

Land governance and LCLUC in Central America

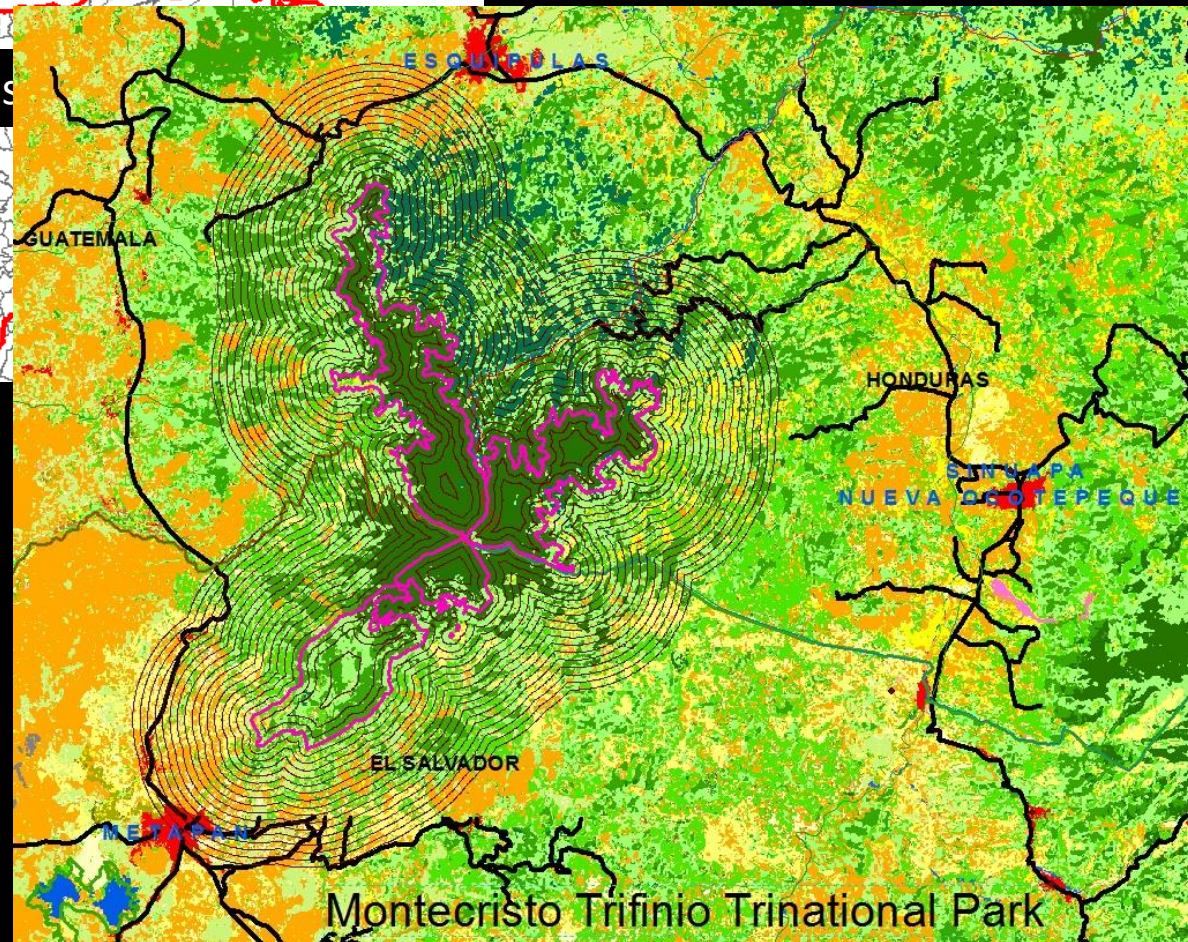
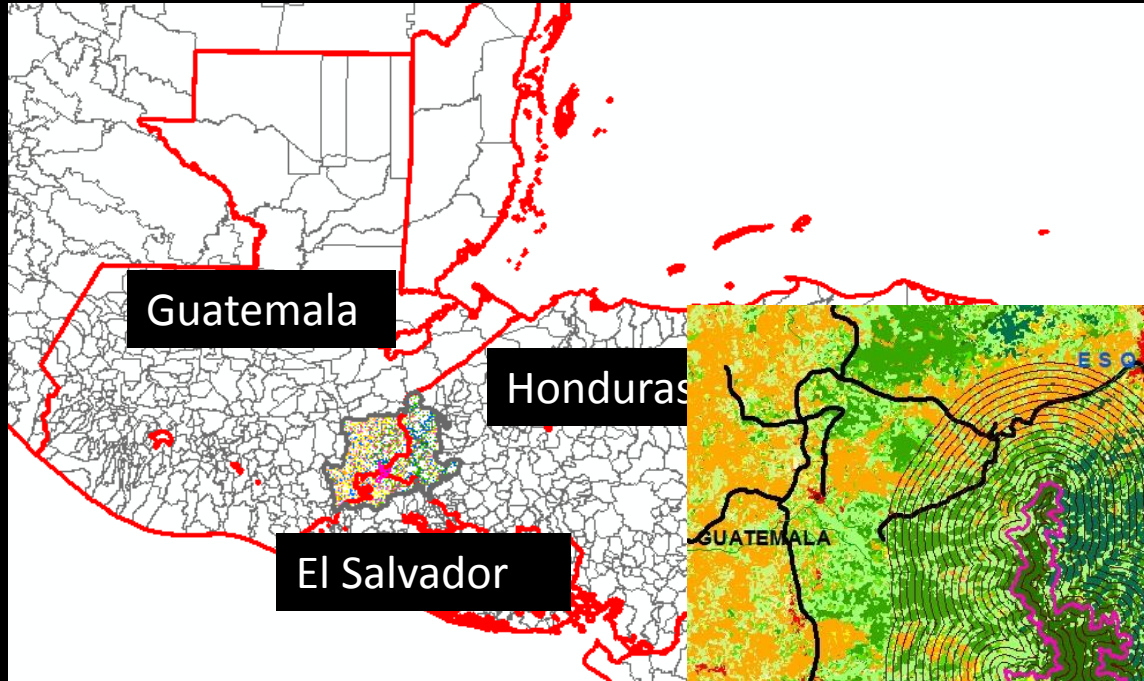
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Partners: CATIE, Trifinio Commission, UMBC, USFWS

