THE UNIVERSITY OF MAINE

Regional Research Development Collaborations: Potential and Possibilities

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University of Maine and
University of Maine at Machias

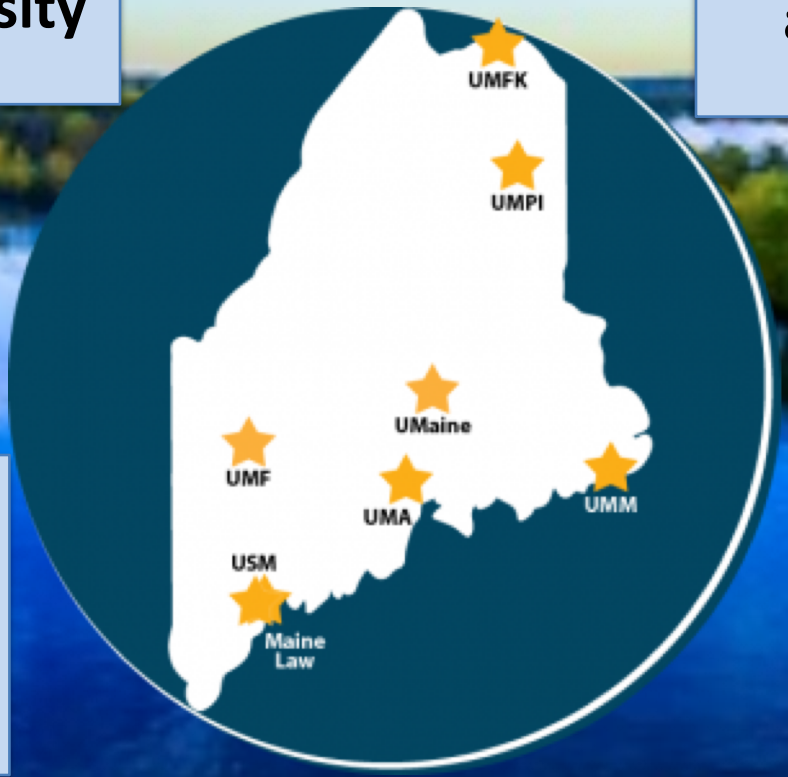
Presentation at the National Organization of Research Development Professionals – New England, Virtual Summer Roadtrip to Maine, September 16, 2020

- UMaine context
- Research development in strategic planning
- Inter-institutional research collaborations
- Insight from my tenure at NSF
- Facilitated discussion to gain ideas for near and long term opportunities

