

# AUV Status

Dana Yoerger



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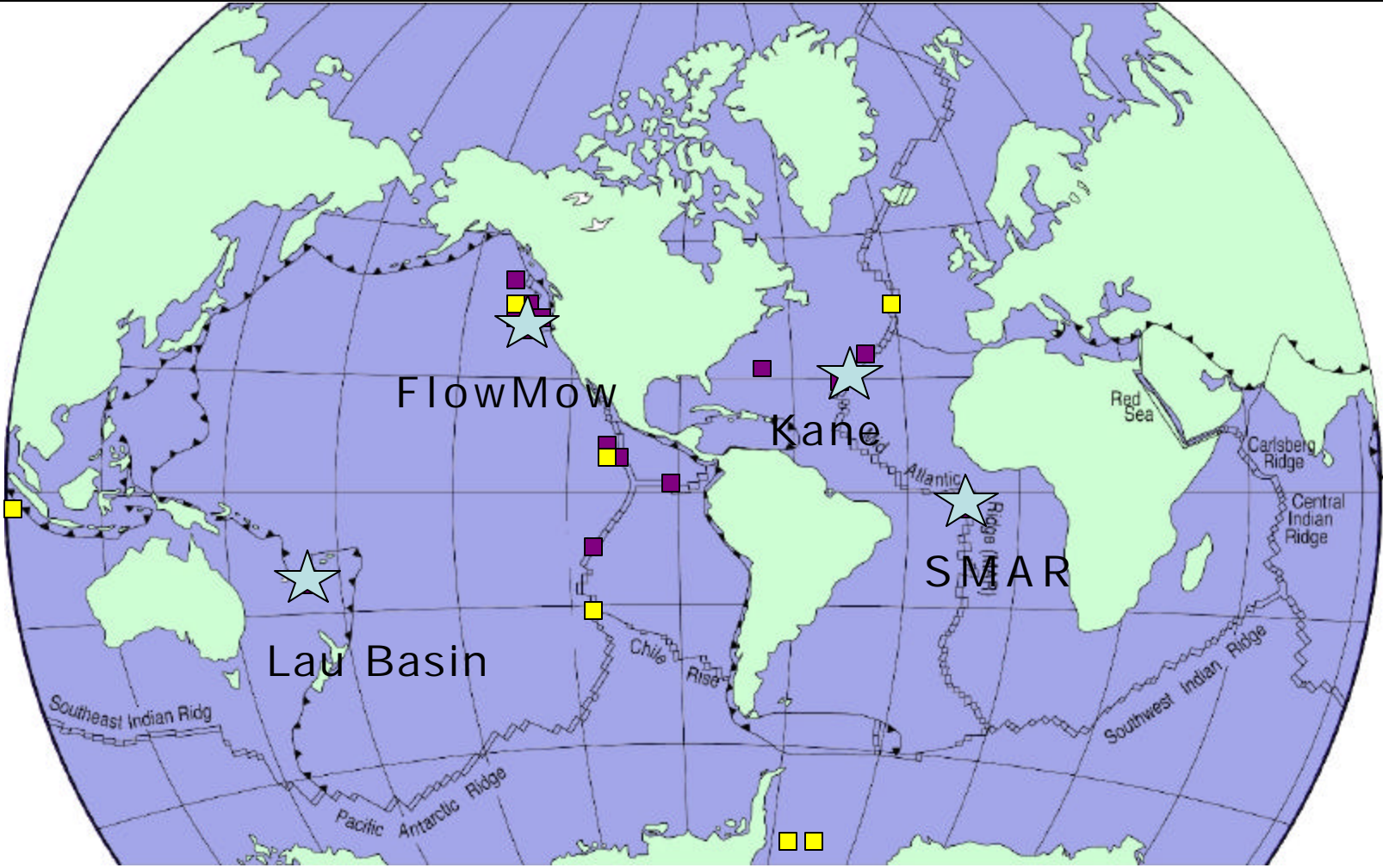
# ABE Operations June 2004 - March 2005

*Dana R. Yoerger*  
*Albert M. Bradley*  
*Mike Jakuba*  
*Rod Catanach*  
*Andy Billings*  
*Barrie Walden*

Dept. of Applied Ocean  
Physics and Engineering



# ABE Cruises (1996-2006)



■ completed

■ proposed



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# ABE Ops June 2004 – March 2006

