



Exploring the Wreck of the Bismarck

We expect your dive will take approximately 11-12 hours. Illuminated by the powerful lights of the submersible you will witness the recognisable hull of the Bismarck and the surrounding debris field. The main section is surprisingly intact, although it shows signs of the large-scale damage wrought by the pounding of the British shells. Part of the stern section has broken away and the main gun turrets are missing. Many of the smaller guns, including the anti-aircraft guns are still in place.

The bridge area was largely destroyed but the remaining superstructure is intact, although obviously damaged and the wooden decking still remains.

Deep Ocean Expeditions and the MIR submersibles have made three expeditions to the wreck of the Bismarck. This includes an expedition in 2001 with American movie director James Cameron and the Discovery Channel to film an underwater documentary featuring the Bismarck. The MIR submersible pilots are the only pilots in the world experienced in flying submersibles on the wreck of the Bismarck.



The Dive

'Operation Bismarck' Expedition Itinerary

Day 1 Arrive Kiel, Germany and transfer to the Akademik Keldysh. Early evening sail through the Kiel Canal and into the English Channel heading for the Bismarck wreck site located 1100 nautical miles to the southwest.

Day 2 At sea in the English Channel. Our orientation and lecture programmes begin. Dr. Anatoly Sagalevitch – chief scientist and head of the expedition, will introduce divers to the submersibles.

Day 3/4/5 At sea. Our lecture and activities programmes continue.

Day 6 Morning arrival at the Bismarck site. The remainder of the day will be taken up with laying the acoustical navigation transponders.

Day 7/8/9 During these days we will complete the submersible diving and scientific programmes on the Bismarck site. We have built several lay days into the programme to deal with technical needs and unfavourable weather conditions. On your dive day you will be briefed by the Expedition Leader followed by your deep dive to Bismarck in MIR I or MIR II. On your non-dive days, lectures, briefings, socializing and sports will take place.

Day 10 Last day of diving on the Bismarck site. Retrieval of the transponders and an evening departure for Cobh, Ireland, 380 nautical miles northeast of the Bismarck site.

Day 11 At sea. Time to relax and reflect on your unique expedition.

Day 12 Morning arrival in Cobh, Ireland. Disembark and return to home cities.

NOTE Please read this as a guide only. The daily itinerary may vary according to weather and sea conditions in the North

Atlantic. The number of participants will be limited, and the order of dive participants will be determined in advance based on the time of bookings.

Prices and What's Included

What's Included Seat on MIR submersible for a scientific expedition dive to the wreck of the Bismarck (for those paying the full dive price); accommodations and meals throughout the voyage aboard the Akademik Keldysh; services and port charges in relevant ports; activities within the programme: lectures, briefings, slide/film shows, personal video, amenities; Group transfer upon disembarkation to the Cobh airport.

Not Included Air transportation to/from port of embarkation/disembarkation; individual transfers to/from local airports and hotels; passport and visa expenses; airport arrival and departure taxes; meals ashore; any hotel nights whatsoever; baggage, cancellation and personal insurance (all of which are strongly recommended); excess baggage charges and all items of a personal nature such as

laundry, bar and beverage charges and telecommunication charges; and the customary gratuity at the end of the voyage for stewards and other service personnel aboard (guidelines will be provided).

Cost for divers Price including one dive on the Bismarck and all other items indicated in the brochure is \$29,900USD per person.

Cost for non divers Price for a non-diver participant will be \$4,950USD with share cabin occupancy on the vessel.

Note Trip cancellation insurance is strongly recommended. The daily itinerary may vary according to weather and sea conditions. The expedition length may vary depending on the final number of dive days required, these changes will not affect the expedition cost.

Pre-trip Information For information on travel & health requirements, clothing and packing information and what to expect on your dive please visit: www.deepoceanexpeditions.com

MIR I & II

Mir I and II are deep-diving submersibles capable of reaching ocean depths of 20,000 feet. Housed aboard the mothership Akademik Keldysh, the two MIR (meaning 'peace' in Russian) submersibles are two of only five deep-diving vessels available to the world's scientific community.

Constructed of nickel steel, they are designed to withstand the enormous pressures that exist in the depths of the oceans. Each MIR cabin is a 2.1 m (7') diameter sphere, accommodating three persons. Air pressure inside the habitat remains at a constant one atmosphere: the air is recycled in a manner similar to that used onboard spacecraft. During the dive, there will be a drop in temperature (to approximately 12°C or 54°F) and some slight internal condensation.

