**Physical Geography of the Region**

1. **LANDFORMS AND WATERWAYS**The Tropical North includes a variety of landforms and waterways including mountain ranges, volcanoes, rivers, rain forest, waterfalls, and a mysterious archipelago off the coast of Ecuador.
2. **Landforms of the Tropical North**
3. **Andes Mountain range** runs south along western South America.   
   **Elevations** are higher than 18,000 feet in some places.
4. 40 volcanoes. **Cotopaxi** (in Ecuador) is the highest active volcano.
5. **Sierra Nevada de Santa Marta** Mountains: world’s highest coastal range.
6. Colombia: the only country with coastlines on Pacific Ocean and Caribbean Sea.
7. **Darién**: a wilderness region of deep ravines, swamps, and dense rain forest along Colombia’s border with Panama.
8. **Llanos**: grassy plains that cover most of Venezuela.
9. **Guiana Highlands**: rolling hills, low mountains, and plateaus in S. Venezuela, Guyana, Suriname, and French Guiana.
10. ***Tupuis***: forest-covered mesas found in Venezuela/Brazil.
11. **Rain forest** covers most of the tropical north.
12. **Abundant Waterways**
    1. The Tropical North region lies along the Pacific Ocean, Caribbean Sea, and the Atlantic Ocean.
    2. **Orinoco River**: continent’s third-longest river with more than 400 tributaries.  
       It crosses through Venezuela and flows into the Atlantic Ocean.
    3. **Angel Falls** (Venezuela): world’s highest waterfall. 20x higher than Niagara Falls.
    4. Colombia’s two main rivers: the **Magdalena** and the **Cauca**.   
       They are important routes to the agricultural and industrial interior.
    5. Ecuador’s **Guyas River** (begins in the Andes and flows west to the Pacific Ocean) has made **Guayaquil** the largest city and a major port.
    6. Rivers in Guyana, Suriname, and French Guiana flow north and empty into the Atlantic. They are shallow and make the coastline swampy.
    7. **Galápagos Islands**
       1. Owned by **Ecuador**, located in the Pacific Ocean about **600 miles west** of Ecuador. Made up of **13** major islands, six smaller islands, and many tiny islands called **islets**.
       2. **Archipelago**: a group of islands
       3. Islands formed by **underwater volcanoes** and most have **no human population**.
       4. Because the islands are isolated, there are many **unusual animals**   
          (lizards that swim, and birds that don’t fly).
       5. **Symbiosis**: when animals from different species coexist to the benefit of each other.
       6. **Charles Darwin** studied the islands to develop his theory of evolution.
       7. Today, the islands are **tourist attractions** and many are protected as national parks.
13. **CLIMATES**

The Tropical North lies along the Equator and has a variety of climates because of differences in elevation, location, ocean currents, and winds.

* 1. **Tropical Climates**
     1. Tropical North has a **tropical climate** – warm temperatures throughout the year.
     2. Ecuador and Colombia have a **tropical monsoon climate** – short, dry season and long, wet season of heavy rainfall. Colombia’s **Chocó** region, including the Darién, receives more than 300 days of rain each year, producing more than 400 inches (about 33 feet) of rain = one of the wettest places on Earth.
     3. **Llanos** of Colombia and Venezuela have a tropical wet-dry climate. It rains between May and October. Average daily temperature is 75° year-round.
     4. Guiana Highlands have **tropical monsoon** climate and **tropical rain forest** climate depending upon location.
     5. Guyana, Suriname, and French Guiana have the same climate as Venezuela’s highlands. Trade winds keep the coasts cooler.
     6. The Caribbean coast of Venezuela and Colombia is cooler with a **semiarid** climate, less than 20 inches of rain each year.
  2. **Cooler Highlands**
     1. Mountain climates depend on elevation.
        1. The *tierra templada* (“temperate land”) is between 3,000 - 6,500 feet, has moderate rainfall, and daily temperatures are between 65° and 75°.
        2. The *tierra fria* (“cold land”) reaches about 10,000 feet.
        3. The *páramo* begins at about 10,000 feet and daily average temperatures are below 50°. Wind, fog, and drizzle are common in this zone and vegetation is mainly grasses and shrubs. Above 15,000 feet, the ground is permanently covered with snow and ice.

1. **NATURAL RESOURCES**

Tropical rain forests cover the North, but the lack of roads and the physical geography have made it difficult to access resources.

* 1. **Fossil Fuels**
     1. Venezuela: South America’s top producer of **oil**. Largest oil reserves are in the Llanos, at the mouth of the Orinoco River, offshore in the Caribbean, and around Lake Maracaibo (South America’s largest lake).
     2. Venezuela: benefit from **natural gas** and **coal** deposits.
     3. Colombia: South America’s largest coal producer. South America’s third largest oil producer (Brazil is second).
     4. Oil is 40% of Ecuador’s exports. It is piped over the Andes from oil fields in the east.
     5. Suriname and Guyana also have oil resources, but they do not produce enough to meet their own needs.

* 1. **Minerals and Gems**
     1. **Gold** is found throughout the Tropical North. Largest deposits are in Colombia’s mountains, eastern Ecuador, and Venezuela’s Guiana Highlands.
     2. Ecuador: miners live in remote jungles and work in tunnels that can collapse in heavy rains.
     3. **Diamonds** are mined from Colombia to Suriname.
     4. Colombia is the world’s leading producer of high-quality **emeralds**.
     5. Guyana is one of the world’s largest producers of **bauxite** (a mineral used to make aluminum. Bauxite is also found in Venezuela and Suriname.
     6. Ecuador, Colombia, Venezuela, and Suriname: **copper, iron ore**, and other minerals.
     7. Ecuador’s mineral resources are limited except for gold.
     8. French Guiana: no important mining industries.
  2. **Agriculture**
     1. The different elevations and climates in Ecuador and Colombia allow farmers to grow a variety of crops. Both countries export **bananas** and **coffee**.
     2. Ecuador: farmland is limited and agriculture is not well developed. Ecuadorians grow only enough to feed their families.
     3. Ecuador and Colombia: **corn, potatoes beans, and cassava** are common crops.
     4. Colombia produces rice, wheat, sugarcane, and cattle for sale, as well as cotton for the country’s large textile industry.
     5. Coffee is Venezuela’s large **cash crop**. Corn and rice are the main food crops.   
        Most farming is in the northwest, and most ranching is done on the Llanos.
     6. Only **10%** of Venezuelans, Colombians, and Ecuadorians are farmers or ranchers.
     7. Guyana, Suriname, and French Guiana have little farming because most of the land is covered by rain forest. Some farming is done along the coast.
     8. **Fishing** is not a major economic activity in the Tropical North because the people do not eat much fish. The small fishing industry’s major seafood product is shrimp, most of which is exported.