



**Maine EPSCoR at the University of Maine**  
5717 Corbett Hall, Room 444, Orono, ME 04469-5717  
Phone: (207)-581-2285 Fax: (207)-581-9487  
maineepscor@umit.maine.edu  
[www.umaine.edu/epscor](http://www.umaine.edu/epscor)



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## **Maine EPSCoR Receives \$20M National Science Foundation Grant for Sustainability Initiative**

Contact: Vicki Nemeth, Director, Maine EPSCoR, 581-3399, [maineepscor@umit.maine.edu](mailto:maineepscor@umit.maine.edu)

The University of Maine, in conjunction with the University of Southern Maine, Governor John Baldacci, and other state government leaders announced that it has received a \$20 million National Science Foundation EPSCoR (Experimental Program to Stimulate Competitive Research) grant for its Sustainability Solutions Initiative.

The research portion of this five-year Maine EPSCoR initiative, led by the Senator George J. Mitchell Center at UMaine, will bring together core research teams from UMaine and USM, as well as government and industry stakeholders to improve the science and practice of sustainable development.

“I am delighted by this exciting news, and am convinced that the Mitchell Center, the University of Maine, and their many partners can play a pivotal role in creating a brighter economic, social, and environmental future for the people of Maine,” said Senator George Mitchell.

The initiative will create partnerships with many of Maine’s colleges and universities for research and education efforts designed to advance economic and community development while protecting the environment. It will also provide support for 200 to 300 people, mainly in the research sector, with the ultimate goal of building capacity for generating solutions to a range of challenging problems.

“At UMaine, we are pleased to play a central role in this project but, even more important, we are delighted that virtually every Maine institution of higher learning, plus businesses, government agencies and other constituencies, will join in this effort,” said UMaine President Robert Kennedy. “This is when Maine is at its best, when we work together to pool our expertise and share our resources while working toward a common goal.”

Michael Eckardt, UMaine’s Vice President for Research, commented that “Maine’s future depends on the ability to move forward with economic development in a manner that sustains our vital natural resources.” This view led UMaine, in addition to the five-year NSF EPSCoR grant, to contribute an additional \$1 million per year to this project from its Maine Economic Improvement Fund support. UMaine and all collaborating partners will also contribute an additional \$1 million per year of in-kind support in the form of faculty salaries and use of research facilities.

Initially, the project will include a focus on problems related to urbanization and forest management. For example, portions of southern Maine have experienced rapid sprawl while record sales of private forest lands and mill closures are transforming the social and economic fabric of northern and western Maine. To address these multifaceted problems, the research team includes more than 30 faculty with expertise in a wide range of fields, including environmental science, engineering, economics, communication, and public policy.

“I’ve never seen such an extraordinary group of talented, passionate, and dedicated researchers work together so effectively towards a common goal. When you couple this unparalleled level of teamwork with our breadth of expertise and unwavering commitment to problem-solving, you have a one-of-a-kind initiative that can generate broad-based benefits for Maine,” said David Hart, Director of the Senator George J. Mitchell Center and Research Project Director for Maine’s Sustainability Solutions Initiative.

"This initiative combines the distinctive public policy capacity of the University of Southern Maine's Edmund S. Muskie School of Public Service with recognized strength in the natural sciences, social sciences, and engineering at both USM and the University of Maine. Faculty at both our institutions will apply their cutting-edge research expertise to the needs of the state of Maine as our communities contend with sprawl, changing energy costs, and the potential to create a green economy" said USM President Selma Botman. "USM is committed to partnering with our colleagues at UMaine and other institutions to improve our state's economy and quality of life for its citizens."

An integral part of this project is for teams of faculty and students to work with a variety of partners, including leading businesses and industries. “Business and communities are being transformed by changes in the global economy, rising energy costs, and a realization that a healthy environment is needed for long-term prosperity. We all need to learn sustainable practices to survive and thrive. The Sustainability Solutions Initiative will position Maine as a leader in the field by conducting research and providing training to solve some of the most challenging problems of our times,” Albert Curran, Co-founder and Chairman of the Board at Woodard & Curran, said.

Researchers will also collaborate with non-profit organizations focused on community development in rural Maine. "The Sustainability Solutions Initiative, with its commitment to translating research into on-the-ground impact in support of healthy economies and ecosystems, is greatly needed in Maine and can help catalyze a variety of business development opportunities related to forest-based industries, agriculture, and workforce development,” said Carla Dickstein, Vice President for Research and Policy Development at Coastal Enterprises Inc.

