



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

The Gund Institute for Environment catalyzes interdisciplinary research and connects UVM researchers with external leaders. Our mission is to mobilize scholars and leaders to understand and solve critical environmental problems.

The Gund Institute is well situated to harness the talents of scholars across UVM and to be a resource to policymakers and policy staff. Gund Institute research addresses environmental issues at the intersections of four pressing themes:

- Climate Solutions
- Health and Well-being
- Sustainable Agriculture
- Resilient Communities

Areas of expertise include:

<b>Agriculture</b> <i>Food systems, plant and soil science, crops and pests, pollination, agroecology, forestry and forest ecology</i>	<b>Climate and energy</b> <i>Climate impacts, mitigation, and adaptation; transition to renewables; solar, wind, biofuel, biomass, geothermal</i>
<b>Conservation science</b> <i>Ecosystem services, invasive species, wildlife and biodiversity</i>	<b>Economics and business</b> <i>Ecological economics, community development, sustainable business</i>
<b>Environmental policy</b> <i>Policy analysis, evaluation, natural resources management</i>	<b>Human health and the environment</b> <i>Air pollution, mental health benefits of nature, soil and water contamination</i>
<b>Infrastructure and design</b> <i>Environmental engineering, urban green infrastructure, stormwater management, ecological design, ecological restoration</i>	<b>Social dimensions of the environment</b> <i>How people value nature, anthropology, environmental justice, refugees and migration</i>
<b>Spatial analysis</b> <i>GIS, changes in land use / land cover, global change</i>	<b>Water</b> <i>Hydrology, water quality, nutrient runoff, flood mitigation</i>

## Examples of current Gund research

Gillian Galford, Keri Watson, and others estimate the value of wetlands and floodplains in **protecting Vermont communities from increased risks of flooding**. This work has framed ongoing policy discussions about flood resilience and risk.

Jane Kolodinsky, Chris Koliba, and other Gund Fellows explore how to grow a **sustainable hemp industry in Vermont and beyond**, including issues related to farming, crop genetics, processing, distribution, and market development. Hemp could be a key option for diversifying rural agricultural economies.

Taylor Ricketts serves on a **State of Vermont working group** that will make recommendations to the Vermont Legislature about financial incentives to encourage agricultural practices that improve soil health, enhance crop resilience, increase carbon storage and stormwater storage capacity, and reduce agricultural runoff to waters.

Jon Erickson and Brian Voigt completed an EPA-funded study of the **links between the health of Lake Champlain and the economy** through factors such as jobs, home values, recreation, and tourism. Their estimate of the economic value of clean water shows what's at stake when water quality deteriorates.

Meredith Niles teaches a graduate course in Food Systems Policy that could provide **legislative research services** to relevant committees in the Vermont Legislature.

Samantha Algers, Taylor Ricketts, and others study how bees pollinate fruit and vegetable crops. This research involves outreach to farmers and has contributed to policies and management practices that support **pollinator health**, such as a Vermont law regulating the use of neonicotinoid pesticides.

A new Gund partnership with UVM's College of Medicine and the Maine Medical Research Center funds new collaborative **research on health and environment for rural communities in New England** and beyond.

Paul Hines, of the UVM College of Engineering and Mathematical Sciences, does research on **electric power and the transition to clean and distributed energy systems**, making it easier for Vermonters to integrate renewable electricity production into their homes or farms.

### Contact:

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