NOAA *Okeanos Explorer* Program
ROV Dive Planning Form

Please use this as a template for documenting your recommendations for high-priority dive targets. Be sure to include a rationale for the dive as well as specific protocols (if applicable), and any known previous work or potential hazards at the site. Please include only generalized location information for any marine archaeology sites.

The form also includes fields for mapping targets and CTD cast locations.

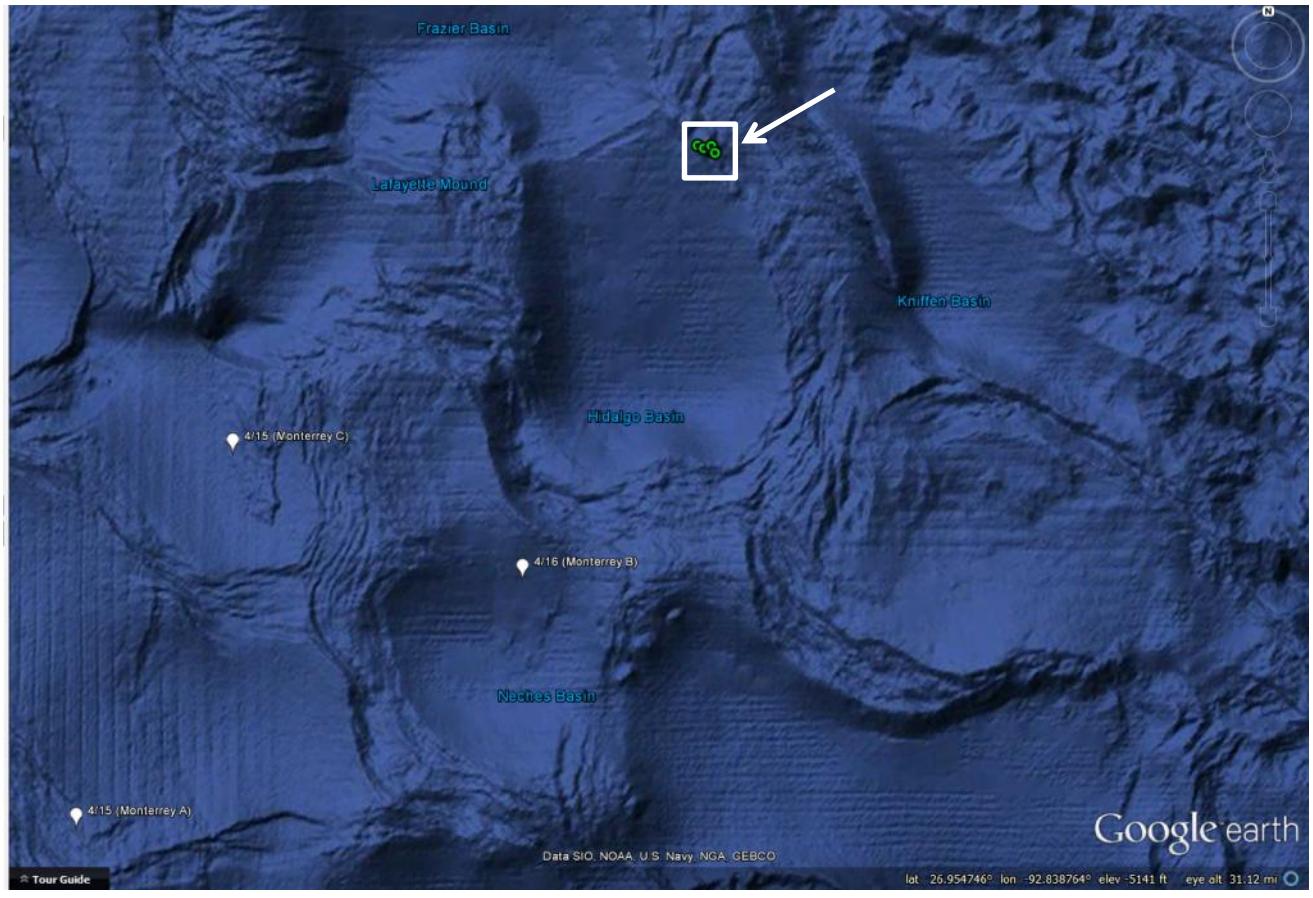
Please send the completed form to Kelley.Elliott@noaa.gov and Jamie Austin (Jamie@utig.ig.utexas.edu)

