Dataset: **Altai\_Mountains\_NDVI\_validation\_field\_data.csv**

Topic: NDVI/EVI ground-level field validation data from Sailugem Range of western Mongolia study area (Bayan Olgi Province)

For more details: see Paltsyn et al. / Rangeland Ecology & Management 70 (2017) 723–729.

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Description:

All sampled blocks were located on relatively flat terrain 1495−2860m above sea level that we purposely selected to represent the full range of grassland cover present in the region from montane grassland tundra to dry grassland and semidesert mediated by the logistical constraints of traveling through this remote region. To estimate percentage of vegetation cover in each sampled block, we first navigated to the block center and then walked an ever increasing and spiral-shaped, 4800-m-long transect guided by a hand-held Global Positioning System unit accurate to ca. 10 m. We stopped every 25 paces along the transect to make point measurements of vegetation cover (green vegetation vs. bare ground or dry vegetation litter at the sampling point touched by a pin placed at the leading edge of the surveyor’s foot). Point estimates accumulated along a given transect were used to calculate proportion of points that were vegetated among all points sampled within a given sampling block (average n = 215 points per sampled block, range = 167−255 depending on stride length of surveyor). Estimates of the percentage of vegetation cover for selected blocks were associated with respective NDVI and EVI values of appropriate pixels for May, June, and July 2013 Terra MODIS (MOD13A3) and Aqua MODIS (MYD13A3) 1 km resolution Monthly VI tiles.

Variable definitions:

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| --- | --- |
| **LATITUDE** | as indicated |
| **LONGITUDE** | as indicated |
| **INSPECTOR\_NAME** | names of herder-scientist field team that made the measurement |
| **YEAR** | as indicated |
| **MONTH** | as indicated |
| **DAY** | as indicated |
| **TIME\_START** | as indicated |
| **TIME\_END** | as indicated |
| **NUMBER SAMPLING POINTS** | total number of stops every 25 paces within sampled block where vegetation measures were made |
| **BARE GROUND** | total number of stops every 25 paces within sampled block that were bare ground |
| **VEGETATION TOTAL** | total number of stops every 25 paces within sampled block that had vegetation |
| **FRACTION VEGETATED** | fraction of stops every 25 paces within sampled block that were vegetated |
| **NEAREST\_PLANT-GRASS** | total number of stops every 25 paces within sampled block in which nearest plant was a grass |
| **NEAREST\_PLANT-SEDGE** | total number of stops every 25 paces within sampled block in which nearest plant was a sedge |
| **NEAREST\_PLANT-FORB** | total number of stops every 25 paces within sampled block in which nearest plant was a forb (herbaceous plant) |
| **NEAREST\_PLANT-SHRUB** | total number of stops every 25 paces within sampled block in which nearest plant was a shrub (woody plant) |
| **FRACTION GRASS** | fraction of stops every 25 paces within sampled block in which nearest plant was a grass |
| **FRACTION SEDGE** | fraction of stops every 25 paces within sampled block in which nearest plant was a sedge |
| **FRACTION FORB** | fraction of stops every 25 paces within sampled block in which nearest plant was a forb (herbaceous plant) |
| **FRACTION SHRUB** | fraction of stops every 25 paces within sampled block in which nearest plant was a shrub (woody plant) |
| **FOR\_VAL\_-LOW** | total number of stops every 25 paces within sampled block estimated by the herder to have low forage value for livestock |
| **FOR\_VAL\_-MED** | total number of stops every 25 paces within sampled block estimated by the herder to have medium forage value for livestock |
| **FOR\_VAL\_-HIGH** | total number of stops every 25 paces within sampled block estimated by the herder to have high forage value for livestock |
| **AVERAGE FORAGE VALUE** | weighted average of forage values where low = 0, medium - 1 and high = 2 and weights = number of points in each forage value class |
| **HEIGHT-\_0** | total number of stops every 25 paces within sampled block where vegetation was estimated to be 0 cm |
| **HEIGHT-\_0.1\_TO\_5** | total number of stops every 25 paces within sampled block where vegetation was estimated to be between 0.1 and 0.5 cm |
| **HEIGHT-\_5.1\_TO\_15** | total number of stops every 25 paces within sampled block where vegetation was estimated to be between 5.1 and 15 cm |
| **HEIGHT-\_GT\_15** | total number of stops every 25 paces within sampled block where vegetation was estimated to be > 15 cm |
| **FRACTION HEIGHT 0** | fraction of stops every 25 paces within sampled block where vegetation was estimated to be 0 cm |
| **FRACTION HEIGHT 0.1-5** | fraction of stops every 25 paces within sampled block where vegetation was estimated to be 0 cm |
| **AVERAGE HEIGHT** | estimated weighted average of vegetation height using vegetation height class mid-points weighted by number of sampling points within each vegetation height class |
| **EVI July 2013 MOD13A3** | estimated contemporaneous EVI for the sampled block |
| **NDVI July 2013 MYD13A3** | estimated contemporaneous NDVI for the sampled block |
| **NDVI July 2013 MOD13A3** | estimated contemporaneous NDVI for the sampled block |
| **EVI July 2013 MYD13A3** | estimated contemporaneous EVI for the sampled block |