

wreck rap



The massive upturned stem of the battleship *Markgraf* rises 10 metres vertically from the seabed at 45msw.

Text by Rod Macdonald
Photos by Bob Anderson and Rod Macdonald. Underwater wreck scans courtesy of Professor Chris Rowland

One hundred years ago this year, on 21 June 1919, 74 warships of the Imperial German Navy High Seas Fleet were scuttled en masse at Scapa Flow, the deep natural harbour set in the Orkney Islands of northern Scotland that was the WWI base for the Royal Navy Grand Fleet. The scuttle was the greatest single act of maritime suicide the world has ever seen.

The 74 German warships had not been surrendered—they had been interned at Scapa Flow under British guard seven months earlier as a condition of the Armistice, which had halted the hostilities of the Great War in November 1918.

The majority of the sunken German warships were salvaged in the 1920s and 1930s, but three 25,390-ton *König*-class battleships—*König*, *Kronprinz Wilhelm* and *Markgraf*; three 5,531-ton light cruisers—*Dresden*, *Cöln* and *Karlsruhe*; the 4,315-ton minelaying cruiser *Brummer* and the

924-ton torpedo boat destroyer V83 were left on the bottom, along with the four great 1,020-ton 15-inch gun turrets of the battleship *Bayern* and assorted masts, spotting tops, guns, pinnaces and other

pieces of ships deemed not worthy of salvage. This profusion of submerged German WWI naval history has made Scapa Flow a world-renowned dive location—a “must” for serious wreck divers.

By late 1918, Germany had almost lost her major allies and her land forces were being pushed back on the Western Front. Large numbers of American troops had begun to arrive, and a sailors’ revolt had

begun during October, which had lit the fuse of revolution. The civilian population was starving as a result of the Royal Navy blockade of the North Sea from its Scapa Flow base.

Centenary of the Scuttle at **Scapa Flow** *of the Imperial German High Seas Fleet*

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Historical photo of the Imperial German High Seas Fleet vessels at anchor, taken from above Houghton Bay

The Armistice

German military leaders were pressing for surrender terms with the Allies, but the High Seas Fleet had survived the war relatively intact and therefore, as a condition of the Armistice of 11 November 1918, 74 of the newest ships of the High Seas Fleet—ten battleships, six battlecruisers, eight cruisers and 50 destroyers—would be interned at Scapa Flow with their guns disarmed under close British guard until a final peace agreement was reached. In effect, the High Seas Fleet was being held hostage.

With the Armistice finally called on 11 November 1918, the five battlecruisers *Seydlitz*, *Moltke*, *Von Der Tann*, *Derfflinger* and *Hindenburg*; the ten battleships *Baden*, *Bayern*, *Friedrich der Grosse*, *Grosser Kurfürst*, *Kaiser*,

Kaiserin, *König*, *König Albert*, *Kronprinz Wilhelm*, *Markgraf* and *Prinzregent Luitpold*; the six light cruisers *Cöln*, *Dresden*, *Emden*, *Frankfurt*, *Karlsruhe* and *Nürnberg*; the two mine laying cruisers *Brummer* and *Bremse*; and fifty 900-ton torpedo boats began to arrive at Scapa Flow under Allied guard and were moored up in neat rows.

The bulk of the German crews—some 20,000 sailors—were then repatriated to Germany, leaving only skeleton care-taking crews. The warships, although under Allied guard, remained German property and there were no British guards on board. The ships were prohibited from flying the Imperial German Navy ensign—with its black cross and eagle—and all wireless receivers had been taken away. The ships were cut off and

isolated from Germany.

The First Battle Squadron of the British Grand Fleet of five battleships, two light cruisers and nine destroyers was stationed at Scapa Flow and would keep a watchful eye on the 74 interned German warships.

Peace negotiations

The peace negotiations dragged on without resolution from November 1918 through the winter of 1918/19, into the early summer. The once proud grey German warships slowly became streaked with surface rust and marine growth from their long stay at anchor.

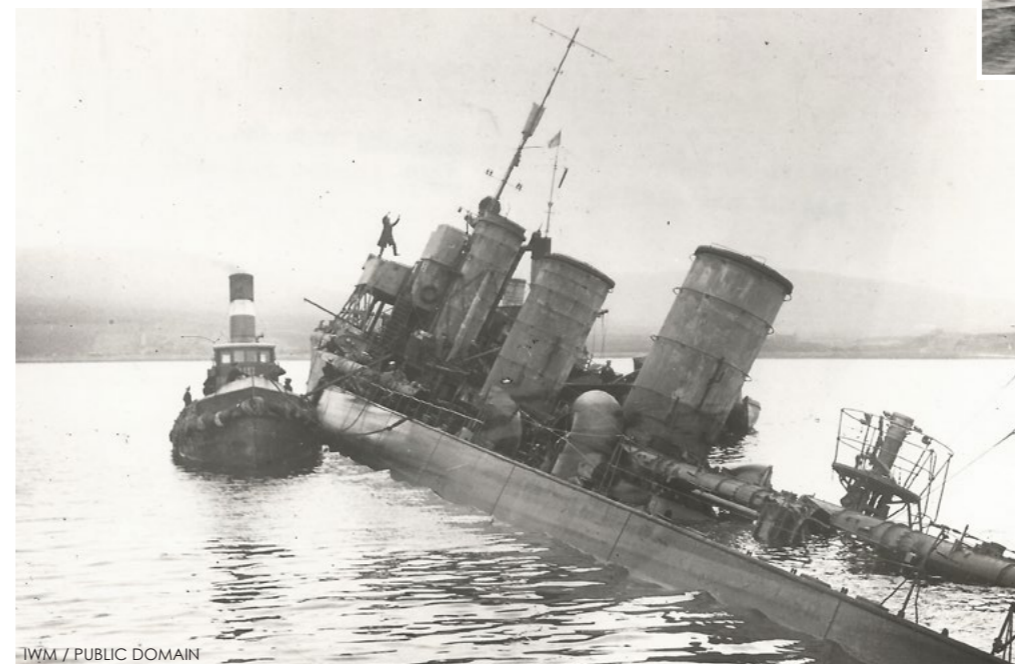
The British provided the Germans with four-day-old newspapers, in the belief that nothing sensitive could be gleaned from them. These papers were avidly read



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The 28,080-ton battleship *Bayern* (above) goes down by the stern during the scuttle of the Fleet; The 25,796-ton *König*-class battleship SMS *König* (top center); A British tug alongside the scuttled destroyer *G102* (left). A British rating is pulling down the German flags and prohibited ensign, raised before the scuttle began in a gesture of defiance.

not be prevented—he could not let that happen. (The Armistice had in fact been extended by two days, to 7 p.m. on Monday 23 June—but after the scuttling, von Reuter claimed he had not been advised of this; the British counter-claimed that he had been told. The jury is still out on that one).

