



NATIONAL MARINE SANCTUARIES





WWII Offshore: Monitor National Marine Sanctuary's Battle of the Atlantic Expedition

John Wagner
Maritime Archaeologist
Monitor National Marine Sanctuary
April 11, 2013



Our National Marine Sanctuaries



Map Source: NASA

● National Marine Sanctuary

★ Marine National Monument

America's First National Marine Sanctuary: Shipwreck of the USS Monitor

Designation

Whereas Title III of the Marine Protection, Research, and Sanctuaries Act of 1972, Public Law 92-532, authorizes the Secretary of Commerce, with the approval of the President of the United States, to designate Marine Sanctuaries, and, Whereas the wreckage of the U.S.S. Monitor has recently been identified, and,

Whereas it is the consensus of concerned organizations and individuals that the wreckage should be protected for its historic, cultural, and technological values, and,

Whereas the vessel has been placed on the National Register of Historic Places;

I therefore designate the site of the U.S.S. Monitor to be

The Monitor Marine Sanctuary

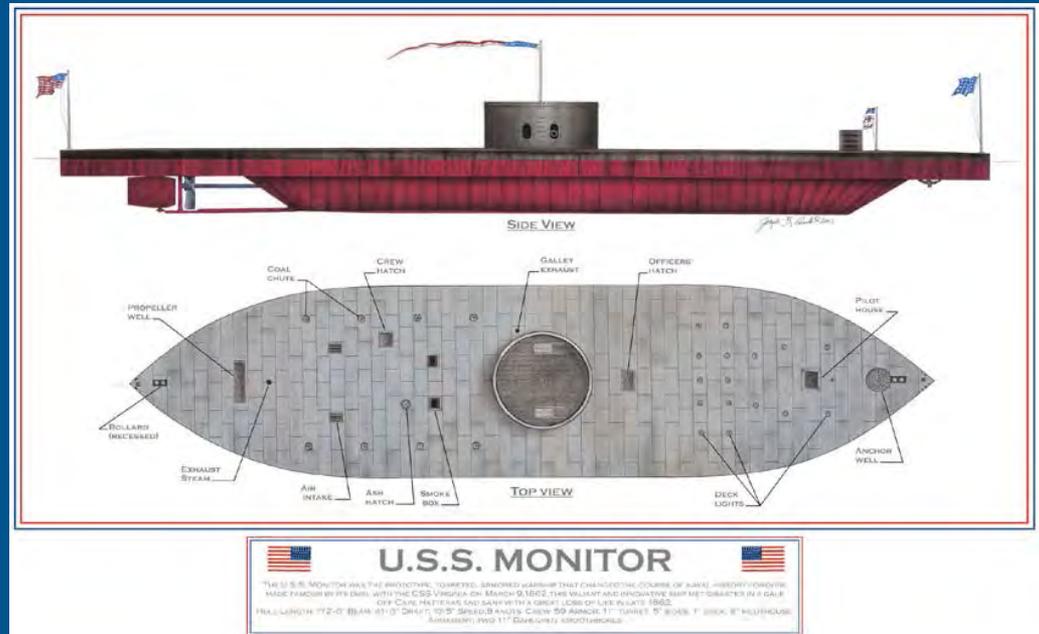
the area of which is to encompass a vertical section of the water column from the surface to the seabed and extending horizontally one mile in diameter from a center point located at 35°00'23" North Latitude and 75°24'32" West Longitude; and hereby affirm that the regulations promulgated according to the aforementioned authority will provide the necessary protection of law to preserve the aesthetic values of this Historic Place.

January 30, 1975
Date



Frederick R. Post

Frederick R. Post
Secretary of Commerce



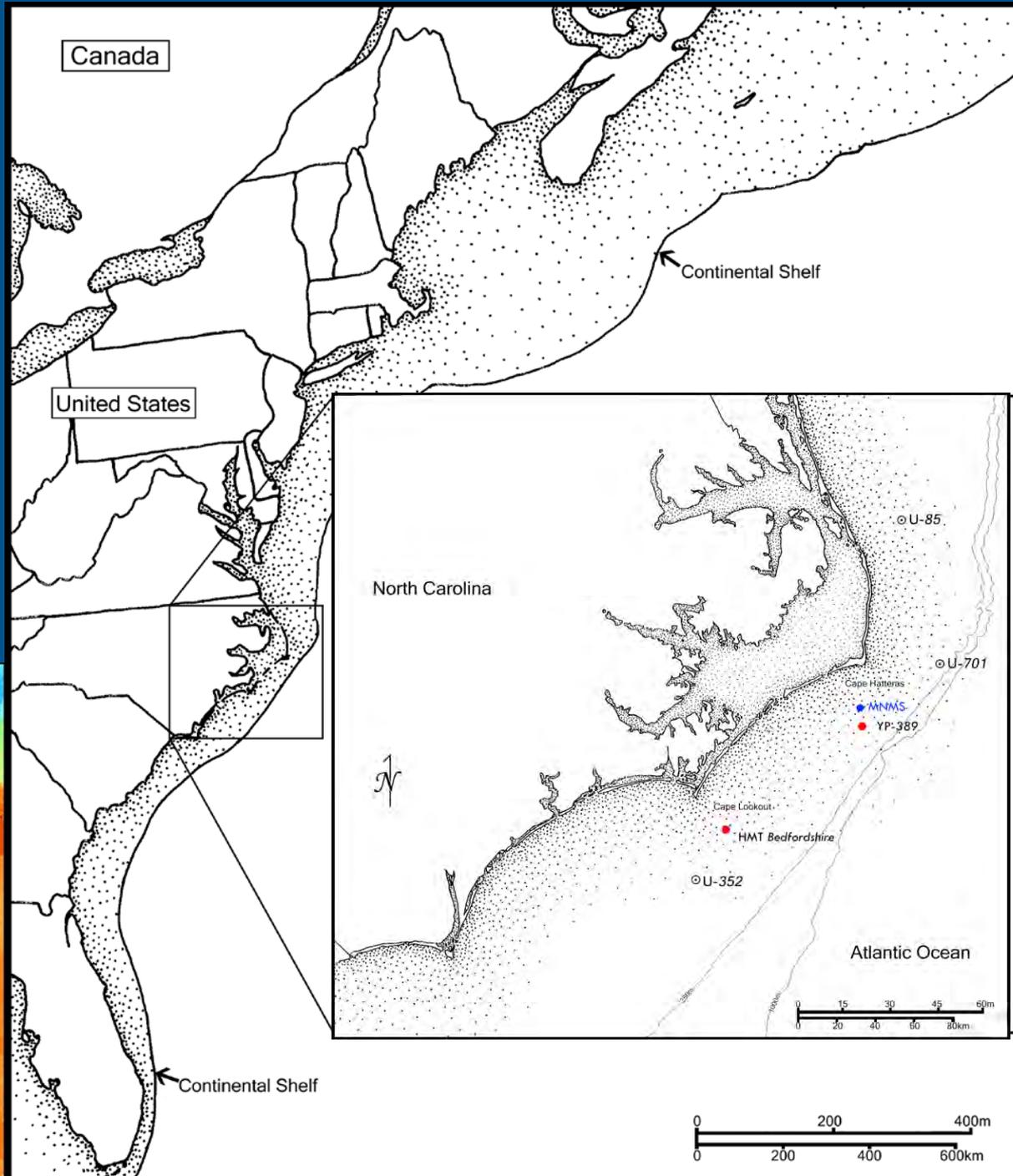
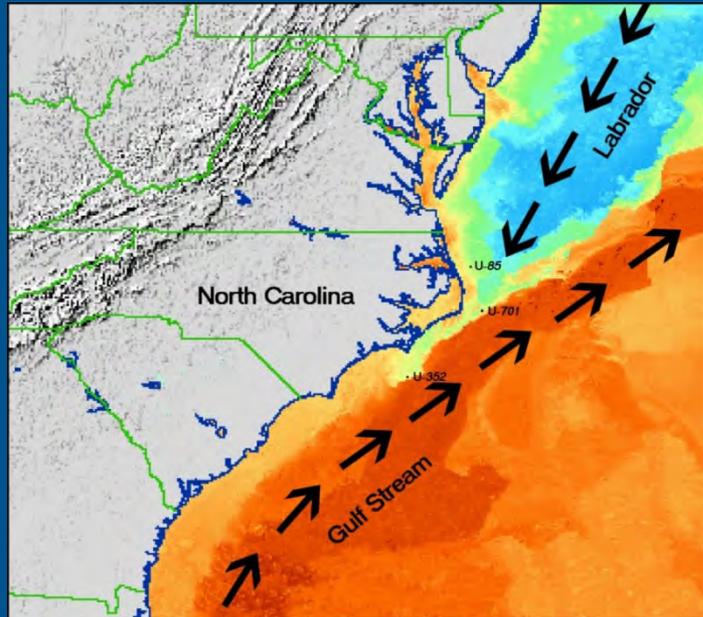
-The *Monitor* National Marine Sanctuary was established by Congress on January 30, 1975, on the 113th Anniversary of the *Monitor*'s launching at Greenpoint, NY.

World War II Naval History

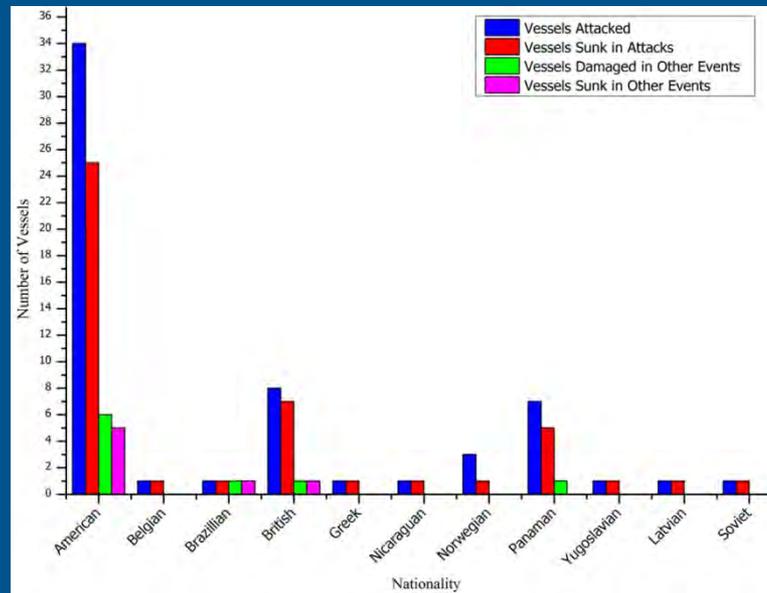
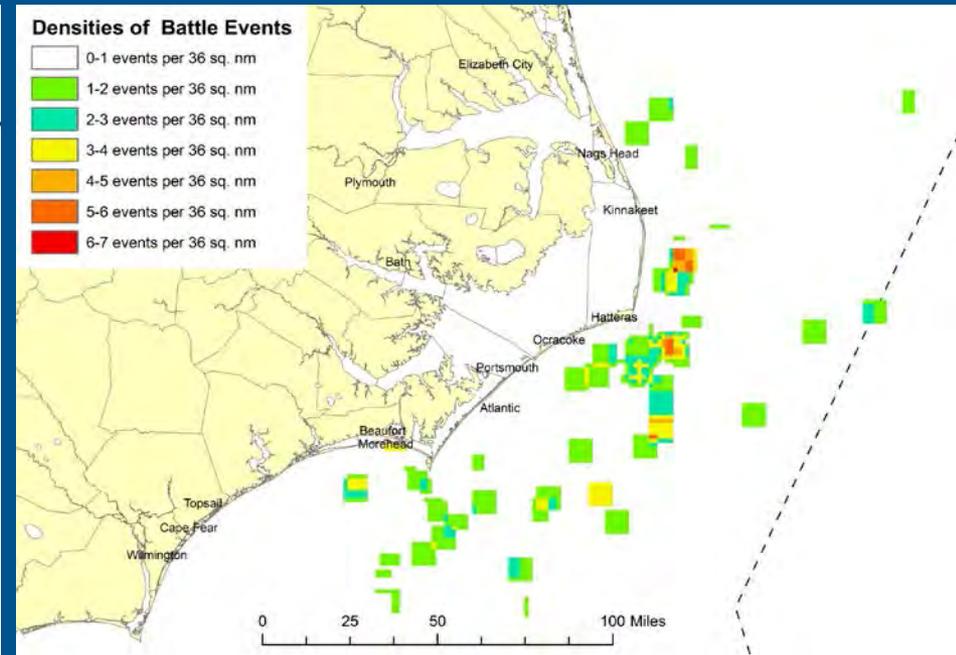
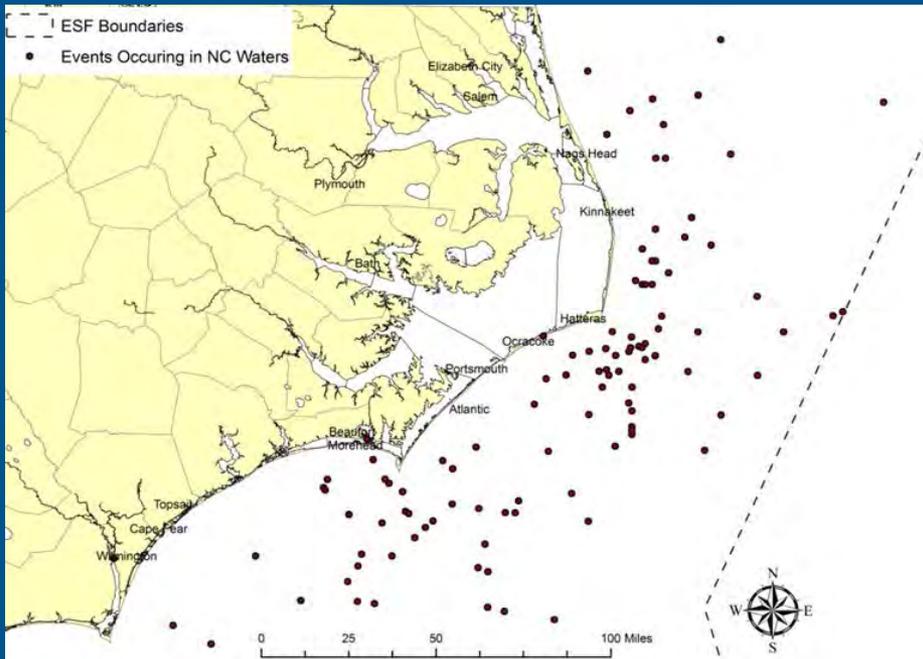


