

Eco Regions of Perú



plains. Lake Titicaca is here as well, the world's highest navigable lake.

Although the **Amazon** holds just 5% of the country's population, it contains 60% of the territory. The region is filled with lush vegetation, incredible wildlife and makes up one of the planet's largest natural reserves. The Amazon River, the largest, longest, and deepest in the world, begins here at the confluence of the Marañon and Ucayali rivers.

Earthquakes

Devastating earthquakes have plagued the country for thousands of years. The quakes have been seen almost in a spiritual light by many civilizations. In Lima, both Pachacamac and El Señor de Milagros ceremonies relate to earthquakes as divine messages and the rituals surrounding them are designed to stop the quakes. The Nazca plate sits against Peru along the Pacific shore and is continually pushing the continental land mass upward. Since 1568 there has been roughly one major earthquake every six years, although there are about 200 smaller ones each year. Many devastating quakes have completely changed the landscape in Peru. The most deadly occurred in 1970, when a magnitude 7.8 earthquake-induced rock and snow avalanche on Mt. Huascarán buried the towns of Yungay and Ranrahirca, killing 66,794 people. In 2001, a devastating earthquake measuring 8.1 damaged much of southern Peru, collapsing one of the towers on Arequipa's cathedral. Many of Cuzco's churches have also been heavily damaged from a series of major earthquakes.

Climate



Much of the **coast**, particularly the central and southern half, is affected by the Humboldt Current, which keeps temperatures mild for much of the year, much as in California. There are two distinct seasons: summer (December-March), when temperatures can reach 27°C (80°F); and winter (April-November), which can be damp and chilly, with temperatures dropping as low as 12°C (53°F). It rarely rains on the coast. The north, on the other hand, is not touched by the current and enjoys about

300 sunny days a year with temperatures reaching as high as 35°C (95°F) in the summer.

In the **highlands** the climate is dry and cold. There are two seasons: dry and rainy. The dry, April-October, has warm sunny days and crisp, cool nights with little rain. The rainy season, December-March, can vary greatly in temperature. The range extends from 20°C (68°F) to 2°C (35°F), although for much of the time it is fairly mild and pleasant.

The **jungle** takes on a tropical feel. Much of the year is humid and sticky. The dry season (April to October) is scorching hot and temperatures often stay above 30°C (86°F). The rainy season (November to March) has frequent heavy rains, which cause the river levels to rise.

El Niño

Whatever I have said about Peru's weather on the coast you can toss out during El Niño years. Abnormal effects on climate across the equatorial Pacific include: sun, temperature, atmospheric pressure, wind, humidity, precipitation, cloud formation, and ocean currents. Cities that sit in the arid desert become prone to flooding. Ica, Piura, Tumbes and many other cities have looked more like Venice at times. Stagnant pools of water bring three times the amount of mosquitoes and malaria. Every three to seven years this occurs.

There is written evidence going back to 1525 regarding the condition, and geological evidence dates back 13,000 years. The Incas would build their cities on hills, keep food stored in the mountains, and their coastal cities were never built near water.

Many farmers and fishermen have learned to adapt, however. Cattle can graze on land that previously had no grass, rice and beans can be planted in the newly irrigated ground, and fishermen can plan for shrimp harvests in the coastal waters that are typically too cold for shrimp.

■ Flora & Fauna



Peru's plant and animal life is second to none. Of the earth's 117 life zones, 84 are found here, which has resulted in a biodiversity far greater than anywhere else on the planet. For example, as many as

1,200 different species have been recorded in an area of 21 sq miles in Madre de Dios. There are 11 eco-regions and three great river basins that include 12,201 lakes and lagoons, with 1,007 rivers. Nearly 13% of the country sits in protected areas, although the number could and should be higher. Plants and animals survive here that are found nowhere else on earth. New species are still being discovered. Many were worshipped and revered as gods for centuries. Animals such as pumas, condors, and serpents are found on pottery, in carvings, in textiles and in the Nazca Lines. The relationship with nature in Peru has long been held at an almost spiritual level.

