


## Module 2: The History of Oceanography

### Topic 2 Content: Voyages of the Vikings and Chinese

Middle Ages:  
800 AD – 1400 AD.

Very little societal advancement.

Also called the Dark Ages, a period of intellectual darkness.



Renaissance historian  
Leonardo Bruni coined  
concept of Middle Ages..

Generally, we associate the feudal Middle Ages with grand castles and knights in shining armor. Technically, Middle Ages refers to the period from around 800 AD to around 1400 AD, during which occurred very little societal advancement. As such, many historians also refer to this period as the Dark Ages stemming from the fact that Europe seemed to go through a period of intellectual darkness. Indeed, this was a period in Europe with very little communication and minimal advancement in the fields of science and geography.


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What caused the Middle Ages?

- 1) Continual Viking invasions throughout Northern Europe.
- 2) Rise to power of the Catholic Church.
- 3) Very few people could read and write.

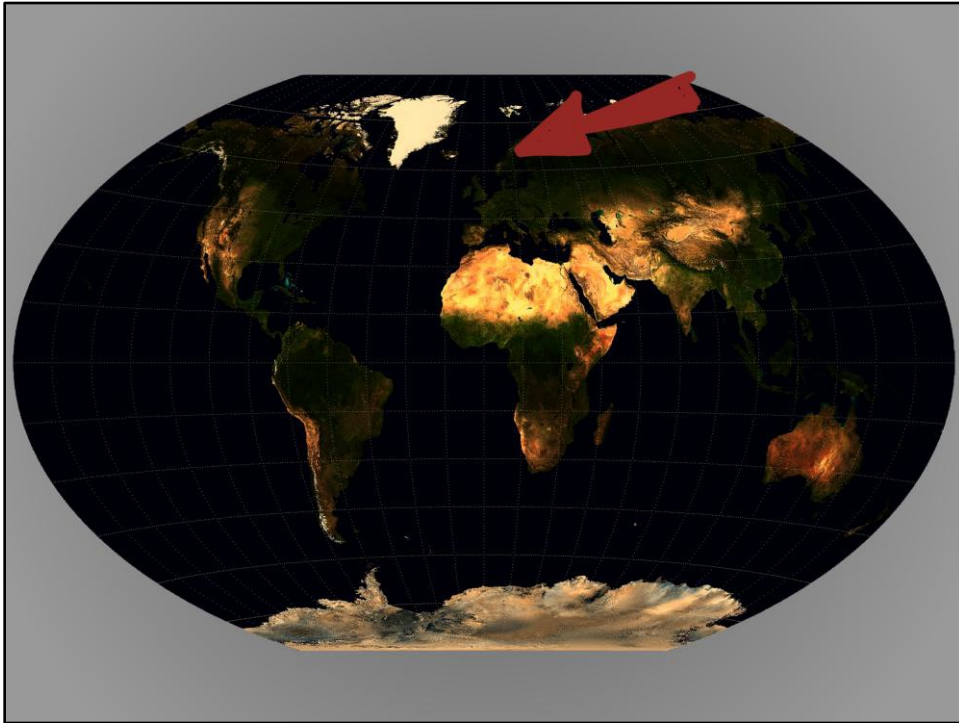


What caused the Middle Ages? Historians speculate that this dark period resulted from a three major factors. First, historians believe the Vikings continually invaded parts of Northern Europe, causing great damage to the societies and their cultures. Secondly, historians suggest that as the Catholic Church rose to power it exerted a strong influence over the ways in which societies and governments operated. Third, historians note that very few people had sufficient education to allow them to read and write. All of these factors led to a general inability across Europe to undertake scientific endeavors and to make new discoveries in most scientific fields, including studies of the ocean.

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While busy invading Northern Europe, the Vikings were the only major European culture to succeed in undertaking new voyages, which led to new discoveries both geographic and oceanographic.

