

Pará, Brazil



Jurisdictional indicators brief

State area:	1,247,954 km ² (14.65% of Brazil)
Original forest area:	1,129,705 km ²
Current forest area (2019):	870,440 km ² (69.7% of Pará)
Yearly deforestation (2019)	4,172 km ²
Yearly deforestation rate (2019)	0.48%
Interannual deforestation change (2018-2019)	+52%
Accumulated deforestation (2001-2019):	82,980 km ²
Protected conservation areas:	394,051 km ² (31.6% of Pará)
Carbon stocks (2015):	10,034 millions tons (above ground biomass)
Representative crops (2018):	Cassava (3,836,215 tons); Soybean (1,638,469 tons); Oil palms (1,533,735 tons)
Value of agricultural production (2016):	\$5,468,688,349 USD
More on jurisdictional sustainability	State of jurisdictional sustainability

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Forest and people

In 2019, the estimated area of tropical forest in the state of Pará was 870,440 km², equivalent to 69.7% of the state's total area, and to 27.3% of the tropical forest remaining in the nine states of the Brazilian legal Amazon. The total accumulated forest lost during the period 2001-2019 was 82,980 km², equivalent to 9.9% of the forest area remaining in 2001. Pará concentrated about 26.8% of the carbon reserves stored in the biomass of the Brazilian tropical forest (about 10,034 mt C as of 2019).

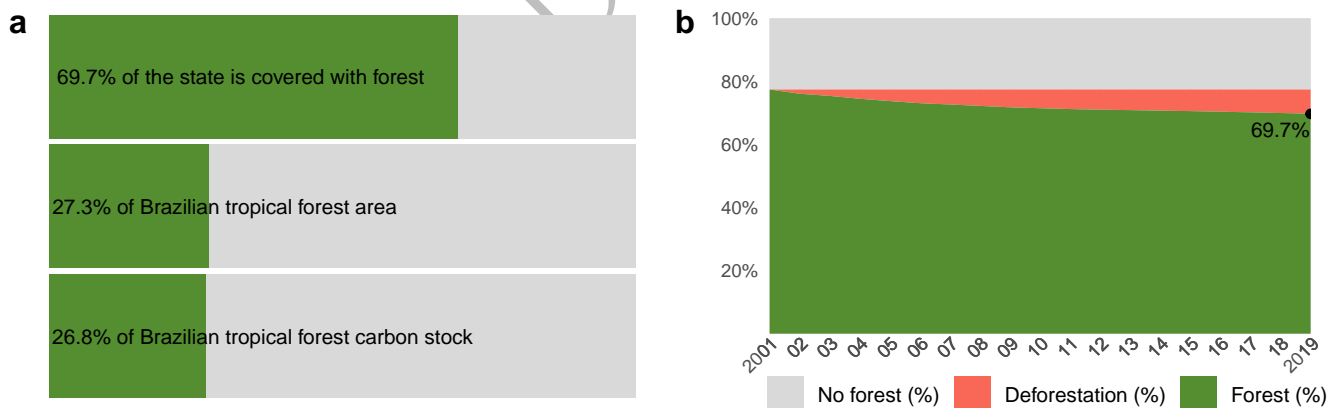


Figure 1: a) forest share and b) transition of forest to deforestation over the last years

There were 8.7 million people living in Pará as of 2020, distributed in 19 municipalities, with 1.4 million people living in the capital city of Belém. The state has formally designated conservation areas and indigenous territories, which respectively represent 32% and 25% of the state. There were an estimated 38,137 indigenous people living in the state in 2010 (see Figure 2).