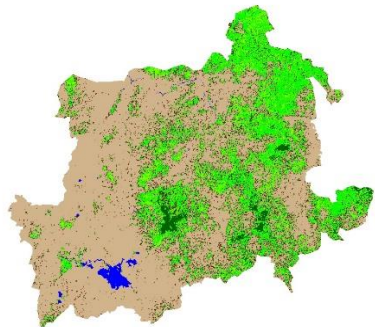
NASA LCLUC Program Meeting
April 23, 2015

Main study region: Trifinio

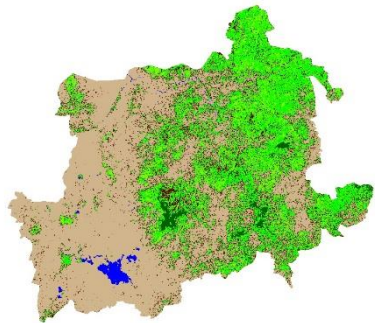


Mapping LCLUC in Trifinio 1986-2010

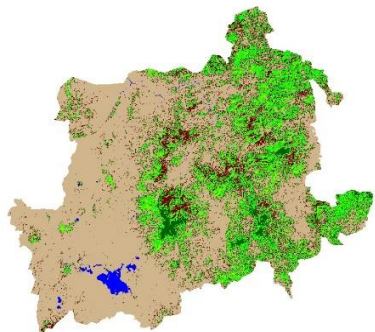
1986



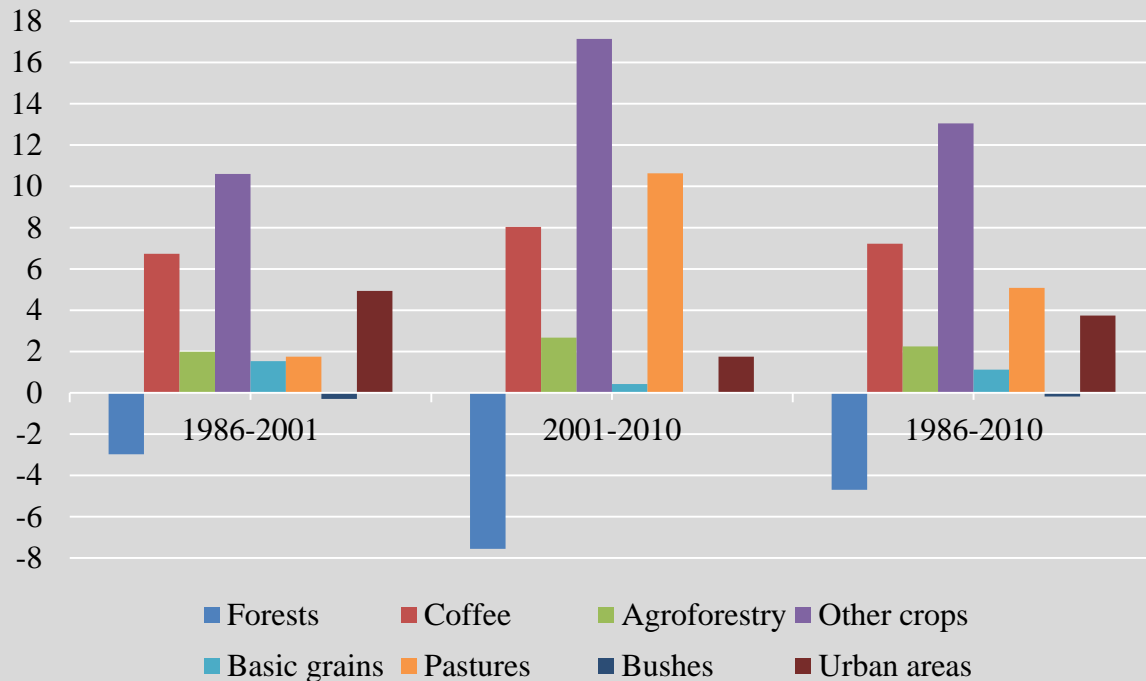
2001



2010

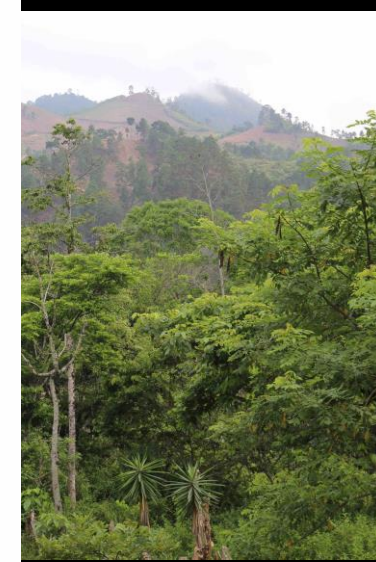
