Challenger Expedition Encyclopedia Article

Challenger Expedition

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Challenger Expedition

The British Navy vessel H.M.S. *Challenger* circumnavigated the world between December 1872 and May 1876, conducting history's first systematic, scientific investigation of the world's **oceans**. The *Challenger* expedition gathered a body of data that has been matched by few voyages of discovery. The science of modern **oceanography** essentially began with the *Challenger* expedition.

The *Challenger* was a 200 foot (67 m), three-masted, square-rigged wooden sailing ship equipped with an auxiliary steam engine. Fifteen of its 17 gun bays were rebuilt as laboratories, workrooms, and storage spaces for scientific equipment. It carried a crew of five scientists, an official artist, 20 officers, and about 200 sailors.

The *Challenger* began its voyage by crossing the Atlantic four times, discovering the Mid-Atlantic Ridge in the process. It then visited **Africa**, **Antarctica**, New Zealand, New Guinea, China, Japan, Hawaii, the South **Seas**, and the tip of **South America**, studying not only the sea itself but the fauna, flora, and geography of numerous islands. The *Challenger* team made 362 regularly-spaced midocean measurements of depth, **temperature**, and currents and used special dredges to collect samples of life, ooze, and rocks from the ocean floor. This expedition produced the first global cross-section of the ocean's depth profile and identified over 4,700 ocean-dwelling animal species never before known.

The *Challenger* returned triumphantly to **Europe** freighted with tens of thousands of photographs, drawings, measurements, and biological and geological samples. Publication of the results took 20 years and required 50 thick volumes totaling almost 30,000 pages. Data from the *Challenger* expedition are still cited occasionally in modern scientific literature.

A century after the first *Challenger* expedition, the research drillship *Glomar Challenger* (1968–1983) cruised the world's oceans gathering data that were also to prove revolutionary for Earth sciences. Its deep-sea core samples confirmed the theory of continental drift and revealed for the first time that the oceanic **crust** is extremely young compared to the continental crust.

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Deep Sea Exploration