Significance of North Carolina

- Shipping Lanes
- Oceanic Currents
- Continental Shelf
- Water Depth
- Water Temperatures



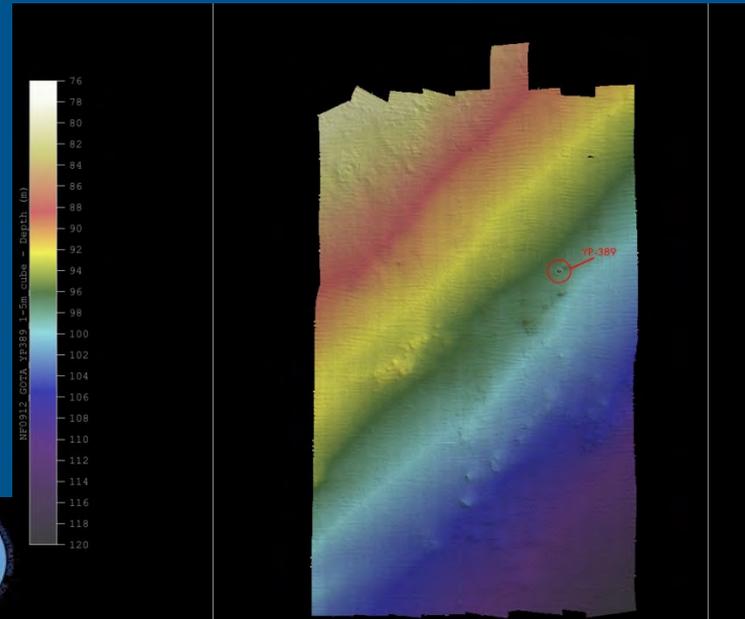
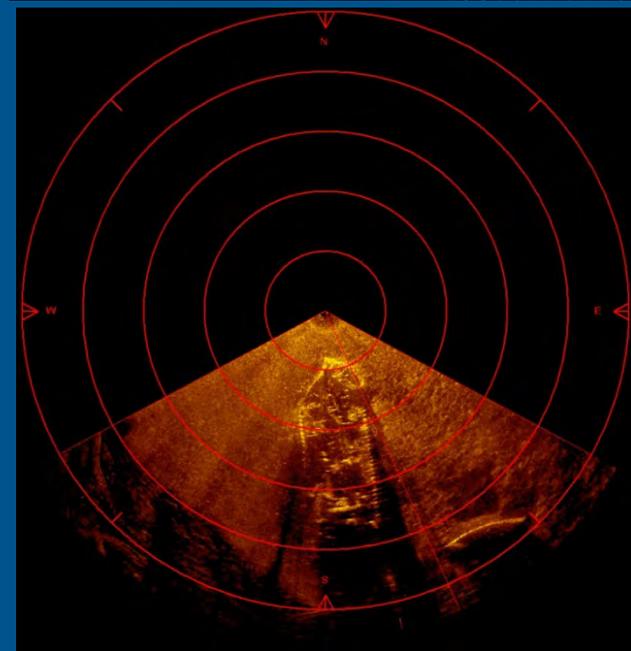
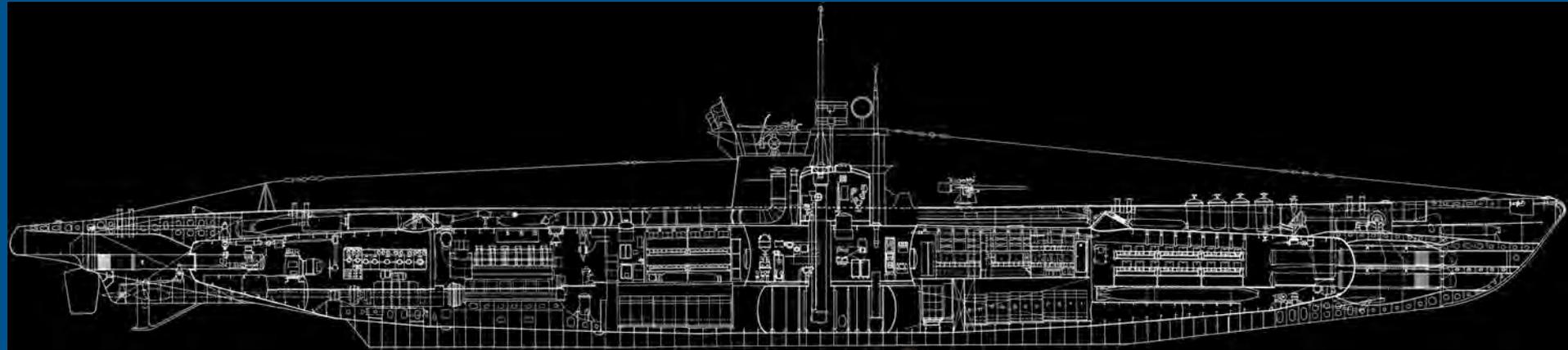
Analysis of Battle-Related Events



Battle of the Atlantic Expedition

Promoting the Protection of Maritime Heritage in North Carolina

2008-2013



Year One: Examining Damages to German U-boats and Developing Baseline Data

Sites Surveyed:

