Australia and Oceania: Physical geography

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The Emerald Lakes seen from the Red Crater. This is about halfway on the Tongariro Alpine Crossing, one of the most impressive walks in New Zealand. Photo by: Marcus Holland-Moritz/Wikimedia.

Oceania is the name for thousands of islands that sit in the Pacific Ocean. It includes Australia, which is the smallest continent in the world but the largest part of Oceania.

There are two other major landmasses of Oceania. One is Zealandia, which includes the country of New Zealand. Much of Zealandia is formed by rocks that are underwater. The other large land area in Oceania is the island of New Guinea. It contains the country of Papua New Guinea.

Oceania also includes three areas made up of only islands. These areas are Melanesia, Micronesia and Polynesia, which includes the U.S. state of Hawaii.

Oceania can be divided into three island groups: continental islands, high islands and low islands.

Continental Islands

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Continental islands were once attached to continents thousands of years ago. Then, the sea level got higher and tectonic activity created these islands. Tectonic activity is when Earth's crust moves and the plates that make up the crust bump into each other, like during earthquakes. The crust is the rocky outer layer of Earth.

Australia, Zealandia and New Guinea are continental islands. All three have mountain ranges. These areas were created by tectonic plates moving underground. The plates pressed together and pushed land upward.

Much of Australia is the Outback, a region of deserts and dry land. New Zealand is colder. It has many glaciers. Papua New Guinea, meanwhile, is hot and has mountain rainforests.

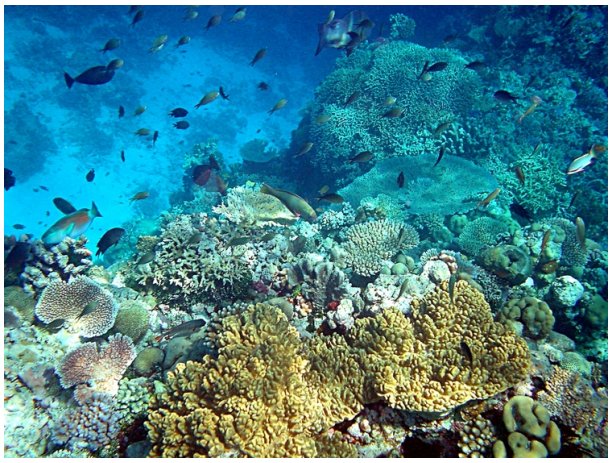
High Islands

High islands are created by volcanoes. These volcanoes erupt many times, leaving behind ash and rock to build up, forming an island.

The island region of Melanesia contains many high islands. It is a major part of the "Ring of Fire," a string of over 400 volcanoes around the boundary of the Pacific Ocean.

Low Islands

Low islands are also called coral islands. They are made of the skeletons and living bodies of small marine animals called corals that usually live on the ocean floor. Coral grows into big colonies, which are called coral reefs.



Small, low islands often come together in the shape of a ring. This ring is called an atoll. An atoll forms when a coral reef builds up around a volcanic island. The volcanic island slowly washes away, leaving a rocky lagoon in the middle.

The island regions of Micronesia and Polynesia have many low islands. The Kwajalein Atoll in the Marshall Islands, for example, is composed of 97 islands. They surround a large lagoon, about 839 square miles. That's about twice the size of Los Angeles.

Island Plants And Animals

Australia and Oceania is very separated from the rest of the world. Because of this, unique animals grew and evolved here. Oceania has many species found nowhere else on Earth.

Many plants and animals reached the islands from Asia thousands of years ago. At the time, the ocean was low. Animals could travel from Asia to Australia. Then sea levels rose, leaving animals

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stuck in their new islands. They had to adapt, or get used to, the environment of each island.

Plants traveled between islands through the wind or ocean. Birds carried seeds and spread them between islands with their droppings. Some flowering plants rely on spores or seeds that can stay high in the air for long distances. Coconut palms and mangroves, common throughout Australia and Oceania, have seeds that can float on salty water for weeks at a time.

