Luzon's area is 104,688 square kilometers, making it the world's 17th largest island. It is the fourth most populated island in the world. Located on Luzon are the country's capital, Manila, and its most populated city, Quezon City. The island is very mountainous and is home to Mount Pulag, the third highest mountain in the country and Mount Pinatubo, Mayon, and Taal Volcano, Luzon's most famous volcanoes. To the west of Luzon island is the South China Sea (Luzon Sea in Philippine territorial waters), to the east is the Philippine Sea, and to the north is Luzon Strait containing Babuyan Channel and Balintang Channel.

The main part of the island is roughly rectangular in shape and has the long Bicol Peninsula protruding to the southeast. The northern part of the island contains the large mountain range.
, the Cordillera Central which is covered in a mixture of Luzon tropical pine forests and Luzon montane rain forests.

Mount Pulag, the highest mountain in Luzon is located here, rising 2,922 meters.

To the east of the Cordillera Central is the large Cagayan Valley, which serves as the basin for the longest river in the Philippines. To the east of the valley rises the Sierra Madre mountain range, easily the longest range in the country.

The Sierra Madre snakes southwards into the central and southern part of the island. Between it and the Zambales Mountains to the west is the largest plain, the Central Luzon plain. This plain, approximately 11,000 km² in size, is the country's largest producer of rice. Among the rivers irrigating this plain, the longest are Cagayan to the north, and Pampan to the south. In the middle of the plain rises the solitary Mount Arayat. To the west, in the Zambales Mountains, rises Mount Pinatubo, made famous because of its enormous 1991 eruption.

The Zambales mountains extends to the sea in the north, forming Lingayen Gulf, home to the Hundred Islands National Park. To the south, the mountains also extend into the sea, forming the Bataan Peninsula, which encloses the Manila Bay. This natural harbor is considered to be one of the best natural ports in East Asia, due to its size and strategic geographical location.
To the southeast of Manila Bay is the largest lake in the country, and also the largest inland lake in Southeast Asia, the Laguna de Bay (Old Spanish, Lake of Bay town). This 949 km² lake is drained by the Pasig River into Manila Bay. Pasig River is one of the most important rivers in the country due to its historical significance and because it runs through the center of Metro Manila.

Located just 20 km southwest of Laguna de Bay is Taal Lake, within the southwestern portion of the island. This caldera of a lake contains the smallest volcano of the country, Taal Volcano, which rises on the island in the center of the lake. The volcano in turn has a lake in its crater. All the surrounding areas of Taal Lake were once part of a massive prehistoric volcano that covered the southern portion of the province of Cavite, Tagaytay City, and the whole of Batangas province.

Off the southwestern portion of Luzon is the island of Mindoro, separated by the Verde Island Passages. The passages connect the South China Sea to the east with the Tayabas Bay. To the south of the bay is the island of Marinduque.

The southeastern portion of Luzon is dominated by the Bicol Peninsula. This is a mountainous and narrow region that extends approximately 150 km southeast. Along it are numerous gulfs and bays. In the north is Lamon Bay, which contains Alabat Island and is south of the Polillo Islands of Quezon province. Other bays and gulfs include San Miguel Bay, Lagonoy Gulf, and Ragay Gulf.
To the east of the peninsula lies the island of Catanduanes. Leading to it is the Caramoan Peninsula. Off the southeast tip of Bicol is Samar island, separated by San Bernardino Strait. Bicol Peninsula is connected to the main part of Luzon through the Tayabas Isthmus. Extending south from the isthmus is the Bondoc Peninsula.

The Bicol Peninsula is also home to numerous volcanoes. The most famous is Mayon Volcano in Albay. This 2,460 m high volcano is symmetrically shaped, rivaling that of Mount Fuji in Japan, and is a symbol of the Bicol Region. Other notable mountains are Mount Isarog and Mount Iriga in Camarines Sur, and Mount Bulusan in Sorsogon.

Located off the southwestern coast of the Bicol Peninsula are the islands of Ticao, Burias, and Masbate.
Luzon is part of the Philippine Mobile Belt, a fast deforming plate boundary zone (Gervasio, 1967) hemmed in between two opposing subduction zones, the west-dipping Philippine Trench and the Manila Trench, and the east-dipping north-south trending Manila Trench.

The Philippine Sea Plate subducts under eastern Luzon along the East Luzon Trench and the Philippine Trench, while the South China Sea basin, part of the Eurasian plate, subducts under western Luzon along the Manila Trench.

The North-Southeastern trending braided left-lateral strike-slip Philippine Fault System traverses Luzon, from Quezon province and Bicol to the northwestern part of the island. This fault system takes up part of the motion due to the subducting plates and produces large earthquakes. Southwest of Luzon is a collision zone where the Palawan micro-block collides with SW Luzon, producing a highly seismic zone near Mindoro island. Southwest Luzon is characterized by a highly volcanic zone, called the Macolod Corridor, a region of crustal thinning and spreading.
Using geologic and structural data, seven principal blocks were identified in Luzon in 1989: the Sierra Madre Oriental, Angat, Zambales, Central Cordillera of Luzon, Bicol, and Catanduanes Island blocks. Using seismic and geodetic data, Luzon was modeled by Galgana et al. (2007) as a series of six micro blocks or micro plates (separated by subduction zones and intra-arc faults), all translating and rotating in different directions, with maximum velocities ~100 mm/yr NW with respect to Sundaland/Eurasia.