- *U-85*
- *U-352*
- *U-701*

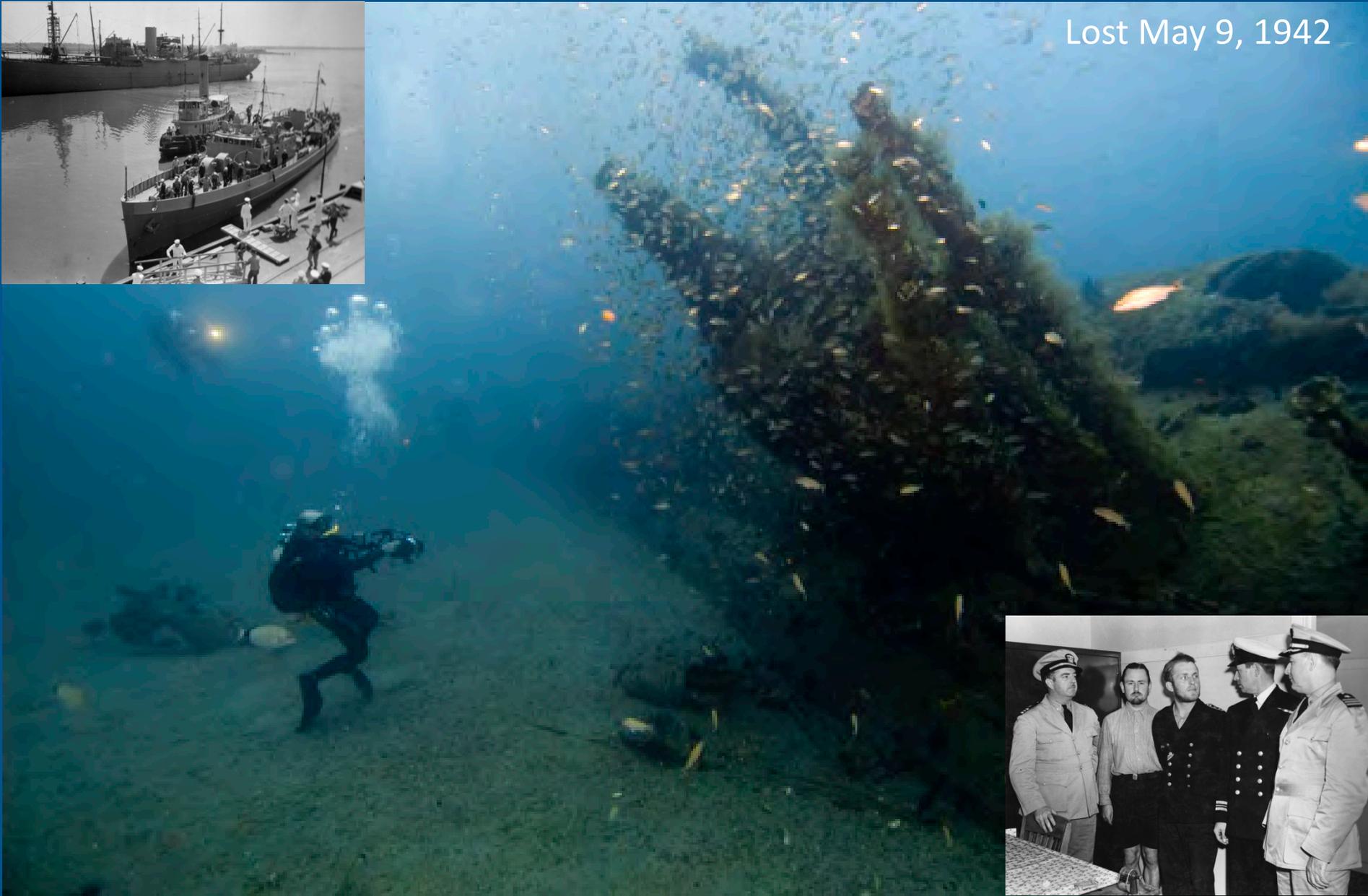
U-85 Shipwreck

Lost April 14, 1942

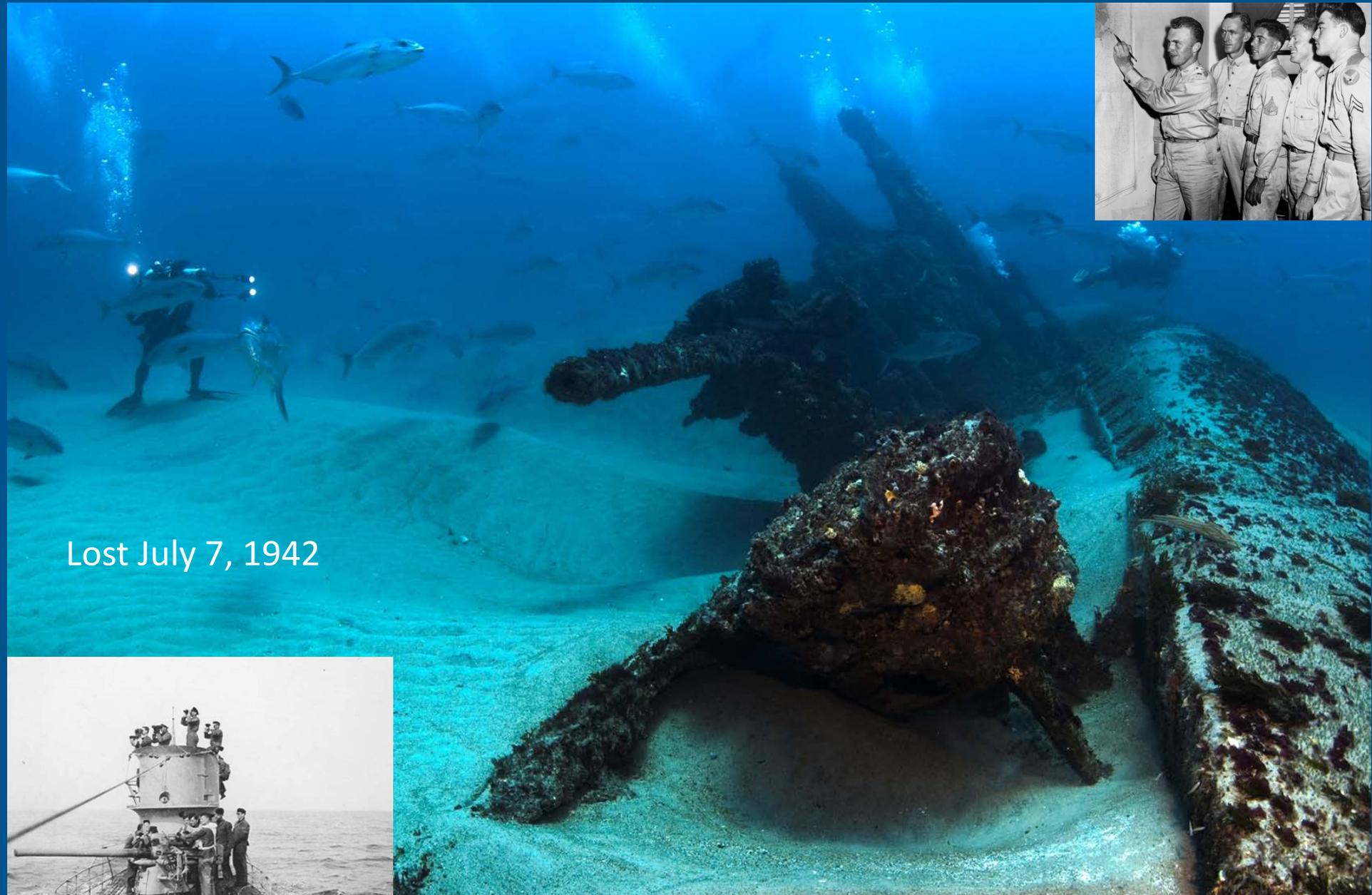


U-352 Shipwreck

Lost May 9, 1942



U-701 Shipwreck



Lost July 7, 1942



Baseline Offset Recording



Survey Products



U-85



U-352

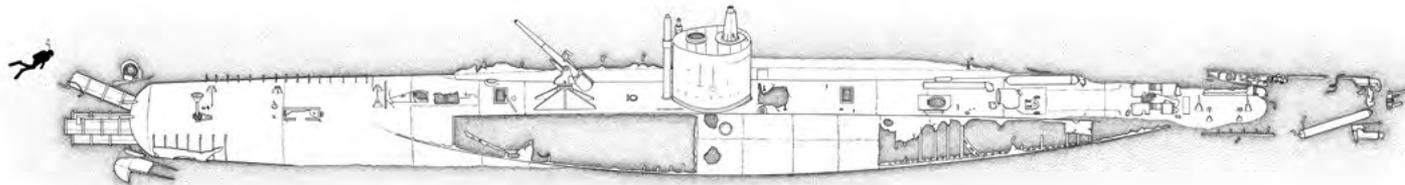
Site Plan Drafting



Site Plans

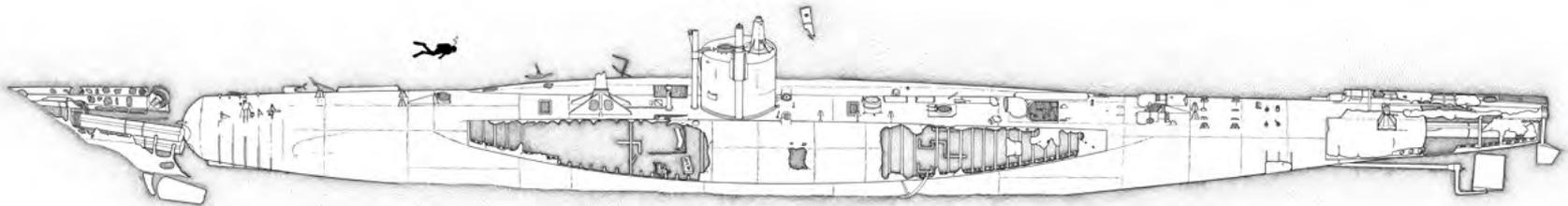
Battle of the Atlantic

2008 Archaeological Survey



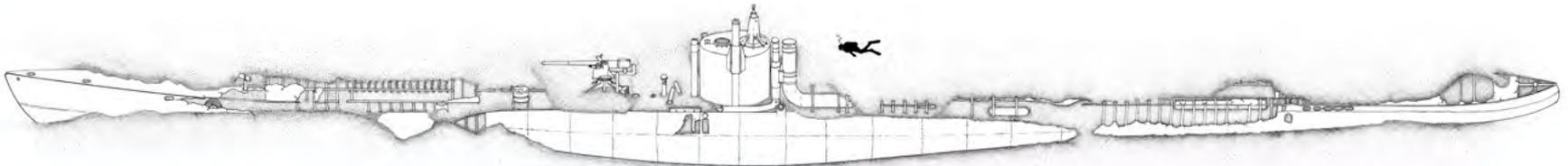
U-85

Type VIII - WWI German U-Boat
Sunk by the U.S. Navy's USS Roper
14 April 1942



U-352

Type VIIC - WWI German U-Boat
Sunk by the U.S. Coast Guard Cutter Acaus
9 May 1942



U-701

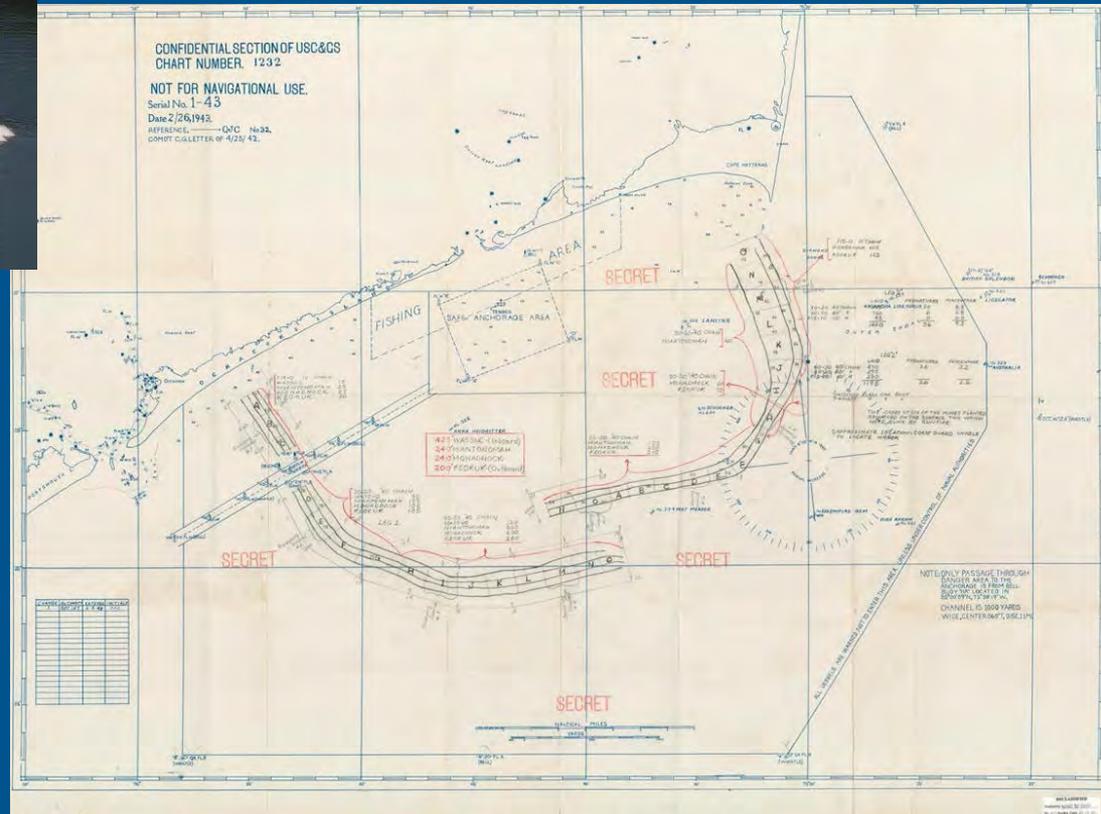
Type VIIC - WWI German U-Boat
Sunk by U.S. Army Air Force Pilot Lt. Harry Kane
7 July 1942

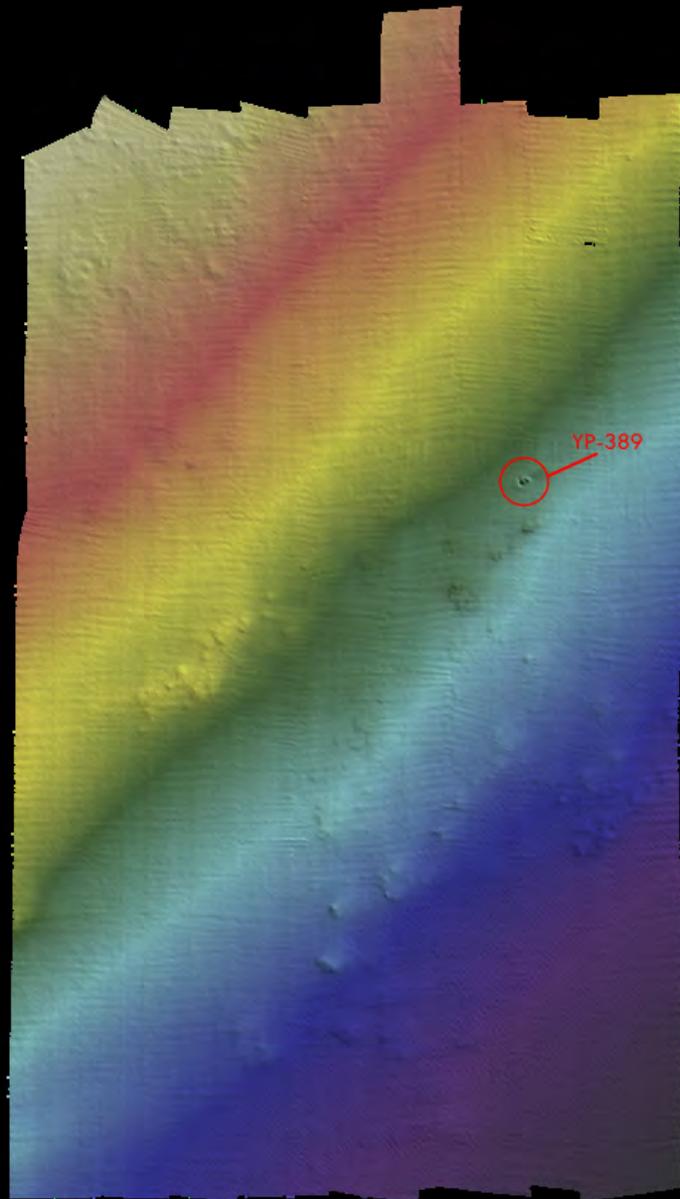
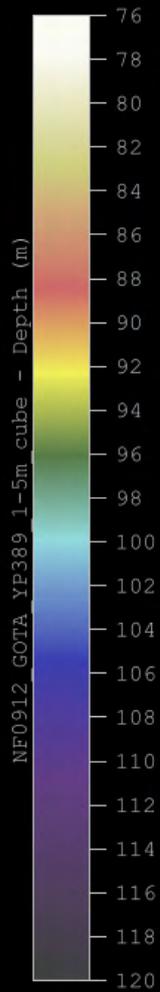


Year Two: Documenting US and Allied Military Losses

Stage One: Deep Water Multibeam Sonar Survey

Site Surveyed:
• USS YP-389





Multibeam
sonar survey
during which
USS *YP-389*
was relocated
and identified

Researchers Deploying the ROV above the site of USS YP-389



Photo-Mosaic of USS *YP-389*



How did we determine the vessel found was YP-389?

- Archival Research (photos and documents)
- Location
- Vessel Type and Size
- Armament



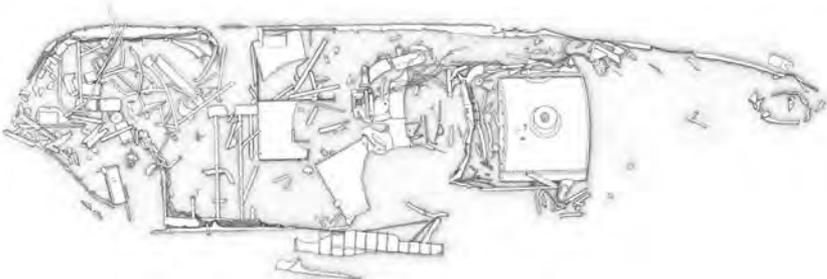
YP-389 Porthole



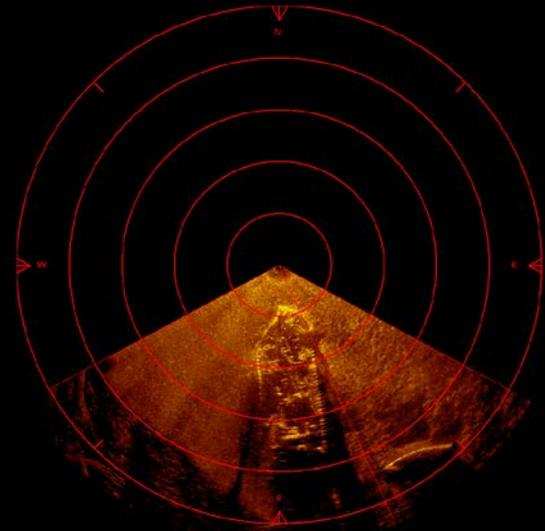
Wreckage at the HMT *Bedfordshire* Site



HMT *Bedfordshire*
Royal Naval Patrol Service
Sunk by the U-558 on 12 May 1942
Cape Lookout, North Carolina



24/1/16



Monitoring U-boats: Corrosion Potential Analysis



Year Three: Documenting US and Allied Merchant Marine Losses

Stage One: Technical Diving Photographic and Videographic Survey as well as Biological Transects

