# CZO Metadata Worksheet

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| Data File Name | SSHO\_Stream\_Water\_Chemistry |
| Date Prepared | 1/7/13 |
| Descriptive Title | Stream Water Chemistry  |
| Update Frequency | Yearly |
| Abstract | Stream water chemistry at Susquehanna Shale Hills Critical Zone Observatory from 2006-2010. Weekly to monthly grab samples were collected at three locations along the **S**tream: at the **H**eadwater (SH), **M**iddle (SM) and adjacent to the **W**eir (SW). Daily stream water sample were also collected adjacent to the weir from 2008-2010 using automatic samplers (2700 series, Teledyne Isco, Lincoln, NE) and were referenced as SW-ISCO. Annual datasets have been registered with the EarthChem Library and assigned dataset DOI’s. Please reference the associated DOI below for any research derived from this data.Stream Water Chemistry 2006: [doi:10.1594/IEDA/100239](http://dx.doi.org/10.1594/IEDA/100239)Stream Water Chemistry 2007: [doi:10.1594/IEDA/100240](http://dx.doi.org/10.1594/IEDA/100240)

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| Stream Water Chemistry 2008:  |  [doi:10.1594/IEDA/100241](http://dx.doi.org/10.1594/IEDA/100241)  |
| Stream Water Chemistry 2009:  |  [doi:10.1594/IEDA/100242](http://dx.doi.org/10.1594/IEDA/100242)  |
| Stream Water Chemistry 2010:  |  [doi:10.1594/IEDA/100243](http://dx.doi.org/10.1594/IEDA/100243)  |
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| Data Value Descriptions | * COL1: label = Sample\_Date
* COL2: label = Sample Number
* COL3: label = Sample Name
* COL4: label = Collection Method
* COL5: label = DOC (ppm)
* COL6: label = Water Temp (°C)
* COL7: label = pH
* COL8: label = Alkalinity (meq L-1)
* COL9: label = Cl- (μM)
* COL10: label = NO3- (μM)
* COL11: label = SO42- (μM)
* COL12: label = F (μM)
* COL13: label = Acetate (μM)
* COL16: label = Al+3 (μM)
* COL17: label = Ca+2 (μM)
* COL18: label = K+ (μM)
* COL19: label = Mg+2 (μM)
* COL20: label = Na+ (μM)
* COL21: label = Si (μM)
* COL22: label = Sr (μM)
* COL23: label = Fe+3 (μM)
* COL24: label = Mn+2 (μM)
* COL25: label = Ni (μM)
* COL26: label = P (μM)
* COL27: label = V (μM)
* COL28: label = Zn (μM)
* COL29: label = Ba (μM)
* COL30: label = 2H (‰)
* COL31: label =  18O (‰)
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| Keywords | Stream Water Chemistry, Anions, Cations, Dissolved Organic Carbon (DOC), Oxygen and Hydrogen Stables Isotopes  |
| Methods | Four stream water samples were collected during each sampling event. Three samples were filtered (0.45 m Nylon syringe filters) and analyzed for major anions, cations and DOC, while the last samples was unfiltered and analyzed for oxygen and hydrogen stable isotopes. Cations and DOC samples were acidified in the laboratory with nitric and hydrochloric acids, respectively. DOC and stable isotopes samples were collected were collected in glass bottle and while major ion samples were collected in screw top Nalgene bottles. Major cations and silica were analyzed on an inductively coupled plasma–optical emission spectrometer (ICP– OES), while major anions were measured on the Dionex Ion Chromatograph (Sunnyvale, CA). DOC was analyzed using a Shimadzu TOC-5000A analyzer (Shimadzu Scientific Instruments, Columbia, MD). Oxygen and hydrogen stable isotopes were analyzed ion the DLT-100 liquid water stable analyzer (Los Gatos Research, Mountain View, CA). |
| 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 | Jin, L., Andrews, D.M., Holmes, G.H., Lin, H., and Brantley, S.L. Opening the "Black Box": Water Chemistry Reveals Hydrological Controls on Weathering in the Susquehanna Shale Hills Critical Zone Observatory. Vadose Zone Journal 10:928-942, doi:10.2136/vzj2010.0133. |
| 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. |