# Amazonas Peru

#### Jurisdictional indicators brief



State area:  $39,249 \text{ km}^2 (3.05\% \text{ of Peru})$ 

Original forest area: 35,697 km<sup>2</sup>

Current forest area (2019): 28,261 km<sup>2</sup> (72% of Amazonas)

 $\begin{array}{lll} \mbox{Yearly deforestation (2019)} & 56 \ \mbox{km}^2 \\ \mbox{Yearly deforestation rate (2019)} & 0.2\% \\ \mbox{Interannual deforestation change} & -25\% \\ \end{array}$ 

(2018-2019)

Accumulated deforestation (2001-2019): 908 km<sup>2</sup>

Protected conservation areas: 4,652 km<sup>2</sup> (11.9% of Amazonas)

Carbon stocks (2017): 312 millions tons (above ground biomass)

Representative crops (2017): Rice (327,568 tons); Cassava (164,101 tons); Bananas and plantains

(129,744 tons)

Value of agricultural production (2016): \$261,995,010 USD

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# Forest and people

In 2019, the estimated area of forest in the department of Amazonas was  $28,261 \text{ km}^2$ , equivalent to 72% of the department's total area, and to 4.1% of the forest remaining in Peru. The total accumulated forest lost during the period 2002-2019 was  $908 \text{ km}^2$ , equivalent to 3% of the forest area remaining in 2002. Amazonas concentrated about 3.6% of the carbon reserves stored in the biomass of the Peruvian tropical forest (about 312 mt C as of 2019)

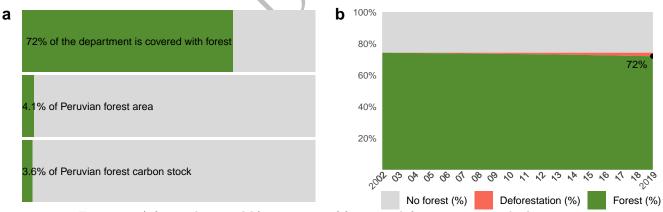


Figure 1: a) forest share and b) transition of forest to deforestation over the last years

There were 0.4 million people living in Amazonas as of 2020, distributed in 18 districts, with 0.03 million people living in the capital city of Chachapoyas. The department has formally designated conservation areas and indigenous territories, which respectively represent 12% and 44% of the department. There were an estimated 34,958 indigenous people living in the department in 2017 (see Figure 2).

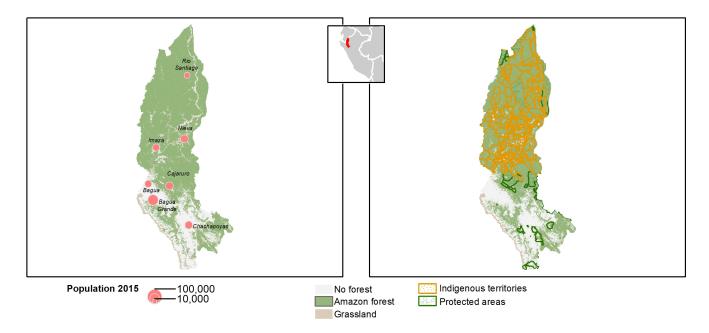


Figure 2: Map of most populated places (> 16,000 people) and indigenous and protected areas in Amazonas

#### Deforestation

The deforestation in the department of Amazonas increased after 2011, reaching a maximum peak in 2017 with 85 km<sup>2</sup>. In a positive trend, deforestation decreased in 2018 and 2019 with interannual reductions of -11.86% and -24.87%, respectively. The preliminary estimated deforestation in Amazonas in 2019 was 56 km<sup>2</sup>, representing 3.8% of the total deforestation in Peru and a deforestation rate of 0.2%.

With the 2019 figures on deforestation, Amazonas ranked as 9/15 in terms of absolute area of deforestation and 11/15 in terms of deforestation rate among the Peruvian regions with tropical forest. The current deforestation rate is similar to the rate of 2014, but higher than the rates observed during the period 2001-2011, which were mostly under 0.15%. The deforestation rate in the region was below than the national average of 2019 (0.2% and 0.22% respectively).

With the latest official figure of 2018, the department's deforestation is 32% above the reference deforestation baseline 2001-2014 (see Figure 3).

88% of the deforestation is located in the five most affected districts in the department (see Figure 4). The district of Nieva consistently registered the largest loss of tropical forest over the last years, reaching a maximum of 24 km<sup>2</sup> lost in 2018. In 2018 the deforestation in Nieva was 24 km<sup>2</sup>.

