# SSHCZO Metadata Worksheet

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| Data File Name | **DOE SSHCZO RLD Data 2015** |
| Date Prepared | 2016 April 15 |
| Descriptive Title | Root Length Density Taken at 250 locations throughout the catchment |
| Update Frequency | Never |
| Abstract | Root length density was measured in 250 soil cores in the catchment with the goal of understanding topographic controls on belowground carbon fluxes. |
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| Data Value Descriptions | • COL1: label = Easting  • COL2: label = Northing  • COL3: label = Site-Tube-Depth ID (ID associated with Field Site and Soil Depth,cm)  • COL4: label = Field Site  • COL5: label = Slope Position (1=Ridgetop, 2 = Midslope Planar, 3 = Swale, 4 Valley Floor)  • COL6: Absorptive Root Length, units =mm  • COL7: Woody Rooth Length, units = mm  • COL8: Absorptive RLD, units = cm/cm3  • COL8: Woody RLD, units = cm/cm3  • COL9: Root Length < 0.5mm (in diameter), units = mm  • COL10: Root Length <1.0mm (in diameter), units = mm  • COL11: Root Length<2.0mm (in diameter), units = mm |
| Keywords | root length density, topography, below ground carbon |
| Methods | 5 soil cores were taken at each plot (map provided) to a maximum depth of 165 cm or until mechanic barriers prevented maximum coring depth. Cores were dissected into intervals of 0-20, 20-40, 40-80, 80-120 and 120-165 cm depending on the depth of the core taken. Core samples were gently homogenized and divided into two equal halves, one each for soil analysis and root distribution.  Soil was washed from root samples through a 2mm sieve, and roots were stored in water at 5°C. Roots were then dissected by order. Absorptive roots were defined as third order roots or less with most roots falling into the first two orders. Absorptive and woody roots were scanned separately and processed with WinRHIZO to determined average length and diameter of each core sample. Root length density (RLD) was determined using the following equation:  RLD = (root length x 2) / core sample volume.  For a subset of samples, RLD was calculated based on a root diameter of 0.5, 1 and 2mm. |
| Sites | A map is provided with locations of all of the plots along with coordinates of each soil core. |
| Publications | None |
| Citation | Logistical support and/or data were provided by the NSF-supported Susquehanna Shale Hills Critical Zone Observatory. |
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