Title:
A satellite based long-term productivity record for the pan-Arctic basin and Alaska

Description:
This data set provides an integrated AVHRR-MODIS annual GPP and NPP time series for the pan-Arctic basin and Alaska using the MOD17A2/A3 Production Efficiency Model (PEM) algorithms driven by corrected NCEP/NCAR reanalysis daily surface meteorological inputs and NASA SRB solar radiation(Zhang et al. 2007; Zhang et al., 2008). This work was funded by NASA Terrestrial Ecology and NSF Office of Polar Programs.

Projection:
The region is defined in terms of nodes of the National Snow and Ice Data Center(NSIDC) north polar Equal-Area Scalable Earth (EASE) grid.

Spatial Resolution: 25km*25km

Number of Nodes: 39926

Temporal Extent: 1983 to 2005

Data Fields:
ID: Index number of each grid
Lat: Latitude of the center of each grid
Lon: Longitude of the center of each grid
NPP: Annual Net Primary Production of each grid (gC/m^2)
GPP: Annual Gross Primary Production of each grid (gC/m^2)
(-9999.9 mean no data or missed data)
LC: Dominant land cover classification within each grid cell as derived from the resampled MODIS IGBP 1km resolution global land cover classification, where:
0 - Water;
1 - Evergreen Needleleaf Forest;
2 - Evergreen Broadleaf Forest;
3 - Deciduous Needleleaf Forest;
4 - Deciduous Broadleaf Forest;
5 - Mixed Forest;
6 - Closed Shrubland;
7 - Open Shrubland;
8 - Woody Savana;
9 - Savana;
10 - Grassland;
11 – Permanent wetlands;
12 - Cropland;

13 – Urban and built-up;
16 – Barren or sparsely vegetated

References:

Zhang K, JS Kimball, M Zhao, WC Oechel, J Cassano, & SW Running (2007). Sensitivity of pan-Arctic terrestrial net primary productivity simulations to daily surface meteorology from NCEP-NCAR and ERA-40 reanalyses. *J. Geophys. Res.*, 112, G01011, doi:10.1029/2006JG000249.

Zhang K, JS Kimball, EH Hogg, M Zhao, WC Oechel, J Cassano, & SW Running (2008). Satellite-based model detection of recent climate-driven changes in northern high-latitude vegetation productivity, *J. Geophys. Res.*, 113, G03033, doi:10.1029/2007JG000621.

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