Electronic supplementary material for the following paper:

The elephant-livestock interface modulates anthrax suitability in India

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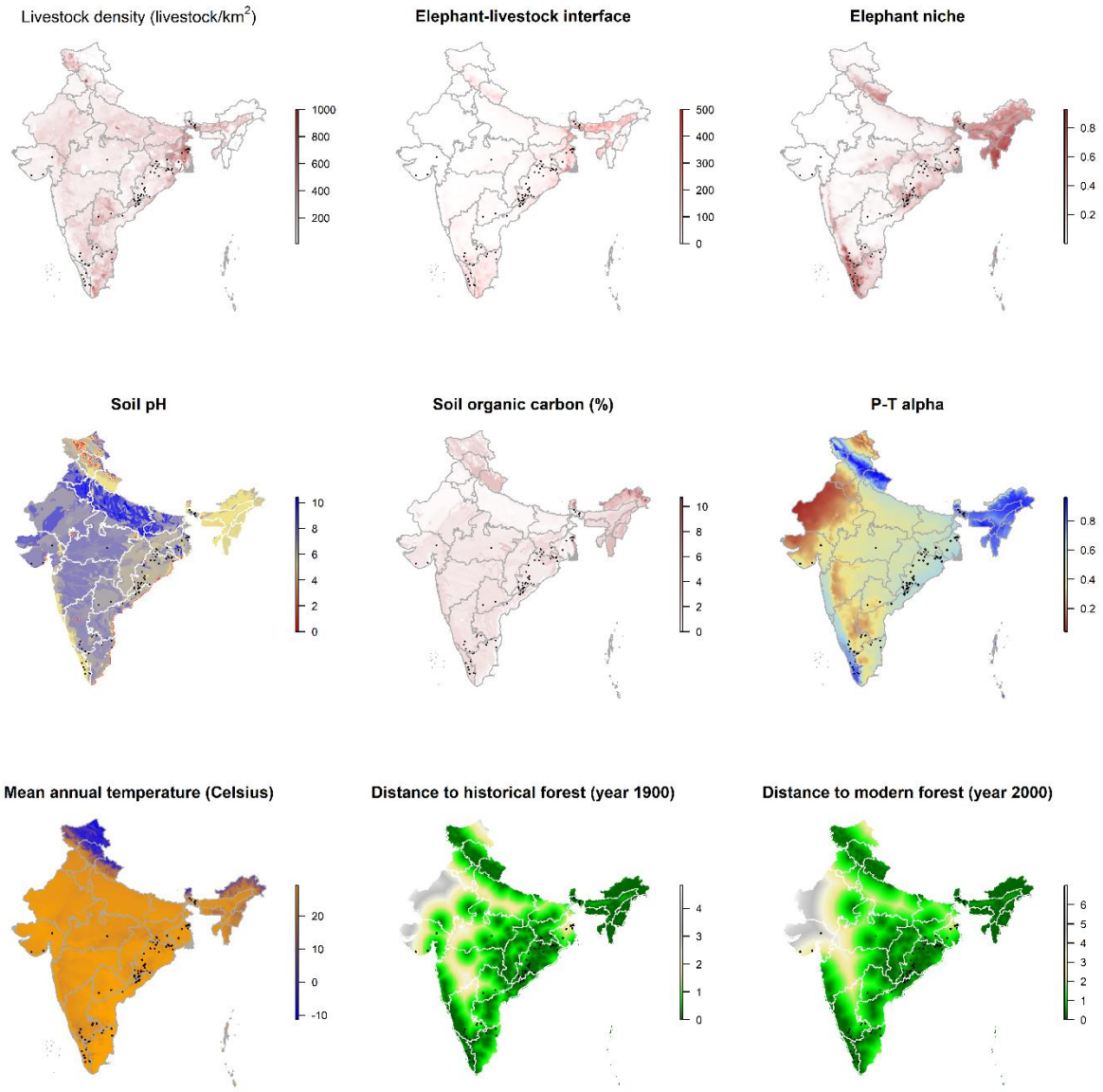
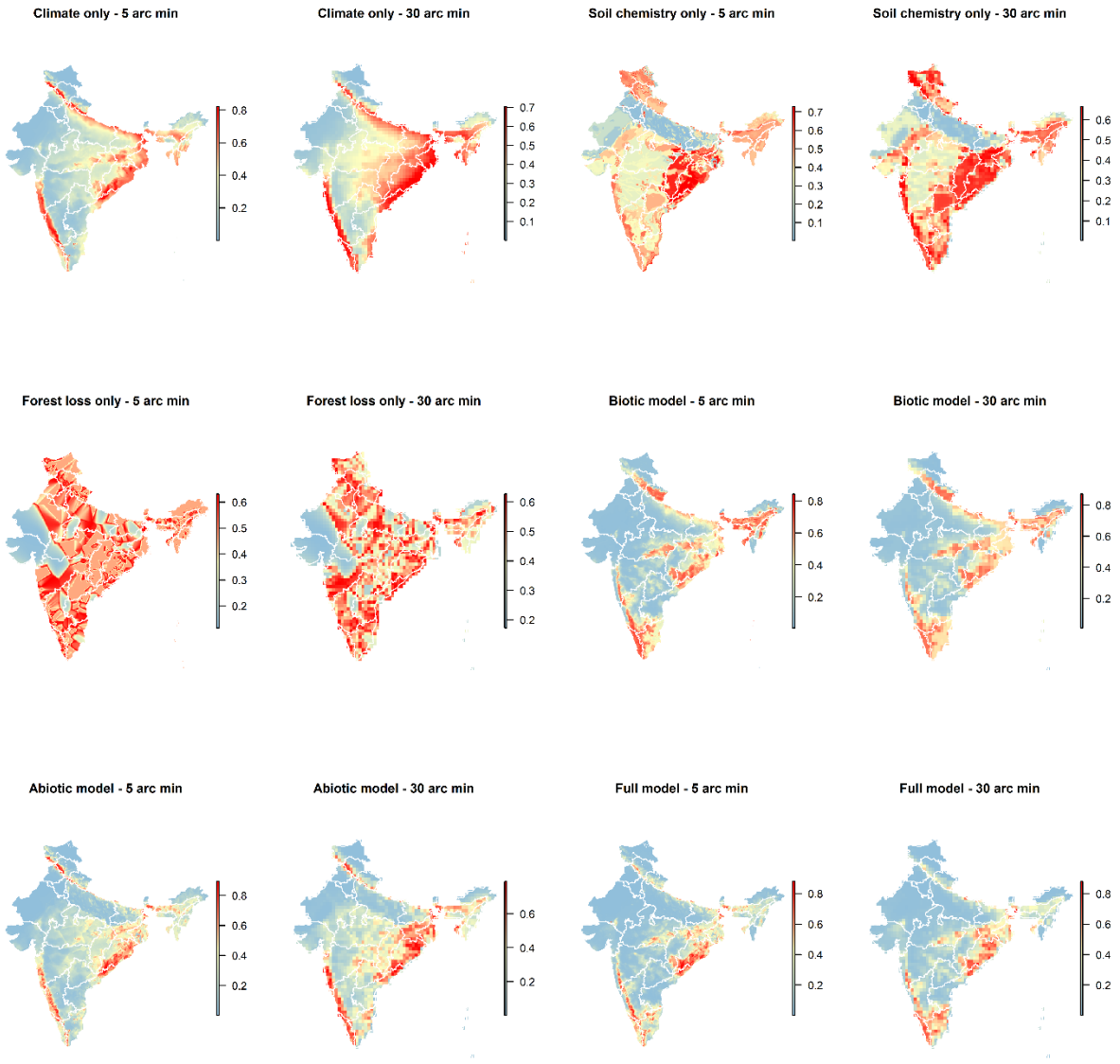
S1 Figure 1. The distribution of the environmental layers used in the modeling of the anthrax niche. Distribution of anthrax outbreaks documented by the Pro-MED mail surveillance mechanism between 2000 and 2018 is also shown (black dots). All maps are displayed only for the purposes of depicting the distribution of disease occurrence and risk, and do not reflect the authors' assertion of territory or borders of any sovereign country including India. All maps created in R (v. 3.3.1).