Plants

In the Amazon, native tribes, who rarely see a doctor, have been using plants as medicine for many generations. Not only are there the hallucinogenic plants such as **Ayahuasca** and **San Pedro**, but there are lesser known plants that will cure everything from snakebites, diarrhea, upset stomach, or fever. Check with your personal shaman, or medicine man, for more information. They can be most easily contacted through the many jungle lodges in Peru.



Did you know? About 50 major drugs come from rainforest plants, but that is only about 1/7 of the estimated number found here.



Victoria Regia

As expected, the Amazon holds the most diversity in this area. The basin itself is home to the **Victoria Regia**, a huge water lily, and so many fruit-producing plants that they are hard to keep straight. In cloud forests, like the areas around Machu Picchu and parts of the Manu Biosphere Reserve, tropical flowers and plants such as **orchids**, **ferns**, and **bromeliads** all thrive. In the extreme north, near Tumbes, the rare ecosystem is shared only with Ecuador's south and comprises mangrove swamps and

aquatic plants. The Andes are home to a variety of trees, shrubs, wildflowers, and herbs. Even the desert that makes up the coast has cactus, palms, and other vegetation. That's just the beginning. In all, Peru has more than 25,000 species of plants (10% of the world total); roughly 5,500 are found only in Peru.

There are more than 3,000 members of the Orchidaceae family found in Peru. Species are found all over the country, with most living in the cloud forest because the 200 inches of rain that falls there each year creates the perfect environment. More than 200 orchid varieties grow in the Machu Picchu Historical Sanctuary.

Trees



Ceiba

The Amazon basin has the most diverse range of trees in the country. The largest and most impressive is without doubt the **ceiba** tree that towers above the forest canopy. The **Brazil nut** tree is quite impressive for its size as well as the delicious nut it

produces. There are also interesting species such as the **strangler fig** or the **walking palm**.

In temperate forests, which are the most common in Europe and North America, only a few species of trees are found in every few acres of land. In tropical forests there are 100 to 300.

In the highlands you will encounter **puna**, the shrubs and grasslands that cover the cold plains and mountainsides. Most trees here have small, chunky leaves that help protect against frost. **Mangrove** forests cover the coastal border area with Ecuador.



Strangler fig



Did you know? The ceiba tree once dominated the Amazonian riverbanks but, because of logging, few survive. Their trunks may be as wide as 15 feet across and they can grow more than 160 feet high. Their gigantic crowns are usually covered with epiphytes (smaller plants).

Birds



Toucan

If you count all of the bird species in North America, and then double it, you would have roughly the number found in Peru. There are more than 1,800, the second only to Colombia, which has 1,815 registered species. More than 19% of all the species in the world and 45% of all of the neo-tropical

birds are found here.

In the Amazon area there are many different birding areas of interest, such as Manu, Tambopata, and Pacaya-Samiria. Tropical birds such as **toucans**, **parakeets**, **hummingbirds**, and **parrots** are commonplace. **Macaws** are the quintessential Amazonian birds.



Quetzal

There are several species found in the Amazon region; some, such as the military macaw and the red and green macaw are in danger of extinction. Clay-licks, the largest in the world, are filled with flocks of these birds and other parrots that number in the hundreds or sometimes the thousands.

In the cloud forests that make up the eastern slopes of the Andes there is even more diversity than the Amazon basin, with rare species such as **quetzals**, **tanagers**, and

even more parrots and macaws. The Andean **cock-of-the-rock** is one of the flashiest birds you will ever see. The bright red males are often found on the pages of tourism brochures.

Hummingbirds, some of the most recognizable birds, are quite numerous and can be found in all parts of the country. There are 116 species, with whimsical names, such as the tyrian metaltail, black-eared fairy, fork-tailed wood nymph, and the white-bearded hermit.



Scarlet macaws



Did you know? Hummingbirds beat their wings in figure eight fashion, at a speed of more than 80 times per second.



Black-eared fairy

Twenty-five percent of all of the **trogon** species live in Peru. These neo-tropical birds are some of the most exciting for bird enthusiasts to encounter. The quetzals, which are the largest, are the most impressive and sought after.

