**Thesis Idea 2**

**Thesis Question:**

**“Under the RCP 8.5 (high-emissions) scenario, how will climate change impact migration patterns and policy responses in the Mexico-US border region?”**

"How will climate change, specifically under the RCP 8.5 scenario, impact migration patterns and policy responses in the US-Mexico border region?"

**Hypothesis:**

"Under the RCP 8.5 climate scenario, climate change-induced factors, including increased temperatures, droughts, inhospitability, and heightened risks for undocumented immigrants, will lead to significant changes in migration dynamics at the US-Mexico border. These changes will necessitate policy adjustments, including potential reforms to Mexico-US migration laws, to address emerging challenges."

**Research Objective:**

This thesis seeks to conduct a comprehensive territorial vulnerability assessment by integrating climate change, water scarcity, and immigration data through machine learning techniques in the border region of northern Mexico and southern United States.

**Under the RCP 8.5 scenario, this research aims to:**

1. **Assessing Climate Change Impacts on Migration and Policy Responses:**
   1. Investigate the impact of climate change on the home countries of migrants in South America and assess to what extent climate change-related factors drive migration.
   2. Evaluate Mexico's preparedness and policy responses to address climate-induced immigration and related challenges, including potential strategies for accommodating immigrants seeking refuge.
   3. Examine the implications for Mexico-US border security and immigration policies, considering the changing dynamics of immigration flows in the context of climate change.
2. **Simulate Climate-Induced Droughts and Border Security Implications:**
   1. Employ machine learning models to simulate climate-induced droughts in the bordering states of Mexico and the US. (machine learning with RCP 8.5 graphs)
   2. Analyze how these simulated droughts impact immigration patterns from South America to the Mexico-US border.
3. **Evaluate Inhospitability, Risks, and a Potential Bottleneck Scenario:**
   1. Examine the impact of climate change, particularly increased temperatures and inhospitability, on the bordering states of Mexico and the US.
   2. Assess the potential increase in death rates among immigrants attempting to cross the Mexico-US border due to harsher environmental conditions.
      1. Explore the likelihood of a bottleneck scenario in Mexico, where immigrants may choose to seek refuge or asylum seeker status to remain in Mexico, rather than attempting to cross into the US.
4. **Implement Machine Learning for Climate Scenario Modeling:**
   1. Utilize machine learning models to simulate and predict climate change impacts, including temperature increases, drought severity, and their effects on immigration patterns.

1. **CONCLUSION-AIM:**
   1. Employ machine learning for data-driven policy recommendations and potential reforms to address climate-induced immigration.

This research will combine climate scenario modeling using the RCP 8.5 scenario with machine learning analysis to provide insights into the complex relationship between climate change, migration, and border security in the US-Mexico border region. The findings will inform policy recommendations and potential reforms to address emerging challenges arising from a warming climate.

**Knowledge**

**Most concurred crossing areas**

1. San Diego-Tijuana: The San Diego-Tijuana border crossing in California is one of the most heavily trafficked border areas. It includes the San Ysidro Port of Entry, which is one of the busiest land border crossings in the world.
2. El Paso-Ciudad Juárez: The border between El Paso, Texas, and Ciudad Juárez, Chihuahua, is another area with significant unauthorized border crossings. The Paso del Norte Port of Entry is a key crossing point in this region.
3. Rio Grande Valley: The Rio Grande Valley sector in Texas has historically seen high levels of illegal border crossings. Cities like McAllen and Brownsville are located in this region, and the river itself has been a common crossing point.
4. Arizona-Sonora Desert: The vast and remote desert areas in the Arizona-Sonora border region have been favored by some migrants and smugglers due to the challenging terrain and limited border infrastructure.
5. New Mexico-Chihuahua Border: The border region between New Mexico and the Mexican state of Chihuahua has also seen illegal border crossings, although it may not be as heavily trafficked as some other areas.
6. Tucson-Nogales: The Tucson sector in Arizona, which includes the city of Nogales, has been known for unauthorized border crossings.

**News Article**

1. NBC News, Over 1,300 migrants cross the border into Arizona daily, despite record heat: <https://www.nbcnews.com/politics/immigration/1300-migrants-cross-border-arizona-daily-record-heat-rcna98253>

SESSION WITH ASYA

Why I chose Asya

* Explores the strategic interactions between national, state, and local governments and their respective constituencies as they engage in the policy process.
* My other work combines formal theory and causal inference methodologies to advance the study of polarization, immigration, race and policing, and the measurement of political preferences.
* MIT graduate: Massachusetts Institute of Technology, super prestige. Just 4% acceptance rate. Focuses on maths, science and technology.
* Papers written by her that are in progress of my interest:
  + “Elective Enforcement: The Politics of Local Immigration Policing” (with Angelo Dagonel)
  + “Systemic Racism and Policing

Questions for Asya:

1. Which scope would she recommend me to have?
   1. I feel there are many things going on. Many predictions am intending to do.
   2. Should I focus on just certain states? e.g., Texas.
   3. Should I focus on just certain popular crossing spots along the border?
2. Should a multi-layered vulnerability index be incorporated? incorporating climate, water, migration, and poverty indicators.
3. Provide recommendations for cross-border collaboration to address shared challenges?

* Reduce the scope
* Reduce the territory that will be analyzed
* Focus just in Mexico or also US

Key Research Components:

Create a multi-layered vulnerability index incorporating climate, water, migration, and poverty indicators.

Employ machine learning algorithms to identify areas of high vulnerability.

Examine the relationship between migration, poverty, and climate-induced events.