

Agricultural Economics Department Research Update

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Associate Professor

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Who am I?

- Associate Professor at Oklahoma State University
- Senior Fellow, National Center for Food and Agricultural Policy (NCFAP) in Washington, D.C.
- Co-Editor of *Agricultural and Resource Economics Review*, Special Issue Editor for *Agricultural Finance Review*
- Research focus is International Markets, Trade, & Policy (75% Research, 25% Teaching)
- I am a lawyer (JD) and an

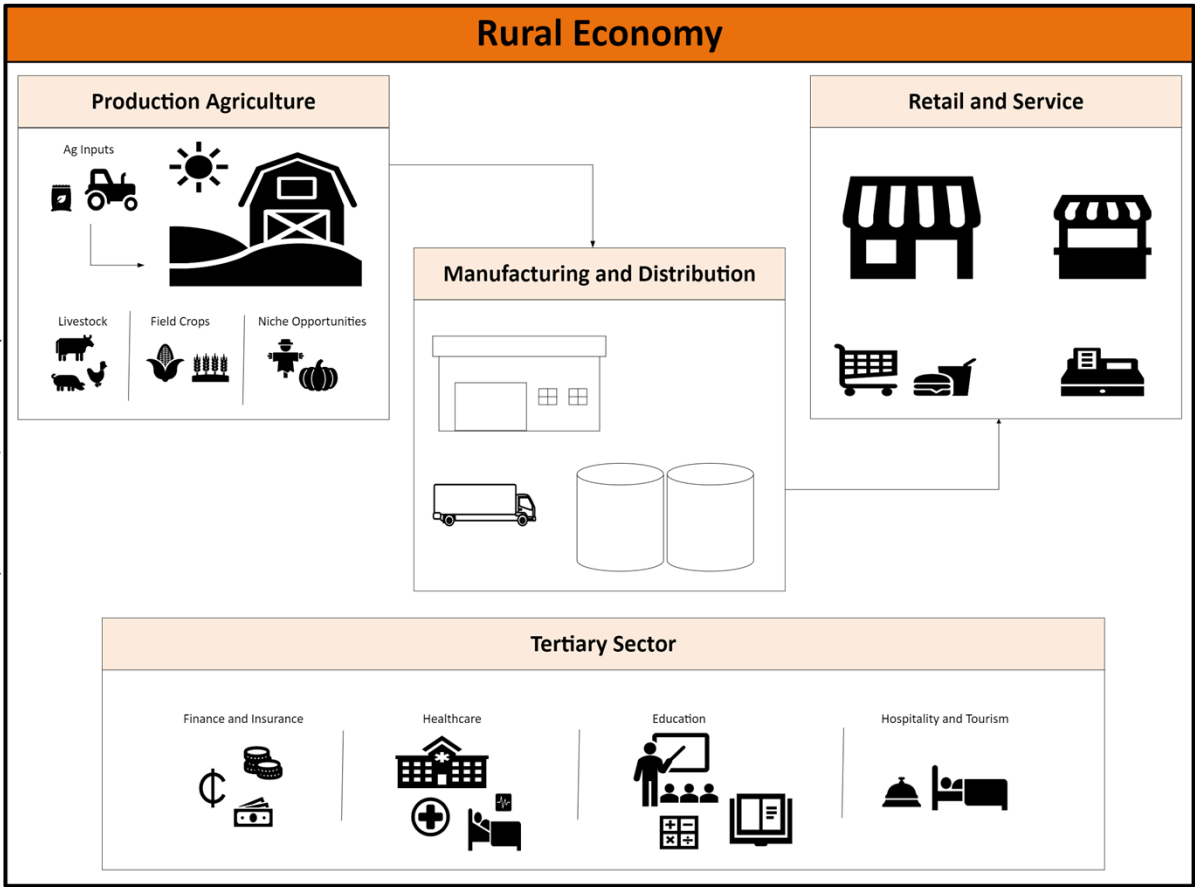
Overview

21 Faculty Members Conducting Applied Research

Departmental Research Strengths

- Livestock Economics
- Rural & Regional Development
- Precision Agriculture

Ag Econ Research and the Rural Economy



