

# RESEARCH UPDATES

## GUND INSTITUTE FOR ENVIRONMENT



Stephen Posner, PhD  
Director of Policy  
January 13, 2022





# RESEARCH THAT INSPIRES ACTION

Sustainable Agriculture  
Climate Solutions  
Resilient Communities

Health and Well-Being  
Equity and Justice



The University of Vermont



# WE CONNECT WORLD CLASS SCHOLARS



# RECENT EXAMPLES

Vermont Climate Assessment

Flood risk in Vermont

Payment for Ecosystem Services and Soil Health  
Working Group



# VERMONT CLIMATE ASSESSMENT

- Our current best understanding of climate change impacts and risks in Vermont
- Key input into state climate planning decisions
- Alignment between science and decision making



# VERMONT CLIMATE ASSESSMENT

CLIMATE CHANGE IS HERE



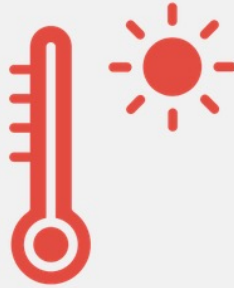
THE UNIVERSITY OF VERMONT  
**GUND INSTITUTE**  
FOR ENVIRONMENT

The Nature  
Conservancy   
Vermont





**Climate change is here –**  
and impacting communities  
across Vermont.



**Vermont is getting warmer.** Winters are warming more quickly. Snow season is getting shorter.



**Vermont is getting wetter.** Heavy rain events happen more often, contributing to more flooding and water quality problems.



**Multiple, complex impacts**  
could lead to surprises.



**Climate impacts and risks will increase** without action.



*Dig in to learn more...*



A black and white cow is positioned in a milking parlor, looking over a metal railing. The cow has a white face with black patches and a chain collar. The background shows the interior of the milking facility with various pipes and equipment.

## Agriculture and Food Systems

A dense forest of green trees covers a hillside. The trees are mostly deciduous with vibrant green foliage, and the scene is captured from a slightly elevated perspective.

## Climate Change in Forests

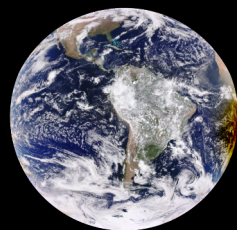
A flock of geese is grazing in a lush green field. The geese are scattered across the field, some standing and some lying down. The background features a line of trees and a fence.

## Fish and Wildlife in Vermont

A large body of water, likely a lake, is shown at sunset. The sky is filled with colorful clouds in shades of blue, orange, and pink. Several birds are flying over the water, and the shoreline is visible in the distance.

## Water Resources







# FLOOD RISK IN VERMONT

- Increasing flood risks
- More exposure for low income and socially vulnerable populations
- Need to evaluate different solutions
- Functioning Floodplains Initiative

# PAYMENT FOR ECOSYSTEM SERVICES AND SOIL HEALTH WORKING GROUP

- Incentives to encourage farmers to improve soil health
- Also examining carbon storage and reduced runoff
- Many partners – AAFM, UVM Extension, Gund, and more
- Gund research helps ground the dialogue in science, evaluate program design options, and advise decisions



# ADDITIONAL EXPERTISE

- Food insecurity
- Water, hydrology, nutrient runoff, flood mitigation
- Spatial analysis
- Plant and soil science





# PARTNERSHIPS

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- Strategic partnerships
- Collaborate across organizations
- Leverage UVM resources





# THANK YOU

**STEPHEN POSNER, PhD**

Policy Director

802.656.2591

[sposner@uvm.edu](mailto:sposner@uvm.edu)



[@Stephen\\_Posner](https://twitter.com/Stephen_Posner)

[@GundInstitute](https://twitter.com/GundInstitute)