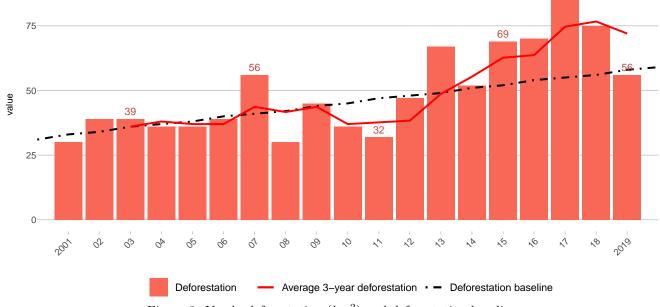


Figure 3: Yearly deforestation  $(km^2)$  and deforestation baseline

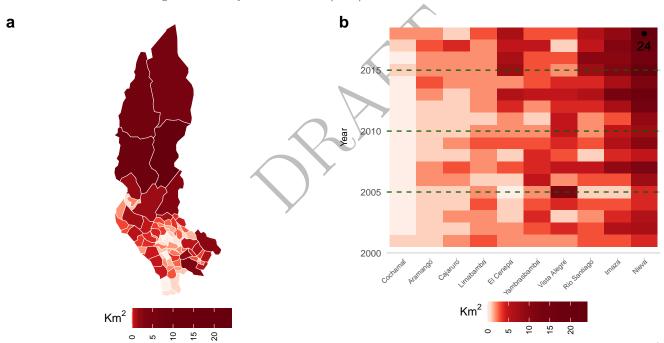
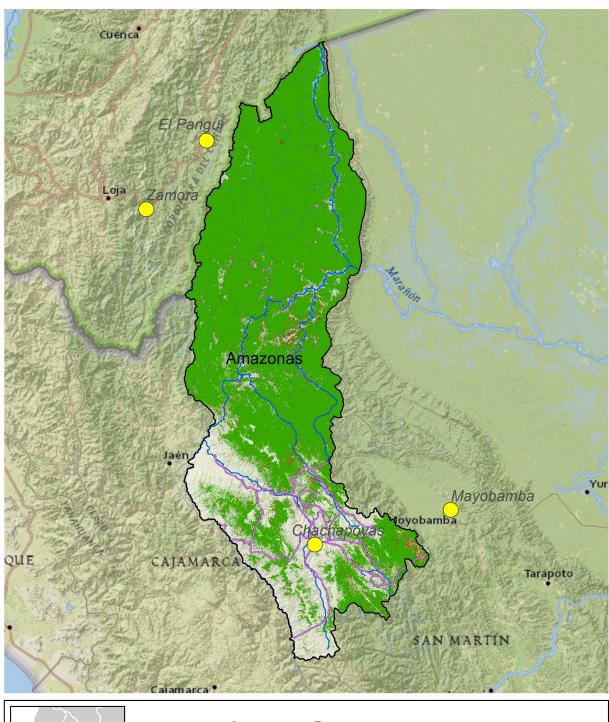
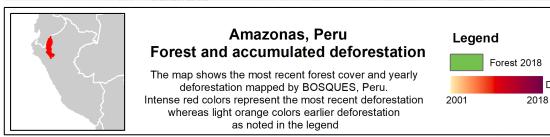


Figure 4: a) Yearly deforestation by districts in 2018 b) Yearly deforestation in top 10 most affected districts  $(km^2)$ 

Table 1: Forest and deforestation indicators in the department of Amazonas

Year	Forest (km <sup>2</sup> )	Deforestation	Deforestation rate (%)	Annual variation (%)
2002	29,131	39.23	0.14	29.3
2003	29,092		0.13	-0.9
2004	29,056	35.54	0.12	-8.6
2005	29,020	36.21	0.13	1.9
2006	28,981	38.56	0.13	6.5
2007	28,925	$\boldsymbol{55.82}$	0.19	44.8
2008	$28,\!895$	30.48	0.11	-45.4
2009	28,850		0.16	49.1
2010	28,814	35.95	0.13	-20.9
2011	28,782	31.81	0.11	-11.5
2012	28,734	47.46	0.17	<b>49.2</b>
2013	28,668	66.82	0.23	40.8
2014	28,616	51.99	0.18	-22.2
2015	$28,\!546$	69.31	0.24	33.3
2016	$28,\!476$	69.84	0.25	0.8
2017	28,392	$\boldsymbol{84.55}$	0.30	21.1
2018	$28,\!317$	74.53	0.26	-11.9
2019	28,261	55.99	0.20	-24.9





Prepared by Earth Innovation Institute

Deforestation

## Burned area

According to the NASA-USGS analysis of MODIS satellite observations, the average yearly burned area in Amazonas was  $13 \text{ km}^2$  for the period 2010-2019. This figure includes burned areas due to fires in forest, savannahs and opened agricultural areas. The burned area in 2019 was  $4 \text{ km}^2$  and the worst year in the last decade was 2010 with  $40 \text{ km}^2$  burned. In most years, the months of October and November represented the peak of the fire season (see Figure 5).

