

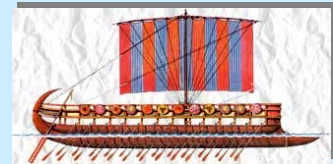
Marine History

From Ancient to Modern

Ancient Explorers

Phoenicians

- Navigators and Merchants to England
- Successful and Brave



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Ancient Explorers

Greeks = Creative Minds

- 350 b.c. Aristotle
Catalogue of Marine Organisms
- 25 a.d. Pliny
Currents and Moon Phases
- 135 a.d. Ptolemy
First World Atlas



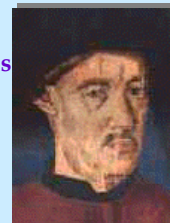
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European Explorers

Prince Henry Of Portugal

- School for navigation
- Scholarly Monarch
- Focused on Scientific Principles



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European Explorers

Captain Cook

- Great Navigator and Discoverer
- Found Hawaiian Islands and many other Pacific Islands
- Native of England



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Early American Marine History

Benjamin Franklin 1750

- Charted the Gulf Stream
- To increase postal service
- To increase vessels speed
- To gain advantage in war time



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More Recent Exploits

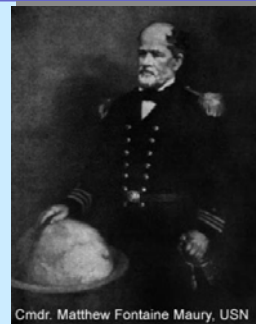
Matthew Maury 1850

- Wrote *Physical Geography of the Sea*
- Considered the first Oceanographer
- His data is still being used today
- He was the leader of the *U.S. National Ocean Survey* which became the *U.S. Navy*

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Matthew Maury 1850



Cmdr. Matthew Fontaine Maury, USN

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More Recent Exploits

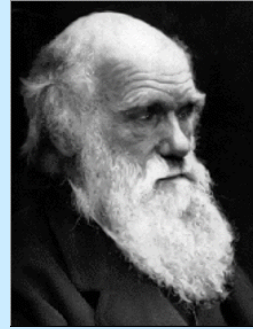
Charles Darwin

- *HMS Beagle* 1850
- Classified, collected and studied marine organisms
- Three year oceanic study by *English Navy*
- Darwin discovered and drew new species of animals from all over the world

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Charles Darwin



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International Marine Impact Studies

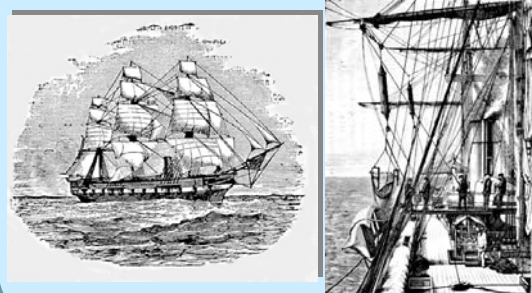
HMS Challenger 1870

- 3 ½ year study
- First true research ship
- *Challenger Reports* = 50 volumes
- Discovered the principle of Constant Proportion and Manganese nodules
- Thompson = Leader, Natural History
- Murray = Assistant, Geologist
- Information is still currently used

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HMS Challenger



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International Geophysical Year - 1957

- International Impact
- International Co-operation
- Nations share Oceanic Research
- Founding of Antarctic research stations

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International Geophysical Year - 1957



South Pole Research Station Established

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Research Vessels

Glomar Challenger

Examples of Uses:

- Deep Sea drilling samples
- Seafloor spreading evidence
- Determine the age of our Planet
- Discover Natural Resources

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Glomar Challenger



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Research Vessels

Joides Resolution

- Vessel belongs to Texas A & M University
- Ten year international study
- Study of the Earth's Crust, fossils, Sediments and Circulation

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Joides Resolution



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Project FAMOUS 1974

- *Alvin* played a pivotal role in Project FAMOUS (French-American Mid-Ocean Undersea Study).
- Along with the French submersibles *Cyana* and *Archimede*.
- *Alvin* helped the French and American scientists confirm the theory of sea-floor spreading along the mid-Atlantic Ridge.

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Project FAMOUS 1974

Project FAMOUS 1974

- Study of Plate Tectonics
- Study of Hydrothermal vents
- Sensors (Echo Sounders) located in the stern
- Satellite link to onboard computers
- *Alvin* allowed researchers to conduct biological, chemical, geochemical, geological and geophysical studies.

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Submersibles

Alvin, Archimede and Cyana

- Modern, smaller with safety escape systems
- Gather current data on the oceans depths or the benthic area
- ROV = Remotely Operated Vehicle is a robot which is used by a submersible.
- ROV's are unmanned, and can enter more dangerous areas.

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Research Vessel Alvin



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Research Vessel Archimede



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Submersibles

Bathyscapes

Trieste = Expensive

Larger, first types of Submersibles

Larger Crew, slower and no escape pod

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The Trieste



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3 Famous Modern Mariners

- *Fridtjof Nansen*
- *Jacques Cousteau*
- *Dr. Robert Ballard*

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Captain Nansen



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Captain Nansen

Research Vessel Fram ~ 1900

- **Involved in Arctic Research**
- **Invented the Nansen bottle which took water from different depths to determine Salinity, Temperature and Organisms**
- **From Norway as Zoologist and Statesman**
- **He earned the Nobel Peace Prize in 1922**

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Jacques Cousteau



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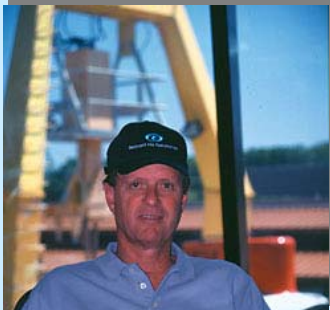
Jacques Cousteau

- Marine Explorer ~ concerned with life in the Oceans 1950's ~ 1990's
- Environmentalist ~ Endangered Species
- Biological Research Vessel *Calypso*
- Invented SCUBA with Emile Gagnon
- Documentary TV Shows in the 1970's
- French WWII Hero and Spy

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Dr. Robert Ballard 1970 ~ Current

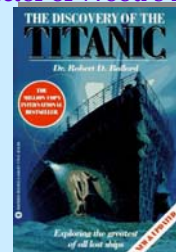


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Dr. Robert Ballard 1970 ~ Current

- Navel research Officer
- Marine Geologist & director of Wood's Hole
- Wrecks Found:
 - Titanic*
 - Bismarch*
 - Lusitania*
 - WW II Ships*
 - Greek Vessels*



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Dr. Robert Ballard 1970 ~ Current

- Developed Better Submersible adaptations
- Increased the knowledge of Plate tectonics
- Studied Hydrothermal vents
- Developed Project Jason



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Major Institutes of Marine Study

- Office of Naval Research
- Scripps's Institute of Oceanography
- Wood's Hole Oceanographic Institute

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Office of Naval Research



Research and Weather Prediction

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Woods Hole ~ Maine



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Scripps's Institute ~ California



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The End

RESEARCH NEVER ENDS

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