The Northeast Forest Fragmentation Information Network: FragNet
A centralized location for information relating to fragmentation in the Northeast

A key challenge to forests is fragmentation – the breaking up of contiguous forest cover and alteration of the ecosystem processes and services that the forest provides. The information, data, and materials needed to understand this issue and advocate for solutions can be fragmented, too. The FEMC has created FragNet, a user-friendly and dynamic information portal and clearinghouse to collect fragmentation related studies, publications, action plans maps, policies, and other media in one convenient location. Resources can be filtered by type, topic, purpose, keyword, location, or time frame. Currently, nearly 300 resources are searchable on FragNet.

https://www.uvm.edu/femc/fragnet

Continuous Forest Inventory
Methods comparison and data aggregation

Continuous forest inventories (CFI) and related methodologies have been used by a range of agencies and organizations to systematically collect information on forest growth and condition. While these data have local utility for the organization overseeing collection, if combined, could provide a spatially-broad dataset to answer regionally relevant questions on the condition and productivity of forests. To assess the feasibility of unifying these datasets, the FEMC systematically compared the methodology of 10 CFI programs from New York, New Hampshire, Maine, Massachusetts, and Vermont. These programs collectively account for inventories on a total of 1.56 million acres (or 3.3%) of forestland in the 5-state region. We provide assessments of each program along with recommendations to increase the comparability among programs, with several key deliverables, including an interactive web portal.

The Climate Connection
Tools for understanding climate change and how it impacts forest ecosystems in the Northeast

As we learn more about climate change and its impacts, a growing wealth of resources are at our fingertips, but finding the right tool for the right question can be a daunting task. This portal makes it easier to quickly identify tools you can use to explore climate change and its specific impacts on forested ecosystem, curated by the FEMC staff and tailored to the Northeast. The Climate Connection is intended for policy makers, researchers, students and natural resource professionals to quickly find the tools they need to explore climate change and how it will impact forests in the Northeast.

The Climate Connection is a point of access for three key resources:
1. Tools for exploring how climate change will affect weather, temperature, and precipitation patterns in our region in ecologically meaningful ways.
2. Tools for exploring or quantifying the impacts on forest resources that these changes will cause, from driving pest outbreaks to reducing streamflow to changing in the timing of key seasonal events.
3. A collection of research on climate change available in the FEMC data archive

https://www.uvm.edu/femc/climate-connection

Water and Forest Connections
Improving access to information related to the connections between forest cover and water quality

Making connections between forest cover and water quality, from explaining links to a general audience to integrating data in complex analyses, is not always easy to do. Furthermore, these connections depend on the aspects of water quality being considered, such as peak flows, temperature or water chemistry. FEMC will help improve access to analytical information to address these questions and communicate these connections by working with regional forest hydrologists and water resource managers to identify information gaps.

FEMC
Forest Ecosystem Monitoring Cooperative
Regional Projects
Projects aimed to address a regional information gap

Invasive Forest Pests and Diseases in Urban Areas
Using urban forest inventory data to quantify economic impacts

The FEMC will make use of existing data collections in urban areas in the Northeast to develop a synthesis of the possible economic impacts of invasive pests and pathogens (e.g., emerald ash borer, Asian longhorned beetle) on urban forests. The output of this work will increase the data available and provide additional resources for managers and technical specialists who advocate for action to address these threats.

DendroEcological Network: DEN
Providing seamless access to ecological and dendrochronological data

The study of tree rings (dendrochronology) provides a powerful tool to understand tree growth and the response of trees to a range of environmental influences. To increase the ease and cost-effectiveness of using tree ring information, the FEMC and collaborators from the USDA Forest Service and UVM created the DendroEcological Network (DEN): an online repository for dendrochronological and associated forest ecology data, and a cyberinfrastructure for the discovery, exploration, and sharing of that data.

In the DEN, tree ring data can be searched by location, species, project, or state. Or data can be filtered by crown class, date range, or keyword.

https://www.uvm.edu/femc/dendro

Data Rescue
Finding and Preserving Data-at-Risk

A wealth of data exists that is currently inaccessible to the broader community and at risk of being lost due to retirements, natural disasters and other causes. To help remedy this situation, the FEMC is seeking to alleviate some of this risk by engaging with agencies in the region to inventory data at risk and archive these data on the FEMC data archive for increased data access and secure storage.

LOST DATA *IF FOUND PLEASE CALL*

The Northeastern Forest Health Atlas: NEFHA
A compilation of aerial survey and field datasets related to forest damage and disturbance

The Northeastern Forest Health Atlas (NEFHA) is a web portal for data related to forest damage and disturbance in the Northeast. The primary dataset featured on NEFHA comes from the cooperative aerial detection surveys (ADS) and insect and disease surveys (IDS) of forest damage conducted by state and federal agencies. NEFHA can be used to examine how forest damage has changed over time, quantify the approximate amount of damage from an agent, agents, or by damage type, and identify pertinent research. It can be used for education, or to assist with resource management and planning. NEFHA also displays field-based datasets related to forest health.

Download ADS Data
Download Research Data
Download Premade Maps
Download Map as Image

https://www.uvm.edu/femc/forest-health-atlas

Forest Regeneration Data and Trends
An inventory and analysis of forest regeneration

The FEMC is in the process of inventorying and collating research or monitoring projects, and their associated data where possible, related to tree regeneration in the Northeast. This inventory includes programs ranging from efforts to monitor herbivory by deer or moose, to the effects of silviculture on differences in regeneration, to long-term inventories, and many others. The resulting Northeast Forest Regeneration Data Portal will allow users to search and explore programs and datasets and produce estimates of regeneration trends.

Vermont Forest Indicators Dashboard
Long-term context for changes in the condition of Vermont's forest ecosystems .

The Vermont Forest Indicators Dashboard was developed in part by collaborators within the FEMC network in order to identify datasets and establish criteria for scoring indicators of forest health. Decision-makers, educators, and the general public can easily access organized information from four indicator categories: **Structure**, **Condition**, **Services**, and **Stressors**. Within each of these categories, there are multiple datasets that have been selected to best represent the category. The datasets selected characterize the forested ecosystem in objectively measurable ways and come from high quality, long-term sources. The regularly updated datasets within each of the four indicator categories are averaged based on a stakeholder-defined weighting, producing an Overall Score with a scale of 1 (impaired status) to 5 (optimum status).

https://www.uvm.edu/femc/indicators/vt