Image Credit: NASA

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During the period from 790 AD until about 1100 AD, the Vikings invaded and conquered societies throughout Northern Europe. In so doing, they also established new trade routes. Historians believe that the early Viking's benefited from a warmer climate and a lack of sea ice in the north – much warmer than Northern Europeans experience today. This warmer climate enabled the Vikings to travel farther on extended voyages.

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The Vikings were so successful that historians have found evidence of Viking trade spanning Great Britain, Ireland, North Africa, and even into parts of Asia! Surprisingly, the Vikings also ventured far to the west due to the lack sea ice. As the Vikings traveled west they discovered and settled parts of Greenland and Iceland.

Unfortunately, the Viking settlements would not last through a period of global cooling called the Little Ice Age. During this period, the climate became harsh and the sea ice returned, making the Vikings' voyages extremely difficult. Historians believe that, by 1450 AD, the poor climate conditions resulted in the collapse of the Vikings' settlements in Greenland and Iceland.

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Leif Ericson Arrives at American Continent

The Vikings made two important voyages before the sea ice returned. The first important voyage, led by Eric the Red, occurred in 982 AD. Eric completed the first transatlantic voyage and discovered the Baffin Island region of Canada.

The second important voyage, led by Eric's son Leif Ericson, occurred in 995 AD. Leif ventured even farther west to settle what is now Newfoundland, Canada, which Leif named Vinland at the time.

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Replica of Viking Ship, *Hugin*

Fortunately, archeologists and historians know a lot about the Vikings, especially their ships! How so? Well, Vikings commonly buried their dead in their ships. In fact, archeologists have recovered and studied over 400 ships.

Based on these findings, it seems Vikings constructed at least two types of ships. The first type of ship specialized in military battles and voyages such as raiding, pillaging, and invasions. The second type of ship was for carrying people and cargo. Of course, both types contained a strong hull and were very seaworthy. Many Viking ships had sails and special ports for oars.

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For their time, the Vikings may have been the most advanced European nation during the Dark Ages, but they were not the only seafaring society to make major advancements. Far east of Europe, the Chinese were also making many important discoveries, particularly in navigation and shipbuilding.

Image Credit: NASA



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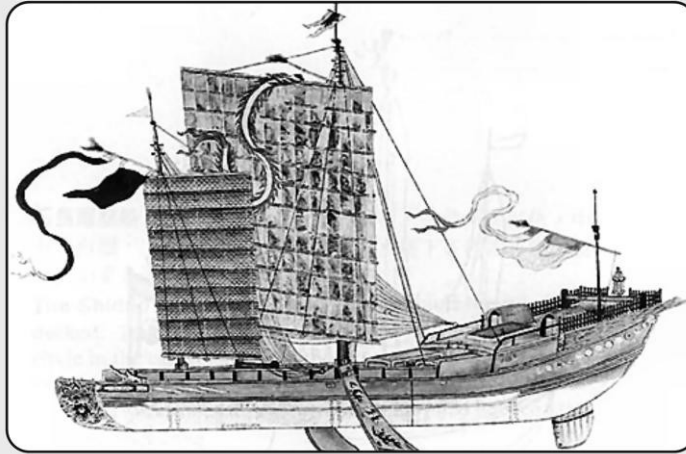
Han Dynasty South-pointing Compass

Among the numerous innovations by the Chinese, historical records indicate the Chinese invented the first magnetic compass. Although historians are unsure of exactly when the Chinese invented the compass, available literature points to its invention sometime around 1125 AD. It would take Europeans another 275 years before they fully understood compass navigation.

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Junk from the 13<sup>th</sup> century Song Dynasty

The Chinese were also amazing ship builders. Their ships contained advanced features such as central rudders and watertight compartments; two essential components of modern ships! Chinese ships were so advanced that historical records indicate a fleet of 300 ships sailed to 37 countries, and even went so far as the southern tip of Africa!

Historians and archeologists speculate the perhaps the Chinese may have, in fact, circumnavigated the entire globe long before the Europeans, including the Americas and Arctic Seas. Researchers base their speculation on artifacts discovered in various locations throughout the world, which trace back to ancient Chinese decent, as well as writings in Chinese literature describing animals in far away continents.

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