

San Martín, Peru



Jurisdictional indicators brief

State area:	51,253 km ² (3.99% of Peru)
Original forest area:	47,969 km ²
Current forest area (2019):	33,333 km ² (65% of San Martín)
Yearly deforestation (2019)	113 km ²
Yearly deforestation rate (2019)	0.34%
Interannual deforestation change (2018-2019)	-47%
Accumulated deforestation (2001-2019):	4,305 km ²
Protected conservation areas:	11,330 km ² (22.1% of San Martín)
Carbon stocks (2017):	388 millions tons (above ground biomass)
Representative crops (2017):	Rice (822,885 tons); Oil palms (419,535 tons); Bananas and plantains (397,624 tons)
Value of agricultural production (2016):	\$444,420,673 USD
More on jurisdictional sustainability	State of jurisdictional sustainability

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Forest and people

In 2019, the estimated area of forest in the department of San Martín was 33,333 km², equivalent to 65% of the department's total area, and to 4.9% of the forest remaining in Peru. The total accumulated forest lost during the period 2002-2019 was 4,305 km², equivalent to 10.9% of the forest area remaining in 2002. San Martín concentrated about 4.5% of the carbon reserves stored in the biomass of the Peruvian tropical forest (about 388 mt C as of 2019)

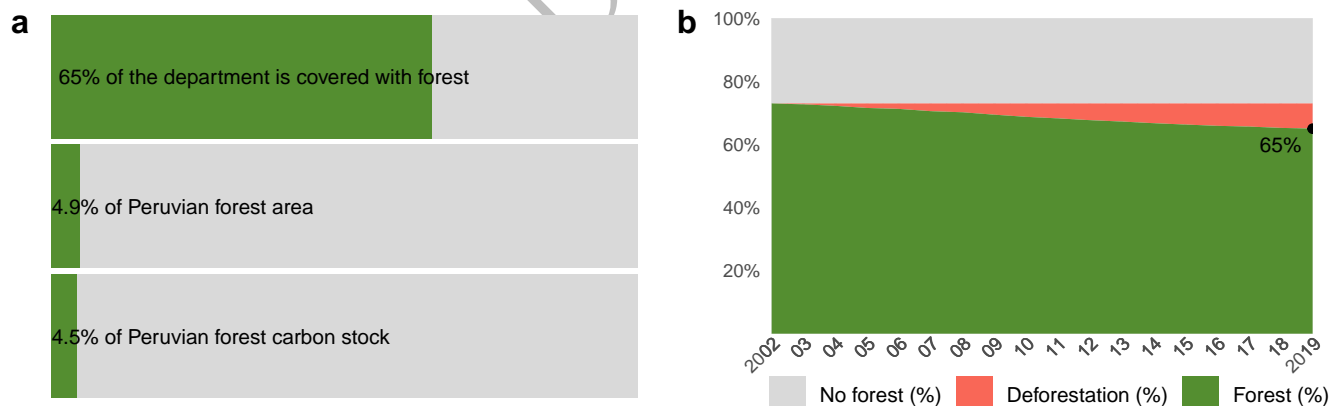


Figure 1: a) forest share and b) transition of forest to deforestation over the last years

There were 0.9 million people living in San Martín as of 2020, distributed in 18 districts, with 0.1 million people living in the capital city of Moyobamba. The department has formally designated conservation areas and indigenous territories, which respectively represent 22% and 5% of the department. There were an estimated 4,764 indigenous people living in the department in 2017 (see Figure 2).

