

Article title: Scaling issues in the study of livestock depredation by carnivores

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Table 1. Components of spatial and temporal extent models

Model name in subsequent Appendices*	Components
null	NA
spatial	Spatial Extent
spatial_quadratic	$\text{Spatial Extent}^2 + \text{Human Density}^2$
only_spatial_quadratic	Spatial Extent^2
temporal	Temporal Extent
temporal_quadratic	$\text{Temporal Extent}^2 + \text{Human Density}^2$
only_temporal_quadratic	Temporal Extent^2
full	$\text{Spatial Extent} + \text{Temporal Extent} + \text{Spatial Extent} * \text{Temporal Extent} + \text{Spatial Extent} * \text{Human Density} + \text{Spatial Extent} * \text{Carnivore Mass}$
full_quadratic	$\text{Spatial Extent}^2 + \text{Temporal Extent}^2 + \text{Human Density}^2 + \text{Spatial Extent} * \text{Temporal Extent} + \text{Spatial Extent} * \text{Human Density} + \text{Spatial Extent} * \text{Carnivore Mass}$
interactions_spatial_temporal	$\text{Spatial Extent} * \text{Temporal Extent}$
interactions_spatial_mass	$\text{Spatial Extent} * \text{Carnivore Mass}$
interactions_spatial_density	$\text{Spatial Extent} * \text{Human Density}$
interactions_temporal_mass	$\text{Temporal Extent} * \text{Carnivore Mass}$
interactions_temporal_density	$\text{Temporal Extent} * \text{Human Density}$

*Human density and carnivore body mass are included in each model, including the null, not explicitly listed here.

Table 2. AICc model selection results for %loss (total, n = 76). See Table 1 for model components

Modnames	K	AICc	Delta AICc	ModelLik	AICcWt	LL	Cum.Wt
interactions spatial temporal	8	358	0.0	1.0e+00	6.0e-01	-168	0.60
full	11	359	1.5	4.8e-01	2.9e-01	-165	0.89
spatial	6	363	5.7	5.8e-02	3.5e-02	-174	0.93
interactions spatial density	7	363	5.8	5.6e-02	3.4e-02	-173	0.96
only spatial quadratic	7	365	7.1	2.8e-02	1.7e-02	-173	0.98
full quadratic	14	365	7.8	2.0e-02	1.2e-02	-164	0.99
interactions spatial mass	8	367	8.9	1.1e-02	6.9e-03	-173	1.00
spatial quadratic	8	367	9.6	8.2e-03	4.9e-03	-173	1.00
temporal	6	455	97.0	8.5e-22	5.1e-22	-220	1.00
only temporal quadratic	7	456	98.0	5.3e-22	3.2e-22	-219	1.00
interactions temporal mass	8	457	99.0	3.2e-22	1.9e-22	-218	1.00
interactions temporal density	7	457	99.0	3.1e-22	1.9e-22	-220	1.00
temporal quadratic	8	458	100.4	1.6e-22	9.5e-23	-219	1.00
null	5	460	102.0	7.0e-23	4.2e-23	-223	1.00

Table 3. AICc model selection results for log(#kills) (total, n = 111). See Table 1 for model components

Modnames	K	AICc	Delta AICc	ModelLik	AICcWt	LL	Cum.Wt
interactions temporal mass	8	427	0.0	1.00000	0.88496	-204	0.88
only temporal quadratic	7	433	5.9	0.05144	0.04552	-208	0.93
temporal quadratic	8	433	6.4	0.04112	0.03639	-207	0.97
temporal	6	435	8.4	0.01518	0.01343	-210	0.98
interactions temporal density	7	436	9.2	0.01005	0.00890	-209	0.99
interactions spatial temporal	8	438	10.8	0.00454	0.00402	-209	0.99
full	11	440	12.7	0.00174	0.00154	-206	0.99
null	5	440	13.3	0.00132	0.00117	-214	1.00
only spatial quadratic	7	441	13.9	0.00097	0.00086	-212	1.00
full quadratic	14	441	14.0	0.00093	0.00083	-203	1.00
spatial quadratic	8	441	14.2	0.00085	0.00075	-211	1.00
spatial	6	441	14.2	0.00083	0.00073	-213	1.00
interactions spatial mass	8	441	14.5	0.00072	0.00064	-211	1.00
interactions spatial density	7	443	16.2	0.00031	0.00028	-213	1.00

Table 4. AICc model selection results for log(#attacks) (total, n = 62). See Table 1 for model components

