# Explore the Galapagos Islands with Google Maps

The <u>Galápagos Islands</u> are an archipelago of volcanic islands distributed on both sides of the Equator in the Pacific Ocean 906 km (563 mi) west of Ecuador. The islands are known for their vast number of species and were studied by Charles Darwin during the voyage of his boat, the HMS Beagle. His observations and collections from these islands contributed to Darwin's theory of evolution by natural selection.



The Galápagos Islands and their surrounding waters form the Galápagos National Park, and the Galápagos Marine Reserve. The principal language on the islands is Spanish. The islands have a human population of slightly over 25,000.

The first recorded visit to the islands happened in 1535, when Fray Tomás de Beranger, the Bishop of Panamá,



was blown off course during a voyage to Peru. De Beranger eventually returned to the Spanish Empire and described the conditions of the islands and the animals that inhabited them. The first English captain to visit the Galápagos Islands was Richard Hawkins, in 1593. Until the early 19th century, English pirates who stole Spanish gold and silver from South America often used the archipelago as a hideout.

The 360° images throughout this document were created by individuals and by Google Maps Street View Treks.

## **Volcanic Islands**

The voyage of the HMS Beagle brought Charles Darwin to the Galapagos Islands on September 15, 1835 to survey harbors and the islands themselves. The captain and others on board spent just over 1 month making observations on the geology and biology on Chatham, Charles, Albemarle and James before continuing on their round-the-world expedition. Impressed by the amount of volcanic craters he saw, Darwin would later refer to the island group as "that land of craters." His study of several volcanic formations over the 5 weeks he stayed on the islands led to several important geological discoveries, including the first correct explanation for how volcanic islands formed.

Link 1	What evidence of volcanic activity can you see?
Link2	
Link 3	
Link 4	

# Birds

The Galapagos Island Archipelago is home to 56 native bird species, 45 of which are endemic (only found on Galapagos). In addition to the native birds,



29 migrant species also spend part of the year on Galapagos as they travel from one destination to another.

One dramatic looking bird is the blue-footed booby. The blue color of the bird's webbed feet comes from pigments in the fish that it eats. A bright blue color indicates a healthy bird.

The magnificent frigate bird has either a bright red chest (male) or a white chest (female). Both have a curved beak tip. This species is genetically unique when compared to all other frigate birds, a result of this species being isolated on the Galapagos for several hundred thousand years.

Darwin noticed that some species of birds differed between islands. Some finches differed so much that he initially thought they were unrelated. When Darwin analyzed the specimens he collected, it was found that many of these "different" birds were actually the same species. These comparisons were crucial in Darwin's development of his theory of natural selection.

Bird 1	What species of bird can you observe in the links?
Bird 2	
Bird 3	
Bird 4	
Bird 5	

# Seals or Sea Lions?

The Galapagos fur seal is endemic, or unique, to the Galapagos Islands. They live on the rocky shores and beaches of the islands, which tend to be on the western sides. These seals spend most of their time on land where their coat takes on a goldish brown color. A seal's ears are more pointed and tend to stick out more than that of a sea lion. Fur seals are more likely to be seen around Isabella and Fernandina islands.

The Galapagos sea lion is a social and playful animal that breeds exclusively on the Galapagos Islands. Sea lions are very graceful swimmers that have more control in the water than on land. The sea lion has a nose that is narrower than a seal. When wet, sea lions are a shade of dark brown. Once dry, their color varies greatly.



Seal or Sea Lion1	What animal is present in the links?
Seal or Sea Lion 2	
Seal or Sea Lion 3	
Seal or Sea Lion 4	
Seal or Sea Lion 5	

#### Tortoises

Starting in 1793, whalers and maritime fur traders killed and captured thousands of the Galápagos tortoises to extract their fat. The tortoises were kept on board ships as a means of providing of fresh protein, as these animals could survive for several months on board without any food or water. The hunting of the tortoises was responsible for greatly diminishing, and in some cases eliminating, certain species. Later, when Darwin visited the Galapagos the Governor of the islands told Darwin the tortoises differed from island to island. Now, some tortoises live in protected preserves while their wild population rebounds.

Tortoise 1	Which links show tortoises in protected conservation areas?
Tortoise 2	
Tortoise 3	
Tortoise 4	
Tortoise 5	
Tortoise 6	

# Whales

Whalers played an important role in the discovery and exploitation of the Galapagos Islands. During the 19<sup>th</sup> century, English and American whaling vessels began exploring the Pacific Ocean for whaling sites after the whale population of the Atlantic declined. The Galapagos became a main whaling site until a whaling base was established in Japan in 1819. Not only did the whale population of the Pacific Ocean decline, but whalers drove some species of Galapagos Tortoises to extinction from overhunting as well. A whaling ship is also responsible for the introduction of goats on the Galapagos Islands. Goats on the Galapagos are an invasive species that are causing massive ecological harm.

Whale Skeleton	What observations might lead you to conclude that this is a whale skeleton?

## Iguanas

Galapagos iguanas are thought to have had a common ancestor that floated out to the islands from the South American continent on rafts of vegetation. There are now two types of iguanas – land and marine. Land iguanas are large — more than 3 feet long, with males weighing up to 30 pounds. They live in the drier areas of the Islands and are found sprawled beneath the hot sun. Just about every rocky shoreline in the Galapagos Islands is home to the marine iguana, the only sea-going lizard in the world. The marine iguana is an extraordinary animal that lives on land but feeds in the sea, grazing on a variety of seaweed – on exposed rocks or by diving deeper into the cold seawater.

<u>Iguana 1</u>	Which type of iguanas do the links show?
<u>Iguana 2</u>	