Appendix for: Micro- versus meso-scale population models for ecological forecasting under climate change

Andrew T. Tredennick*and Peter B. Adler

Department of Wildland Resources and the Ecology Center, Utah State University

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This is an appendix showing tables of top-ranked (by DIC) models for each vital rate regression for each species. Models were fit using INLA in R. Formulas have the response variable on the left-hand-side of the ‘ ’ with covariates on the right. When interaction terms are present the main effects are implied.

Table 1: Growth models.

Species	ΔDIC	Model
BOGR	0.00	percCover ~ percLagCover
BOGR	0.88	percCover ~ percLagCover+ppt2*TmeanSpr2
BOGR	1.17	percCover ~ percLagCover+TmeanSpr1+ppt2*TmeanSpr2
BOGR	2.38	percCover ~ percLagCover+ppt1+ppt2*TmeanSpr2
BOGR	2.69	percCover ~ percLagCover+TmeanSpr2
BOGR	3.38	percCover ~ percLagCover+ppt1+TmeanSpr1+ppt2*TmeanSpr2
BOGR	3.84	percCover ~ percLagCover+ppt1+TmeanSpr1+ppt2+TmeanSpr2
BOGR	4.17	percCover ~ percLagCover+TmeanSpr1+ppt2
BOGR	4.33	percCover ~ percLagCover+ppt2
BOGR	4.87	percCover ~ percLagCover+ppt2+TmeanSpr2
HECO	0.00	percCover ~ percLagCover+TmeanSpr1+TmeanSpr2
HECO	1.10	percCover ~ percLagCover+TmeanSpr1
HECO	1.53	percCover ~ percLagCover
HECO	1.63	percCover ~ percLagCover+TmeanSpr2
HECO	2.47	percCover ~ percLagCover+ppt1*TmeanSpr1+ppt2*TmeanSpr2
PASM	0.00	percCover ~ percLagCover+ppt1*TmeanSpr1+ppt2*TmeanSpr2
POSE	0.00	percCover ~ percLagCover+ppt1+ppt2

* *email:* atredenn@gmail.com

Table 2: Survival models.

Species	ΔDIC	Model
BOGR	0.00	survives ~ percLagCover
BOGR	0.70	survives ~ percLagCover+ppt1
BOGR	1.57	survives ~ percLagCover+TmeanSpr1
BOGR	1.91	survives ~ percLagCover+ppt2
BOGR	2.06	survives ~ percLagCover+ppt1+ppt2
BOGR	2.28	survives ~ percLagCover+ppt1+TmeanSpr2
BOGR	3.18	survives ~ percLagCover+ppt1+TmeanSpr1
BOGR	3.53	survives ~ percLagCover+TmeanSpr1+TmeanSpr2
BOGR	4.07	survives ~ percLagCover+ppt1+TmeanSpr1+TmeanSpr2
BOGR	4.07	survives ~ percLagCover+ppt1+TmeanSpr1+ppt2
BOGR	4.45	survives ~ percLagCover+TmeanSpr1+ppt2
BOGR	4.76	survives ~ percLagCover+ppt1*TmeanSpr1
BOGR	4.83	survives ~ percLagCover+ppt1*TmeanSpr1+ppt2*TmeanSpr2
BOGR	4.92	survives ~ percLagCover+ppt2+TmeanSpr2
HECO	0.00	survives ~ percLagCover
HECO	0.79	survives ~ percLagCover+ppt1
HECO	0.81	survives ~ percLagCover+TmeanSpr1
HECO	0.94	survives ~ percLagCover+ppt2
HECO	1.71	survives ~ percLagCover+TmeanSpr2
PASM	0.00	survives ~ percLagCover
PASM	1.85	survives ~ percLagCover+ppt1
PASM	2.38	survives ~ percLagCover+TmeanSpr1
PASM	2.47	survives ~ percLagCover+ppt2
PASM	4.66	survives ~ percLagCover+ppt1+TmeanSpr2
POSE	0.00	survives ~ percLagCover
POSE	0.22	survives ~ percLagCover+TmeanSpr2
POSE	0.70	survives ~ percLagCover+ppt2
POSE	1.04	survives ~ percLagCover+TmeanSpr1
POSE	1.56	survives ~ percLagCover+ppt1+TmeanSpr2
POSE	1.76	survives ~ percLagCover+ppt2+TmeanSpr2
POSE	2.06	survives ~ percLagCover+ppt1+TmeanSpr1
POSE	2.67	survives ~ percLagCover+TmeanSpr1+ppt2

Table 3: Colonization models.