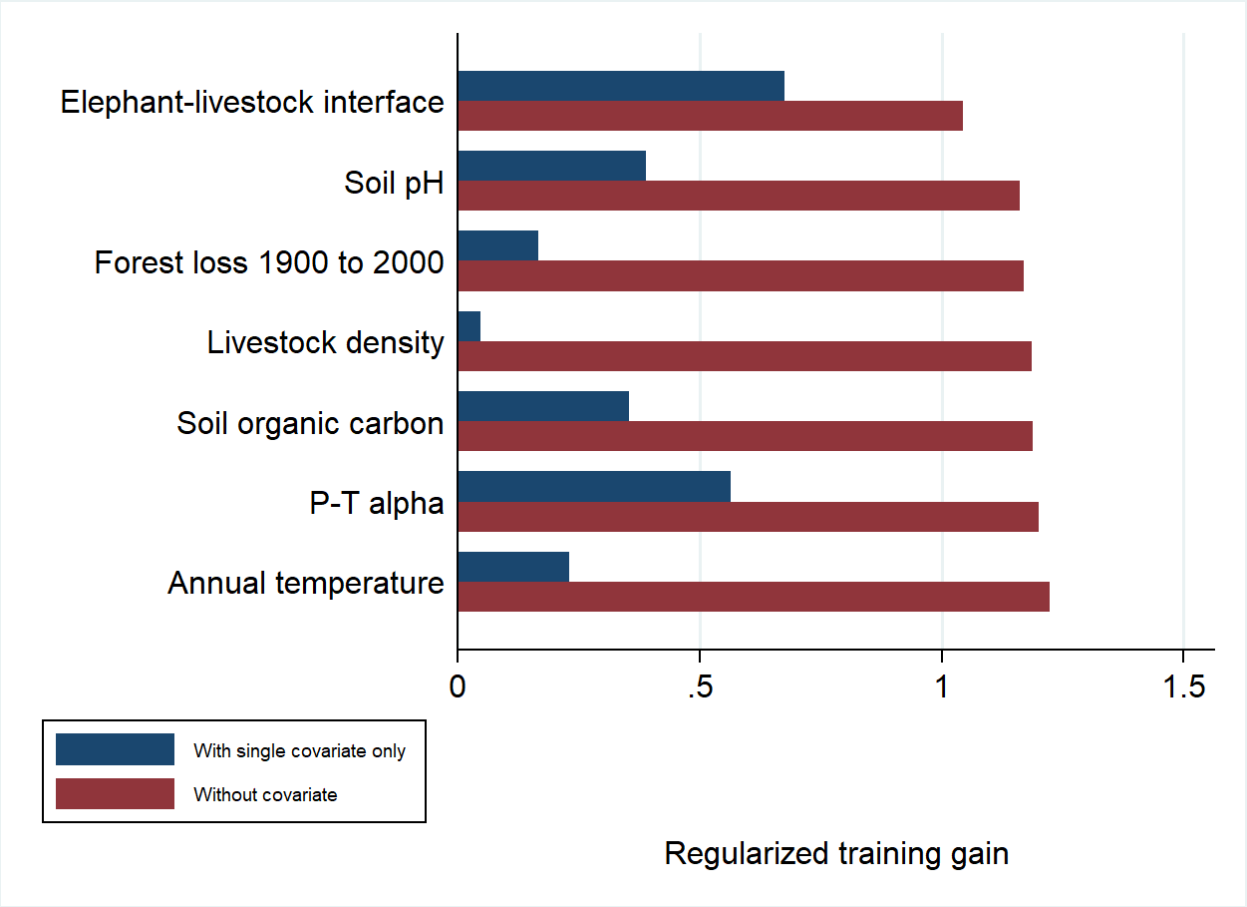
S2 Table 1. Maxent model comparisons using the area under the receiver operating characteristic curves (AUC), the Akaike information criteria (AIC), and the covariate rankings. The AUC for each model is based on testing against an independent sample of laboratory-confirmed anthrax outbreaks, while the AIC is derived from a Poisson point process. Rankings are based on the permutation importance of each covariate and its contribution, reported as a percentage, to the loss function during the fitting of the Maxent model.

