

# North Kalimantan, Indonesia



## Jurisdictional indicators brief

State area:	68,996 km <sup>2</sup> (3.62% of Indonesia)
Original forest area:	65,935 km <sup>2</sup>
Current forest area (2018):	55,995 km <sup>2</sup> (81.2% of North Kalimantan)
Yearly deforestation (2018)	228 km <sup>2</sup>
Yearly deforestation rate (2018)	0.41%
Interannual deforestation change (2017-2018)	-19%
Accumulated deforestation (2001-2018):	6,207 km <sup>2</sup>
Protected conservation areas:	12,980 km <sup>2</sup> (18.8% of North Kalimantan)
Carbon stocks (2015):	663 millions tons (above ground biomass)
Representative crops (2017):	Oil palms (219,223 tons); Rice (75,831 tons); Cassava (42,878 tons)
Value of agricultural production (2016):	\$966,538,244 USD
More on jurisdictional sustainability	<a href="#">State of jurisdictional sustainability</a>

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## Forest and people

In 2018, the estimated area of forest in the province of North Kalimantan was 55,995 km<sup>2</sup>, equivalent to 81.2% of the province's total area, and to 6.6% of the forest remaining in Indonesia. The total accumulated forest lost during the period 2001-2018 was 6,207 km<sup>2</sup>, equivalent to 9.6% of the forest area remaining in 2001. North Kalimantan concentrated about 7.2% of the carbon reserves stored in the biomass of the Indonesia tropical forest (about 663 mt C as of 2018).

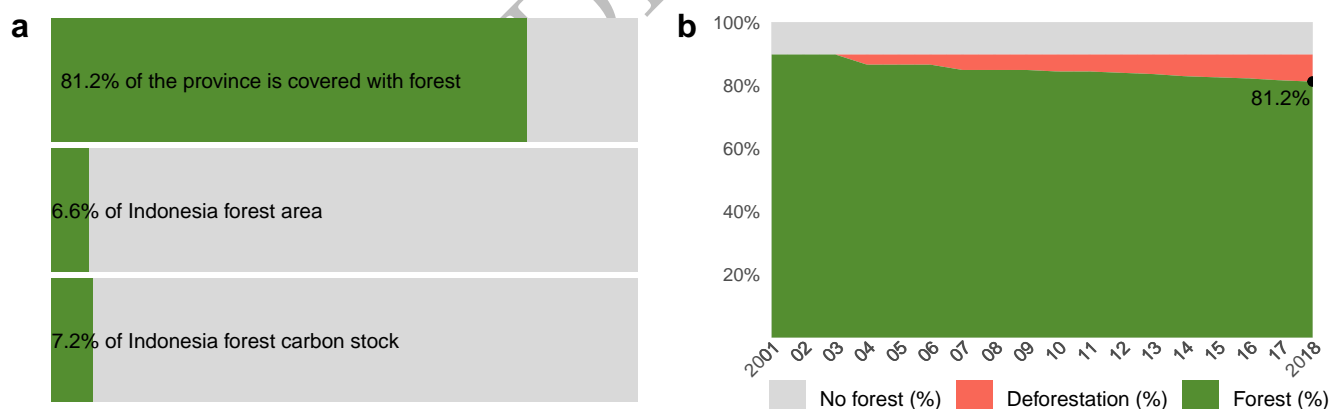


Figure 1: a) forest share and b) transition of forest to deforestation over the last years

There were 0.7 million people living in North Kalimantan as of 2018, distributed in 18 districts, with 0.1 million people living in the capital city of Tanjung Selor. The province has formally designated conservation areas which represent 19% of the province (see Figure 2).

