

Biology 150

Ocean Fun Facts—from <http://MarineBio.org/MarineBio/Facts/>
Did you know...?

- Sharks attack some 50-75 people each year worldwide, with perhaps 8-12 fatalities, according to data compiled in the International Shark Attack File (ISAF). Although shark attacks get a lot of attention, this is far less than the number of people killed each year by elephants, bees, crocodiles, lightning or many other natural dangers. On the other side of the ledger, we kill somewhere between 20-100 million sharks every year through fishing activities.
- Of the 350 or so shark species, about 80% grow to less than 1.6 m and are unable to hurt people or rarely encounter people. Only 32 species have been documented in attacks on humans, and an additional 36 species are considered potentially dangerous.
- Almost any shark 1.8 m or longer is a potential danger, but three species have been identified repeatedly in attacks: the Great white, Tiger, and Bull sharks. All three are found worldwide, reach large sizes and eat large prey such as marine mammals or sea turtles. More attacks on swimmers, free divers, scuba divers, surfers and boats have been reported for the great white shark than for any other species. However, some 80% of all shark attacks probably occur in the tropics and subtropics, where other shark species dominate and Great white sharks are relatively rare.
- An estimated 80% of all life on earth is found under the ocean surface and the oceans contain 99% of the living space on the planet. Less than 10% of that space has been explored by humans. 85% of the area and 90% of the volume constitute the dark, cold environment we call the deep sea. The average depth of the ocean is 3,795 m. The average height of the land is 840 m.
- The oceans cover 71% of the Earth's surface and contain 97% of the Earth's water. Less than 1% is fresh water, and 2-3% is contained in glaciers and ice caps.
- 90% of all volcanic activity occurs in the oceans.
- The speed of sound in water is 1,435 m/sec - nearly five times faster than the speed of sound in air.
- The highest tides in the world are at the Bay of Fundy, which separates New Brunswick from Nova Scotia. At some times of the year the difference between high and low tide is 16.3 m, taller than a three-story building.

- Earth's longest mountain range is the Mid-Ocean Ridge more than 50,000 km in length, which winds around the globe from the Arctic Ocean to the Atlantic, skirting Africa, Asia and Australia, and crossing the Pacific to the west coast of North America. It is four times longer than the Andes, Rockies, and Himalayas combined.
- The pressure at the deepest point in the ocean is more than 11,318 tons/sq m, or the equivalent of one person trying to support 50 jumbo jets.
- The top ten feet of the ocean hold as much heat as the entire atmosphere.
- The lowest known point on Earth, called the Challenger Deep, is 11,034 m deep, in the Marianas Trench in the western Pacific. To get an idea of how deep that is, if you could take Mt. Everest and place it at the bottom of the trench there would still be over a mile of ocean above it. The Dead Sea is the Earth's lowest land point with an elevation of 396 m below sea level.
- Undersea earthquakes, volcanoes and landslides can cause tsunamis (Japanese word meaning "harbor wave"), or seismic sea waves. The largest recorded tsunami measured 60 m above sea level caused by an 8.9 magnitude earthquake in the gulf of Alaska in 1899 traveling at hundreds of km/hr.
- The average depth of the Atlantic Ocean, with its adjacent seas, is 3,332 m; without them it is 3,926 m. The greatest depth, 8,381 m, is in the Puerto Rico Trench.
- The Pacific Ocean, the world's largest water body, occupies a third of the Earth's surface. The Pacific contains about 25,000 islands (more than the total number in the rest of the world's oceans combined), almost all of which are found south of the equator. The Pacific covers an area of 179.7 million sq km.
- The Kuroshio Current, off the shores of Japan, is the largest current. It can travel between 40-121 km/day at 1.6-4.8 kph, and extends some 1,006 m deep. The Gulf Stream is close to this current's speed. The Gulf Stream is a well known current of warm water in the Atlantic Ocean. At a speed of 97 km/day, the Gulf Stream moves a 100 times as much water as all the rivers on earth and flows at a rate 300 times faster than the Amazon, which is the world's largest river.
- A given area in an ocean upwelling zone or deep estuary is as productive as the same area in rain forests, most crops and intensive agriculture. They all produce between 150-500 grams of Carbon per square meter per year.

