



Marine History and Navigation

Social Science

Early Exploration

- ◆ 3000BC - Egyptians
- ◆ 1500BC - Immigration Polynesian
- ◆ 500AD - Hawaii
- ◆ 995AD - Vikings Lief Erickson
- ◆ 1400's - Chinese
- ◆ 1492 - Columbus

Ben Franklin

- ◆ Statesman, Scientist, Deputy Postmaster General
- ◆ 1777
- ◆ Noticed a circular path to/from Europe
- ◆ Documented the presence of the Gulf Stream
 - Nephew Timothy Folger drew the chart for him

James Cook

- ◆ English Explorer
- ◆ 3 voyages in 1768-1779
- ◆ Circumnavigated the globe
- ◆ Made the first accurate maps of the oceans
- ◆ Chronometer (precise time)
 - Invented by John Harrison

Matthew F. Maury

- ◆ U.S. Navy Lieutenant
- ◆ Depot of Naval Charts and Instruments
- ◆ 1853 first International Meteorological Conference in Brussels
- ◆ 1855 published 1st known textbook on oceanography
 - “The Physical Geography of the Sea”
- ◆ Known as the Father of Oceanography

Charles Darwin

- ◆ Naturalist
- ◆ Voyages on H.M.S. Beagle in 1831-1836
- ◆ Circumnavigated the globe
- ◆ 1859 published “On the Origin of Species”
- ◆ Collected ocean data
 - Southern oceans and oceanic islands
- ◆ Deduced the process of reefs
 - Fringing reef to atoll

Fridstov Nansen

- ◆ Norwegian Explorer
- ◆ Late 1800's
- ◆ Aboard Norwegian ship Fram
- ◆ Determined no continent existed in the Artic Sea
- ◆ Developed Nansen sampling bottle

V. Walfrid Ekman

- ◆ Swedish Physicist
- ◆ Fan ice drift data explained the relationship between wind and water movement
 - Ekman Spiral

Alfred Wegner

- ◆ German Geophysicist
- ◆ 1915
- ◆ Theory of continental drift
- ◆ Single land mass called “Pangaea”
 - Broke apart and moved to current location

Harry Hess

- ◆ U.S. Navy Captain in WW2
- ◆ Ph.D from Princeton
- ◆ 1960
- ◆ Sea floor spreading theory
 - Sea floor spreading with mantle convection as the driving mechanism
- ◆ Referred to his work as “geopoetry”

Sir Edward Bullard

- ◆ British
- ◆ 1965 reworked Wegner's fit of the continents
- ◆ Computer model of concept of continent drift
- ◆ Proved "Pangaea" existed
 - 200 million years ago

H.M.S. Challenger

- ◆ 2306 ton naval corvette
- ◆ Fitted with laboratories, equipment, and 6 scientists
- ◆ Traversed large portions of the Atlantic and Pacific oceans
- ◆ Covered 127,500km
 - 492 deep-sea soundings, 133 bottom dredges, 151 open-water trawls, 263 serial water-temperature observations
- ◆ Discovery and classification of 4717 new species

Meteor

- ◆ German ship in 1925
- ◆ Chief scientist was George Wüst
- ◆ Set the standard for detailed multidisciplinary studies of the ocean
- ◆ 25 months scientists studied topography, currents, and chemistry of the South Atlantic
- ◆ Carried 2 acoustic depth recorders
 - Configuration of the ocean floor, easier to understand water circulation patterns