

A Spatial Analysis of Climate Change Impacts on Indigenous Peoples in Ecuador

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Introduction

- Indigenous Peoples make up just 5% of the world's population, but protect 80% of its biodiversity. Not only that, but indigenous peoples are among the best stewards of nature, in many cases having lived for centuries in harmony with their environments in ways that utilize natural resources, but do not destroy them.
- As climate change worsens and climate-induced migration becomes more widespread, many indigenous groups might be looking at total destruction as they are forced to leave the land they have always inhabited.
- This study investigates these phenomena in Ecuador, a tropical country with at least 15 distinct indigenous nations spanning 3 different biomes.
- Each Indigenous group in Ecuador is highly vulnerable to different impacts of climate change, from sea level rise and flooding on the coast, to glacier melt in the Andes, to extreme heat in the Ecuadorian Amazon. Policies will have to be put in place to mitigate these impacts, as outlined in the lower right box.

Methods

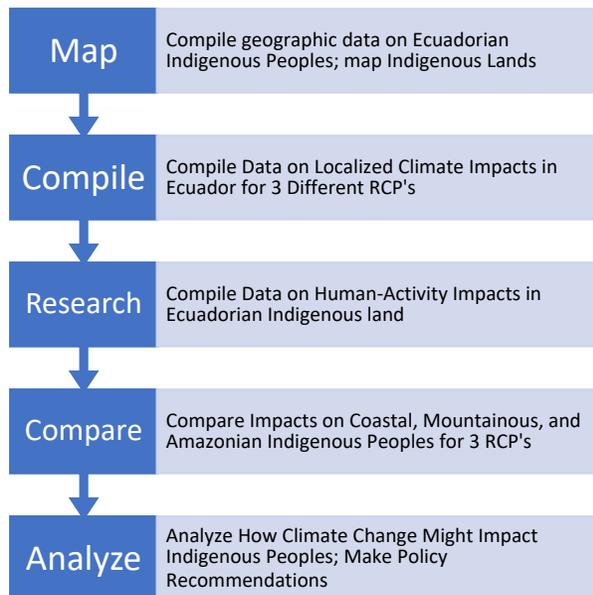


Fig. 1: Methodology Flow Chart

Findings

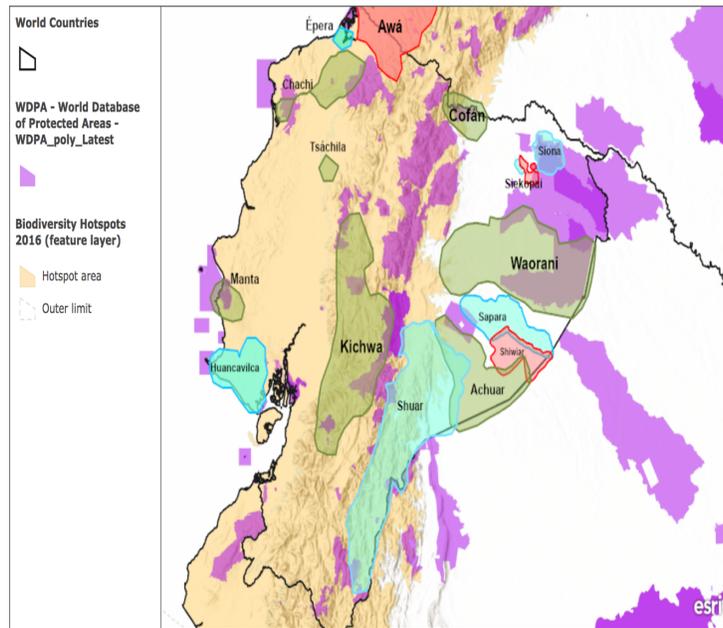
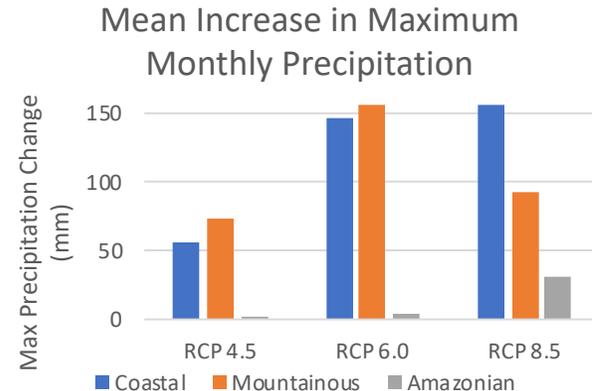
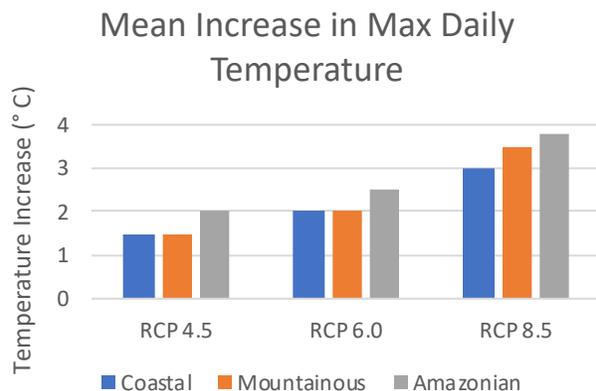
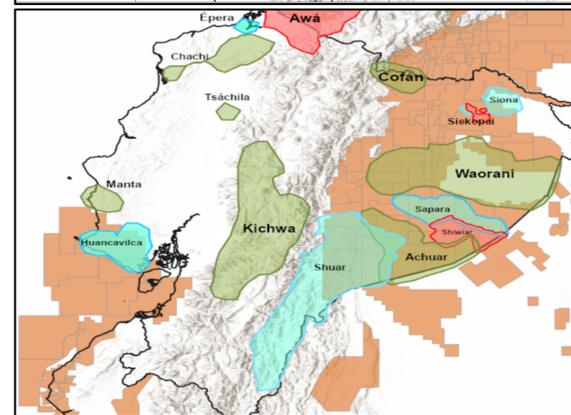
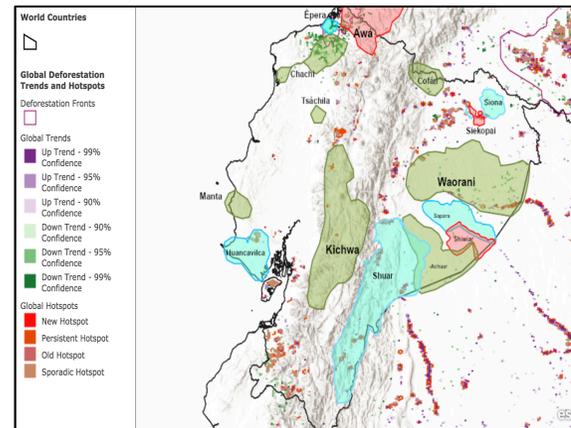


