



Tijuca Forest

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Introductions

- Catalina Cadavid
 - Junior; Environmental Science Major
 - I choose my career in envl because I want to make a change in life. It's a career that I feel passionate about, knowing that i'm contributing to nature. I wanted to go on this trip because I wanted a more tangible experience other than studying from a book.
- Kimberly Dudeck
 - Senior; Environmental Science Major
 - I decided to go on this trip because I love traveling and saw this as a once in a lifetime opportunity to explore the country of Brazil. We have read several articles and watched countless documentaries on the places we will be investigating, and now I have the chance to apply what I have learned from my studies to the real world.



Urban Forestry



- "The art, science, and technology of managing trees and natural systems in and around urban areas for the health and well-being of communities. Practitioners combine strategic planning and best management practices with environmental stewardship education to create sustainable, cost-effective solutions for our cities and towns." - Sustainable Cities Institute
- Environmental, economic, and cultural benefits
- Increasingly recognized as a vital component of sustainable communities

URBAN FORESTRY





Environmental Benefits

- Improves air quality by mitigating air pollution and greenhouse gases
- Reduces stormwater runoff and enhances water quality
- Decreases urban heat island effect
- Reduces/eliminates erosion
- Shelters wildlife and promotes biodiversity
- Contributes to the stabilization of watersheds



Economic Benefits

- Increases property values
- Maximizes the success of businesses
- Reduces heating/cooling costs for buildings
- Lowers crime rates



Cultural Benefits

- Defines a sense of place and provides desirable landscapes
- Encourages community interaction



- Reduces noise pollution
- Provides educational opportunities for people

Other Benefits

- Improve road safety
- Provide a valuable tool for reclaiming dilapidated land



Risks and Challenges

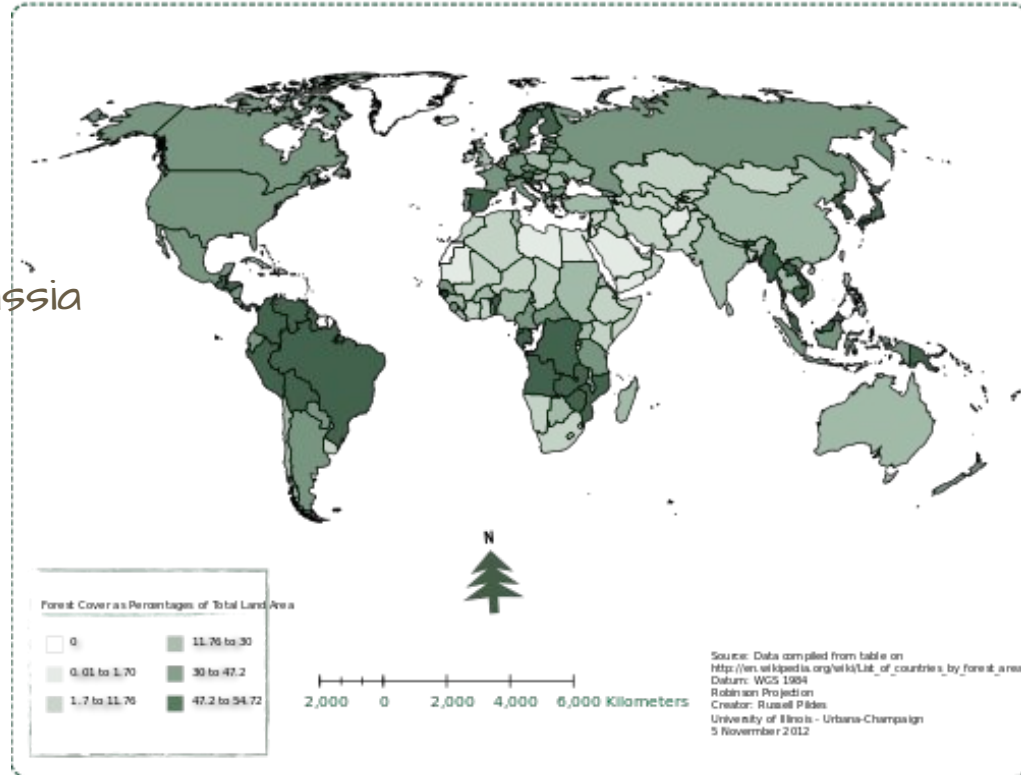
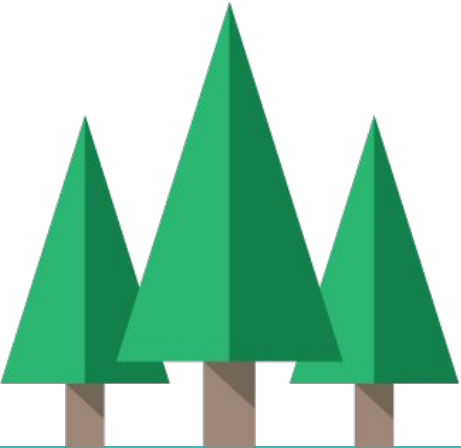
- Urban forestry can be subject to NIMBY arguments
- Damage to homes and buildings