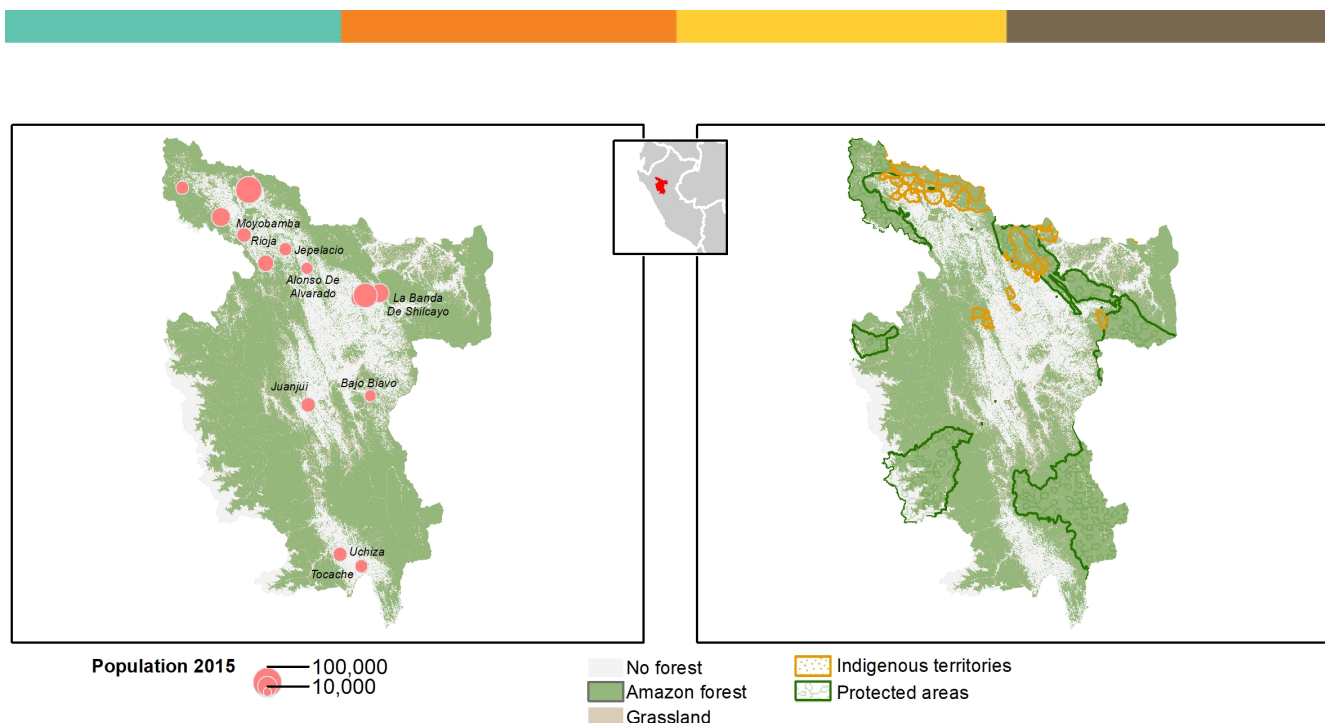


Figure 2: Map of most populated places (> 16,000 people) and indigenous and protected areas in San Martín

Deforestation

With the exception of 2018, the deforestation in the department of San Martín has declined consistently from a maximum figure in 2009 of 393 km², to an average level of about 150 km² in the last three years. The preliminary estimated deforestation in San Martín in 2019 was 113 km², a strong decline of -47% with respect to 2018. This figure represented 7.6% of the total deforestation in Peru and a deforestation rate of 0.34%. The deforestation rate in the region was below than the national average of 2019 (0.34% and 0.22% respectively)

With the 2019 figures on deforestation, San Martín ranked as 6/15 in terms of absolute area of deforestation and 7/15 in terms of deforestation rate among the Peruvian regions with tropical forest. If confirmed, this would be the lowest deforestation rate of the last two decades in San Martín.

With the latest official figure of 2018, the department's deforestation is 35% below the reference deforestation baseline 2001-2014 (see Figure 3).

69% of the deforestation is located in the five most affected districts in the department (see Figure 4). The district of Alto Biavo consistently registered the largest loss of tropical forest over the last years, reaching a maximum of 37 km² lost in 2009. In 2018 the deforestation in Alto Biavo was 26 km².

