Multi-scale assessment of a grassland productivity model

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Supplementary Table S1 & Image S1 $\,$

Table 1: Sites used in analysis. A * indicates the site was also used in Hufkins et al. 2016.

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|---|-------|---------|------------|--------|------------|------------|------------|----------------|--|
| name | lat | lon | vegetation | roi_id | first_date | last_date | site_years | ecoregion | |
| ahwahnee | 37.75 | -119.58 | GR | 3000 | 2015-07-28 | 2020-03-05 | 4.6 | NWForests | |
| archboldavir | 27.18 | -81.22 | AG | 1000 | 2016-11-18 | 2020-03-05 | 3.1 | ETempForests | |
| archboldavirx | 27.17 | -81.22 | AG | 1000 | 2016-05-16 | 2020-03-05 | 3.6 | ETempForests | |
| archboldpnot | 27.19 | -81.20 | AG | 1000 | 2016-05-13 | 2020-03-05 | 3.6 | ETempForests | |
| archboldpnotx | 27.18 | -81.20 | AG | 1000 | 2016-05-16 | 2020-03-05 | 3.6 | ETempForests | |
| arsgacp1 | 31.51 | -83.62 | AG | 1000 | 2016-05-10 | 2020-03-05 | 3.8 | ETempForests | |
| arsmnswanlake1 | 45.68 | -95.80 | AG | 1000 | 2015-10-02 | 2020-03-05 | 4.4 | GrPlains | |
| bullshoals | 36.56 | -93.07 | GR | 1000 | 2013-11-19 | 2020-03-05 | 5.8 | ETempForests | |
| burnssagebrush | 43.47 | -119.69 | SH | 1000 | 2012-10-13 | 2020-03-05 | 7.3 | NADeserts | |
| butte* | 45.95 | -112.48 | GR | 1000 | 2009-01-11 | 2020-03-05 | 10.7 | NWForests | |
| cperagm | 40.84 | -104.77 | AG | 1000 | 2016-05-19 | 2020-03-05 | 3.8 | GrPlains | |
| cperagm | 40.84 | -104.77 | GR | 1000 | 2016-05-19 | 2020-03-05 | 3.8 | GrPlains | |
| cpertgm | 40.83 | -104.76 | GR | 1000 | 2016-05-04 | 2020-03-05 | 3.8 | GrPlains | |
| cperuvb | 40.81 | -104.76 | GR | 1000 | 2015-07-16 | 2020-03-05 | 4.7 | GrPlains | |
| gatesofthemountains | 46.83 | -111.71 | GR | 2000 | 2011-08-12 | 2019-02-01 | 7.1 | NWForests | |
| glacier | 48.50 | -113.99 | GR | 1000 | 2009-02-07 | 2020-03-05 | 11.0 | NWForests | |
| goodwater | 39.23 | -92.12 | AG | 1001 | 2015-09-26 | 2020-03-05 | 4.5 | GrPlains | |
| grandteton | 43.92 | -110.58 | SH | 1000 | 2015-07-28 | 2020-02-04 | 3.5 | NWForests | |
| harvardfarmnorth | 42.52 | -72.18 | AG | 1000 | 2015-11-07 | 2020-03-05 | 4.3 | NForest | |
| harvardfarmsouth | 42.52 | -72.18 | AG | 1000 | 2015-11-07 | 2020-03-05 | 4.3 | NForest | |
| harvardgarden | 42.53 | -72.19 | AG | 1000 | 2016-06-12 | 2020-03-05 | 3.7 | NForest | |
| hawbeckereddy | 40.66 | -77.85 | AG | 1000 | 2015-09-23 | 2019-05-14 | 3.4 | ETempForests | |
| humnokericea | 34.59 | -91.75 | AG | 1000 | 2015-06-25 | 2020-03-05 | 4.2 | ETempForests | |
| humnokericec | 34.59 | -91.75 | AG | 1000 | 2015-06-25 | 2020-03-05 | 4.5 | ETempForests | |
| ibp* | 32.59 | -106.85 | GR | 1000 | 2014-02-16 | 2020-03-05 | 6.0 | NADeserts | |
| ibp* | 32.59 | -106.85 | SH | 1001 | 2014-02-16 | 2020-03-02 | 6.0 | NADeserts | |
| jasperridge* | 37.40 | -122.22 | GR | 1000 | 2012-03-08 | 2017-03-09 | 5.0 | MWCoastForests | |
| jerbajada | 32.58 | -106.63 | SH | 1000 | 2014-04-20 | 2020-03-05 | 5.9 | NADeserts | |
| jernort | 32.62 | -106.79 | SH | 2000 | 2016-10-28 | 2020-03-05 | 3.3 | NADeserts | |
| jersand | 32.52 | -106.80 | SH | 1000 | 2014-02-28 | 2020-03-05 | 6.0 | NADeserts | |
| kansas* | 39.06 | -95.19 | GR | 1000 | 2012-12-03 | 2019-12-31 | 6.7 | GrPlains | |
| kaweah | 36.44 | -118.91 | SH | 1000 | 2011-07-13 | 2019-09-20 | 8.2 | MedCA | |
| kelloggcorn | 42.44 | -85.32 | AG | 1000 | 2014-05-23 | 2019-10-05 | 4.9 | ETempForests | |