Birds of prey such as **hawks**, **eagles**, **owls**, and majestic **Andean condors** dominate the highlands. The condor, a type of vulture, can have a wingspan as wide as nine feet. It is found at high altitudes in the Andes such as in Colca Canyon, and also on the Paracas Peninsula. The Islas Ballestas and Islas Palaminos on the coast are home to many migratory and aquatic birds, such as the **Humboldt penguins**, **boobies**, **pelicans**, **gulls**, and **cormorants**. Sightseeing trips to either of the island chains are quite common.



Parakeets in the Northern Amazon (N. Gill)

Even Lima is home to a variety of colorful birds that survive in the parks, beaches, and surrounding desert. Try places like *Pachamac*, Parque Kennedy, or Parque El Olivar for a taste of what the rest of the country holds.



Many species of **parrots** are endangered, but are still being sold on the black market. It is thought that, for every macaw sold, as many as 50 are killed because of poor care or during transport.

Mammals

The mammals of Peru are some of the most fascinating in the world, and also some of the hardest to see. Many tourists come to Amazon lodges for weeks, but see very few. They are there though. Peru has 431 mammal species, most of them nocturnal. With good eyes, some binoculars, and the right guide, you should be able to see some wildlife, though probably not a jaguar.



Capybara



There are 170 species of **bats** in Peru (40% of all the mammals), while only 40 exist in all of North America.

In the Amazon it all depends on where you are looking. **Capybaras**, the world's largest rodents, **peccaries**, **armadillos**, **tapirs**, and **giant anteaters** can all be found on the ground or riverbanks. In the water, you will find **Amazonian**

manatees, pink river dolphins (they actually are pink), and **giant otters**. In the trees, there are a number of **bats**, such as the fishing bat and vampire bat, sloths, jaguars, ocelots, and more than 20 spe-



Giant anteater (N. Gill)

cies of monkeys. **Sloths** and **monkeys** can best be seen during the dry season, when the waters recede and they come closer to the water to scrounge for food. Night trips into the jungle are among the best ways to see any of the mammals and that is one of the most interesting times to be in the forest.



Pink river dolphins have been considered sacred to many Amazonian people; therefore they have survived large-scale hunting.

There are six species of cats found here, both spotted and unspotted. They are mostly nocturnal creatures and some of the most difficult to see. If you do see one, consider yourself extremely lucky. Most guides in the jungle have seen just a few in their lives. The largest is the **jaguar**, which can weigh in at 130-260 pounds. Next are the **pumas**, or mountain lions, which are found in much of the Americas and are almost as big as the jaguars. Other smaller cats include **ocelots**, **margays**, **oncillas**, and **jaguarundis**.

As for the **giant otter**, only a few hundred exist here in parks such as Manu, Tambopata, and Pacaya-Samiria. They survive mainly in ox-bow lakes. Viewing the playful creatures is strictly controlled as human interference can limit reproduction. For more information or to see how you can help save these magnificent animals visit The Giant Otter Project through the Frankfurt zoological society at www.giantotters.com.

Elsewhere, in the cloud forests there are many of the same species as in the Amazon, as well as all of the six cat species and the very rare **Andean spectacled bear**, the only bear on the continent. They eat mostly tubers, vegetables, and other plant life, although they will occasionally scavenge for dead mammals such as cows or deer. They are known to be extremely shy.



Andean spectacled bear



Alpaca in the Cordillera Blanca
(N. Gill)

In the Andes, many of the mammal species have been domesticated, although **pumas** and **vizcachas** (an animal resembling a cross between a rabbit and a squirrel) still run wild. Domesticated animals, such as **cuy**, or guinea pigs, and the **camelids**, **vicuñas**, **llamas**, and **alpacas**, are numerous in the highlands and may have been around for thousands of years.

The camelids survive in highland areas throughout the Andes. Wild herds can still be seen in places like Pampas Galeras and domesticated herds are frequent in small mountain villages. Llamas are the largest and used more as pack animals. Alpacas are slightly smaller than llamas and have longer wool that is often made into everything from gloves, hats, scarves, or sweaters, to blankets and slippers. Vicuñas are the smallest and skinniest. Their fur is short and very fine, but it's their big doe eyes that grab the most attention.