Site Name: Northwest Gulf Mid Depth (version 2)

Approximate Location: 27.07912, -92.81182, 1170 m

Dive Date (local): DATE (2014/04/14) (Planned)

Site map:
Map 1: Google Earth overview map of area showing target waypoints (green dots indicated by white arrow) in relation to geographic features in the region and to other planned dives sites in region (i.e., the three Monterrey dives indicated by pushpins in southwest corner). Subsequent maps show detail of the area indicated by the white box.



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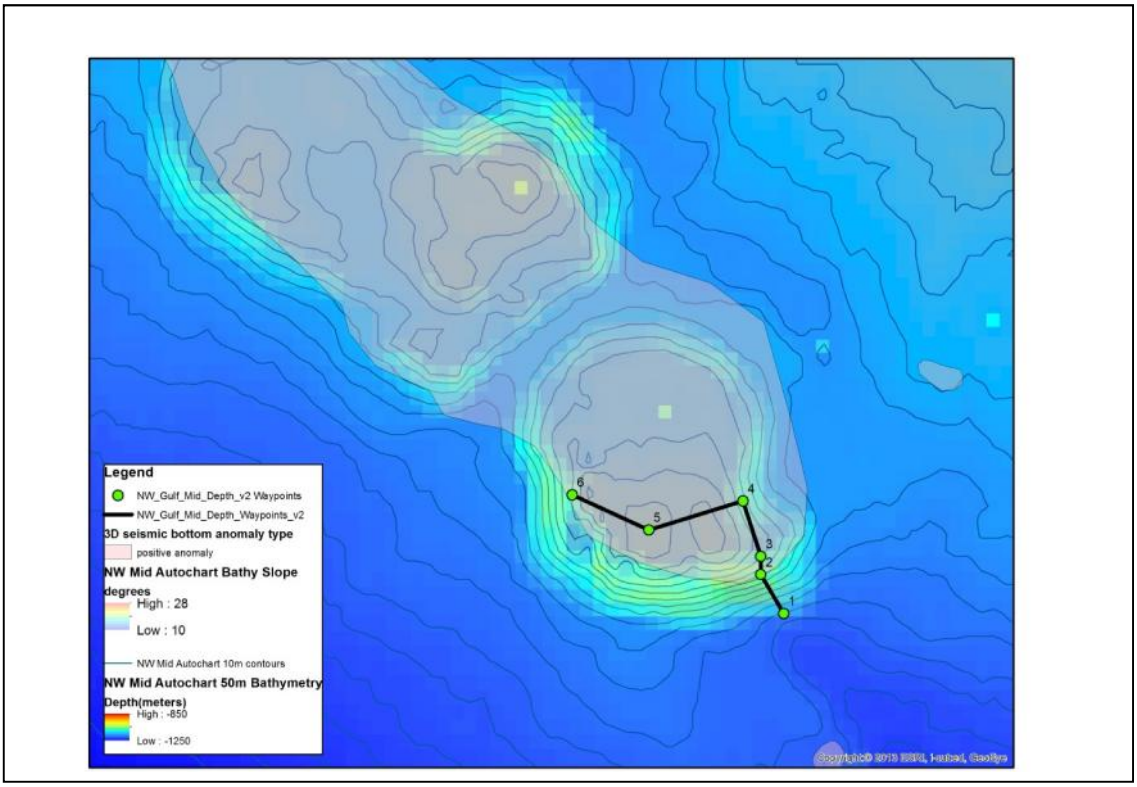
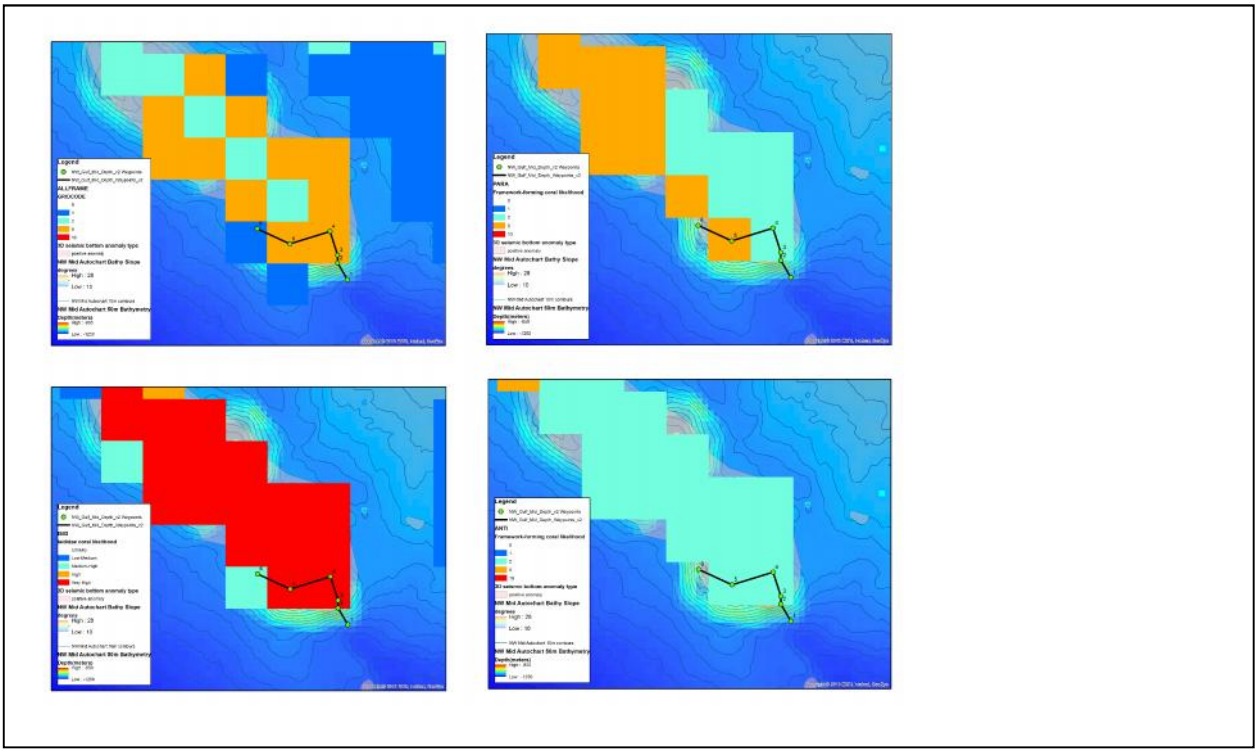
Map 2: Requested dive track (black line & numbered green dots), overlaid on map of 50m bathymetry (NGDC archive-Autochart), 10m depth contours, slope, and BOEM 3D seismic bottom anomalies.



