# Supporting information 1

For: “Remotely sensed primary productivity estimates show that domestic and native herbivores are overgrazing Patagonia”, by Gabriel Oliva, Paula Paredes, Daniela Ferrante, Carla Cepeda and Jorge Rabinovich.

Table: Field ANPP sites in Patagonia

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | Name | Type | Longitude | Latitude | Altitude (m.a.s.l) | Rain (mm. yr-1) | Temp (ºC) | Field ANPP | | |  | MOD17/A3 ANPP | | |  |
| (Kg DM ha-1.yr-1) | | |  | (Kg DM ha-1.yr-1) | | |  |
| 1 | Ea El Maitén | S | 71º00'31.50" W | 42º01'44.40" S | 1159 | 459 | 7 | 1164 | ( | 228 | ) | 6327 | ( | 457 | ) |
| 2 | Lino Luciano | S | 71º00'23.47" W | 42º01'59.52" S | 1157 | 456 | 7 | 774 | ( | 231 | ) | 6327 | ( | 457 | ) |
| 3 | La Cancha | S | 70º57'15.36" W | 42º47'42.00" S | 960 | 370 | 8 | 342 | ( | 123 | ) | 2976 | ( | 155 | ) |
| 4 | La Cancha | S | 70º57'25.00" W | 42º47'54.00" S | 962 | 370 | 8 | 577 | ( | 163 | ) | 2997 | ( | 111 | ) |
| 5 | La Cancha | S | 70º57'07.00" W | 42º48'05.00" S | 960 | 364 | 8 | 544 | ( | 152 | ) | 2976 | ( | 155 | ) |
| 6 | Yague | S | 71º10'20.70" W | 42º56'23.64" S | 937 | 461 | 8 | 1289 | ( | 527 | ) | 3449 | ( | 230 | ) |
| 7 | Nahuelpan | S | 71º09'56.64" W | 42º56'33.78" S | 875 | 450 | 8 | 1019 | ( | 490 | ) | 3478 | ( | 331 | ) |
| 8 | La Anita | S | 70º39'45.91" W | 43º03'46.81" S | 818 | 254 | 9 | 649 | ( | 219 | ) | 2661 | ( | 266 | ) |
| 9 | La Anita | S | 70º40'07.95" W | 43º03'48.18" S | 816 | 255 | 9 | 452 | ( | 121 | ) | 2661 | ( | 266 | ) |
| 10 | El Alfil Sin Quema | S | 70º25'43.20" W | 44º06'19.69" S | 785 | 192 | 8 | 654 | ( | 276 | ) | 2973 | ( | 471 | ) |
| 11 | El Alfil Quema | S | 70º25'43.41" W | 44º06'22.82" S | 785 | 192 | 8 | 393 | ( | 141 | ) | 2973 | ( | 471 | ) |
| 12 | Laguna | S | 70º28'21.10" W | 44º21'51.77" S | 721 | 219 | 8 | 506 | ( | 187 | ) | 2237 | ( | 178 | ) |
| 13 | Laguna | S | 70º28'23.91" W | 44º21'55.13" S | 721 | 219 | 8 | 739 | ( | 269 | ) | 2237 | ( | 178 | ) |
| 14 | Pedro Arregui | S | 70º31'36.65" W | 42º21'12.71" S | 1077 | 326 | 9 | 436 | ( | 103 | ) | 3452 | ( | 363 | ) |
| 15 | Creton | S | 70º31'46.56" W | 42º21'23.85" S | 1077 | 326 | 9 | 732 | ( | 205 | ) | 5845 | ( | 753 | ) |
| 16 | Cholila | M | 71º19'06.16" W | 42º25'52.10" S | 1051 | 666 | 8 | 6897 | ( | 1526 | ) | 20697 | ( | 2463 | ) |
| 17 | Cholila | M | 71º19'06.16" W | 42º25'52.10" S | 1051 | 666 | 8 | 7026 | ( | 2791 | ) | 20697 | ( | 2463 | ) |
| 18 | Campo Exp. Río Mayo | S | 70º17'52.80" W | 45º23'56.40" S | 594 | 196 | 8 | 435 | ( | 163 | ) | 2268 | ( | 263 | ) |
| 19 | Campo Exp. Río Mayo | S | 70º18'00.00" W | 45º26'27.60" S | 580 | 194 | 8 | 436 | ( | 160 | ) | 1918 | ( | 214 | ) |
| 20 | La Ana | S | 70º16'04.80" W | 45º25'37.20" S | 540 | 192 | 9 | 483 | ( | 242 | ) | 2119 | ( | 243 | ) |
| 21 | Media Luna | S | 71º23'27.60" W | 45º35'06.00" S | 823 | 415 | 7 | 452 | ( | 145 | ) | 4254 | ( | 576 | ) |
