Vermont EPSCoR
Experimental Program to Stimulate Competitive Research

BREE
Basin Resilience to Extreme Events
in the Lake Champlain Basin

Arne Bomblies, PhD, PE
State Director, VT EPSCoR

What is EPSCoR?

- The Established Program to Stimulate Competitive Research
- Addresses uneven distribution of federal funds
- Currently VT has grants in NSF, NIH, NASA, and USDA
- NSF EPSCoR is $20 million over 5 years
- Since 2003, NSF EPSCoR has brought over $60M in grant money to the State; $51.6M from NIH

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Why federal EPSCoR programs require state funds

- NSF EPSCoR awarded based on partnership with the State to support
  1. research
  2. STEM workforce development
  3. Economic impacts on the state and region
- State and institutional commitment to the grant is 20% mandatory cost share; Return on investment is more than 10:1.
- Grant must be aligned with State priorities

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What we do at EPSCoR

1. Research on harmful algal blooms (lake, watershed, policy, extreme rainfall, drought) with strong ties to VT ANR for policy support
2. STEM Workforce development
   - Undergraduate internships
   - High school internships
   - Graduate education
   - Support for girls and women in STEM fields
3. Private sector funding and economic development
   - SBIR Phase 0 program
   - Launch VT and Accel-VT support
   - I-Corps short course

The Problem: Algal Blooms Harm the Health of the Lake

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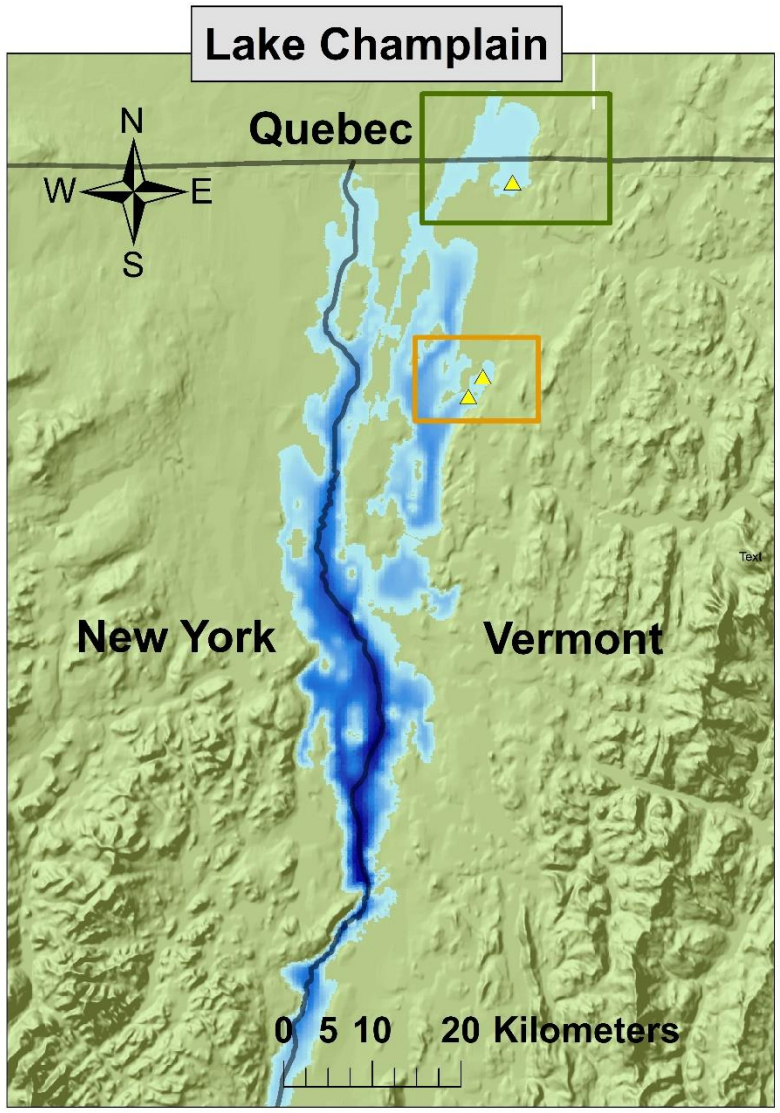