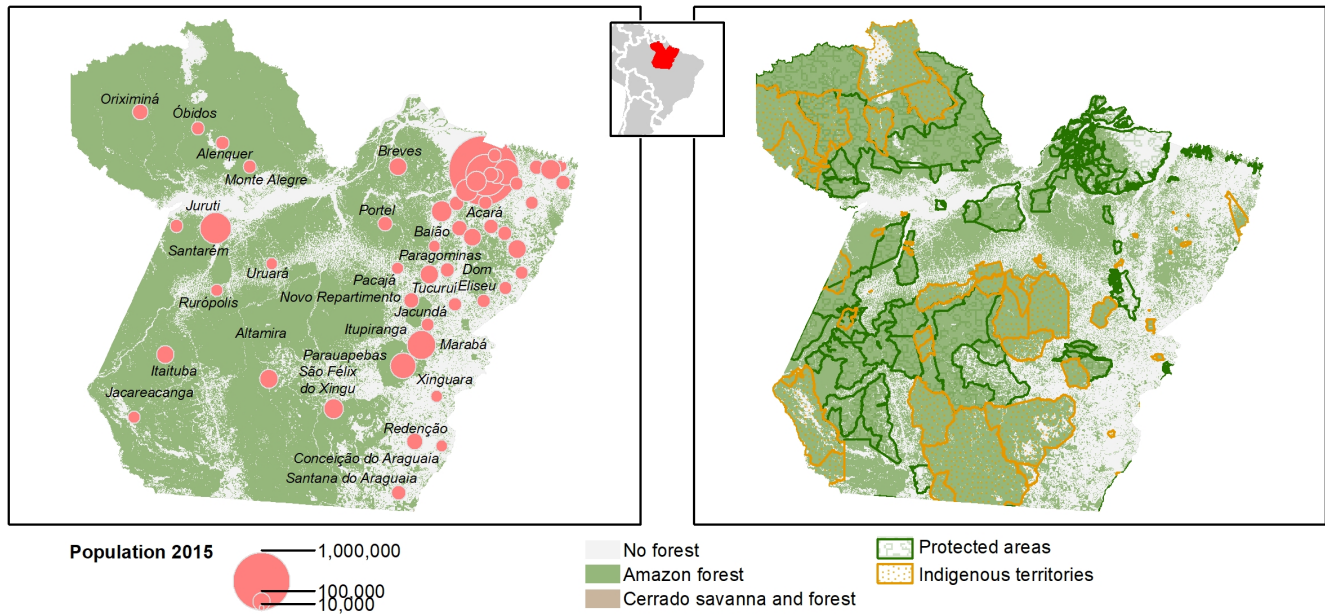


Figure 2: Map of most populated places (> 40,000 people) and indigenous and protected areas in Pará

Deforestation

The state of Pará reduced its yearly deforestation rate rapidly after reaching a maximum of 8,870 km² in 2004. The state reached the minimum yearly forest loss in 2012 with 1,741 km² but figures increased thereafter climbing above 3,000 km² of forest loss in 2019. The deforestation in Pará in 2019 was 4,172 km², representing an interannual increase of 52% with respect to 2018. With this increase, the state continued having the largest deforestation among the Brazilian states and concentrating 41% of the total deforestation of the legal Amazon. The deforestation rate in Pará in 2019 was 0.48%, slightly larger than the average of the legal Amazon states in 2019 (0.43%).

The state's current deforestation is 33% below the reference baseline 1996-2005, and 15% below the reference baseline 1996-2015 (see Figure 3).

48% of the deforestation is located in the five most affected municipalities in the state (see Figure 4). The municipality of Altamira consistently registered the largest loss of tropical forest over the last years, reaching a maximum of 678 km² lost in 2004. In 2019 the deforestation in Altamira was 575 km².

