

# Climate Change and the Role of Land-Grant Universities

Southern Administrative Heads and CARET Joint Summer Meeting

Clemson University Madren Conference Center

Saturday, July 31 10:40-11:00 am

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# ESS Survey Results: SAES Climate Research Capacities

80% survey response rate (62 of 77 SAES)

- ARD, NCRA, NERA, SAAESD & WAAESD - climate change agenda and portfolio

93% SAES have a climate research portfolio (64% medium to large)

Climate research capacity across 14 defined domains

- Sustainable Agriculture, Food Security and Food Safety (90%)
  - Natural Resources, Biodiversity and Water Resources (77%)
  - Renewable and Biofuels (60%)
  - Carbon Emissions, Carbon Sequestration and Carbon Banking (60%)
  - Efficiency of Nutrient Use in Managed Livestock or Agronomic Systems (55%)
  - Climate Change Science and Modelling (55%)
- 86% have competitive grant funding that supported climate research
    - Hatch/Evans Allen capacity grants and state resources (top 2 after competitive)

# Gaps and Opportunities

## Limited ESS expertise ( $\leq$ 30% all institutions)

- Equity and Impact on Communities of Color (16%)
- Social Change and Impacts; Communications (18%)
- Human Health and Urban Environments (29%)

## Gap: Social Sciences and Policy Domains

- Targeted for research capacity growth or future investment

## Opportunity: accelerate social science progress in addressing climate change impacts

- Focused investment in human capital: broad hiring initiatives or program redirection
- Engage social science experts outside of the traditional SAES boundaries
- Institutions as focal points or centers of excellence to drive change
- 1890s and ARD transformational position climate change focus on equity and impact on communities of color

## Gap: <50% of institutions have laboratories uniquely configured to address climate issues or have state-of-the-art instrumentation

## Opportunity: facilities and instrumentation are areas ripe for investment

- Aligned with current BAA infrastructure advocacy (ARIA)
- 13 Federal agencies competitive grant funding (encourage interagency collaborations and agreements)

# Ongoing System Activities

## 2021 Experiment Station Section Meeting – Olympic Valley, CA - September 27-30

- Session: Agricultural Research is the Solution to Climate Change
  - Panel: *Addressing the Challenges to Agriculture and Forestry Presented by a Changing Climate*
  - Tabletop Discussions: Strategies that leaders can take in the next 3-5 years that have national potential to adapt to or mitigate climate change

## 2022 Southern Mini Land-Grant Meeting – Texas A&M & Prairie View A&M – May 17-19

- Session: Climate Influences on Agriculture in the Southern Region

## National Extension Climate Initiative - <https://nationalextensionclimateinitiative.net/>

Concerted effort within and between states and regions and at the national level to coordinate and manage climate outreach activities, share resources, provide networking opportunities, and promote professional development.

## Advocacy and Education Toolkit - <https://advocacy.extension.org/#climate>

Over 200 unique programs that address aspects of climate education including mitigation, resilience, and adaptation.

# Food and Agriculture Climate Alliance (FACA)

...consists of organizations representing farmers, ranchers, forest owners, the food sector and environmental advocates that are working together to define and promote shared climate policy priorities.

## 3 Principles:

1. Support voluntary, market- and incentive-based policies
2. Advance science-based outcomes
3. Promote resilience and help rural economies better adapt to climate change

## 6 Areas of Focus:

1. Soil health
2. Livestock and dairy
3. Forests and wood products
4. Energy
5. Research
6. Food loss and waste

## Founding Members

- American Farm Bureau Federation
- Environmental Defense Fund
- FMI-The Food Industry Association
- National Alliance of Forest Owners
- National Association of State Departments of Agriculture
- National Council of Farmer Cooperatives
- National Farmers Union
- The Nature Conservancy

# Food and Agriculture Climate Alliance (FACA)

## Policy Recommendations

- Providing voluntary, incentive-based tools for farmers, ranchers and forest owners to maximize the sequestration of carbon and the reduction of other greenhouse gas emissions.
- Supporting the development and oversight of private sector markets for GHG credits.
- Promoting public and private sector tools to incentivize farmers, ranchers and forest owners to prioritize and scale climate-smart practices.
- Offering incentives for farmers to reduce energy consumption, increase use of on-farm renewable energy, and make continued progress toward reducing the lifecycle GHG emissions of agriculture- and forestry-based renewable energy.
- Streamlining consumer-facing packaging and implementing a public private-partnership to reduce the GHG impact of food waste and loss within the food value chain.
- Increasing federal investment in agriculture, forestry and food-related research substantially and continuously.

# The Role of Land-Grant Universities

- Inventory existing resources to determine gaps in research, teaching curricula, data sets and agricultural producer engagement
- Develop platforms that assist producers in accessing climate-smart practices and resources
- Move quickly from small scale projects to replicating applied research to adoption
- Establish goals and priorities for food and agriculture to address climate resiliency
- Promote adaptability and resilience in food and agriculture
- Integrate the behavioral changes necessary to adopt new practices and technologies

# Moving Forward

## CFERR climate change/resiliency working group

- Representatives from all five boards (BAA, BOAC, BoHS, BNR, and CVM)
- Charles Valentine Riley Memorial Foundation cosponsor and conveyer
- Short-term Goal: NIFA conference planning grant
  - Initiate system-wide discussion on the LGU role in climate change/resiliency
    - Virtual meeting this fall to frame the conversation
    - Face-to-face meeting in Kansas City (with NIFA) late winter 2022
- Outcomes: Response/action plan for LGU's - white paper & symposium