

Correction

# Correction: Wells et al. Remotely Sensed Fine-Fuel Changes from Wildfire and Prescribed Fire in a Semi-Arid Grassland. *Fire* 2021, 4, 84

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## Text Correction

Working with the source data presented in the original article [1] for a separate project, we discovered a small coding error in our data processing script. The error in our code was using a multiplier of 2 that should have been 4 to convert dry biomass weight taken from field samples (0.5 m × 0.5 m quadrats) to grams per meter squared and kilograms per hectare.

Correcting this error doubles fine-fuel estimates presented in the original article. It does not change model performance and validation, fuel comparisons and recovery results, or conclusions from our research. In the corrected article, we have taken steps to assess and revise our work with corrected data, model outputs, tables, and figures. The corrected article has the following changes compared to the original article:

- The whole text—fine fuel values are 2 × higher as is the RMSE from models
- Figure 3—observed and predicted fine fuel values are 2 × higher, RMSE 2 × higher



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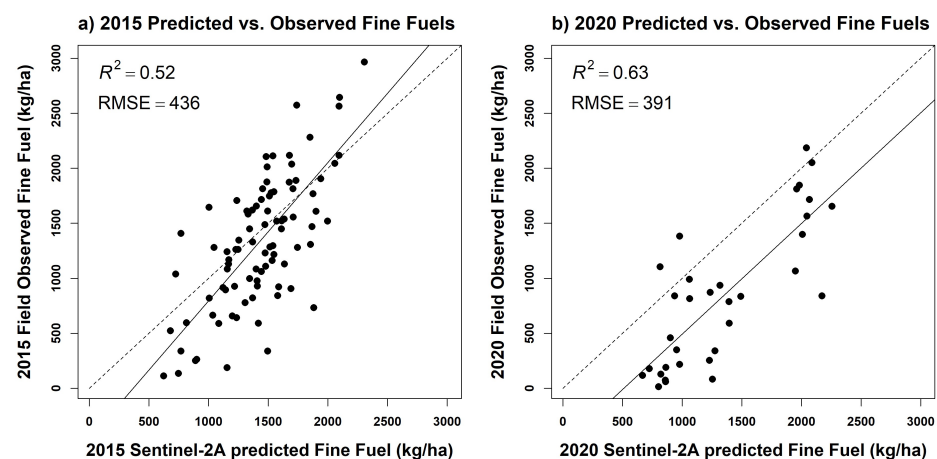
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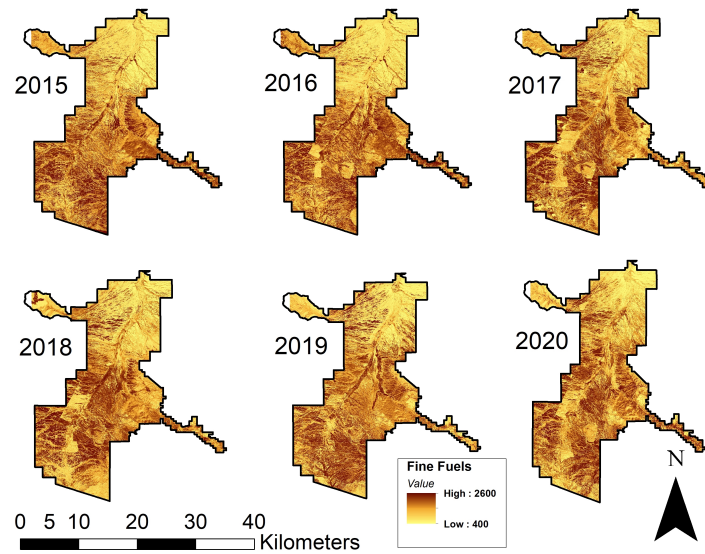


