

# THE IDENTIFICATION OF PREHISTORIC AMAZONIAN SLASH-AND-BURN CULTIVATION PRACTICES USING AGENT-BASED MODELING

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## ABSTRACT

The Amazonian Slash-and-Burn Model and the Succession Model, both agent-based models, were developed to help address how much influence prehistoric Amazonian populations practicing slash-and-burn cultivation had on their surrounding environment and if different slash-and-burn cultivation strategies, i.e. short-fallow, bush-fallow, and long-fallow, could be identified based on the signatures left behind by these cultivation practices in subsequent forest composition and patterning. Both models were sensitivity tested to determine the validity and predictability of the parameters generated from ethnographic data. The outcome of this testing indicates that varying cultivation and fallow cycle lengths create different proportions of forest land, fallow land, and cultivation land on the total landscape through time. These results suggest that different prehistoric Amazonian slash-and-burn cultivation strategies could potentially be identified in paleoecological records based on the proportional signatures.