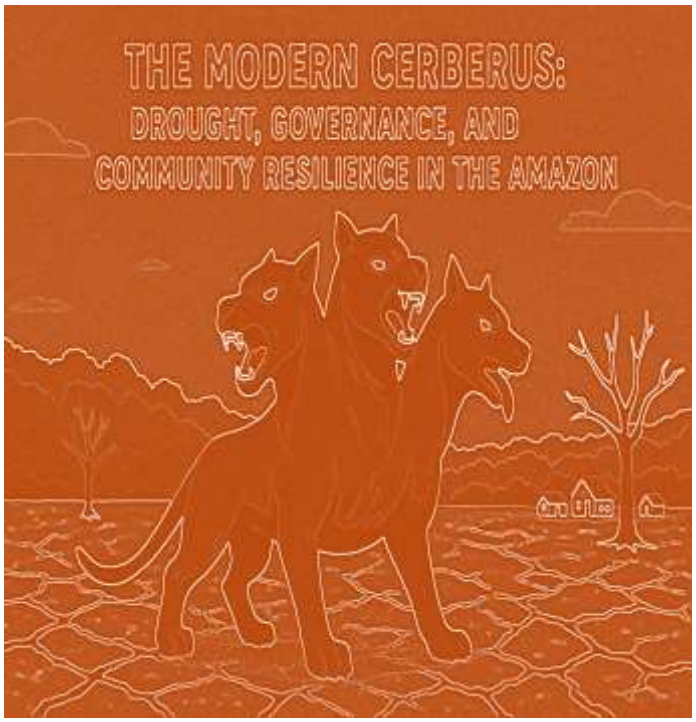

THE MODERN CERBERUS: DROUGHT, GOVERNANCE, AND COMMUNITY RESILIENCE IN THE AMAZON

This blog based on my research challenges the assumption that floods and droughts are inherently linked. Droughts, shaped by slow variables such as inequality, environmental degradation, and weak governance, evolve through distinct socio-political dynamics. The “Modern Cerberus” heat phenomenon in Latin America exposes these systemic failures and the invisible actors behind them. Recognizing these forces, especially through Amazonian women’s experiences, reveals the need for equitable, anticipatory water governance.

sandra megens
WUR, 2025

THE MODERN CERBERUS: DROUGHT, GOVERNANCE, AND COMMUNITY RESILIENCE IN THE AMAZON

Sandra Megens,
October 2025
Wagenigen University

Here is a brief overview of this idea:

Swimming against the current, I challenge the prevailing view in research that floods and droughts are closely interconnected. From my perspective, droughts differ fundamentally from floods in how they are perceived and understood. I propose exploring additional criteria to define and anticipate droughts, considering slow variables as potential evidence of their development. While floods and droughts can coincide during extreme events, they are largely autonomous hazards that require separate monitoring and tailored approaches to understanding. Here is a brief overview of this idea:

"Modern Cerberus" refers to a recent weather phenomenon characterized by extreme heat and persistent high-pressure systems affecting Latin America. While primarily known for its intense heat, Modern Cerberus also worsened drought conditions by raising temperatures and establishing high-pressure systems. This event demonstrates how climate change can trigger severe weather and increase the likelihood of frequent heatwaves.

In 2023, Latin America experienced one of its most intense climate crises in recent history, with the Amazon rainforest at its epicenter. Rivers in Brazil's Amazon Basin, such as the Negro and Madeira, reached their lowest levels in over a century, stranding communities and disrupting vital river transport[1]. This unprecedented drought was not merely a meteorological anomaly but a stark manifestation of deeper systemic failures. According to a study by World Weather Attribution, human-induced global warming was the primary cause of the severe drought, making such events 30 times more likely to occur. `This crisis emphasizes that drought alone never reveals the true drivers behind its impacts; they are a modern Cerberus, guarding the gates to deeper systemic failures. The Amazon's devastation is a clear call on how these failures encompass environmental degradation, socio-economic inequality, political exclusion, and fragile governance structures that often fail to steer policy toward the common good. Corruption, environmental neglect, and limited public participation exacerbate vulnerability, while scientific knowledge rarely informs decision-making.