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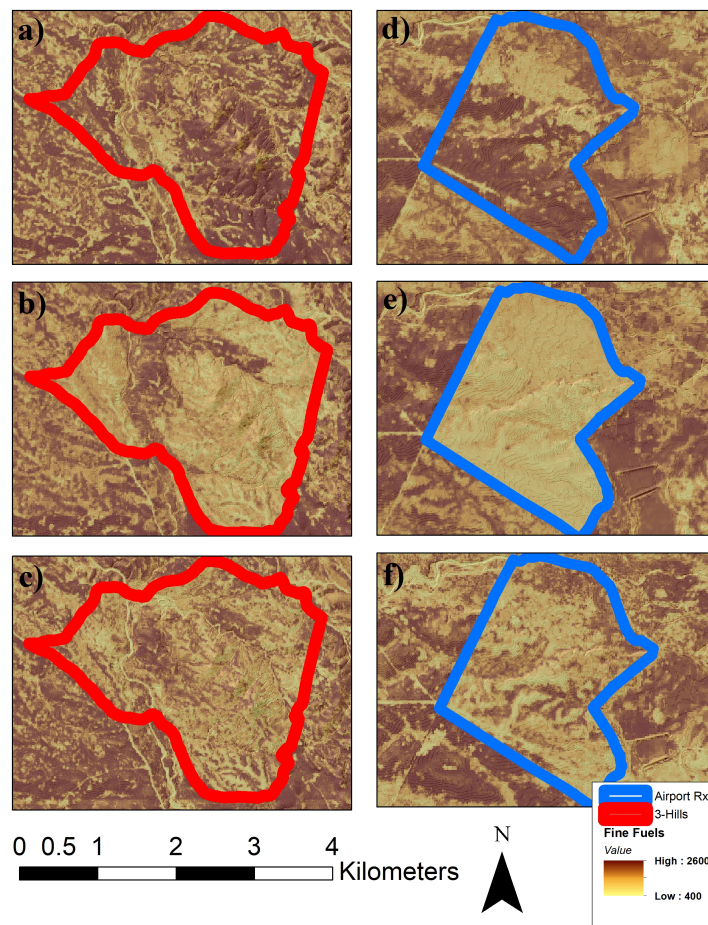
**Figure 3.** Validation of Sentinel-2A models of predicted fine-fuels (kg/ha) vs. observed field estimates of fine-fuels (kg/ha) for (a) 2015 validation test data ( $n = 90$ ) and (b) 2020 validation data ( $n = 35$ ) using general linear models (solid line); 1:1 line forced through the origin (dashed line) shown for reference.

- Figure 4—fine fuel values are 2 × higher



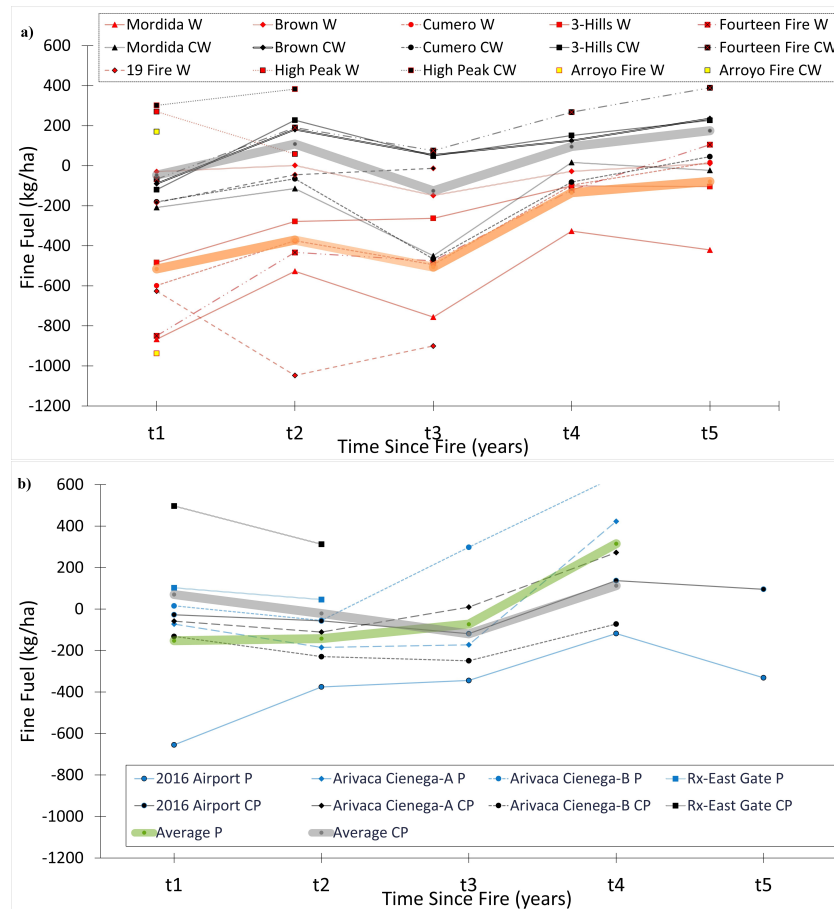
**Figure 4.** Serial model of fine-fuels (kg/ha) estimated from 2015 to 2020 with Sentinel-2A imagery across BANWR.

d. Figure 5—fine fuel values are 2× higher



**Figure 5.** Change in fine-fuels associated with 3-Hills wildfire (red polygons) in July 2016 and the Airport prescribed fire (blue polygons) in June 2016 within BANWR based on Sentinel-2A estimates of fine-fuels showing (a,d) pre-fire year, (b,e) first-year post fire, and (c,f) fuel recovery in the third-year post fire.