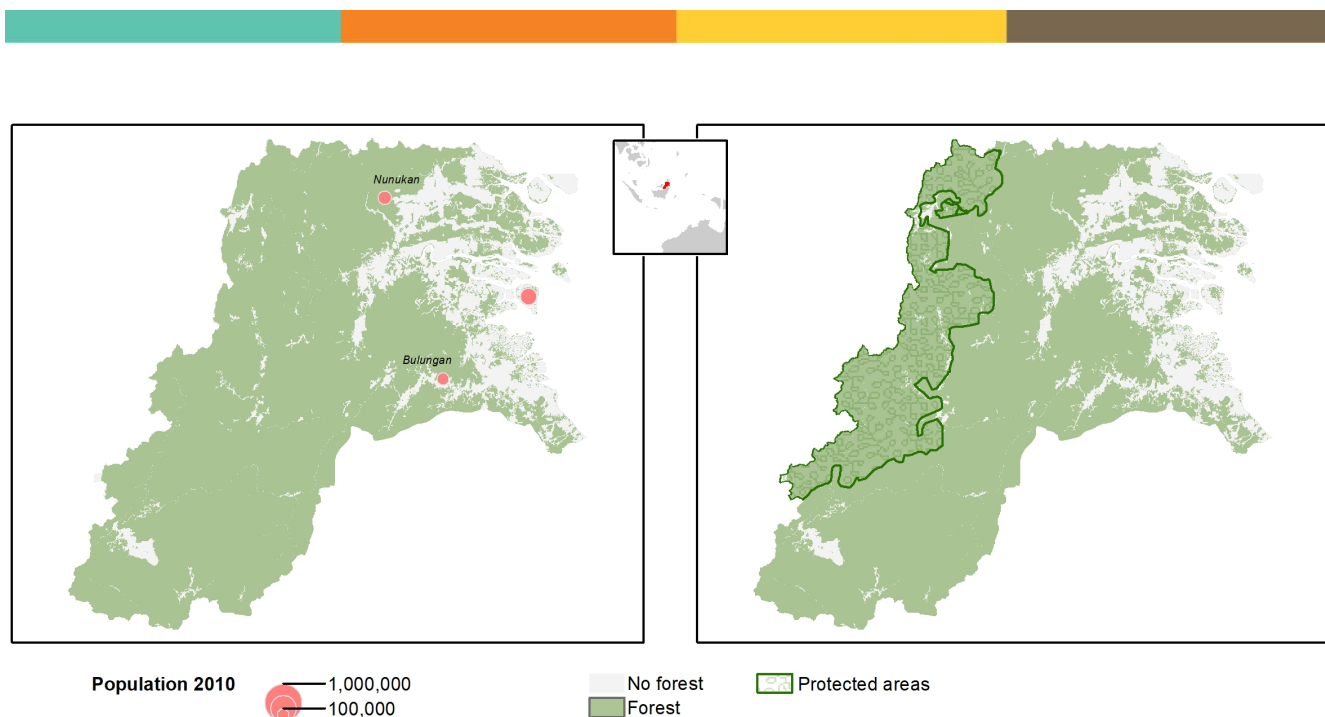


Figure 2: Map of most populated places (> 150,000 people) and indigenous and protected areas in North Kalimantan

## Deforestation

The yearly deforestation in North Kalimantan has remained more or less constant after 2010 with a yearly average of about 240 km<sup>2</sup>, a performance that is slightly better than its historical deforestation baseline. The reported deforestation in North Kalimantan in 2018 was 228 km<sup>2</sup>, indicating a two year consecutive decline of 31.7% and -19% for 2017 and 2017, respectively.

The deforestation rate of 2018 was 0.41%, one of the lowest among the Indonesian provinces. This represented 4.6% of the total deforestation in Indonesia that year and set the province's deforestation 6% below the reference deforestation baseline 1990-2012 (see Figure 3).

100% of the deforestation is located in the five most affected districts in the province (see Figure 4). In 2015 the district of Tana Tidung represented of the province's deforestation with 104 km<sup>2</sup>.

