

Supplementary Information for

**Protecting Brazilian Amazon Indigenous territories reduces atmospheric  
particulates and avoids associated health impacts and costs**

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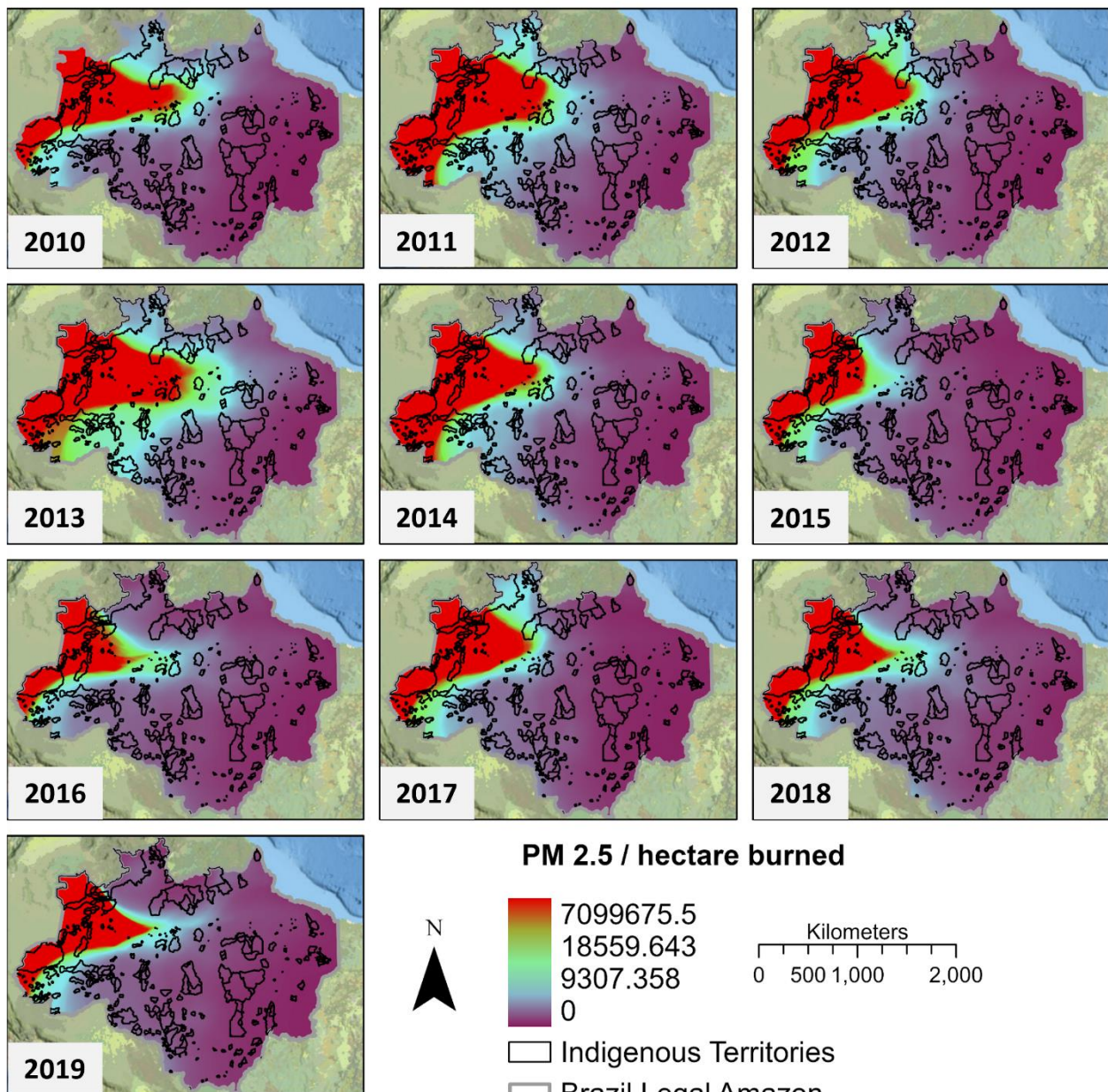
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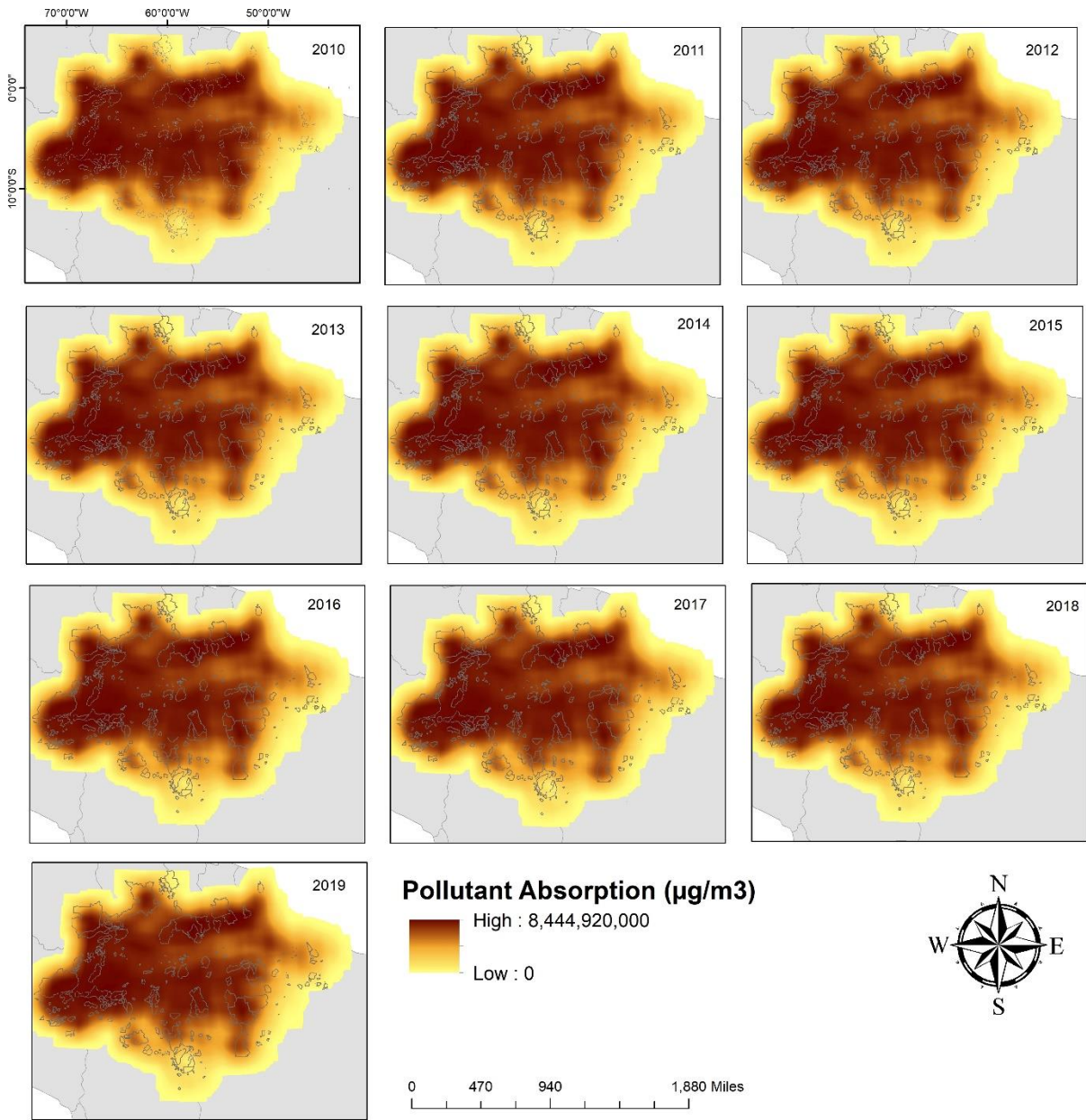
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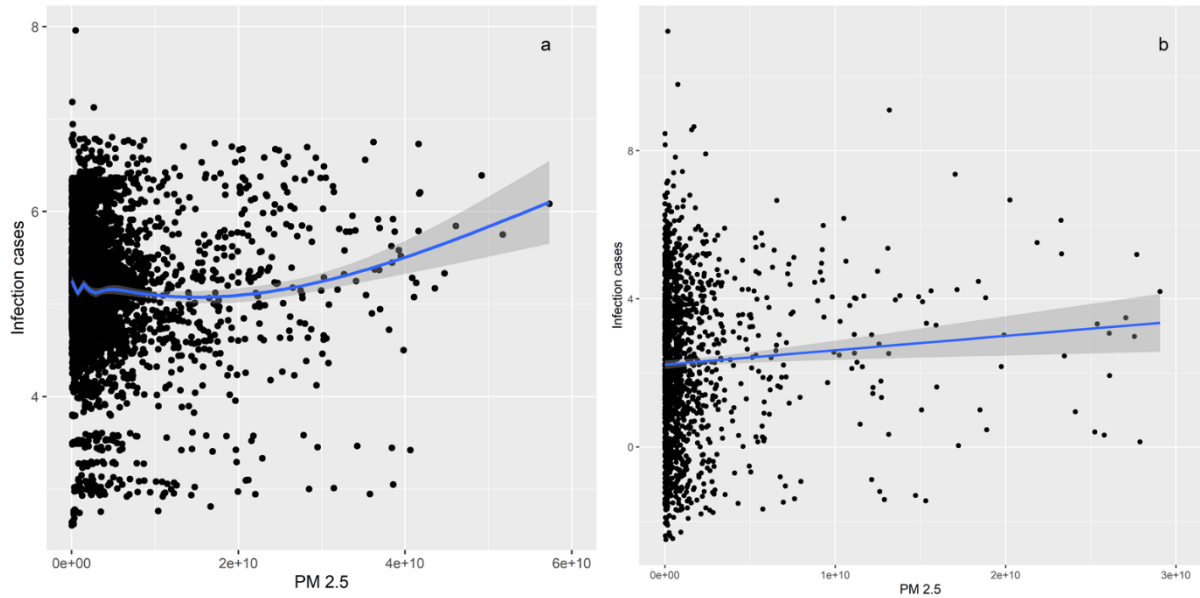


