

DATA & METHODS REPORT

LORETO JURISDICTIONAL SUSTAINABILITY PROFILE

This form references data and methods used for the reporting of indicators of the jurisdictional sustainability profile of Loreto, Peru, 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 (2001-2016) correspond to areas and figures reported by BOSQUES (Ministry of Environment). Full interactive map at <http://gcfimpact.org/maps>.

Source: National Program for the Conservation of Forests for the Mitigation of Climate Change, BOSQUES, Ministry of Environment.

Temporality: The data shown in the plot and the map includes annual deforestation from 2001 through 2016.

Methods: The BOSQUES project has been conducting satellite monitoring of clear-cut deforestation in the Peruvian Amazon region and has produced reports on annual deforestation, which are used by the Peruvian government to support public policy development and monitoring. BOSQUES uses images of the LANDSAT satellites (30 meters of spatial resolution) with a minimum mapping unit of 0.09 hectares.

URL: <http://www.bosques.gob.pe/>

Indicator: Forest cover

Forest cover shown in the map corresponds to remaining forest in 2017 as mapped by BOSQUES (Ministry of Environment). See full interactive map at <http://gcfimpact.org/maps>

Source: National Program for the Conservation of Forests for the Mitigation of Climate Change, BOSQUES, Ministry of Environment.

Temporality: 2017.

Methods: The BOSQUES project has been conducting satellite monitoring of clear-cut deforestation in the Peruvian Amazon region and has produced reports on annual deforestation, which are used by the Peruvian government to support public policy development and monitoring. BOSQUES uses images of the LANDSAT satellites (30 meters of spatial resolution) with a minimum mapping unit of 0.09 hectares.

URL: <http://www.bosques.gob.pe/>

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 (<https://redd.unfccc.int>). The Peruvian FREL/FRL is based on the trajectory of historical deforestation

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rates during the period 2001-2014. Next to the national FREL, Peru reported subnational FREL baselines using the same criteria defined for the country level.

Source: Ministry of Environment of Peru.

Temporality: 2001-2014.

Methods: The jurisdictional FREL line shown in the plot is derived from the performance criteria defined for the Amazon by the Peruvian national government in its submitted FREL. The state FREL is constructed as the linear trend of the BOSQUES-reported deforestation in the state from 2001 through 2014.

URL: <https://redd.unfccc.int/submissions.html?country=per>

Indicator: Average annual emissions from deforestation (Million tons CO₂e per year)

This indicator represents the average carbon dioxide (CO₂e) emissions from deforestation activities considering the carbon pools and emission factors defined by the national FREL submitted by the Ministry of Environment to the UNFCCC, namely: above-ground biomass and below-ground biomass. Average emissions are calculated using activities from the period 2010-2016.

Source: Deforestation area extent derived from BOSQUES monitoring system. Carbon emission factors derived from the Peruvian FREL.

Temporality: Average of yearly emissions for the period 2010-2016.

Methods: Average emissions calculated by multiplying the spatially explicit deforestation reported by the BOSQUES monitoring system with the average carbon density of each pool. Carbon densities are stratified by forest type as defined in the FREL. Reduction from carbon atomic weight to CO₂e 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 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.

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), Peru.

Temporality: 2012

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://www.pe.undp.org/>

Indicator: Gross domestic product (GDP)

The Gross domestic product (GDP) of the jurisdiction is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in base-year prices, and is often referred to as constant price. The GDP of the department is derived from the National Institute of Statistics and Informatics. The profile reports the most recent GDP in dollars. The plot presents a series of yearly GDP observations in local currency (Peruvian Sol).

Source: National Institute of Statistics and Informatics (INEI), Peru.

Temporality: 2007-2016, Base year 2017.

Methods: Data downloaded directly from the NEI website.

URL: <https://www.inei.gob.pe/estadisticas/indice-tematico/national-accounts/>

Indicator: GINI of income

The Gini coefficient is used as an indicator of equitable social systems. Values close to 0 indicate greater equality of income while values close to 1 greater inequality

Source: National Institute of Statistics and Informatics (INEI), Peru.

Temporality: 2014

Methods: Data downloaded directly from the INEI website.

URL: <https://www.inei.gob.pe/cifras-de-pobreza/>

Indicator: Population

Indicates the estimated population in the department in 2018.

Source: National Institute of Statistics and Informatics (INEI), Peru.

Temporality: 2018.

Methods: The projection is based on the 2007 Demographic Census of the National Institute of Statistics and Informatics (INEI), Peru.

URL: <http://proyectos.inei.gob.pe/web/biblioineipub/bancopub/Est/Lib0846/index.htm>

Indicator: Rural and urban population

Proportion of population living in rural and urban areas.

Source: National Institute of Statistics and Informatics (INEI), Peru.

Temporality: 2015