UMaine Context

Maine's only public research university

Carnegie R1 aspirations

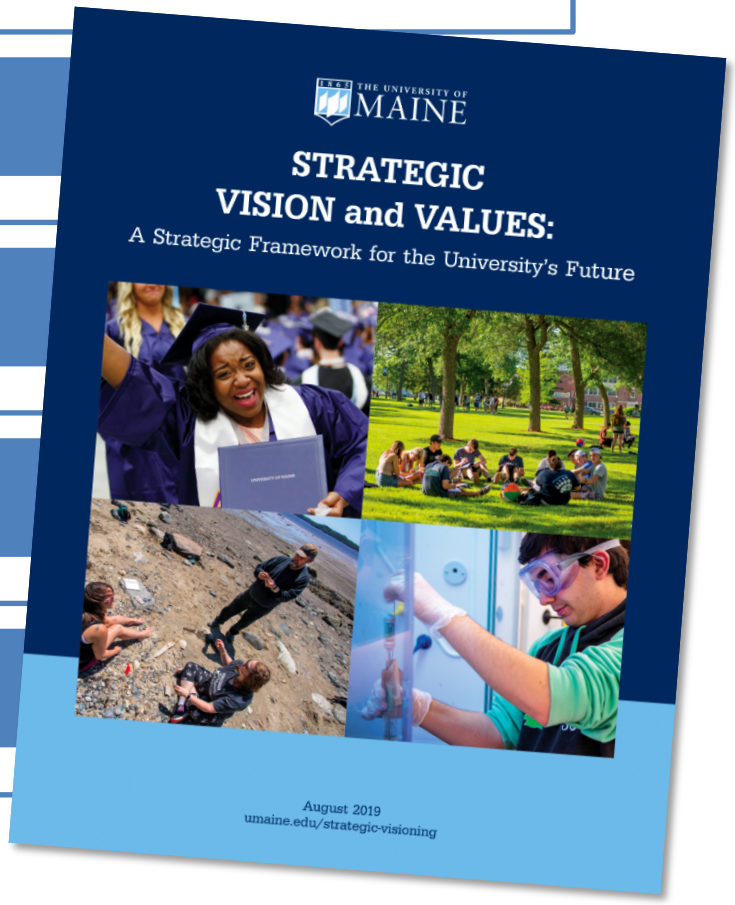


Land, sea, and space grant institution

Flagship campus of the University of Maine System

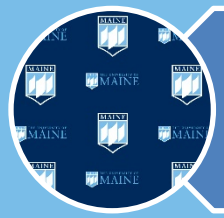
Areas of Research Strength

- Marine Science
- Earth and Climate Science
- Engineering
- Forestry and the Environment
- STEM Education



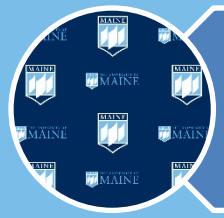
Areas Targeted for Growth

NIH



Energy

NASA



Foundations/Corporations

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Strategic Roadmap to Achieve Carnegie Classification of Highest Research Activity

Kody Varahramyan
Vice President for Research and Dean of the Graduate S

October 2019

R1

Global Impact
Local Relevance
s Research University at Work
umaine.edu/research

THE UNIVERSITY OF MAINE SYSTEM

Research

AND DEVELOPMENT PLAN FY20–FY24

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

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R&D Plan Findings

Investment by the State of Maine and the University of Maine System in R&D has been essential to reach our current R&D capacity.

Each System campus has its own unique, engaged R&D core of expertise that should be further strengthened.

Across the University of Maine System we have been failing to compete as well as we should for significant Federal funding, and our facilities, infrastructure, and administrative support for R&D are inadequate in several fields important to Maine's future.

R&D Plan Findings

Across the System undergraduate students are engaging in authentic research experiences and community-engaged research initiatives that are benefitting the region and the state.

The private and non-profit sectors and the Maine State Government are eager for expanded R&D interactions with higher education.