At 9 a.m. on the morning of 21 June 1919, the British First Battle Squadron left Scapa Flow for the first time in the seven long months of internment, to carry out a long-range torpedo-firing exercise at sea. They were under orders to be back in Scapa Flow by the extended deadline of 23 June to deal with any trouble that might arise should the Armistice not be further extended. A small guard-force of three British destroyers—*Vegar*, *Vesper* and an unserviceable destroyer, *Victorious*—was left behind.

by the German sailors as they were one of the few means they had of keeping up with what was going on in the outside world. The German sailors were not allowed ashore and could not obtain any information from local sources.

After seven months of negotiation, the Allies gave the Germans five days—ending on 21 June—to accept their peace terms, failing which a state of war would exist again. On 20 June, the German commander Rear Admiral Ludwig von Reuter read the German counter-proposals to those Allied peace terms in the latest four-day-old newspaper, *The Times* of 16 June. The *Times* of 17 June was

then delivered—and this carried the official response of the Allies to the German counter proposals.

The Allies had refused to accept any of them, and from the British speeches reported in *The Times*, it seemed to von Reuter that there was little chance of a peace deal being agreed. He felt it likely that the Armistice would end on 21 June and a state of war be resumed—and that the British would then immediately seize the precious but powerless vessels of his Fleet. With only skeleton crews aboard and all guns disarmed, the seizure of the most modern and powerful ships of the High Seas Fleet could



König

Markgraf

Kronprinz Wilhelm

COURTESY OF ROD MACDONALD

The three *König*-class battleships *Kronprinz Wilhelm*, *Markgraf* and *König* lie close together on the seabed of Scapa Flow.

Giving the order to scuttle

At 10 a.m., von Reuter, now apparently believing that war would restart that day, appeared in full dress-uniform on the quarterdeck of his flagship, the light cruiser *Emden*. He could hardly believe his luck when he learned that the British guard squadron had left the Flow on exercise earlier that morning.

At 10:30 a.m., a string of command flags appeared over *Emden*, even though this was well outside the set times permitted by the British for issuing signals. The order read: "PARAGRAPH 11. BESTÄTIGEN"—which translates to "Paragraph 11. Confirm."

This simple command was the pre-arranged coded order to the commanders of the other ships in the Fleet to initiate the scuttling of their vessels. Unbeknownst to the British, for the last four days, von Reuter's trusted officers and sailors on each of the ships had been

taking steps to ensure a speedy and unstoppable scuttle if this order was given. Doors and hatches had been secured in the open position—some being welded open—so that the ships would flood more easily. Seacocks had been set on a hair turning and lubricated thoroughly. Large hammers had been placed beside any valves that would allow water to flood in if knocked off, and bulkhead rivets had been pried out.

Now that the order to scuttle had been given, seacocks were opened and disconnected from the upper deck to prevent any British boarding parties from closing them if they boarded before the ship went under. Seawater pipes were smashed, and

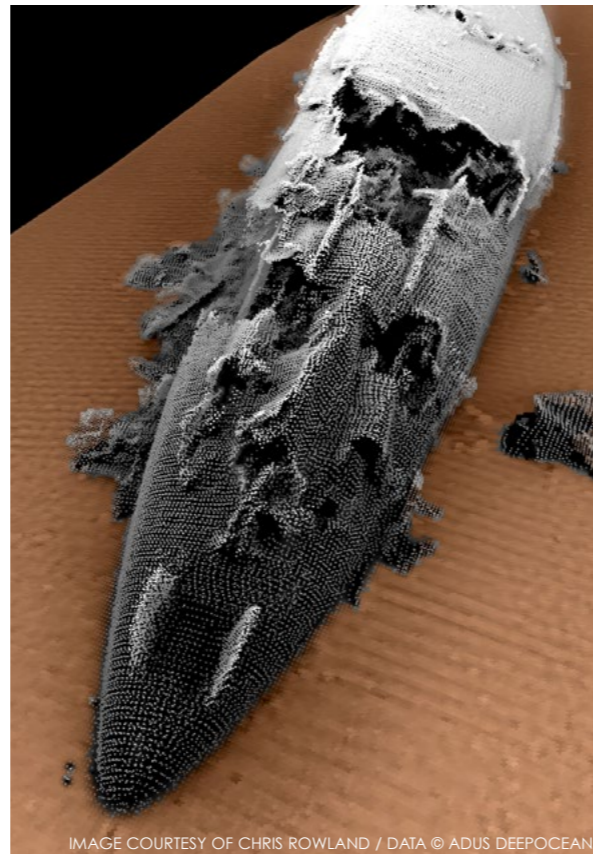


IMAGE COURTESY OF CHRIS ROWLAND / DATA © ADUS DEEPOCEAN

The delicate fantail of *Markgraf* is hard down on the sand. Note her twin rudders and blast damage caused by removal of prop tubes, and farther forward, the two beam torpedo tubes are visible. Docking keels are visible before the turbine room main blast damage.

