



INDIANA UNIVERSITY BLOOMINGTON OSTROM WORKSHOP

RESEARCH SERIES

Sacha Siani

Ph.D. Student Geography, Ostrom Fellow

Wednesday, March 3: 12:00 – 1:00 pm ET

Virtual via Zoom: [Click here for link to Zoom meeting](#)



The Role of Monitoring and Law Enforcement on Deforestation in the Brazilian Amazon

This paper analyzes Brazil's efforts to reduce deforestation in the Brazilian Amazon between 2004 and 2016. While Brazil's land-use rules stand out compared to any other country in the world, the enforcement of forest laws has been limited by high transaction costs and institutional deficiencies. In 2004, Brazil started using satellite images to detect deforestation nearly in real-time, providing strategic information to environmental agencies. As a result, clearings shrunk by 82% between 2004 and 2012. We use the Combined IAD-SES (CIS) framework to structure our institutional analysis. To estimate the impact of policing on deforestation, we create a novel property-year panel dataset on enforcement and deforestation, and use an instrumental variable approach. Clouds blinding the satellite-based monitoring system serve as a source of exogenous variation for the presence of forest law enforcers. Preliminary analysis indicates that monitoring and enforcement effectively curbed deforestation. Recently, the monitoring and enforcement systems have been dismantled, and deforestation has reached its highest rate since 2008. This paper contributes to understanding the factors behind the initial success and current failure to control deforestation in the Brazilian Amazon.

Sacha Siani is a third-year Ph.D. student in the Department of Geography and a fellow researcher in the Ostrom Workshop at Indiana University, Bloomington. His research focuses on understanding social-ecological systems linking geospatial analysis of regional-scale landscape changes with in-depth local-scale field research. He is investigating the role of satellite-based monitoring and law enforcement on deforestation in the Brazilian Amazon. Siani holds a Master's degree in Remote Sensing and a Bachelor's degree in Environmental and Sanitary Engineering.

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