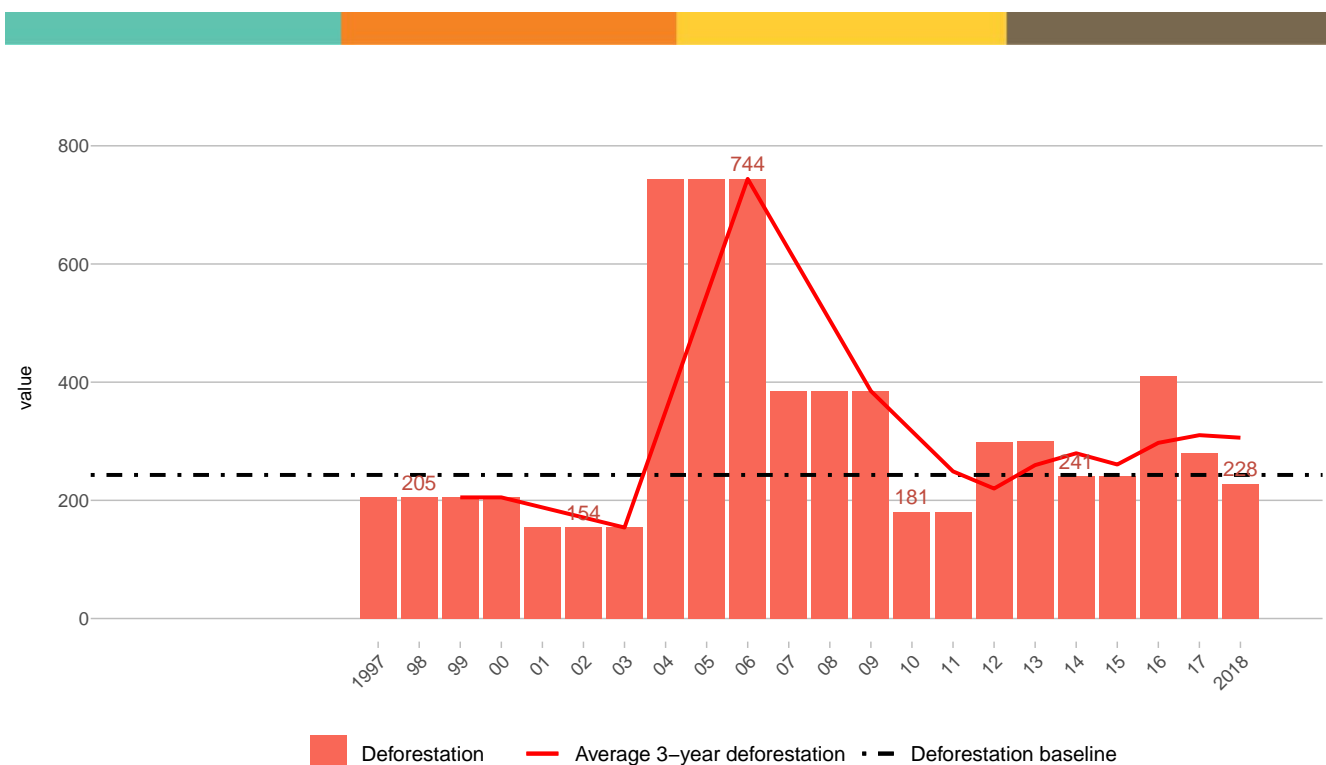


Figure 3: Yearly deforestation ( $km^2$ ) and deforestation baseline

