

GEOGRAPHY SUMMARY

This part of the micro study informs you about the topography, infrastructure, nature and demographics of Brazil.

TOPOGRAPHY

The terrain of Brazil is mostly flat to rolling lowlands in north; some plains, hills, mountains, and a narrow coastal belt. Approximately 60% of the Amazon rainforest is contained in Brazil, what comes to 3,300.000 square kilometer. This rainforest is located in the Northwest of Brazil. The two maps below show some of the key characteristics like mountains, forests, cities, coastal line, etc. of Brazil.

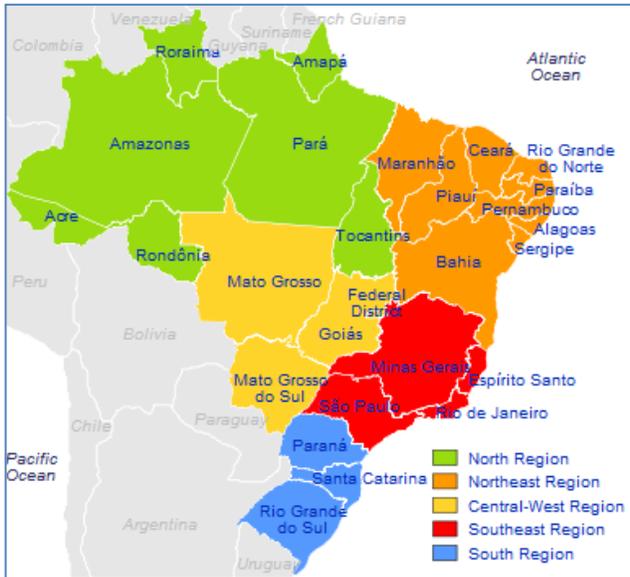


Figure 2: States and federal district of Brazil



Figure 1: Major centers and points of interest

Brazil has fourteen cities with more than one million inhabitants, these cities are because of historical reasons mostly located near the coast. Most of these cities can be found in figure 2. The three largest cities of Brazil are São Paulo, Rio de Janeiro and Salvador. (Oak, 2010)

The natural resources of Brazil according to the CIA World Factbook, which uses the definition of natural resources as a country's mineral, petroleum, hydropower, and other resources of commercial importance, are: Bauxite, gold, iron ore, manganese, nickel, phosphates, platinum, tin, uranium, petroleum, hydropower and timber. (World Factbook, 2010)

	Brazil	The Netherlands
Total area:	8,514,877 sq km.	41,543 sq km
Country comparison to the world:	Five, slightly smaller than the US.	134 (Over 200 times smaller than Brazil)
Land:	8,459,417 sq km.	33,893 sq km
Water:	55,460 sq km.	7,650 sq km
Number of cities with more than one million inhabitants:	13	0

Table 1: Comparative table on terrain between Brazil and the Netherlands (World Factbook, 2010)

INFRASTRUCTURE

The land use in the North West region where the Amazon Rainforest is located is mainly used for hunting, fishing, gathering, subsistence farming and small scale lumbering. The area in the middle east of Brazil is mainly used for unimproved grazing, which means a pasture in its wild state for example moorland. The area in the south is mainly used for improved grazing and small and large scale commercial farming. Also on the east coast some areas can be found which are only used for large scale commercial farming.

Mobility

The mobility in Brazil is not as good as in Holland, this is mainly because the size and the prosperity of Brazil. From the five main ways of transportation roads are the primary carriers of freight and passenger traffic. The road system totaled 1.98 million kilometer in 2002. The total of paved roads increased from 35,496 km in 1967 to 184,140 km in 2002. Nevertheless, almost every major Brazilian highway, rodovia, is paved and can have separated lanes in each direction. (Robinson, 2007)

The railway system is not very popular in Brazil. The total length of railway track was 30,875 kilometer in 2002, as compared with 31,848 kilometer in 1970. Because Brazil has a dense and complex system of rivers, transportation by using waterways are also used. This is mainly in the Amazon rainforest, where this is sometimes the only way of transportation possible. (Robinson, 2007)

Flying is often the most practical option in Brazil. All state capitals and larger cities are linked with each other with services several times a day and all national airlines offer excellent service. Recent deregulation of the airlines has greatly reduced prices on some routes and low cost airlines offer fares that can often be as cheap as travelling by bus. In total there are about 4000 airports in Brazil, including landing fields this is the second largest number in the world. Flying is also the most used way of getting to Brazil. Most visitors who travel by to Brazil by plane will land at Cumbica International Airport near Sao Paulo or at Tom Jobim Internation Airport near Rio de Janeiro.