External Forces

National & International Market Forces

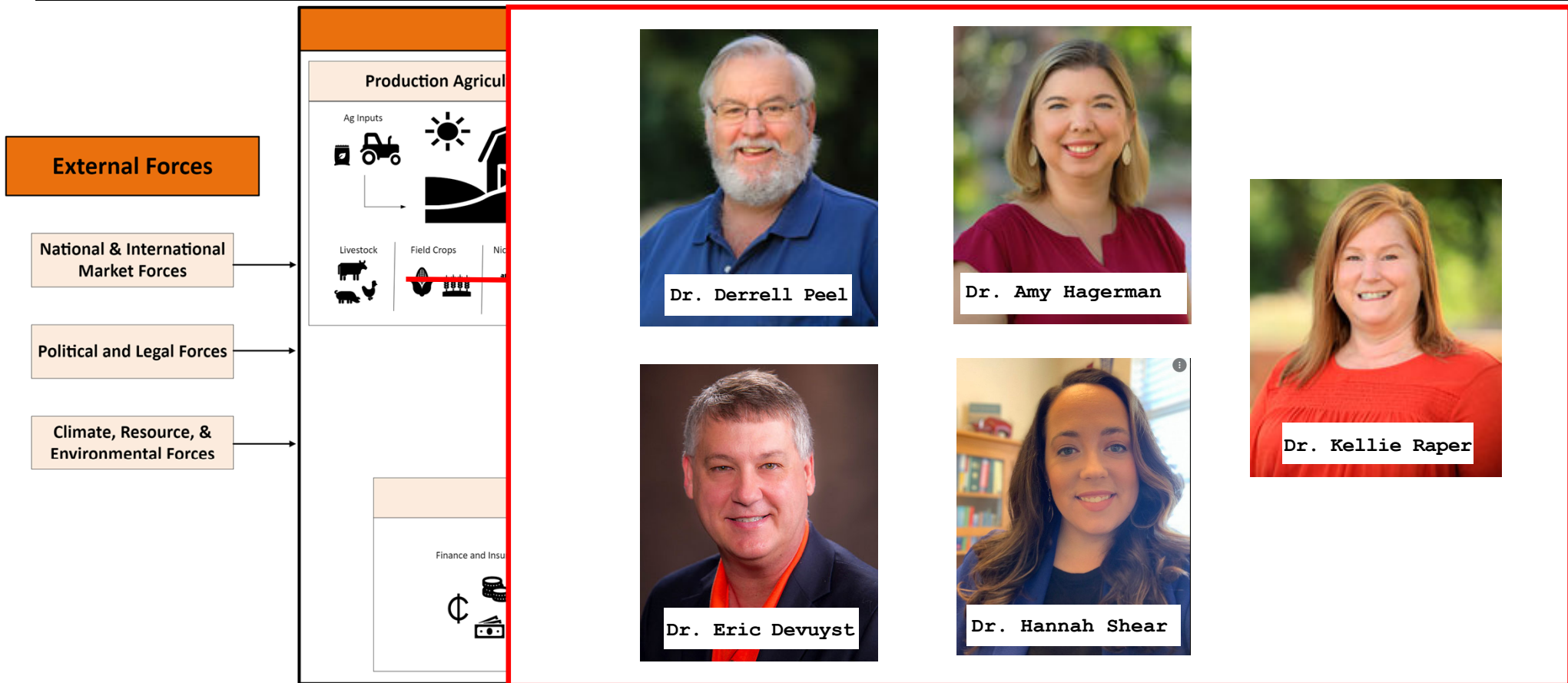
Political and Legal Forces

Climate, Resource, & Environmental Forces

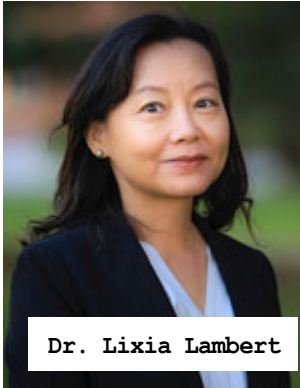
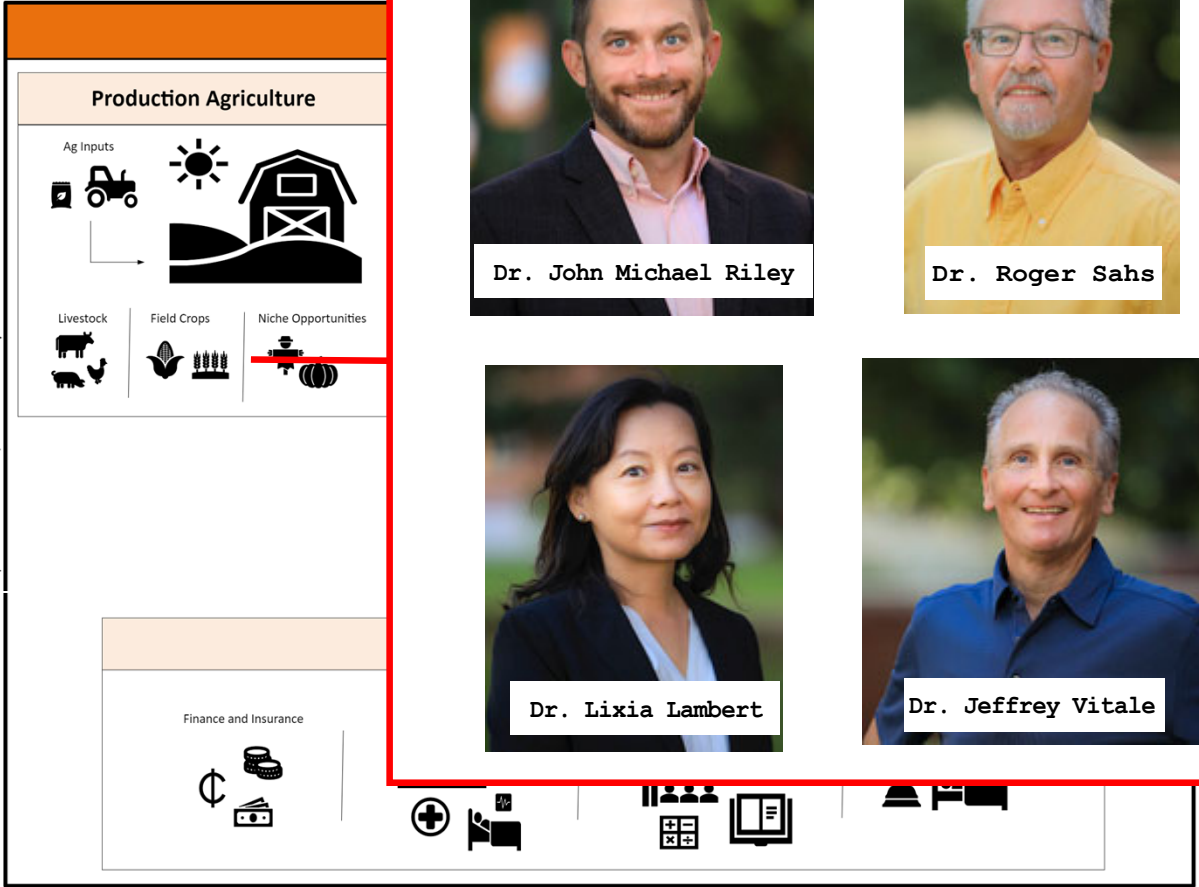
Barometers of Community Vitality

- Jobs
- New Businesses
- Property Values
- Food Security Outcomes
- Health Outcomes
- Educational Attainment