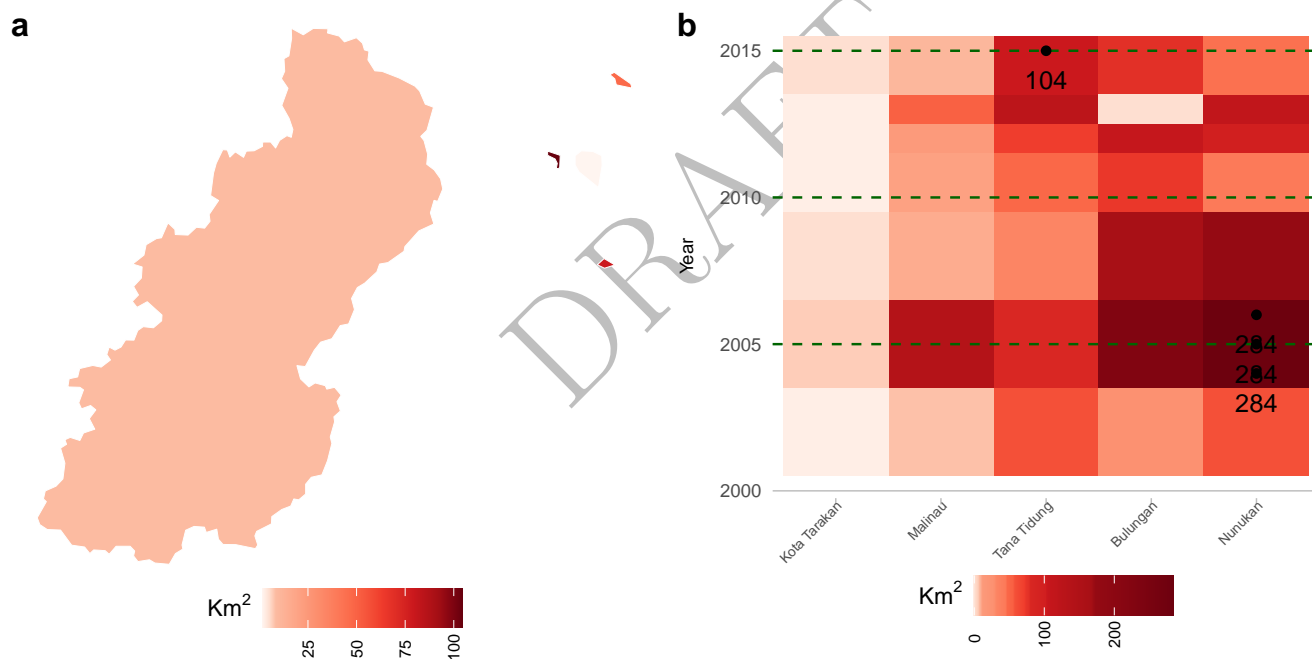
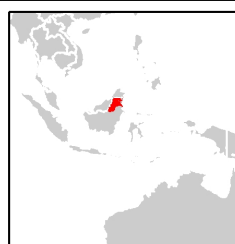
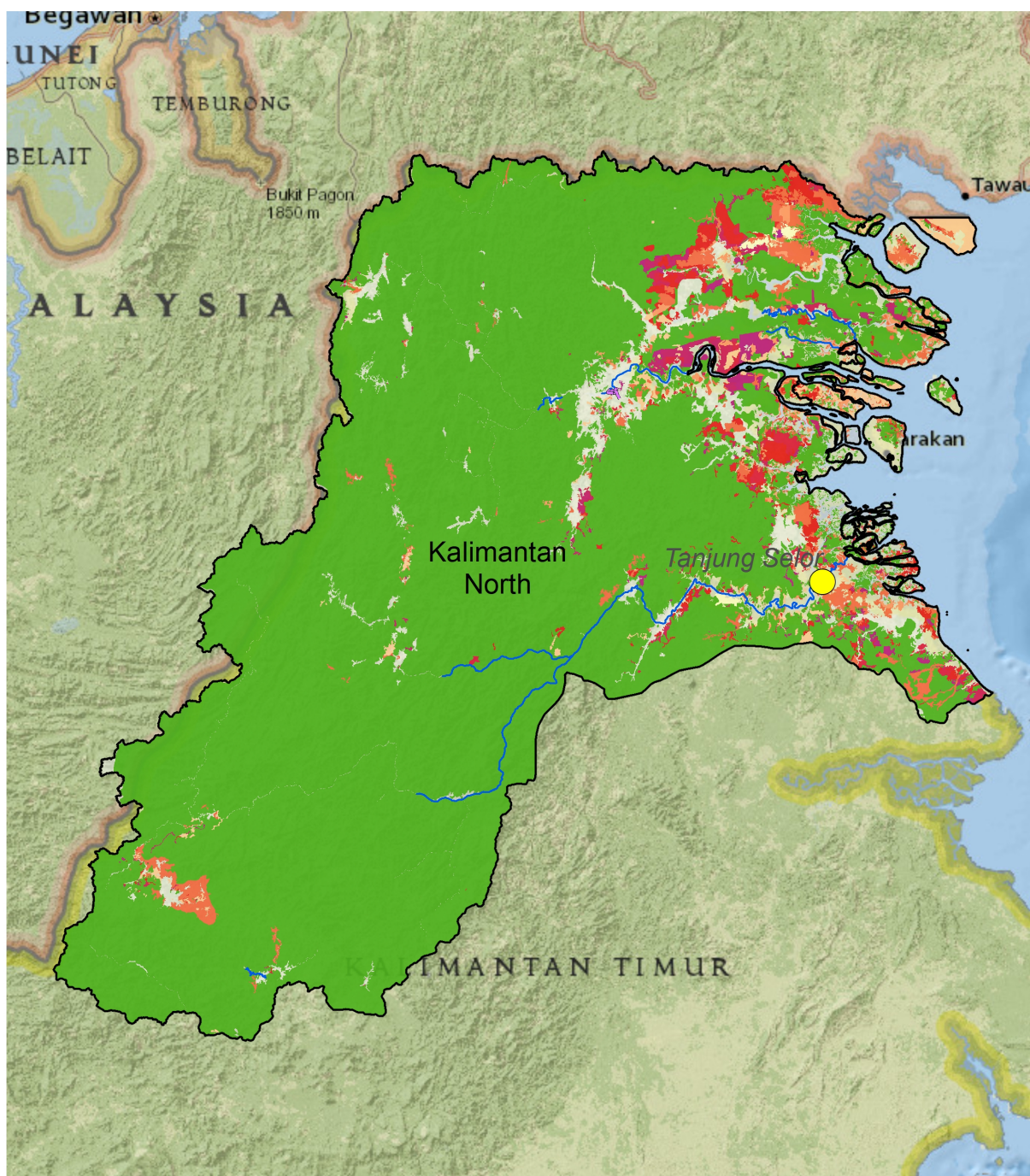