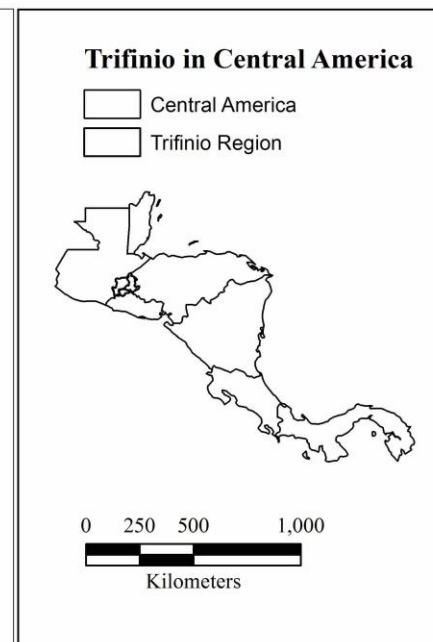
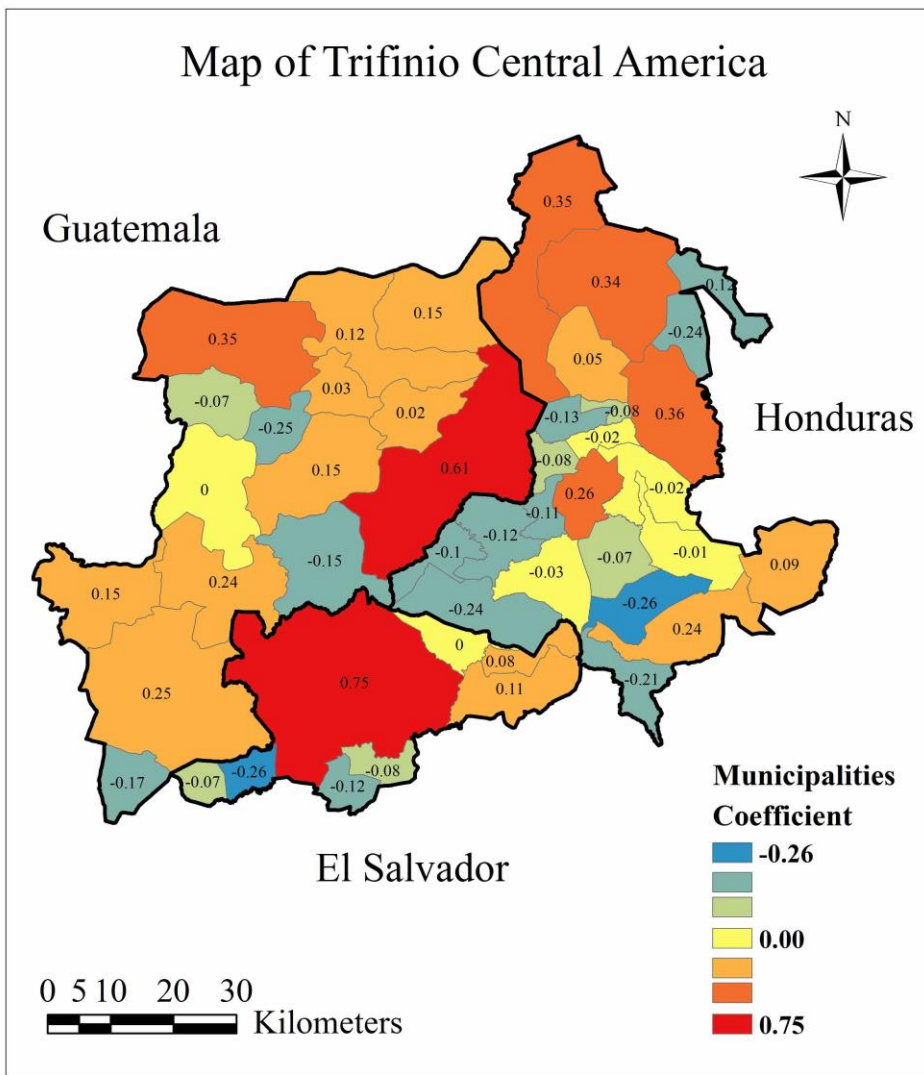


Percentage change for major land uses in Trifinio



Landsat classification of following years:
1986-1991-1996-2001-2006-2011

Drivers of LCLUC in Trifinio 1986-2010



Source: CATHALAC, 2011; WDP, 2012; Trifinio Commission; and Bosques y Agua Project. Map by Carlos L. Muñoz Brenes