Ag Econ Research and the Rural Economy



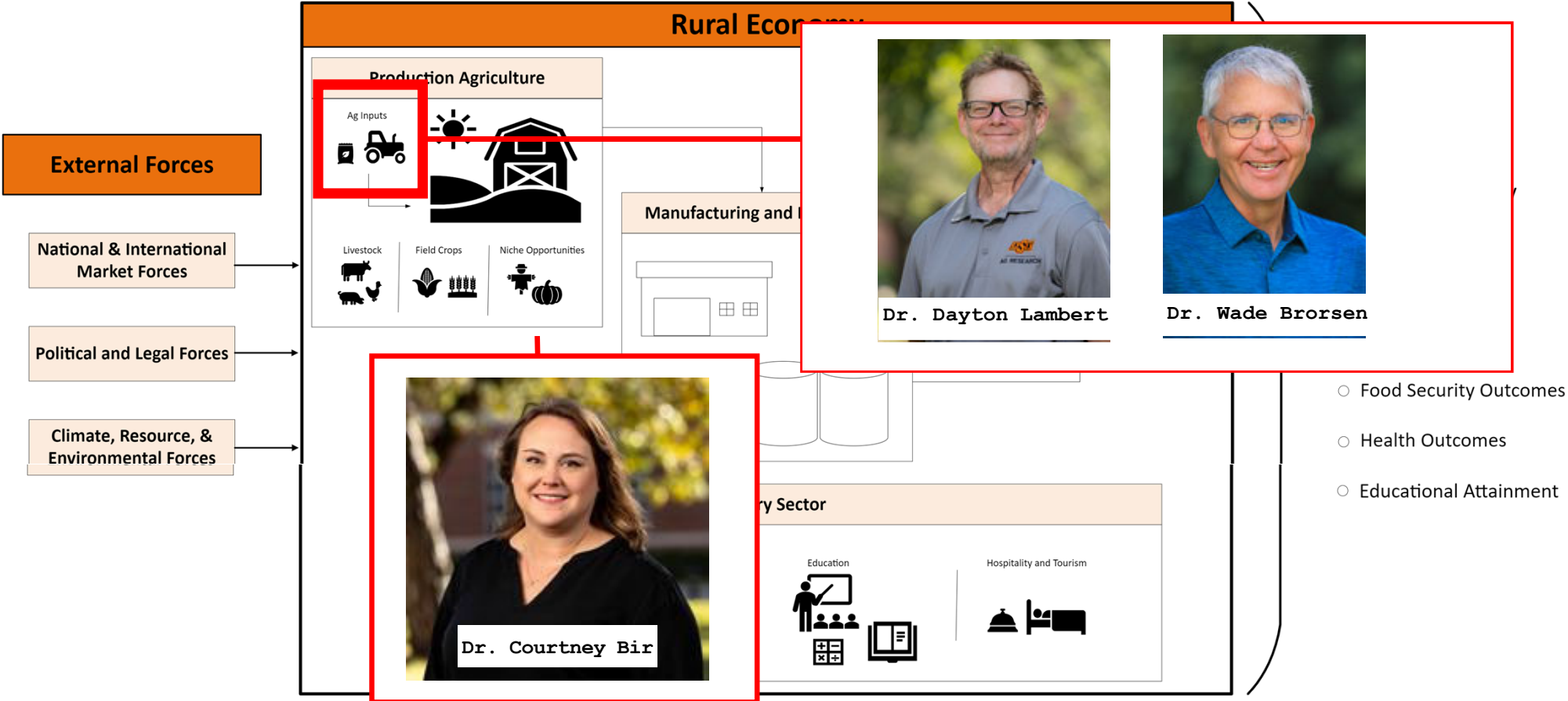
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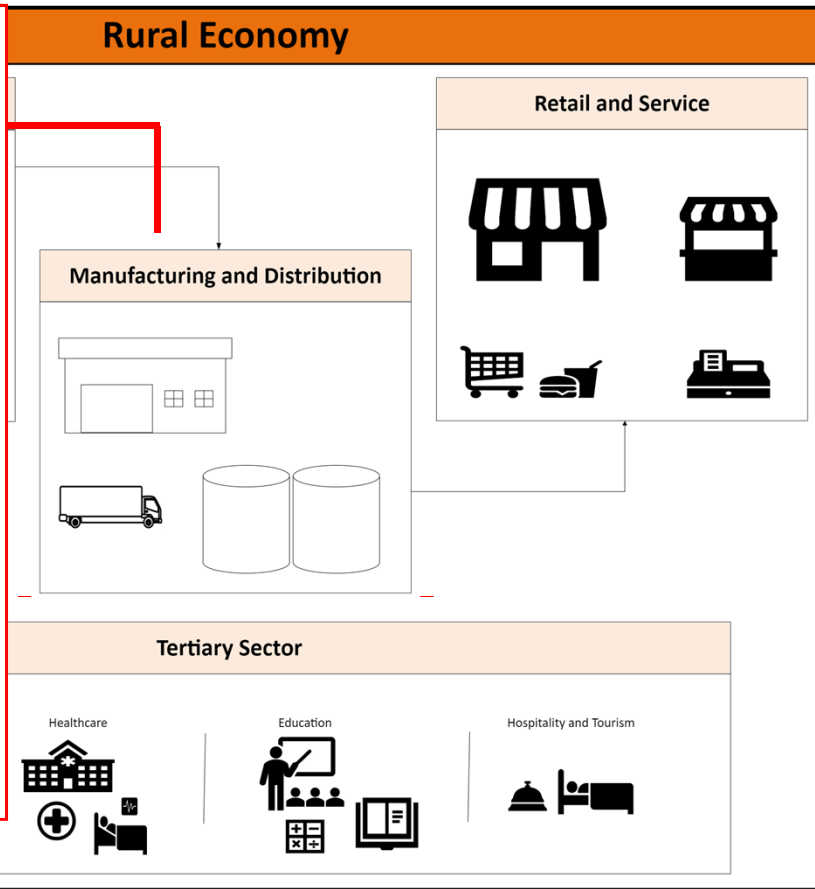
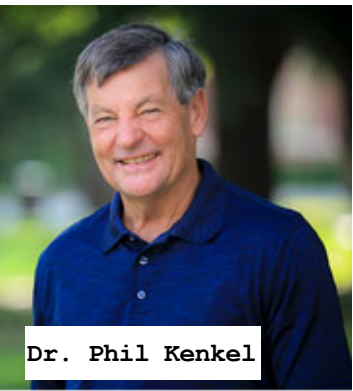
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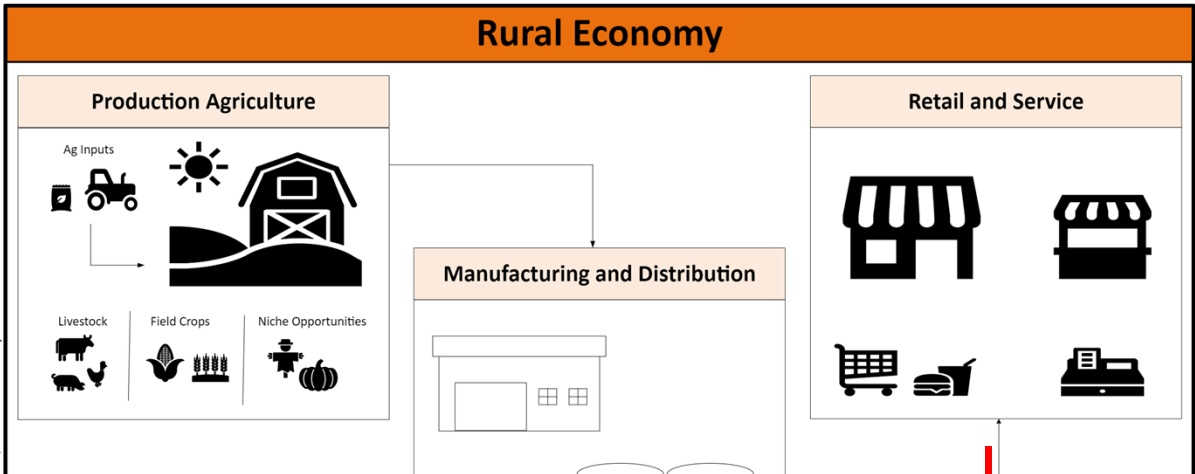
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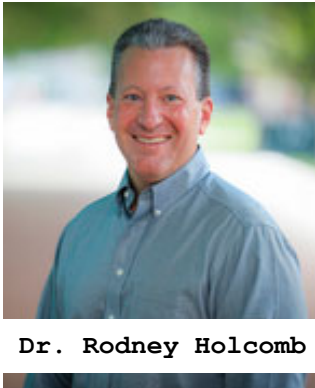
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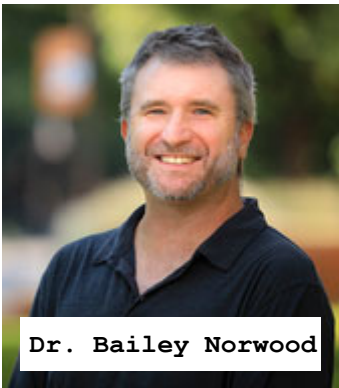
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Dr. Rodney Holcomb