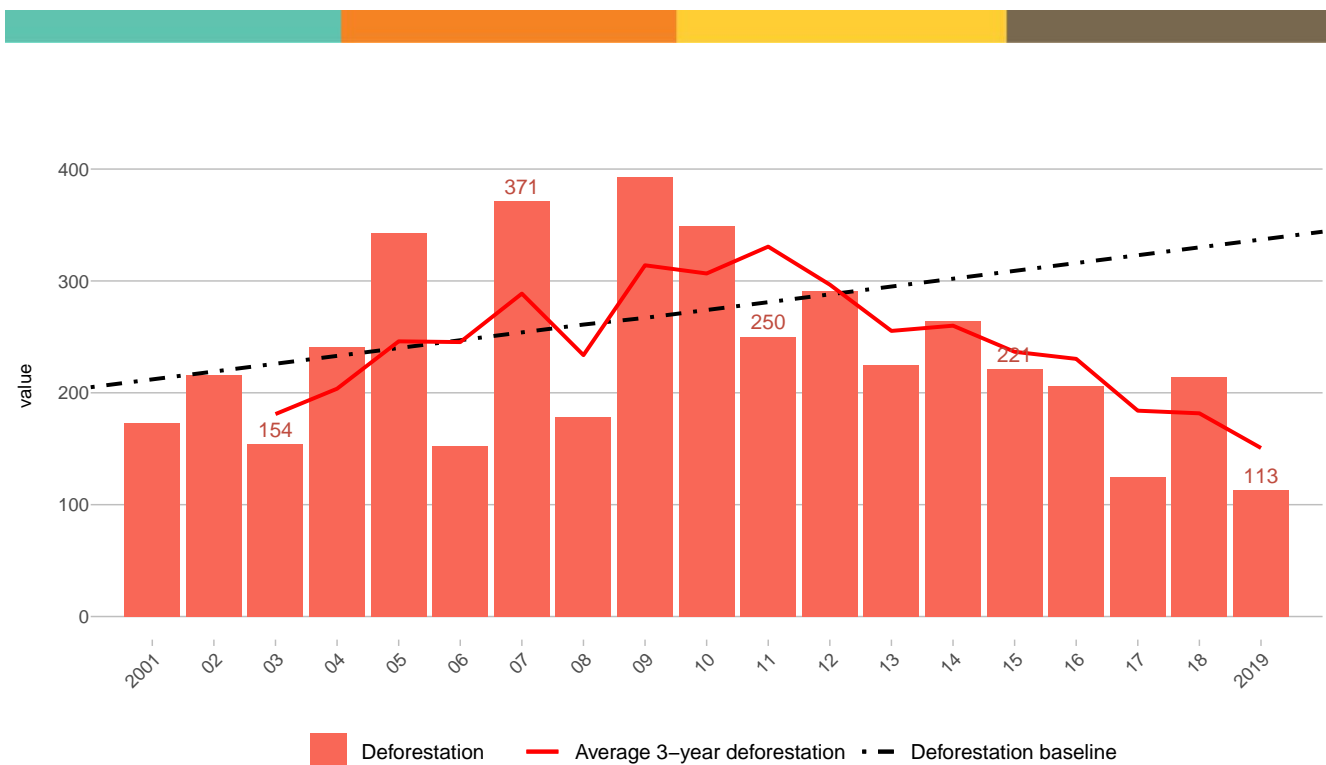


Figure 3: Yearly deforestation (km^2) and deforestation baseline

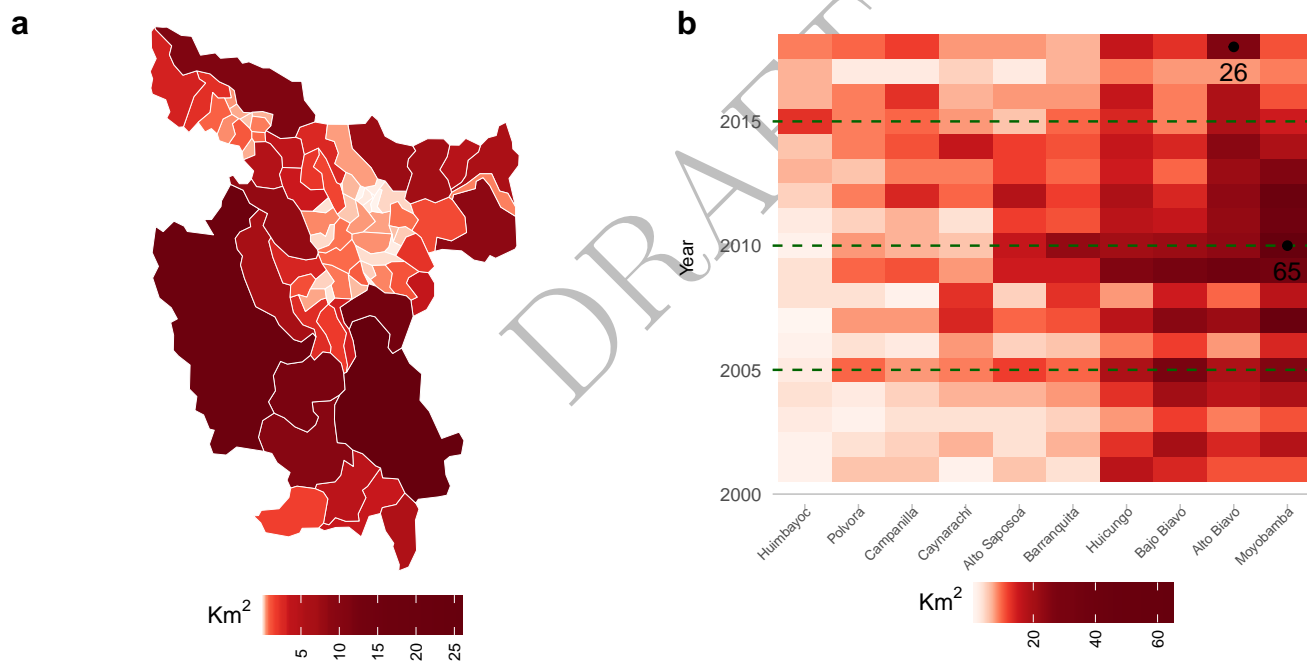
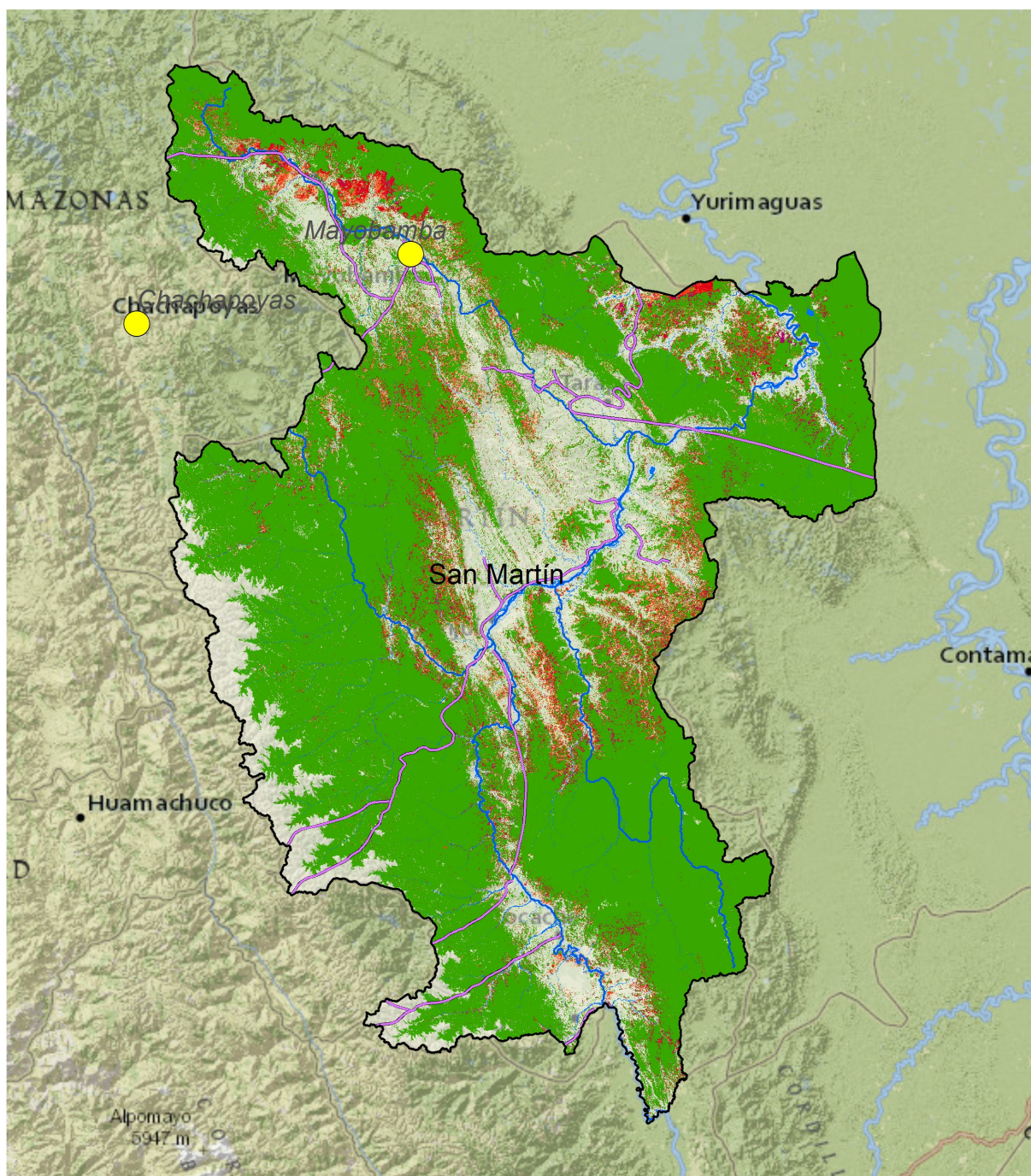


Figure 4: a) Yearly deforestation by districts in 2018 b) Yearly deforestation in top 10 most affected districts (km^2)



Table 1: Forest and deforestation indicators in the department of San Martín

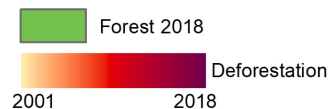
Year	Forest (km ²)	Deforestation	Deforestation rate (%)	Annual variation (%)
2002	37,422	215.71	0.57	24.5
2003	37,268	153.55	0.41	-28.8
2004	37,027	241.33	0.65	57.2
2005	36,684	342.53	0.93	41.9
2006	36,532	151.73	0.41	-55.7
2007	36,161	371.18	1.02	144.6
2008	35,983	177.72	0.49	-52.1
2009	35,591	392.83	1.09	121
2010	35,242	348.82	0.98	-11.2
2011	34,991	250.49	0.71	-28.2
2012	34,700	291.13	0.83	16.2
2013	34,475	225.17	0.65	-22.6
2014	34,211	264.00	0.77	17.2
2015	33,990	221.01	0.65	-16.3
2016	33,784	205.89	0.61	-6.8
2017	33,659	125.01	0.37	-39.3
2018	33,445	213.76	0.64	71
2019	33,333	112.66	0.34	-47.3