Figure 4: a) Yearly deforestation by districts in 2015 b) Yearly deforestation in top 10 most affected districts ( $km^2$ )



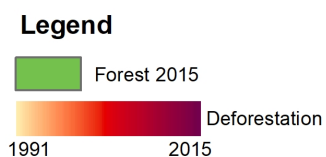
Table 1: Forest and deforestation indicators in the province of North Kalimantan

Year	Forest (km <sup>2</sup> )	Deforestation	Deforestation rate (%)	Annual variation (%)
2001	61,928	154.12	0.25	-24.8
2002	61,928	154.12	0.25	0
2003	61,928	154.12	0.25	0
2004	59,700	743.60	1.20	382.5
2005	59,700	743.60	1.25	0
2006	59,700	743.60	1.25	0
2007	58,548	385.09	0.65	-48.2
2008	58,548	385.09	0.66	0
2009	58,548	385.09	0.66	0
2010	58,201	180.56	0.31	-53.1
2011	58,201	180.56	0.31	0
2012	57,920	298.47	0.51	65.3
2013	57,643	300.17	0.52	0.6
2014	57,167	240.73	0.42	-19.8
2015	56,926	240.73	0.42	0
2016	56,685	410.00	0.72	70.3
2017	56,275	280.00	0.49	-31.7
2018	55,995	227.84	0.41	-18.6



### Kalimantan North, Indonesia Forest and accumulated deforestation

The map shows the most recent forest cover and yearly deforestation mapped by Derived from Ministry of Forestry data. 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 North Kalimantan was 23 km<sup>2</sup> 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 94 km<sup>2</sup> and the worst year in the last decade was 2015 with 112 km<sup>2</sup> 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 (km<sup>2</sup>). Source: EII analysis of MODIS-MCD64



## Emissions from deforestation

The accumulated emissions from deforestation in the province of North Kalimantan between 2000 and 2015 amount to 290 million tons of CO<sub>2</sub>eq, which was equivalent to xx% of the total emissions from deforestation in Indonesia during this period. Considering the observed yearly deforestation, the mean carbon density of the province forest and the business as usual deforestation baseline, the accumulated gross avoided emissions from deforestation during the period from 2013 to 2015 was 0 million tons of CO<sub>2</sub>eq. This results from summing avoided emissions during the period from 2013 to 2015 in which the deforestation was lower than the business as usual deforestation baseline

