

Supporting Information for

Estimation of global vegetation productivity from Global LAnd Surface Satellite data

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Introduction

This supporting file provides more detailed information of the FLUXNET sites used in this paper, and the mean GPP and NPP for different biomes, as well as the variation of GPP and NPP in different biomes.

Table S1 Basic information of FLUXNET sites used in this paper

| Site Name | Latitude | Longitude | IGBP Landcover | Site Name | Latitude | Longitude | IGBP Landcover |
|-----------|----------|-----------|----------------|-----------|----------|-----------|----------------|
| BE-Lon | 50.5516 | 4.7461 | CRO | CA-NS1 | 55.8792 | -98.4839 | ENF |
| DE-Kli | 50.8929 | 13.5225 | CRO | CA-NS2 | 55.9058 | -98.5247 | ENF |
| DE-RuS | 50.8659 | 6.4472 | CRO | CA-NS3 | 55.9117 | -98.3822 | ENF |
| FR-Gri | 48.8442 | 1.9519 | CRO | CA-Qfo | 49.6925 | -74.3421 | ENF |
| IT-BCi | 40.5238 | 14.9574 | CRO | CA-TP1 | 42.6609 | -80.5595 | ENF |
| US-ARM | 36.6058 | -97.4888 | CRO | CA-TP3 | 42.7068 | -80.3483 | ENF |
| US-Ne1 | 41.1651 | -96.4766 | CRO | CZ-BK1 | 49.5021 | 18.5369 | ENF |
| US-Ne2 | 41.1649 | -96.4701 | CRO | DE-Lkb | 49.0996 | 13.3047 | ENF |
| US-Ne3 | 41.1797 | -96.4397 | CRO | DE-Obe | 50.7836 | 13.7196 | ENF |
| AU-Tum | -35.6566 | 148.1517 | EBF | DE-Tha | 50.9636 | 13.5669 | ENF |
| AU-Whr | -36.6732 | 145.0294 | EBF | FI-Hyy | 61.8475 | 24.2950 | ENF |
| BR-Sa3 | -3.0180 | -54.9714 | EBF | IT-Ren | 46.5869 | 11.4337 | ENF |
| FR-Pue | 43.7414 | 3.5958 | EBF | NL-Loo | 52.1666 | 5.7436 | ENF |
| GF-Guy | 5.2788 | -52.9249 | EBF | RU-Fyo | 56.4615 | 32.9221 | ENF |
| GH-Ank | 5.2685 | -2.6942 | EBF | US-Me2 | 44.4523 | -121.5574 | ENF |
| CH-Oe1 | 47.2858 | 7.7319 | GRA | US-NR1 | 40.0329 | -105.5464 | ENF |
| AT-Neu | 47.1167 | 11.3175 | GRA | DE-Hai | 51.0792 | 10.4530 | DBF |
| CN-Cng | 44.5934 | 123.5092 | GRA | DK-Sor | 55.4859 | 11.6446 | DBF |
| CN-Dan | 30.4978 | 91.0664 | GRA | FR-Fon | 48.4764 | 2.7801 | DBF |
| CN-HaM | 37.3700 | 101.1800 | GRA | IT-CA3 | 42.3800 | 12.0222 | DBF |
| DE-Gri | 50.9495 | 13.5125 | GRA | IT-Ro1 | 42.4081 | 11.9300 | DBF |
| DK-ZaH | 74.4732 | -20.5503 | GRA | IT-Ro2 | 42.3903 | 11.9209 | DBF |
| IT-Tor | 45.8444 | 7.5781 | GRA | JP-MBF | 44.3869 | 142.3186 | DBF |
| NL-Hor | 52.2404 | 5.0713 | GRA | US-Ha1 | 42.5378 | -72.1715 | DBF |

| | | | | | | | |
|--------|---------|----------|-----|--------|---------|----------|-----|
| RU-Sam | 72.3733 | 126.4978 | GRA | US-MMS | 39.3232 | -86.4131 | DBF |
| BE-Bra | 51.3092 | 4.5206 | MF | US-UMB | 45.5598 | -84.7138 | DBF |
| BE-Vie | 50.3051 | 5.9981 | MF | US-UMd | 45.5625 | -84.6975 | DBF |
| CA-Gro | 48.2167 | -82.1556 | MF | US-WCr | 45.8059 | -90.0799 | DBF |
| US-PFa | 45.9459 | -90.2723 | MF | US-Wi3 | 46.6347 | -91.0987 | DBF |
| US-Syv | 46.2420 | -89.3477 | MF | | | | |

Text S1. Global mean GPP and NPP for different biomes

The mean and standard deviation of GPP and NPP for different biomes are shown in Figure S1. The global biome map was obtained from Terrestrial Ecoregions of the World (TEOW) [1-2]. There are 14 different biomes in this map, Tropical & Subtropical Moist Broadleaf Forests (T&SMBF), Tropical & Subtropical Dry Broadleaf Forests (T&SDBF), Tropical & Subtropical Coniferous Forests (T&SCF), Temperate Broadleaf & Mixed Forests (TB&MF), Temperate Conifer Forests (TCF), Boreal Forests/Taiga (BF/T), Tropical & Subtropical Grasslands and Savannas & Shrublands (T&SGS&S), Temperate Grasslands, Savannas & Shrublands (TGS&S), Flooded Grasslands & Savannas (FG&S), Montane Grasslands & Shrublands (MG&S), Tundra (Tun), Mediterranean Forests, Woodlands & Scrub (MFW&S), Deserts & Xeric Shrublands (D&XS), Mangroves (Mang). Generally, GPP and NPP values were highest in T&SMBF. GPP could be more than 2000 g C·m⁻²·yr⁻¹, and NPP was approximately 1000 g C·m⁻²·yr⁻¹. GPP and NPP values were lowest in D&XS, GPP was only about 125 g C·m⁻²·yr⁻¹, and NPP was only about 60 g C·m⁻²·yr⁻¹. Generally, GPP and NPP in 2012 were higher than these in 2004 and 2008 at all land cover types. GPP and NPP in 2008 were the minimum among these three years.

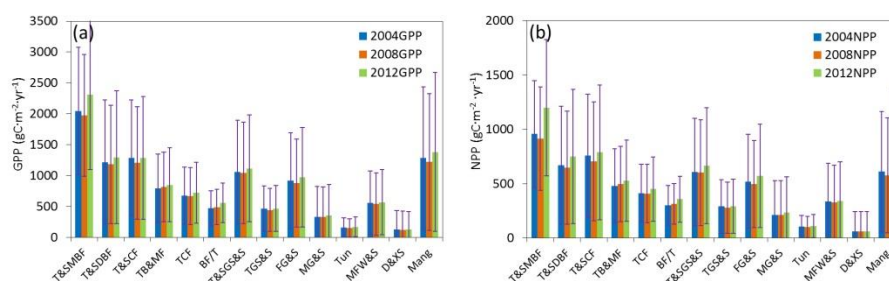


Figure S1. Global mean and standard deviations of GPP and NPP for all biome types

References

1. Terrestrial Ecoregions of the World. Available online: <https://www.worldwildlife.org/publications/terrestrial-ecoregions-of-the-world> (accessed on 3 February 2018).
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