e. Figure 6—fine fuel values are 2× higher



**Figure 6.** Changes in post-fire fine-fuel (kg/ha) for (a) naturally occurring wildfires (W; red) and (b) prescribed (P) fires (blue), with comparable unburned control areas (C; black), surrounding burn perimeters, in relation to time since fire (t1 = 1 year post fire) at BANWR. Average post-wildfire (orange), average post-prescribed fire (green), average control of wildfire (CW; gray), and average control of prescribed fire (CP; gray) fine-fuel. Note: t0 (not shown) = year of fire.

f. Tables A1–A3—mean of fine fuels are 2× higher

**Table A1.** The yearly estimated mean ( $\mu$ ) of fine-fuels (kg/ha) within burn perimeters for wildfire (W) and prescribed (P) fires at BANWR, with parenthesized boldface values indicating pre-burn estimates prior to ignition (some ignition dates do not align with calendar date but rather to pre- or post-imagery dates) against 1-km buffered control (C) areas around fire perimeters (parenthesized italicized values reference ignition time period for unburned control samples).

CASE: Fire Name	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	P	2016	06.07	(1608)	952	1232	1264	1490	1276
Arivaca Cienega A	P	2017	03.08	1662	(1520)	1448	1336	1348	1944
Arivaca Cienega B	P	2017	03.08	1554	(1218)	1232	1162	1516	1858
RX-East Gate BP	P	2019	03.05	1404	1312	1412	(1248)	1350	1294
Fourteen Fire	W	2015	08.22	(1790)	940	1356	1314	1668	1894
Mordida	W	2015	12.18	(1758)	892	1232	1002	1432	1338
Brown	W	2016	06.17	(1284)	1254	1286	1136	1256	1296
Cumero	W	2016	05.06	(1672)	1072	1296	1176	1574	1688
Three Hills	W	2016	07.21	(1654)	1172	1376	1392	1554	1550
19 Fire	W	2018	08.07	1492	1338	(1966)	1338	918	1064
High Peak	W	2019	07.17	1458	1406	1182	(1232)	1504	1292
Arroyo Fire	W	2019	08.31	1642	1466	2104	1770	(1914)	978

**Table A1.** *Cont.*

CASE: Fire Name	Type	Year	Date	2015	2016	2017	2018	2019	2020
Average ( $\mu$ )	P	-	-	1556	1250	1332	1252	1426	1592
Average ( $\mu$ )	W	-	-	1594	1192	1474	1296	1478	1388
CONTROL	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	CP	2016	NA	(1464)	1436	1406	1346	1602	1560
Arivaca Cienega A	CP	2017	NA	1496	(1464)	1406	1354	1474	1738
Arivaca Cienega B	CP	2017	NA	1154	(1262)	1130	1032	1012	1190
RX-East Gate BP	CP	2019	NA	1376	1290	1426	(1186)	1682	1498
Fourteen Fire	CW	2015	NA	(1398)	1332	1590	1474	1666	1788
Mordida	CW	2015	NA	(1578)	1370	1462	1128	1596	1556
Brown	CW	2016	NA	(1304)	1214	1484	1356	1428	1538
Cumero	CW	2016	NA	(1644)	1462	1578	1176	1562	1688
Three Hills	CW	2016	NA	(1544)	1424	1772	1592	1694	1770
19 Fire	CW	2018	NA	1226	1044	(1510)	1326	1464	1496
High Peak	CW	2019	NA	1580	1440	1388	(1338)	1640	1722
Arroyo Fire	CW	2019	NA	1378	1360	1682	1562	(1636)	1806
Average ( $\mu$ )	CP	-	-	1372	1364	1342	1230	1442	1496
Average ( $\mu$ )	CW	-	-	1456	1330	1558	1370	1586	1670

**Table A2.** The yearly estimated standard deviation ( $\sigma$ ) of fine-fuels (kg/ha) within burn perimeters for wildfire (W) and prescribed (P) fires at BANWR, with parenthesized boldface values indicating pre-burn estimates prior to ignition (some ignition dates do not align with calendar date but rather to pre- or post-imagery dates) against 1-km buffered control (C) areas around fire perimeters (parenthesized italicized values reference ignition time period for unburned control samples).