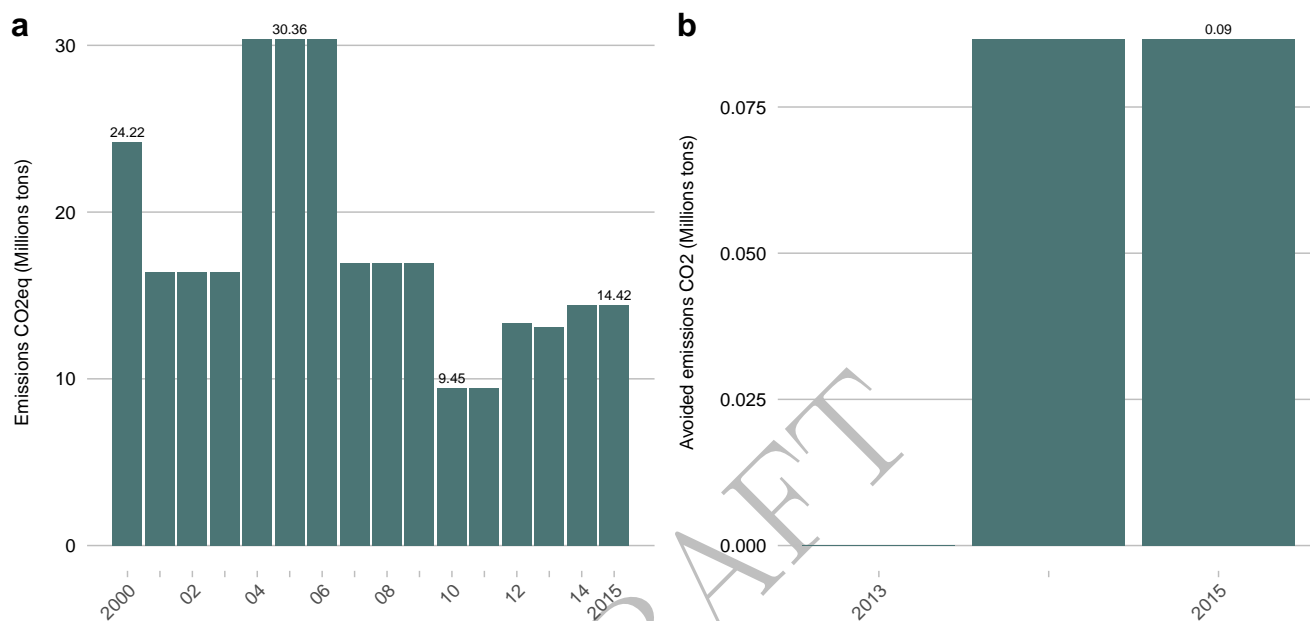






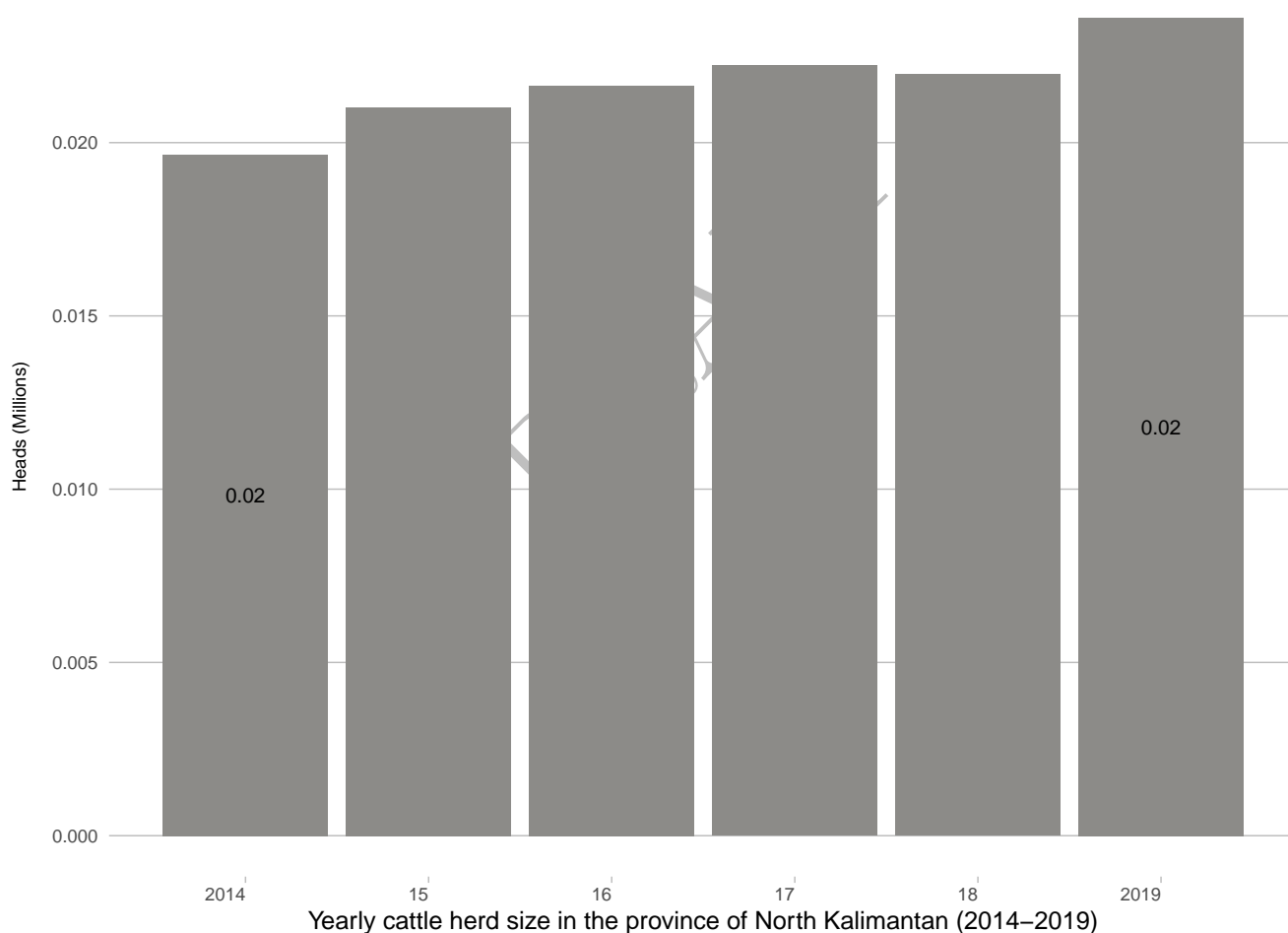
Figure 6: Emissions from deforestation (left) and avoided emissions (right) (CO<sub>2</sub>eq Millions tons)