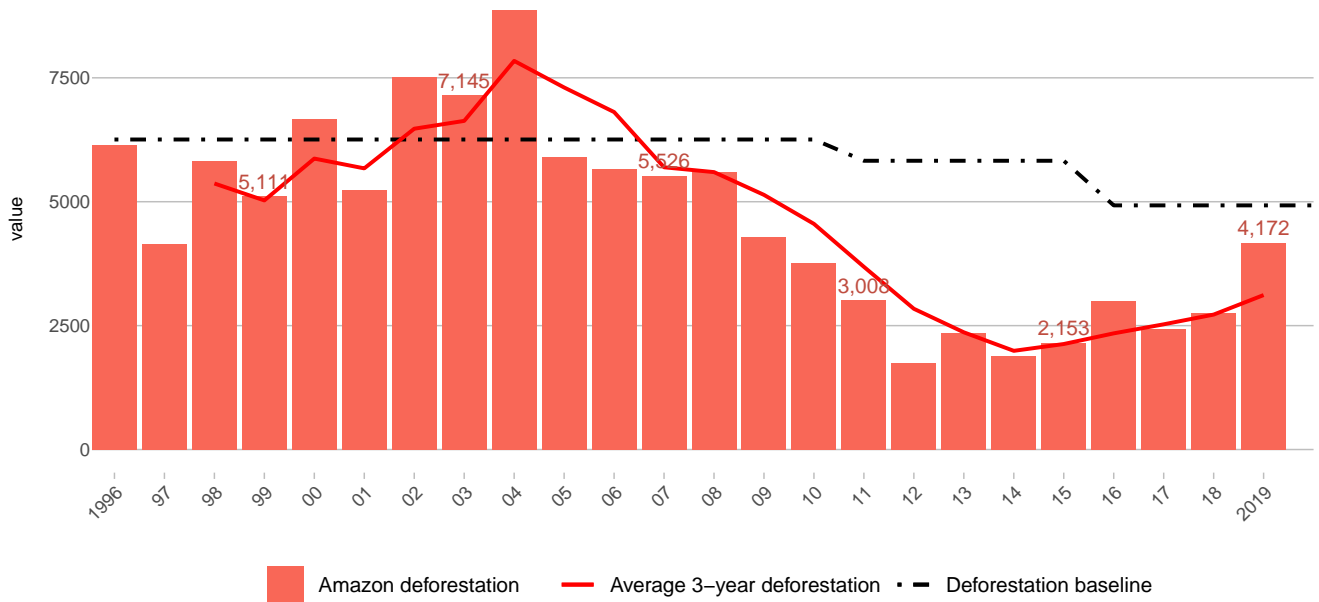


Figure 3: Yearly deforestation (km^2) and deforestation baseline