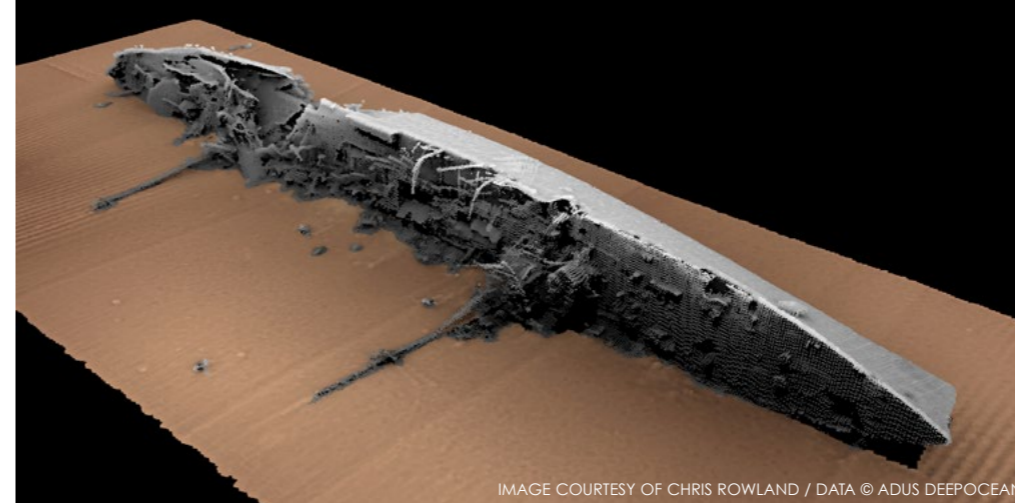


IMAGE COURTESY OF CHRIS ROWLAND / DATA © ADUS DEEPOCEAN

Scapa Flow

The light cruiser *Cöln* lies on her starboard side in 35m of water.

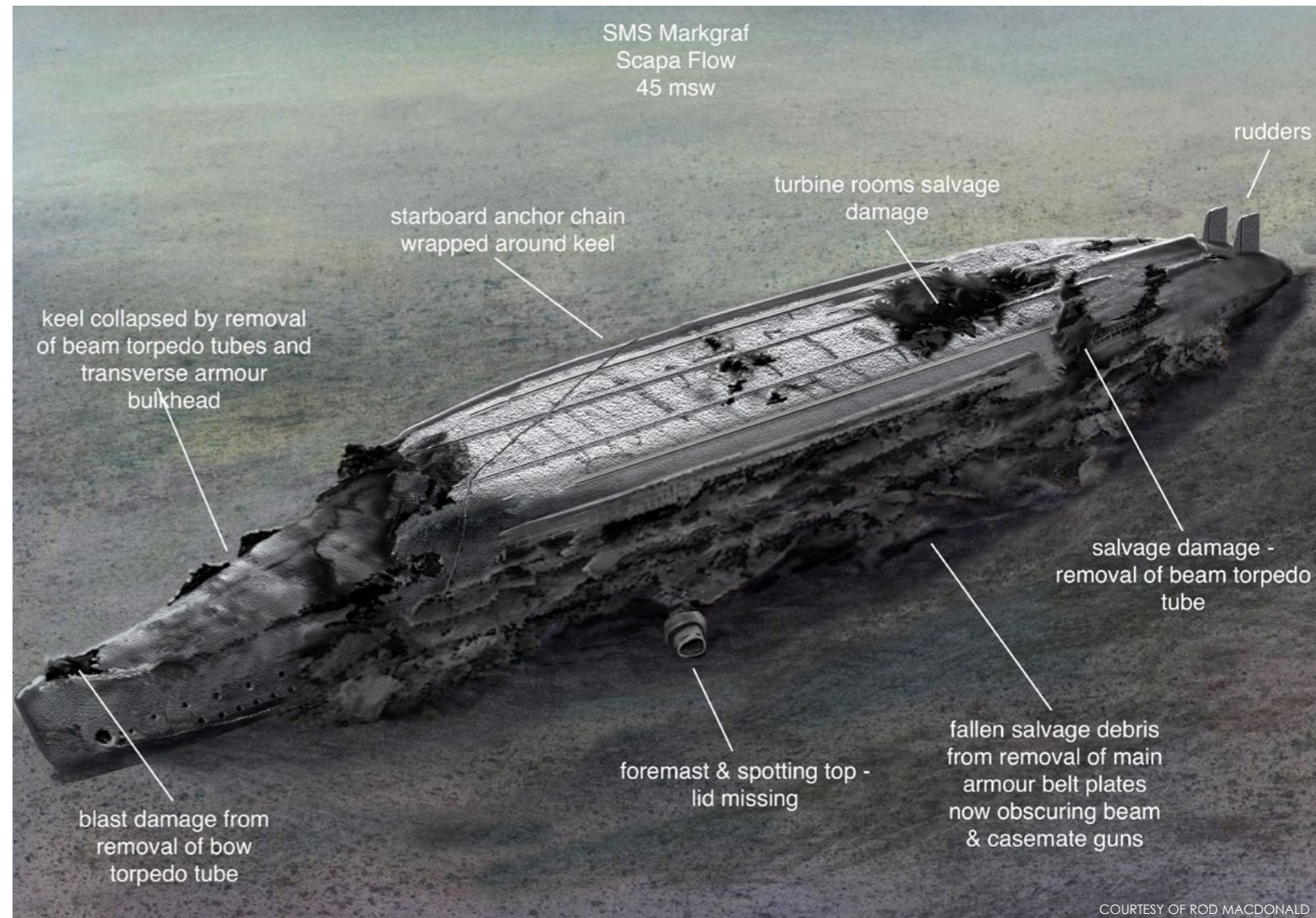
reached them.

The pre-arranged responses started to come back slowly—the first reaching *Emden* at about 11:30 a.m., just as the original signal to scuttle reached the last of the destroyers: "PARAGRAPH ELEVEN IS CONFIRMED."

In a patriotic gesture of defiance, many of the German ships ran up the Imperial Navy ensign at their sterns. The prohibited white flag, with its bold black cross and eagle, had not been seen at

condensers opened. As valves and seacocks were opened, their keys and handles were thrown overboard, so that they could never be closed again. Once the vessels started to scuttle, there was no way to stop the ships sinking other than by taking them in tow and beaching.

The signal to scuttle was repeated from ship to ship by semaphore and by Morse code on signal lamps—and travelled slowly around the German Fleet. The southernmost ships of the long lines of torpedo boats were not visible from the *Emden*, and it took a full hour before the order



SMS Markgraf
Scapa Flow
45 msw

keel collapsed by removal of beam torpedo tubes and transverse armour bulkhead

starboard anchor chain wrapped around keel

turbine rooms salvage damage

rudders

salvage damage - removal of beam torpedo tube

fallen salvage debris from removal of main armour belt plates now obscuring beam & casemate guns

foremast & spotting top - lid missing

blast damage from removal of bow torpedo tube

COURTESY OF ROD MACDONALD

The battleship *Markgraf* lies upside down in 45m of water.



