"Investigations on Climate: Understanding Earth as a System and TREES."

Project for Monitoring Tree Falls using Globe Observer Trees

Enhancing Climate Resilience through Tree Monitoring and Conservation

**Description:** Our project focuses on the critical role that trees play in mitigating climate change and enhancing environmental resilience. By monitoring and conserving iconic trees worldwide, we aim to raise awareness and promote sustainable practices that contribute to climate resilience.

Our initiative encompasses the monitoring of several iconic trees renowned for their historical, cultural, and ecological significance. From Isaac Newton's legendary apple tree to the majestic baobabs of Africa, each tree symbolizes a unique aspect of our natural and cultural heritage.

Through the utilization of the Globe Observer platform, we engage citizen scientists and communities in the monitoring process. Participants collect valuable data on tree health, growth patterns, and environmental conditions, contributing to scientific research and conservation efforts.

The iconic trees we monitor serve as essential carbon sinks, sequestering carbon dioxide from the atmosphere and helping to mitigate the effects of climate change. Additionally, they play crucial roles in regulating local climates, conserving soil and water, and providing habitats for diverse ecosystems.

By highlighting the significance of these trees and fostering community involvement, our project aims to inspire action and promote stewardship of our natural resources. Through collective efforts, we can safeguard these invaluable assets for future generations and build a more resilient and sustainable world.

Join us in our mission to monitor, conserve, and celebrate the remarkable diversity and importance of iconic trees in combating climate change and fostering environmental stewardship. Together, we can make a lasting impact on the health of our planet and ensure a brighter future for all.

Introduction: Globe Observer Trees is an initiative that enables citizens to contribute to the monitoring of trees in their communities. Through this project, we can harness public collaboration to identify and monitor trees at risk of falling due to adverse weather conditions such as heavy rainfalls. This project proposes the implementation of Globe Observer Trees as a monitoring tool for tree falls due to rain.

**Objective:** The objective of this project is to utilize Globe Observer Trees as a platform for monitoring trees in areas prone to falls due to heavy rain, allowing for proactive intervention to mitigate risks.

**Methodology:**

**Community Engagement:**

Conduct awareness and community engagement campaigns to promote participation in Globe Observer Trees.

Educate participants about signs of trees at risk of falling due to heavy rain.

**Participant Training:**

Provide hands-on training on how to use the Globe Observer Trees app to identify and monitor trees.

Offer guidance on reporting accurate and relevant data about tree health and condition.

**Identification of Risk Areas:**

Conduct surveys to identify areas prone to tree falls due to heavy rain, considering historical data of weather events and local information.

**Regular Monitoring:**

Encourage participants to conduct regular monitoring of trees in their designated areas using the Globe Observer Trees app.

Record observations about tree health, condition, and potential risk signs.

**Data Analysis and Alert:**

Analyze the data collected by participants to identify patterns and trends related to trees at risk of falling.

Develop an alert system to notify authorities and the community about trees identified as potentially hazardous.

**Benefits:**

Utilization of a crowdsourcing platform to monitor trees at risk of falling due to heavy rain.

Involvement of the community in identifying and mitigating risks related to tree falls.

Creation of a collaborative monitoring network that can help prevent material damage and protect lives.

**Isaac Newton's Apple Tree:**

The apple tree associated with Sir Isaac Newton is legendary for its role in inspiring his discovery of gravity. According to the popular story, Newton observed an apple falling from the tree, which led him to formulate his theory of universal gravitation. While the specific tree may not be definitively identified, the story symbolizes the spirit of scientific inquiry and discovery.

**Cork Oak Trees in Portugal:**

Cork oak trees (Quercus suber) are native to southwest Europe and northwest Africa, with Portugal being one of the largest producers of cork globally. The cork oak's bark is harvested to produce cork, a sustainable and versatile material used in wine bottle stoppers, flooring, and various other products. These trees play a vital ecological role, providing habitat for wildlife and contributing to soil conservation.