## SeaBreeze Cruise (June-July 2004)

R. McDuff, F. Stahr, R. Thompson

Vertical heat flux, bathymetry, magnetics, mapping non-buoyant plume layer

## Lau Basin Cruise (Sept-Oct 2004)

C. Langmuir, T. Shank, C. German, D. Fornari

3-Phase vent localization, bathymetry, magnetics, photomosaics

## Kane Fracture Zone (Nov-Dec 2004)

M. Tivey, B. Tucholke, H. Dick

Bathymetry, magnetics, subbottom profiler, *Jason* synergy

## SMAR Cruise (March 2005)

C. German, T. Shank, L. Parsons

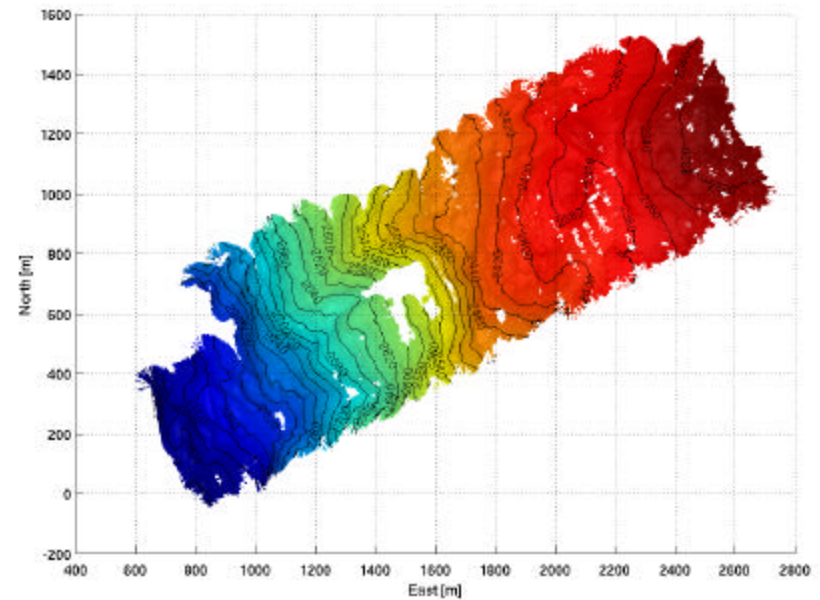
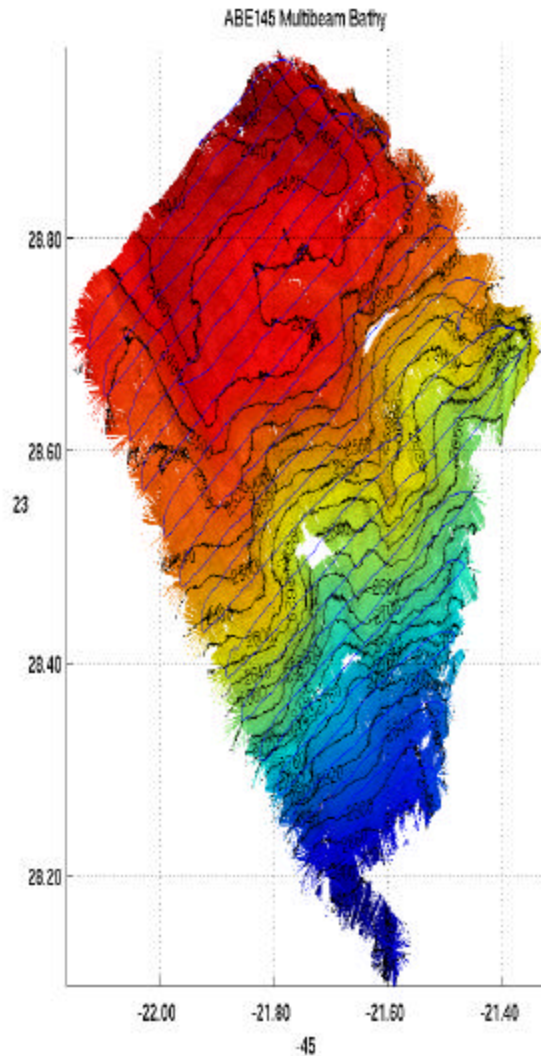
3-Phase vent localization, bathymetry, magnetics, photomosaic



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# Kane Bathymetry



**Multibeam bathymetry  
processed before *Jason2*  
reached the seafloor**

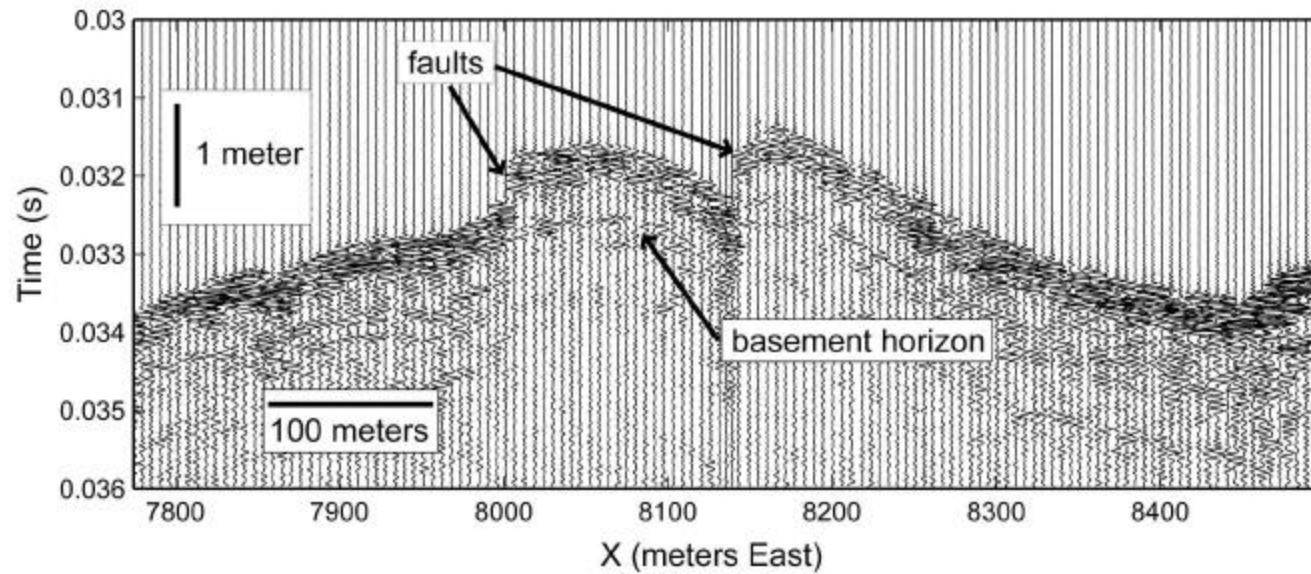


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# Subbottom Profiler Results on ABE from Kane

