# SSHCZO Metadata Worksheet

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| Data File Name | **Garner Run – pCO2 (ppmv) and O2 %** |
| Date Prepared | 3/18/2016 |
| Descriptive Title | Soil Gas Concentrations |
| Update Frequency | Monthly |
| Abstract | Hypothesis 2, NSF funded CZO Project  The specific objectives of this experiment are to quantify variation in soil pCO2 and oxygen concentration at varying topographical positions in the two lithologies. The respiration and oxygen production in the soil will vary with microbial population and community. |
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| Data Value Descriptions | *Describe each column, including label (variable name), units, etc. Example:*   * COL1: label = Site, refers to LRMS (Leading Ridge Midslope) or TMMS (Tussey Mtn. Midslope) * COL2: label = Timestamp, Day of year, TimeZone=EST. * COL3,4: label = % O2, measured % O2 from sensor * Sublabel = Depth of sensors * COL5,6: label = pCO2, measured CO2 concentration in soil from sensor * Sublabel = Depth of Sensors |
| Keywords | CO2 concentration, oxygen concentration, pCO2, soil gas |
| Methods | Eosense (previously Forerunner) CO2 concentration probes (eosGP) were used to measured in-situ soil CO2 concentration. Apogee Instruments oxygen sensors (SO-110) were used to measure in-situ soil oxygen concentration (%O2).  Sensors were calibrated according to company documentation with site specific information. Sensors were deployed at two depths into soil pits at midslope location on opposite slopes. Sensors were wired to Campbell Scientific dataloggers with a program developed to measure the CO2 and O2 concentrations every hour and average every day. |
| Sites | LRMS – Leading Ridge Midslope  TMMS – Tussey Mountain Midslope |
| Publications | Citation: Brantley, S. L., DiBiase, R. A., Russo, T. A., Shi, Y., Lin, H., Davis, K. J., Kaye, M., Hill, L., Kaye, J., Eissenstat, D. M., Hoagland, B., Dere, A. L., Neal, A. L., Brubaker, K. M., and Arthur, D. K.: Designing a suite of measurements to understand the critical zone, Earth Surf. Dynam., 4, 211-235, doi:10.5194/esurf-4-211-2016, 2016. |
| Citation | The following acknowledgment should accompany any publication or citation of these data: Logistical support and/or data were provided by the NSF-supported Susquehanna Shale Hills Critical Zone Observatory. |
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