Features that are lacking in existing data products to support decision making processes

CETACEAN Project Data Platform Needs Assessment

Interview Feedback Analysis

- Categorizing and prioritizing data requirements
- Ranking data categories and types based on necessity to perform multiple high priority functions for CETACEAN restoration
- Necessary data products and desired product features/ analysis
- The interviews provided valuable insight which will be instrumental in guiding data requirements, product design and project next steps

Gulf of Mexico Coastal Ocean Observing System (GCOOS) role in CETACEAN

- Support data acquisition
- Data Standardization
- Hosting data catalog
- Data distribution through ERDDAP and GIS



Credit: NOAA Fisheries

Gulf of Mexico Coastal Ocean Observing System (GCOOS) role in CETACEAN

The initial focus of GCOOS team:

- Identifying CETCEAN data priorities guided by the needs assessment and Project Management Team
- Collecting and analyzing publicly available population and threats data
 - Catalog metadata
 - Understand spatial and temporal characteristics, resolution, and frequency of acquired data



1	E	F	G	H	I	J	K	L	M	N	O
Species/Environmental parameter	Data Type	Data Start Date	Data End Date	Description	Time Scale	Continuous monitoring?	Spatial Scale	Area	Source	Access Ty	
2	Beaked whales	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2018	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
3	Rice whales	TIF	2023	2023	proposed critical habitat of Rice's whales, polygon from 100m-400m isobath contours	static	No		GOM shelf	NOAA	OPen Acce
4	Rice whales	SHP	2015	2015	The Cetacean Density and Distribution Mapping Working Group identified Biologically In	static	No		US EEZ	NOAA one stop	Open Acce
5	Rice whales	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2020	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
6	Risso's dolphins	CSV/SHP	1992	2005	Observations of catch data from US commercial fishing and processing vessels.	some points hav	No	GPS points	GOM and east coa	OBIS Seamap	Open Acce
7	Risso's dolphins	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2022	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
8	Sperm whales	SHP	2011	2013	Fast loc GPS data on 18 Sperm whales in GOM	continuous	No	GPS points	GOM	Movebank	Open Acce
9	sperm whales		2012	2014	Large vessel surveys were conducted during the summers of 2012 and 2014 in the southeastern Gulf of Mexico north of the Dry Tortugas. Data were collected on the ab						
10	Sperm whales	CSV/GDB	2002	2006	S-tag tracks of 51 sperm whales in the gulf of mexico, data collected during SWSS studi	continuous	No	GPS points	GOM	OBIS Seamap	Open Acce
11	Sperm whales	CSV/SHP	2000	2000	Gulf of Mexico Sperm Whale Survey was conducted by NOAA Southeast Fisheries Science Center in Jur		No	GPS points	Northern GOM	OBIS Seamap	Open Acce
12	Sperm whale density estimates	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2021	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
13	Stenella- spinner	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
14	Stenella- striped	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
15	Stenella- striped	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
16	Stenella- Shelf Atlantic spotted	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
17	Stenella- Oceanic Atlantic Spotted	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
18	Stenella- Pantropical spotted	CSV/SHP	1992	2005	Observations of catch data from US commercial fishing and processing vessels.	some points hav	No	GPS points	GOM and east coa	OBIS Seamap	Open Acce
19	Stenella- Atlantic Spotted	CSV	2017	2017	marine mammal sighting data from GOMAPPS survey T1	continuous	No	GPS points	GOM Shelf	NOAA-SEFSC	Open Acce
20	Stenella- Atlantic Spotted	CSV	2017	2017	marine mammal sighting data from GOMAPPS survey T2	continuous	No	GPS points	GOM Shelf	NOAA-SEFSC	Open Acce
21	Stenella- Atlantic Spotted	CSV	2018	2018	marine mammal sighting data from GOMAPPS survey T1	continuous	No	GPS points	GOM Shelf	NOAA-SEFSC	Open Acce
22	Stenella- Atlantic Spotted	CSV	2018	2018	marine mammal sighting data from GOMAPPS survey T2	continuous	No	GPS points	GOM Shelf	NOAA-SEFSC	Open Acce
23	Stenella- Atlantic Spotted	CSV/SHP	2011	2012	two aerial marine species monitoring survey events occurred during 19 through 22 October 2011 and	No		GPS points	Naval Surface War	OBIS Seamap	Open Acce
24	Stenella- Atlantic Spotted	CSV/SHP	2013	2013	Aerial surveys for marine-species monitoring occurred during 28 through 31 July 2013	continuous	No	GPS points	Naval Surface War	OBIS Seamap	Open Acce
25	Stenella- Atlantic Spotted	CSV/SHP	2011	2012	Three aerial marine-species monitoring surveys for an AN/AQS-20 sonar research, deve daily	No		GPS points	Naval Surface War	OBIS Seamap	Open Acce
26	Stenella- Atlantic Spotted	CSV/SHP	2011	2011	Vessel-based marine species monitoring occurred during 5 through 10 December 2011 i Airborne Mine Neutralization System (AMNS) live-inert explosives research, developme and evaluation (RDT&E) event	continuous	No	GPS points	Naval Surface War	OBIS Seamap	Open Acce
27	Stenella-Atlantic	CSV/SHP	2013	2013	Aerial surveys for marine-species monitoring occurred during 22 through 28 June 2013	continuous	No	GPS points	Naval Surface War	OBIS Seamap	Open Acce
28	Stenella- Atlantic Spotted	CSV/SHP	2011	2011	presence of marine mammals during Airborne Mine Neutralization System (AMNS) live-i and evaluation (RDT&E) event	continuous	No	GPS points	Naval Surface War	OBIS Seamap	Open Acce
29	Stenella- Pantropical Spotted	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
30	Tursiops- Oceanic	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
31	Tursiops- Shelf	TIF	2022	2022	Monthly density estimates based on GOMAPPS surveys from 2011-2019	Monthly	No	40km2	GOM Shelf-open	OBIS Seamap	Open Acce
32	Tursiops	CSV	2017	2017	marine mammal sighting data from GOMAPPS survey T1	continuous	No	GPS points	GOM Shelf	NOAA-SEFSC	Open Acce