	Brazil	Netherlands
Airports:	4000	27
Airports - with paved runways:	721	20
Airports - with unpaved runways:	3279	7
Railways total:	28857 km	2896 km
Roadways total:	1,751,868 km	125,575 km
Paved roads:	96,353 km	113,018 km
Unpaved roads:	1,655,515 km	12,557 km
Waterways:	50,000 km	6,215 km

Table 2: Comparative table on infrastructure between Brazil and the Netherlands (World Factbook, 2010)

CLIMATE

The climate of Brazil varies considerably from the mostly tropical North to temperate zones below the Tropic of Capricorn. Most of Brazil has moderate rainfall of between 1,000 and 1,500 millimeters a year, with most of the rain falling in the summer. Temperatures in the cities of São Paulo, Belo Horizonte, and Brasília are moderate. Rio de Janeiro, Recife, and Salvador on the coast have warm climates, with average temperatures ranging from 23°C to 27°C, but enjoy constant trade winds. Natural hazards in Brazil are repeating droughts in the north-east, floods and occasional frost in south. Below there is shown a map which gives an indication about the rainfall and temperatures in Brazil. Although the map is in Fahrenheit and inches, in Brazil they use the metric system. There are also three graphs shown about the temperature and rainfall in Rio de Janeiro, Sao Paulo and de Bilt. (BBC Weather Centre, 2010)

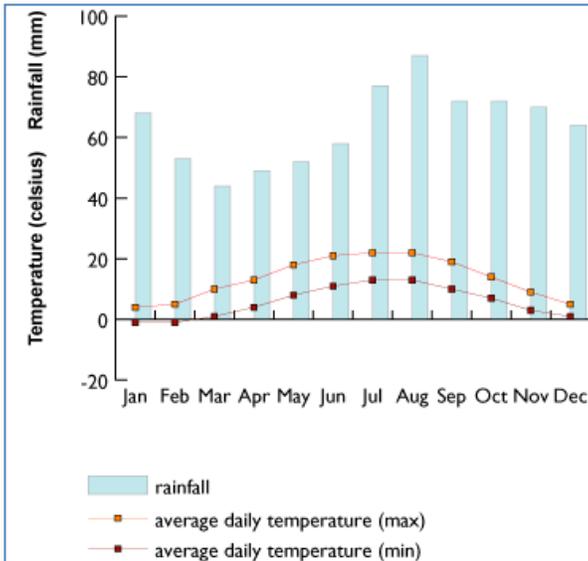


Figure 6: Temperature and rainfall in De Bilt

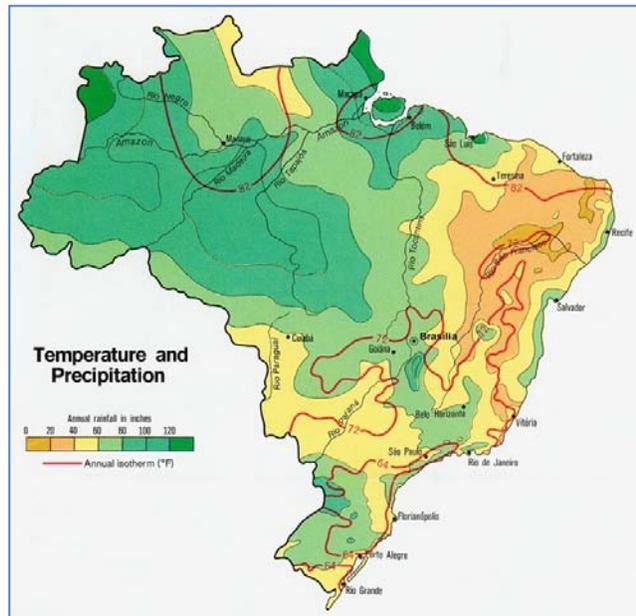


Figure 5: Temperature (Fahrenheit) and precipitation (inch) in Brazil.

