VERMONT WATER RESOURCES AND LAKE STUDIES CENTER
DATA MANAGEMENT PLAN
FY2021–2025

This Vermont Water Resources and Lake Studies Center (Vermont Water Center) Data Management Plan (DMP) conforms to United States Geographic Survey (USGS) policy on the dissemination and sharing of research results and associated data. It is applicable for all data, samples, physical collections, software, curriculum materials, and other materials produced by research and information-sharing projects., contracts, and sub-awards funded through the Vermont Water Center.

Data and metadata
The Principal Investigator of each Vermont Water Center-funded project is responsible for providing the project data and associated metadata to the Vermont Water Center Research Coordinator within two years of data collection. There are two options from which Principal Investigators can choose to archive their data for future, public accessibility.

Option 1: Curate project data in an existing public or agency data repository that has been established for the specific purpose of storing data of the type generated by the project. Examples of public repositories are at: http://researchguides.uvm.edu/datamanagement/access. Principal Investigators who choose this option take full responsibility to upload their metadata and data with the content and in the formats required by the repository. Principal Investigators should provide the Vermont Water Center Research Coordinator a copy of the data management and sharing plan for the repository they use and the specific links to the Vermont Water Center-funded project data stored in this repository.

Option 2: Data from projects may be archived and organized into previously established cyberinfrastructure currently maintained by the Forest Ecosystem Monitoring Cooperative (FEMC) and hosted by the University of Vermont (UVM; Burlington, Vermont). The FEMC data archive, available via the website https://www.uvm.edu/femc/, provides searchable and linked information for over 200 research projects, including document archive, data display and visualization, search and download features, and metadata summaries (e.g. procedural methods, attribute information, related documents, and citation and access specifications). The website allows users to browse and search for information about projects, datasets and associated publications. Materials on the website are indexed by search engines such as Google, and the public has free access to the FEMC repository.

The FEMC has extended the Ecological Metadata Language (EML) standard (https://knb.ecoinformatics.org/#external//emlparser/docs/index.html) to document data in its system. This standard provides an extremely flexible set of modules for documenting and sharing metadata, and because of the wide-ranging and diverse data associated with ecological investigations, this flexibility is its biggest asset. For this reason, EML is the preferred standard for the Long-Term Ecological Research Network and data in EML is easily federated to other data cataloging systems through the work of DataOne (http://dataone.org/), in which FEMC is a member node.

Following standard policies set by federal and state funding agencies, all data associated with Vermont Water Center projects curated in the FEMC repository will be made publicly available for download through the FEMC archive two years after their collection, to allow time for publication. Data sharing will be open and in the public domain as governed by the Creative Commons license (http://creativecommons.org/licenses) that specifies that after the two-year

embargo period for purposes of publication, the data will be available for download through the FEMC website. The Vermont Water Center Research Coordinator may be able to provide some limited guidance on how to create metadata and data file for curation in the FEMC repository.

The research supported by the Vermont Water Center is enabled by public funding, and so there is an expectation that the data produced by these projects will be made available to the public in a timely manner. In rare instances, Principal Investigators may need to withhold some types of data for intellectual property and/or privacy reasons. Principal Investigators should discuss these needs with the Vermont Water Center Research Coordinator prior to accepting funding.

Samples, physical collections, software, curriculum materials, and other materials
Other data and materials (e.g., brochures, pamphlets, fact sheets, curricula) produced directly by the Vermont Water Center or the projects it supports will be stored directly on the Vermont Water Center website at https://www.uvm.edu/rsenr/vtwatercenter. All information is in the public domain and open access. The Vermont Water Center website is supported and backed up routinely by the University of Vermont.