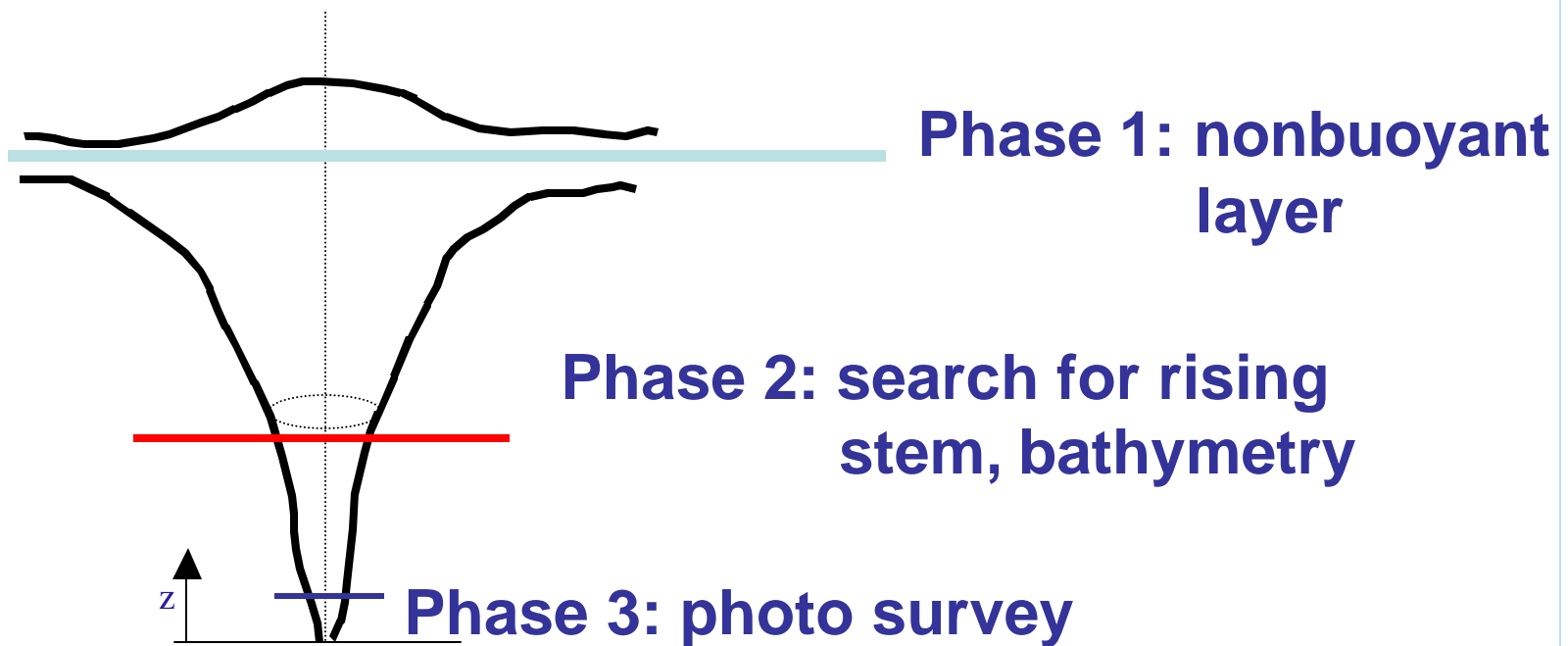
ABE 147 Sweep 6-18 kHz reference depth = 2165m