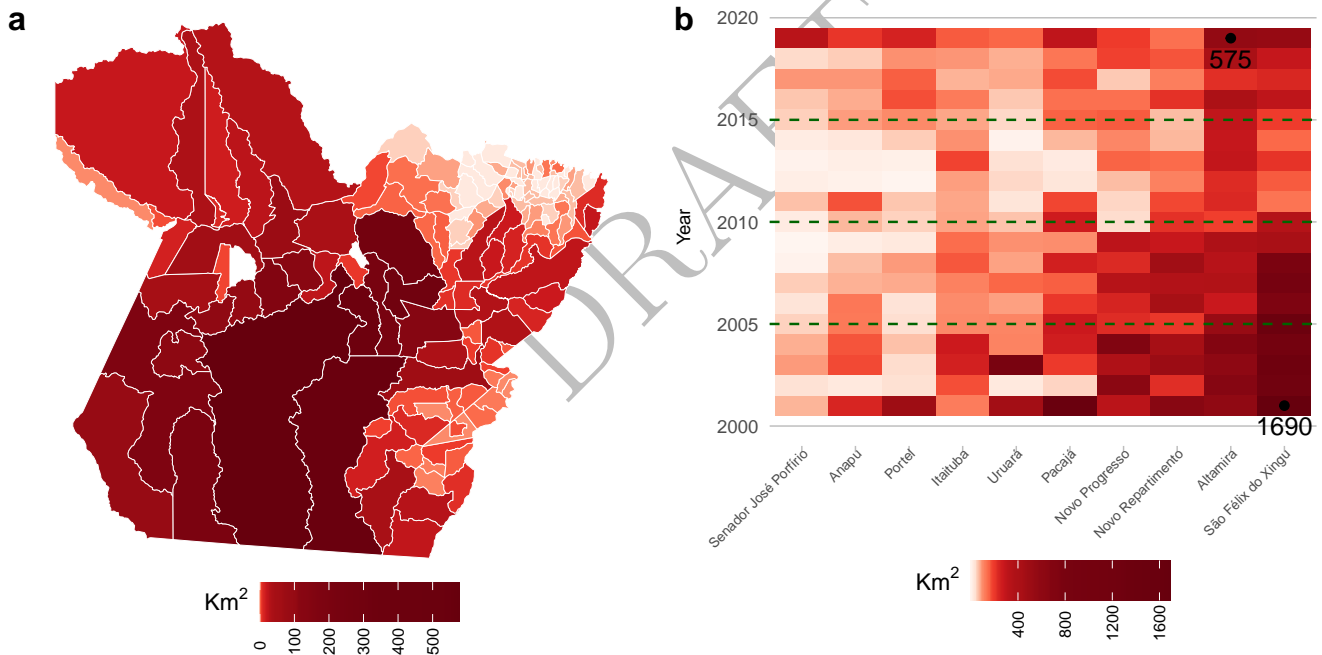
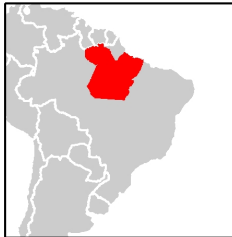
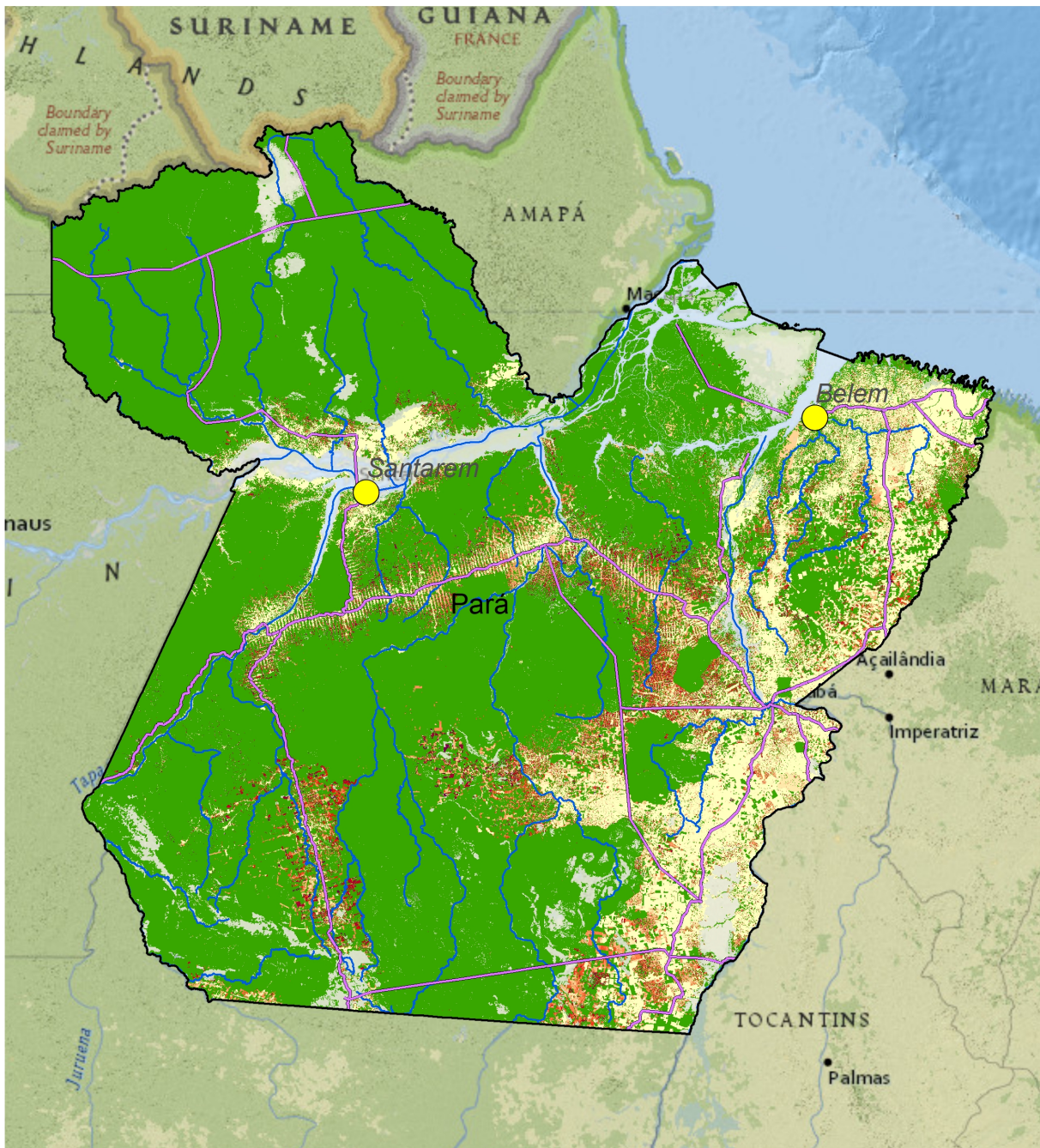