Initial building of CETACEAN data platform:

- GCOOS will coordinate with the Atlantic Oceanographic and Meteorological Laboratory (AOML) Team and the NOAA Project Management Team
- GCOOS will develop databases that the AOML Team will use to create analytical products
- GCOOS will make tabular data available through ERDDAP and geodata available through GIS Hub.

Next Steps:

Build One of CETACEAN data platform:

Catalog key datasets and provide visualization tools to allow for comparison and analysis of priority open-ocean species against significant stressors across space and time in the Gulf of Mexico

Visual tools will be simple, user-friendly applications based on reliable and current data available to all managers for restoration of cetaceans in the Gulf of Mexico.

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Keith Mullin, SEFSC Marine Mammal Branch

Mary Wunderlich, SERO *Section 7 Coordinator, Southeast Regional Office*

Mike Tucker, SERO Endangered Species Branch

Jenny Litz, SEFSC Marine Mammal Branch

Laura Engleby, SERO Marine Mammal Branch Chief

Teri Rowles, OPR MMSTCD

Elizabeth Fetherston, NOAA SERO Marine Mammal Branch

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Thank You!
grant.craig@gcoos.org



CETACEAN

Grant Craig¹, Jorge Brenner¹,
Megan Howson¹, Felimon Gayanilo²,
Thomas Dolan³, Elizabeth Fetherston⁴

1. Gulf of Mexico Coastal Ocean Observing System, Department of Oceanography, Texas A&M University, College Station, Texas, 2. Texas A&M University-Corpus Christi, Corpus Christi, TX, 3. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Habitat Conservation, Restoration Center, Deepwater Horizon Program, St. Petersburg, FL., 4. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Office of Protected Resources, Marine Mammal Branch, St. Petersburg, FL.