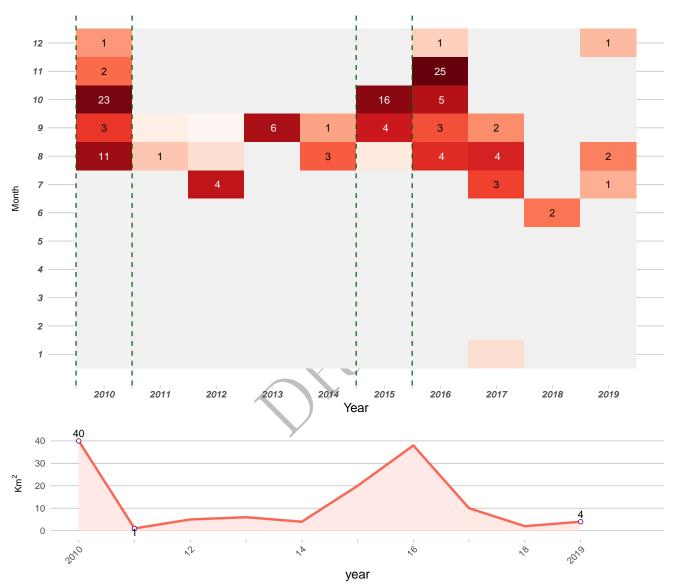


Figure 5: Monthly burned area since 2010 (km<sup>2</sup>). Source: EII analysis of MODIS-MCD64

#### Emissions from deforestation

The accumulated emissions from deforestation in the department of Amazonas between 2001 and 2018 amount to 34 million tons of CO2eq, which was equivalent to xx% of the total emissions from deforestation in Peru during this period. Considering the observed yearly deforestation, the mean carbon density of the department forest and the business as usual deforestation baseline, the accumulated gross avoided emissions from deforestation during the period from 2015 to 2018 was 0 million tons of CO2eq. This results from summing avoided emissions during the period from 2015 to 2018 in which the deforestation was lower than the business as usual deforestation baseline

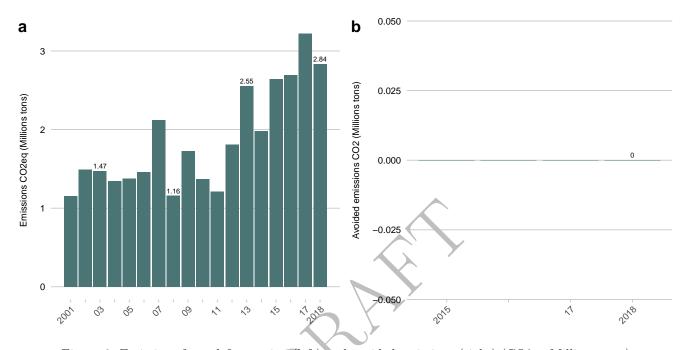
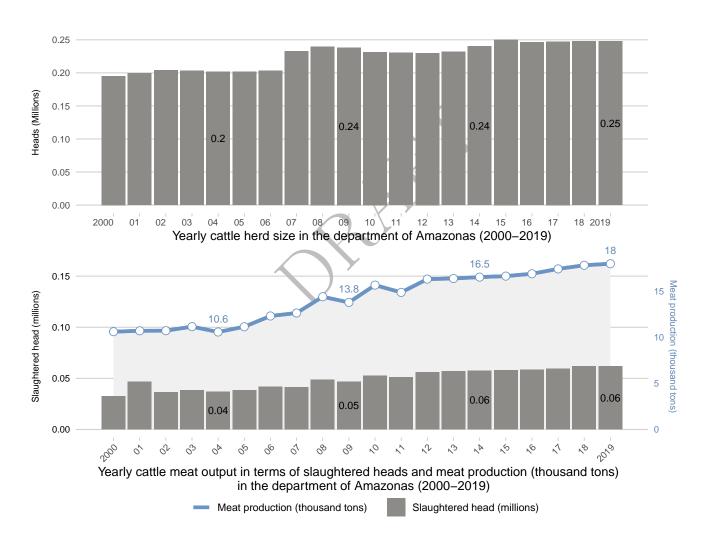


