# CZO Metadata Worksheet

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| Data File Name | NEP model vs obs.xlsx |
| Record Period | 05/01/2009 to 7/30/2010 |
| Descriptive Title | Net ecosystem productivity (NEP) observed by flux tower and simulated by Biome-BGC at Susquehanna Shale Hills Critical Zone Observatory |
| Update Frequency | Daily |
| Abstract | We used observations at the Shale Hills Critical Zone Observatory and a biogeochemistry model, Biome-BGC, to simulate the net ecosystem productivity (NEP) in the Shale Hills catchment. |
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| Data Value Descriptions | * COL1: label = Date * COL2: label = Friction Velocity, Units = m/s. * COL3: label = Observed Net Ecosystem Exchange (NEE), Units = mg CO2/m2/s. * COL4: label = Observed Net Ecosystem Exchange (NEE) , Units = g C/m2/d. * COL5: label = Observed Net Ecosystem Productivity (NEP), Units = kg C/m2/d. * COL6: label = Modeled Net Ecosystem Productivity (NEP), Units = kg C/m2/d. |
| Keywords | Ecosystem model, Net ecosystem productivity, Biome-BGC, C fluxes |
| Methods | **Observations**:  Half-hourly averaged C fluxes from Eddy Covariance flux tower. Fluxes are filtered by friction velocity (u\* >0.3 m/s) to account for stable boundary layer conditions in complex terrain, and then filled with REddyProc [Reichstein and Moffat, 2014]. However, if daily data availability after filtered by friction velocity is less than a quarter of the data points (12 data points out of 48 data points), we leave that day empty instead of filling the data.  **Model: Biome-BGC**  PFT: Deciduous Broadleaf Forest  Forcing data: meteorological data is from Shale Hills CZO  The model was adapted to run with observed soil moisture and soil temperature data, which is taken from Henry Lin’s super sites (#15, #51, #53, #60, #61, and #74).  The soil water retention curve in the model is changed from Cosby formulation to van Genuchten equation. van Genuchten parameters are based on observations at Shale Hills (Doug Baldwin). |
| Citation | The following acknowledgment should accompany any publication or citation of these data: Logistical support and/or data were provided by the NSF-supported Shale Hills Susquehanna Critical Zone Observatory. |
| Publications | none |
| Data Use Notes | The user of Shale Hills Susquehanna CZO data agrees to provide proper acknowledgment with each usage of the data. Citation of the name(s) of the investigator(s) responsible for the data set, in addition to the generic statement above, constitutes proper acknowledgment. Author(s) (including Shale Hills Susquehanna CZO investigators) of published material that makes use of previously unpublished Shale Hills Susquehanna CZO data agree to provide the Shale Hills Susquehanna CZO data manager with four (4) copies (preferably reprints) of that material for binding as soon as it becomes available. The user of Shale Hills Susquehanna CZO data agrees not to resell or redistribute shared data. The user of these data should be aware that, while efforts have been taken to ensure that these data are of the highest quality, there is no guarantee of perfection for the data contained herein and the possibility of errors exists. These data are defined as either public or private, such that a password may be required for access. |