Sources: Esri, USGS

Supplementary Figure 1. Amount of PM<sub>2.5</sub> released for each hectare of burned forest.



Supplementary Figure 2. Potential capacity of  $\text{PM}_{2.5}$  absorption (in  $\mu\text{g}/\text{m}^3$ ) for the Amazon Forest in every year analyzed, and considering a radius of 500 km.



Supplementary Figure 3. Scale of effect of estimated infections for Amazonian (A) and Indigenous people (B) regarding the amount of PM<sub>2.5</sub> released by Amazon Forest fires. The gray area represents the standard error.

Supplementary Table 1. List of diseases selected to enter in the data analysis with the International Classification (ICD-10).

Bronchial emphysema	J68.4; J44
Other chronic obstructive pulmonary diseases	J45
Pneumonia	J18
Pharyngitis	J02
Tonsillitis	J03
Laryngitis	J04; J06
Tracheitis	J04.1
Other acute upper respiratory tract infections	J00; J01; J06
Conduct disorders and cardiac arrhythmias	I49.8; I49.9
Acute bronchitis and bronchiolitis	J21.8; J21.9
Cerebral infarction	I63.9
Neoplasm of trachea, bronchi, and lungs	D38.1
Acute myocardial infarction	I21.9
Conjunctivitis and other conjunctival disorders	H-10



Supplementary Table 2. Results of the models analyzed to explain the number of respiratory and cardiovascular infections according to the landscape structure.

Model	Response Variable	Predictor Variables	AICc	df	$\Delta$ AICc	Evidence Weight	Evidence Ratio
M7	Amazonian people	% of forest areas (municipality + indigenous territories) + density of forest fragments	150754.1	5	0.0	0.911	1
M6	Amazonian people	Density of forest fragments and aggregation index	150758.8	5	4.7	0.089	10.23
M4	Amazonian people	Number of land uses	151189.5	4	435.4	<0.001	-
M5	Amazonian people	Size of the largest forest fragment present in the municipality	151198.6	4	444.5	<0.001	-
M2	Amazonian people	% of forest areas of the municipality (excluding indigenous lands)	151224.5	4	470.4	<0.001	-
M3	Amazonian people	% of forest areas (municipality + indigenous territories)	151226.0	4	471.9	<0.001	-
M1	Amazonian people	% forest areas only in indigenous territories	151256.4	4	0.0	<0.001	-
Null	Amazonian people	-	2497502	1	2346747.8	<0.001	-
<b>M3</b>	<b>Indigenous people</b>	<b>Fragmentation Index + aggregation index</b>	<b>76126.3</b>	<b>5</b>	<b>0.0</b>	<b>0.99</b>	<b>1</b>
M4	Indigenous people	% of forest area +aggregation Index	76313.9	5	187.7	0.01	990
M2	Indigenous people	Number of land uses present in the indigenous land	76560.5	4	434.2	<0.001	-
M6	Indigenous people	Amount of pasture	76722.3	4	596.1	<0.001	-
M5	Indigenous people	Amount of deforestation	76752.6	4	626.4	<0.001	-
M1	Indigenous people	% of forest area present in the indigenous land	76856.5	4	730.3	<0.001	-
Null	Indigenous people	-	2497502	1	2421375	<0.001	-

Supplementary Table 3. Parameter estimates for the relationship between human health and the landscape structure with the slope and standard error ( $\pm$ SE) of the predictor variables.

Parameter	Amazon people		Indigenous People	
	Estimate $\pm$ error	P value	Estimate $\pm$ error	P value
Intercept	4.4388 $\pm$ 0.0612	2 <sup>e-16***</sup>	4.14128 $\pm$ 0.060	2 <sup>e-16***</sup>
% forest areas – total	-0.03467 $\pm$ 0.0148	0.0195 <sup>***</sup>	-	-
Fragmentation Index	-0.014 $\pm$ 0.00066	2 <sup>e-16***</sup>	-0.57068 $\pm$ 0.024	2 <sup>e-16***</sup>
Connectivity Index	-	-	-0.42507 $\pm$ 0.0285	2 <sup>e-16***</sup>