

Supplementary Material

Application of Empirical Land-Cover Changes to Construct Climate Change Scenarios in Federally Managed Lands

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Supplementary Figures and Tables

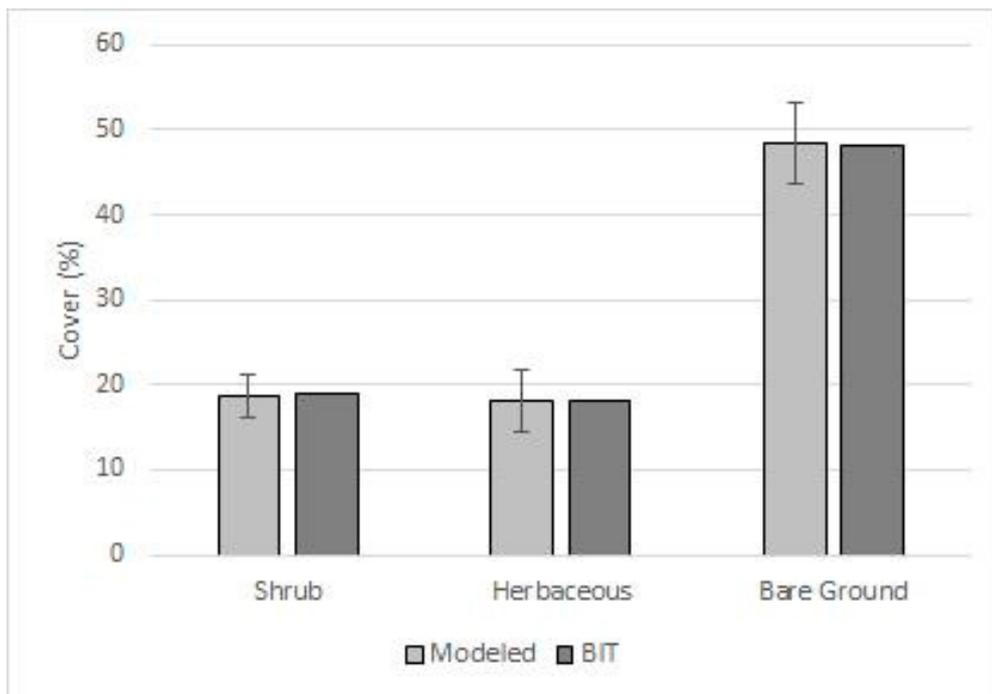


Figure S1. Comparison of fractional cover percentage averaged across the study area for each cover type between modeled simulations and Back in Time (BIT) reference maps for 2018. Error bars for the model simulations represent the standard deviation across 30 Monte Carlo simulations run over the historical period (1985-2018).

91–100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Table S3. Bare ground fractional cover summarized for the business-as-usual (BAU) and Representative Concentration Pathways (RCP) scenarios across 10 categories in 2018 and 2050. Lower and upper limits are expressed for each management unit, as well as average net change across the study period (2018–2050).

Bare BAU

% Cover	2018 (square kilometers)			2050 Min			2050 Max			Mean Change (2018 - 2050)		
	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty
1–10	42.6	15.2	7.4	32.4	17.1	5.3	45.4	37.5	29.3	-4.8	9.7	4.6
11–20	81.8	81.3	27.3	70.6	53.4	19.5	92.6	81.7	56.5	-2.7	-12.1	6.9
21–30	98.3	184.4	59.4	116.4	142.1	88.1	140.7	176.7	159.2	31.0	-22.6	58.6
31–40	176.2	308.1	179.9	173.0	293.8	130.4	203.3	353.8	192.0	13.9	7.9	-14.3
41–50	224.9	605.1	485.0	194.7	569.7	374.4	220.3	654.8	457.1	-15.0	7.9	-64.5
51–60	182.5	690.7	923.5	142.7	625.8	680.1	166.8	668.3	925.9	-30.3	-38.7	-129.0
61–70	66.7	347.9	486.1	42.7	331.0	453.8	75.7	372.4	627.5	-6.1	3.9	54.6
71–80	8.5	61.3	33.7	4.7	74.8	62.8	11.8	100.7	161.2	-0.5	24.7	70.1
81–90	1.4	13.8	4.6	0.0	6.3	2.4	2.0	12.5	17.6	-0.8	-4.4	2.7
91–100	0.2	0.7	0.3	0.0	0.0	0.0	0.0	0.4	0.4	-0.2	-0.6	-0.2

Bare RCP 8.5

% Cover	2018 (square kilometers)			2050 Min			2050 Max			Mean Change (2018 - 2050)		
	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty	Hart	Sheldon	Beaty
1–10	42.6	15.2	7.4	32.7	18.9	4.8	45.5	37.3	27.9	-4.8	11.8	8.7
11–20	81.8	81.3	27.3	71.8	55.8	22.5	93.2	85.5	58.1	-2.1	-12.2	8.0
21–30	98.3	184.4	59.4	125.0	141.5	90.3	140.7	181.5	154.9	33.8	-21.2	63.1
31–40	176.2	308.1	179.9	167.6	302.4	131.6	198.0	345.3	198.8	12.7	11.1	-13.2
41–50	224.9	605.1	485.0	197.3	583.9	362.1	226.3	630.0	453.5	-13.6	2.7	-72.5
51–60	182.5	690.7	923.5	144.1	612.9	678.0	159.6	658.5	890.5	-31.5	-49.1	-126.7
61–70	66.7	347.9	486.1	42.7	330.9	462.7	72.2	381.2	619.4	-8.6	4.6	50.7
71–80	8.5	61.3	33.7	4.6	77.8	57.0	11.1	96.5	146.8	-1.2	25.3	65.7

81-90	1.4	13.8	4.6	0.0	7.5	1.9	1.1	11.4	10.1	-1.0	-4.1	0.6
91-100	0.2	0.7	0.3	0.0	0.0	0.0	0.0	0.5	0.4	-0.2	-0.6	-0.2