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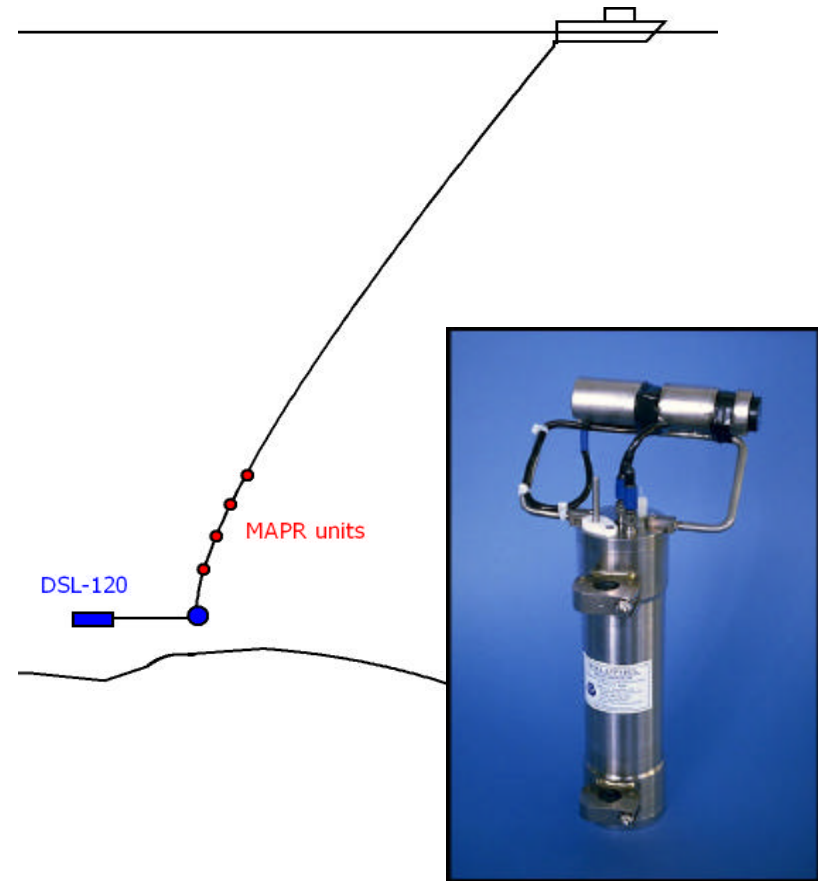
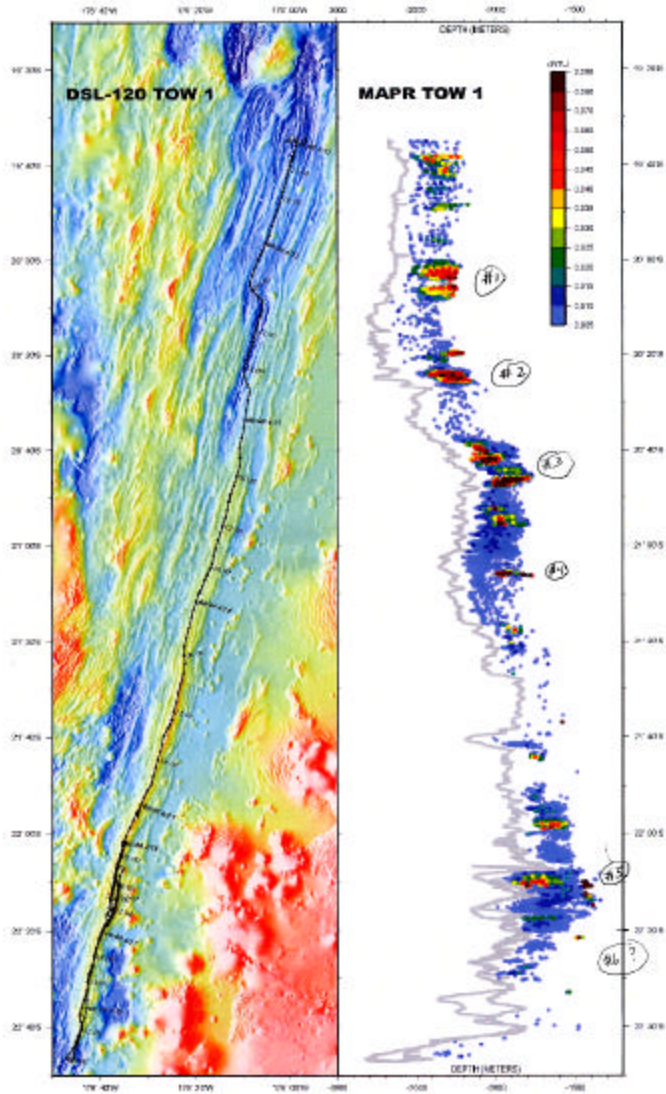
# Locating and Mapping Plume Sites in Three Phases



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# Phase 0: MAPR Units on the Cable While Towing *DSL120* (Martinez 2004)

