# CZO Metadata Worksheet

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| Data File Name | SOM\_N\_full depth |
| Record Period | 06/2014 to 10/2014 |
| Descriptive Title | Susquehanna Shale Hills Critical Zone Observatory NH4, NO3 and SOM 2014 |
| Update Frequency | Yearly |
| Abstract | Nitrogen and soil organic matter measurements were taken at 150 locations across 50 macroplot sites within the Susquehanna Shale Hills Critical Zone Observatory. These measurements were made in the same locations that minirhizotron tubes were established in. |
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| Data Value Descriptions | * COL1.label=Site, value=General, format= character * COL2.label= Letter, value=Core location (A - E), format= character * COL3.label= Start.Depth, value=Starting depth of core sample, unit =cm, format= numeric * COL4.label= End.Depth, value=Ending depth of core sample, unit =cm, format= numeric * COL5.label= NH4, value=Amount of Ammonium, unit =ppm, format= numeric * COL6.label= NO3, value=Amount of Nitrate, unit =ppm, format= numeric * COL7.label= SOM, value= soil organic matter present, unit =percent, format= numeric |
| Keywords | Soil science, soil fertility |
| Methods | 5 cm soil cores were taken at a 60° angle from the soil surface to 165 cm or maximum possible depth using a gas-powered coring auger (Rhino GPD-40, Giddings Machine Company, Windsor, CO). Core depth increments begin at the Oe horizon. Cores were split into depth increments where possible and then homogenized. Depth increments were 0-20, 20-40, 40-80, 80-120, and 120-165 cm. Soil organic matter (SOM) was calculated through oven drying 1-gram soil samples at 105°C for 24 hours, reweighing the samples, measuring loss on ignition at 450°C, and then following the calculations outlined in Nelson & Sommers, 1996. Inorganic nitrogen from the soil was extracted through shaking 5 + 0.2g of soil with 50ml of 2M KCl for one hour. Samples settled overnight in a refrigerator and then were passed through Whatman #1 filter paper. 15mL of the filtered extraction were then frozen. Following freezing, samples were brought to room temperature before Vanadium (III) Chloride reagent and Citrate, Salicylate-nitroprusside and Hypochlorite reagents were added to the extraction. Spectrophotometric determination of nitrate and ammonium concentrations in parts per million were then made following the protocols laid out by Doane and Horwath, 2003. |
| 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 | none |
| Data Use Notes | The user of Shale Hills Susquehanna CZO data agrees to provide proper acknowledgment with each usage of the data. Citation of the name(s) of the investigator(s) responsible for the data set, in addition to the generic statement above, constitutes proper acknowledgment. Author(s) (including Shale Hills Susquehanna CZO investigators) of published material that makes use of previously unpublished Shale Hills Susquehanna CZO data agree to provide the Shale Hills Susquehanna CZO data manager with four (4) copies (preferably reprints) of that material for binding as soon as it becomes available. The user of Shale Hills Susquehanna CZO data agrees not to resell or redistribute shared data. The user of these data should be aware that, while efforts have been taken to ensure that these data are of the highest quality, there is no guarantee of perfection for the data contained herein and the possibility of errors exists. These data are defined as either public or private, such that a password may be required for access. |