| 22 | Alto Rio Mayo | S | 71º18'46.80" W | 45º34'01.20" S | 764 | 389 | 7 | 407 | ( | 171 | ) | 3320 | ( | 330 | ) |
| 23 | San Felipe | S | 66º00'54.00" W | 44º12'18.00" S | 327 | 180 | 11 | 229 | ( | 47 | ) | 3244 | ( | 292 | ) |
| 24 | San Felipe | S | 66º03'00.00" W | 44º11'20.40" S | 328 | 181 | 11 | 281 | ( | 172 | ) | 3038 | ( | 297 | ) |
| 25 | La Clara | S | 65º22'51.60" W | 43º35'16.80" S | 211 | 183 | 11 | 736 | ( | 176 | ) | 4432 | ( | 563 | ) |
| 26 | Cerro Condor | S | 66º23'31.20" W | 45º01'58.80" S | 33 | 188 | 12 | 522 |  |  |  | 4056 | ( | 297 | ) |
| 27 | La Isabel | S | 66º07'01.20" W | 44º52'26.40" S | 98 | 184 | 12 | 366 |  |  |  | 4445 | ( | 411 | ) |
| 28 | Berna | S | 65º21'03.60" W | 44º17'45.60" S | 56 | 182 | 12 | 582 |  |  |  | 4936 | ( | 592 | ) |
| 29 | Las Piedritas | S | 64º34'58.80" W | 43º00'00.00" S | 115 | 186 | 12 | 441 | ( | 60 | ) | 5093 | ( | 660 | ) |
| 30 | Bahia Cracker | S | 65º36'10.80" W | 42º59'09.60" S | 99 | 182 | 12 | 703 | ( | 222 | ) | 3141 | ( | 439 | ) |
| 31 | Cerro Bombero | S | 68º27'07.20" W | 47º11'33.72" S | 244 | 221 | 11 | 188 |  |  |  | 2570 | ( | 387 | ) |
| 32 | Cerro Bombero | S | 66º58'06.96" W | 47º10'16.07" S | 183 | 202 | 10 | 354 |  |  |  | 3557 | ( | 413 | ) |
| 33 | Cerro Bombero | S | 67º04'17.80" W | 47º11'10.32" S | 189 | 205 | 10 | 274 |  |  |  | 3026 | ( | 357 | ) |
| 34 | El Moscoso | S | 68º23'36.78" W | 48º55'16.90" S | 216 | 216 | 9 | 245 |  |  |  | 2378 | ( | 185 | ) |
| 35 | El Moscoso | S | 68º29'01.07" W | 48º56'03.88" S | 218 | 212 | 9 | 270 |  |  |  | 1947 | ( | 210 | ) |
| 36 | El Moscoso | S | 68º29'44.77" W | 49º00'36.68" S | 231 | 210 | 9 | 235 |  |  |  | 2437 | ( | 116 | ) |
| 37 | Potrok Aike | S | 70º25'34.00" W | 51º56'40.99" S | 191 | 204 | 6 | 911 | ( | 305 | ) | 4858 | ( | 533 | ) |
| 38 | La Leona | M | 69º56'14.10" W | 51º27'29.77" S | 135 | 192 | 7 | 3608 | ( | 549 | ) | 9652 | ( | 1153 | ) |
| 39 | Glencross-Chorrillo | M | 71º35'52.19" W | 51º42'47.38" S | 283 | 288 | 5 | 937 | ( | 537 | ) | 6269 | ( | 558 | ) |
| 40 | Glencross -Laguna | M | 71º38'29.40" W | 51º45'32.40" S | 149 | 301 | 5 | 1968 |  |  |  | 5421 | ( | 649 | ) |
| 41 | Glencross-Morro | M | 71º32'43.19" W | 51º45'08.39" S | 198 | 285 | 5 | 1263 |  |  |  | 6182 | ( | 461 | ) |
| 42 | Morro Chico-El Zurdo | M | 71º16'47.39" W | 51º55'16.18" S | 120 | 255 | 6 | 375 |  |  |  | 5366 | ( | 462 | ) |
| 43 | Bella Vista | M | 70º32'44.99" W | 51º57'23.40" S | 142 | 204 | 6 | 850 | ( | 271 | ) | 6980 | ( | 856 | ) |
| 44 | Paliaike | M | 69º42'52.20" W | 51º58'23.38" S | 76 | 234 | 6 | 1902 | ( | 220 | ) | 7045 | ( | 567 | ) |
| 45 | La Leona | M | 69º55'36.48" W | 51º27'46.69" S | 86 | 193 | 6 | 1225 | ( | 230 | ) | 4108 | ( | 576 | ) |
| 46 | Glencross | M | 71º37'21.58" W | 51º49'21.58" S | 117 | 316 | 5 | 1694 | ( | 526 | ) | 8174 | ( | 1199 | ) |
| 47 | Km 46 Ruta Nac 250 | S | 63º52'52.93" W | 40º26'10.85" S | 53 | 284 | 14 | 770 | ( | 477 | ) | 7536 | ( | 1127 | ) |