San Martín, Peru Forest and accumulated deforestation

The map shows the most recent forest cover and yearly deforestation mapped by BOSQUES, Peru. Intense red colors represent the most recent deforestation whereas light orange colors earlier deforestation as noted in the legend

Legend



Prepared by Earth Innovation Institute

Burned area

According to the NASA-USGS analysis of MODIS satellite observations, the average yearly burned area in San Martín was 109 km² for the period 2010-2020. This figure includes burned areas due to fires in forest, savannahs and opened agricultural areas. The burned area in 2019 was 10 km² and the worst year in the last decade was 2010 with 470 km² burned. In most years, the months of August and September represented the peak of the fire season (see Figure 5).

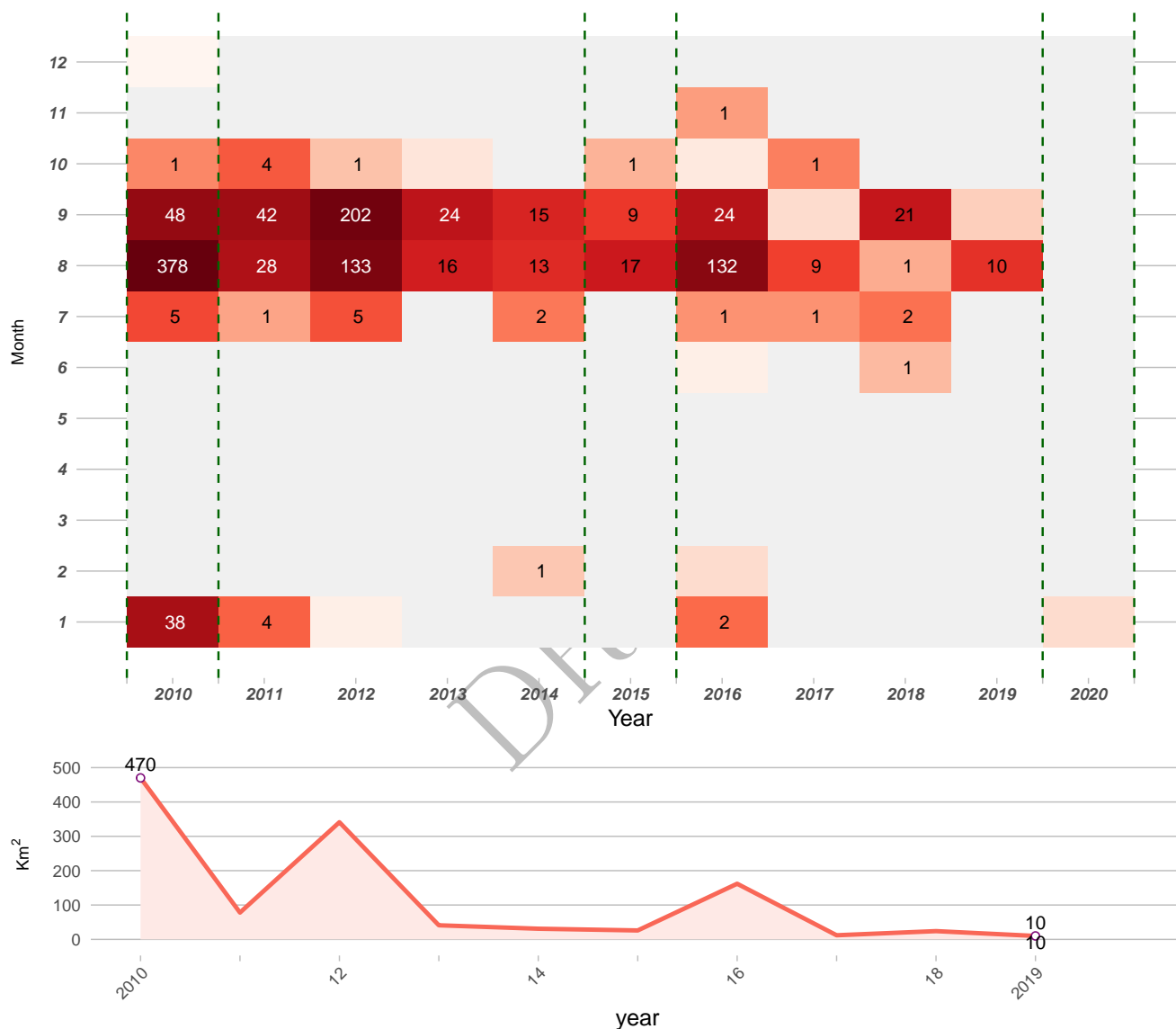


Figure 5: Monthly burned area since 2010 (km²). Source: EII analysis of MODIS-MCD64

