FEMC DATA ARCHIVE: Project and Dataset Information

\*indicates a required field

**Project Name\*:** Stream chemistry in 27 Catskills headwater streams (2010-2013)

**Project Status\*:** Completed

**Project Type\*:** Research

**Project Start Date\*:** 2010-06-01

**Project End Date:** 2013-07-31

**Project Description\*:** We collected samples from 27 headwater streams in the Catskills that had been part of previous studies, monthly from June 2010 to July 2013. All samples were measured for a robust set of chemical parameters.

**Project Objectives:** (1) Characterize the chemistry of small headwater streams across the region and compare to data collected from the same streams in previous studies to assess change over time; (2) Use with streamflow data to compute chemical fluxes exiting these headwater catchments.

**Project Citation:** Johnson, C.E., Koppers, M.M. (2021). Stream chemistry data for 27 headwater catchments in the Catskills, New York: 2010-2013. FECM. Available at https://www.uvm.edu/femc/data/archive/project/(ProjectName).

Nested within Projects are Datasets (there can be multiple datasets per project, please include the information listed below **for each dataset** within the project)

**Dataset Name\*:** Sampling locations

**Dataset Status\*:** completed

**Dataset Start Date\*:** 2010-06-01

**Dataset Description:** Stream name, location, and elevation information for samples collected during the project.

**Data:** including the actual dataset makes the project more useful and citable. Please provide data in a .csv format if possible. If data are provided, there are various options for data sharing (open access, by request, etc.)

**Data Fields: Please fill out accompanying excel spreadsheet**

**Dataset Name\*:** Stream chemistry measurements

**Dataset Status\*:** completed

**Dataset Start Date\*:** 2010-06-01

**Dataset Description:** Chemistry of stream samples collected monthly during the project.

**Data:** including the actual dataset makes the project more useful and citable. Please provide data in a .csv format if possible. If data are provided, there are various options for data sharing (open access, by request, etc.)

**Data Fields: Please fill out accompanying excel spreadsheet**

**Methods:** The methods followed in the creation of the dataset, including description of field, laboratory and processing steps, and quality control procedures

Field

Grab samples were taken from freely flowing areas of the stream in a 2-L HDPE bottle. The bottle was rinsed three times with stream water before the sample was collected. A full two liters of stream water was collected with no air bubble left in the bottle. Stream water was either filtered on-site or by the end of the day. The bottle was stored in a cooler until the water was filtered.

Samples were filtered using a 0.45 µM membrane filter and a reusable Nalgene polysulfone filter holder. The filter was flushed with 250 mL of DIW, then 50 mL of stream water. Field pH was measured on this subsample. An additional 500 mL of sample was filtered and split into separate bottles for metals (LDPE; acidified to pH<2 with nitric acid), DIC (borosilicate glass, no headspace in the bottle), DOC (borosilicate glass), and a bottle with sample for the rest of the analyses (500 mL LDPE, no headspace in the bottle). All bottles were stored in a cooler until return to the lab. In the lab they were stored at 4°C.

Samples were measured in the laboratory for the following analytes:

|  |  |
| --- | --- |
| Analyte | Method |
| pH | Potentiometric |
| ANC | Modified gran titration |
| Anions (F-, Cl-, SO42-, NO3-, PO43- | Ion chromatography |
| Monomeric aluminum fractions | Colorimetric (pyrocatechol violet method) |
| DIC | Combustion with a non-dispersive infra-red detector |
| DOC | Persulfate-UV oxidation |
| Metals (Si, Mg, Ca, Al, Na, K) | ICP-MS |
| NH4+ | Colorimetric (indophenol blue method) |
| Total nitrogen | Combustion with a chemiluminescence photodiode detector |

**Sampling equipment:** Grab samples collected with 2-L HDPE bottles

**Site Characteristics:** The spatial extent of the dataset site coverage, and descriptions of the spatial extent and context for the data collection

Other information that can be included with a Project:

**Study Area:** a shapefile or similar spatial layer denoting plots, transects, or study region

Attached separately

**Documents:** any associated publications, reports, images, documents that are associated with the project

Gianfagna, C.C., C.E. Johnson, and D.G. Chandler. 2015. Watershed area ratio accurately predicts daily streamflow in nested catchments in the Catskills, New York. Journal of Hydrology: Regional Studies 4:583-594.

Nieman, S.C. and C.E. Johnson. 2021. Net geochemical release of basic cations from 25 forested watersheds in the Catskills region of New York. Frontiers in Forests and Global Change. 4:667605.

**Organizations:** what organizations, agencies, Universities, or groups were involved with this

project? Please provide the *Name* and *Role* in the project (Lead Institution, Partner, Funding Provider, or Provided Volunteers).

New York State Energy Research and Development Authority, NYSERDA, Funding Provider

Syracuse University, Lead Institution

**People:** what people were involved with this project? Please provide *Name, Affiliation, Status* (Active or Retired), *Project Role* (Project Lead/Principal Investigator, Student, Participant, Site Operator), and *Start Date* in the project (YYYY-MM-DD).

Chris Johnson, Syracuse University, Active, Project Lead/Principal Investigator

Mary Margaret Koppers, Syracuse University, Active, Project Coordinator

Charles Driscoll, Syracuse University, Active, Participant

Jeremy Tamargo, Syracuse University, Graduated, Student

Chris Gianfagna, Syracuse University, Graduated, Student

Sara Nieman, Syracuse University, Graduated, Student