Type of vessel	Deep-diving submersible.
Built	1987 in Finland.
Owner/operator	PP:Shirshov Institute of Oceanology, Russian Academy of Sciences.
Size	Length: 7.8 m / 25.6 ft Breadth: 3.6 m / 11.8 ft.
Dry weight	18,600 kg.
Number on board	3 people (1 pilot, 2 passengers).
Number of voyages	Over 400 total deep dives; over 40 to the Titanic.
Maximum speed	5 knots.
Last overhaul	2004.
Frequency of inspection	Annual, by German Lloyd, a leading ship and submersible classification bureau.

Akademik Keldysh

The Akademik Keldysh is the best deep-diving support vessel in the world. Owned and operated by the Moscow-based PP Shirshov Institute of Oceanology, its crew of scientists and technicians has worked together for over 17 years, participating in deep-dive expeditions all over the world. In addition to its many laboratories, the Keldysh features a library covering underwater archaeology, oceanography and deep-sea exploration.

Your quarters aboard the Keldysh, while not lavish, will be comfortable and spacious. Meals will be first-class, prepared by a western chef and highlighted by the occasional Russian specialty dish. Satellite communications equipment will be available for contact with those at home.

The MIR diving schedule is absolutely subject to suitable weather and sea conditions.

Type of vessel	Scientific research vessel.
Built	1981 in Finland.
Owner/operator	PP:Shirshov Institute of Oceanology, Russian Academy of Sciences.
Length	122.2 m / 401 ft.
Breadth	17.8 m / 60 ft.
Displacement	6,240,000 kg.
Number on board	Approximately 90 (45 crew, 20+ pilots, engineers and technicians, 10-12 scientists and lecturers and 12 passengers).
Maximum speed	12.5 knots.

Expedition Members



Dr Anatoly Sagalevitch

Leader for all Keldysh expeditions, chief pilot for MIR submersibles, renowned scientist and member of the Explorers Club.



Mike McDowell

Deep Ocean Expeditions (DOE) was founded in 1998 by Australian diver, climber and adventurer Mike McDowell along with several colleagues.



Belinda Sawyer

Operations Manager, NZ Coastal Master (Captains Certificate) and Expedition Co-ordinator.

Please note: The staff members listed may or may not be participating in this expedition. This is a guide only. Also note additional expert Deep Ocean Expedition staff not listed here will also be participants on this expedition.

About Deep Ocean Expeditions

Deep Ocean Expeditions adheres to three simple founding principles:

- To offer unique experiences for the adventurer
- To educate people about the world's deep oceans
- To help support scientific research.

Deep Ocean Expeditions is interested in educating by adventure. Only a small percentage of the world's oceans has been explored. Deep Ocean Expeditions works with partners and colleagues, including the PP Shirshov Institute, to expand opportunities for deep ocean research and documentation as a way of increasing the knowledge and understanding of our

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planets' major geographical feature. All submersible dives are conducted with negligible or no impact on our oceans. All sites, whether they be man-made or natural are treated with the greatest of respect.

