A Study of Maryland Climate-Smart Agriculture

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16 February 2023

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CENTER FOR AGRO-ECOLOGY

COLLEGE OF
AGRICULTURE &
NATURAL RESOURCES

Impact of Maryland Agriculture

- Maryland agriculture is diverse
- Food, feed, fiber and equine is a $20.9 billion industry, supporting 105,151 jobs
- 12,400+ farms on approximately 2 million acres of land

Top commodities

- Poultry
- Grain
- Greenhouse/nursery
- Dairy
- Livestock
- Vegetables

Recent trends include:

- Aging farmer population
- Increasing female producers
- Expansion of urban agriculture efforts
- Increased interest in beginning farmer programs

Why a Climate Assessment for Agriculture is Needed

Climate Impacts …

Crops

Pollinators

Invasive Species

Soil

Pests

Livestock

But Also:

- Disease; Biodiversity; Water; Infrastructure; Insurance; Farm worker health; Rural communities

Scientific consensus predicts climate change impacts are expected to:

- Continue and intensify
- Impact both in-land and coastal agriculture and many, if not all, agricultural sectors
- Be compounded by sea-level rise
- Necessitate enhanced management of farm operations

What Producers Told Us

Concern for:

- Farmers are already experiencing impacts on their operations
- Conditions may change quickly and the ag community must be prepared to adapt quickly
- Drought followed by extensive rainy periods and varying storm intensities
- Impact from increases in major weather events like hurricanes
- Pest and wildlife pressure
- Investment in costly equipment and infrastructure to face a changing climate
- General loss of agricultural land (saltwater intrusion, development, etc.)

Stated needs include:

- Fine-resolution climate data
- New tools, but maintain current ones
- Research that can be practically applied and easily understood
- Adaptable and resilient crops and tree species
- Economic impact estimates
- Funding for a variety of mitigation strategies and technologies
- Predictive and accurate weather forecasting
- Climate adaptation and mitigation strategies
- Address research gaps

Maryland Climate-Smart Ag Vulnerability Assessment

The Assessment Process:

- $500,000 provided in Maryland 2022 supplemental budget
- Led by Hughes Center, in collaboration with MDA, MDE and guided by Project Leadership Team (PLT) and project coordinator
- PLT representatives of farmers from varying regions, sectors and sizes. Also included are UMD AGNR and Extension, DNR, Chesapeake Bay Commission, USDA Northeast Climate Hub
- Scientific experts identified and convened
- Open RFP solicitation for assessment
- **A network of stakeholders to provide feedback on their experiences and identify needs to address climate change impacts**
- Work with Maryland Commission on Climate Change (MCCC) to ensure timely response to resulting recommendations

Outcomes:

- Improvements in policies and programs that support the farming industry's resiliency over time, mitigate impacts and provide environmental benefits and ecosystem services to Maryland.
- Position Maryland and the state's top industry to prepare and adapt to issues resulting from climate change
- Science-based knowledge of how the changing climate will likely affect the state's A) Production of crops, livestock, and forestry; B) Weed, insect, pest and disease pressure for production; and (C) Soil Health

Timeline

Year 1:

- Hire Project Coordinator; ✓
- Coordinate with Maryland Commission on Climate Change; (In progress)
- Identify research needs, including convenings of scientists; ✓
- Stakeholder outreach plan updated; (IP)
- Project Leadership Team convenes; ✓
- Issue and award RFP; (IP)
- Legislative updates and engagement with new administration and officials; (IP)
- Written Progress Report – July 1, 2023.

Year 2:

- Continued coordination with MCCC – recommendations built into annual report;
- Continued outreach to research and farming community, including in-person workshops;
- Writing, Workshopping and Final Report Due – June 30, 2024.

The Ask

Create a hive of information sharing:

- Examination of similar physiogeographies for shared challenges and solutions.
- Climate-related observations and challenges observed in their territories.
- Possible tools and techniques being tried that merit more research and field demonstrations.
- Share climate-related research pertinent to our research team.
- Providing feedback.
- Collaborate in the creation of a longer-term information and feedback hub.

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