EMERGING NICHE CLIENTELE FOR CLIMATE SERVICES:
ORGANIC FARMERS IN GEORGIA (US)

Carrie A. Furman¹, Carla Roncoli¹, Todd Crane¹,², Joel Paz¹,³, and Gerrit Hoogenboom¹

¹ University of Georgia, ² Wageningen University, ³ Mississippi State

90th Annual Meeting of
The American Meteorological Society:
Atlanta GA, January 17-21, 2010
A multi-disciplinary collaboration of experts in:

- Climatology
- Marine & Atmospheric Sciences
- Crop modeling
- Agronomy
- Economics
- Anthropology
A climate-based decision support system (DSS) for agriculture and natural resource management
## Why Organic Farmers?

<table>
<thead>
<tr>
<th>GEORGIA'S SIX YEAR GROWTH</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer only farmers' markets</td>
<td>9</td>
<td>12</td>
<td>18</td>
<td>27</td>
<td>51</td>
<td>62</td>
</tr>
<tr>
<td>Certified* organic producers</td>
<td>10</td>
<td>20</td>
<td>26</td>
<td>33</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>Certified* organic acreage</td>
<td>273</td>
<td>413</td>
<td>665</td>
<td>1,076</td>
<td>1,565</td>
<td>3,081</td>
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</tbody>
</table>
A member supported non-profit whose mission is to integrate healthy, sustainable and locally grown food into the lives of all Georgians

www.georgiaorganics.org
METHODOLOGY

Survey responses n=40

In-depth Interviews n=31
PARTICIPANT PROFILE

Profile of organic farmers in Georgia

- Are full-time farmers
- Are first generation farmers
- Have been farming for 10 years or more
- Have been farming for 5 years or less
- Are between the ages of 20 and 40
- Farm 10 acres or less
- Have a bachelors’ degree or higher

Interview  Survey

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%
**Farm Characteristics**

**Production systems:** 70% produce, 21% livestock, 35% high value crops (i.e. flowers, herbs, etc.)

**Farms size:** range = 5 to 100 acres, median = 8 acres

**Ownership:** 65% own all their land

**Irrigation:** 90% irrigate 75-100% of their land

**Insurance:** 15% have crop insurance

**Marketing:** 100% sell directly to consumer
DECISION DRIVERS

Factors that drive agricultural decisions

- Land and soil quality
- Weather and climate
- Market demand and price
- Personal preference
- Costs and availability of inputs
- Infrastructure and equipment
- Access to labor
- Family tradition
- Cooperative affiliation
- Access to loans
- Insurance
- Government payments

[Bar chart showing importance of factors with 'Extremely Important' in blue and 'Often Important' in orange]

- Extremely Important
- Often Important
**Risk Management**

- Simple, low-cost technologies
- Staggered/Succession Planting
- Crop Diversification
- CSA membership
RISK MANAGEMENT

Farmers who ALWAYS or OFTEN take climate forecasts into account when making agricultural decisions

- Years farming (<1-2)
- Years farming (3-10)
- Years farming 10+

0% 10% 20% 30% 40% 50% 60%
**Sources of Information**

Where organic farmers get agricultural and technical information:

- Conferences and workshops
- Web searches
- Farmers' markets
- Agricultural extension services
- Customers and suppliers
- Farm associations and cooperatives
- Newspapers and magazines
- Consultants
- TV
- Radio

![Bar chart showing sources of information](chart)

- **Always**
- **Often**
Most farmers surveyed strongly agree (60%) or somewhat agree (31%) that climate change is happening.

Of those that agree climate change is happening, they feel it is caused by...
(n=36)

- Human causes
- Natural causes
- Both human and natural causes
Among those who believe in climate change, how does this belief impact their decisions? (n=32)
INFORMATION NEEDS

- Link seasonal climate outlook to pest or disease outbreaks, percent probabilities of rain, and crop yields
- Create an irrigation tool that shows needs relative to rainfall
- Indicate times when temps are outside optimum range
- Show soil temperatures (prediction & real-time)
- Show regional average temps in 10 yrs blocks for trends
- Post a weather/climate history link
- Develop tools specific to crops popular with organic farmers
- Create a carbon footprint tool
POTENTIAL APPLICATIONS

Critical planning timeframe: *December-February*

- Plan irrigation
- Select varieties to plant
- Budget for cost of water
- Budget for cost of feed
- Budget for specialty crops
- Budget for the CSA
RECOMMENDATIONS

- Partner with key boundary organizations to facilitate user’s participation & to enhance legitimacy
- Adapt decision support tools to users’ specific interests and risk management habits
- Capitalize on user’s preferred information sources (websites, workshops, farmers’ networks)
- Foster social learning by enabling users to experiment with tools and to jointly process results
- Use salient issues (ex. climate change) to capture users’ attention and to convey other important information
- Understand how cultural meanings, values, and practices affect users’ risk information processing
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Direct questions and comments to:  
Carrie Furman- cfurman@uga.edu  
www.agroclimate.org