# CZO Metadata Worksheet

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| Data File Name | Soil Gas Concentration Data |
| Date Prepared | 4/10/2014 |
| Descriptive Title | Shale Hills CZO Soil Gas Concentration and Flux Data (Level 1) |
| Update Frequency | Monthly (sporadic) |
| Abstract | The soil CO2 and N2O concentrations and various soil properties for the planar slope and swale sampling locations in the Susquehanna Shale Hills Critical Zone Observatory watershed.  |
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| Data Value Descriptions | 2008 – 2010 (pCO2):* COL1: label=Sample Label.
* COL2: label=Sample Location.
* COL3: label=Date.
* COL4: label=Local time of day, Time Zone=EST.
* COL5: label=Field Tech.
* COL6: label=Soil depth (m).
* COL7: label=Elevation (m).
* COL8: label=pCO2 (ppmv).

2008 – 2010 (CO2 Flux):* COL1: label=Sample Location.
* COL2: label=Date.
* COL3: label=Elevation (m).
* COL4: label=Elevation error (m).
* COL5: label=CO2 Flux (μmolm-2s-1).
* COL6: label=Air temperature (ºC).
* COL7: label=Soil temperature at 7 cm (ºC).

2013:* COL1: label=Site Name
* COL2: label=Date
* COL3: label=Depth (cm)
* COL4: label=CO2 concentration (ppm)
* COL5: label= N2O concentration (ppm)
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| Keywords | CO2 Concentration, Soil CO2, N2O Concentration, Soil N2O, CO2 Flux |
| Methods | 2008 – 2010:* CO2 concentration data were measured using a LICOR 7000.
* Air temperatures were obtained from the RTHnet website.
* Soil temperature were measured using a ST09 Supco soil temperature probe
* Gas sampler elevations were measured using a Garmin GPSmap 76CSx GPS.

2013:* Soil gas measured in situ using a Model 1412 Infrared Photoacoustic Spectroscopy (PAS) gas analyzer powered by a model EU1000i portable electric Honda generator. All gas flux sampling took place between 09:00 and 13:00 hours – the time of lowest diurnal temperature variability.
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| 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 | Hasenmueller, E.A., Jin, L., Lin, H., Brantley, S.L., Kaye, J.P. Topographic and depth controls on soil CO2 concentrations in a small temperate watershed, *Applied Geochemistry*, in prep. |
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