Dr. Bailey Norwood

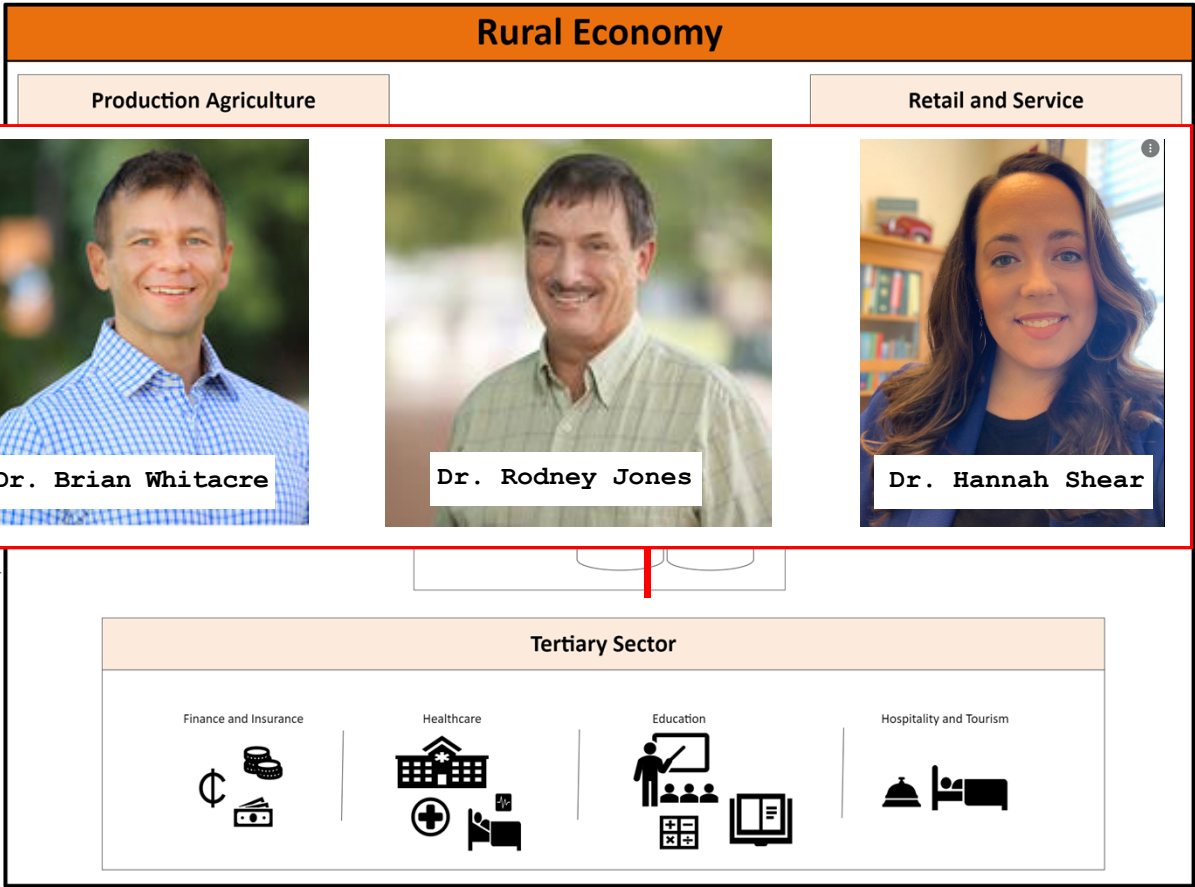


Dr. Courtney Bir



Dr. Brian Whitacre

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Dr. Bhawna Thapa