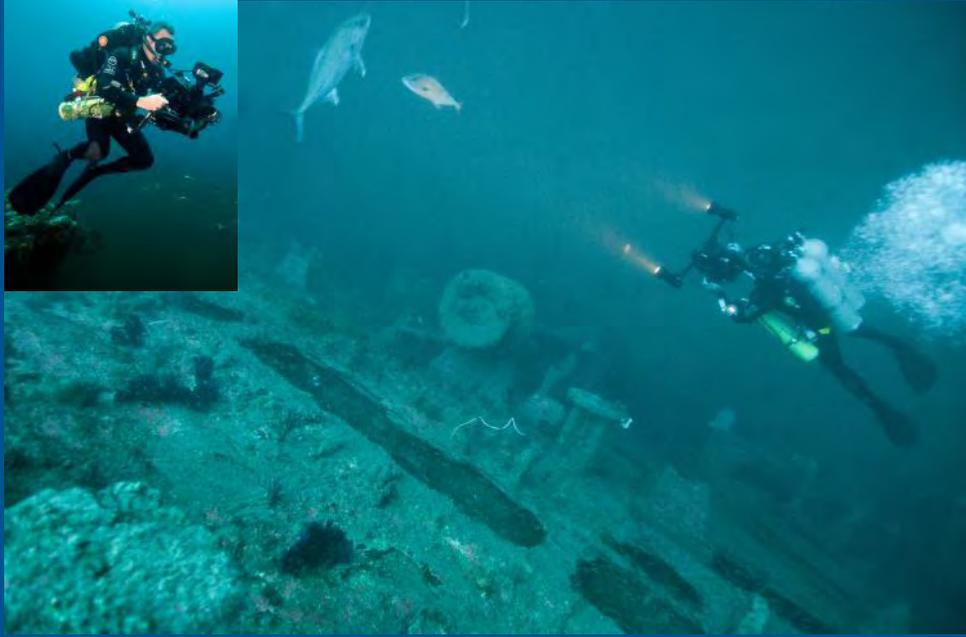
Sites Surveyed:

- *City of Atlanta*
- *Dixie Arrow*
- *E. M. Clark*
- *Manuela*

Locations Verified

- *Ciltvaira*
- *Empire Gem*
- *Australia*
- *Kassandra Louloudis*



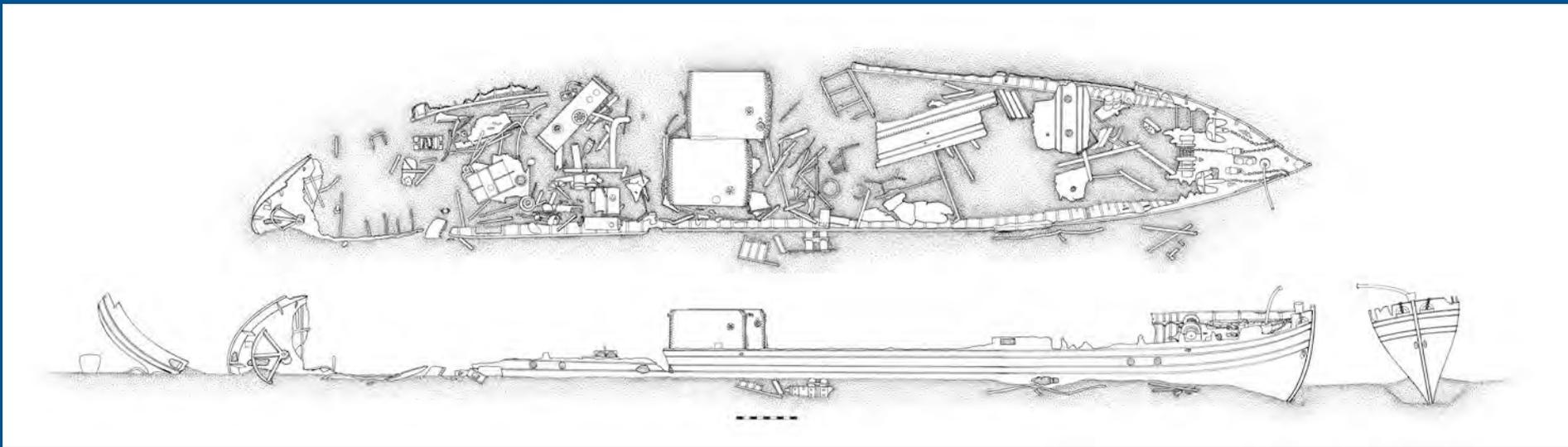


Stage Two: Archaeological Mapping of Shallower Wrecks

Site Surveyed:

- *Keshena*



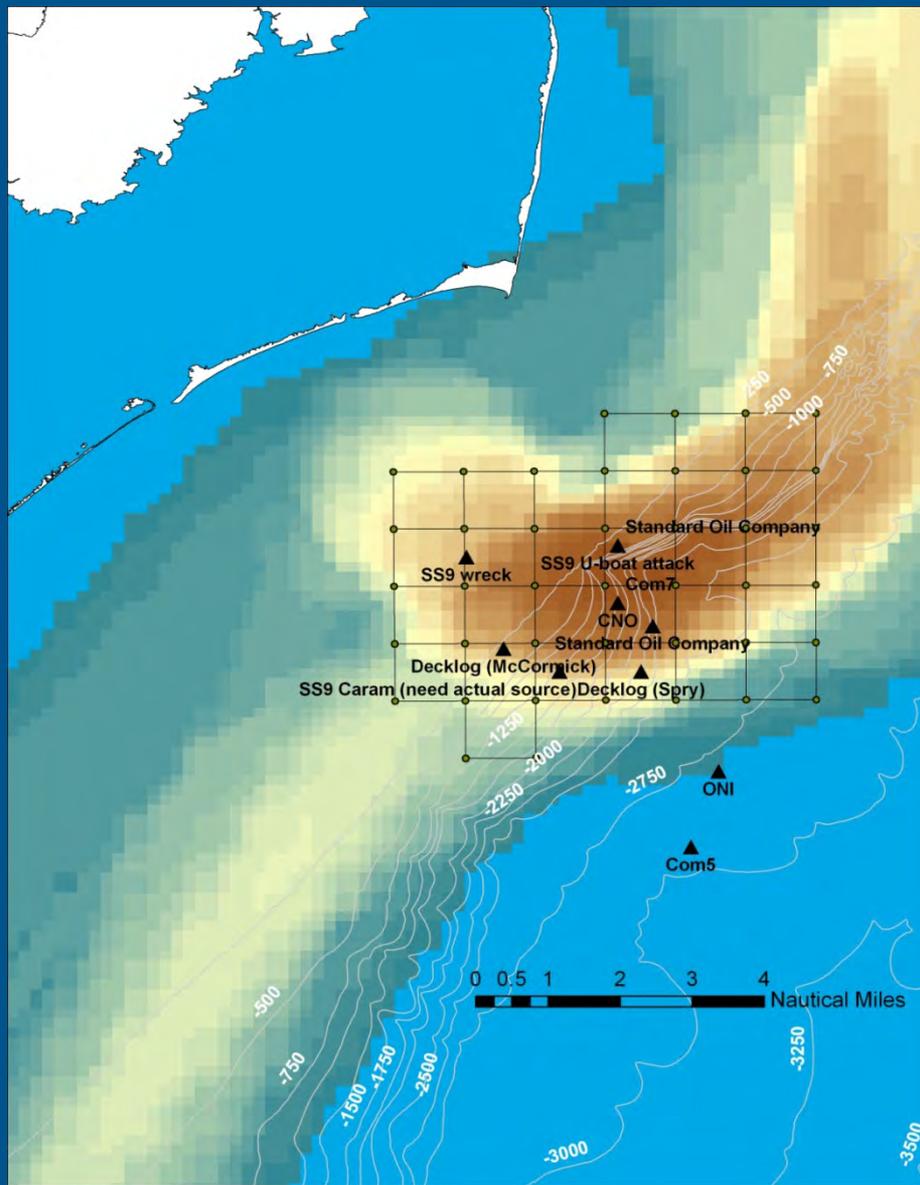


**Year Four: Continued Documentation of US
and Allied Merchant Marine Losses and
Survey for the Battle of Convoy KS-520**

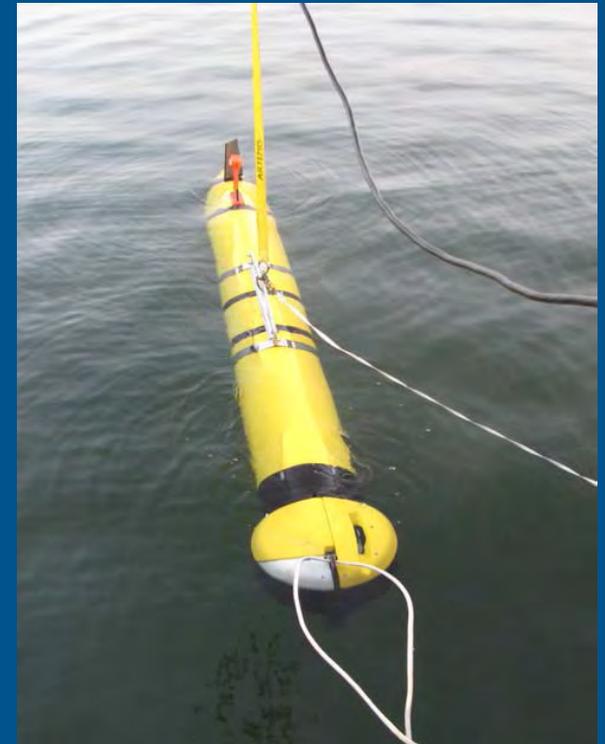
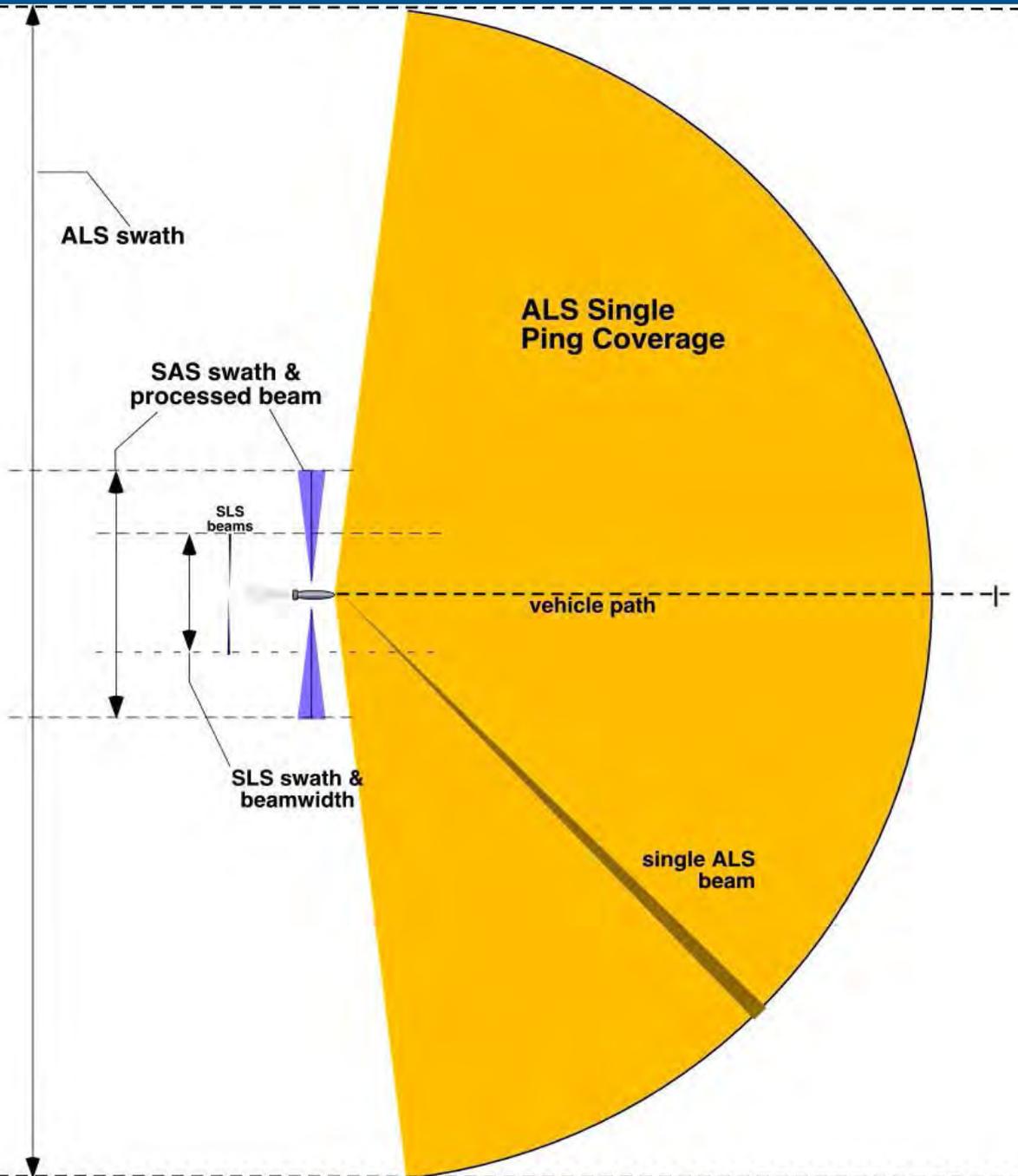
(3 Months of Field Work!!!)