Species	ΔDIC	Model
BOGR	0.00	colonizes ~ TmeanSpr2
BOGR	0.13	colonizes ~ ppt1*TmeanSpr1+ppt2*TmeanSpr2
BOGR	0.14	colonizes ~ ppt1+ppt2
BOGR	0.74	colonizes ~
BOGR	1.26	colonizes ~ ppt2
BOGR	1.27	colonizes ~ TmeanSpr1+ppt2*TmeanSpr2
BOGR	1.78	colonizes ~ ppt1
BOGR	2.14	colonizes ~ ppt2+TmeanSpr2
BOGR	2.90	colonizes ~ ppt2*TmeanSpr2
BOGR	3.25	colonizes ~ TmeanSpr1
BOGR	4.51	colonizes ~ TmeanSpr1+ppt2+TmeanSpr2
HECO	0.00	colonizes ~ TmeanSpr1
HECO	1.65	colonizes ~ TmeanSpr1+TmeanSpr2
HECO	1.70	colonizes ~ ppt1*TmeanSpr1
HECO	2.16	colonizes ~ TmeanSpr1+ppt2*TmeanSpr2
HECO	2.22	colonizes ~ ppt1+TmeanSpr1+ppt2*TmeanSpr2
HECO	2.28	colonizes ~ TmeanSpr1+ppt2
HECO	2.41	colonizes ~ TmeanSpr1+ppt2+TmeanSpr2
HECO	2.74	colonizes ~ ppt1+TmeanSpr1
HECO	2.93	colonizes ~ ppt1*TmeanSpr1+ppt2
HECO	3.33	colonizes ~ ppt1+TmeanSpr1+ppt2+TmeanSpr2
HECO	3.70	colonizes ~ ppt1*TmeanSpr1+TmeanSpr2
HECO	3.84	colonizes ~ ppt1*TmeanSpr1+ppt2*TmeanSpr2
HECO	4.00	colonizes ~
HECO	4.39	colonizes ~ ppt1
PASM	0.00	colonizes ~ ppt1+ppt2
PASM	0.15	colonizes ~ ppt1+ppt2*TmeanSpr2
PASM	0.17	colonizes ~ ppt1+TmeanSpr1+ppt2
PASM	0.26	colonizes ~ ppt1+ppt2+TmeanSpr2
PASM	0.39	colonizes ~ ppt1*TmeanSpr1+ppt2*TmeanSpr2
PASM	0.83	colonizes ~ ppt1+TmeanSpr1+ppt2+TmeanSpr2
PASM	2.34	colonizes ~ ppt2
PASM	4.29	colonizes ~ TmeanSpr1+TmeanSpr2
PASM	4.54	colonizes ~
PASM	4.94	colonizes ~ ppt2+TmeanSpr2
POSE	0.00	colonizes ~ TmeanSpr1+ppt2
POSE	0.04	colonizes ~ TmeanSpr1
POSE	0.50	colonizes ~ TmeanSpr1+ppt2+TmeanSpr2
POSE	0.79	colonizes ~
POSE	1.53	colonizes ~ ppt1+TmeanSpr1+ppt2
POSE	1.56	colonizes ~ TmeanSpr1+TmeanSpr2
POSE	1.61	colonizes ~ TmeanSpr1+ppt2*TmeanSpr2
POSE	1.69	colonizes ~ ppt1+TmeanSpr1
POSE	1.73	colonizes ~ TmeanSpr2
POSE	2.01	colonizes ~ ppt2
POSE	2.09	colonizes ~ ppt1
POSE	3.13	colonizes ~ ppt2+TmeanSpr2
POSE	3.24	colonizes ~ ppt1+TmeanSpr1+TmeanSpr2
POSE	3.34	colonizes ~ ppt1*TmeanSpr1
POSE	3.49	colonizes ~ ppt1+TmeanSpr2
POSE	3.65	colonizes ~ ppt1*TmeanSpr1+ppt2
POSE	4.10	colonizes ~ ppt2*TmeanSpr2