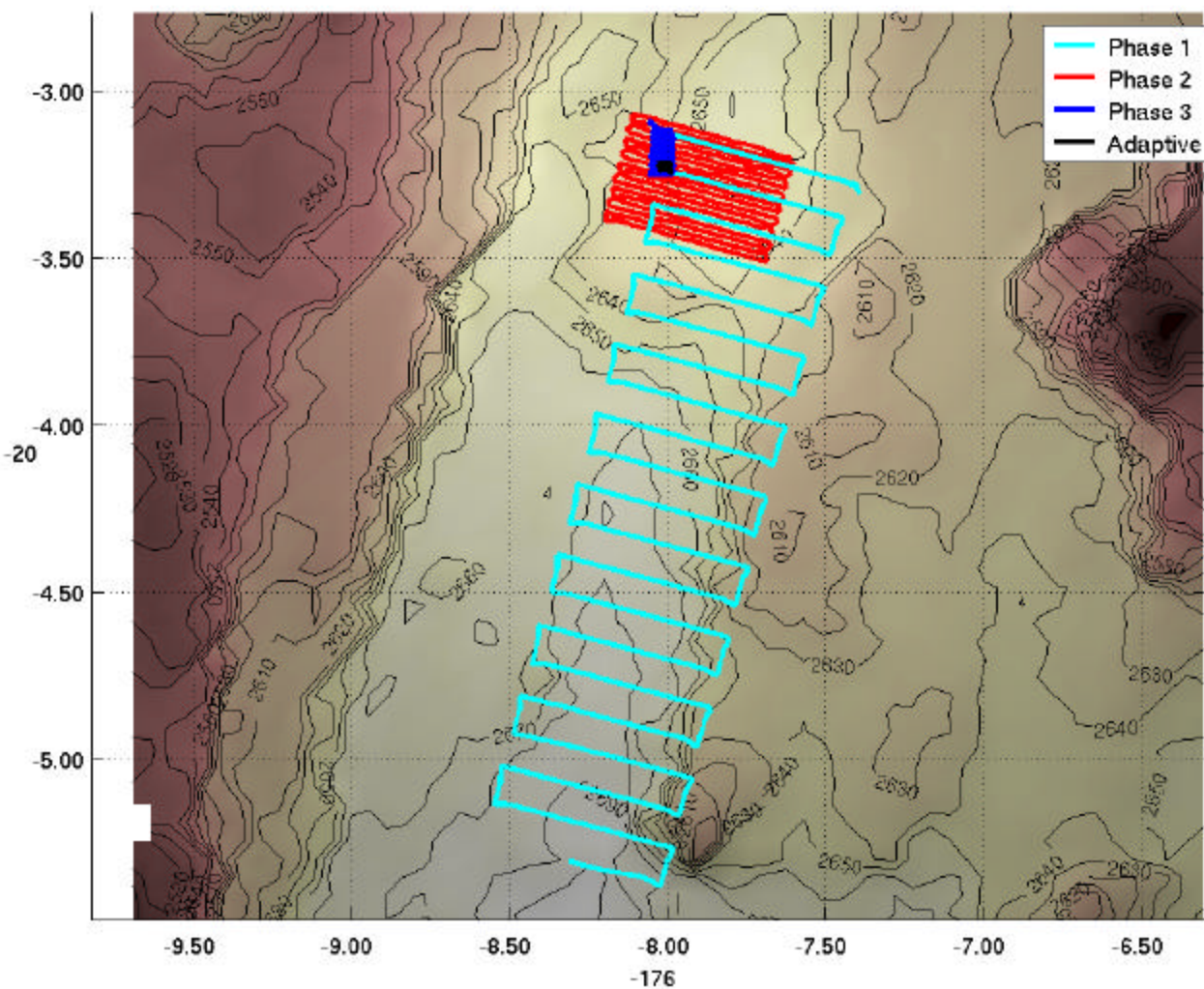


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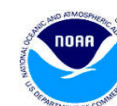




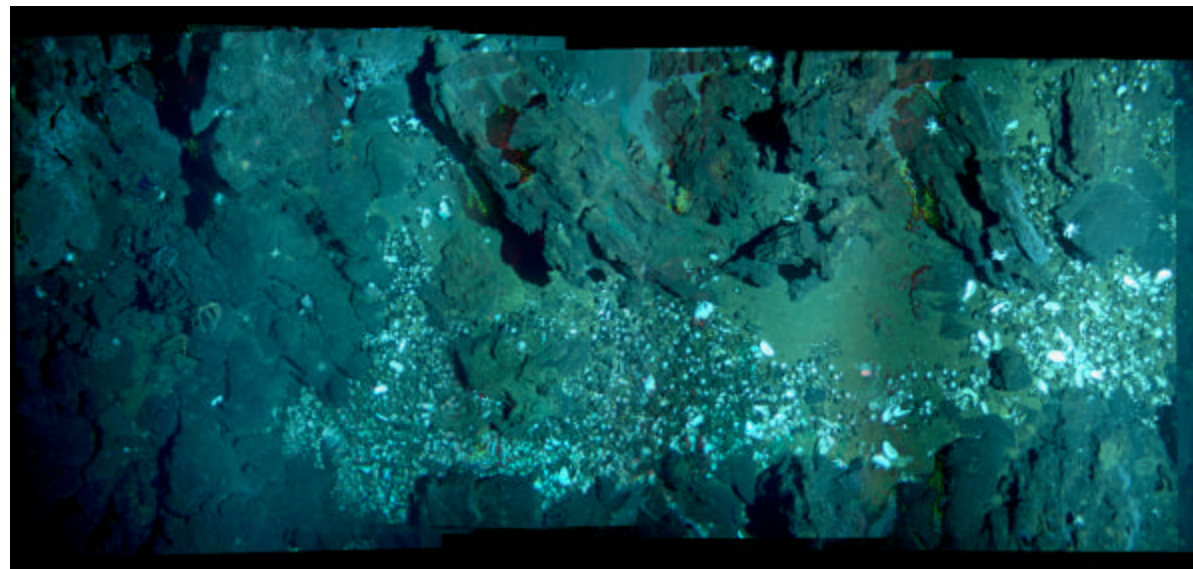
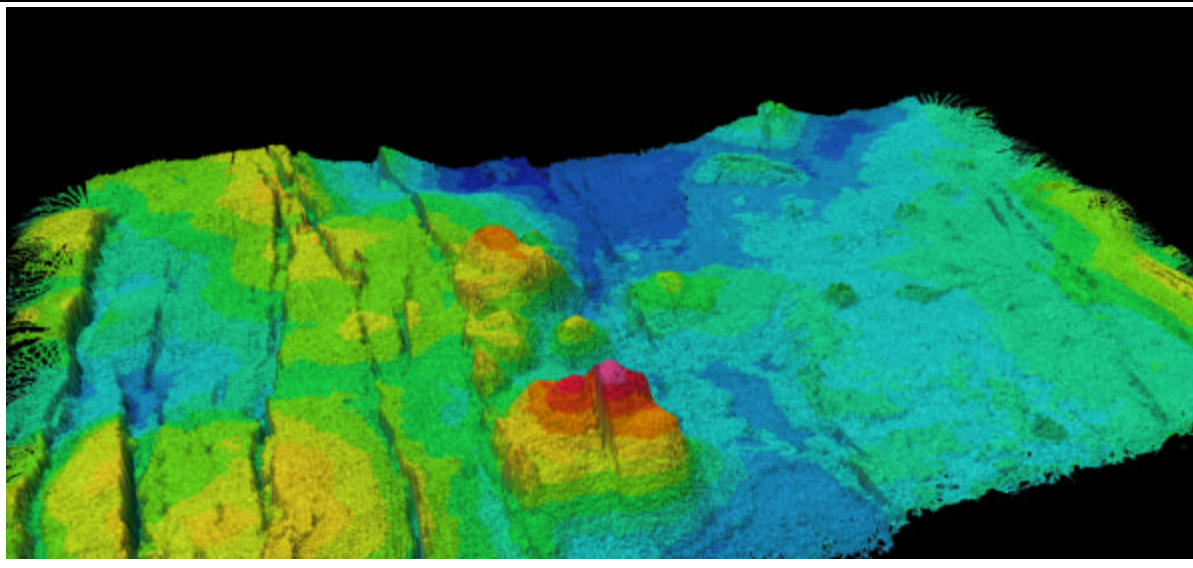
# Lau Site 1: Vent Site Survey Using Three Phase Approach



