

DATA & METHODS

MATO GROSSO JURISDICTIONAL SUSTAINABILITY PROFILE

This form references data and methods used for reporting indicators of the jurisdictional sustainability profile of Mato Grosso, Brazil, in *The State of Jurisdictional Sustainability* published by Earth Innovation Institute and the Center for International Forestry Research, in 2018. Find more at the report website <https://earthinnovation.org/state-of-jurisdictional-sustainability> and <http://gcfimpact.org>.

Indicator: Deforestation

The deforestation extent shown in the map and the annual deforestation series (1996-2017) correspond to areas and figures reported by PRODES (National Institute of Space Research – INPE) for the Amazon biome and SEMA (Secretariat for the Environment and Sustainable Development) for the Cerrado biome. Full interactive map available at <http://gcfimpact.org/maps>.

Source: Program for Monitoring Deforestation of the Amazon (PRODES) – National Institute of Space Research (INPE) of the Brazilian Ministry for Science and Technology. Secretariat for the Environment and Sustainable Development (SEMA).

Temporality: Plot 1996-2017. Map: total deforestation accumulated up to 2017

Methods: Since 1998, INPE has been conducting satellite monitoring of clear-cut deforestation in the Legal Amazon region via PRODES producing reports on annual deforestation rates, which are used by the Brazilian government to support public policy development and monitoring. PRODES uses LANDSAT and CBERS satellite images (30 meters of spatial resolution) with a minimum mapping unit of 6.25 hectares.

URL: <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>

Indicator: Forest cover

Forest cover shown in the map corresponds to remaining forest in 2017 as mapped by PRODES (National Institute of Space Research – INPE)) for the Amazon biome and SEMA (Secretariat for the Environment of Mato Grosso) for the Cerrado biome. Full interactive map available at <http://gcfimpact.org/maps>

Source: Program for Monitoring Deforestation of the Amazon (PRODES) – National Institute of Space Research (INPE) of the Brazilian Ministry for Science and Technology. Secretariat for the Environment of Mato Grosso (SEMA).

Temporality: 2017

Methods: Since 1998, INPE has been conducting satellite monitoring of clear-cut deforestation in the Legal Amazon region via PRODES producing reports on annual deforestation rates, which are used by the Brazilian government to support public policy development and monitoring. PRODES uses LANDSAT and CBERS satellite images (30 meters of spatial resolution) with a minimum mapping unit of 6.25 hectares.

URL: <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>

Indicator: State forest reference emission level

Forest Reference Levels are benchmarks for assessing a country's performance in implementing REDD+ activities. FRELs are voluntarily constructed and formally submitted to the UNFCCC

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(<https://redd.unfccc.int>). The Brazilian FREL/FRL is based on historical deforestation during the periods 1996-2005, 1996-2010 and 1996-2015. While Brazil formulated its FREL for the Amazon biome, the reported state FREL was constructed using the same criteria as those defined for the Amazon region.

Source: Ministry of Environment of Brazil.

Temporality: 1996-2015.

Methods: The jurisdictional FREL line shown in the plot is derived from the performance criteria defined for the Amazon biome by the Brazilian national government in its submitted FREL. The state FREL is constructed from the moving average of PRODES-reported deforestation in the state for the periods 1996-2005, 1996-2010 and 1996-2015.

URL: <http://redd.mma.gov.br/en/infohub>

Indicator: Average annual emissions from deforestation (Million tons CO₂ per year)

This indicator represents the average carbon dioxide equivalent (CO₂e) emissions from deforestation activities considering the carbon pools defined by the Amazon FREL submitted by the Ministry of Environment to the UNFCCC, namely: above-ground biomass, below-ground biomass, and litter. Average emissions are calculated using activities from the period 2010-2015.

Source: Deforestation area extent derived from PRODES monitoring system. Carbon emission factors derived from the Brazilian Amazon FREL.

Temporality: Average of yearly emissions for the period 2010-2015.

Methods: Average emissions calculated by multiplying the spatially explicit deforestation reported by the PRODES monitoring system with the average carbon density of each pool as defined in the Brazilian FREL. Reduction from carbon atomic weight to CO₂ equivalent emissions using a factor of 44:12.

Indicator: Drivers of deforestation

Identifies proximate drivers of deforestation and forest degradation in the jurisdiction. Proximate drivers are direct human actions (i.e. agriculture, mining, cattle ranching, land and resource uses). Natural causes such as floods, droughts and pests are also considered.

Source: Jurisdictional LED-R survey undertaken by CIFOR and Earth Innovation Institute in Governors' Climate and Forest Task Force member and other jurisdictions.

Temporality: Survey conducted in 2018.

Methods: LED-R Survey implemented in the state based on a questionnaire administered by a designated enumerator to an expert or group of experts in the state.

Indicator: Main economic activities

Indicates the main economic activities in the state based on economic output.

Source: Jurisdictional LED-R survey undertaken by CIFOR and Earth Innovation Institute in Governors' Climate and Forest Task Force Member Jurisdictions. Based on the regional accounts system of the Brazilian Institute of Geography and Statistics (IBGE), Brazil.

Temporality: Survey conducted in 2018

Methods: LED-R Survey implemented in the state based on a questionnaire administered by a designated enumerator to an expert or group of experts in the state.

Indicator: Human development index

This index is a summary measure of average achievement in key dimensions of human development: life expectancy, education and income. Values close to 0 indicate lower human development while values close to 100 higher achievement across the 3 considered dimensions.

Source: United Nations Development Programme (UNDP), Brazil.

Temporality: 2010

Methods: The human development index is obtained as the geometric mean of the three sub-indices of dimensions that comprise the index: life expectancy, education and income.

URL: <http://atlasbrasil.org.br/2013>

Indicator: Gross domestic product (GDP)

The jurisdiction's Gross domestic product (GDP) is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, is expressed in base-year prices, and is often referred to as constant price. The state GDP is derived from the System of Regional Accounts of Brazil maintained by IBGE. The profile reports the most recent GDP in dollars. The plot presents a series of yearly GDP observations in local currency (Brazilian Real).

Source: Brazilian Institute of Geography and Statistics (IBGE), Brazil.

Temporality: 2000-2015, Base year 2010.

Methods: Data downloaded directly from the SIDRA, IBGE website.

URL: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv98459.pdf> and <https://www.ibge.gov.br/estatisticas-novoportal/economicas/contas-nacionais/9054-contas-regionais-do-brasil.html>

Indicator: GINI Coefficient

The Gini coefficient is used as an indicator of the socio-economic equity. Values close to 0 indicate greater equality of income while values close to 1 greater inequality.

Source: Brazilian Institute of Geography and Statistics (IBGE), Brazil

Temporality: 2015

Methods: Calculated by IBGE based on data from the National Sample Households Survey. Data downloaded directly from the SIDRA, IBGE website.

URL: <https://sidra.ibge.gov.br/Tabela/5642>

Indicator: Population

Indicates the estimated population in the state in 2018.

Source: Brazilian Institute of Geography and Statistics (IBGE), Brazil.

Temporality: 2018.

Methods: The projection is based on the 2010 Demographic Census conducted by the Brazilian Institute of Geography and Statistics.

Indicator: Rural and urban population

Proportion of population living in rural and urban areas.

Source: Brazilian Institute of Geography and Statistics (IBGE), Brazil.

Temporality: 2015

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