**Olive Trees:**

Olive trees (Olea europaea) have been cultivated for thousands of years across the Mediterranean region and are revered for their symbolism of peace, wisdom, and abundance. Olive oil, derived from the fruit of the olive tree, is a staple of Mediterranean cuisine and holds cultural significance in many societies. Olive trees are also valued for their resilience to drought and their ability to thrive in arid climates.

**Baobab Trees:**

Baobab trees (Adansonia spp.) are iconic symbols of the African savanna and are known for their distinctive swollen trunks and sparse branches. These trees can live for thousands of years and play essential roles in local ecosystems, providing food, water, and shelter for humans and wildlife. Baobabs are revered in African culture and folklore, often regarded as sacred or mythical beings.

**Cocoa Trees in Ilhéus:**

Ilhéus, located in the Brazilian state of Bahia, is renowned for its historic cocoa plantations. Cocoa trees (Theobroma cacao) are native to the Americas and are the source of cocoa beans used to produce chocolate and other cocoa-based products. Ilhéus was once a major center of cocoa production, shaping the region's economy and cultural identity.

**World's Largest Cashew Tree:**

The world's largest cashew tree, located in Natal, Brazil, is an awe-inspiring natural wonder. Spread over an area of approximately 8,500 square meters, this massive tree produces thousands of cashew nuts each year. The tree's sprawling canopy and extensive root system make it a popular tourist attraction, drawing visitors from around the world to marvel at its size and beauty.

These iconic trees represent not only natural wonders but also cultural and historical landmarks that inspire awe and appreciation for the natural world. Their preservation and conservation are essential for future generations to enjoy and learn from their beauty and significance.

**Here's how these trees help in climate:**

1**. Carbon Sequestration:** Trees absorb carbon dioxide (CO2) from the atmosphere during photosynthesis, helping to reduce the amount of this greenhouse gas responsible for global warming. Carbon is stored in trees and soil, aiding in mitigating climate change.

2**. Oxygen Production:** During photosynthesis, trees release oxygen into the atmosphere, providing the vital gas for human, animal, and other living organism respiration. This process helps maintain the balance of oxygen in the atmosphere, crucial for life on Earth.

3. **Reduction of Urban Heat Island Effect:** In urban areas, the presence of trees can help reduce the urban heat island effect, where temperatures are significantly higher than surrounding areas due to heat absorption and retention by urban structures. Tree shade and evaporation from leaves help cool the local environment.

4. **Regulation of Humidity:** Trees release water through a process called transpiration, contributing to air humidity and cloud formation. Tree transpiration can also influence precipitation patterns in certain regions, helping regulate the climate.

5. **Soil and Water Conservation**: Tree roots help prevent soil erosion, keeping it stable and preventing sedimentation in watercourses. Additionally, trees help regulate the hydrological cycle by absorbing water from the soil and releasing it gradually, which helps maintain water levels in rivers, streams, and groundwater.

6. **Creation of Microclimates**: Forests and wooded areas can create favorable microclimates, offering shelter from the wind, protection against extreme temperatures, and habitats for a diversity of plant and animal life.

In summary, trees play a vital role in climate regulation and the maintenance of healthy ecosystems worldwide. Their preservation and continued planting are essential to addressing the challenges of climate change and ensuring a sustainable future for our planet.

**Conclusion:** The use of Globe Observer Trees as a tool for monitoring tree falls due to heavy rain allows for a collaborative, community-based approach to identifying and mitigating risks. By empowering citizens to actively participate in monitoring trees in their communities, we can improve safety and resilience in the face of extreme weather events.

Teacher Jeane de Fatima Moreira Branco

Iago Dias

Heitor

Luana Reis

Lais Oliveira

Beatriz

Gabriel

Rommel Saiyd

João Mathrus Lacerda

Gabriel Lacerda

Casa com árvores ao fundo

Descrição gerada automaticamente

Mão segurando banana descascada

Descrição gerada automaticamente

Árvore com folhas verdes

Descrição gerada automaticamenteÁrvore com folhas verdes

Descrição gerada automaticamenteÁrvore com folhas verdes

Descrição gerada automaticamenteÁrvore com folhas verdes

Descrição gerada automaticamente