Ecosphere

Assessing Precipitation, Evapotranspiration, and NDVI as Controls of U.S. Great Plains Plant Production

Maosi Chen, William J. Parton, Melannie D. Hartman, Stephen J. Del Grosso, William K. Smith, Alan K. Knapp, Susan Lutz, Justin D. Derner, Compton J. Tucker, Dennis S. Ojima, Jerry D. Volesky, Mitchell B. Stephenson, Walter H. Schacht, Wei Gao

Appendix S1. Outlier analysis for GSL and BBR NDVI and ANPP data

We did not include BBR ANPP data for 2000 and 2001 in our statistical analysis of ANPP to the precipitation-related variables because they had extremely low ANPP values compared to the observed ANPP datasets from both the BBR and GSL sites. ANPP values for these years were > 50 % lower than you would expect for years with the same cumulative April-to-July AET values and observed NDVI values (well correlated to ANPP) for 2000 and 2001 were high and associated with observed ANPP values > 50% higher than the measured ANPP during those years. The results from both measured AET and NDVI suggest that the observed ANPP data from 2000 and 2001 are quite low (outliers) for the BBR site and should be excluded in the statistical analysis. The observed NDVI data from 2006 and 2012 were not used in the statistical analysis of the correlation of ANPP to NDVI since the observed NDVI data were quite low compared to the observed data from the GSL and BBR sites (> 30 % lower than expected values for observations with similar ANPP values).