# SSHCZO Metadata Worksheet

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| Data File Name | **2015 DOE soil respiration summary data. xls** |
| Date Prepared | 4/21/2016 |
| Descriptive Title | Automated soil respiration measurements from eight chambers |
| Update Frequency | hourly |
| Abstract | Automated hourly soil respiration data was collected at eight locations in the watershed beginning in early May, 2015. Four chambers each were installed at an up slope (UpperDOE XX) and a down slope (LowerDOE XX) site on the north ridge of the watershed. At each site, two of the four chambers were place in a swale (NW and SW, with NW being upslope of SW) and two chambers were placed outside the swale (NE and SE, with NE being upslope of SE). The general location of each chamber is as follows:  Upper NW: Ridgetop swale  Upper NE: Ridgetop  Upper SW: Upper midslope swale  Upper SE: Upper midslope  LowerNW: Lower midslope swale  LowerNE: Lower midslope  LowerSW: Streamside swale  LowerSE: Streamside  Additionally, soil temperature and volumetric water content were collected 5cm below the soil surface. |
| Investigator  Contact Info | *Jason Kaye (*[*jpk12@psu.edu*](mailto:jpk12@psu.edu)*), David Eissenstat (*[*dme9@psu.edu*](mailto:dme9@psu.edu)*),*  *Thomas Adams (*[*tsa3@psu.edu*](mailto:tsa3@psu.edu)*)* |
| Data Value Descriptions | * COL1: label = Chamber * COL2: label = Date / Time, TimeZone=EST. * COL3: label = RecNum * COL4: label = 10s C02 flux (umol m-2 s-1) * COL5: label= Chamber temp (°C) * COL6: label= H2O, chamber water vapor conc. (mmol/mol) * COL7: label= CO2, chamber CO2 conc. (umol/mol) * COL8: label= CO2 dry, chamber CO2 conc. corrected for water vapor dilution (umol/mol) * COL9: label= Rel. Humidity inside chamber * COL10: label= Soil temp @ 5cm depth (°C) * COL11: label= Soil VWC @ 5cm depth (V) |
| Keywords | *Soil respiration, LiCor 8100 and 8100A* |
| Methods | Data was collected using two LiCor 8100 each with four LiCor 8100A automated soil respiration chambers. Each of the eight chambers was equipped with a LiCor soil temperature probe and a 5 cm “ECH2O” soil moisture probe (manufactured by Decagon Devices). The soil moisture probe associated with the UpperNW chamber did not function properly and gave unusable data which has been deleted. Soil moisture probe output data in volts can be converted to VWC using the following equation from the Decagon Devices application note, “Calibration of ECH2O probes with a 5V excitation” :  VWC = -3.14-07E\*mV2 +1.16E-03\*mV-6.12E-01 |
| Sites | Not surveyed |
| 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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