not in my
back yard!

Top Three Largest Urban Forests

1. Tijuca Forest, Brazil
2. Johannesburg City Park, South Africa
3. Losiny Ostrov National Park, Russia





The Atlantic Forest

- **Size:** ~ 500,000 sq. miles
- **Geographic Location:** Southeastern coast of South America
- **Habitat Type:** Tropical/Subtropical Moist Broadleaf Forest
- **Conservation Status:** Critically Endangered

History

- Originally stretched along Brazil's coastline, and covered parts of Paraguay, Uruguay, and Argentina
- Present in 13 of Brazil's 26 states
- Today, it survives largely in small degraded patches and protected areas
- More ancient than the Amazon



BIOMES
Brazil

» ATLANTIC
FOREST



- Harbors a range of biological diversity similar to that of the Amazon
- Animals:
 - About 2,200 species of birds, mammals, reptiles, and
 - World leader in primate diversity
- Plants:
 - Approx. 20,000 species of plants
 - Forest structure contains multiple canopies



Small Primates

Four species of lion tamarin:



Mammal Species




Bird Species



Amphibian/Reptile Species

A small, bright orange frog with black eyes is perched on a dark brown, textured leaf. A person's hand is visible in the upper left corner, holding the leaf. The background is a soft-focus green.

Brazilian Gold Frog

A large turtle with a dark, patterned shell is swimming in green water. Its long, thin neck is extended. A bright green lily pad is visible in the lower left corner.

