

Figure and table captions

Figures

Figure 1. Three distinct forest conservation initiative sites across a gradient of deforestation (descending from east to west) in the Brazilian Amazon, i) a green municipality pact (GMP) in Paraominas, ii) an extractive reserve (RESEX) along the Arapíuns (Para) and iii) a reduced emissions from deforestation and degradation (REDD+) site on the Middle Solimões (Amazonas).

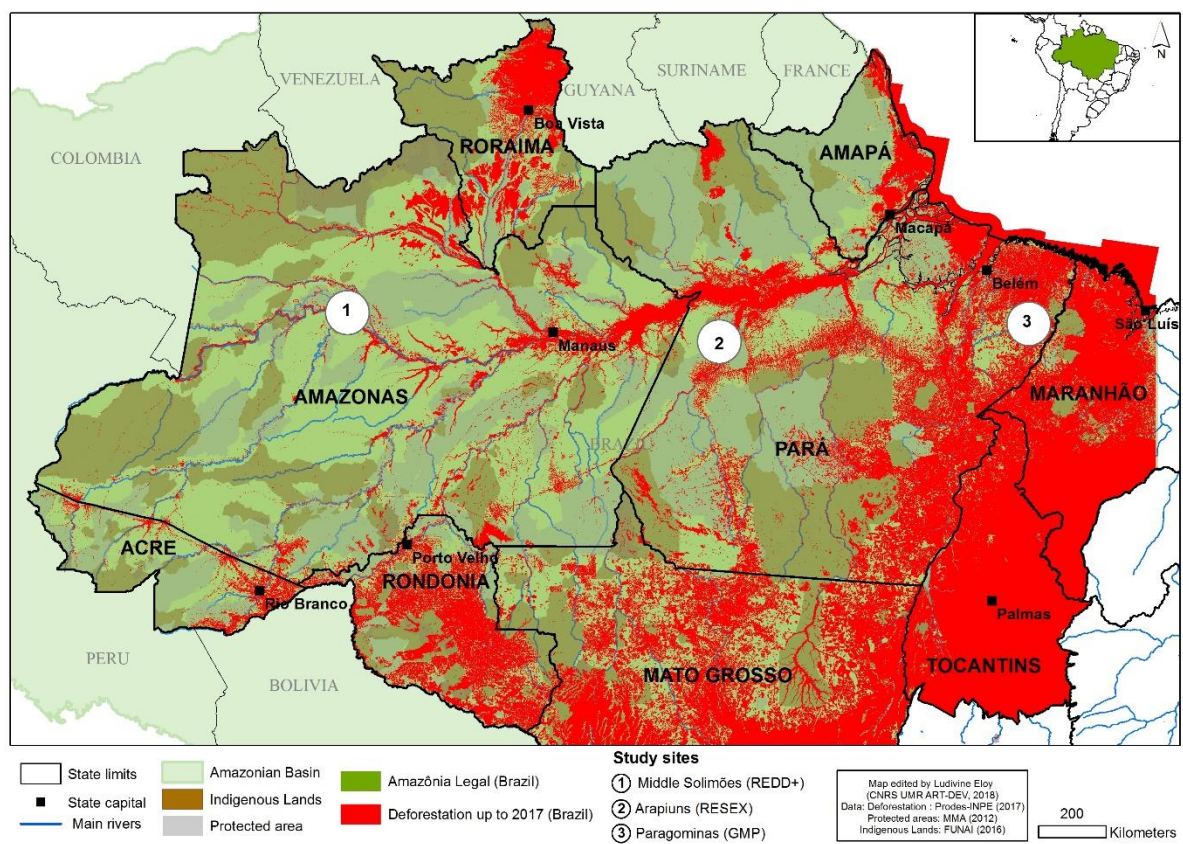


Figure 2. The rural workers union president holds the chronically inadequate supply of fire-fighting equipment that serves all communities in the RESEX (Pará) and additional communities outside of the reserve.