Figure 4: a) Yearly deforestation by municipalities in 2019 b) Yearly deforestation in top 10 most affected municipalities (km^2)

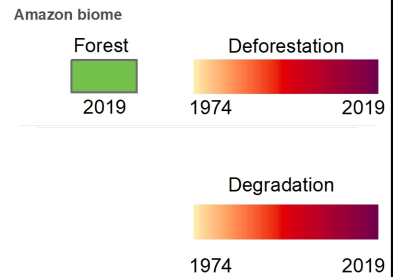
Table 1: Forest and deforestation indicators in the state of Pará

Year	Forest (km ²)	Deforestation	Deforestation rate (%)	Annual variation (%)
2001	966,265	5,237	0.54	-21.5
2002	949,535	7,510	0.79	43.4
2003	940,872	7,145	0.76	-4.9
2004	929,600	8,870	0.95	24.1
2005	920,377	5,899	0.64	-33.5
2006	912,135	5,659	0.62	-4.1
2007	907,020	5,526	0.61	-2.4
2008	901,432	5,607	0.62	1.5
2009	895,745	4,281	0.48	-23.6
2010	892,153	3,770	0.42	-11.9
2011	888,809	3,008	0.34	-20.2
2012	886,389	1,741	0.20	-42.1
2013	884,675	2,346	0.27	34.8
2014	882,584	1,887	0.21	-19.6
2015	880,797	2,153	0.24	14.1
2016	878,489	2,992	0.34	39
2017	875,745	2,433	0.28	-18.7
2018	873,141	2,744	0.31	12.8
2019	870,440	4,172	0.48	52