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# Lau Site 1: Bathymetry and Photomosaic



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# Vent Field Discovery in SMAR: Phase 0

**25 February 2005**

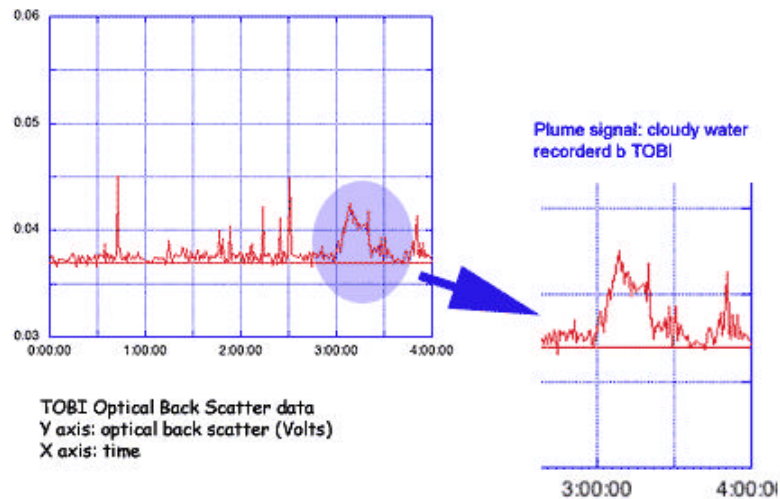
Position: 4° 26 S - 12° 16 W (at 1200 GMT)  
Author: Chris German

## Highlights of the day

### First hydrothermal plume found?

Today we have found what we think are the **first signals** of a hydrothermal vent plume! At 03:00 and for a half an hour, the TOBI CTD recorded 30 minutes of **cloudy water** (as measured in Volts by an optical sensor).

The signal was found just north of a large central volcano filling the ridge axis near 5° S. We'll be hoping to have lots more TOBI work and maybe even some more plume signals to tell you about after the week-end.



## Cruise Diary

	Mo	Tu	We	Th	Fr	Sa	Su
Feb				<a href="#">17</a>	<a href="#">18</a>	<a href="#">19</a>	<a href="#">20</a>
Feb	<a href="#">21</a>	<a href="#">22</a>	<a href="#">23</a>	<a href="#">24</a>	<a href="#">25</a>	<a href="#">26</a>	<a href="#">27</a>
Feb	<a href="#">28</a>						
March	<a href="#">01</a>	<a href="#">02</a>	<a href="#">03</a>	<a href="#">04</a>	<a href="#">05</a>	<a href="#">06</a>	
March	<a href="#">07</a>	<a href="#">08</a>	<a href="#">09</a>	<a href="#">10</a>	<a href="#">11</a>	<a href="#">12</a>	<a href="#">13</a>
March	<a href="#">14</a>	<a href="#">15</a>	<a href="#">16</a>	<a href="#">17</a>	<a href="#">18</a>		



Co-PIs Chris German and Lindsay Parson working on the TOBI data that detected the first plume



