

Climate and Other Unknowns:

Implications for Farm Decisions and Risk Management in the Rural South



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Research Context

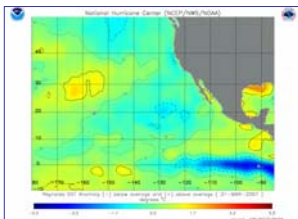
- Southeast Climate Consortium
 - Multidisciplinary, applied research project involving universities in GA, AL, and FL
 - Goal: develop climate-based decision support tools to reduce farmers' vulnerability to climate variability
- Research questions
 - How does climate interact with other factors to shape risk management strategies?
 - What kinds of climate information will best support better risk management by farmers?

Research Setting

- Sample: 45 farmers
- Sites: 21 counties in South Georgia
- Methods: Semi-structured interviews
- Agroecology: Mixed production systems



- Climate variability and agriculture
 - *El Niño*: High temps. in Pacific → cool and wet in Southeastern US.
 - *La Niña*: Low temps. in Pacific → warm and dry in Southeastern US.



Decision Environment for Agricultural Risk Management

- Decision-making goals
 - Maintain lifestyle and cover expenses
 - Repay debt, avoid foreclosure
 - Maintain land-ownership and equity
 - Satisfy the market demands (quality, consistent, timely output)
- Risk management strategies
 - Irrigation (expensive and highly variable)
 - Crop diversification
 - Planting dates
 - Crop insurance
 - Secondary incomes
- Notions of agricultural disaster
 - Crop failure
 - Foreclosure on farm
 - Community instability
 - National food insecurity



Photo by Joel Paz

Potential for Climate Information in Agricultural Decision-Making

- Decisions with potential to be influenced by climate forecasts
 - Crop selection
 - Planting dates
 - Marketing strategies
 - Labor management
 - Input purchases
 - Crop insurance coverage
 - Credit structures
- Non-climate variables affecting agricultural risk management
 - Commodity prices
 - Input prices
 - Credit options
 - Insurance constraints
 - Policy environment
 - Price supports
 - Trade policies
 - Labor regulations
 - Immigration



USDA

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Challenges to Farmers' Use of Climate Forecasts

- **Unequal access** to forecasts
- Discrepancy between **temporal and spatial scale** of forecasts and agricultural decisions
- **Inflexibility** of heavily capitalized farming operations
- Relative uncertainty of forecasts compared to **non-climate variables**
- Discrepancy between farmers' and scientists' **understandings of key concepts** (probability, accuracy)
- Potential for other actors (credit, insurance, or commodity brokers) to **leverage forecasts over farmers**



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Emerging Research Questions

- How do farmers' understand and apply probabilities in decision-making?
- What are economic and ecological thresholds for management changes?
- How does farm failure affect community stability and structure?
- How do farmers' construe their identities vis a vis the food system?