Map 3: clockwise from top left: model predictions for "All Framework Forming Corals", Paramuriceidae, Isididae, and Antipatharia based on the NCCOS model for the Northwestern Gulf



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Brief Explanation of Exploration Objectives and Rationale for the Desired Dive Track:
Exploration objectives are 1) to explore this mid-depth (~1050-1150m) knoll feature for framework-forming deep corals, 2) to photo-document the abundance and condition of deep-sea corals, 3) to verify predictive habitat suitability models for framework-forming corals, and specifically to groundtruth the version of the NCCOS model created for the Northwestern Gulf sub-region utilizing the BOEM seismic anomaly data as a predictor for the taxonomic groups shown in map 3. This general area was chosen because it is relatively far from previous dives and in a less-explored depth range, and also because it would be useful to validate the model in a place where the predicted coral habitat likelihood ranges from medium-low to high. This target also provides an opportunity to validate a relatively large unconfirmed positive seismic anomaly, and to explore the edges of the feature.

Protocols for this dive are to drive the ROV low along the seafloor with lasers in view. ROV should proceed at slow to moderate speed in order to document coral and sponge occurrence and identify to lowest possible taxonomic level, while also covering as much linear distance along seafloor as possible in the dive to maximize utility for model validation. Special attention is to be paid to habitat-forming deep sea corals and sponges. Corals and sponges should be assessed visually for health and condition, colony size, and fish and associated invertebrate species.

The dive will start at the deepest waypoint on the southeast corner of the feature and proceed upslope, exploring the eastern edge of the feature before transecting the feature from east to west, then conclude by exploring the western edge of the feature. This track has been chosen to maximize coverage of model pixels, edges of the seismic anomaly, and different parts of the feature (steep edges, relatively flat top).

Has previous work been conducted here? Are there potential hazards in the area?
This location has not previously been explored. It lies in a relatively unexplored region, >40km from the nearest previous OER-sponsored dive, and in a poorly-explored depth range. Lots of effort has been devoted to much shallower depths in the FGBNMS upslope from this area (approximately 150km to the northwest of this target), but this area and depth range is unexplored. No known hazards, but higher quality multibeam bathymetry should be acquired before dive.

ROV Track Waypoints Table:

DESIRED WAYPOINTS TO EXPLORE - (COMPLETED BY SHORE-SIDE SCIENTIST) (not including launch)				*ACTUAL WAYPOINTS TO EXPLORE- (COMPLETED BY SHIPBOARD EXPEDITION LEADER)*			
WAYPOINT NAME/SEQUENCE	**LATITUDE**	**LONGITUDE**	**APPROX DEPTH(m)**	**WAYPOINT NAME/SEQUENCE**	**LATITUDE**	**LONGITUDE**	**APPROX DEPTH**
Launch				Launch			
WP1	27.07911674	-92.81182023	-1170	WP1			
WP2	27.08044485	-92.81269516	-1108	WP2			
WP3	27.0810682	-92.81270023	-1090	WP3			
WP4	27.0829607	-92.81339015	-1086	WP4			
WP5	27.08197605	-92.81700822	-1056	WP5			
WP6	27.08317894	-92.81995243	-1080				
Recovery				Recovery			

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ANCILLARY INFORMATION:
Attachments:
nwmidbathutm.asc ASCII Grid (WGS84 UTM15N projection) of 50m NGDC Autochart bathymetry

MAPPING AND CTD OPERATIONS REQUEST / RECOMMENDED OPERATIONS IN THE TARGET AREA PRIOR TO OR AFTER ROV DIVE

Please include requests for in situ sensors (LSS, DO, ORP) to be added to the CTD cast here, and specifics on the type of mapping operation requested (multibeam, subbottom, single beam).

Dive was planned using 50m multibeam bathymetry extracted from NGDC archive using Autochart. Although it appears to be of reasonably good quality, acquisition of better multibeam at least over the immediate vicinity of the requested dive track is recommended prior to the dive. Opportunistic mapping of the features in the vicinity of the dive track would be helpful for interpretation and future work, if time allows.

No CTD casts required as long as CTD on vehicle is operational (w/DO sensor).

Consult geology/geophysical team members re: interest in sub-bottom profiling

	LATITUDE	LONGITUDE	APPROX DEPTH
CTD CASTS			
1			
2			
3			
4			