**SUPPLEMENTARY INFORMATION**

Table S - 1. Potential predictor variables

|  |  |  |
| --- | --- | --- |
| Data Source | Variable | Variable classification (Borda-Niño et al., 2019) |
| Land use cover map (Seabra, 2012) | Distance to agricultural areas (DAG) | Socioeconomic  |
|   | Distance to urban areas (DUR) | Socioeconomic  |
|   | Distance to patches smaller than 10ha (D10) | Biophysical |
|   | Distance to 10-100ha patches (D10-100) | Biophysical |
|   | Distance to 100-500ha patches (D100-500) | Biophysical |
|   | Distance to patches bigger than 500ha (D500) | Biophysical |
|   | Distance to forest edges (DED) | Biophysical  |
|   | Distance to core patches (DCO) | Biophysical  |
| Roads (IBGE, 2016) | Distance to one-way roads (DOR) | Socioeconomic  |
|   | Distance to two-way roads (DTR) | Socioeconomic  |
|   | Distance to main roads (DMR) | Socioeconomic  |
|   | Distance to all roads (DAR) | Socioeconomic  |
| Railroads (INEA, 2016) | Distance to railroads (DRA) | Socioeconomic  |
| Transmission lines (INEA, 2016) | Distance to transmission lines (DTL) | Socioeconomic |
| Settlements (INCRA, 2015) | Distance to settlements (DSE) | Socioeconomic  |
| Protected Areas (MMA, 2015) | Distance to Strictly Protected Areas (DSPA) | Socioeconomic  |
|   | Distance to Sustainable Protected Areas (DSU) | Socioeconomic  |
|   | Distance to private reserves (DPR) | Socioeconomic  |
| Rivers (INEA, 2016) | Distance to rivers (DRI) | Biophysical  |
| Population (CIAT, 2016) | Population (POP) | Socioeconomic  |
| Fire Probability (INEA, 2016) | Fire probability (HFP, MFP, and LFP) | Biophysical |
| WorldClim (Hijmans et al. 2005) | Annual Mean Temperature (AMT) | Biophysical  |
|   | Annual Precipitation (APR) | Biophysical  |
| Biophysical maps (INEA, 2016) | Evapotranspiration (EVP) | Biophysical |
|   | Water Deficit (WDF) | Biophysical |
|   | Water Surplus (WSU) | Biophysical |
| Digital Elevation Model (Topodata, 2016) | Elevation (ELE) | Biophysical  |
|   | Slope (SLO) | Biophysical  |
|   | Aspect (ASP) | Biophysical  |
|   | Solar radiation (SOL) | Biophysical  |
|   | Topographic Position Index (TPI) | Biophysical  |
|   | Compound Topographic Index (CTI) | Biophysical  |
|   | Heat Load Index (HLI) | Biophysical  |
|   | Integrated Moisture Index (IMI) | Biophysical  |
| Soil map (Seabra, 2012) | Soil types (S1-S8) | Biophysical  |
| Geomorphology map (Seabra, 2012) | Geomorphology types (G1-G8) | Biophysical  |
| Phytophysiognomy (INEA, 2016) | Phytophysiognomy types (F1-F6) | Biophysical  |



Fig. S - 1. Importance of environmental and socioeconomic factors associated with forest regrowth (a) and deforestation (b) in the SJRB, southeastern Brazil.

Table S - 2. Weight’s predictor for deforestation

|  |  |  |
| --- | --- | --- |
| **Predictor** | **Weights in plausible models** | **Weights in all models** |
| Distance to forest edges | 0.7220 | 0.9999 |
| TPI | 0.7220 | 0.9999 |
| Distance to cores | 0.7220 | 0.9977 |
| Solar radiation | 0.7220 | 0.9560 |
| Distance to Strictly Protected Areas | 0.7220 | 0.8698 |
| Elevation | 0.2353 | 0.4169 |
| Distance to patches larger than 500 ha | 0.1612 | 0.3790 |

Table S - 3. Lowest AICc deforestation model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Predictor variable** | **Coefficients** | **Standard Error** | **Z value** | **Pr (>|z|)** |
| (intercept) | 2.822e+00 | 6.240e-01 | 4.522 | 6.12e-06 \*\*\* |
| Distance to forest edges | -9.391e-03 | 4.854e-04 | -19.347 | < 2e-16 \*\*\* |
| Distance to core areas | -6.394e-04 | 1.667e-04 | -3.836 | 0.000125 \*\*\* |
| Solar radiation | -1.474e-06 | 5.283e-07 | -2.791 | 0.005258 \*\* |
| TPI | -1.002e-02 | 1.968e-03 | -5.091 | 3.56e-07 \*\*\* |
| Distance to Strictly Protected Areas | 2.372e-05 | 8.320e-06 | 2.851 | 0.004359 \*\* |

Significance level: \*\*\* = 0%; \*\* = 0,001%.



Fig. S - 2. Lowest AICc deforestation model.

Table S - 4. Weight’s predictor for forest regrowth

|  |  |  |
| --- | --- | --- |
| **Predictor** | **Weights in plausible models** | **Weights in all models** |
| Distance to forest edges | 0.9036 | 1.0000 |
| Slope | 0.9036 | 1.0000 |
| Elevation | 0.9036 | 0.9995 |
| Solar radiation | 0.9036 | 1.0000 |
| CTI | 0.4774 | 0.5287 |
| HLI | 0.2198 | 0.3159 |
| Distance to patches between 10 and 100 ha | 0.2047 | 0.3010 |

Table S - 5. Forest regrowth model containing the highest weights variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Predictor variable** | **Coefficients** | **Standard Error** | **Z value** | **Pr (>|z|)** |
| (Intercept) | -5.99E+03 | 7.68E+02 | -7.802 | 6.11e-15 \*\*\* |
| Distance to forest edges | -2.69E+00 | 2.25E-01 | -11.970 | < 2e-16 \*\*\* |
| Slope | 2.48E+01 | 3.65E+00 | 6.810 | 9.75e-12 \*\*\* |
| Elevation | -1.94E+00 | 4.07E-01 | -4.763 | 1.91e-06 \*\*\* |
| Solar radiation | 5.05E-03 | 6.10E-04 | 8.284 | < 2e-16 \*\*\* |

Significance level: \*\*\* = 0%.



Fig. S - 3. Forest regrowth model containing the highest weights variables