

Documentation Notes for Remote Sensing (RS) GIMMS NDVI Based Daily ET and Monthly PET for Continental US (CONUS) from 1983 to 2006

Rev: Sept 30, 2010

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(2) Important Notes:

- This data set provides area-averaged values at the 8-km spatial resolution. For users who intend to compare this data set with site-level/point-level observations (e.g. eddy covariance flux tower), please contact with Ke Zhang (zhang@ntsg.umt.edu) to request the site-level/point-level ET estimates or refer to *Zhang et al.* (2010) to check the data qualities at the site level.
- Please kindly contact with Ke Zhang (zhang@ntsg.umt.edu) or John Kimball (johnk@flbs.umt.edu) regarding the quality of this data set, how the users intend to use the data set, and the possibility for data update before using this data for publications or conference presentations.

(3) **Variables:** Daily total land surface ET (mm/day) and monthly land surface Potential ET (PET: mm/month).

(4) **Temporal extent:** Daily and monthly data for 1983 through 2006 inclusive.

(5) **Spatial resolution:** 8 km (nominal) and 0.07272727°.

(6) **Geographic extent:** The region covers from -125.013548° to -65.95900476° longitudinally and from 51.11427444° to 24.059730° latitudinally with a cell size of 0.07272727°. Therefore, there are 812 cols and 372 rows. The center of the first pixel is (124.9771844W, 51.077910805N), while the center of the second pixel is (124.9044571W, 51.077910805N). The center of the last pixel is (65.9953684W, 24.09609364N)

(7) **Data Format:** Binary data. Individual data elements are each stored as IEEE single precision 32-bit (4-byte per value) float variables. **Missing data are marked as -9999.0**. For the daily ET data, the size of each file is: **sizeof(float) * days of the year * cols * rows (bytes)**. The first floating-point data element is the ET value on day one at pixel (row 1, col 1). The second data element is the ET value on day two at pixel (row 1, col 1), and so on. The daily values of pixel (row 1, col 1) are followed by the daily ET values of pixel (row 1, col 2), and so on. For the monthly PET data, the size of each file is: **sizeof(float) * months of the year * cols * rows (bytes)**. The first floating-point data element is the PET value in January at pixel (row 1, col 1). The second data element is the PET value in February at pixel (row 1, col 1), and so on. The monthly values of pixel (row 1, col 1) are followed by the monthly PET values of pixel (row 1, col 2), and so on.

(8) Validation of Daily ET at Basin Level

Detailed comparison of this data set with site-level observations can be found in *Zhang et al.* (2010) and *Zhang et al.* (2009).

(9) Contact

Ke Zhang (zhang@ntsg.umt.edu)

John Kimball (johnk@flbs.umt.edu)

(10) References

1. Zhang, K., J.S. Kimball, R.R. Nemani and S.W. Running. A continuous satellite-derived global record of land surface evapotranspiration from 1983-2006 (2010), *Water Resources Research*, **46**, W09522, doi:10.1029/2009WR008800.
2. Zhang, K., J.S. Kimball, Q. Mu, L.A. Jones, S.J. Goetz and S.W. Running. Satellite based analysis of northern ET trends and associated changes in the regional water balance from 1983 to 2005 (2009), *Journal of Hydrology*, **379**, 92-110, 10.1016/j.jhydrol.2009.09.047.