Maine's Public Universities

UNIVERSITY OF MAINE SYSTEM

R&D Plan Goals and Highlights

UMS R&D Plan Goals

1. Make Maine the best state in the nation in which to live, work, and learn by 2030.

2. Establish an innovation-driven Maine economy for the 21st century.

3. Prepare the knowledge-and-innovation workforce for Maine.

Highlights to date

1. Grand Challenge Initiative Launched – *Rural Health and Wellbeing*

2. Growth in extramural research dollars

3. Emphasis on partnerships and research learning

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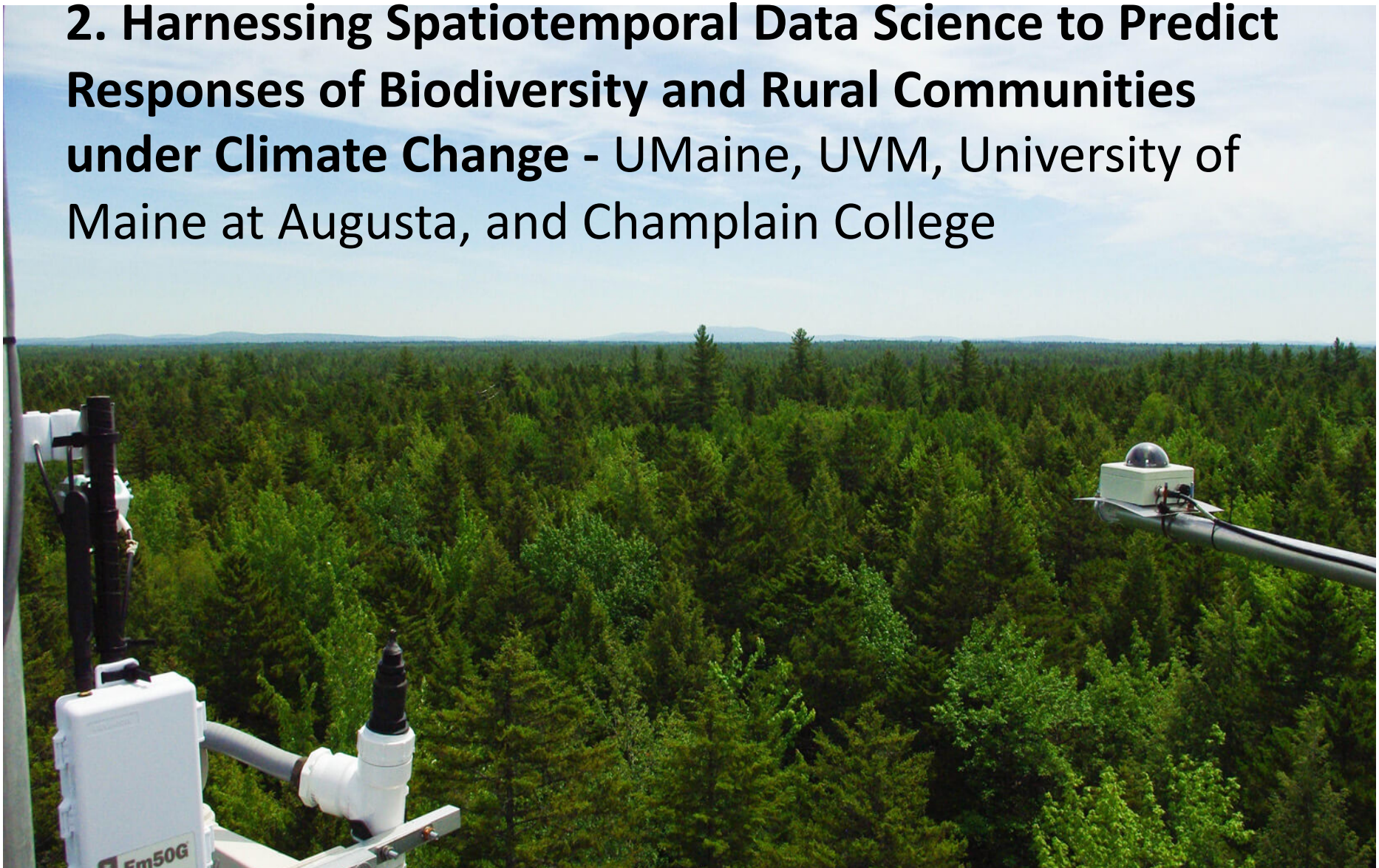
Current Collaborative Partnerships

$20 million additive manufacturing initiative connects local economies with national lab, UMaine resources

UMaine receives DOE funding to advance VolturnUS floating offshore platform

1. Leveraging Intelligent Informatics and Smart Data for Improved Understanding of Northern Forest Ecosystem Resiliency (INSPIRES) - UMaine, UVM & UNH

2. Harnessing Spatiotemporal Data Science to Predict Responses of Biodiversity and Rural Communities under Climate Change - UMaine, UVM, University of Maine at Augusta, and Champlain College



UMaine and NU Research MOU Executed, 5/9/20

- Joint seed grant funding program request for proposals released with a July 22, 2020 deadline
- Interdisciplinary proposals with UMaine and NU faculty teams working together to address any of the following areas, or combination thereof:
  - **Artificial Intelligence**
  - **Earth and Climate Sciences**
  - **Health and Life Sciences**
  - **Manufacturing**
  - **Marine sciences**
- Up to 3 projects will be selected in the inaugural round funded at a level up to $50,000 for one year

