Title

Unveiling Climate Coloniality: Fossil Extractivism, Indigenous Perspectives, and Mobilizations in the Ecuadorian Amazon

Abstract

Among the current debate on the creation of just futures, a growing body of research emphasizes the urgent need for mitigation and adaptation measures to face climate change, by fostering the energy transition to a carbon–neutral and climate resilient economic system (Sultana, 2022). Studies on climate coloniality underline present climate injustice as part of the uneven development caused from colonialism and capitalism, where peripheries are the source of cheap labour and natural resources for the centres of accumulation (Jiménez & Venegas, 2023; Malm, 2016). Failing to recognize this issue and continuing top-down and extractivist approaches might reiterate and amplify pre-existing inequalities that underlie climate change; it creates new uncertainties and vulnerabilities, especially for poor and marginalised people, constraining their livelihood choices and narrowing pathways for socially just adaptation. For instance, both renewable green energy production and ecosystem conservation proved to be processes that can produce new inequalities (Moreano Venegas, 2020; Stock, 2023). Meanwhile local communities, grassroots movements, academics and other organizations are defining critical approaches (Martinez-Alier et al., 2014), elaborating proposals and concepts for new forms of living (Kothari et al., 2019; Science Panel for the Amazon, 2021), and taking action to face such inequalities (Temper et al., 2018, 2020).

Thus, to unveil the mechanisms through which policies for fossil extractivism create sacrifice zones in the global Souths and to actively listen to the perspectives and proposals from local communities is a critical challenge for creating just adaptation processes.

Within this context, the Ecuadorian Amazon Region represents an unique territorial laboratory of practices, being simultaneously a crucial hotspot for Amazonian biodiversity, the home to 11 indigenous nationalities and a sacrifice zone for oil extraction. Presently, 60% of this region is divided and operationalized by oil concessions, overlapping 71% of indigenous territories and 20% of its protected areas (Codato et al., 2019). Fifty years of oil extraction not only caused extensive pollution, but also resulted in a wide set of direct and indirect impacts (Codato et al., 2024; Facchinelli et al., 2022, 2023; Kimerling, 2013; Pappalardo et al., 2013; Silveira et al., 2017). In response, local communities, grassroots movements, and environmentalist organizations have coalesced around diverse mobilizations over time. One of the most interesting cases regards the Ishpingo, Tiputini, and Tambococa (ITT) oil block, located within the Yasuní National Park (Moreano Venegas et al., 2021). Occupying one of the most biodiverse areas in the Amazon basin and being part of the territory of indigenous population in voluntary isolation, these fields represent about one-third of the country's current oil reserves (Codato et al., 2022). Following the failure of the presidential Yasuni-ITT initiative and a decade-long legal struggle between the government and grassroots movements, Ecuador held the first referendum to leave oil untapped. The decision of Ecuadorian people to avoid extraction in the block ITT represents the first attempt in the world of unburnable carbon left unextracted to protect biological and cultural diversities.

In another recent campaign, called "Apaguen los Mecheros" (Shut-off gas flaring), IPLC and grassroots organizations presented and won a Protective Action, leading to an ordinance the imposes the end of gas flaring activities in the EAR (Facchinelli et al., 2022). Notably, part of the work developed within the campaign regarded unveiling the presence of 437 gas flaring stacks in the region, two times what reported from the Ministry of Environment. These mobilizations affirm that local communities can play a pivotal role in fostering policy change and leading the transition beyond fossil fuels.

The session will discuss on how fossil extractivism is affecting the social and ecological tissues of the Ecuadorian Amazon and how local movements are mobilizing toward the creation of their own just futures. To adequately investigate such complex and multifaceted issues, the session includes researches which draw on various approaches. While some are based on Geographic Information Science approaches to unveil aspects of how oil extraction is affecting local ecosystems and populations, other focus on the development of Extreme Citizen Science (Haklay & Francis, 2018) processes in collaboration with local movements, up to the collective of Critical Geography of Ecuador, whose work of critical cartography was developed within the movement to leave oil in the ground in the Yasuní. In doing so, the session will also reflect on the role of academic activists in support local communities in their efforts to achieve climate and environmental justice (Russell, 2015).