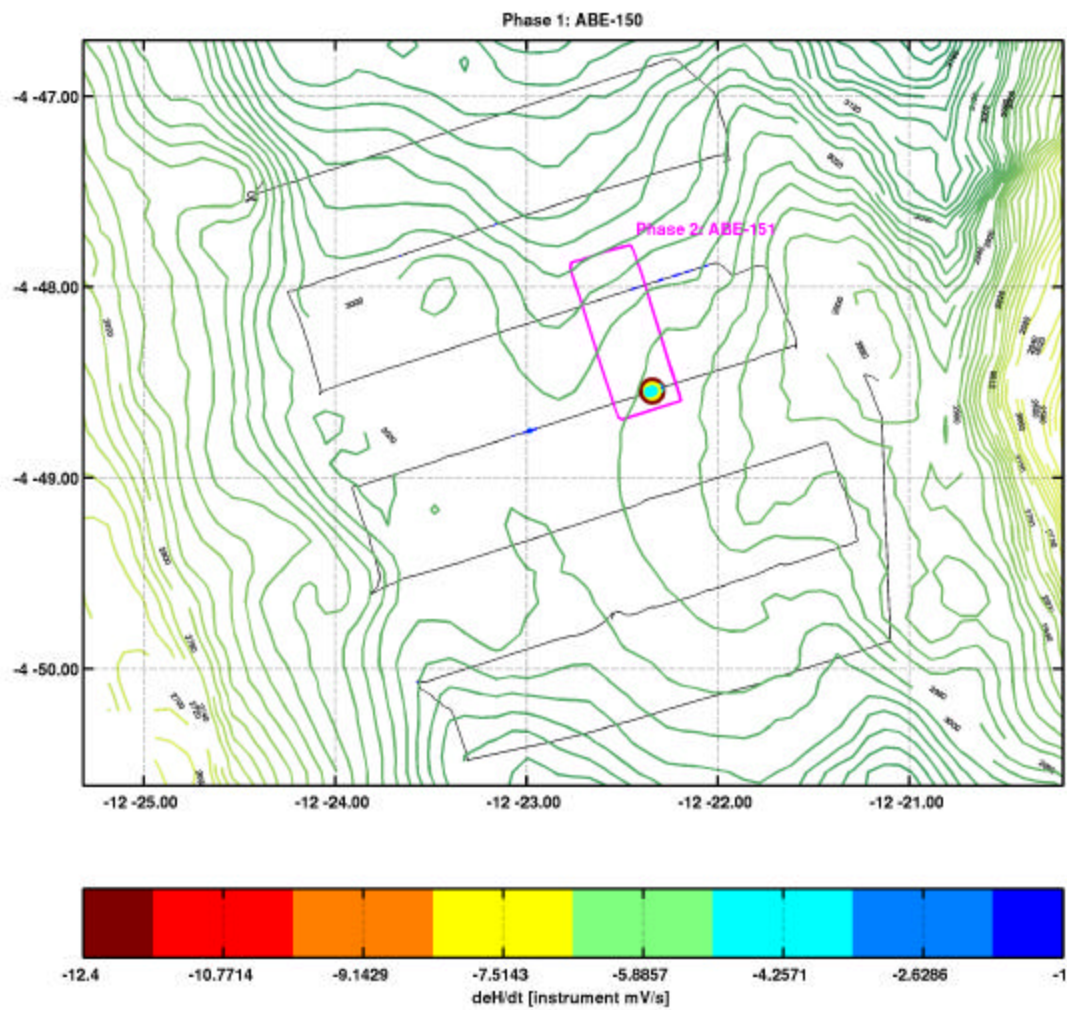
**TOBI**



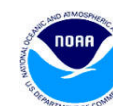
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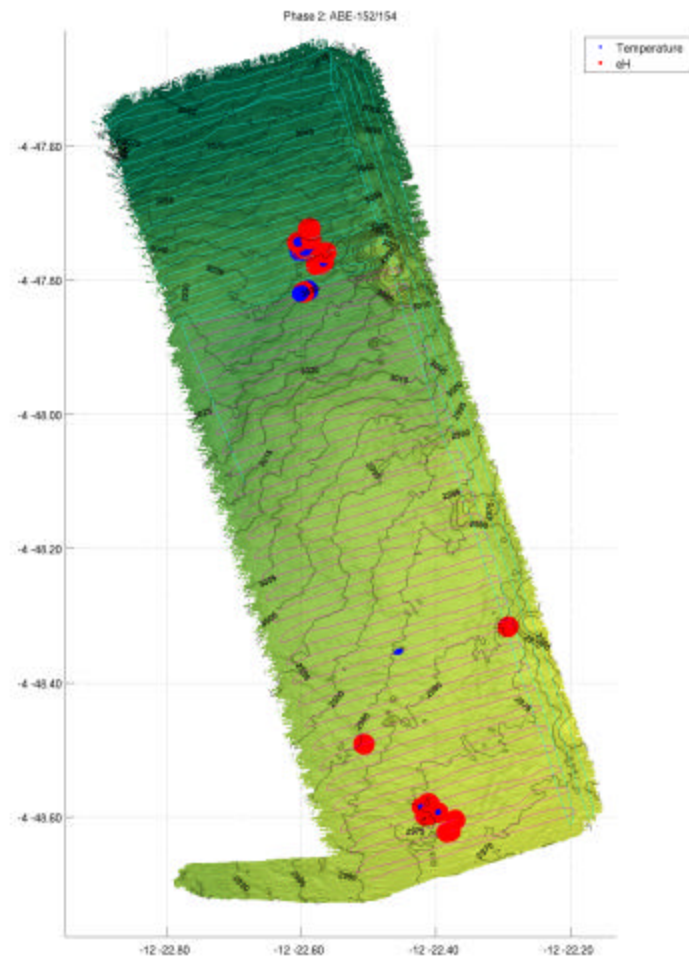
# Phase 1 SMAR



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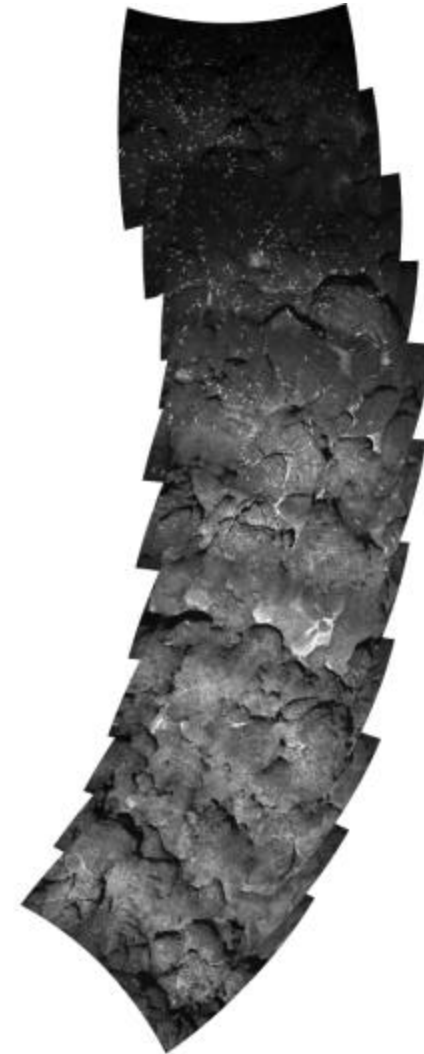
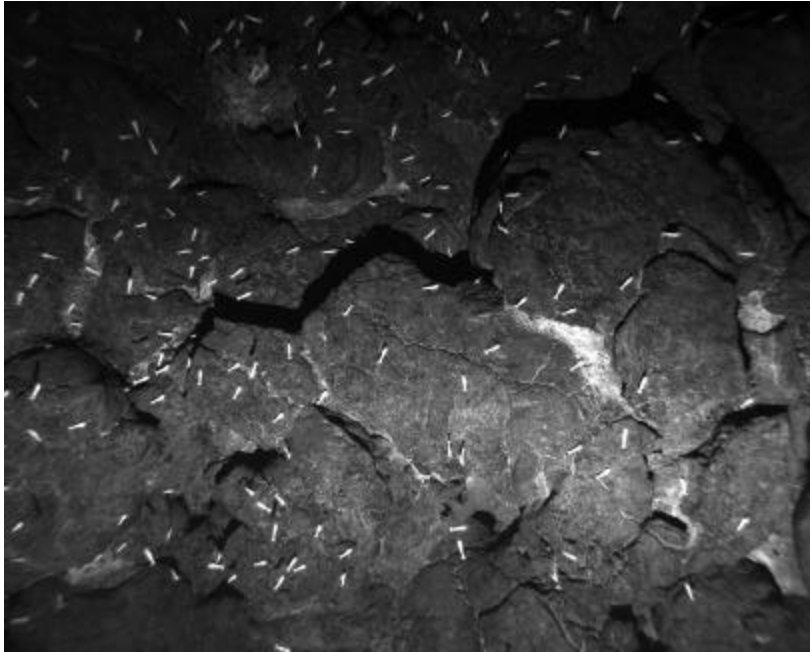
# Phase 2 SMAR