| name | lat | lon | vegetation | roi id | first date | last date | site years | ecoregion | |
|-------------------|-------|---------|------------|--------|------------|------------|------------|---------------------|--|
| kelloggcorn2 | 42.40 | -85.38 | AG | 1000 | 2015-07-16 | 2019-04-11 | 3.2 | ETempForests | |
| kelloggcorn3 | 42.40 | -85.37 | AG | 1000 | 2015-07-16 | 2020-03-05 | 3.7 | ETempForests | |
| kelloggcornsoy2 | 42.40 | -85.37 | AG | 1000 | 2015-07-16 | 2020-03-05 | 3.7 | ETempForests | |
| kelloggmiscanthus | 42.40 | -85.38 | AG | 1000 | 2015-07-16 | 2020-03-05 | 3.7 | ETempForests | |
| kelloggoldfield | 42.40 | -85.37 | AG | 1000 | 2015-07-16 | 2020-03-05 | 4.2 | ETempForests | |
| kendall* | 31.74 | -109.94 | GR | 1000 | 2012-07-06 | 2020-03-05 | 7.6 | SouthAridHighliands | |
| kendall* | 31.74 | -109.94 | SH | 1000 | 2012-08-08 | 2019-11-07 | 7.2 | SouthAridHighliands | |
| konza* | 39.08 | -96.56 | GR | 1000 | 2012-03-17 | 2019-12-19 | 6.2 | GrPlains | |
| lethbridge* | 49.71 | -112.94 | GR | 1000 | 2011-12-07 | 2020-03-05 | 8.3 | GrPlains | |
| luckyhills | 31.74 | -110.05 | SH | 2000 | 2015-01-26 | 2018-06-04 | 3.4 | SouthAridHighliands | |
| mandanh5 | 46.78 | -100.95 | AG | 1000 | 2015-09-17 | 2020-03-05 | 4.5 | GrPlains | |
| mandani2 | 46.76 | -100.93 | AG | 1000 | 2016-04-22 | 2020-03-05 | 3.7 | GrPlains | |
| manilacotton | 35.89 | -90.14 | AG | 1000 | 2016-06-21 | 2020-03-05 | 3.6 | ETempForests | |
| marena* | 36.06 | -97.21 | GR | 1000 | 2012-06-12 | 2018-06-19 | 5.8 | GrPlains | |
| mead1 | 41.17 | -96.48 | AG | 1000 | 2016-07-12 | 2020-03-05 | 3.7 | GrPlains | |
| mead2 | 41.16 | -96.47 | AG | 1000 | 2016-07-12 | 2020-03-05 | 3.6 | GrPlains | |
| mead3 | 41.18 | -96.44 | AG | 1000 | 2016-07-12 | 2020-03-05 | 3.7 | GrPlains | |
| meadpasture | 41.14 | -96.46 | AG | 1000 | 2016-07-15 | 2020-03-05 | 3.7 | GrPlains | |
| monture* | 47.02 | -113.13 | GR | 2000 | 2010-11-04 | 2019-02-01 | 8.0 | NWForests | |
| mtrobson | 53.03 | -119.20 | GR | 1000 | 2015-02-16 | 2020-03-05 | 4.8 | NWForests | |
| nationalelkrefuge | 43.49 | -110.74 | GR | 1000 | 2015-08-12 | 2020-03-05 | 4.5 | NWForests | |
| NEON.D03.DSNY. | 28.13 | -81.44 | GR | 1000 | 2016-12-15 | 2020-03-05 | 3.2 | ETempForests | |
| NEON.D06.KONA. | 39.11 | -96.61 | AG | 1000 | 2016-05-07 | 2020-03-05 | 3.7 | GrPlains | |
| NEON.D06.KONZ. | 39.10 | -96.56 | GR | 1000 | 2017-02-25 | 2020-03-05 | 3.0 | GrPlains | |
| NEON.D09.WOOD. | 47.13 | -99.24 | GR | 1000 | 2016-12-18 | 2020-03-05 | 3.2 | GrPlains | |
| NEON.D10.ARIK. | 39.76 | -102.45 | GR | 1000 | 2016-12-18 | 2020-03-05 | 3.1 | GrPlains | |
| NEON.D10.CPER. | 40.82 | -104.75 | GR | 1000 | 2016-06-30 | 2020-03-05 | 3.7 | GrPlains | |
| NEON.D10.STER. | 40.46 | -103.03 | AG | 1000 | 2016-12-18 | 2020-03-05 | 3.2 | GrPlains | |
| NEON.D11.OAES. | 35.41 | -99.06 | GR | 1000 | 2017-02-28 | 2020-03-05 | 3.0 | GrPlains | |
| NEON.D13.MOAB. | 38.25 | -109.39 | GR | 1000 | 2017-02-25 | 2020-03-05 | 3.0 | NADeserts | |
| NEON.D14.JORN. | 32.59 | -106.84 | GR | 1000 | 2017-02-25 | 2020-03-05 | 3.0 | NADeserts | |
| NEON.D14.SRER. | 31.91 | -110.84 | SH | 1000 | 2017-02-25 | 2020-03-05 | 3.0 | NADeserts | |
| NEON.D15.ONAQ. | 40.18 | -112.45 | GR | 1000 | 2016-12-18 | 2020-03-05 | 3.2 | NADeserts | |
| NEON.D15.ONAQ. | 40.18 | -112.45 | SH | 1001 | 2016-12-18 | 2020-03-05 | 3.2 | NADeserts | |
| oakville | 47.90 | -97.32 | GR | 1000 | 2014-08-06 | 2020-03-05 | 4.6 | GrPlains | |