Emissions from deforestation

The accumulated emissions from deforestation in the department of San Martín between 2001 and 2018 amount to 175 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 21 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

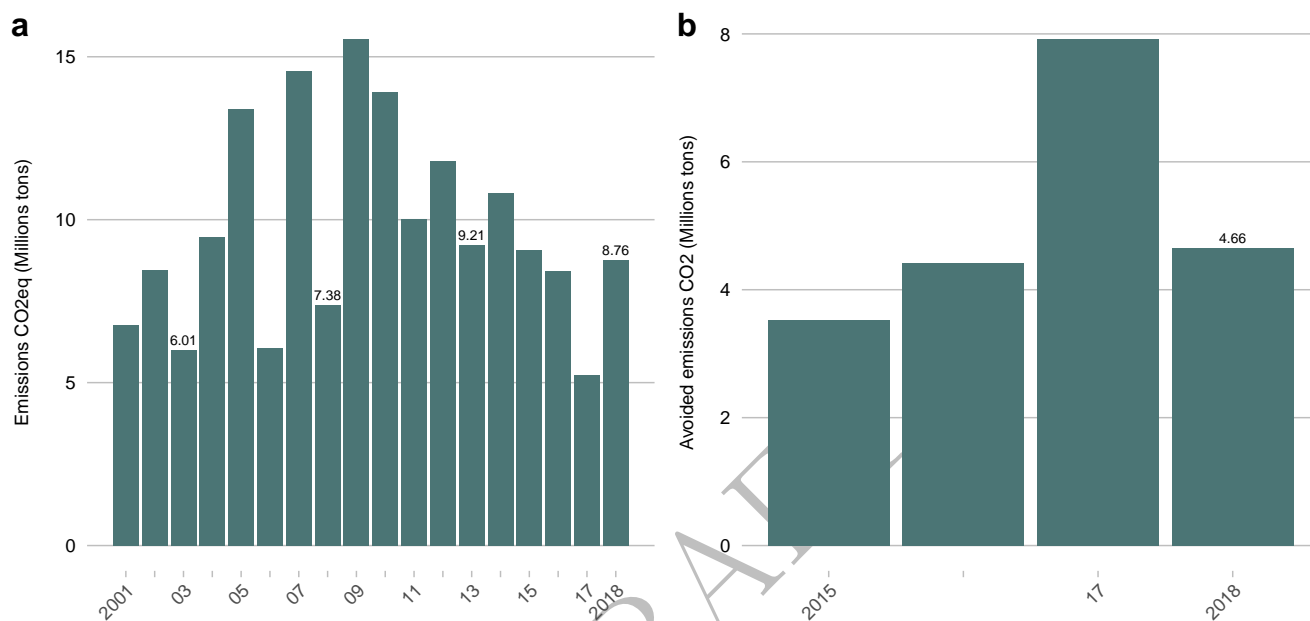




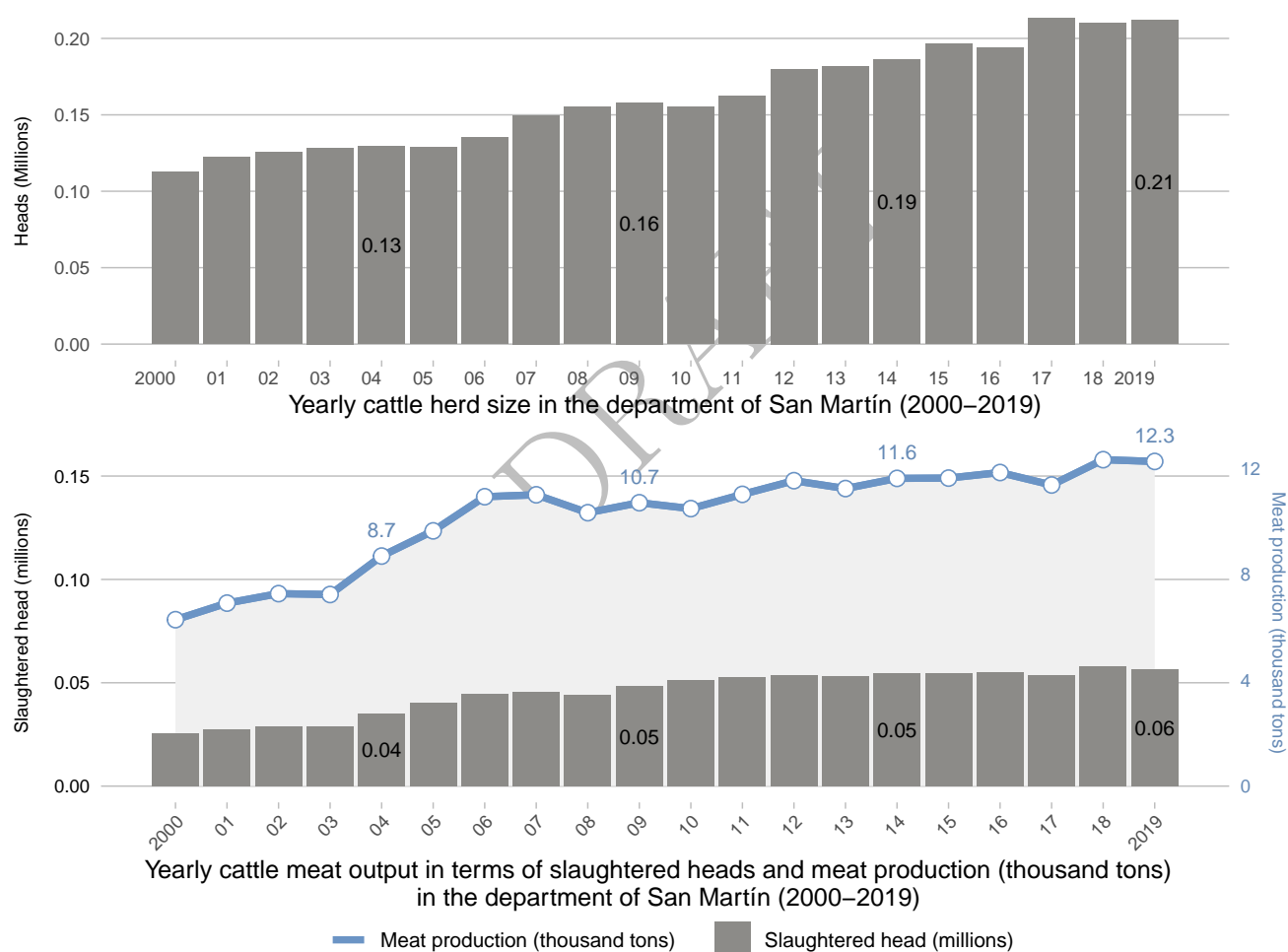


Figure 6: Emissions from deforestation (left) and avoided emissions (right) (CO₂eq Millions tons)

Livestock

Table 2: Livestock indicators in San Martín

				
	Cattle	Pig	Poultry	Fish
Year	2019	2019	2019	NA
Herd size:	211,843	170,291	4,536,966	
Slaughtered heads:	56,686	70,713	18,414,920	
Meat production (tons):	12,264	4,045	49,294	
Value (thousands):				S/NA PEN