© BOB ANDERSON

A diver gives a sense of scale to the twin rudders of *Markgraf*.

Scapa Flow before. Others ran up the red flag, the letter "Z," which in international code signalled: "Advance on the enemy."

Sinking ships

At noon, an artist who had hitched a ride on one of the patrolling Royal Navy drifters to sketch the German Fleet at anchor noticed that small boats were being lowered down the side of some of the German ships, against British standing orders. He alerted a British officer, but only 16 minutes later, the first of the warships to sink—the former flagship of Admiral Scheer at the Battle of Jutland, the *Kaiser-class* battleship *Friedrich der Grosse*—turned turtle and went to the bottom. Hundreds of German sailors now began to abandon their ships into

lifeboats.

Some of the great warships settled into the water on an even keel, whilst others rolled slowly onto their sides. Some went down by the bow or stern, forcing the other end of the ship to lift high out of the water. The top-heavy battleships moored in deeper water listed and then turned turtle as they sank. Those ships moored in shallower water settled onto the seabed, leaving their masts, top hamper and smokestacks standing above the water's surface.

The German ships began to sink in quick succession. Of the battleships, *König Albert* disappeared at 12:54 p.m., *Kaiser* at 1:25 p.m., followed closely by the almost simultaneous sinking of *Prinzregent Luitpold* and *Grosser Kurfürst* five minutes later at 1:30

p.m. *Kaiserin* went at 2 p.m., followed 30 minutes later by *Bayern* at 2:30 p.m.

The first of the battlecruisers to sink was *Moltke* at 1:10 p.m. On the nearby battlecruiser *Seydlitz*, the entire crew stood proudly to attention on the deck singing the German national anthem and watching as *Moltke* sank beside them. The crew of *Seydlitz* then had to abandon their own ship, and 40 minutes later at 1:50 p.m., *Seydlitz* followed *Moltke* to the bottom.

As each ship sank, a whirlpool was created in which debris swirled around, slowly being sucked inwards and eventually being pulled under into the murky depths. Oil escaping from the submerged ships spread upwards and outwards to cover

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Fractured turbine blades (left); Searchlight iris (lower left); The delicate stern of *Karlsruhe* (below) with deck planking still visible and kedge anchor resting on the seabed to the left. The upper section of this deck collapsed in 2015/16.

Scapa Flow

and lighting, and enabling systematic pumping to start. She was driven ashore and beached in Swanbister Bay in sinking condition.

A British drifter put an armed boarding-party aboard the battleship *Markgraf* to try and stop her flooding. The *Markgraf's* captain, Lt-Cdr Walther Schumann, delayed as long as he could before emerging to meet the boarding party waving a white flag. He refused to obey an order from the boarding-party to have

his own men go below and shut off the flood valves or to allow the Royal Navy boarding-party to do so. The British boarding-party attempted to force their way below decks to halt the scuttle. A scuffle broke out in which Schumann was shot through the head and died immediately, and another officer was seriously wounded. But enough had been done to ensure *Markgraf* went to the bottom at 4:45 p.m.

Here and there, small ship's

boats full of German sailors rowed through the flotsam, and in each, a sailor held a single white flag. Elsewhere, empty lifeboats rocked in the calm sea. Every now and then, a bubble of trapped air would escape from one of the submerged ships to break the surface and reveal the position of the ship below. British patrol boats moved slowly around, sometimes taking wallowing lifeboats in tow. Of the capital ships, only *Baden* would fail to be sunk.



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WWI's last German POWs and casualties

The 1,744 now homeless German officers and men were sent to prisoner-of-war camps in the north of England. After seven months incarceration, on 29 January 1920, von Reuter and the remaining POWs were taken by train to Hull, where they boarded the German steamship *SS Lisboa*, which took them home across the North Sea to Wilhelmshaven. They were the last German POWs of World War I to be repatriated—14 months after the rest of the combatants laid down their arms on

the surface of the sea with a dark iridescent film. Scattered across the Flow were lifeboats, hammocks, lifebelts, chests, spars, gratings and all the debris of a ship's passing.

British response

When it was realised that the entire German High Seas Fleet had started to scuttle, Sir Sydney Fremantle, now far out to sea with the First Battle Squadron, was advised and he immediately ordered his Squadron to return to Scapa Flow at full speed.

The two serviceable British guard destroyers *Vegar* and *Vesper* fired warning shots with their main guns and fired with machine guns and small arms as they closed on the sinking ships. Three German sailors in a lifeboat containing 13 men were killed and four were wounded. The others were ordered back aboard

their ships and forced by threats of further shooting to turn off the flood valves.

At 2 p.m., the vanguard vessels of the British First Battle Squadron, returning at full speed from their aborted exercise, entered Hoxa Sound, the main entrance to Scapa Flow from the south. Many of the German capital ships were already at the bottom of Scapa Flow, whilst those remaining afloat were in the advanced stages of sinking.

One Royal Navy destroyer immediately broke off from the Squadron and using explosives,



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cut the anchor cable of Reuter's flagship, *Emden*, and successfully towed her to the shore where she was beached. Other British destroyers fired warning salvos of shells from their main guns. Armed boarding-parties went aboard the battleship *Baden* where they managed to restart the diesel generation units, restoring power

