**Intention**

To create a visual exploration of how environmental changes and urban growth in Southeast Asia might be contributing to the vulnerability of the region to coastal disasters.

The investigation aims to analyze and visualize the complex relationship between environmental transformations, urban expansion, and their collective impact on the vulnerability of Southeast Asia to coastal disasters. By overlaying data on ecological changes—such as deforestation and the disruption of natural habitats like mangroves and swamps—with patterns of urban growth and sprawl, I seek to uncover how these human and natural modifications have potentially increased the risk of and exposure to natural disasters.

The intention is to provide a comprehensive geographical representation that not only tracks these changes over time but also serves as a critical tool for understanding the dynamics at play in disaster risk and resilience in the region. This approach promises to offer valuable insights into the interdependencies between human activities and environmental sustainability, aiming to inform strategies for mitigating disaster risks and enhancing regional resilience to climate change.

**Questions**

1. **How have patterns of deforestation, reforestation, and disturbances to natural habitats like swamps and mangroves correlated with the incidence and severity of coastal disasters in Southeast Asia over the last few decades?**

This question seeks to understand the direct relationship between environmental degradation and the frequency or intensity of natural disasters, examining how the removal or alteration of natural barriers may impact disaster vulnerability.

1. **In what ways has urban sprawl into ecological territories influenced the vulnerability of Southeast Asian cities to climate-related disasters such as inland flooding and coastal erosions?**

This focuses on the impact of urban expansion into previously undeveloped or ecologically sensitive areas, looking at how such developments affect the resilience of urban areas to environmental threats.

1. **How does the alteration of indigenous placemaking due to urban development affect community resilience to environmental disasters in Southeast Asia?**

This question investigates the social and cultural dimensions of disaster risk, exploring how changes in traditional land use and community structures due to urbanization might influence the ability of communities to respond to and recover from disasters.

1. **What regions within Southeast Asia have experienced the most significant environmental and urban changes, and how do these regions compare in terms of disaster risk and occurrence?**

Aimed at identifying hotspots of change and vulnerability, this question compares different areas within Southeast Asia to assess the relationship between the extent of environmental and urban transformations and their disaster profiles.

1. **Can a predictive model be developed based on historical data of environmental changes and urban growth to forecast future areas of high risk for coastal disasters in Southeast Asia?**

This question looks forward, asking whether the data visualized in the map can be used to predict future trends in disaster risk, potentially guiding policy and planning to mitigate such risks.

**Method/Approach:**

My approach encompasses the following strategies:

1. I plan to chronicle environmental transformations over time within the region, as data availability allows. This involves charting alterations such as deforestation and reforestation, along with disturbances to swamps and mangrove ecosystems.
2. I aim to document urban expansion in the region, focusing on the spread of cities into natural landscapes and the impacts of urbanization on traditional community settings.
3. By integrating these two mapping endeavors, my goal is to investigate through visualizations whether the synergistic effect of environmental degradation and urban proliferation has heightened the vulnerability of Southeast Asian nations to environmental catastrophes. Specifically, I'm interested in examining how the reduction of natural buffers and the increase in fixed urban settlements might have amplified the risks associated with climate-related disasters, including inland flooding and coastal erosions.

**Data Access**

The data you need is relatively accessible, but the challenge lies in finding comprehensive, up-to-date, and high-resolution data for the entire region. Here are some potential sources:

1. Global Forest Watch - Offers data on deforestation, forest cover, and landscape changes globally.
2. The World Bank Data Catalog - Provides various datasets, including urban development indicators and disaster risk management.
3. United Nations Environment Programme (UNEP) - Sources for environmental data including mangrove and swamp disruption.
4. National Aeronautics and Space Administration (NASA) Earth Observing System Data and Information System (EOSDIS) - Satellite imagery that can be used to analyze environmental changes and urban growth.
5. Asian Development Bank (ADB) - Reports and data on urban development and environmental issues in Asia.

Environmental data: There are organizations dedicated to providing open-source environmental data. Here are a few options:

1. Global Forest Watch: Tracks forest cover loss in near real-time <https://www.wri.org/initiatives/global-forest-watch>
2. World Wildlife Fund (WWF): Provides various datasets on ecological regions, including mangroves <https://www.worldwildlife.org/>
3. NASA Earth Observations (NEO): Offers a variety of satellite and airborne datasets on land cover and change <https://www.earthdata.nasa.gov/>

Urban data: Urban data can be trickier, but some options include:

1. World Settlement Footprint: Provides global data on human settlements <https://developers.google.com/earth-engine/datasets/catalog/DLR_WSF_WSF2015_v1>
2. World Urban Database (WUD): Offers historical and current data on urban extents <https://www.wudapt.org/>
3. UN Habitat: Provides data and reports on urban development https://data.unhabitat.org/