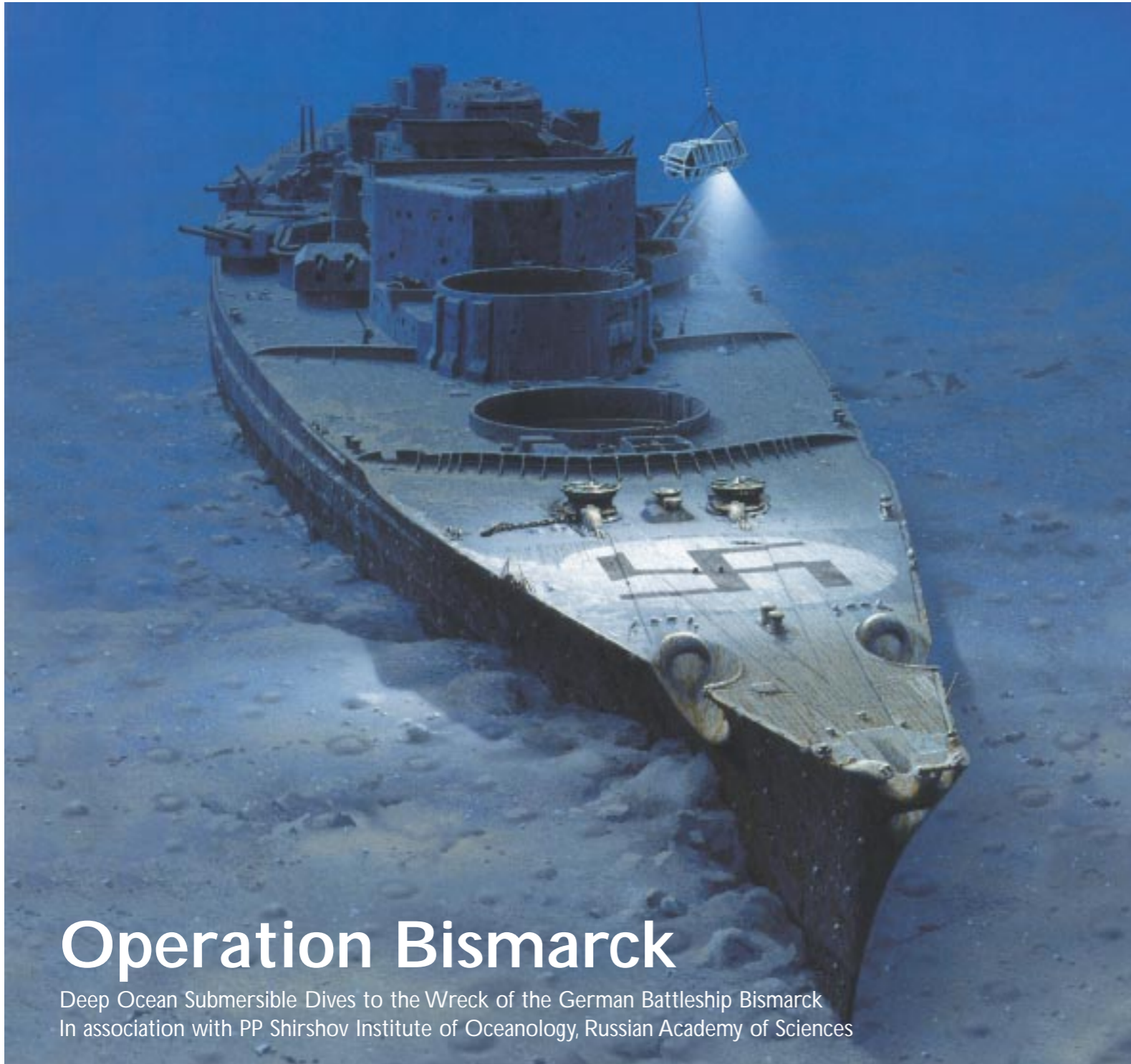
Deep Ocean Expeditions is always planning an array of exciting expeditions through all levels of the water column, on features both man-made and natural. In addition to planned expedition itineraries the submersibles from the Deep Ocean Expeditions fleet are available for private charter to interested parties. Underlying this expansion of itineraries is a solid commitment to our founding principles: adventure, education and science. This is Deep Ocean Expedition's commitment to its participants.

www.deepoceanexpeditions.com

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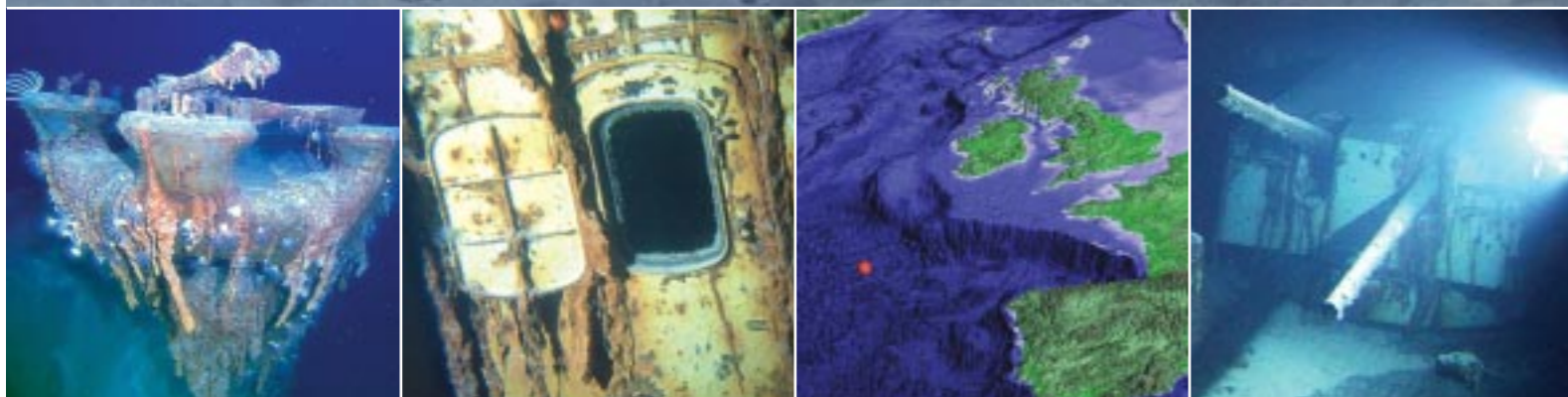
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DEEP OCEAN EXPEDITIONS



Operation Bismarck

Deep Ocean Submersible Dives to the Wreck of the German Battleship Bismarck
In association with PP Shirshov Institute of Oceanology, Russian Academy of Sciences



DEEP OCEAN EXPEDITIONS

"To the depths of the ocean, the world's last great frontier."