| name | lat | lon | vegetation | roi id | first date | last date | site years | ecoregion |
|---------------------|-------|---------|------------|--------|------------|------------|------------|--------------|
| rosemountnprs | 44.68 | -93.07 | AG | 1000 | 2015-10-29 | 2020-03-05 | 4.3 | GrPlains |
| sevilletagrass | 34.36 | -106.70 | GR | 1000 | 2014-11-07 | 2020-03-05 | 5.1 | NADeserts |
| sevilletashrub | 34.33 | -106.74 | SH | 1000 | 2014-10-29 | 2020-03-05 | 5.0 | NADeserts |
| silverton | 45.00 | -122.69 | AG | 1000 | 2013-07-22 | 2020-02-10 | 5.9 | NWForests |
| smokypurchase | 35.59 | -83.07 | GR | 2000 | 2016-01-02 | 2020-03-05 | 4.0 | ETempForests |
| southerngreatplains | 36.61 | -97.49 | AG | 1000 | 2012-05-16 | 2020-03-05 | 7.5 | GrPlains |
| spruceT6P16E | 47.51 | -93.45 | SH | 1000 | 2015-08-24 | 2020-03-05 | 4.6 | NForest |
| stjones | 39.09 | -75.44 | GR | 1000 | 2015-09-20 | 2020-03-05 | 4.4 | ETempForests |
| sweetbriargrass | 37.56 | -79.09 | AG | 1000 | 2016-03-23 | 2020-03-05 | 3.8 | ETempForests |
| teddy | 46.89 | -103.38 | GR | 1000 | 2010-01-02 | 2019-03-27 | 8.5 | GrPlains |
| teddy | 46.89 | -103.38 | SH | 1000 | 2003-05-11 | 2019-03-27 | 14.4 | GrPlains |
| tonzi* | 38.43 | -120.97 | GR | 1000 | 2011-10-26 | 2020-02-13 | 7.3 | MedCA |
| turkeypointenf02 | 42.66 | -80.56 | AG | 1000 | 2012-05-01 | 2020-03-05 | 7.5 | ETempForests |
| twitchell | 38.11 | -121.65 | AG | 1000 | 2011-11-16 | 2017-04-05 | 4.0 | MedCA |
| uiefmaize | 40.06 | -88.20 | AG | 1000 | 2008-11-06 | 2020-03-02 | 11.3 | ETempForests |
| uiefmiscanthus | 40.06 | -88.20 | AG | 1000 | 2008-11-12 | 2018-04-29 | 9.2 | ETempForests |
| uiefprairie* | 40.06 | -88.20 | GR | 1000 | 2008-10-22 | 2020-03-02 | 11.3 | ETempForests |
| uiefswitchgrass | 40.06 | -88.20 | AG | 1000 | 2008-10-22 | 2020-03-02 | 10.6 | ETempForests |
| usgseros | 43.73 | -96.62 | GR | 1000 | 2014-09-11 | 2017-10-02 | 3.1 | GrPlains |
| uwmfieldsta | 43.39 | -88.02 | GR | 1000 | 2013-03-15 | 2020-03-05 | 7.0 | ETempForests |
| vaira* | 38.41 | -120.95 | GR | 1000 | 2011-10-17 | 2020-02-28 | 7.7 | MedCA |

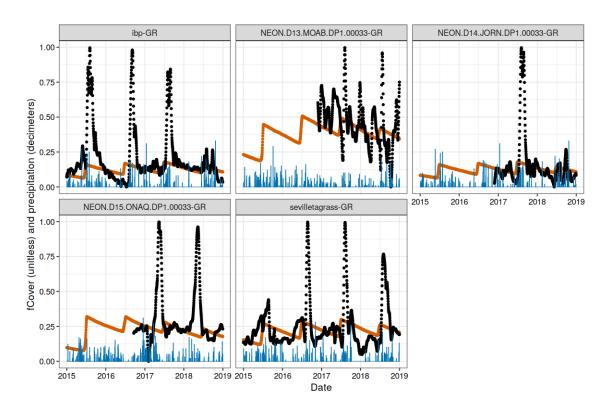


Figure 1: Predicted (red) and observed (black) fCover values at five grassland sites in the North American Deserts ecoregion for the years 2015-2018. Blue bars represent precipitation in decimeters.