Stage One: Wide Area Sonar Assessment

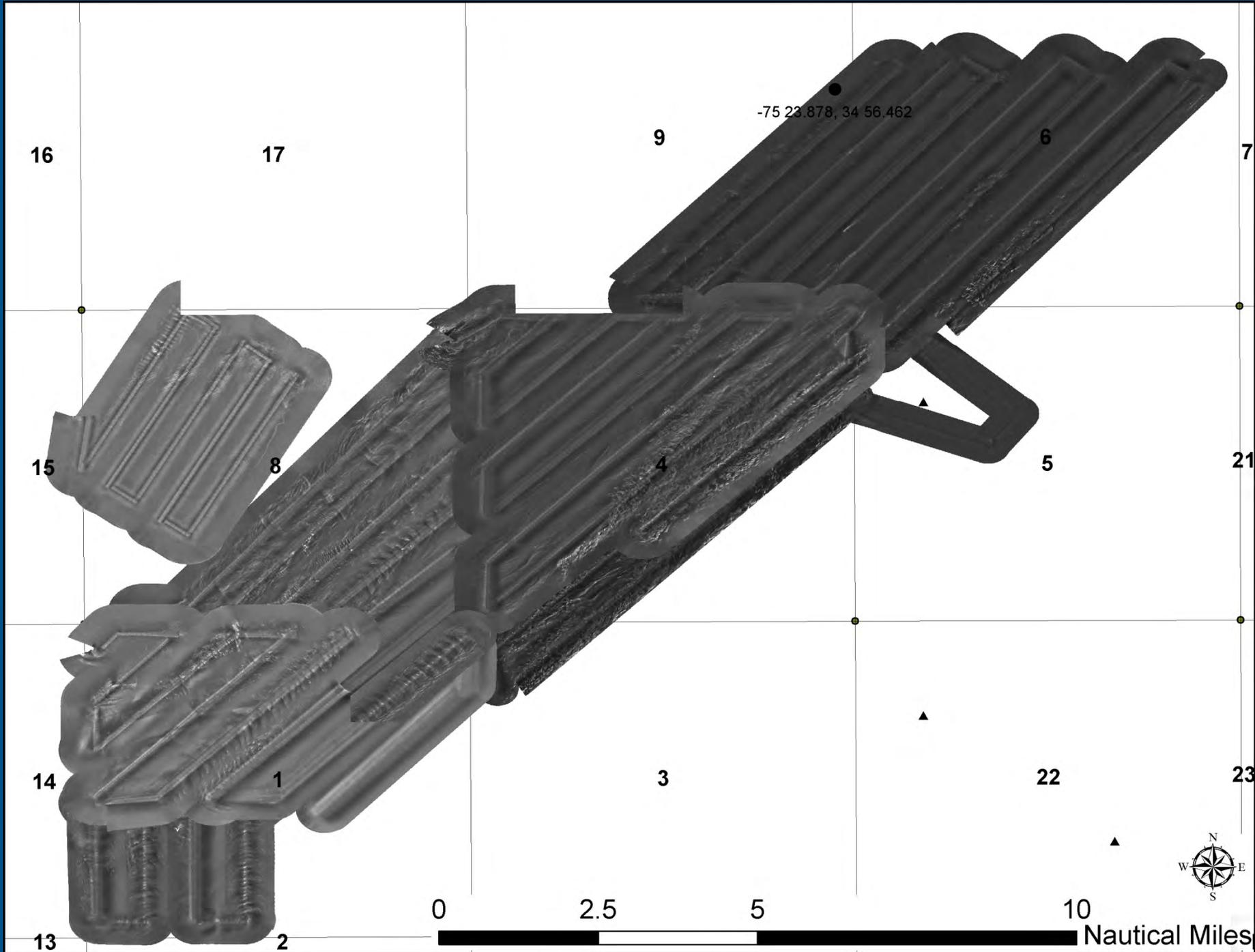
Probability Analysis for Shipwrecks Lost During Convoy KS-520 Battle



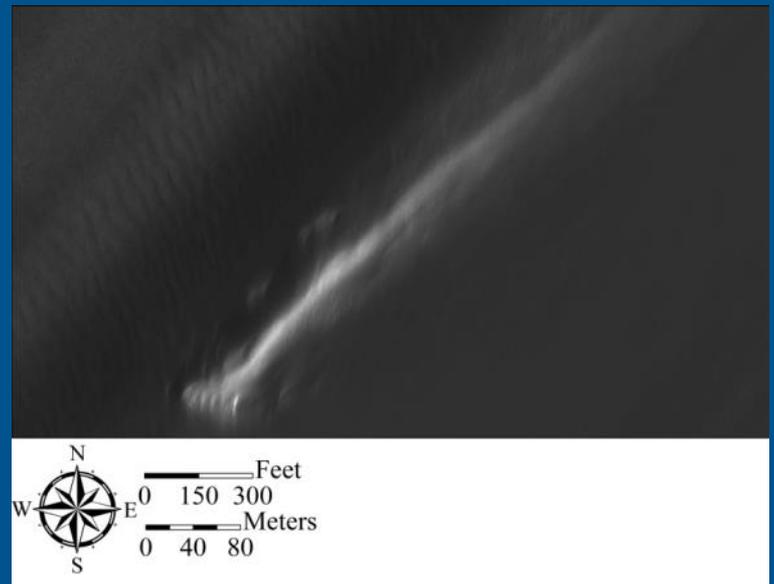
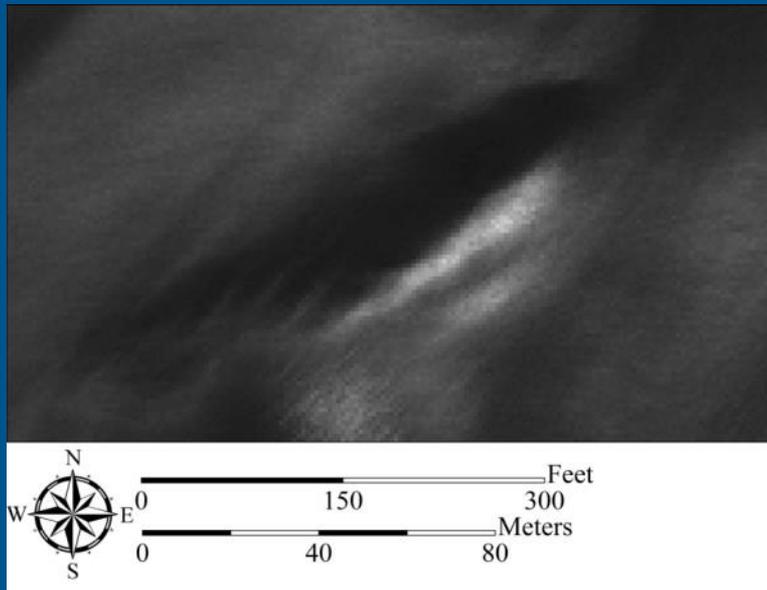
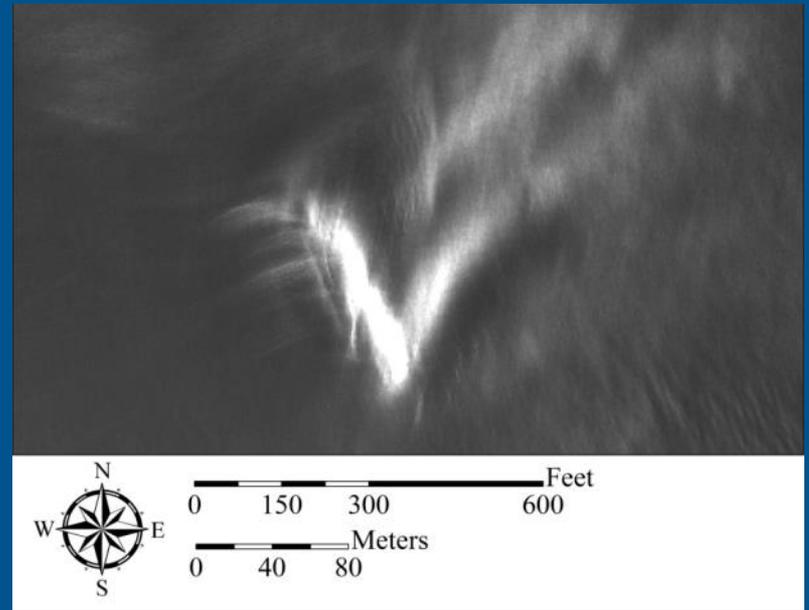
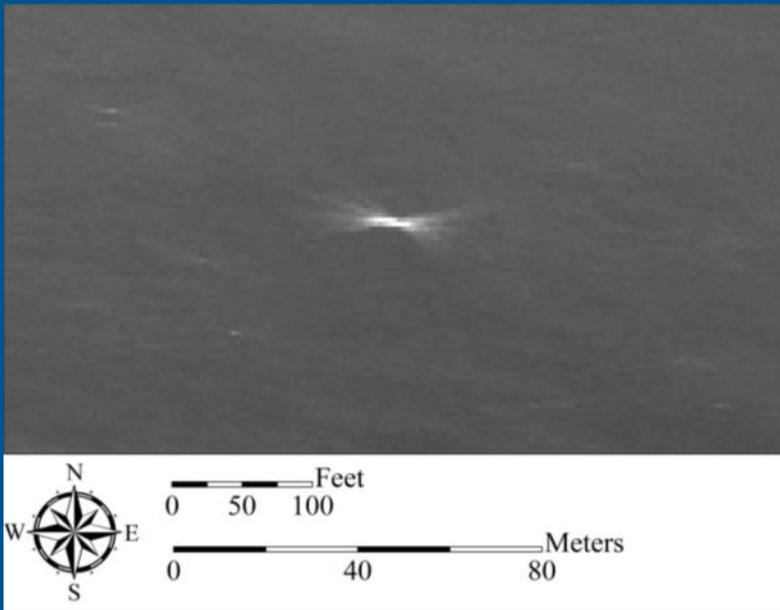
Wide Area Surveys



University of Texas: Applied
Research Laboratory

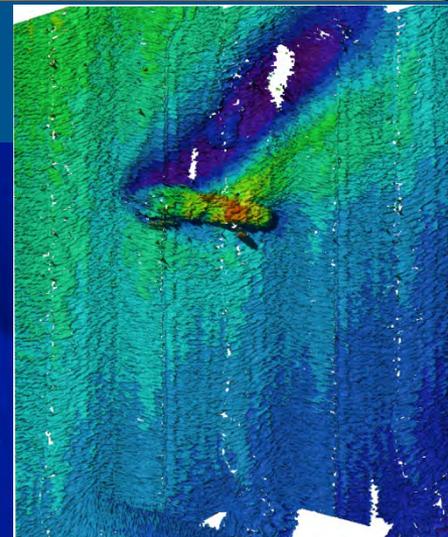
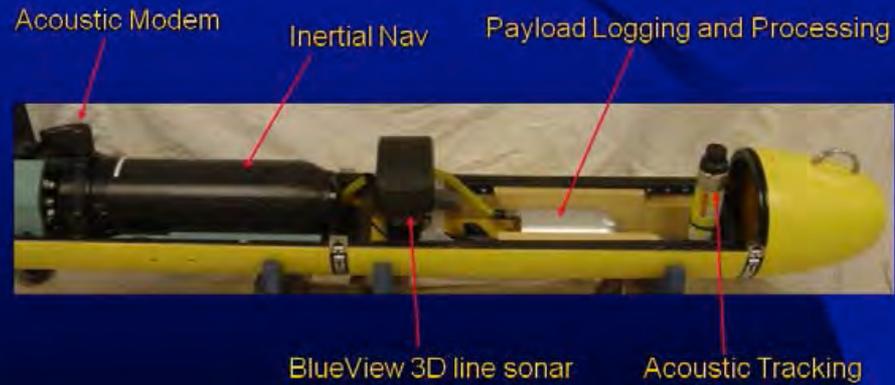
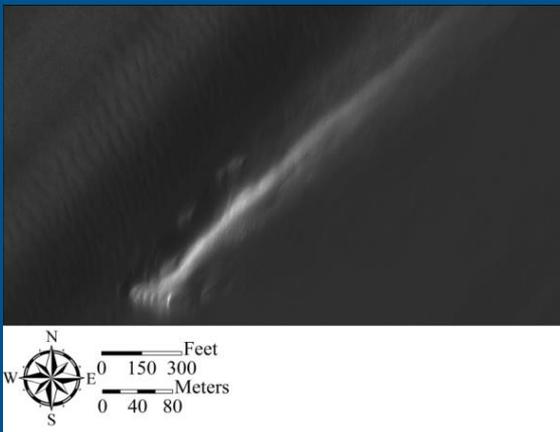
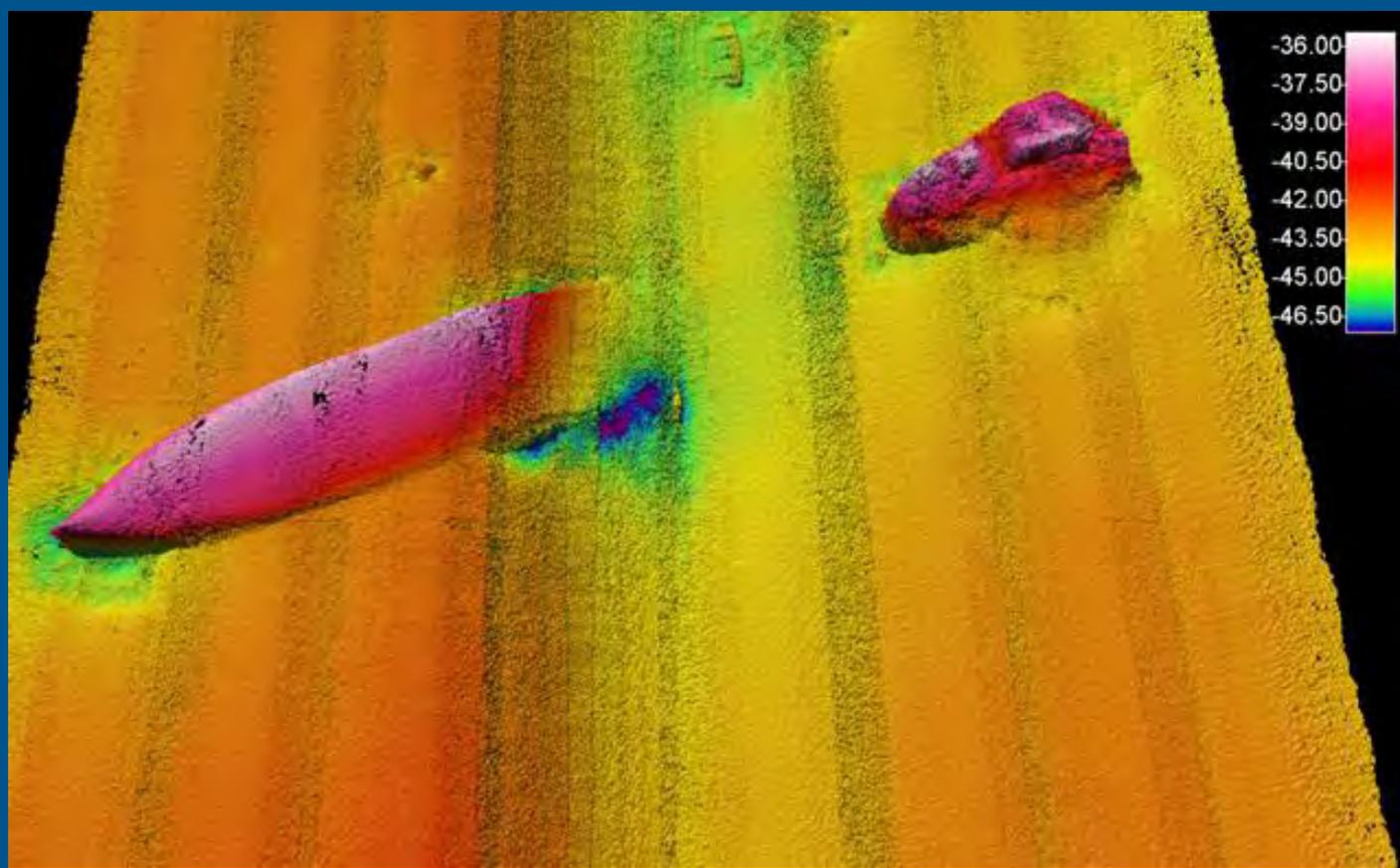