## Livestock

Table 2: Livestock indicators in North Kalimantan

				
	<i>Cattle</i>	<i>Pig</i>	<i>Poultry</i>	<i>Fish</i>
Year	2019	2019	2019	NA
Herd size:	23,608	31,226	5,755,859	
Slaughtered heads:	NA	NA	NA	
Meat production (tons):	653	421	6,346	
Value (thousands):				RpNA IDR







## Agriculture

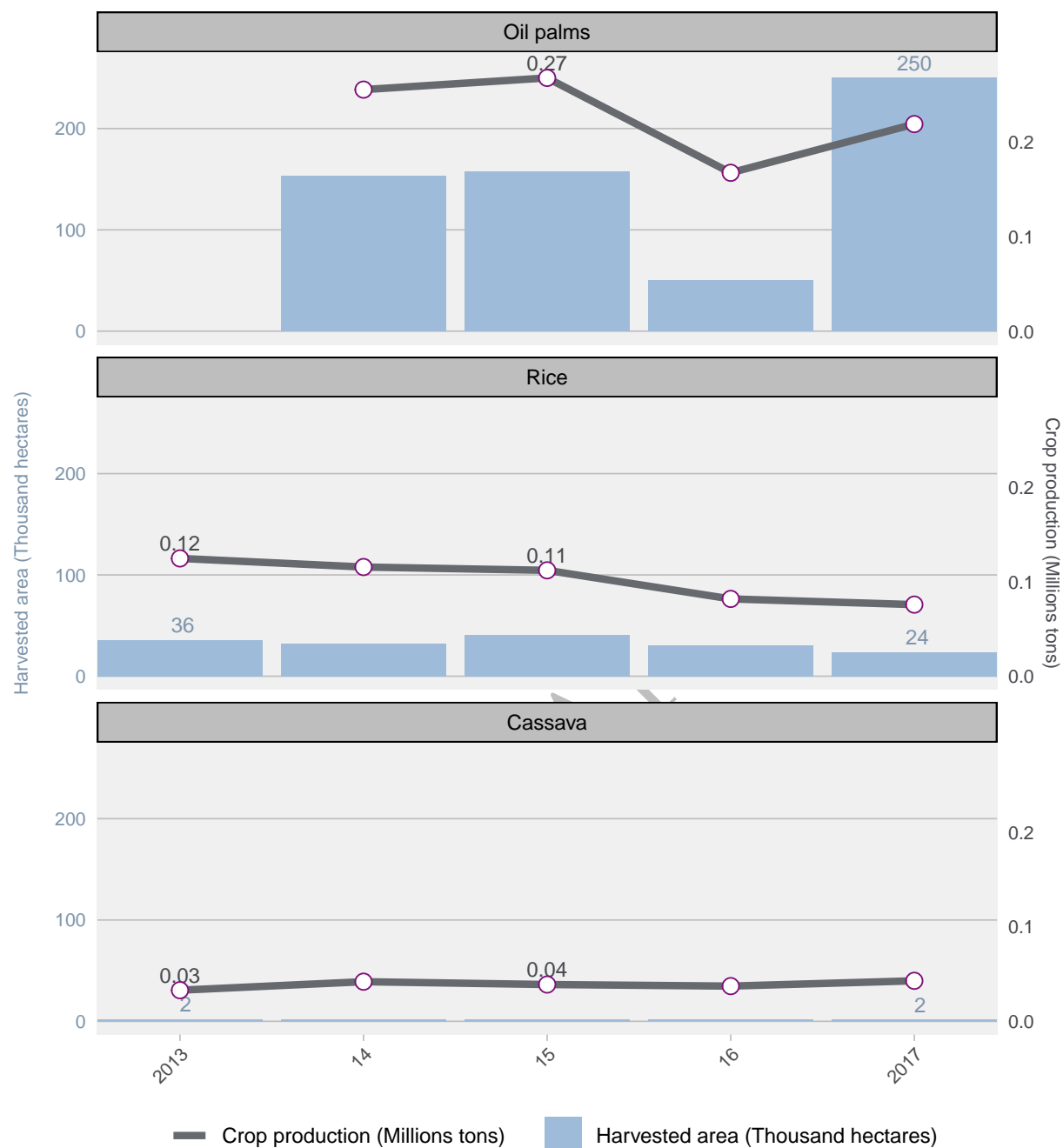


Figure 7: Harvested area and production of the three crops most produced in North Kalimantan



