

School of Earth and Environmental Sciences

Fall 2025 Colloquium Series

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Science Building C-207

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Soils as Storytellers: decoding landscape evolution in Brazil's tropical drylands

The lowlands of Brazil's Northeast offer a unique record of long-term landscape evolution in tropical drylands. This talk shows how surface processes and weathering regimes have interacted to form extensive planation surfaces under alternating humid and semiarid conditions. Combining geomorphological analysis with indicators derived from soil profiles and vegetation, we identify stable and relict surfaces that capture successive stages of denudation and environmental change. The results reveal a complex landscape mosaic shaped by multiple morphogenetic phases and highlight how weathering patterns can serve as valuable archives for reconstructing Earth's surface dynamics in tropical environments.