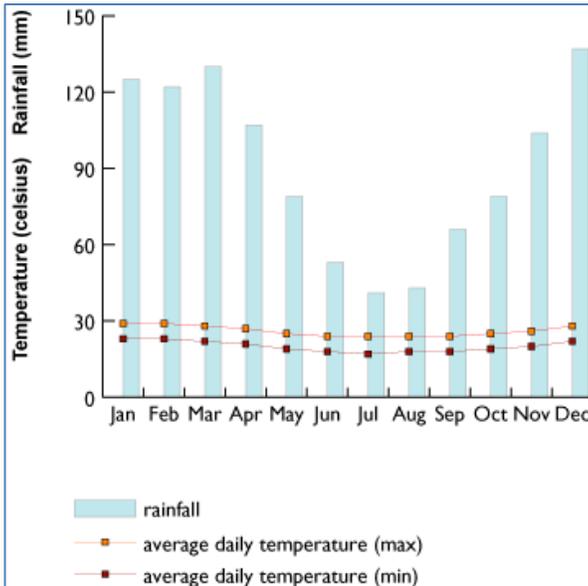


Figure 4: Temperature and rainfall in Rio de Janeiro

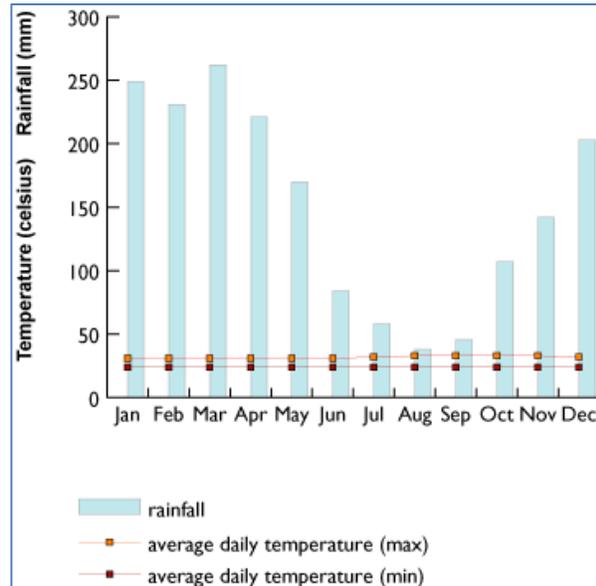


Figure 3: Temperature and rainfall in Rio de Janeiro

NATURE

Brazil is so immense that multiple ecosystems exist. A tropical rainforest, savanna and mangrove, Brazil has it all. Because of the variation in ecosystems Brazil's area is subdivided into various ecoregions, which all have their own characteristics. (Greenbookings, 2010) Six of them are pictured below in figure. This section will discuss flora and fauna in those ecoregions, starting with the greatest of them all: The Amazon.

Brazil is considered to have the greatest biodiversity of any country on the planet. It has the most known species of plants (55,000), freshwater fish (3000) and mammals (over 520). This is due to the vast Amazon rainforest that covers half of the country. The rainforest contains more than one-third of all species in the world. However, huge deforestation destroys the habitat and endangers a multitude of plant and animal species indigenous to the area. Every year about 0.46% of the rainforest disappears and already more than one-fifth of the original forest has been lost to cultivation of the land or production of lumber. The tropical Amazon forest also contains the largest river of the world: Rio Amazonas, which has a total river flow greater than the next ten largest rivers combined. It contains almost a quarter of all the earth's fresh water. The Amazon River is home of some of the weirdest freshwater flora and fauna, like the Piranha. (WWF, 2010)

In the southeast of Brazil, the Atlantic rain forest is located. This rain forest is less well-known than the Amazon, but 20 million years older. This forest used to occupy over 30% of the country, but nowadays only 7% of this native forest remains untouched. The Atlantic Forest is unusual in that it extends as a true tropical rainforest to latitudes as high as 24°S, which is at a comparable height to Central Australia or Sahara desert. Usually at this latitude, very dry desert are most common, but in Brazil trade winds produce precipitation throughout the southern winter. (Just Brazil, 2010)

The Caatinga is a semi-arid scrub forest situated in the northeast of Brazil. The forest canopy covers about 60% of the ground. This type of vegetation is present in wet areas of the Catingaa, which have somewhat more rainfall. The forest is extremely rich in natural resources but the information about its biodiversity is limited. "Most amazing":The Caatinga is unique to Brazil yet only 1% of its habitats are protected. (Just Brazil, 2010)