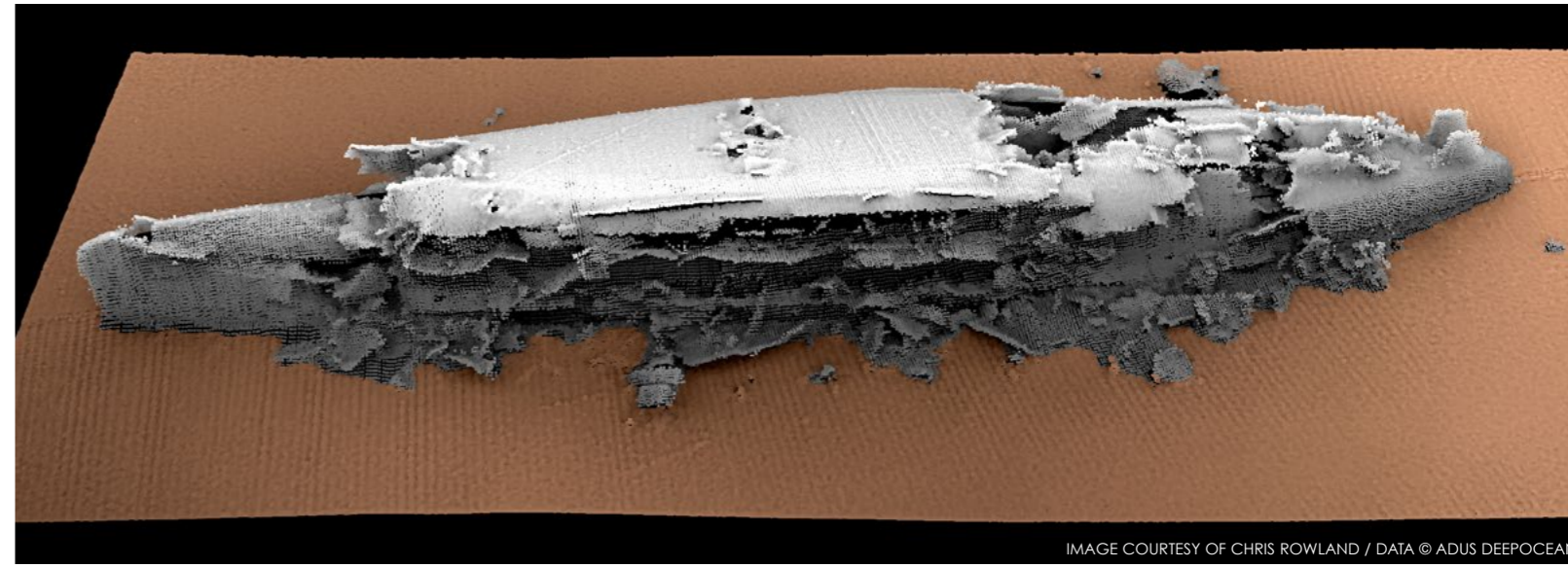


IMAGE COURTESY OF CHRIS ROWLAND / DATA © ADUS DEEPOCEAN

Starboard side of *Markgraf*. The bow is to the left.



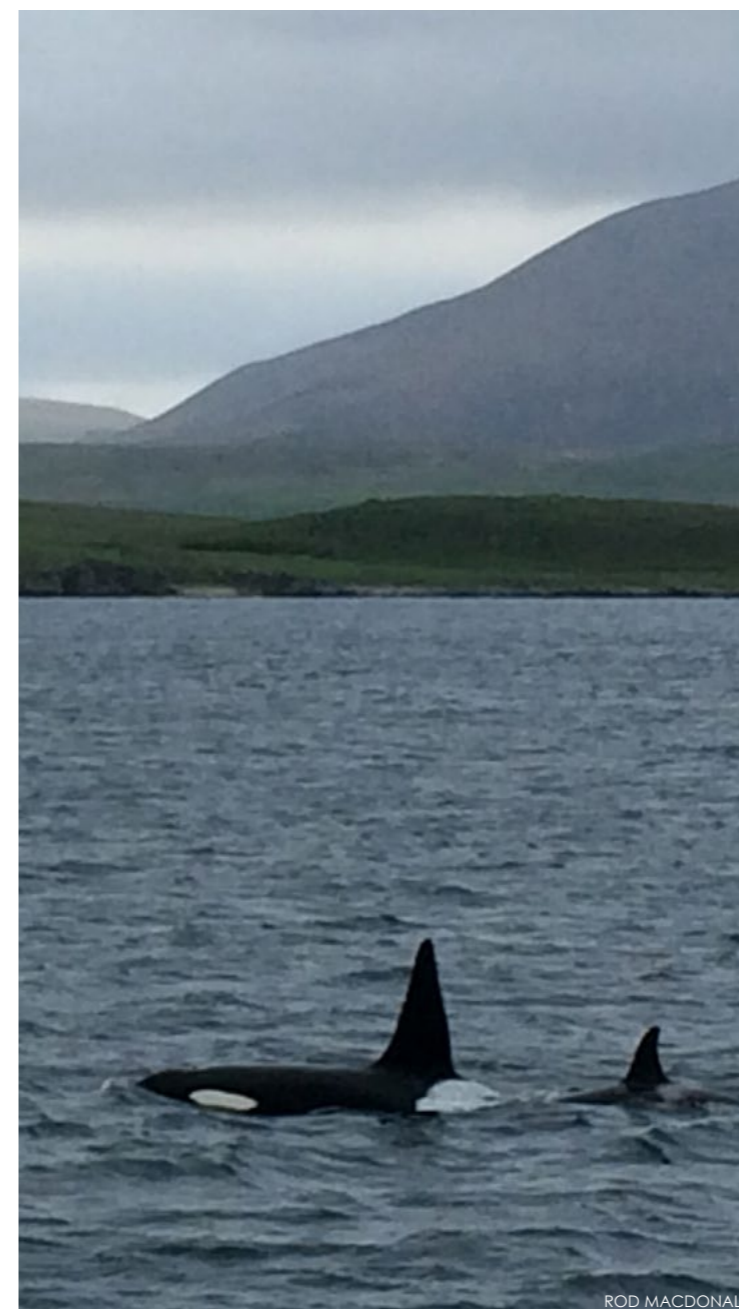
Rod Macdonald surfaces after a dive on one of the wrecks, with the dive boat MV *Halton* in the background (below); Ready to splash in, on a blustery day in Scapa Flow (right)



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ROD MACDONALD



Orcas in front of the hills of Hoy

ROD MACDONALD

Armistice Day, 11 November 1918.

The 13 German sailors who had been shot that fateful day, 21 June 1919, were the last casualties of the First World War, which ended on 28 June 1919—seven days after the might of the German High Seas Fleet had sunk dramatically to the bottom of Scapa Flow.