Yet, as my research shows, drought alone doesn't explain the full picture. Much like a modern Cerberus guarding the gates to deeper crises, these events expose the *slow variables*, the structural forces that quietly shape how societies experience and respond to shocks. Environmental degradation, socio-economic inequality, and fragile governance are not sudden disasters; they are slow-moving, persistent failures that determine the scale and severity of every new crisis.

These slow variables are visible everywhere. Corruption, environmental neglect, and limited public participation weaken the very institutions meant to protect people and ecosystems. In northern Amazonia and along the Ecuador–Colombia border, weak governance has opened space for illegal mining and deforestation. Also, behind every drought lies not only heat and hydrological scarcity, but also *invisible actors*, the social, political, and institutional dynamics that quietly shape how crises unfold. As discussed in *Megens & Warner (2025), "Invisible threads: Emerging water governance in the multi-actor dynamics of the Mira-Mataje transboundary river basin" (World Water Policy, 11[1]),* these hidden interactions determine who holds power, who bears risk, and who remains unheard.

Rivers are poisoned, forests are stripped, and communities are left more exposed to drought, displacement, and exploitation. In these same territories, women, especially Indigenous, Afro-descendant, and rural women, carry the heaviest burdens of water scarcity and food insecurity. They are the custodians of rivers and ancestral knowledge yet remain largely excluded from formal governance and decision-making. In the Amazon, women lead daily efforts to protect their communities from hydrological droughts and from the human activities that contaminate their rivers and threaten their livelihoods. Their struggle is not only for clean water and healthy ecosystems, but also for recognition, dignity, and the right to decide the future of their lands.

UDAP, The Union of People Affected by Texaco's Oil Operations (UDAPT) brings together communities of six indigenous nationalities: Waorani, Siekopai, Siona, A'I Kofan, Shuar and Kichwa, and nearly 80 mestizo peasant communities that in 1993 initiated a lawsuit against the multinational Texaco, now Chevron, for the environmental disaster caused in their territory, which is part of the provinces of Sucumbíos and Orellana, located in the Northern Amazon of Ecuador.

(Spanish)

La sequía por sí sola nunca revela los verdaderos impulsores detrás de sus impactos; es simplemente el *Cerbero* que protege las puertas a fallas sistémicas más profundas arraigadas en una gobernanza débil y gobiernos incapaces de dirigir sus agendas hacia el bien común. Detrás de esas puertas se encuentran la corrupción, la desigualdad, el abandono ambiental y la exclusión política, donde la participación pública es limitada y la ciencia rara vez informa la toma de decisiones. Mi investigación doctoral sobre la dinámica de la gobernanza del agua en contexto de la presencia de sequía y escasez hídrica destaca que crear espacios para el entendimiento mutuo entre la ciencia, la política y las comunidades es crucial para abordar estos desafíos entrelazados y mitigar los impactos combinados de la sequía.

La gobernanza débil crea oportunidades para que las redes criminales se expandan más allá del tráfico de drogas hacia actividades como la minería ilegal. En Ecuador, esto ha llevado a la explotación de los recursos naturales y a la contaminación generalizada del agua, lo que ilustra cómo la degradación ambiental y el crimen organizado están interconectados.

Esto evidencia que, sin una eficaz gobernanza fuerte y participativa, la degradación ambiental y la injusticia social se entrelazan, amplificando la vulnerabilidad de las comunidades y la urgencia de soluciones basadas en conocimiento local y liderazgo comunitario.

---

[1] AP news: Global warming was the primary cause of the unprecedented Amazon drought, study finds

https://apnews.com/article/amazon-climate-change-drought-brazil-environment-rainforest-7062eafa0c71ecd71b1dacc764ed248a

[2] OECD: Anticipatory Governance

https://www.oecd.org/en/topics/anticipatory-governance.html#:~:text=Anticipatory%20governance%20is%20a%20proactive%20approach%20that,demographics%2C%20geopolitical%20tensions%2C%20and%20evolving%20societal%20needs.

[3] Megens, S., & Warner, J. (2025). Invisible threads: Emerging water governance in the multi-actor dynamics of the Mira-Mataje transboundary river basin. *World Water Policy, 11*(1), 17–37. https://doi.org/10.1002/wwp2.12263