Brazilian Snake-necked Turtle

Indigenous Groups

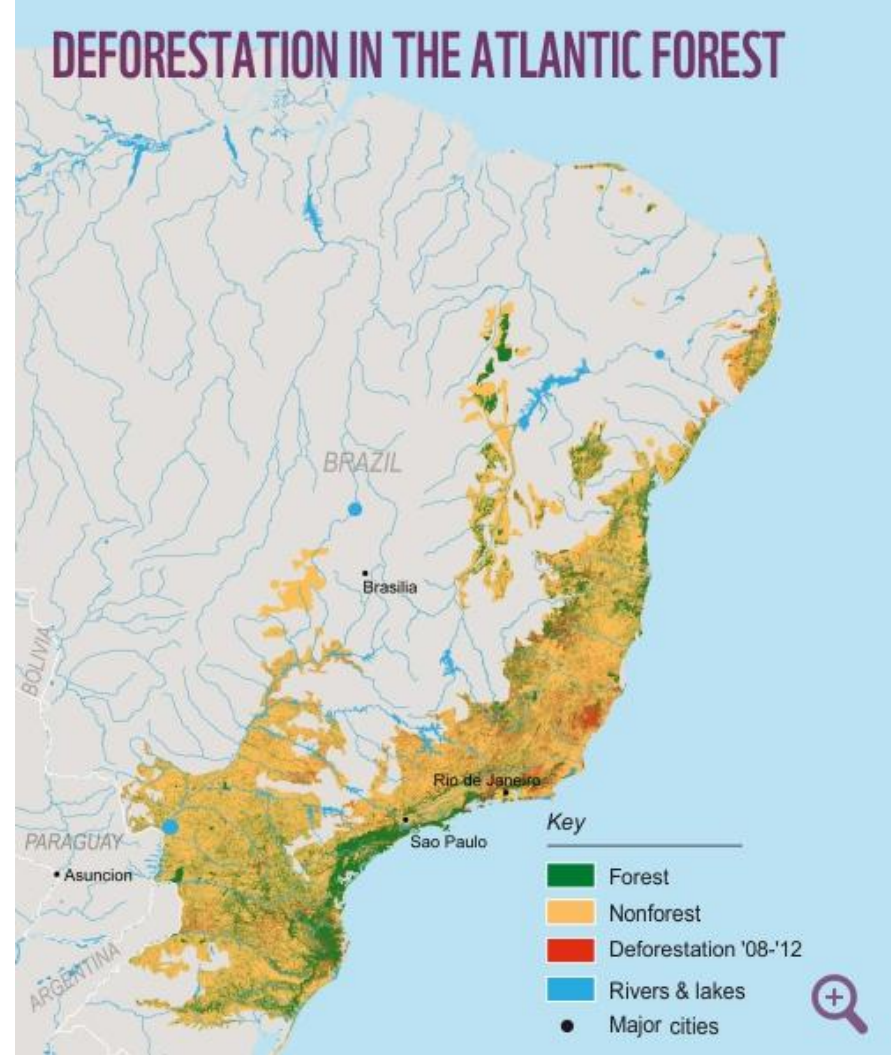
The Atlantic Forest is home to two indigenous communities:

- 1) Tupi
 - Survive in small numbers along the coast and northern highlands
 - Once dominated the area
 - Decimated by disease, war, slavery
- 2) Guarani
 - Live in the southern lowlands
 - Language is widely used
 - Largest tribe in country
 - Threatened by land conversion



Forest Threats

- Population Growth
 - Expansion of Urban Areas
 - Suburban Development
- Deforestation
 - Logging
 - Agricultural Expansion
 - Infrastructure
- Habitat Destruction
 - Hunting/Poaching
 - Wildlife Trade





Conservation Efforts

- A number of new initiatives were put in place to protect remaining forests and regrow new ones.
- Participating Organizations:
 - The Nature Conservancy
 - World Land Trust
 - Reserva Ecologica de Guapiacu (REGUA)
 - World Wildlife Fund (WWF)





- Tijuca forest is a manmade forest
 - Filled with waterfalls, hiking trails and a wide range of animal species
- Largest urban forest in the world
- Located in the Atlantic Forest in Rio de Janeiro
- 1.5 million people visit the park annually



22.9630° S, 43.2450° W



Parque Nacional da Tijuca



- LEGENDA**
- Áreas Protegidas
 Área de Proteção Ambiental
 Área de Relevância Cultural
 Área de Preservação Ambiental
 Monumento Natural
 Parque Nacional
 Parque Municipal
 Unidade de Conservação
- Unidades de Conservação de Conservação:**
1. Monumento Natural das Pedregais
 2. Área de Proteção Ambiental
 3. Área de Relevância Cultural
 4. Área de Proteção Ambiental do Rio de Janeiro
 5. Área de Proteção Ambiental do Rio de Janeiro
 6. Área de Proteção Ambiental do Rio de Janeiro
 7. Parque Estadual da Pedra Branca
 8. Parque Estadual de Itaipava
 9. Parque Estadual de Maricá
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- APERTE OS BOTÕES PARA VISUALIZAR AS PROGRAMAS**
- UNIDADES DE CONSERVAÇÃO FEDERAIS
 - COORDENAÇÃO REGIONAL 9 (RJ)
 - RESERVA DA BIODIVERSIDADE NO ESTADO DO RIO DE JANEIRO
 - MOSAICO CATEGÓRICO
 - ÁREAS DO PNT
 - CORREDOR ECOLÓGICO
 - VOCE ESTÁ AQUI