Salavage

The majority of the scuttled German warships were raised intact in the coming decades, in a monumental feat of ground-breaking salvage work that would be hard to replicate today. Those ships left, that we dive today, were considered to be in water too deep or to be sitting at difficult angles that made sealing all their openings for lifting by compressed air impractical.

Prolific wreck site

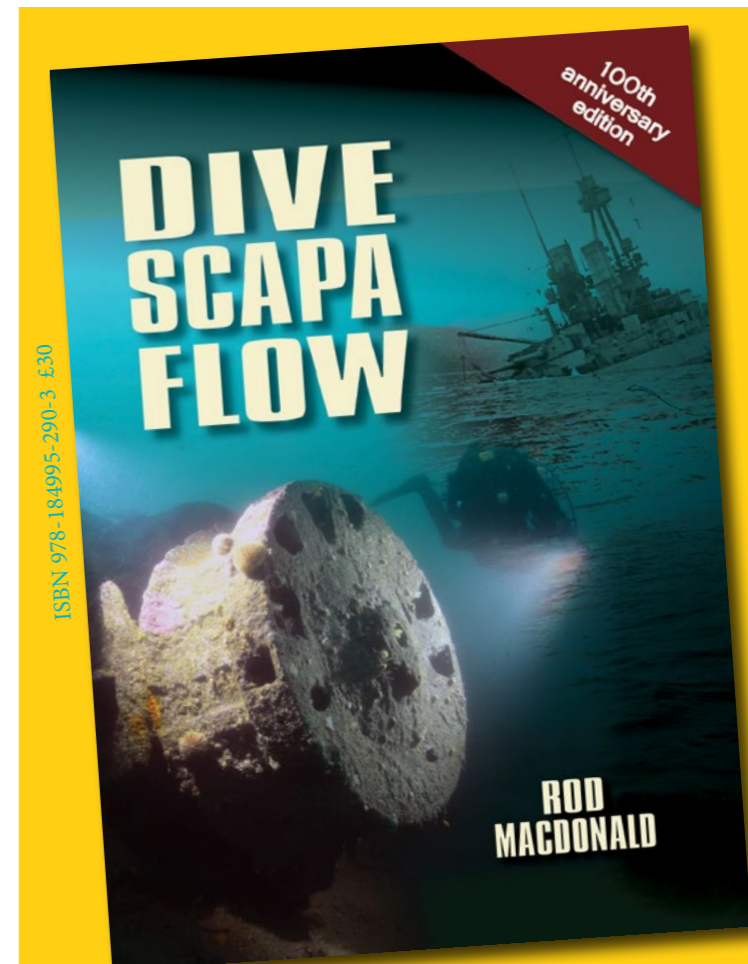
Today, the historical importance of the High Seas Fleet ships that were left, coupled with the many other shipwrecks in the area, make for one of the world's most prolific wreck sites. After all, where else can you dive three German WWI dreadnought battleships and four cruisers all lying in depths suitable for recreational scuba divers?

When you come to dive Scapa Flow, you are immediately struck at what a centre for diving Orkney is. When you step off the ferry from the mainland at Stromness, you will see the harbour packed with rugged but well-equipped dive boats with groups of divers of up to 12 aboard, each fettling over their kit. Racks of scuba cylinders and closed circuit rebreathers of every variety line the kitting up benches

on dive decks whilst compressors clatter away, filling tanks for the next day's dive.

Scapa Flow attracts divers from all over the world, but there are so many wrecks that there is never any diver saturation on a particular wreck. Most times, you have the wreck to yourself. It takes years to get to know the German shipwrecks properly, to become familiar with these amazing shipwrecks, and to understand the sense of history that still pervades Scapa Flow both beneath and above the waves. ■

Rod Macdonald is the author of the book, Dive Scapa Flow, published in 2017 by Whittles Publishing Ltd. Available also on Amazon.



ISBN 978-184995-290-3 £30

The classic guide to diving the scuttled German WWI High Seas Fleet wrecks has been completely rewritten, updated and expanded.

Enriched with new wreck illustrations, new underwater photography and cutting edge scans, the wrecks of Scapa Flow are revealed in stunning detail.

Rod is one of the world's pre-eminent shipwreck explorers and an international best-selling author of a number of classic shipwreck diving books. In 2015 he was inducted into the prestigious Explorers Club.



[Above] Artist's impression of the wreck *Cöln*.
[Left] HMS Hampshire's 43-ton manganese bronze port propeller. (© Ewan Rowell)

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The US Navy aircraft carrier USS *Wasp* in May 1942 (above). *Wasp* burning on 15 September 1942, after being torpedoed (right).



Wreck of WWII aircraft carrier USS *Wasp* found

The aircraft carrier USS *Wasp* was located only a month after discovering another World War II-era shipwreck, the USS *Hornet*, which sank nearby, off the Solomon Islands.

The carrier sits upright in 4,345m (14,255ft) of water, though parts of the hull appear to have split.

The *Wasp* played a pivotal role on multiple fronts during WWII, providing defensive fighter cover for American army planes landing in Iceland and aiding missions to Malta, a location hit daily by German and Italian planes. On her final voyage, *Wasp* was under

way in the Coral Sea, escorting transports carrying the Seventh Marine Regiment to reinforce US troops on Guadalcanal, where Japanese forces were pushing back against American efforts to seize the Solomon Islands.

Hit by four torpedoes

On Tuesday, 15 September 1942, US carriers *Wasp* and *Hornet* and battleship *North Carolina*, with 10 other warships, were escorting the transports carrying the 7th Marine Regiment to Guadalcanal, when USS *Wasp* was hit by four Japanese torpedoes from the Japanese submarine I-19.

Explosions ripped through the flight deck forward as *Wasp's* ammunition magazines and avia-

tion gas stores caught fire. Only when assured the *Wasp* had been successfully abandoned did Capt. Forrest P. Sherman leave the burning ship.

Scuttled

USS *Wasp* remained crippled but afloat, and the destroyer USS *Lansdowne* received the order to scuttle her. After three torpedo hits from *Lansdowne*, she went below at 2100 hours. All but one of her 26 airborne aircraft made a safe trip to carrier *Hornet* nearby before *Wasp* sank, but 45 aircraft went down with the ship. One hundred and seventy-six men of the 2,248 aboard perished in the attack. ■ SOURCE: PAULALLEN.COM

Wreck of US WWII B-24 bomber discovered off Bermuda

The remains of a US World War II bomber, which crashed into the sea moments after take-off from Bermuda, has been found by a team from the University of Delaware.