Next steps: Drivers of LCLUC in Trifinio

- Update with remote sensing product with 5-year periods of change
- Key informant interviews to develop quantitative indices (summer 2015)
 - Governance indicators
 - Rules, Practices, “Good” governance
 - Agricultural/coffee prices and markets
 - Migration and demographics
- Test effect of covariates inside & outside Trifinio boundary



Next steps: Drivers of LCLUC in Trifinio

- Analyzing high resolution imagery using ENVI
 - IKONOS and Worldview scenes (2001/2003 – 2007–2013/2014)
 - Advance mapping of agroforestry systems

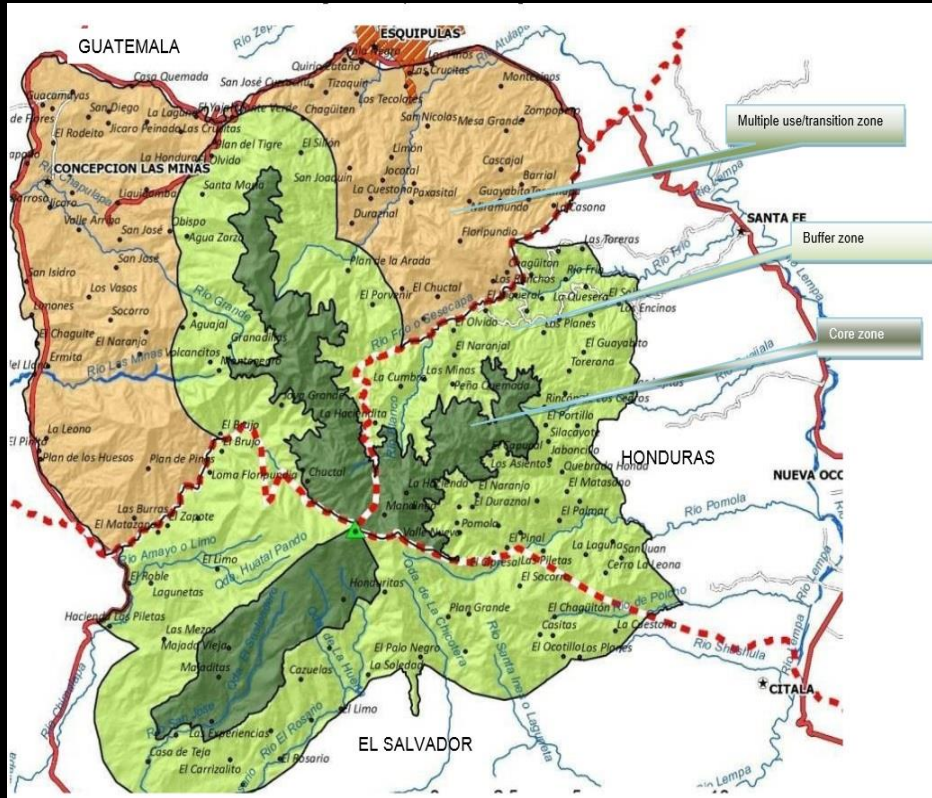
(Schlesinger, P. et al, in prep.)

- Correlations with 65 household surveys on perceived forest changes (Summer 2014):
 - 55% report forest loss on private forest
 - 88% report forest loss on communal forest
 - Causes:
 - Conversion to agriculture
 - Population growth

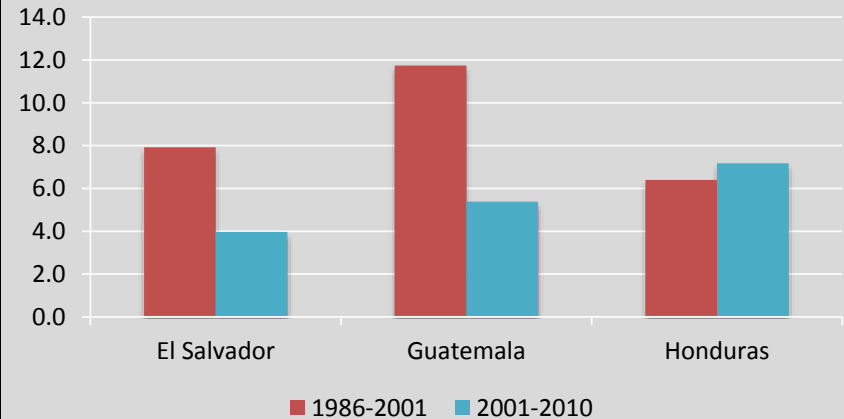
(Jennewein, J. et al, in prep.)