Wide Area Survey Sonar Anomalies



Stage Two: Targeted Survey with High Resolution Multibeam Sonar

Targeted Survey – High Resolution Multibeam Sonar

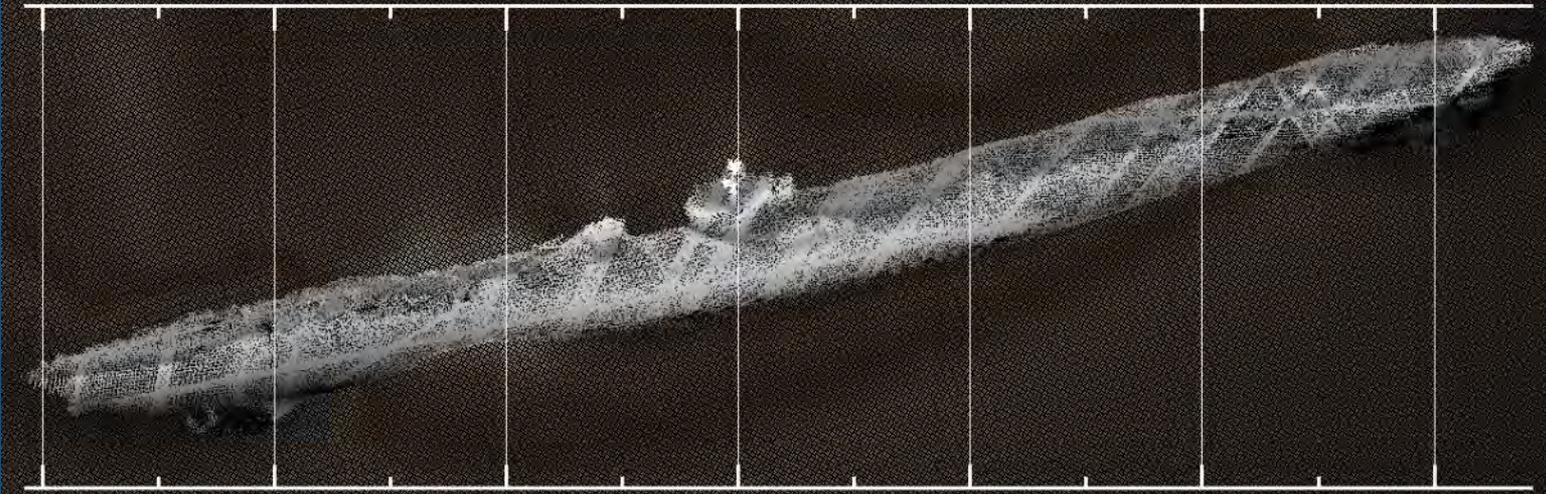
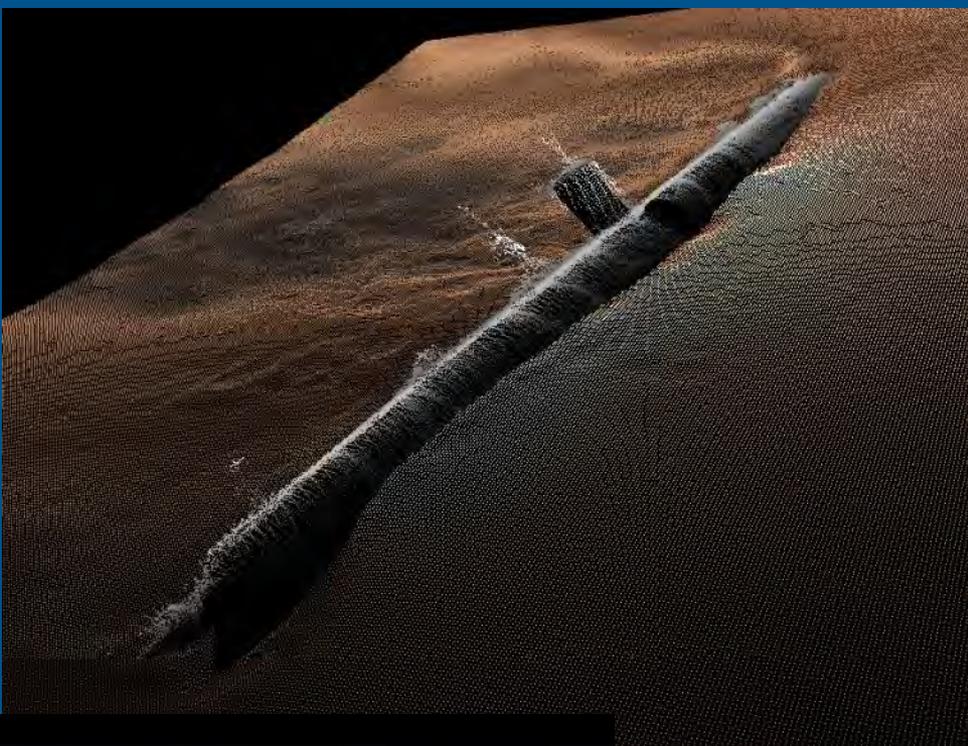


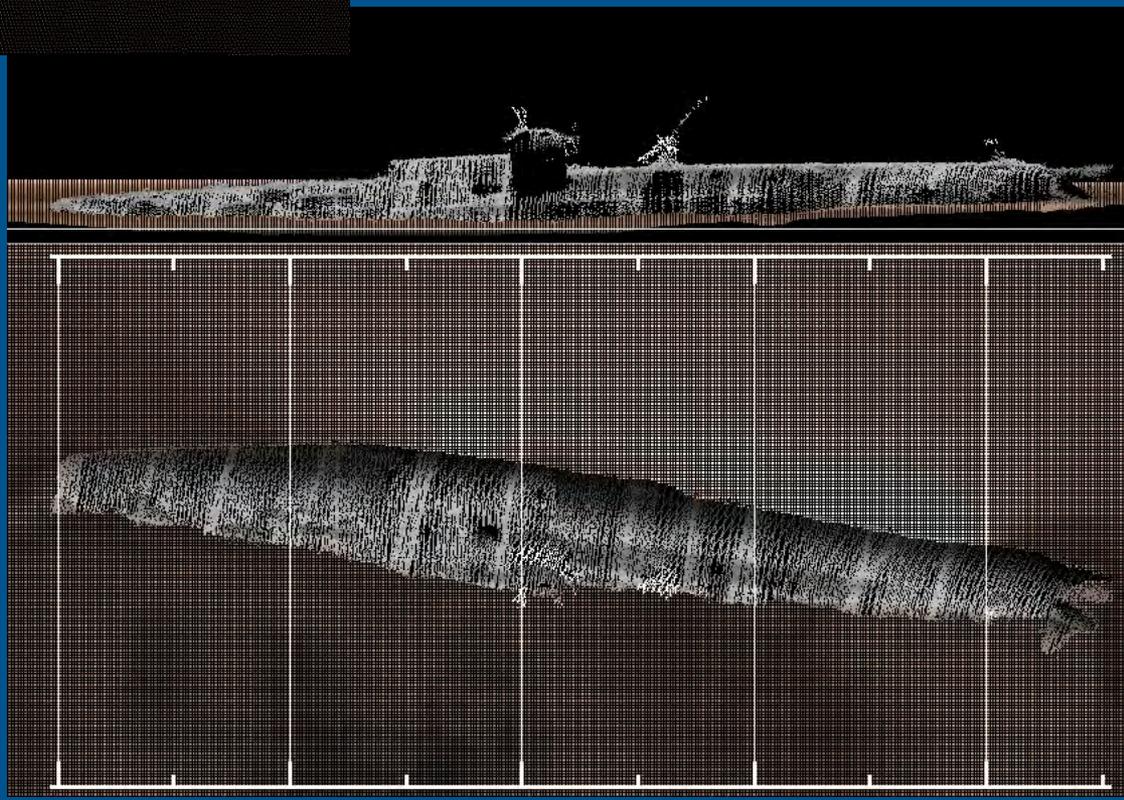
Stage Three: Ultra High Resolution Multibeam Sonar Documentation of Significant Sites

Sites Surveyed:

- *Atlas*
- *Australia*
- *Byron Benson*
- *Caribsea*
- *Chilore*
- *City of Atlanta*
- *Dixie Arrow*
- *Kassandra Louloudis*
- *Lancing*
- *Manuela*
- *Tamaulipas*
- *U-85*
- *U-352*
- *U-701*
- *CSS Florida*
(Civil War)
- *USS Cumberland*
(Civil War)

3D Acoustic Imaging with ADUS

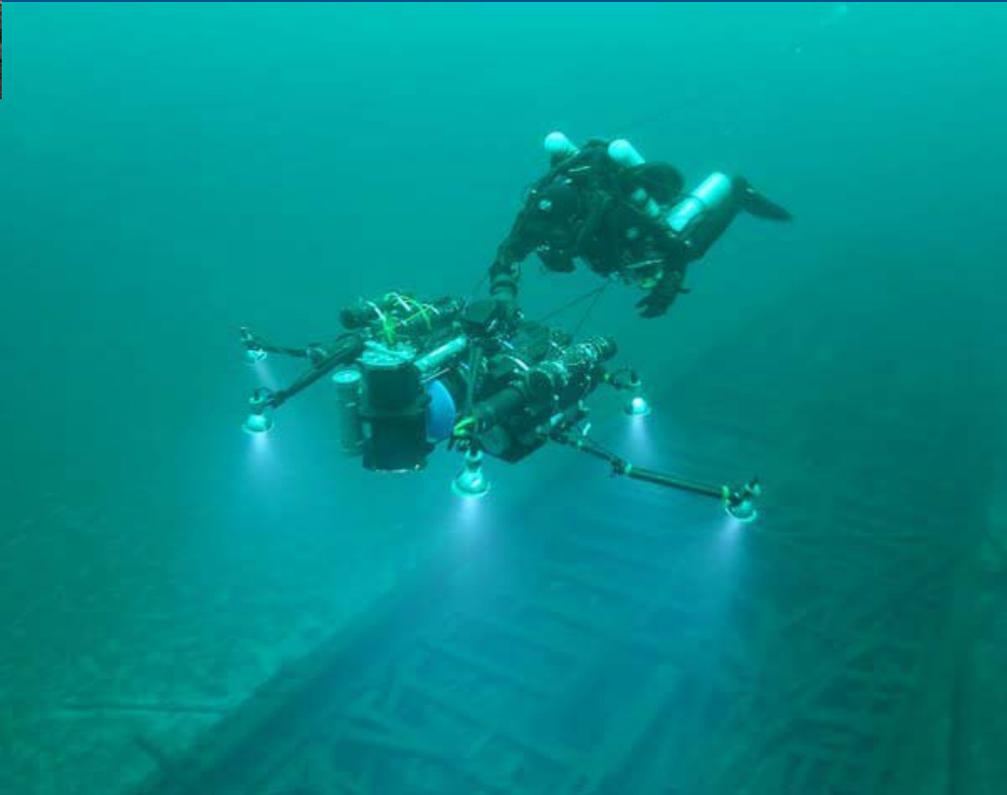




Stage Four: 3D Video Survey With Woods Hole Oceanographic Institute's Advanced Imaging and Visualization Laboratory

Sites Surveyed:

- *Dixie Arrow*
- *E.M. Clark*
- *Lancing*
- *U-701*
- *USS Monitor (Civil War)*



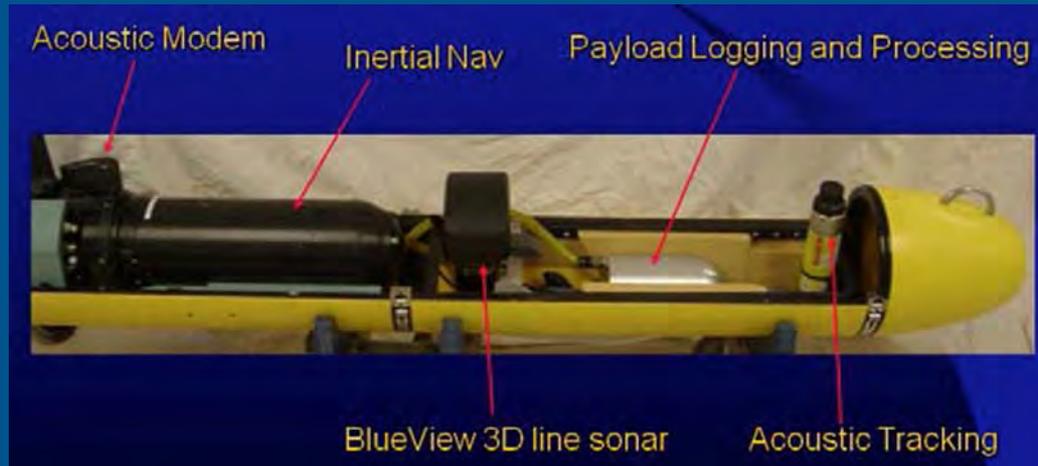


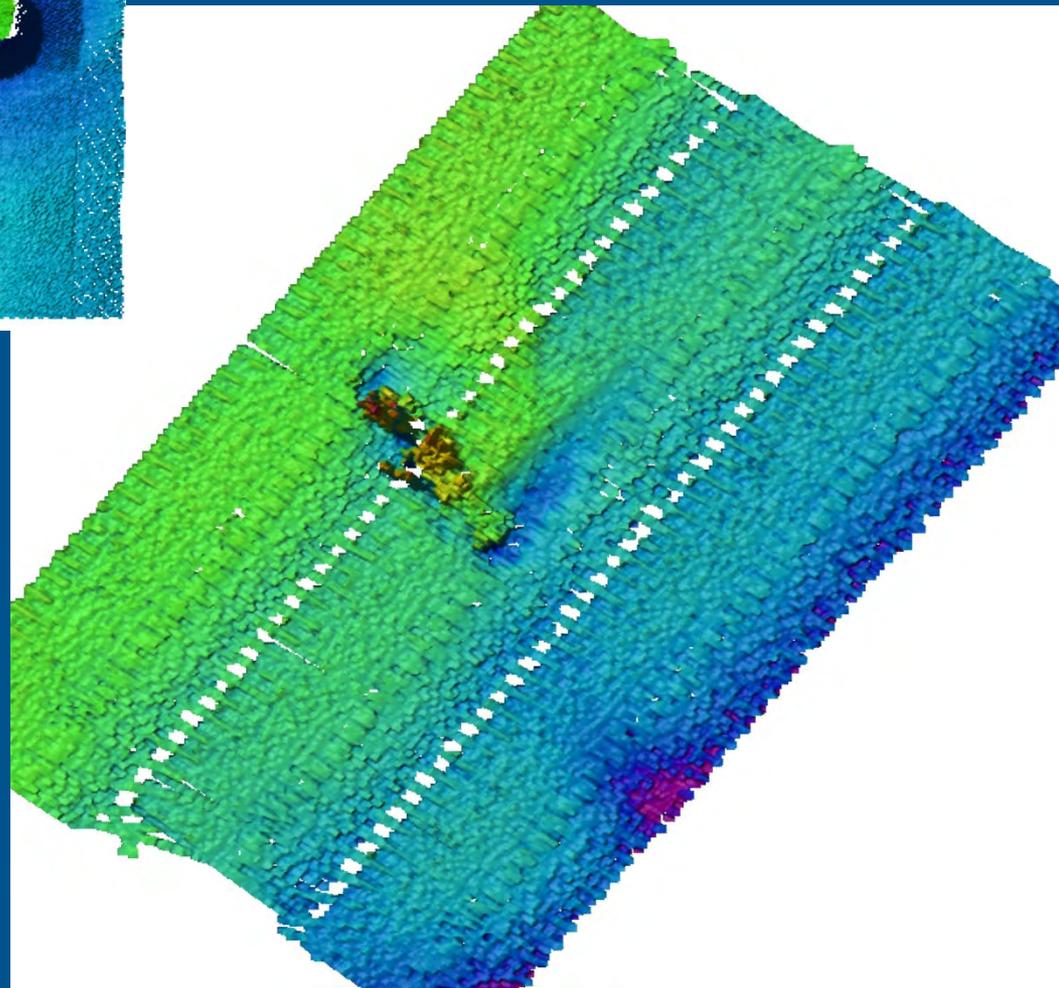
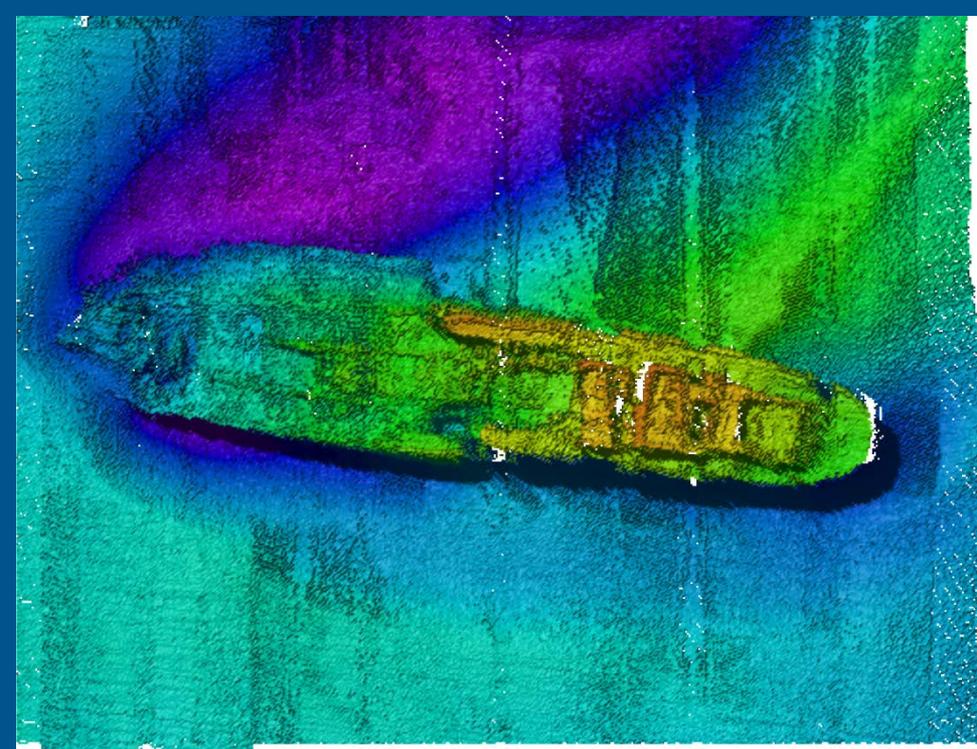
E.M. Clark Mosaic

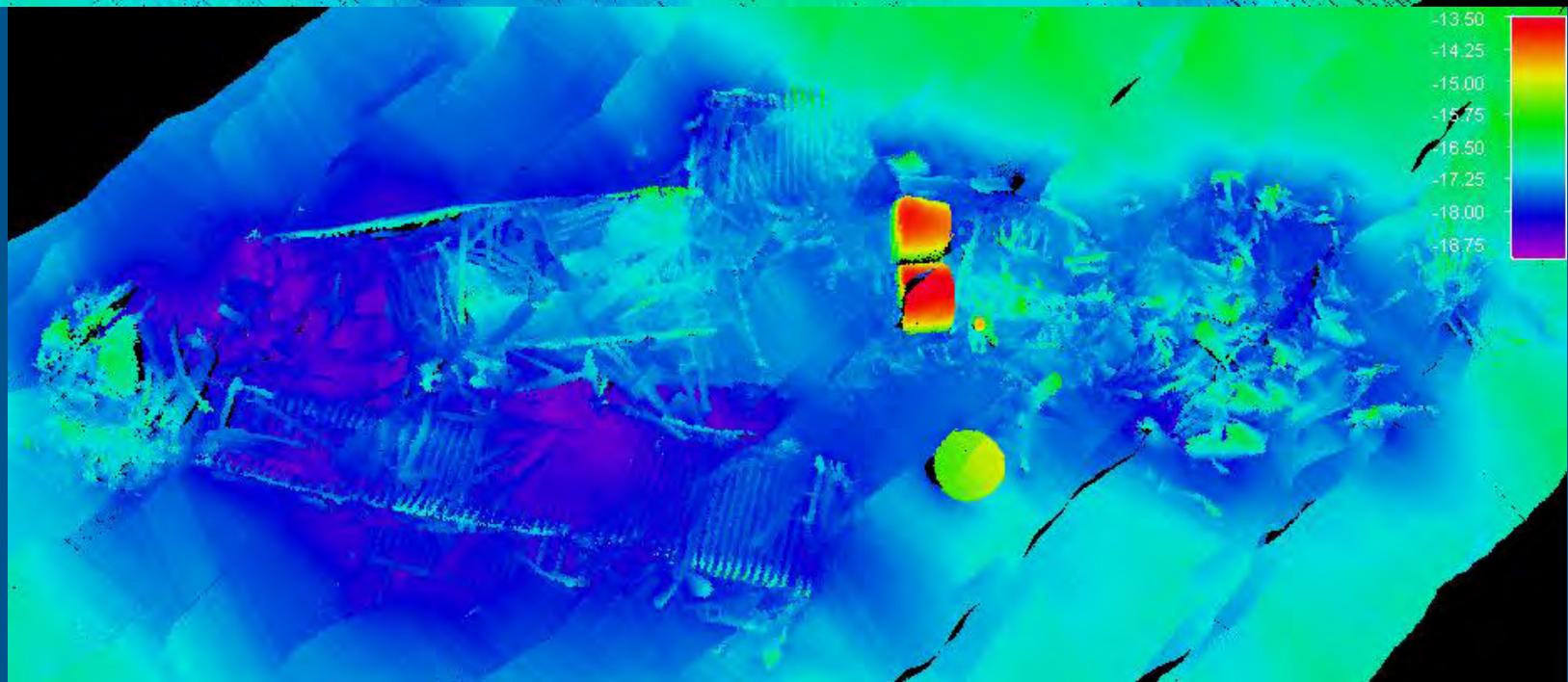
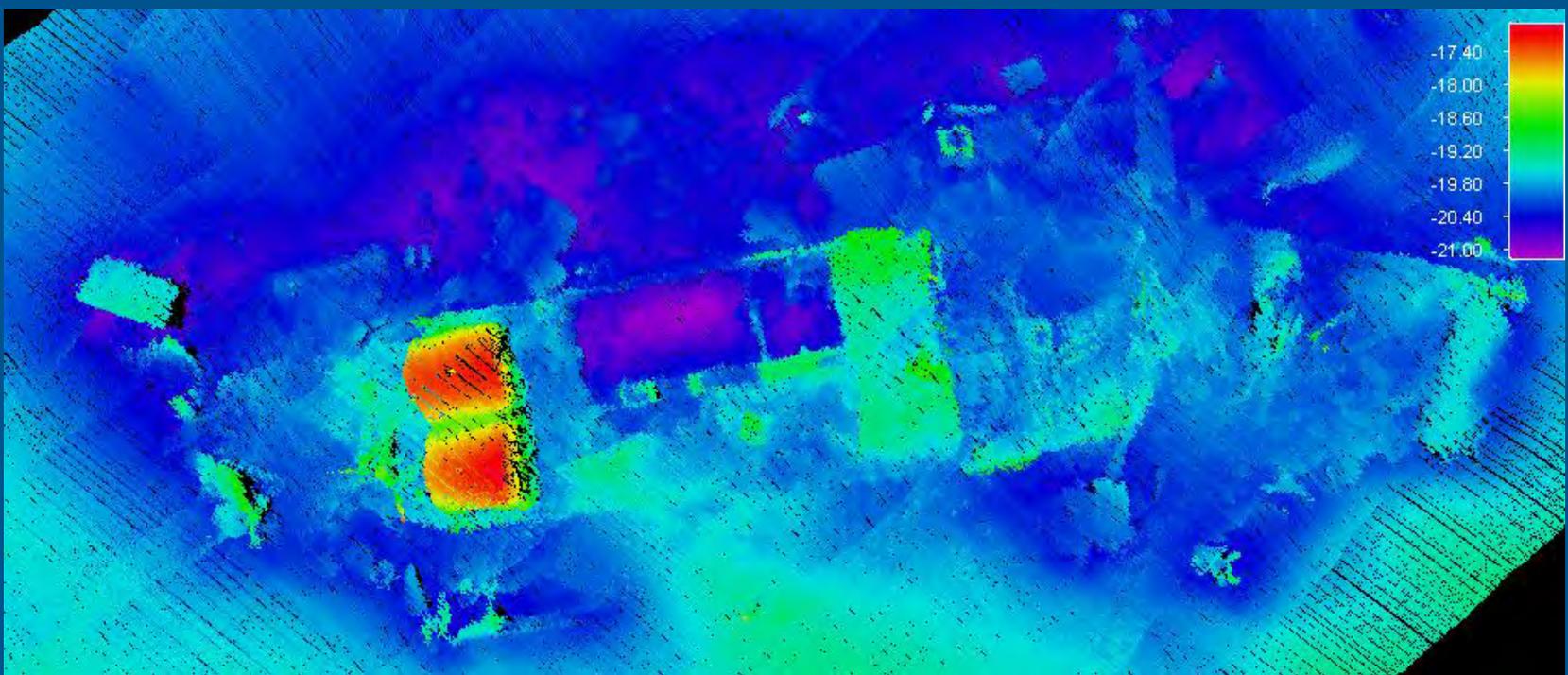