A spokesperson for the Bermuda Institute of Ocean Sciences said the heavily-loaded aircraft had just taken off on what was expected to be a routine ferry flight from Bermuda to Lagens in Portugal when it crashed into Castle Harbour on the northeastern end of Bermuda's main island. Four of the flight's nine crew members were rescued from the sea, and the bodies of two others were recovered, but three more were never found.

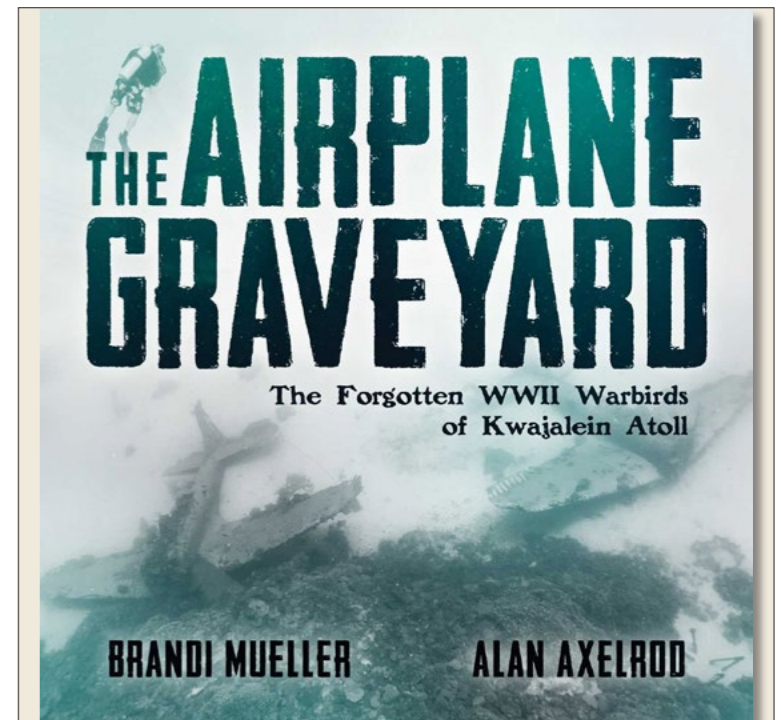
Seventeen undergraduate students from the University of Delaware's College of Earth, Ocean and Environment (CEOE) spent winter session at the Bermuda Institute of Ocean Sciences (BIOS). Besides taking classes, the students benefited from hands-on experience using an autonomous underwater vehicle (AUV) and a remotely operated vehicle (ROV).

This active experience led the students to discover parts of the B-24 lying in 50ft of water a few hundred meters from what was the end of a runway during WWII. Before setting out with the AUV to look for the plane, the students investigated reports about the plane crash and weather conditions on the night of the crash. They compared newer maps against older maps and were able to guess coordinates to plug into the AUV for the search.

Since the B-24 was one of the most widely produced planes of WWII this discovery may not be of significant historical significance, but it will help to bring closure to the families of the missing crew members. ■



The Consolidated B-24 Liberator is an American heavy bomber, which was used extensively in World War II. It served in every branch of the American armed forces, as well as several Allied air forces and navies, and saw use in every theater of operations.



Never before published in book form, see extraordinary images of the forgotten American WWII airplanes resting on the bottom of the Kwajalein Atoll lagoon, from award-winning underwater photographer Brandi Mueller. Available on:

Amazon.com



PETER SYMES

(File photo) Additional ancient Greek shipwrecks will soon be made available to the public.

Greece to allow recreational diving on still more wrecks from antiquity

Greece's culture ministry has announced that some of the country's vast heritage of ancient shipwrecks will be accessible to the public for the first time.

Greece's rich underwater heritage has long been hidden from view, off-limits to all but a select few, mainly archaeologists. Now, that seems to be changing,

with a new project to create underwater museums.

For many years and until 2004 or so, Greece had largely banned recreational diving except within very few restricted areas, out of concerns that undersea ancient artefacts would be pillaged. But now the country has begun granting access to still more of its rich underwater heritage.

Peristera shipwreck

Near the northern Greek island of Alonissos lies the remains of a

massive ancient cargo ship, which will become the first ancient shipwreck to be made accessible to the public in Greece, including to recreational divers.

Significant wreck

The Peristera shipwreck, named for the uninhabited Greek island opposite Alonissos, is the largest ship of its time to have been found, and its discovery was of major significance to historians. Researchers had previously believed a trading vessel of that

type did not exist until the Roman era some 400 years later. So when it was discovered 40 years ago, it completely changed our understanding of shipbuilding in the ancient world.

4,000 amphoras

The cargo ship was laden with thousands of amphoras, or vases, probably containing wine, when it sank in the late 5th century B.C. All that survives is the cargo, the exposed parts of the wooden ship having long since rotted away.

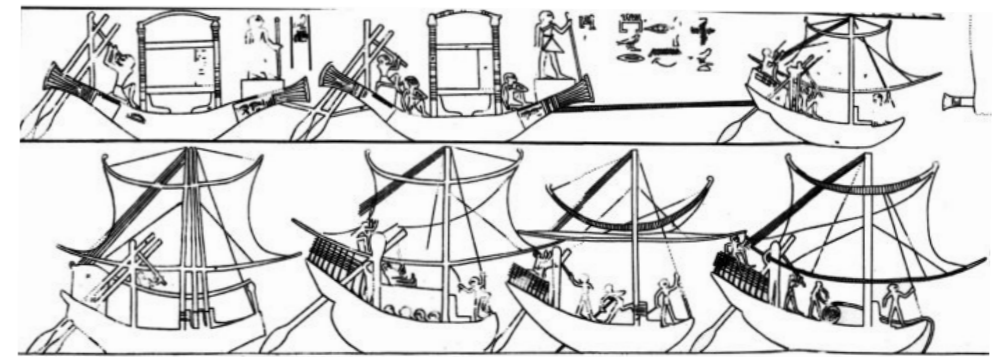
The thousands of amphorae and other artifacts created a 25m-long, 10m-wide and 3m-high mound. Only a small part has been excavated, and experts have yet to determine how or why it sank, or what other treasures it might have carried beneath the estimated 4,000 amphoras in its hold. There are indications a fire had broken out on board, but it's unclear whether that contributed to its sinking.