Fig. 2 (ABOVE): Map of Indigenous Peoples in Ecuador, biodiversity hotspot, and land formally protected by the government

Fig. 3 (Upper Right Map): Deforestation Trends in Ecuador, 2020, and Indigenous lands.

Fig. 4 (Right Map): Oil & Gas concessions in Ecuador, 2020, and Indigenous lands. Figs. 5 & 6 (Graphs below, left to right): Graphs of climate projections for period from 2080-2099, as compared with 1986-2005. Average values for Indigenous lands in 3 groupings.



Discussion

- Overall: Climate change and human development schemes will have intense and numerous impacts on Indigenous Peoples in Ecuador. These impacts differ for each Indigenous nationality depending on location and existing protection level.
- All groups face the threat of extreme heat, and coastal groups will be at risk of major flooding from storms and sea level rise.
- Mountainous peoples rely on glacial melt for their source of freshwater in the dry season, which is rapidly disappearing. This could cause migration.
- Amazonian Indigenous Peoples are threatened with increased droughts, potentially unlivable temperature increases, and human development schemes like oil drilling that are likely to increase. Barely any of the Amazonian Indigenous land is protected, and the types of climate impacts they will face are the very same ones international bodies like the World Bank predict will induce internal migration.
- The Amazonian and Mountainous Indigenous Peoples of Ecuador together have a population of upwards of 275,000 people (likely significantly more, as records of Indigenous populations are not well-kept). This means that if national and international policy remains business as usual, Ecuador could be facing a massive internal migration of Indigenous Peoples by the year 2100.
- This will go hand in hand with a massive loss of biodiversity. Ecuador is one of only 17 megadiverse countries, and many of its key biodiversity areas fall within Indigenous land. Indigenous Peoples have repeatedly been proven to be among the best stewards of nature, and their departure from key ecosystems will surely bring with it the destruction of those ecosystems.

Policy Recommendations

- Significantly scale up recognition of Indigenous Lands.
- Enforce Free and Prior Informed Consent rigidly.
- Give IP's seats on the Ecuadorian National Assembly.
- Prioritize investment in Indigenous adaptation strategies, expanding Indigenous knowledge across the country.
- Stop drilling in Indigenous lands, especially the Amazon.

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