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# Southern Mid Atlantic Ridge Vent Field Discoveries - March 2005

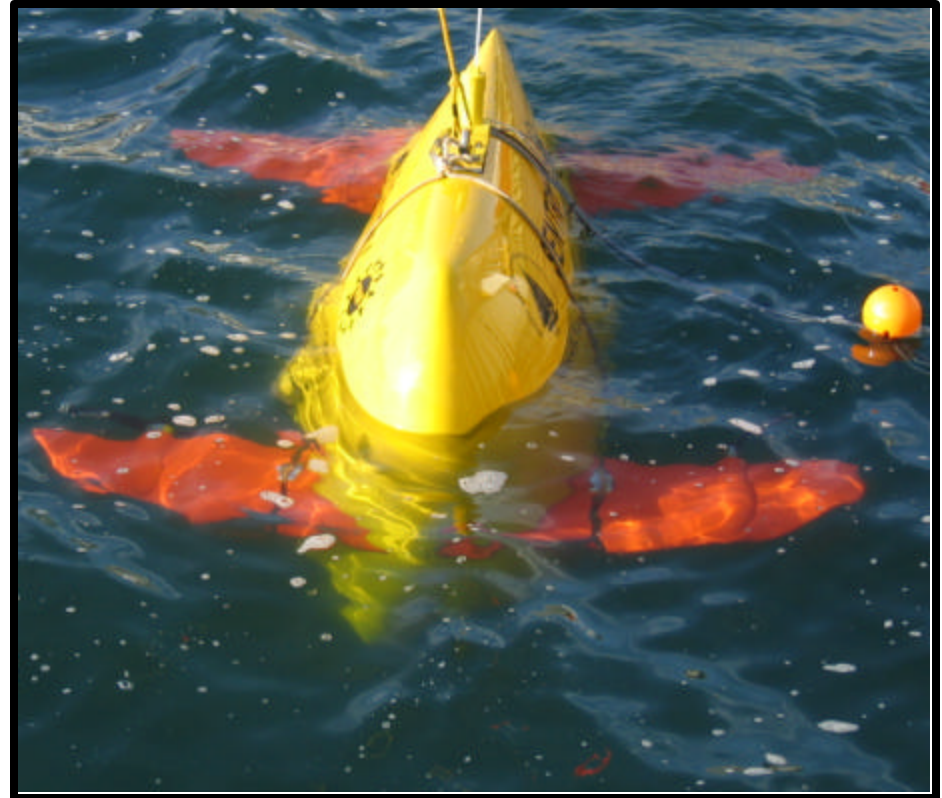
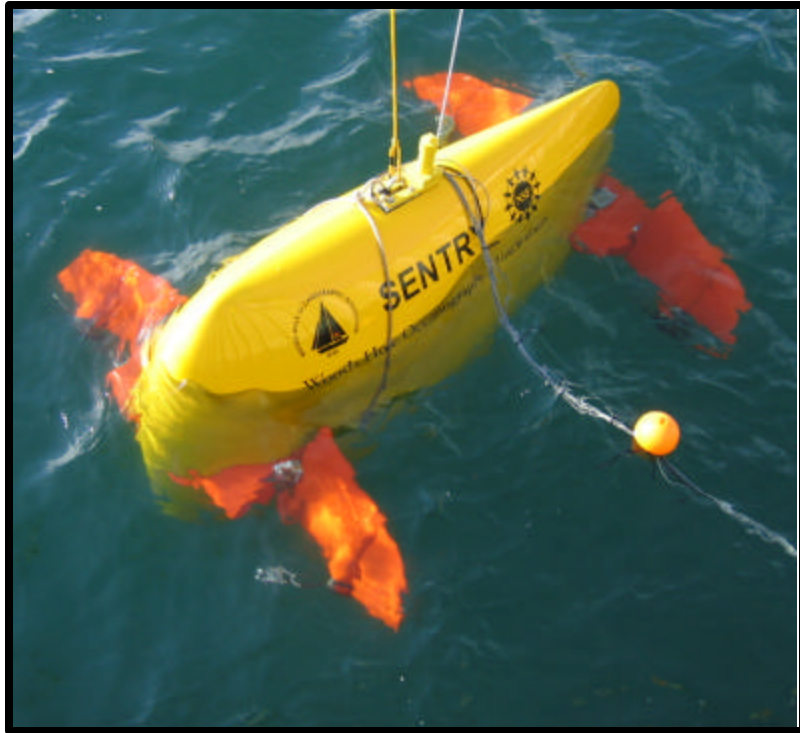


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# Sentry Trials March 2005

## Control System/Dynamic Testing - August 2005



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# Sentry Dock Trial Video



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