Agriculture

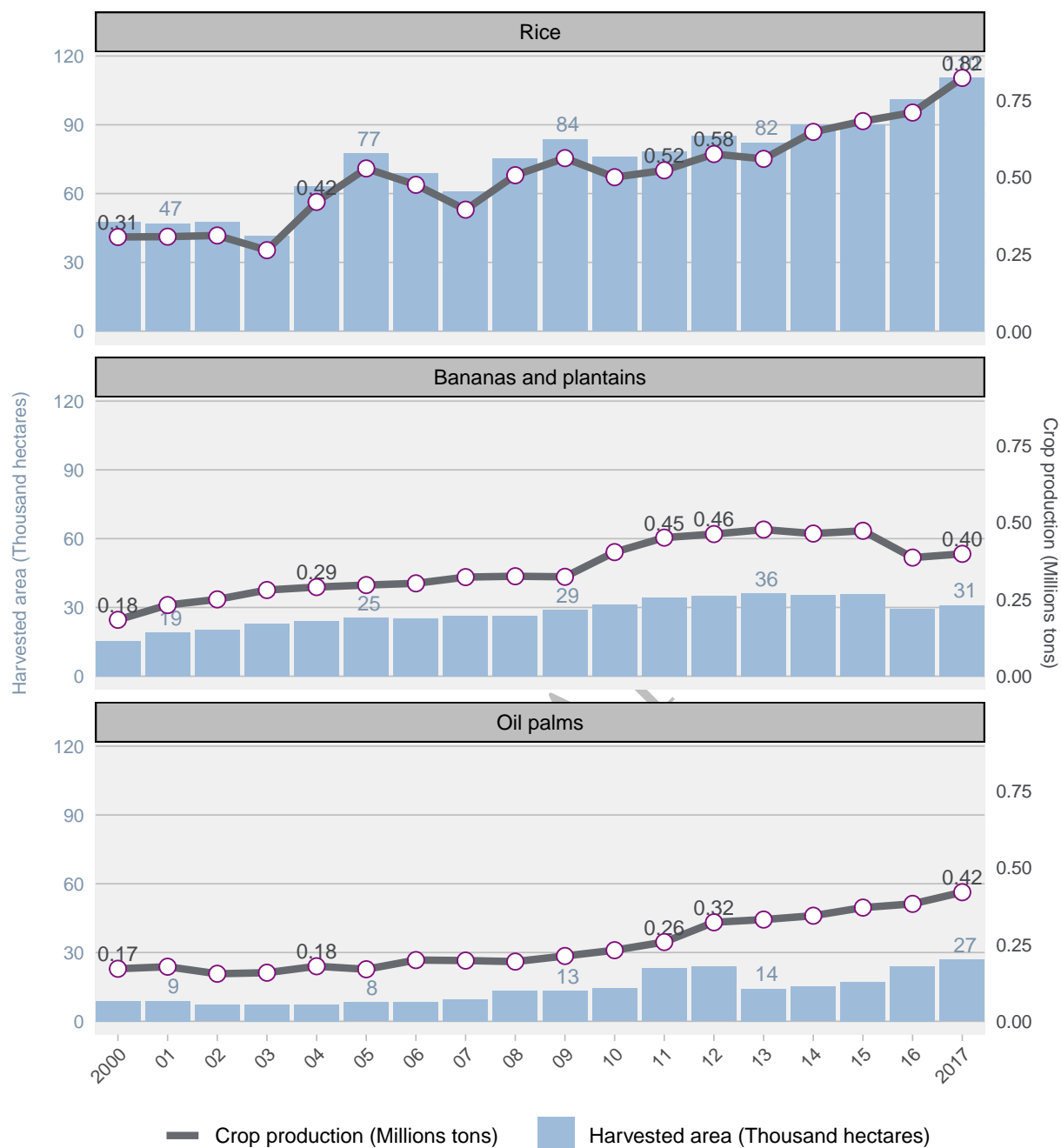


Figure 7: Harvested area and production of the three crops most produced in San Martín

Aquaculture

The plot shows the aquaculture production in the department of San Martín 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.¹



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

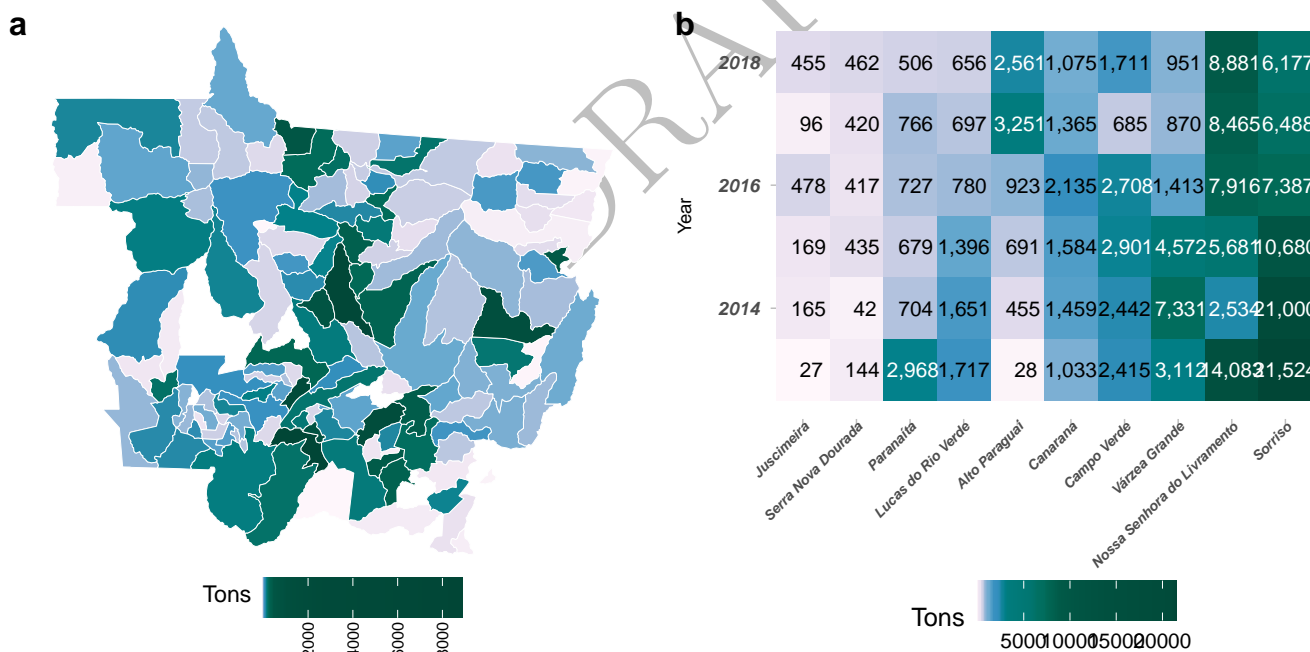


Figure 9: a) Yearly aquaculture production (tons) in districts of San Martín in 2018. b) Yearly aquaculture production by districts (Tons)

¹The 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.