Pará, Brazil Forest and accumulated deforestation

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



Prepared by Earth Innovation Institute

Burned area

According to the NASA-USGS analysis of MODIS satellite observations, the average yearly burned area in Pará was 13,475 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 12,835 km² and the worst year in the last decade was 2010 with 34,850 km² burned. In most years, the months of September and August 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 state of Pará between 2000 and 2019 amount to 5,486 million tons of CO₂eq, which was equivalent to 42.5% of the total emissions from deforestation in the legal Amazon during this period. Considering the observed yearly deforestation, the mean carbon density of the state's forest and the business as usual deforestation baseline, the accumulated gross avoided emissions from deforestation during the period from 2006 to 2019 was 2,612 million tons of CO₂eq. This results from summing avoided emissions during the period from 2006 to 2019 in which the deforestation was lower than the business as usual deforestation baseline.

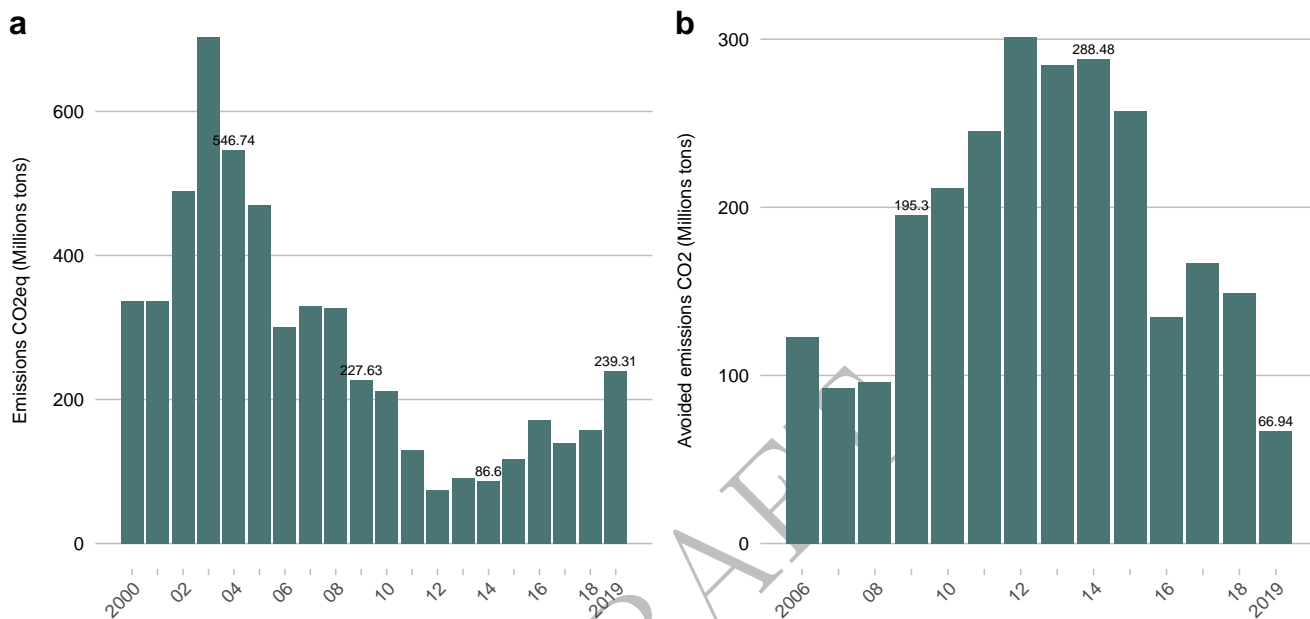




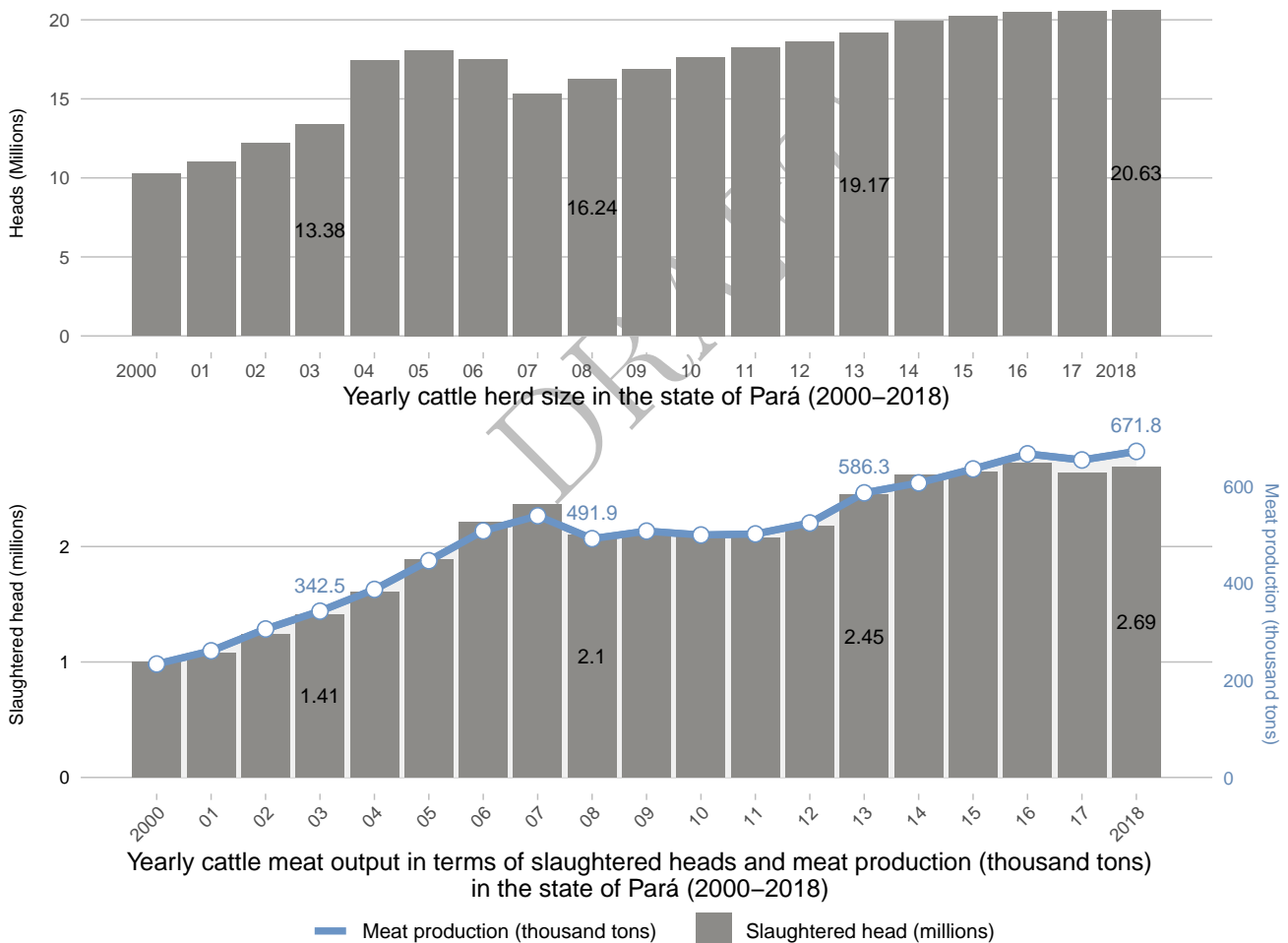


Figure 6: Emissions from deforestation (left) and avoided emissions (right) (CO₂eq Millions tons)

Livestock

Table 2: Livestock indicators in Pará

				
	<i>Cattle</i>	<i>Pig</i>	<i>Poultry</i>	<i>Fish</i>
Year	2018	2018	2018	2015
Herd size:	20,628,651	725,414	27,820,116	
Slaughtered heads:	2,691,134	1,518	67,699,471	
Meat production (tons):	671,836	64	188,818	
Value (thousands):				R\$111,746 BRL