Tables

Table 1. Summary of research methods in the 3 research sites: the green municipality pact (GMP) in Paragominas (Pará), the extractive reserve (RESEX) along the Arapúns river (Pará) and the reduced emissions from deforestation and degradation (REDD+) site on the Middle Solimões (Amazonas).

| Site | General approach | Fieldwork dates | Number of communities | Number of questionnaires /interviews |
|-------|--|-----------------|---------------------------------|---|
| GMP | Household questionnaires Semi-structured interviews with key stakeholders Participatory methods (rapid appraisal, theater, restitution) | 12/2012-06/2013 | 4 ribeirinho 12 assentamento | 158 (general appraisal) 55 (fire-specific) |
| RESEX | Focus group discussions Household questionnaires Participant observation of agricultural and burning practices Participatory mapping of fire escape | 06/2010-12/2010 | 6 ribeirinho | 83 (fire-specific) |
| REDD+ | Ethnographic observation of agricultural and burning practices Semi-structured interviews | 02/2012-11/2014 | 10 ribeirinho | 90 (general appraisal) 40 (fire-specific) |

Table 2. Forest conservation and fire management policies implemented in three forest conservation initiatives in the Brazilian Amazon: the green municipality pact (GMP) in Paragominas (Pará), the extractive reserve (RESEX) along the Arapíuns river (Pará) and the reduced emissions from deforestation and degradation (REDD+) site on the Middle Solimões (Amazonas). Each conservation unit is subject to the Federal level rules regarding fire (c.f. Carmenta et al., 2011).

| | GMP | RESEX | REDD+* |
|--------------------------------------|--|---|--|
| Forest Conservation Initiative | <ul style="list-style-type: none"> • Zero-deforestation pact to exit federal blacklist: land regularization and monitoring | <ul style="list-style-type: none"> • Management plan for sustainable resource use • No agriculture in primary forests • Secure land rights | <ul style="list-style-type: none"> • No agriculture in primary forests • Rewards for zero-deforestation (Forest Conservation Allowance Program (FCAP)) |
| Fire Management Policy | <ul style="list-style-type: none"> • Municipal law (Law 765/2011) prohibits all fire use (provides for sanctions, but never applied to smallholders) | <ul style="list-style-type: none"> • Burning to follow management plan • Restricts plot size | <ul style="list-style-type: none"> • Promotes fire-free agroforestry (FCAP) • Restricts finance to projects based on swidden farming |
| Implementation of FCI and FMP | <ul style="list-style-type: none"> • Municipality subsidizes 12 tractors to till land • PrevFogo brigades during burning season to do awareness raising • Subsidizes dairy farming through credit and extension | <ul style="list-style-type: none"> • Sustainable livelihood initiatives • Awareness raising regarding 'good fire management' | <ul style="list-style-type: none"> • BioRec trains farmers (45 in first cycle) in agroforestry using demonstration areas (8) in first cycle |
| Experienced fire management training | <ul style="list-style-type: none"> • >50% of sample | <ul style="list-style-type: none"> • No | <ul style="list-style-type: none"> • No |

*The Forest Conservation Allowance Program and the BioRec Project.

Table 3. Smallholder farming system and experience of escaped fires across three forest conservation initiatives in the Brazilian Amazon: the green municipality pact (GMP) in Paragominas (Pará), the extractive reserve (RESEX) along the Arapíuns river (Pará) and the reduced emissions from deforestation and degradation (REDD+) site on the Middle Solimões (Amazonas).

| | REDD+ | RESEX | GMP |
|--|--------------|-------------------------------|----------------|
| Property rights | Communal | Communal with usufruct rights | Private |
| Size (ha) | 3,474,000 | 677,513 | 43 |
| Average Size of annual crop plot (ha) | 0.5-2 | 1 | 3 |
| Use fire for their annual cultures (% farming households (FH)) | 100 | 100 | 75 |
| Used tractor at least once (% FH) | 0 | 0 | 45 |
| Uses fire control management? (% FH) | <i>ND</i> * | 92 | <i>ND</i> |
| Fire risk impacts production practice choices (% FH) | <i>ND</i> | 10 | 40 |
| Experienced accidental fire in the last five years (%FH) | <i>ND</i> | 42 | 48 > x2 |
| Report fire damages at the household level (% FH) | <i>ND</i> | 62 | 70 (>2000 R\$) |

*Qualitative data suggests that farmers clear a buffer around their plots, but this is explicitly for shading and fire control benefits are secondary.