The Cerrado is the world's most biologically rich savanna. It has over 10,000 species of plants, of which 45% are exclusive to the Cerrado, and it stretches across nearly 500 million acres of Brazil. Around 67% of the Cerrado ecoregion has been already either completely converted or modified in a major way. In contrast, only 1% of the total area of the Cerrado Region is protected in parks or reserves. (WWF, 2008)

The Pantanal is a tropical wetland and the world's largest wetland of any kind. During 4 months of the year, the rain floods the soil, changing the live of humans and animals. It is considered the cradle of an uncountable number of species, mostly birds, fishes and reptiles. It is the home of: the Brazilian jaguar, the beautiful Toucan bird (figure 14) and hundreds of other species. (Greenbookings, 2010)

One jewel of the Brazilian nature is Fernando de Noronha, a national park in an archipelago of 21 islands. Aside from some endemic species the life above and below sea is the main attraction of the island. Sea tortoises, dolphins, albatrosses and many other species are frequently observed. (Wikipedia, 2010)

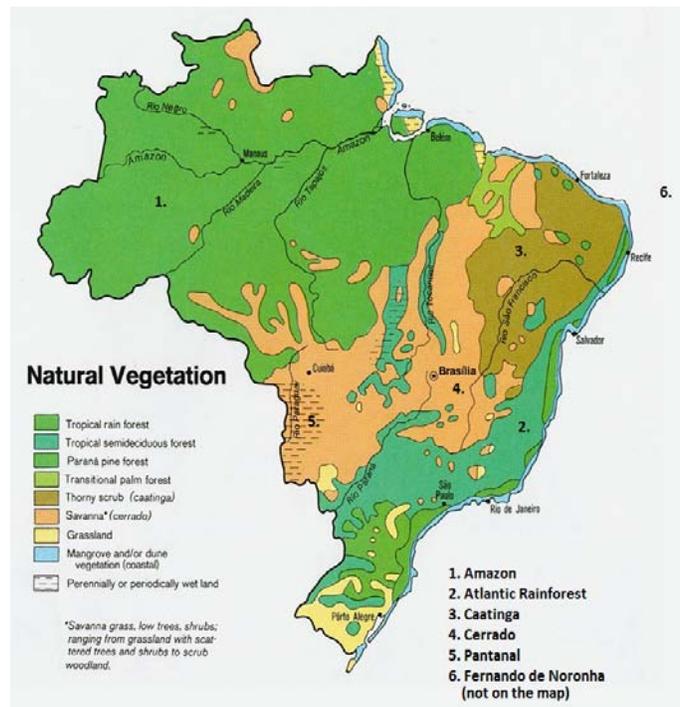


Figure 7: Six ecoregions of Brazil

DEMOGRAPHICS

Population

Brazil's population is very diverse, comprising many races and ethnic groups. In general, Brazilians trace their origins from four sources of migration: Tupi-Indians, Europeans, Africans and Asians. The European immigration to Brazil started in the 16th century, with the vast majority of them coming from Portugal. For the first two centuries 600.000 immigrants arrived in Brazil. The original, Tupi-Indian population of Brazil (between two and five million) has in large part been exterminated or assimilated into the Portuguese population. Nowadays only 200.000 remain. (Britannica Online Encyclopedia, 2010)

As Brazilian society has modernized and become more prosperous, life expectancy has increased and the rate of population growth has declined. The birth rate has also generally declined but varies according to region. The current birth rate is much higher in rural areas (around 6 per female) than in urban areas (around 2 per female). Infant mortality rates are still a serious concern but vary widely according to region and socioeconomic status: in the affluent urban districts the rate is quite low, but in the favelas and other poor communities, it is much higher. (Wikipedia, 2010)

Brazil suffers from high rates of urbanization. Numerous efforts have been made at the policy level to stimulate settlement in the rural areas, including colonization in the Amazon, and to limit the growth of the largest cities while strengthening middle-sized cities. Despite these efforts, most public policies have continued to favor population concentration in the Southeast and in large cities by promoting industry at the cost of agriculture and by providing services and benefits primarily to urban residents. (Countrystudies, 2007)

Language

When the Portuguese arrived, the main language was initially Tupi-Guriani. It was the main language of the native Indians. Nowadays Portuguese is the first language of the vast majority of Brazilians, but Indians still speak Tupi. Beside the Indian influence, a lot of other languages have altered and expanded the national lexicon. (Nations Encyclopedia, 2010)

Comparison with the Netherlands

In table 3 a short overview of key demographic aspects of Brazil and the Netherlands is shown.