Fun Facts



- The Tijuca forest is home to:
 - 37 amphibian species
 - 33 reptile species
 - 189 bird species
 - 72 mammal species
- The height of these trees rarely surpass 30 meters
- The term "hardwood" got its name from the first Brazilian law on forest protection in December 12, 1905

History

- First known human occupation were Indians
 - No evidence, only engraving in portuguese
- Indians came in short whiles because
 - They hunted for food
 - They were scared of the mountains



History

- Tijuca was first cleared for sugar and coffee plantations
 - This brought the first ecological issues
- Intensive farming caused:
 - Erosion
 - Deforestation
 - Drinking water supply
- In efforts to protect Rio's water supply actions were taken



History

- Reforestation took place during the reign of Emperor Dom Pedro
 - Supervised by Major Manuel Gomes Archer
 - 1857, 100 thousand seedlings were planted over 13yrs nonstop
- Under new management of Barão Gastão d'Escragnole Taunay he turned it into a National Park (1961)



Trees

- Myrtle tree
- Eucalypt
- Cedar
- Rose-chestnut
- Mango
- Variety of breadfruit
- Mahogany
- Cinnamon
- Mimosa



Favela

- There are favelas inside and on the outskirts
- Generally there's two different types of people that live here:
 - People involved in plantation
 - Descendants of the slaves
- Tijuca Park residents experience:
 - Few to none robbery incidents
 - Highly trafficked area



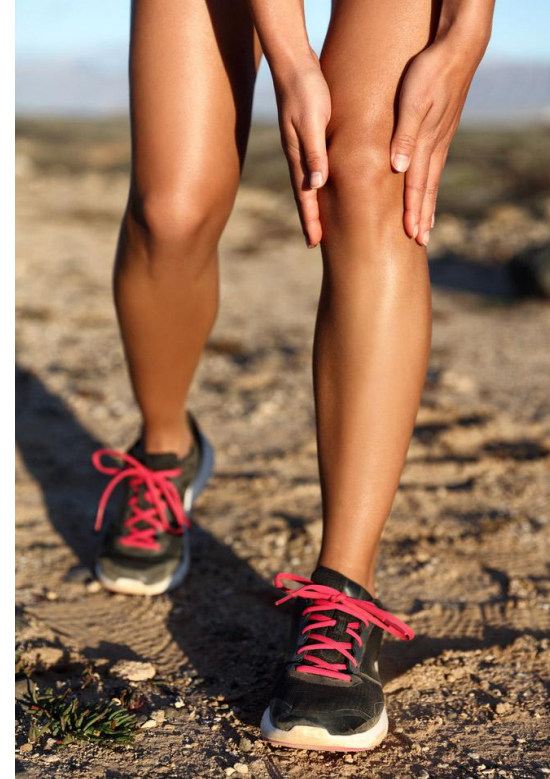
Activities

- Hiking
 - Pico da Tijuca highest peak
 - 3,353 feet
- Rappelling
 - Bico do Papagaio second largest mountain
 - 989 meters in altitude and 20m vertical (65 ft)



Challenges

- Dehydration
- Proper footwear
- Blisters / Cuts
- Knee injuries



Conclusion

- Tijuca national park and its trees play a major role in the environment. Not only is it beneficial for the aesthetics looks, economic value and tourism, but the impact it has in the ecosystem. Tijuca National Park provides animal/plant diversity and helps reduce water erosion. These trees play a major role in reducing the carbon emissions, which the world, as a whole, will benefit from.





**KEEP
CALM
AND
DON'T ASK
QUESTIONS**

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