Agriculture

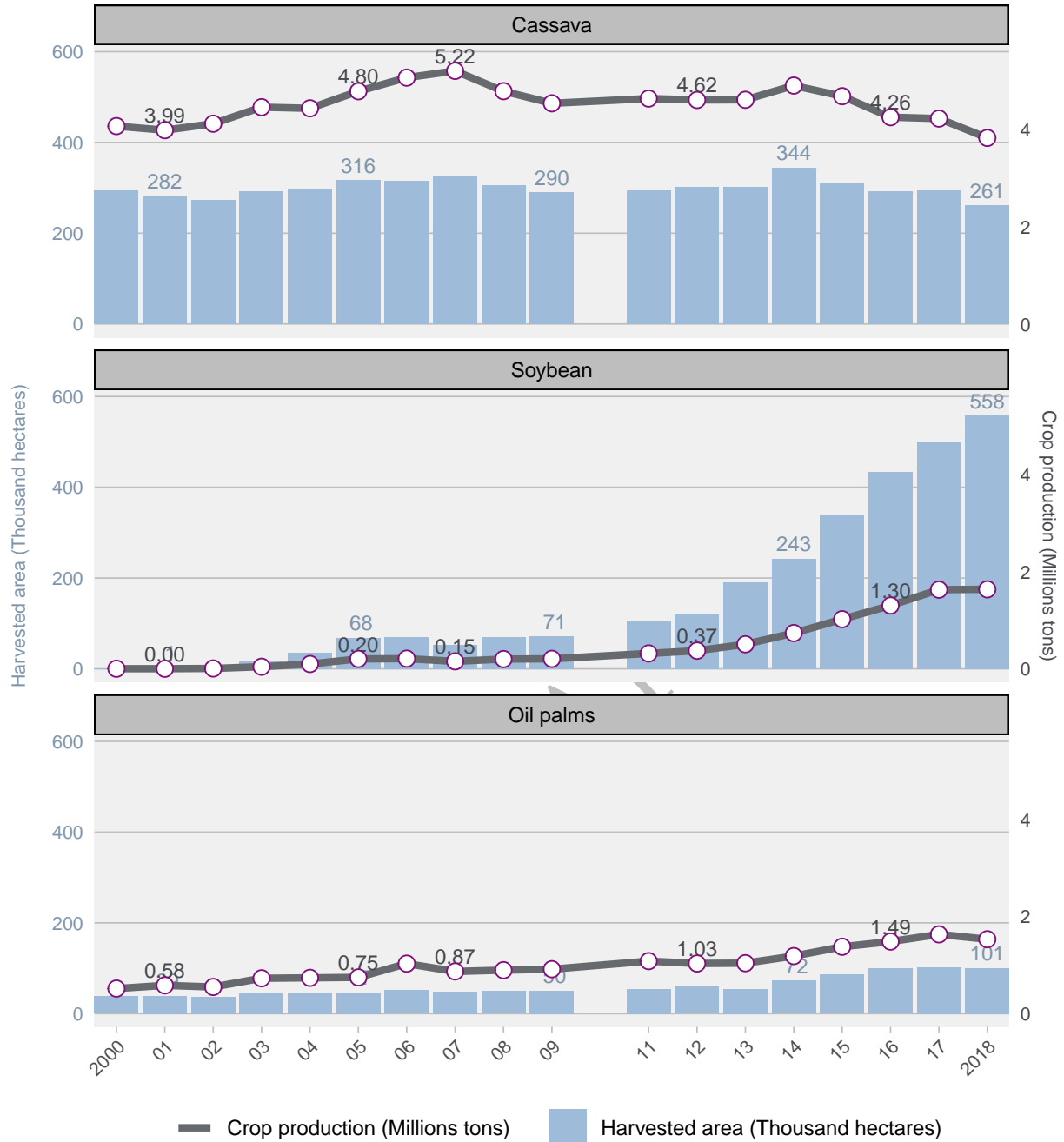


Figure 7: Harvested area and production of the three crops most produced in Pará



Aquaculture

The plot shows the aquaculture production in the state of Pará over the last 6 years and the value of this production. The data includes production of fish such as Tambaqui, Skunk catfish, Pirapitinga or firewood catfish and includes only activities related with fish farming under controlled conditions. Does not include fishing activities.¹