Protected Areas and LCLUC



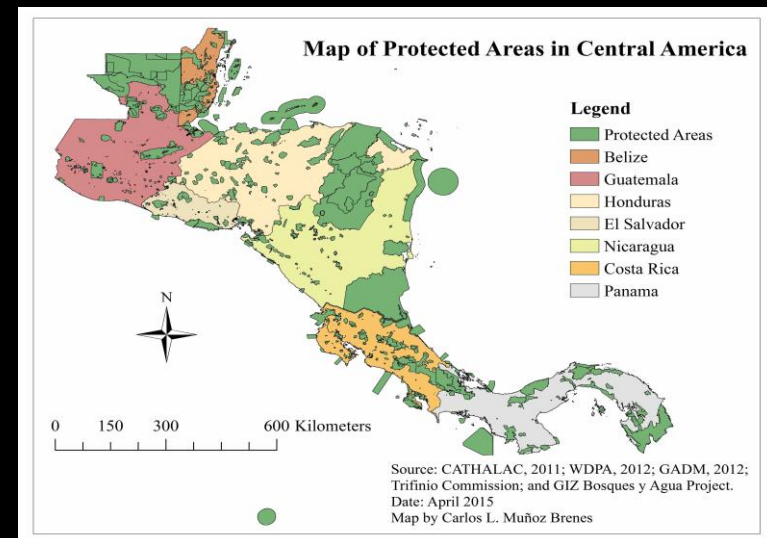
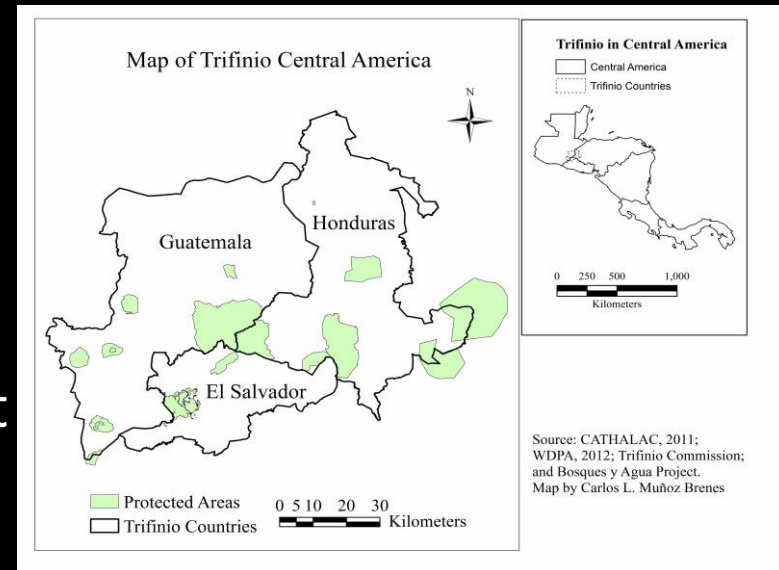
Percent change in buffer zone



	Treatment effect
Core zone	67% less deforestation than areas outside zone
Buffer zone	27% less deforestation than areas outside zone

Next steps: Protected Areas and LCLUC

- Estimating impact of all 23 Trifinio protected areas on forest cover
 - Quasi-experimental methods
 - Combining this with key informant interviews with park managers on governance
- Systematic review of impact of Central America's transboundary areas & protected areas on LCLUC
 - Peer reviewed & grey literature
 - Spanish & English language



Thank you

