Ever since the arrival of the Spanish in the 16th century, extractive industries have played a pivotal role in shaping Honduran political and economic history. The presence of large-scale metal exploration and exploitation have challenged the social and environmental fabric of the Honduran communities in which extractive industries operate (Oxam, 2016). In the last two decades, local communities, grassroots organizations, universities, and international NGOs have challenged the Honduran government and transnational mining companies about harmful mining practices, while investigating the social and environmental implications of metal mining in Honduras.

In spite of increased interest in researching the social and environmental implications of metal mining in Honduras, more work needs to be done to understand the historic expansion and development of mining to understand the effects of mining on people and landcover change. By investigating the spatial extent of the San Andrés mine between 1991 and 2016, this study aims to contribute to a growing body of literature regarding the interaction of conflict and extractive industries in Honduras and will specifically focus on the San Andrés mine because it is a frequently contested mine in the last two decades.

The San Andrés mine is a controversial open-pit mine situated in western Honduras in La Unión, in the department of Copán. The historic expansion of the San Andrés mine has led to the destruction of property, forced displacement of communities, water contamination, air pollution, and the destruction of land cover (ICEF, 2014; Oxam, 2016). The social and environmental consequences linked to the presence of the San Andrés mine have raised questions regarding the livelihoods of the local communities.

**Study Objectives**

- Use Landsat imagery to map and analyze the spatial extent of the San Andrés mine between 1991 to 2016.
- Characterize the spatial overlap between the San Andrés mining concessions and critical landscape units including agriculture and local settlements in 2016.
- Characterize the populations and settlements at future risk of displacement.

**Methodology**

The potential future expansion of the San Andrés mine also has serious implications for different landcover classes and the populations residing within the mining concessions. As of 2010, an estimated 2,574 people live within the concessions boundaries in 2010 while an additional 1,944 people live in close proximity to the concessions boundaries. These communities are at risk of displacement if Aura Minerals, the current owner of the San Andrés mine operations, chooses to expand.

**References**


**Conclusion**

Spatial analysis of the San Andrés mine between 1991 and 2016 shows that bare substrate in the core mining area increased by 247.75%. The analysis also provides insight on land-cover change over a 25-year span within and in close proximity to the San Andrés concessions. For example, the imagery shows how the core mining areas shift across the landscape, leading to population displacement and permanent land-cover changes. As the core mining pits shifted across space and time, there is more destruction of native habitat, primarily forests, while old mining pits are reclaimed with mono-cropped pine trees. The loss of forest has implications for the livelihoods of the communities living in close proximity to the mine: less potential for agriculture, loss of grazing space for farm animals, and limited availability of biofuels and medicinal plants (ICEF, 2014). Furthermore, the reclamation of the mining sites does not restore the landscape to its original state and no longer has the same purpose. Mono-cropped pine forests do not support the same subsistence practices the local communities used prior to the land modification.

The San Andrés mine is a focal point of mining in Honduras. The geographical expansion, mining practices, and the conflicts associated with the mine are closely monitored by local communities, the Honduran government, international NGOs, and transnational mining companies. The future direction of the San Andrés mine will influence the future of mining and mining practices in Honduras. Since the San Andrés mine is so influential to mining practices and legislations in Honduras, it is important to characterize and understand the historical expansion of the mine (Ben Fash, Personal conversation, March 28 2017). This research contributes to a growing body of literature about extractive industries in Honduras, which already discusses some of the specific political, economic, social, and environmental implications of metallic mining in Honduras.