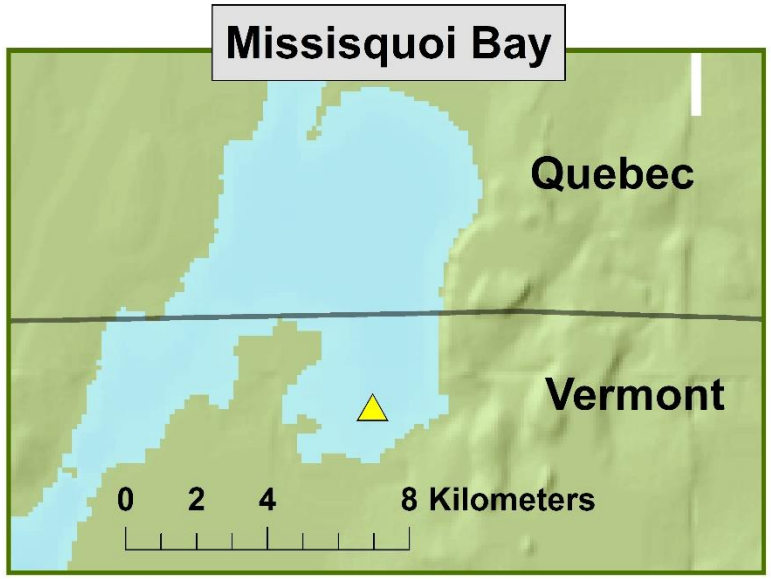

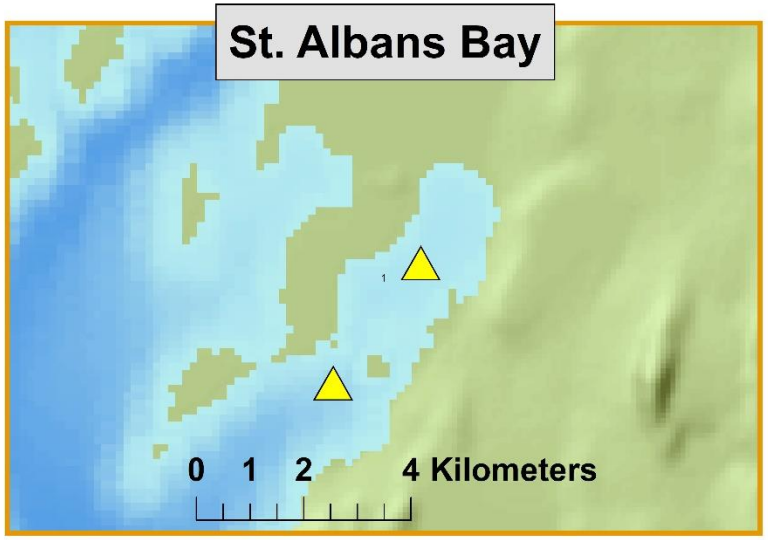

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Integration Across the State