Figure 6: Emissions from deforestation (left) and avoided emissions (right) (CO2eq Millions tons)

# Livestock

Table 2: Livestock indicators in Amazonas

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	Cattle	Pig	Poultry	Fish
Year	2019	2019	2019	NA
Herd size:	247,855	85,700	1,525,969	
Slaughtered heads:	62,118	34,042	342,828	
Meat production	17,985	2,409	1,000	
(tons):				C /NA DEN
Value (thousands):				S/NA PEN



# Agriculture

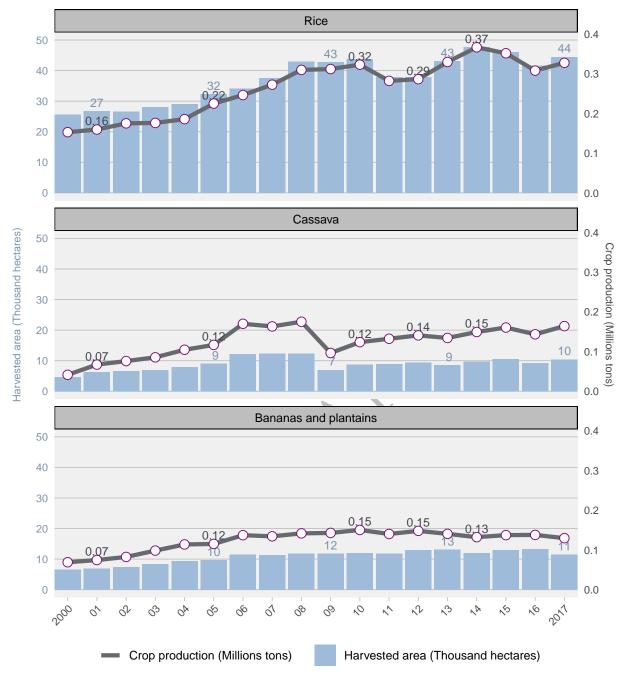


Figure 7: Harvested area and production of the three crops most produced in Amazonas

### Aquaculture

The plot shows the aquaculture production in the department of Amazonas over the last 6 years and the value of this production. The data includes production of fish such as Skunk catfish, Tiger shovelnose catfish, Tambaqui or Tilapia and includes only activities related with fish farming under controlled conditions. Does not include fishing activities.<sup>1</sup>

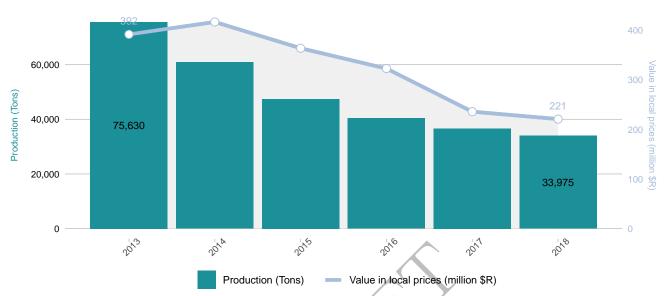


Figure 8: Yearly aquaculture production (tons) and value of production (Reales) in Amazonas

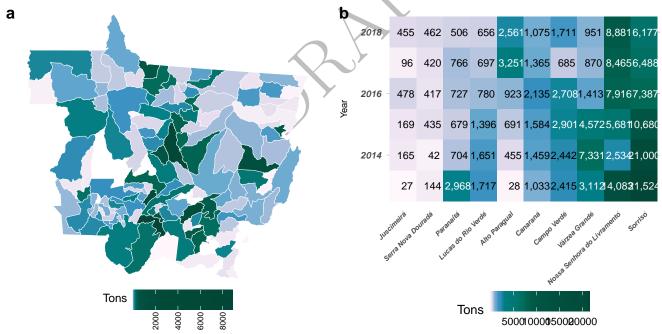


Figure 9: a) Yearly aquaculture production (tons) in districts of Amazonas in 2018. b) Yearly aquaculture production by districts (Tons)

<sup>&</sup>lt;sup>1</sup>The value of production don't include the class Shellfish seeds, Shrimp, Shrimp larvae and post-larvae, Oysters, scallops and mussels, Other products (frog, alligator, crab, lobster, etc.) and Alevinos.