Modnames	K	AICc	Delta_AICc	ModelLik	AICcWt	LL	Cum.Wt
interactions temporal density	7	242	0.00	1.0000	0.2517	-111	0.25
spatial_quadratic	8	242	0.11	0.9457	0.2381	-110	0.49
temporal quadratic	8	242	0.38	0.8263	0.2080	-110	0.70
interactions_spatial_temporal	8	243	1.77	0.4127	0.1039	-111	0.80
only temporal quadratic	7	244	2.39	0.3026	0.0762	-113	0.88
temporal	6	245	3.03	0.2203	0.0555	-114	0.93
only_spatial_quadratic	7	246	4.15	0.1256	0.0316	-114	0.96
null	5	247	5.18	0.0750	0.0189	-117	0.98
spatial	6	249	7.10	0.0288	0.0072	-116	0.99
interactions temporal mass	8	250	8.08	0.0176	0.0044	-114	1.00
interactions_spatial_mass	8	251	9.38	0.0092	0.0023	-115	1.00
interactions_spatial_density	7	251	9.45	0.0089	0.0022	-116	1.00

Fig. 1 Residual plots of single top models fit to the three metrics of conflict

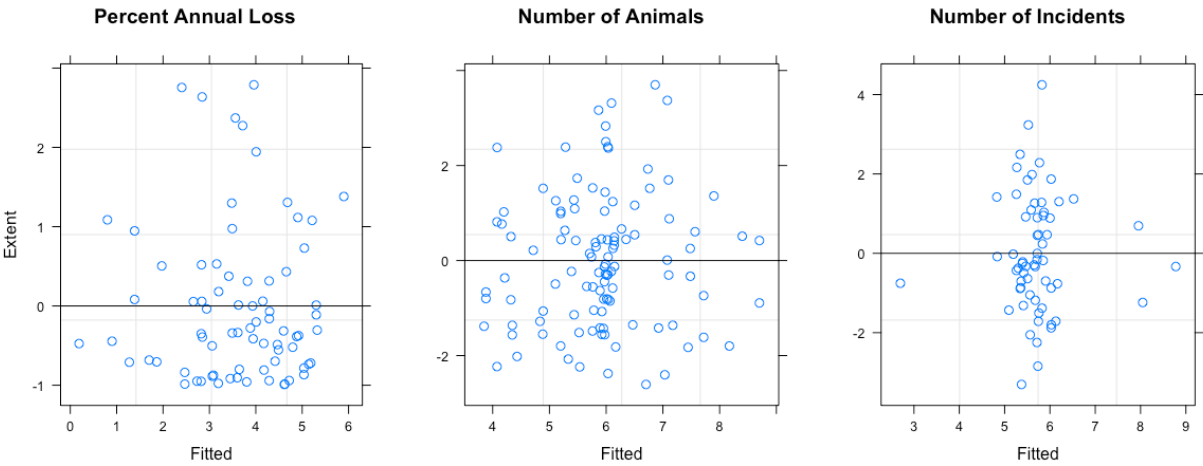


Fig. 2 Studies plotted according to their latitude and longitude values, and symbolized by spatial extent (km²)

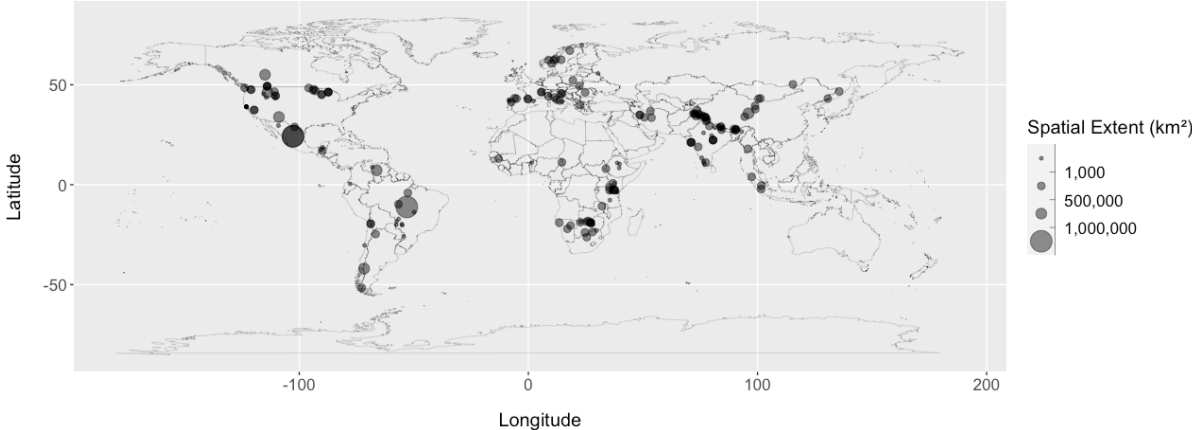


Fig. 3 Studies plotted according to their latitude and longitude values, and symbolized by temporal extent (years)