Aspect	Brazil	Netherlands
Population size	198,739,269	16,715,999
Population growth (%)	1.199	0.412
Population density (inhabitants/km ²)	22	398
Birth / Death rate (per 1000 inhabitants)	18.43 / 6.35	10.4 / 8.74
Life expectancy (male & female)	68.43 & 75.73	76.8 & 82.14
Literacy (%)	88.6	99
Net migration rate (per 1000 inhabitants)	-0.09	2.46

Table 3: Comparative table of demographic aspects

CONCLUSION

Brazil has a lot of natural resources and a wealthy nature. However, those two are endangered by ever growing industries, cities and agricultural activities. If Brazil wants to maintain sustainability in the future, they have to focus primarily on the protection of those resources and nature.

From the social point of view Brazil is working hard on its future. Life expectancy and literacy have been growing for years, while the death rate is decreasing steadily. If Brazil wants to maintain this progression it should find a solution for the urbanization and its consequences. Large cities provide a better quality of life. On the other hand, the costs paid for an improved quality are high. In the Favelas people live at the lowest standard of living.

Brazil is also a member of the BRIC countries, which means that it has huge economic potential. And with economic potential opportunities arise. In the coming decades it is Brazil's task to make sure that economic growth will not harm nature and the living standard, but improves them.

BIBLIOGRAPHY

BBC Weather Centre. (2010, April 11). *Average Conditions*. Retrieved April 11, 2010, from BBC World Weather: http://www.bbc.co.uk/weather/world/city_guides/results.shtml?tt=TT001670

Britannica Online Encyclopedia. (2010, April 11). *Brazil: Demography*. Retrieved April 11, 2010, from Britannica Online Encyclopedia: <http://www.britannica.com/EBchecked/topic/78101/Brazil/222809/Demography>

Countrystudies. (2007, May 24). *Brazil - Migration and Urbanization*. Retrieved April 08, 2010, from Countrystudies: <http://countrystudies.us/brazil/29.htm>

Greenbookings. (2010, April 11). *Brazilië*. Retrieved April 11, 2010, from Greenbookings: <http://www.greenbookings.nl/LandenInfo/Brazilie.aspx>

Just Brazil. (2010, April 11). *Brazil Nature*. Retrieved April 11, 2010, from Just Brazil: <http://www.justbrazil.org/brazil/brazil-nature.asp>

Nations Encyclopedia. (2010, April 12). *Brazil Overview*. Retrieved April 12, 2010, from Nations Encyclopedia: <http://www.nationsencyclopedia.com/Americas/Brazil.html>

Oak, M. (2010, April 11). *Major Cities of Brazil*. Retrieved April 11, 2010, from Buzzle: <http://www.buzzle.com/articles/major-cities-of-brazil.html>

Robinson, A. (2007). *Brazil Handbook Footprint*. Footprint Handbooks.

Wikipedia. (2010, April 08). *Demographics of Brazil*. Retrieved April 08, 2010, from Wikipedia: http://en.wikipedia.org/wiki/Demographics_of_Brazil

Wikipedia. (2010, April 08). *Fernando de Noronha*. Retrieved April 08, 2010, from Wikipedia: http://en.wikipedia.org/wiki/Fernando_de_Noronha

World Factbook. (2010, April 08). *Brazil*. Retrieved April 08, 2010, from CIA World Factbook: <https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>

WWF. (2010, April 07). *Amazon - World's largest tropical rain forest and river basin*. Retrieved April 07, 2010, from WorldWildLife: <http://www.worldwildlife.org/what/wherewework/amazon/index.html>

WWF. (2008, December 23). *Terrestrial Ecoregions - Cerrado*. Retrieved April 12, 2010, from WorldWildLife: http://www.worldwildlife.org/wildworld/profiles/terrestrial/nt/nt0704_full.html