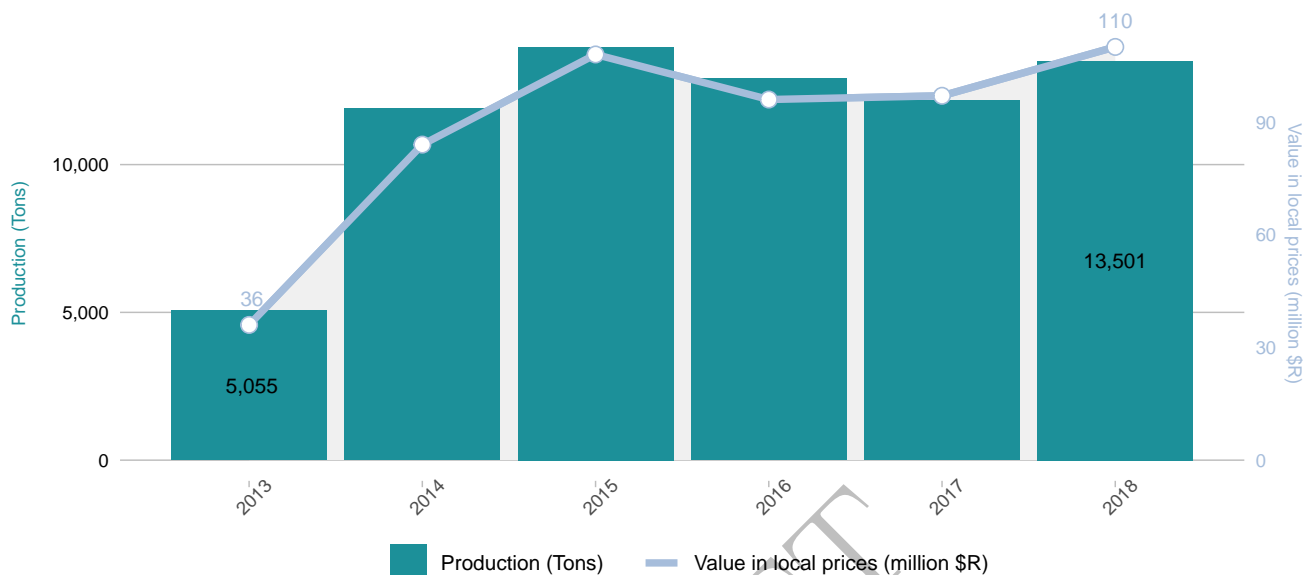


Figure 8: Yearly aquaculture production (tons) and value of production (Reales) in Pará

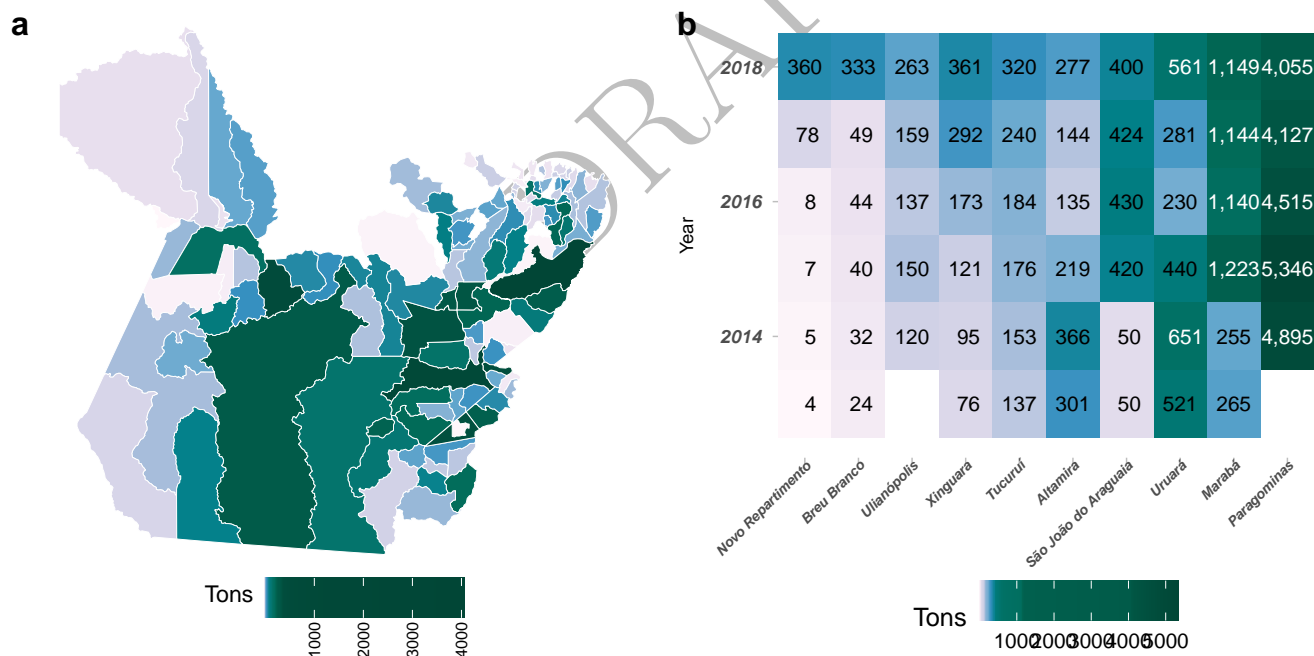


Figure 9: a) Yearly aquaculture production (tons) in municipalities of Pará in 2018. b) Yearly aquaculture production by municipalities (Tons)

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.