**Year Five: Continuing the Survey for Convoy
KS-520 Shipwrecks and Documenting
Additional Merchant Marine Shipwrecks**

Stage One: Resumed Targeted Survey with High Resolution Multibeam Sonar







Stage Two: Diving Photographic and Videographic Survey

Sites Surveyed:

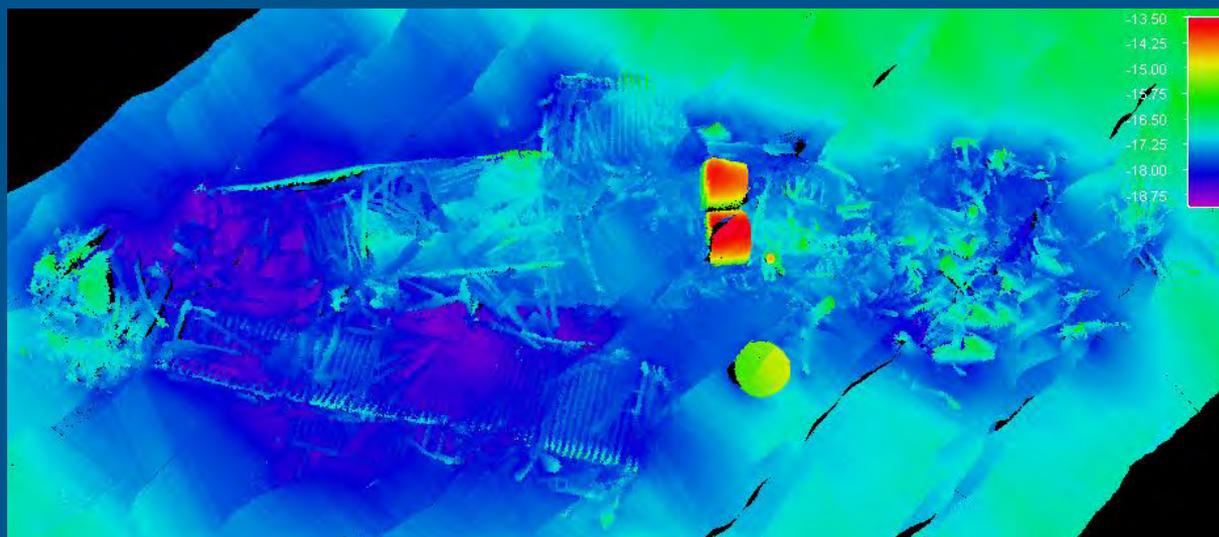
- *Ario*
- *Ashkhabad*
- *Atlas*
- *Caribsea*
- *HMT Senateur Duhamel*
- *Naeco*
- *U-352*
- *W. E. Hutton*



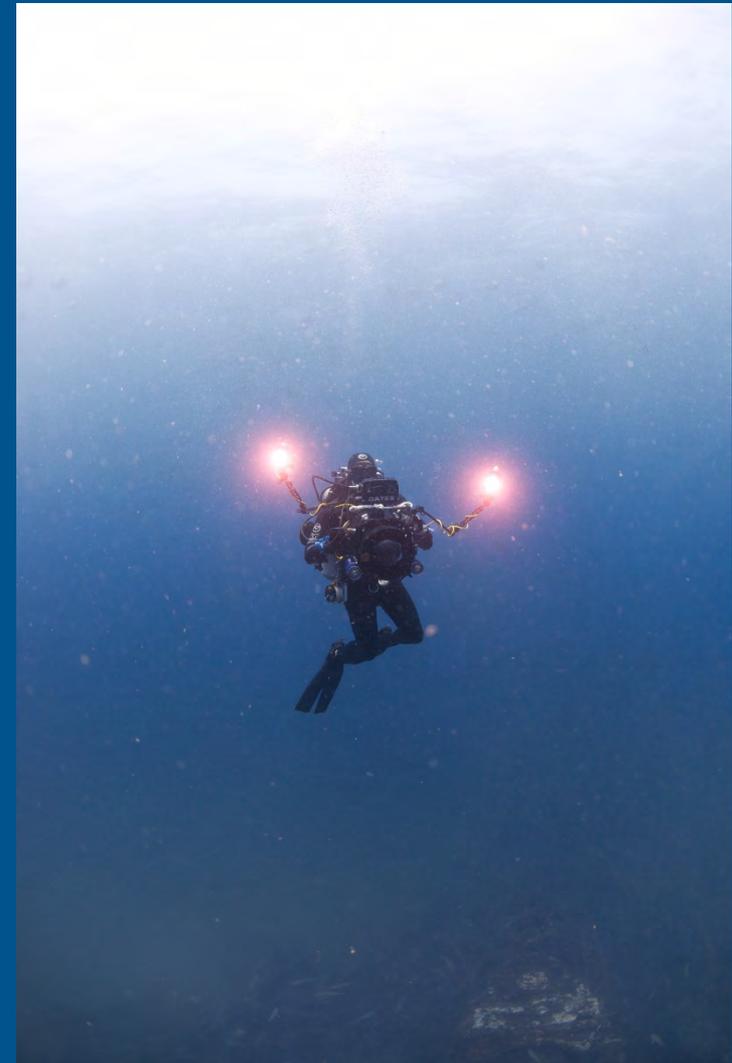
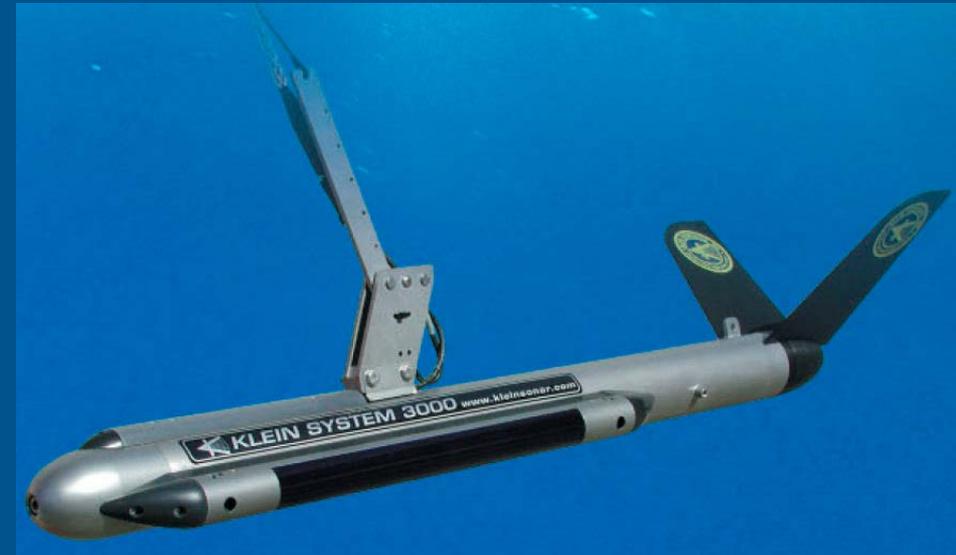
Year Six: Continued Photographic and Videographic Inventory of Merchant Marine Shipwrecks, Site Recording of Soviet Tanker *Ashkhabad*, and Remote Sensing (Magnetometer and Side-Scan Sonar) Surveys



May/June 2013: Site Recording of Soviet Tanker *Ashkhabad*



July/August 2013: Remote Sensing Surveys and Diving Photographic and Videographic Surveys



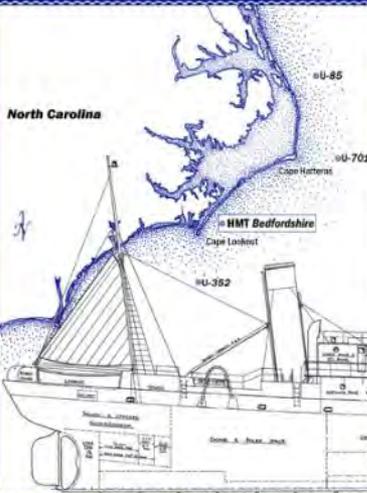
Today, these sites are important dive locations for Heritage Tourism





Befordshire

Royal Naval Patrol Service



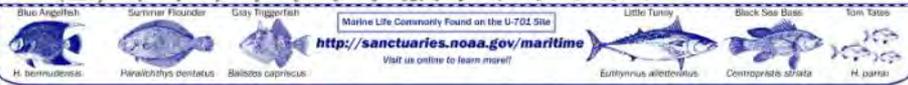
ADVISORY

This wreck is federally protected by the SUNKEN MILITARY CRAFT ACT. Visitation and enjoyment of this cultural resource is encouraged. Removal of Artifacts or Alteration of the site is strictly prohibited. This site is owned by the Federal Republic of Germany and is considered a War Grave. Please respect it as such and refrain from alteration or penetration of the site. You are encouraged to enjoy this resource responsibly and to leave the site unaltered for the enjoyment of future divers.

Vessel History

Launched: 17 July 1935- Middlesbrough, England
Commander: Lt. Russell B. Davis, Royal Naval Reserve.
Actions: A veteran of the Battle of the Atlantic, this converted trawler conducted ASW operations as part of the Royal Naval Patrol Service around the British Isles. While on loan to the U.S., Bedfordshire performed essential escort service between Capes Lookout and Hatteras.
Loss: In the early morning hours of 12 May 1942, HMT Bedfordshire was returning alone from an escort detail to Hatteras. While preparing to round Cape Lookout a torpedo from the U-558 slammed into her port side. The vessel sank in seconds, sending no distress signal.

Fate: The entire 37 man crew was lost as a result of this action. Shortly after the sinking, several bodies began washing up on the shores of North Carolina. A total of six bodies were recovered and buried near Hatteras and Ocracoke. The gravesites are honored by the British Navy and the U.S. annually. This site is war grave for the remainder of the crew.



Marine Life Commonly Found on the U-702 Site
<http://sanctuaries.noaa.gov/maritime>
Visit us online to learn more!

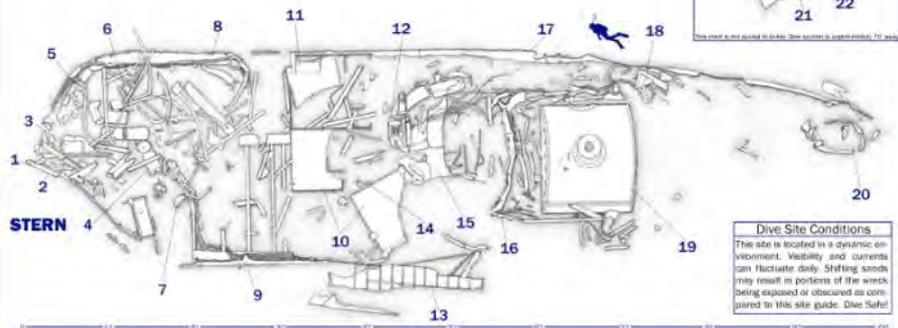
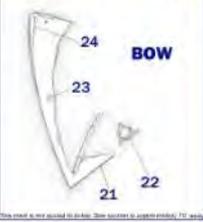
GPS Coordinates: N35° 54.810
Depth: 95fsw W75° 17.215'
Skill Level: Intermediate

HMT Bedfordshire

Archaeological Site Plan



- 1 Sacrificial Zinc Anode
- 2 Stern Post
- 3 Liver Boiler Deck Combing
- 4 Exposed Depth Charge
- 5 Depth Charge Support
- 6 Stern Depth Charge Rack
- 7 Buried Depth Charge
- 8 Wiring Harness for Vessel
- 9 Starboard Side High Point
- 10 Exposed Deck Plating
- 11 Port High Point/Deck Level
- 12 Main Trawl Winch
- 13 Starboard Outer Hull
- 14 Deck Support Stanchions
- 15 Original Deck Level
- 16 Reinforced Boiler room Wall
- 17 Port Side Outer Hull Plate
- 18 Disarticulated Machinery
- 19 Exposed Main Boiler
- 20 Likely Torpedo Strike Area
- 21 Forward Bulk Head
- 22 Forward Deck Gun Mount
- 23 Towing or Docking Bit
- 24 Bow Fairleads.



Dive Site Conditions
This site is located in a dynamic environment. Visibility and currents can fluctuate daily. Shifting sands may result in portions of the wreck being exposed or obscured as compared to this site guide. Dive Safe!

Take Only Pictures - Leave Only Bubbles!

Outreach Products



PARTNERS

- NOAA/ Office of National Marine Sanctuaries
- NOAA's Office of Exploration and Research
- NOAA/National Centers for Coastal Ocean Science -NCCOS
- National Parks Service
- US Navy
- Bureau of Ocean Energy Management
- East Carolina University
- UNC Coastal Studies Institute
- Mariners' Museum
- National Undersea Research Center (UNCW)
- State of North Carolina
- Georgia Aquarium



Coastal Studies Institute
UNIVERSITY OF NORTH CAROLINA





John Wagner

Monitor National Marine Sanctuary

Maritime Archaeology Center

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Phone: 757-591-7333

Email: John.Wagner@noaa.gov

<http://sanctuaries.noaa.gov>