Birds are very common in Australia and Oceania. They are one of the few animals able to move from island to island. There are more than 110 native bird species in Australia and Oceania, including many seabirds. Many birds that can't fly live here, such as emus and kiwis. Many seabirds in the Pacific Islands have bright, colorful feathers.

Lizards and bats are very common on land in Australia and Oceania. Lizard species include the skink and bearded dragon. Both lands have more than 100 different species of fruit bats.

The few native land animals in Australia and Oceania are unusual. Australia and Oceania is the only place in the world with hairy mammals that lay eggs. One is the duck-billed platypus, and the others are called echidna.

Many of the most familiar animals native to Australia and Oceania are marsupials. Marsupials are mammals that carry their newborn young in a pouch. Kangaroos and koalas are marsupials. About two-thirds of the marsupials on Earth are native to Oceania.

The red kangaroo is the world's largest marsupial. It can grow up to 6 feet tall and weigh as much as 220 pounds. In the Americas, marsupials such as possums are much smaller.

Marine Plants And Animals

Many creatures thrive in the sea in Australia and Oceania. The region is made up of three marine realms. Marine realms are large ocean regions where animal and plant life are similar because they share similar habitats.

One marine realm is Temperate Australasia. It includes the seas surrounding southern Australia and the islands of New Zealand. Many seabirds live in this realm. Its waters are rich in nutrients that are good for plants and fish, which seabirds feed on. The albatross is one of the large seabirds. Rockhopper penguins even live here.

Another marine realm is Central Indo-Pacific. Its seas surround northern Australia and islands like New Guinea, Solomon Islands and Fiji. The most famous coral reefs in the world live here: Australia's Great Barrier Reef and the New Caledonia Barrier Reef. The Great Barrier Reef, near northeast Australia, is 133,000 square miles — almost the total size of California.

The Great Barrier Reef is home to whales, dolphins, sea turtles and more than 1,500 species of fish. The New Caledonia Barrier Reef is home to thousands of kinds of crustaceans and mollusks. These are shelled creatures like shrimp and lobster.

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The Eastern Indo-Pacific realm

surrounds the tropical islands of the central Pacific Ocean. It includes the Marshall Islands and parts of Polynesia. This realm is also known for its colorful coral and fish.

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Quiz

1 Read the selection from the section "Continental Islands."

> *Continental islands were once attached to continents thousands of years ago. Then, the sea level got higher and tectonic activity created these islands. Tectonic activity is when Earth's crust moves and the plates that make up the crust bump into each other, like during earthquakes. The crust is the rocky outer layer of Earth.*

Which of the following is the MOST accurate explanation of this paragraph?

(A) Islands resulted from a process of internal movement and sea change.

(B) Each continent was originally larger than its present state.

(C) Tectonic plates are visible features seen on Earth's landscape.

(D) Tectonic activity caused sea levels to rise and fall.

2 Read the section "Marine Plants And Animals." In which of the following areas are you MOST likely to find marine mammals?

(A) Temperate Australasia

(B) Central Indo-Pacific

(C) Great Barrier Reef

(D) New Caledonia Barrier Reef

3 Read the paragraph from the section "Continental Islands."

> *Continental islands were once attached to continents thousands of years ago. Then, the sea level got higher and tectonic activity created these islands. Tectonic activity is when Earth's crust moves and the plates that make up the crust bump into each other, like during earthquakes. The crust is the rocky outer layer of Earth.*

Which phrase from the paragraph helps you understand the meaning of "tectonic activity"?

(A) attached to continents

(B) sea level got higher

(C) Earth's crust moves

(D) rocky outer layer

4 Read the paragraph from the section "Island Plants And Animals."

> *Australia and Oceania is very separated from the rest of the world. Because of this, unique animals grew and evolved here. Oceania has many species found nowhere else on Earth.*

Which word from the paragraph helps you understand that some animals are only found in Oceania?

(A) separated

(B) unique

(C) evolved

(D) species