## Aquaculture

The plot shows the aquaculture production in the province of North Kalimantan 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 North Kalimantan

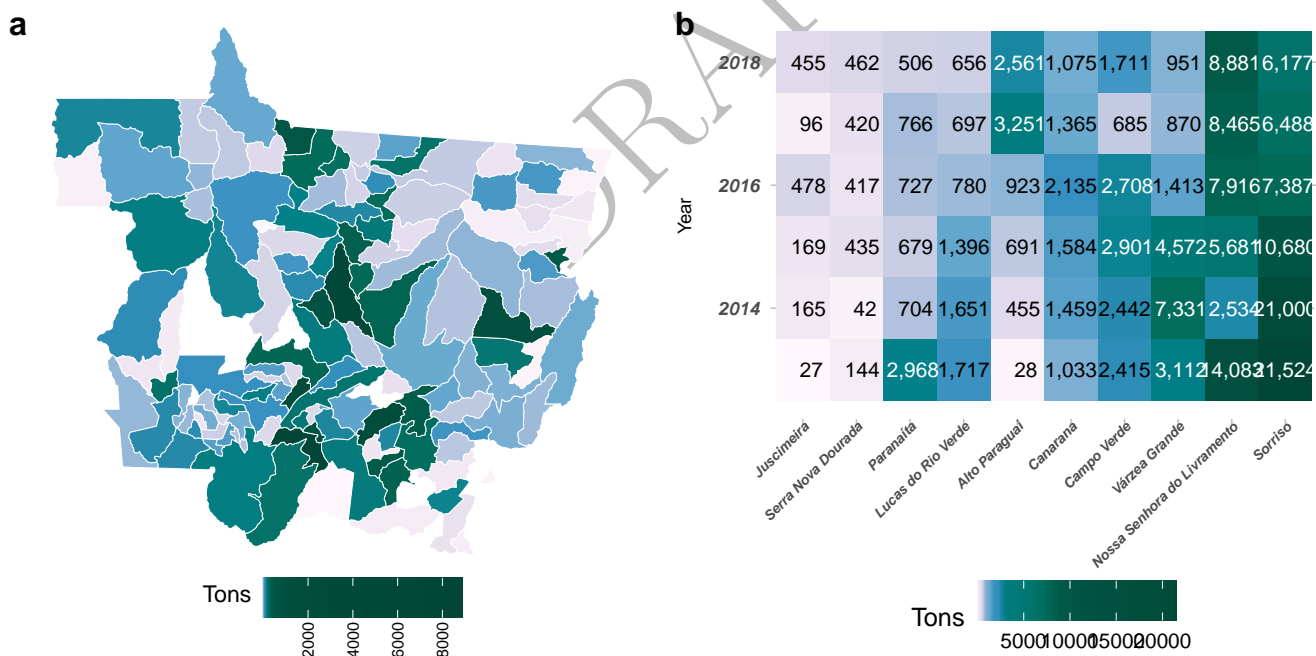


Figure 9: a) Yearly aquaculture production (tons) in districts of North Kalimantan in 2018. b) Yearly aquaculture production by districts (Tons)

<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.