



# NOAA *Okeanos Explorer* Program

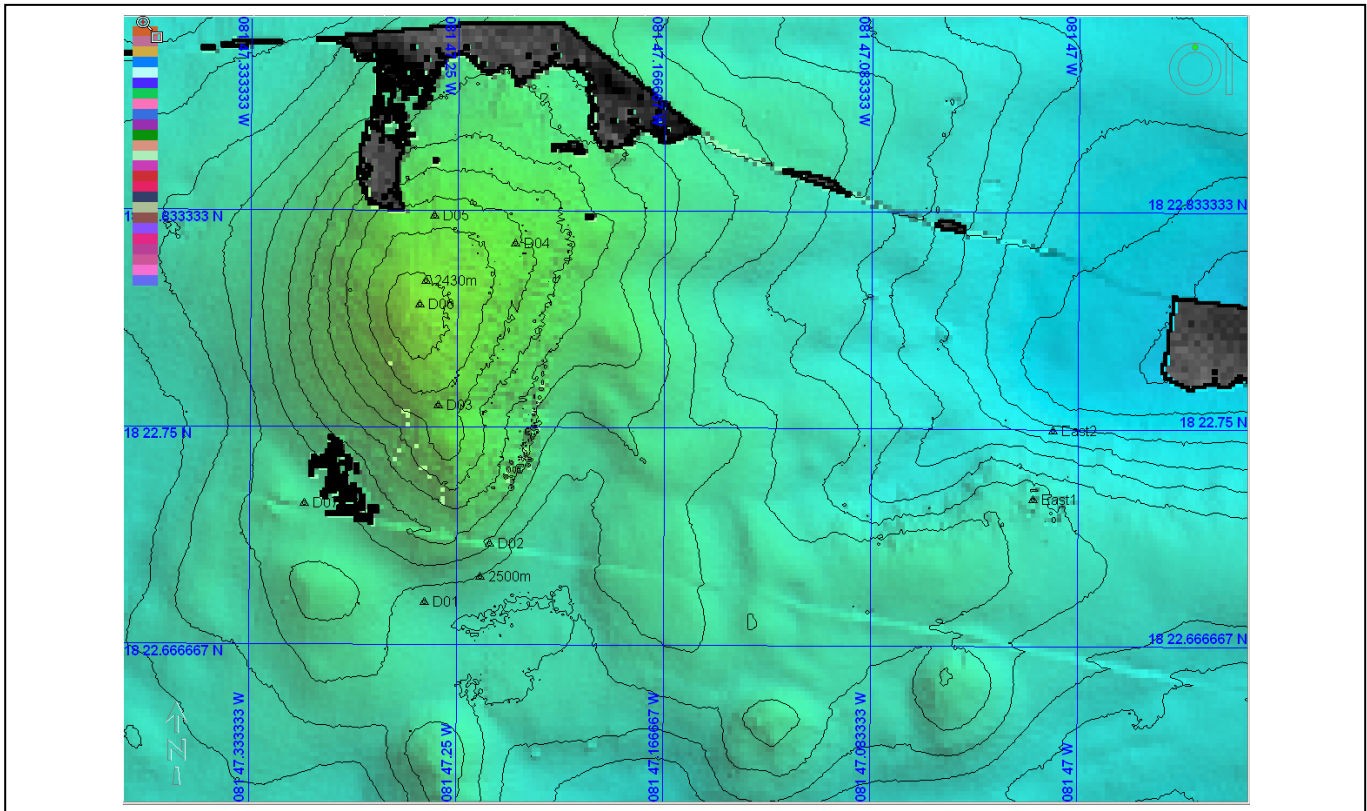
## ROV Dive Planning Form

Science Team develops draft dive track two days before a planned dive. Expedition Leader responds overnight based on ship capabilities, programmatic considerations, and constraints. Plan is finalized the day before a dive

**Site Name:** Mount Doom

**Approximate Location:** 18° 22.683' N, 81° 47.263' W

**Dive Date (local):** August 14, 2011





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## ROV Dive Planning Form

### Brief Explanation of Exploration Objectives and Rational for the Desired Dive Track:

#### Science Rationale:

Our first priority will be to dive on a target - Mt Doom - that we have selected based on high resolution bathymetry and backscatter data acquired by the UK's AUTOSUB 6000 AUV. From these data we have identified that Mt Doom is similar in size and shape to the Von Damm cone but has lower backscatter and no co-registered bright backscatter. From these data we can predict the site to be an extinct version of Von Damm but it may well both contain massive sulfide deposits and we wish to know if it will also continue to sustain chemosynthetic ecosystems or will be uninhabited. Our second priority will be to transect from this site to the most SE corner of the Von Damm area and continue a transect uphill over an area of bright backscatter that has not yet been investigated, approx 100m x 100m (i.e. comparable in size to the Von Damm central cone) to see whether that, too is hydrothermally active and/or sustains hydrothermal life.

#### Operations Response/Rationale:

The ship plans to launch the ROV at approximately 0800. The time from the start of launch to the start of the dive on the seafloor at waypoint D01 (2500m) is approximately 2 hours 15 minutes. The approximate time to go from waypoint D01 to D07 (580m) at an average of 0.1kts is approximately 3 hours. From D07, we will either proceed to two East targets (bluff w/ bright backscatter), or proceed west to good backscatter SE of Von Damm and up to the Von Damm spire – The bottom time for either of these options is 3 hours. The time from the bottom at 2500m to 50m is 1 hours 45 minutes, and the time for ROV recovery is 30 minutes, with the ROV secured on deck at 1830 ship time.

#### ROV Track Waypoints Table:

<i>DESIRED WAYPOINTS TO EXPLORE - (COMPLETED BY SHORE-SIDE LEAD SCIENTIST) (not including launch)</i>				<i>ACTUAL WAYPOINTS TO EXPLORE- (COMPLETED BY SHIPBOARD EXPEDITION LEADER)</i>			
WAYPOINT NAME	LATITUDE	LONGITUDE	APPROX DEPTH	WAYPOINT NAME/SEQUENCE	LATITUDE	LONGITUDE	APPROX DEPTH
Launch				Launch			
D01	18° 22.683'	81° 47.263'	2500m				

#### ANCILLARY INFORMATION:

COMPLETED BY SHORE-SIDE LEAD SCIENTIST

Are there additions operations recommended in the target area prior to the ROV dive?

	LATITUDE	LONGITUDE	APPROX DEPTH
CTD CASTS			

UPDATED: July 14, 2010 1100



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## ROV Dive Planning Form

1	None	None	
2			
3			
4			
<b>MULTIBEAM BOUNDING COORDINATES</b>			
1	None	None	
2			
3			
4			