Predicted anthrax suitability models	AIC	AUC	Rank 1 (%)	Rank 2 (%)	Rank 3 (%)	Rank 4 (%)	Rank 5 (%)
Model 1: Climate only model							
5 arc-minutes	234	81%	PT-α (84.1)	Annual temperature (15.9)	NOT APPLICABLE		
30 arc-minutes	255	80%	PT-α (90.8)	Annual temperature (9.2)			
Model 2: Soil chemistry only model							
5 arc-minutes	324	73%	Soil pH (70.6)	Soil organic carbon (29.4)	NOT APPLICABLE		
30 arc-minutes	353	73%	Soil pH (87.4)	Soil organic carbon (12.6)			
Model 3: Forest change only model							
5 arc-minutes	325	69%	1900-2000 forest change (100)	NOT APPLICABLE			
30 arc-minutes	345	72%	1900-2000 forest change (100)				
Model 4: Biotic only model							
5 arc-minutes	250	81%	Elephant-livestock (87.6)	Livestock (12.4)	NOT APPLICABLE		
30 arc-minutes	294	83%	Elephant-livestock (89.6)	Livestock (10.4)			
Model 5: Abiotic only model							
5 arc-minutes	232	86%	PT-α (65.8)	Soil pH (12.8)	Soil organic carbon (8.8)	1900-2000 forest change (6.3)	Annual temperature (6.2)
30 arc-minutes	257	81%	Soil pH (38.6)	PT-α (33.0)	1900-2000 forest change (18.4)	Soil organic carbon (5.9)	Annual temperature (4.2)
Model 6: Full model							
5 arc-minutes	219	88%	Elephant-livestock (67.7)	Livestock density (10.5)	PT-α (7.1)	Soil pH (4.7)	1900-2000 forest change (4.0)
30 arc-minutes	255	86%	Elephant-livestock (61.5)	Soil pH (9.2)	1900-2000 forest change (8.0)	Livestock density (8.0)	Annual temperature (5.7)
Model 7: Model 6 - livestock density							
5 arc-minutes	228	87%	Elephant-livestock (52.3)	PT-α (19.7)	Soil organic carbon (12.7)	1900-2000 forest change (5.7)	Annual temperature (4.9)
30 arc-minutes	256	86%	Elephant-livestock (51.7)	Soil pH (16.9)	1900-2000 forest change (11.3)	Soil organic carbon (10.3)	PT-α (5.7)

S3 Figure 2. The distribution of predicted anthrax suitability from each model presented in S2 Table 1. All maps are displayed only for the purposes of depicting the distribution of disease occurrence and risk, and do not reflect the authors' assertion of territory or borders of any sovereign country including India. All maps created in R (v. 3.3.1).



S4 Figure 3. The Maxent model with the jackknife variable selection procedure comparing each covariate's lone contribution to the training gain (blue) to its effect on training gain when the covariate is withheld from the model (red).



S5 Figure 4. Predicted anthrax suitability with elephant outbreaks removed from the training data. All maps are displayed only for the purposes of depicting the distribution of disease occurrence and risk, and do not reflect the authors' assertion of territory or borders of any sovereign country including India. All maps created in R (v. 3.3.1).