CASE: Fire Name	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	P	2016	06.07	(344)	148	212	276	314	118
Arivaca Cienega A	P	2017	03.08	218	(220)	176	196	256	362
Arivaca Cienega B	P	2017	03.08	308	(202)	264	212	330	282
RX-East Gate BP	P	2019	03.05	352	302	378	(288)	362	270
Fourteen Fire	W	2015	08.22	(248)	170	144	106	78	386
Mordida	W	2015	12.18	(456)	140	210	108	308	252
Brown	W	2016	06.17	(180)	232	172	326	232	296
Cumero	W	2016	05.06	(320)	174	160	156	352	254
Three Hills	W	2016	07.21	(396)	268	306	280	292	246
19 Fire	W	2018	08.07	226	230	(304)	166	218	320
High Peak	W	2019	07.17	104	156	104	(90)	110	198
Arroyo Fire	W	2019	08.31	444	210	372	248	(204)	234
St. Dev. ( $\sigma$ )	P	-	-	306	218	258	242	314	258
St. Dev. ( $\sigma$ )	W	-	-	298	198	222	184	224	274
CONTROL	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	CP	2016	NA	(280)	260	368	318	298	248
Arivaca Cienega A	CP	2017	NA	282	(294)	278	294	338	374
Arivaca Cienega B	CP	2017	NA	266	(346)	250	244	254	336
RX-East Gate BP	CP	2019	NA	338	280	340	(156)	322	342
Fourteen Fire	CW	2015	NA	(330)	210	360	196	170	354
Mordida	CW	2015	NA	(392)	292	304	218	306	288
Brown	CW	2016	NA	(252)	270	342	246	326	320
Cumero	CW	2016	NA	(326)	236	304	178	328	320
Three Hills	CW	2016	NA	(372)	284	414	302	294	358
19 Fire	CW	2018	NA	336	296	(450)	316	416	328
High Peak	CW	2019	NA	144	132	190	(148)	140	238
Arroyo Fire	CW	2019	NA	358	226	394	318	(230)	280
St. Dev. ( $\sigma$ )	CP	-	-	292	296	310	278	304	324
St. Dev. ( $\sigma$ )	CW	-	-	314	244	346	240	276	310

**Table A3.** The yearly estimated change ( $\Delta$ ) of fine-fuels (kg/ha) within burn perimeters after wildfire (W) and prescribed (P) fires at BANWR against 1-km buffered control (C) areas around fire perimeters (some ignition dates do not align with calendar date but rather to pre- or post-imagery dates).

CASE: Fire Name	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	P	2016	06.07	-	-654	-376	-344	-118	-332
Arivaca Cienega A	P	2017	03.08	-	-	-72	-184	-172	422
Arivaca Cienega B	P	2017	03.08	-	-	16	-56	298	640
RX-East Gate BP	P	2019	03.05	-	-	-	-	102	46
Fourteen Fire	W	2015	08.22	-	-850	-434	-476	-122	104
Mordida	W	2015	12.18	-	-866	-528	-756	-326	-420
Brown	W	2016	06.17	-	-30	2	-148	-28	12
Cumero	W	2016	05.06	-	-598	-374	-494	-96	16
Three Hills	W	2016	07.21	-	-484	-278	-262	-102	-104
19 Fire	W	2018	08.07	-	-	-	-626	-1048	-900
High Peak	W	2019	07.17	-	-	-	-	270	58
Arroyo Fire	W	2019	08.31	-	-	-	-	-	-938
Average Change ( $\Delta$ )	P	-	-	-	-654	-144	-194	28	194
Average Change ( $\Delta$ )	W	-	-	-	-566	-322	-460	-208	-272
CONTROL	Type	Year	Date	2015	2016	2017	2018	2019	2020
2016 Airport	CP	2016	NA	-	-28	-58	-118	138	96
Arivaca Cienega A	CP	2017	NA	-	-	-58	-110	10	272
Arivaca Cienega B	CP	2017	NA	-	-	-132	-230	-250	-72
RX-East Gate BP	CP	2019	NA	-	-	-	-	496	314
Fourteen Fire	CW	2015	NA	-	-68	190	76	268	390
Mordida	CW	2015	NA	-	-208	-114	-450	16	-22
Brown	CW	2016	NA	-	-90	182	54	124	236
Cumero	CW	2016	NA	-	-180	-66	-466	-82	46
Three Hills	CW	2016	NA	-	-120	228	48	152	226
19 Fire	CW	2018	NA	-	-	-	-184	-46	-14
High Peak	CW	2019	NA	-	-	-	-	302	384
Arroyo Fire	CW	2019	NA	-	-	-	-	-	170
Average Change ( $\Delta$ )	CP	-	-	-	-28	-82	-152	98	152
Average Change ( $\Delta$ )	CW	-	-	-	-132	84	-154	106	176

We have revised all affected figures and tables as well as values reported in the main text in the corrected article.

## Reference

1. Wells, A.G.; Munson, S.M.; Sesnie, S.E.; Villarreal, M.L. Remotely Sensed Fine-Fuel Changes from Wildfire and Prescribed Fire in a Semi-Arid Grassland. *Fire* **2021**, *4*, 84. [[CrossRef](#)]

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