# CZO Metadata Worksheet

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| Data File Name | Soil Moisture Data |
| Record Period | 01/01/2009 to 06/29/2012 |
| Descriptive Title | Susquehanna Shale Hills Critical Zone Observatory RTH3 (Real-Time Hydrology Network) Soil Moisture Data |
| Update Frequency | Monthly |
| Abstract | Quality assured soil moisture from three sets of nested (depths 0.1, 0.3 and 0.5 m) soil moisture probes (sensor: Decagon Echo2) at RTH3 network. Sensor were grouped 1-3 (lat:40.6645848 long:-77.9054530; ground elevation: 266.06 m),4-6 (lat:40.6645169 long:-77.9055588; ground elevation: 265.16 m), 7-9 (lat:40.6645108 long:-77.9053428; ground elevation: 265.84 m), with sensors 1,4 and 7 located at a depth 0.1 m and sensors 3,6 and 9 at a depth of 0.5 m. The Real-Time Hydrology Network provides integrated observation from bedrock to boundary layer of the Shale Hills Susquehanna Critical Zone Observatory watershed. "Off-the-shelf” Internet Protocol (IP) compliant climate stations, eddy covariance flux stations, stream gauging, soil moisture profilers, and pressure transducers for monitoring groundwater levels comprise a series of real-time Internet-accessible sensor arrays that support research and educational efforts investigating interactions between the atmosphere,  surface and subsurface terrestrial processes, and the riverine hydrologic system. |
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| Data Value Descriptions | * COL1.label=ValueAttribute, value=TIMESTAMP, UTCOffset=-5, TimeZone=EST, format=MM/dd/yyyy HH:mm * COL2.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.10, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_1 * COL3.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.30, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_1 * COL4.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.50, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_1 * COL5.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.10, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_2 * COL6.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.30, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_2 * COL7.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.50, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_2 * COL8.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.10, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_3 * COL9.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.30, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_3 * COL10.label=VariableName, value=Volumetric water content, Units=m3/m3, Method=SoilMoist\_Decagon, OffsetValue=0.50, OffSetUnits=m, OffsetDescription=depth of sensor below ground, SampleType=no sample, SampleMedium=Soil, ValueType=Derived Value, TimeSupport=10, TimeSupportUnits=min, DataType=Average, SiteCode=CZO\_RTH3\_3   (Qualifier Codes: A = Approved for publication, E = Value has been edited or estimated – see Methods below) |
| Keywords | hydrology, soil, water, moisture |
| Methods | Quality controlled soil moisture data of RTHnet2 have been prepared using the field observation data and the missing data have been estimated by RTHnet3 quality controlled soil moisture data. |
| 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. |