References

- Codato, D., Pappalardo, S. E., Diantini, A., Ferrarese, F., Gianoli, F., & De Marchi, M. (2019). Oil production, biodiversity conservation and indigenous territories: Towards geographical criteria for unburnable carbon areas in the Amazon rainforest. *Applied Geography*, *102*, 28–38. https://doi.org/10.1016/j.apgeog.2018.12.001
- Codato, D., Pappalardo, S. E., Facchinelli, F., Murmis, M. R., Larrea, C., & De Marchi, M. (2022). Where to leave fossil fuels underground? A multi-criteria analysis to identify unburnable carbon areas in the Ecuadorian Amazon region. *Environmental Research Letters*, *18*(1), 014009. https://doi.org/10.1088/1748-9326/ACA77D
- Codato, D., Peroni, F., & De Marchi, M. (2024). The multiple injustice of fossil fuel territories in the Ecuadorian Amazon: Oil development, urban growth, and climate justice perspectives. *Landscape and Urban Planning*, *241*, 104899. https://doi.org/10.1016/J.LANDURBPLAN.2023.104899
- Facchinelli, F., Crescini, E., Della Fera, G., & De Marchi, M. (2023). The Apaguen los Mecheros campaign: Supporting climate justice in the Amazonian cities of Ecuador by estimating the health risks of gas flaring. *Landscape and Urban Planning*, *240*, 104898. https://doi.org/10.1016/J.LANDURBPLAN.2023.104898
- Facchinelli, F., Pappalardo, S. E., Della Fera, G., Crescini, E., Codato, D., Diantini, A., Moncayo Jimenez, D. R., Fajardo Mendoza, P., Bignante, E., & De Marchi, M. (2022). Extreme citizens science for climate justice: linking pixel to people for mapping gas flaring in Amazon Rainforest. *Environmental Research Letters*, 17(2), 024003. https://doi.org/10.1088/1748-9326/ac40af
- Haklay, M., & Francis, L. (2018). Participatory GIS and community-based citizen science for environmental justice action. In J. Chakraborty, G. Walker, & R. Holifield (Eds.), *The Routledge Handbook of Environmental Justice* (pp. 297–308). Routledge.
- Jiménez, M. B., & Venegas, M. M. (2023). A climate justice approach to urbanisation processes in the South: Oil axis in Ecuador. *Landscape and Urban Planning*, 239, 104845. https://doi.org/10.1016/J.LANDURBPLAN.2023.104845
- Kimerling, J. (2013). Oil, Contact, and Conservation in the Amazon: Indigenous Huaorani, Chevron, and Yasuni. *Colorado Journal of International Environmental Law and Policy*, *24*(1), 43–115. http://ssrn.com/abstract=2332782
- Kothari, A., Salleh, A., Escobar, A., Demaria, F., & Acosta, A. (2019). *Pluriverse: A Post-Development Dictionary*. Tulika Books and Authorsupfront.
- Malm, A. (2016). Fossil Capital The Rise of Steam-Power and the Roots of Global Warming. Verso.

- Martinez-Alier, J., Anguelovski, I., Bond, P., Del Bene, D., Demaria, F., Gerber, J. F., Greyl, L., Haas, W., Healy, H., Marín-Burgos, V., Ojo, G., Porto, M., Rijnhout, L., Rodríguez-Labajos, B., Spangenberg, J., Temper, L., Warlenius, R., & Yánez, I. (2014). Between activism and science: Grassroots concepts for sustainability coined by environmental justice organizations. *Journal of Political Ecology*, *21*(1 A), 19–60. https://doi.org/10.2458/v21i1.21124
- Moreano Venegas, M. (2020). Ecofascismo. *Ecología Política*, 59, 36–44. https://www.jstor.org/stable/26947478
- Moreano Venegas, M., Bayón Jiménez, M., Diantini, A., Almeida, A., Yépez, A., Ulloa, A., Larrea, C., Cielo, C., Codato, D., Martínez, E., Ferrarese, F., Molano Camargo, F., Galafassi, G., Cartuche Vacacela, I., Espinosa, L. M., Machado Mosquera, M., De Marchi, M., Finer, M., Aguirre Andrade, M., ... Riofrancos, T. (2021). *La explotación del Yasuní en medio del derrumbe petrolero global* (M. Moreano Venegas & M. B. Jiménez (eds.)). Colectivo de Geografía Crítica del Ecuador, Friedrich-Ebert-Stiftung Ecuador FES-ILDIS, Editorial Abya-Yala.
- Pappalardo, S. E., De Marchi, M., & Ferrarese, F. (2013). Uncontacted Waorani in the Yasuní Biosphere Reserve: Geographical Validation of the Zona Intangible Tagaeri Taromenane (ZITT). *PLoS ONE*, 8(6), 21–25. https://doi.org/10.1371/journal.pone.0066293
- Russell, B. (2015). Beyond activism/academia: militant research and the radical climate and climate justice movement(s). *Area*, *47*(3), 222–229. https://doi.org/10.1111/AREA.12086
- Science Panel for the Amazon. (2021). Amazon Assessment Report (C. Nobre, A. Encalada, E. Anderson, F. H. Roca Alcazar, M. Bustamante, C. Mena, M. Peña-Claros, G. Poveda, J. P. Rodriguez, S. Saleska, S. Trumbore, A. L. Val, L. Villa Nova, R. Abramovay, A. Alencar, A. C. R. Alzza, D. Armenteras, P. Artaxo, S. Athayde, ... G. Zapata (eds.)). United Nations Sustainable Development Solutions Network. https://www.theamazonwewant.org/
- Silveira, M. M. M., Moreano, M., Romero, N., Murillo, D., Ruales, G., & Torres, N. (2017). Geografías de sacrificio y geografías de esperanza: tensiones territoriales en el Ecuador plurinacional. *Journal of Latin American Geography*, 16(1), 69–92. https://doi.org/10.1353/lag.2017.0016
- Stock, R. (2023). Power for the Plantationocene: solar parks as the colonial form of an energy plantation. *Journal of Peasant Studies*, 50(1), 162–184. https://doi.org/10.1080/03066150.2022.2120812
- Sultana, F. (2022). Critical climate justice. *The Geographical Journal*, *188*(1), 118–124. https://doi.org/10.1111/GEOJ.12417
- Temper, L., Avila, S., Bene, D. Del, Gobby, J., Kosoy, N., Billon, P. Le, Martinez-Alier, J., Perkins, P., Roy, B., Scheidel, A., & Walter, M. (2020). Movements shaping climate futures: A systematic mapping of protests against fossil fuel and low-carbon energy projects. *Environmental Research Letters*, 15(12), 123004. https://doi.org/10.1088/1748-9326/ABC197
- Temper, L., Demaria, F., Scheidel, A., Del Bene, D., & Martinez-Alier, J. (2018). The Global Environmental Justice Atlas (EJAtlas): ecological distribution conflicts as forces for sustainability. *Sustainability Science*, *13*(3), 573–584. https://doi.org/10.1007/s11625-018-0563-4