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Select publications:

Gora, Evan M., Phillip M. Bitzer, Jeffrey C. Burchfield, Cesar Gutierrez, and Stephen P. Yanoviak. 2021. **The contributions of lightning to biomass turnover, gap formation and plant mortality in a tropical forest.** *Ecology* 102 (12).

Gora, E.M. and A. Esquivel-Muelbert. 2021. **Implications of size-dependent tree mortality for tropical forest carbon dynamics.** *Nature Plants*, 7: 384–391.–

Gora, E.M., J.C. Burchfield, H.C. Muller-Landau, P.M. Bitzer, and S.P. Yanoviak. 2020. **Pantropical geography of lightning-caused disturbance and its implications for tropical forests.** *Global Change Biology*, 26: 5017– 5026.

Evan Gora, Forest Ecologist

Research mission:

- Reveal when, where, and why tropical trees die
- Quantify the vulnerability of forests to global change
- Measure how tree death and decomposition shapes our planet’s climate
- Identify the tree species that will excel in a future climate

Summary:

Evan Gora is a forest ecologist investigating how disturbance and decomposition shape forest ecosystems in the context of global change.

Plants play crucial roles in supporting biodiversity and nutrient cycling globally. However, plant mortality rates are shifting with climate change, putting these key functions at risk. Gora’s work aims to understand when, where, and why plants die in nature, and what their deaths mean for forest ecosystems. This work helps us understand the current stressors affecting forests so we can predict forest change and manage forests for a better future.

Gora studies local patterns and processes of plant death, then uses ‘big data’ from forest plot networks, satellites, drone imagery, and other sensors to scale these findings up to the landscape and beyond. Much of his research focuses on the effects of a rarely studied phenomenon – lightning – and how it is transforming the

composition of forests and their capacity to store carbon. Gora primarily works at field sites throughout Latin America, with newer projects in central Africa, North America, and Southeast Asia.

After plants die, they decompose. The process of decomposition is extremely variable, and it determines how quickly carbon is emitted to the atmosphere. Gora explores how environmental conditions, biogeochemistry, and microorganisms shape rates of plant decomposition and carbon release. This work has expanded to include research exploring how the diversity and function of microbial life changes from the forest floor to the canopy.

Gora holds a dual appointment as an Earl S. Tupper Fellow of the Smithsonian Tropical Research Institute.



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