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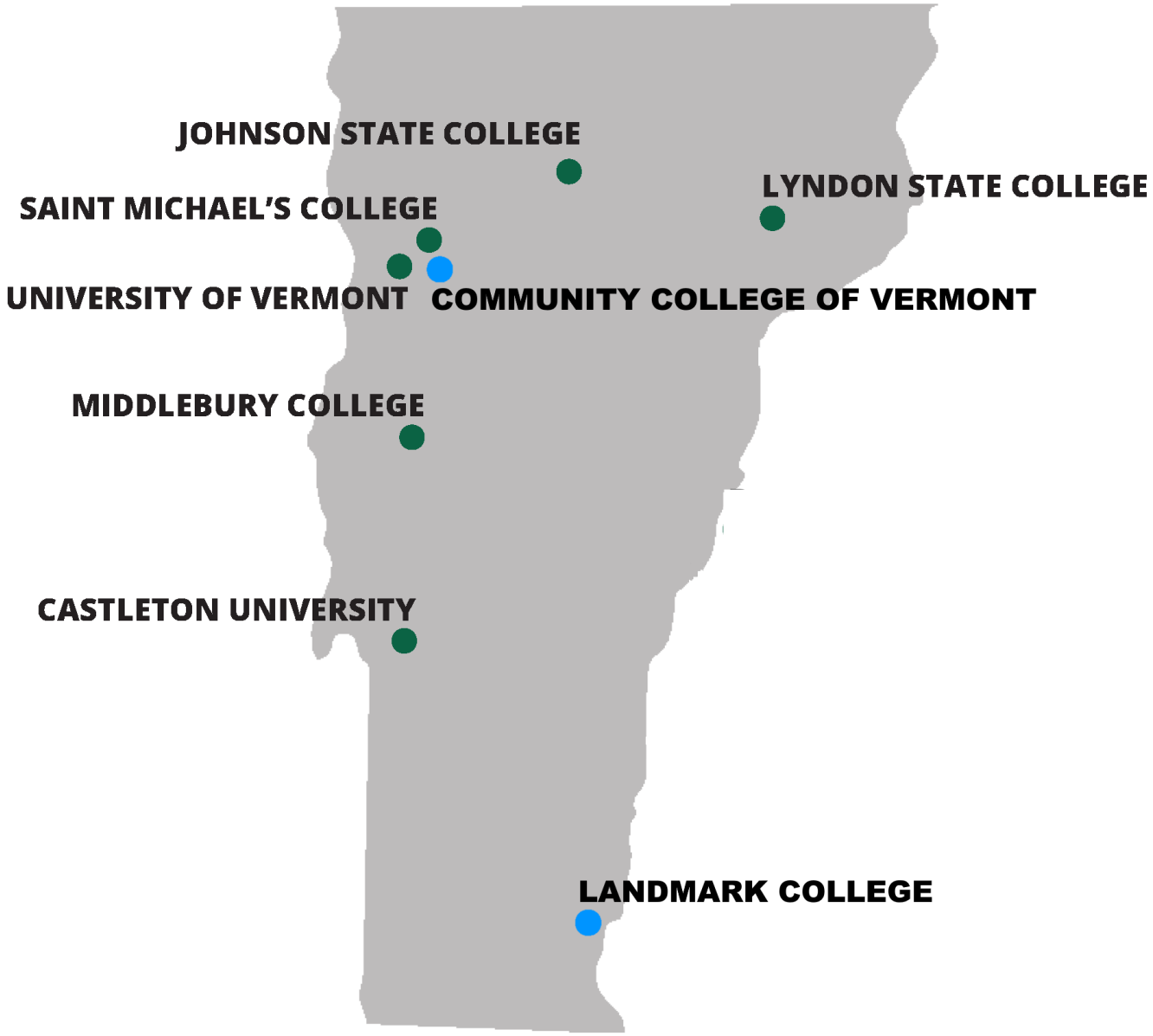

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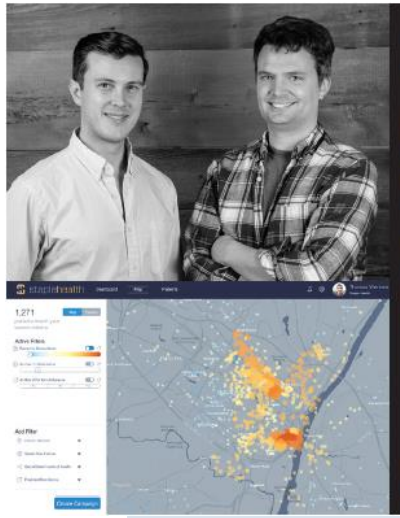
EPSCoR SBIR Phase 0 Program

- MicroStrain
- Benchmark Systems
- Staple Health
- MicroBrightField
- Packetized Energy
- And many more…



"The benefit we received from the VT EPSCoR SBIR Phase 0 program extended well beyond early seed funding. Program administrators helped to guide us towards a wealth of local resources, including the I-Corps and I-Trep programs, that set us on a path for continued growth and success."

— **Nick Lovejoy**
Founder | Staple Health

TOP PHOTO, LEFT TO RIGHT: NICK LOVEJOY, CHRIS EBERLY, CO-FOUNDER

"MicroStrain, Inc. has leveraged EPSCoR Phase (0)'s into significant Federal R&D: 8 Phase (0)'s amounting to about $60,000 has resulted in 11 Phase I, 5 Phase II and 3 Phase III awards totaling about $8.2M"

Steve Arms, President, MicroStrain, Inc.

"We needed a way to bridge our research in the lab with a commercial product. A Phase (0) award gave us time and resources to develop a competitive Phase I proposal."

Dr. Ryan McDevitt, P.I.
GreenScale Technologies
Phase (0) Project
Micro-Scale Thruster for Small Satellites

Undergraduate Interns Participate in All Aspects of Research

Undergraduates, with their graduate student and postdoc mentors, have been directly involved in sensor installation, maintenance, sampling, analysis, data management, surveys of stakeholders, and more!

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Native American and First Generation Student Scholarships