Surprise

"Up to then, we thought that large ships that were carrying 1,500 amphoras and were up to 70 tons, they were built by the Romans in the 1st century B.C.," said Elpida Hadjidaki, the first archaeologist to excavate the site. "Well, now we have a ship that was not built in the first century B.C., it was built in the fifth century B.C., it carried 4,000 amphoras and God knows what else, and it's 126 tons."

Important sea route

The large number of wrecks found around these islands by the Greek Department of Maritime Antiquities indicate that this sea route has been favoured since prehistoric times for trade between Macedonia, Byzantium and the Black Sea. ■ SOURCES: ASSOCIATED PRESS, BULLETIN DE CORRESPONDANCE HELLÉNIQUE



A mysterious river barge that famed Greek historian Herodotus described nearly 2,500 years ago has finally been discovered.

Unique 2,500-year-old wreck found in the Nile

Archaeologists in Egypt have discovered the wreck of an extremely rare vessel, which was described by the Greek chronicler Herodotus about 2,500 years ago.

The ship, known as a *baris*, and its unique method of construction was first described by the Greek historian Herodotus about 450 B.C., who noted how the builders "cut planks two cubits long [around 100cm] and arrange them like bricks". He added: "On the strong and long tenons [pieces of wood] they insert two-cubit planks. When they have built their ship in this way, they stretch beams over them... They obturate the seams from within with papyrus."

But until now there was no actual archaeological evidence of such vessels and as a result, historians have spent centuries arguing over Herodotus' account of the vessels.

The *baris* would have been used to transport goods and may have also carried troops along the Nile. The barge is one of more than 70 wrecks found in what is described by experts from the European Institute for Underwater Archaeology (IEASM) as the world's largest "graveyard of ancient ships."

The ship found, known as "Ship 17," measures up to 28m in length. It was constructed using an unusual technique to join thick wooden planks together, and had a distinctive steering mechanism with an axial rudder passing through the hull.

According to Herodotus, the rudder passed through the keel of the boat. The axial rudder was known in Egypt from the 6th Dynasty (c. 2323–2150 B.C.) and can be traced through representations and models till the end of the Pharaonic period and beyond; however, no archaeological evidence for this type of rudder had ever been found.

Herodotus was right

"It wasn't until we discovered this wreck that we realised Herodotus was right," Damian Robinson, the director of Oxford University's Centre for Maritime Archaeology, told *The Guardian*. "What Herodotus described was what we were looking at." ■ SOURCES: THE GUARDIAN, INTERNATIONAL JOURNAL OF NAUTICAL ARCHAEOLOGY



Astrolabe discovered in 516-year-old Portuguese wreck off Oman

While searching for shipwreck remains near Oman in the Arabian Sea in 2014, divers discovered an unusual metal disk that has since proven to be the world's oldest known mariner's astrolabe, British researchers report.

Astrolabes are considered to be the rarest and most prized of artefacts to be found on ancient shipwrecks—only 108 have been recovered by archaeologists. The astrolabe in question was located during an excavation of the wreck of the *Esmeralda* in 2014. The vessel was part of an expedition to subdue local merchants along India's Malabar Coast undertaken by Da Gama in 1502, several years after the Portuguese explorer had successfully pioneered a trade route around the tip of Africa to India in 1497.

The artefacts were discovered by David Mearns of Blue Water Recoveries, the oceanographer who in 2001 located the wreck of the Second World War Royal Navy battleship *HMS Hood*, and *Bismark*—the German

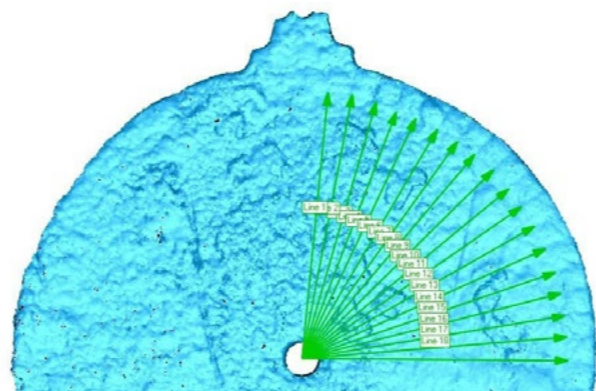
ship, which sunk it.

"Without the laser scanning work performed by WMG [Warwick] we would never have known that the scale marks, which were invisible to the naked eye, existed," he said. ■

SOURCES: WARWICK UNIVERSITY, INTERNATIONAL JOURNAL OF NAUTICAL ARCHAEOLOGY



Guinness World Records have independently certified an astrolabe excavated from the wreck site of a Portuguese Armada Ship that was part of Vasco da Gama's second voyage to India in 1502-1503 as the oldest in the world, and have separately certified a ship's bell (dated 1498) recovered from the same wreck site also as the oldest in the world.



A metal disk found at a shipwreck site near Oman is the oldest known mariner's astrolabe, a device for navigating at sea.

Bronze Age shipwreck discovered off Turkey could be the world's oldest

A 3,600-year-old shipwreck has been discovered off the shores of southern Turkey's Antalya Province, the provincial governor's office has announced. The shipwreck, found by the Akdeniz University (AU) Underwater Research Centre teams, is reported to be the oldest in the world. The 14m-long shipwreck was

found at a depth of 50m, with 1.5 tons of copper bullion inside of it. The typology of the ingots shows that it is a merchant ship of the 16th century B.C. "This discovery is the Göbeklitepe of underwater archaeology," said Antalya Governor Münir Karaloglu, referring to the earliest known temple found in Turkey's southeast.

Associate professor Hakan Öniz and director of Akdeniz University's Underwater Research Centre speculated that the ship was probably caught in a storm on its way from the island of Cyprus to an Aegean region 3,600 years ago. ■

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