| 48 | Km 46 Ruta Nac 250 | S | 63º53'02.76" W | 40º26'10.85" S | 53 | 284 | 14 | 691 | ( | 415 | ) | 7536 | ( | 1127 | ) |
| 49 | Ruta Bahia Creek Km 20 | S | 63º06'11.82" W | 40º55'34.02" S | 28 | 322 | 13 | 731 | ( | 441 | ) | 7107 | ( | 1693 | ) |
| 50 | Ruta Bahia Creek Km 60 | S | 63º33'40.99" W | 41º01'55.88" S | 60 | 288 | 13 | 951 | ( | 447 | ) | 4961 | ( | 807 | ) |
| 51 | Ruta Bahia Creek Km 60 | S | 63º35'17.46" W | 41º02'03.75" S | 60 | 287 | 13 | 721 | ( | 380 | ) | 5243 | ( | 1015 | ) |
| 52 | Ruta Bahia Creek Km 60 | S | 63º33'36.07" W | 41º02'11.74" S | 60 | 288 | 13 | 818 | ( | 288 | ) | 5070 | ( | 870 | ) |
| 53 | La Totora | S | 63º42'25.39" W | 41º03'26.41" S | 67 | 280 | 13 | 796 | ( | 326 | ) | 4930 | ( | 886 | ) |
| 54 | La Totora | S | 63º43'44.89" W | 41º03'26.49" S | 67 | 278 | 13 | 575 | ( | 213 | ) | 4979 | ( | 836 | ) |
| 55 | La Totora | S | 63º42'35.07" W | 41º03'26.50" S | 67 | 280 | 13 | 685 |  |  |  | 4930 | ( | 886 | ) |
| 56 | Sierra Colorada (Serra) | S | 67º37'37.50" W | 40º00'29.16" S | 461 | 191 | 12 | 335 |  |  |  | 3167 | ( | 539 | ) |
| 57 | Sierra Colorada (Suarez) | S | 67º25'30.30" W | 40º14'57.09" S | 504 | 203 | 12 | 284 |  |  |  | 2953 | ( | 394 | ) |
| 58 | Sierra Colorada (Uriz) | S | 67º25'30.30" W | 40º14'57.09" S | 504 | 203 | 12 | 348 |  |  |  | 2953 | ( | 394 | ) |
| 59 | Ea. Don Pedro Menucos | S | 67º37'51.60" W | 40º59'43.86" S | 799 | 189 | 11 | 315 |  |  |  | 2569 | ( | 342 | ) |
| 60 | Ea. Don Pedro Menucos | S | 67º39'31.20" W | 40º58'51.96" S | 709 | 190 | 11 | 275 |  |  |  | 2747 | ( | 391 | ) |
| 61 | Cerro Policía (Arreche) | S | 68º41'48.80" W | 39º44'07.80" S | 563 | 149 | 12 | 541 |  |  |  | 3071 | ( | 365 | ) |
| 62 | Cerro Policía (Faundez) | S | 68º53'58.10" W | 39º44'49.70" S | 575 | 150 | 11 | 140 |  |  |  | 2388 | ( | 381 | ) |
| 63 | Cerro policía (Indaver) | S | 68º45'38.00" W | 39º55'19.50" S | 668 | 161 | 11 | 160 |  |  |  | 3458 | ( | 366 | ) |
| 64 | Cerro policía (Indaver) | S | 68º43'55.60" W | 39º55'19.50" S | 683 | 163 | 11 | 380 |  |  |  | 3353 | ( | 549 | ) |
| 65 | Chos Malal | S | 70º06'00.00" W | 37º19'59.88" S | 1440 | 235 | 9 | 844 |  |  |  | 5431 | ( | 527 | ) |
| 66 | Tromen | S | 69º37'51.60" W | 37º58'36.12" S | 1288 | 168 | 10 | 895 |  |  |  | 3095 | ( | 261 | ) |
|  |  |  |  |  |  |  |  | 876 | ( | 356 | ) | 4677 | ( | 566 | ) |

Table 1: Name of ANPP sites, type (S=rainfed steppe M= meadow with edaphic water), longitude, latitude, altitude (m.a.s.l), mean annual rainfall (mm.yr-1), mean annual temperature (ºC) from World Clim (Fick & Hijmans 2017), field ANPP (kg DM.ha-1.yr-1) from INTA productivity network (Blanco et al in press), and mean MOD17/A3 ANPP (2000-2015) (kg DM.ha-1.yr-1). SD in parenthesis.

## References

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Fick, S.E. & Hijmans, R.J. (2017) WorldClim 2: new 1‐km spatial resolution climate surfaces for global land areas. *International journal of climatology,* **37,** 4302-4315.