The project also will provide for statewide education initiatives at all grade levels in science, technology, engineering, and mathematics (STEM). “The National Science Board has indicated that the nation is failing to meet the needs of our students in STEM education, which has serious implications for our future workforce. Maine’s educational partners are in a very strong position to have a significant impact on STEM education for the state,” said Vicki Nemeth, Maine EPSCoR Director. “Our coordinated strategy will develop students' STEM skills, interest, and career paths for all levels of K-20 education.”

EPSCoR is a federal program directed at states that have historically received smaller portions of federal research and development funding. The program provides states with financial support to develop partnerships between their higher education institutions, industry, government, and others in order to effect lasting improvements in infrastructure, capacity, and national competitiveness.

Maine EPSCoR at the University of Maine is responsible for administering and implementing the NSF EPSCoR program for the state.

For more information see:

[www.umaine.edu/epscor/](http://www.umaine.edu/epscor/) or  
[www.umaine.edu/sustainabilitysolutions/](http://www.umaine.edu/sustainabilitysolutions/)

# Maine's Sustainability Solutions Initiative

*Building sustainability science initiatives to strengthen our economic, social and ecological future*



*A Member of the University of Maine System*

Producing knowledge and linking it to actions that meet human needs while preserving the planet's life-support systems is emerging as the most fundamental and difficult challenge for science in the 21st century. There is growing consensus that traditional methods of generating and using knowledge must be fundamentally reorganized to confront the breadth, magnitude, and urgency of many problems now facing society. Maine's

Sustainability Solutions Initiative (SSI), a partnership between the University of Maine, University of Southern Maine and other institutions of higher education seeks to transform Maine's capacity for addressing these scientific challenges in ways that directly benefit Maine and other regions. The program of research will also help Maine increase economic activity and technological innovation in ways that sustain the State's remarkable "quality of place".

## **Building Interdisciplinary Teams & Stakeholder Partnerships**

Solving sustainability problems requires unprecedented levels of program integration involving a high degree of interdisciplinary teamwork and robust university-stakeholder partnerships. Our strategy for strengthening sustainability science and practice has two major components. First, all SSI research teams include experts in the social, economic, and ecological dimensions of sustainability challenges as well as researchers skilled in linking knowledge to action (e.g.,

experts in communication, political science, public policy). Second, these interdisciplinary teams work in close partnership with stakeholders to maximize the relevance and potential value of research for decision-making. Our collaborative approach rests on a foundation of mutual respect, open communication, and a belief in the value of diverse ideas and experiences.

## **Understanding Landscape Change**

Initially, SSI will focus on understanding three pressing drivers of landscape change — urbanization, forest ecosystem management, and climate change. Landscape change has not only been identified as one of the grand challenges in the environmental sciences by the National Research Council, it is also a central concern in recent reports focusing on the future of Maine's economy and way of life. For example, portions of southern Maine are experiencing rapid sprawl while record sales of private forest lands and mill closures are transforming the social and economic fabric of northern and western Maine. In addition, climate change will likely alter the composition and function of forests, influencing their ability to meet traditional markets as well as potential new markets (e.g., carbon sequestration and bioproducts). Our ultimate goal is to build SSI's capacity for generating solutions to an array of sustainability problems in and beyond Maine (e.g. renewable energy, alternative transportation, water resource management).



## **Benefits to Maine**

We expect that SSI will benefit Maine by: 1) facilitating collaborative interdisciplinary research to understand how social, economic, and ecological systems respond to changing demographic, market, biophysical, and political conditions; 2) generating and sharing information among researchers, stakeholders, and decision-makers aimed at developing public policies that sustain economic opportunity in concert with preservation of environmental quality; 3) exploring innovative ways of promoting communication between stakeholders and researchers and delivering educational tools to students and teachers engaged in analysis of sustainability issues in the classroom; and 4) establishing vital state-wide networks among government agencies, NGOs and the private sector focused on improved management of natural resources and the development of key technology clusters in the Maine economy.

For more information visit:  
[www.umaine.edu/SustainabilitySolutions](http://www.umaine.edu/SustainabilitySolutions)