- The sea level has risen with an average of 10-25 cm over the past 100 years and scientists expect this rate to increase. Sea levels will continue rising even if the climate has stabilized, because the ocean reacts slowly to changes. 10,000 years ago the ocean level was about 110 m lower than it is now. If all the world's ice melted, the oceans would rise 66 m.
 - The density of sea water becomes more dense as it becomes colder, right down to its freezing point of -1.9°C unlike fresh water which is most dense at 4°C , well above its freezing point of 0°C . The average temperature of all ocean water is about 3.5°C .
 - Antarctica has as much ice as the Atlantic Ocean has water.
 - The Arctic produces 10,000-50,000 icebergs annually. The amount produced in the Antarctic regions is inestimable. Icebergs normally have a four-year life-span; they begin entering shipping lanes after about three years.
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- Air pollution is responsible for 33% of the toxic contaminants that end up in oceans and coastal waters. About 44% of the toxic contaminants come from runoff via rivers and streams.
 - Each year, three times as much rubbish is dumped into the world's oceans as the weight of fish caught.
 - Oil is one of the ocean's greatest resources. Nearly one-third of the world's oil comes from offshore fields in our oceans. Areas most popular for oil drilling are the Arabian Gulf, the North Sea and the Gulf of Mexico.
 - Refined oil is also responsible for polluting the ocean. More oil reaches the oceans each year as a result of leaking automobiles and other non-point sources than the oil spilled in Prince William Sound by the Exxon Valdez.
 - The record for the deepest free dive is held by Jacques Mayol. He dove to an astounding depth of 86 m without any breathing equipment.
 - A mouthful of seawater may contain millions of bacterial cells, hundreds of thousands of phytoplankton and tens of thousands of zooplankton.
 - The Great Barrier Reef, measuring 2,300 km in length covering an area more extensive than Britain, is the largest living structure on Earth and can be seen from space. Its reefs are made up of 400 species of coral, supporting well over 2,000 different fish, 4,000 species of mollusc and countless other invertebrates. It should really be named 'Great Barrier of Reefs', as it is not one long solid structure but made up of nearly 3,000 individual reefs and 1,000

islands. Other huge barrier reefs include the barrier reefs of New Caledonia, the Mesoamerican (Belize) barrier reef, and the large barrier reefs of Fiji. The largest coral atoll complexes occur in the Maldivian-Lakshadweep ecoregion of the central Indian Ocean and in Micronesia.

- Fish supply the greatest percentage of the world's protein consumed by humans and most of the world's major fisheries are being fished at levels above their maximum sustainable yield; some regions are severely overfished.
- More than 90% of the trade between countries is carried by ships and about half the communications between nations use underwater cables.
- The swordfish and marlin are the fastest fish in the ocean reaching speeds up to 121 kph in quick bursts; the Bluefin Tuna (*Thunnus thynnus*) may reach sustained speeds up to 90 kph.
- The Blue whale is the largest animal on our planet ever (exceeding the size of the greatest known dinosaurs) and has a heart the size of a Volkswagen.
- The Oarfish (*Regalecus glesne*), is the longest bony fish in the world. It has a snakelike body sporting a magnificent red fin along its 15.25 m length, a horselike face and blue gills, and accounts for many sea-serpent sightings.
- Many fish can change sex during the course of their lives. Others, especially rare deep-sea fish, have both male and female sex organs.
- One study of a deep-sea community revealed 898 species from more than 100 families and a dozen phyla in an area about half the size of a tennis court. More than half of these were new to science.
- Life began in the seas 3.1 billion to 3.4 billion years ago. Land dwellers appeared 400 million years ago, relatively recently in geologic time.
- Because the architecture and chemistry of coral is so similar to human bone, coral has been used to replace bone grafts in helping human bone to heal quickly and cleanly.