# SSHCZO Metadata Worksheet

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| Data File Name | **CZO Garner Run Transects 2014 final data.xlsx** |
| Date Prepared | Sept 30, 2015 |
| Descriptive Title | Vegetation, soil organic layer, and rock cover measurements |
| Update Frequency | None planned |
| Abstract | Raw field data collected in the Garner Run study area, including measures of vegetation, soil organic layer, and rock cover. Vegetation measurements include tree species and size, understory vegetation, and ground cover. Soil organic layer measurements include O horizon and coarse woody debris. Rock cover measurements include percent rock cover and size of rocks. Measurements were taken along four transects 700 – 1400 m long that run parallel to the contour. Transect locations are as follows: Leading Ridge midslope, Tussey Ridge ridge top, Tussey Ridge midslope, Tussey Ridge valley bottom. |
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| Data Value Descriptions | Tab: > 10cm dbh trees  Column name:  Site: Garner Run  Topo position: ridge, midslope, or valley floor/toe slope  Slope: north (Tussey Ridge) or south (Leading Ridge)  Transect: number of 10 X 100-m transect at the topographic position  Start: annotation for starting point of transect  End: annotation for end point of transect  Species: tree species code  DBH (cm): diameter and breast height  Distance on Transect (m): distance of tree from the start of the transect  Distance from transect line (m): distance of tree from the transect line  Tree tag number: unique number given to each tree >10cm dbh measured within the 10 x 100 m transect  Tree: tally of trees measured in transect  Basal area: calculated from DBH measurement = (DBH/2)2\*π  Tab: rocksoillitter  Columns  Site, Slope, Topoposition: same as previous tab  Date: season and year  Transect, Start, End, Distance on Transect: same as previous tab  R/S/L: Rock, Soil, or Litter classification for point on transect  Tab: understory veg  Columns  Site, Topoposition, Slope, Transect, Start, End, Distance on Transect (M): same as first tab  Understory plant species: plant species at point intercepts along transect, 0-2m in height.  Tab: rocks  Columns  Site, Topoposition, Slope, Transect, Start, End, Distance on Transect (M): same as first tab  Rock length (cm), Rock width, Rock height: measurements taken on five rocks near the point on the transect that are representative of rocks in area  Tab: woody debris  Columns  Site, Topo position, Transect, Start, End: same as first tab  Aspect: direction slope is facing  Segment: segment of transect where measurements were collected  1hr: tally of one-hour fuels intercepting transect, up to 2m height. Blank cells means data were not collected for fuel class in that segment  10hr: tally of 10-hour fuels intercepting transect, up to 2m height.  100hr: tally of 100-hour fuels intercepting transect, up to 2m height.  1000hr: 1000-hour fuel intercepted by transect. Subsequent columns are measurements taken on the 1000-hour fuel.  Spp: species, recorded if possible, if not classified as hardwood or softwood  Azimuth: direction fuel is lying  Distance on line (m): where fuel intercept transect  Length (m): length of the fuel  Diameter (cm): diameter of fuel where it crosses the transect  Decay class: classification from Browns Fuels Trasects  Tab: o horizon  Columns:  Sample collector: initials of person who collected samples.  Site, topo position, slope, transect, start, end, distance on transect: same a first tab  Bag mass (g): mass of paper bag used to store o horizon sample  Wet+bag mass (g): wet mass of o horizon sample with bag  Dry+bag mass (g): air dry mass of o horizon sample with bag  Tin mass (g): mass of tin for drying  Pre 105 + tin mass (g): mass of subsample and tin before drying in oven at 105 deg C  Pos 105 + tin mass (g): mass of subsample and tin after drying in oven at 105 deg C  Area of ring (m^2): area of o horizon sample taken at each sampling point along transect |
| Keywords | Vegetation transect, rock cover, rock size, coarse woody debris, organic horizon |
| Methods | From Brantley et al. 2015, in review:  The objective of our ground-based vegetation sampling in the Garner Run subcatchment was to capture spatial variability in vegetation across the catena (ridge top, midslope, and valley floor positions) and provide the infrastructure for re-measurement of vegetation to capture temporal variability, with the ultimate goal of quantifying the contribution of vegetation to WEGSS fluxes. Vegetation was sampled in four linear transects parallel to the slope contour at the same four topographic positions as soil pits from the catena; Leading Ridge ridge top (LRRT), Leading Ridge midslope (LRMS), Leading Ridge valley floor (LRVF), Tussey Mountain midslope (TMMS) (Figure 5). Each vegetation transect was 10-m wide (i.e. along the direction perpendicular to the valley axis) and ~700-1400 m long (i.e. parallel to valley axis). Measurements along transects yielded vegetation and forest floor cover data for 4.1 ha in the subcatchment. In that area 2241 trees > 10 cm diameter at breast height were measured, mapped, and permanently tagged. Understory vegetation composition was measured at 5-m point intervals along transects and course woody debris measured in 25-m planar transects parallel to the main transect, spaced every 100-m. Based on our interest in relating geomorphology and vegetation dynamics, the size of the five largest exposed rocks was recorded very 25-m by measuring their 1st, 2nd and 3rd axes. Forest floor cover was classified as rock, bare soil, or leaf litter at point intercepts every 1 m along the transect. Forest floor biomass was measured every 25-m along transects by removing the organic horizon from a 0.03 m2 area, drying and massing samples in the lab, and measuring carbon loss on ignition. |
| Sites | Garner Run |
| Publications | Discussion paper under review at Earth Surface Dynamics:  Brantley, S. L., DiBiase, R., Russo, T., Shi, Y., Lin, H., Davis, K. J., Kaye, M., Hill, L., Kaye, J., Neal, A. L., Eissenstat, D., Hoagland, B., and Dere, A. L.: Designing a suite of measurements to understand the critical zone, Earth Surf. Dynam. Discuss., 3, 1005-1059, doi:10.5194/esurfd-3-1005-2015, 2015. |
| 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. |
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