NSF's 10 Big Ideas | Research Ideas

Harnessing Data for 21st Century Science and Engineering

Credit: NSF slide

The Future of Work at the Human-Technology Frontier

Nav[illegible] the New Arctic

The Quantum Leap: Leading the Next Quantum Revolution

Understanding the Rules of Life: Predicting Phenotype

Windows on the Universe: The Era of Multi-messenger Astrophysics

NSF's 10 Big Ideas | Process Ideas

Growing Convergence Research at NSF

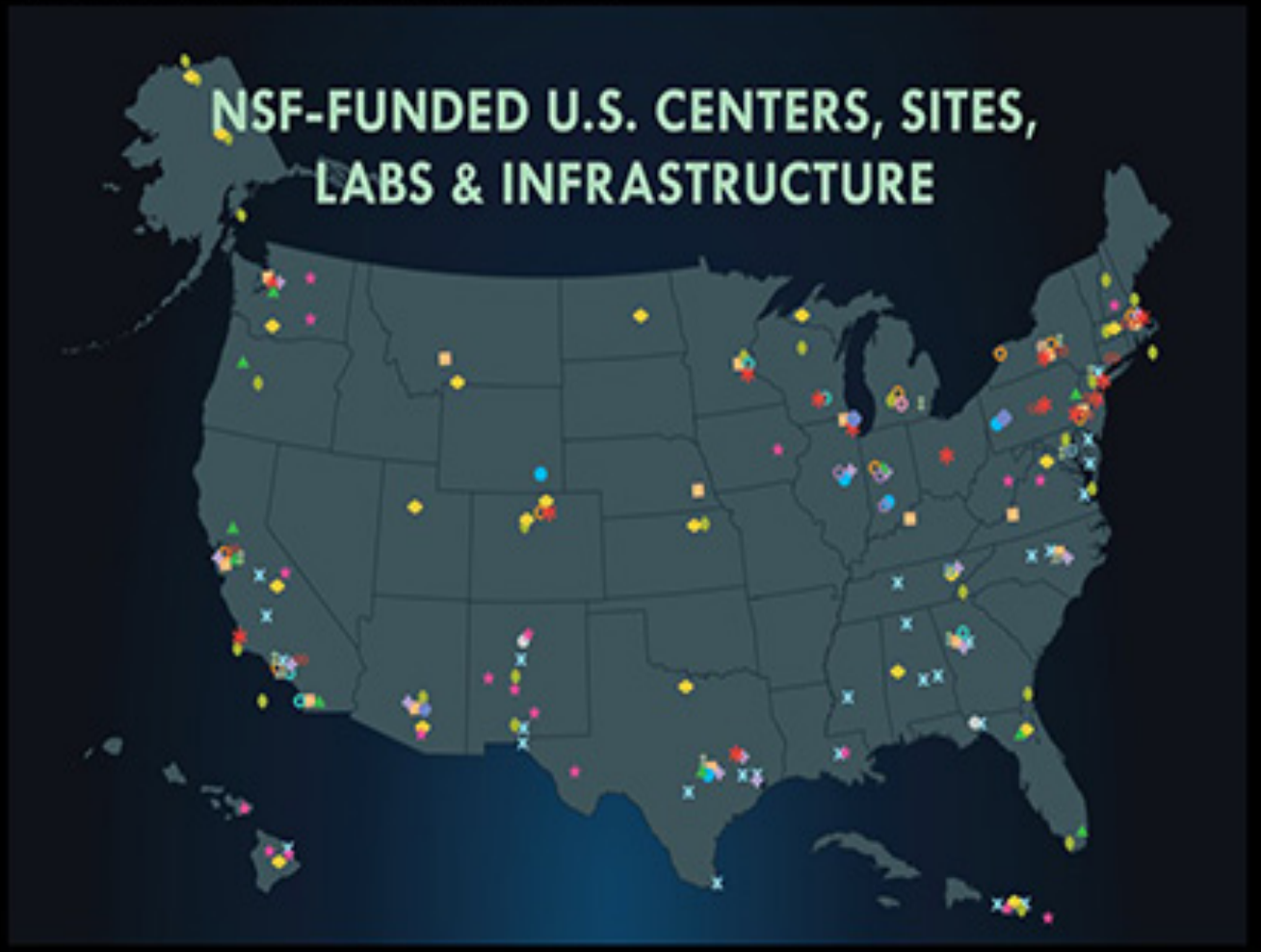
NSF 2026: Seeding Innovation

NSF INCLUDES: Enhancing STEM through Diversity and Inclusion

Mid-scale Research Infrastructure

Credit: NSF slide

NSF Presence in the U.S.



Credit: NSF slide

Thank you!

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