The Battle of the Bismarck

Manned Deep Ocean Dives to the Wreck of the German Battleship Bismarck

As the Bismarck and her consort, the heavy cruiser Prinz Eugen, ran the North Atlantic gauntlet they were detected.

The British had broken the German naval codes and radio intercepts about the ships' intentions and movements provided an enormous tactical advantage. In the following surface ship action, the British navy suffered a horrendous loss when the famed battle cruiser HMS Hood was struck and exploded, with the loss of all but three of her crew.

Bismarck, too, was wounded in this encounter. Although not fatally damaged, she needed to return to port for repairs. If she could only get into the Bay of Biscay a few hundred miles away, she would be under the protection of land based heavy aircraft and a barrier line of U-boats along the approaches to the coast. It was not to be.

RAF aircraft relocated Bismarck 700 miles west of Brest and she was struck on the stern jamming her steering gear. Bismarck could no longer head for France – she had been turning when hit, and was now condemned to circle while awaiting the end.

On May 27th 1941, in the Atlantic Ocean some 300 miles southwest of the southern tip of Ireland, Bismarck fought her last, one-sided battle. Pounded mercilessly by four British warships, the ship soon was a flaming defenceless wreck. The Captain gave the order to scuttle her and for the crew to abandon ship.

Just before disappearing into the Atlantic depths, the vessel rolled over with the bow pointing into the air. The four giant gun turrets, which were not fixed to Bismarck's hull, broke away and careened downwards to the ocean floor, together with masses of other debris. The aftermost stern section of the hull broke away and sank separately. With masses of other debris, Bismarck sank slowly into the black icy depths.

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As the remaining air vented from the ship's interior, Bismarck righted herself and accelerated into the abyss. An estimated 15-20 minutes after leaving the surface, the hull crashed into an undersea mountain, setting off a huge landslide. Bismarck's remains, along with other large pieces of wreckage were carried down the slope to their final resting place. The ship was now on the bottom of the ocean at a depth of about 15,300 feet (4,670m), her hull upright and partially embedded in the mud. Some 2,300 souls went to their deaths in the cold ocean.

Bismarck had been in commission only eight months. The ship was considered virtually unsinkable. Her loss marked Germany's last major battleship engagement of the war.

The Search for the Wreck

It was May 1989, 48 years to the month since the great battleship had gone down. A lone research vessel had arrived in the area of the final battle.

Their mission was to find the Bismarck. The expedition was led by oceanographer Dr Robert Ballard, who discovered the Titanic in 1985. It would not be easy, surviving records of the battle gave at least three different positions as to where the battleship sank. The search area had to include all of them and would be some 200 square miles (520 square kilometres) in size, an enormous area of seafloor to survey.

Painstakingly, track lines were made along an imaginary seafloor grid. On June 5, 1989, after days of searching, evidence of a debris field was found. It took several more days before Bismarck herself was pinpointed. Although the expedition concluded with excellent remotely obtained photographs and film footage, no manned submersible had ever visited the Bismarck wreck until 2001.

In May 2001, Deep Ocean Expeditions and the Shirshov Institute mounted a successful expedition to deploy the first manned submersibles to visit the battleship at her final resting place, an area on the seafloor surrounded by a massive group of underwater volcanoes rising up from the ocean floor.

This was the first time humans had been aboard the Bismarck in 60 years. A memorial service attended by several Bismarck survivors and representatives from a number of the world's navies was conducted over the wreck. A memorial plaque was placed on the deck of the Bismarck to remember those who had fallen.

Your Dive into History

You will journey to the wreck of the Bismarck aboard the MIR I and II submersibles. These vehicles are capable of diving to depths as great as 20,000 feet (6,000 m), allowing them to reach 98% of the ocean floor. Beyond 800 feet (250m) all traces of sunlight will be gone and you will be immersed in total darkness. To conserve power, the MIR submersibles descend without external lights. However the pilot will, at times, switch them on to observe passing marine life.

Even in the darkness, the ocean is alive. Be sure to look for bioluminescent creatures, whose glowing characteristics require no illumination to be seen. By 4,000 feet (1,240m) the interior of the MIR will start to cool and you may wish to don extra clothing. Topside the Keldysh (only occasionally out of voice contact) will help navigate the MIR to the wreck site 14,200 feet (4,670m) below the ocean surface.

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