Phase I Climate Vulnerability Assessment for Maryland Agriculture

Rural Summit — Dec. 1, 2021

Agriculture, Forestry and Local Government Climate Change Response Strategies

Prepared by:



About the Hughes Center

Founded in 1999, the Hughes Center is a nonprofit affiliated with the UMD College of Agriculture and Natural Resources (UMD AGNR)

Mission: To provide leadership to promote environmentally sound and economically viable agriculture and forestry as Maryland's preferred land use through research, outreach and collaboration.

Research

- Funded more than 70 research projects totaling more than \$10 million
- Provides unbiased, science-based guidance

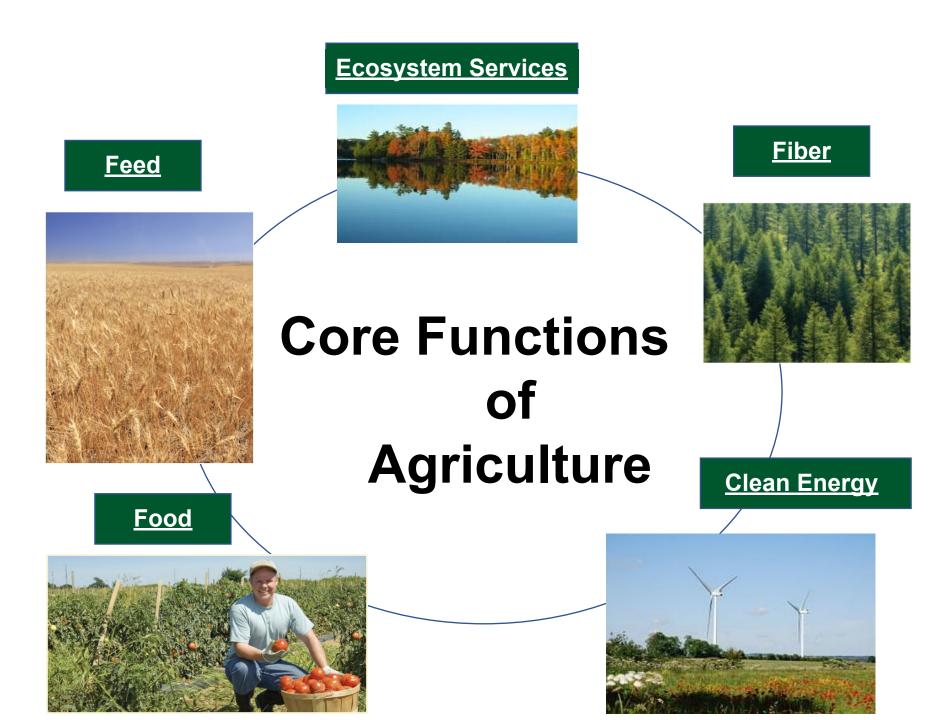
Education and outreach

 Example: Watershed Implementation Plan (MD and Conowingo) outreach to ag and local government sectors

Collaboration

- The Center works with others to maximize resources
- We are not the experts, but facilitators









































Climate Impacts













Pollinators

Pests









Invasives

Disease

Infrastructure

Water









Soil

Biodiversity

Insurance

Forecasting



Phase I Vulnerability Assessment

Concerns:

- Climate changing at an accelerating rate
- Maryland and agriculture particularly vulnerable to climate change

Request:

- 2021 General Assembly Joint Chairmen's Report budget narrative
- Study in preparation for a Maryland agriculture climate vulnerability assessment (Phase II)
 - Hughes Center, MDA and MDE
 - What we know (data, experts, expected threats)
 - Who is impacted
 - What are the resources needed for a full study?
- Worked with Project Leadership Team:
 - UMD AGNR and Extension
 - DNR

Phase I Vulnerability Assessment

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

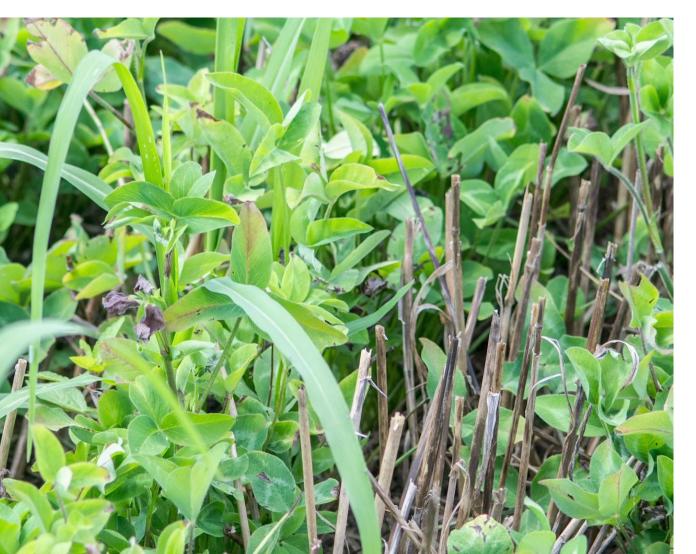
What farmers are telling us:

- Farmers are already experiencing impacts to their operations
- The varying impacts underscore need for stakeholder involvement as decision-makers seek solutions

What we need to better understand:

- Fine-resolution climate data
- Economic impact estimates
- Climate adaptation and mitigation strategies
- Research gaps

Phase II Vulnerability Assessment



Phase II Process:

- Led by UMD AGNR, Hughes Center, state agencies
- Work with Maryland Commission on Climate Change (MCCC) to ensure timely response

Includes:

- Review and analyze recent research/identify future research
- Robust stakeholder engagement
- Identified response strategies to improve resilience, mitigate impacts and reduce greenhouse gas emission

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