

Current Activities and Future Priorities of the Northeast U.S. to Address Climate Impacts in Agriculture

BY PENNSYLVANIA STATE UNIVERSITY
AND CORNELL UNIVERSITY | AUGUST 2016



PURPOSE | To determine the current and future research and Extension capacity of land-grant universities (LGUs) in the Northeast U.S. relative to the agriculture, natural resources, and forestry sectors.

METHODOLOGY & DEMOGRAPHICS | The population consisted of all Extension professionals, faculty, and scientists from the 16 land grant universities in 12 Northeastern states in the Colleges of Agriculture (N=3,757). An online survey was conducted using Qualtrics, which was reviewed by a panel of experts, and pilot tested in the Southern Region of the U.S. The response rates were as follows: 1,211 participants responded out of 3,757 (32.2%). Where 554 of 1,211 (45.7%) dedicated at least 1% of their time to climate change activities. 494 (of 554) respondents answered this segment of the survey.



DETERMINE TOP CLIMATE FOCUS

OBJECTIVE 1 | Determine the top climate change focus areas.

- *The top focus areas where respondents indicated conducting climate change work were: Natural Resources (38.8%), Cropping Systems (30.7%), Social Sciences (22.9%), Plants (22.0%), and Environment (20.8%).*



WILLINGNESS TO TAKE PART IN CLIMATE ACTIVITIES

OBJECTIVE 2 | Willingness to take part in future climate change activities. To assess future priorities respondents were asked to rank the top five most important activities out of a series of seventeen activities. Within the top five for all three participant groups were:

- *Training Extension educators and providing them support on climate change.*
- *Developing decision-support tools and websites for Extension, consultants, and farmers.*
- *Conducting costs-benefit analyses on implementing adaptation/mitigation strategies.*



CLIMATE CHANGE RELATED ACTIVITIES

OBJECTIVE 3 | Activities related to climate change impacts, adaptation, and mitigation.

- *Both Extension and research faculty identify similar top mitigation, adaptation, and impact activities (see back for listing of top climate change activities being addressed by Extension and research).*



TOP 6 MITIGATION ACTIVITIES (N=554)	Research	Farm Management 29.2% , Socioeconomic 20.4% , Energy 17.3% , Greenhouse Gas 17% , Policy and Planning 15.9% , Forestry 9.9%
	Extension	Socioeconomic 37.5% , Farm Management 29.8% , Policy and Planning 17.5% , Energy 16.2% , Forestry 11.7% , Greenhouse Gas 11.4%
TOP 6 IMPACT ACTIVITIES (N=554)	Research	Ecosystem 48.2% , Weather 37.4% , Agriculture 30.9% , Aquatic and Sea 17.7% , Socioeconomic 17.3% , Forest 13.2%
	Extension	Ecosystem 42.8% , Weather 35.2% , Agriculture 30.3% , Socioeconomic 19.5% , Aquatic and Sea 13.5% , Forest 13.4%
TOP 6 ADAPTATION ACTIVITIES (N=554)	Research	Resource & Land Management 41.3% , Crops 18.6% , Planning 18.6% , IPM 13% , Socioeconomic 12.5% , Policy 9%
	Extension	Resource and Land Management 42.8% , Planning 22.4% , IPM 20.4% , Crops 20% , Socioeconomic 15.9% , Policy 12.5%

CONCLUSIONS AND FUTURE PRIORITIES | Findings from this study provide insight into the current activities and future priorities that land-grant university research and Extension personnel in the Northeast are conducting to address climate impacts in agriculture. The respondents of this study represented research faculty, Extension specialists, and Extension educators from the 16 land-grant universities in the Northeastern U.S.

- 1 The top climate change focus areas found were: natural resources, cropping systems, social sciences, plants, and the environment.
- 2 Training Extension educators, developing decision-support tools, and conducting costs-benefit analysis are the top future climate change activities respondents are willing to participate in.
- 3 For future priorities, respondents are most interested in collaborating on regional research and programming initiatives, attending workshops and conferences, and developing and implementing educational programs.

ABOUT USDA NORTHEAST CLIMATE HUB | Our mission is to develop and deliver science-based knowledge and practical information for land managers and farmers to support their decision making related to climate impacts. We work in partnership with local, state, and federal governments, land grant institutions consultants, and private organizations reaching across twelve states from Maine to West Virginia and the District of Columbia.

Research team: Kaila Thorn (Pennsylvania State University), Rama Radhakrishna (Pennsylvania State University), Dan Tobin (Pennsylvania State University), Allison Chatrchyan (Cornell University), Joana Chan (Cornell University) and Shorna Allred (Cornell University)

Photo credits (front, top to bottom): USDA (Lance Cheung), Scott Bauer, USDA, Scott Bauer, and USDA

USDA is an equal opportunity provider, employer, and lender