Dr. Deepthi Kolady



Dr. Chanjin Chung

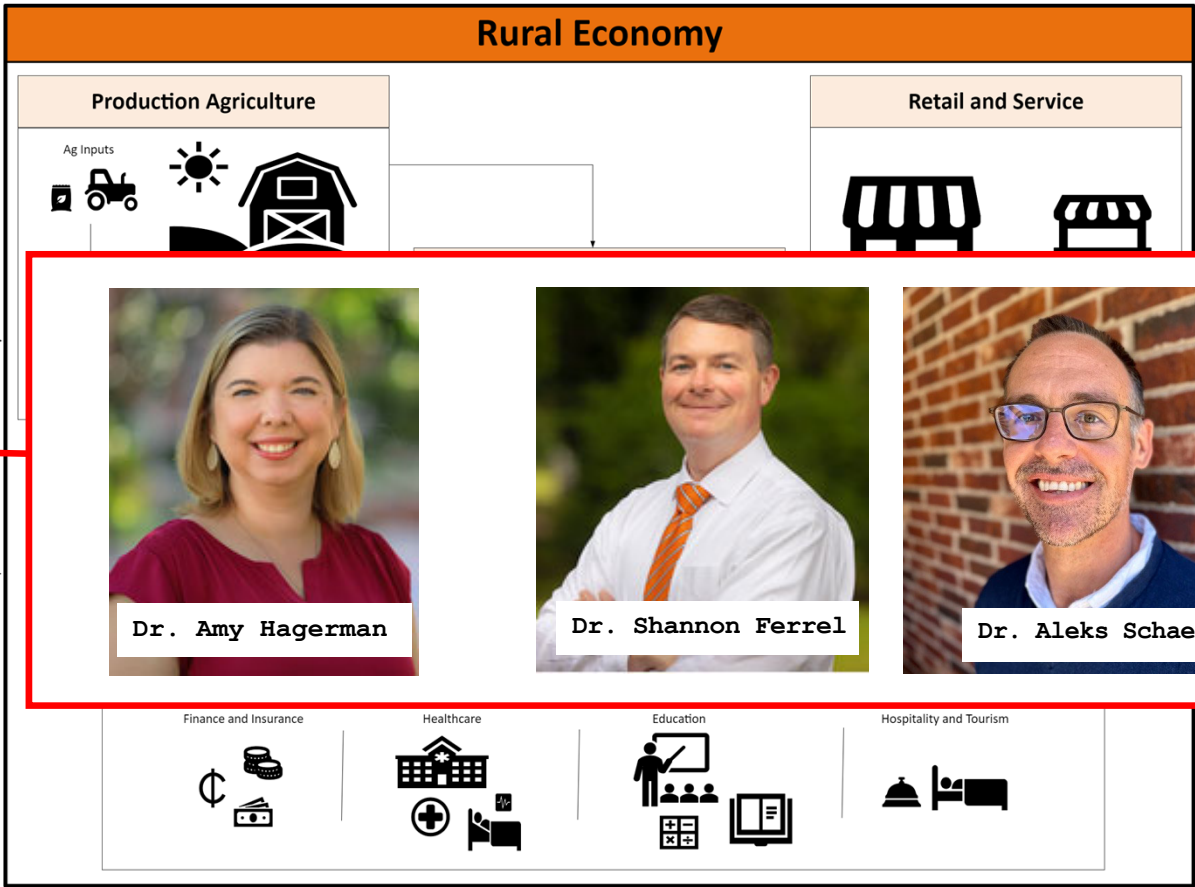


Dr. John Michael Riley

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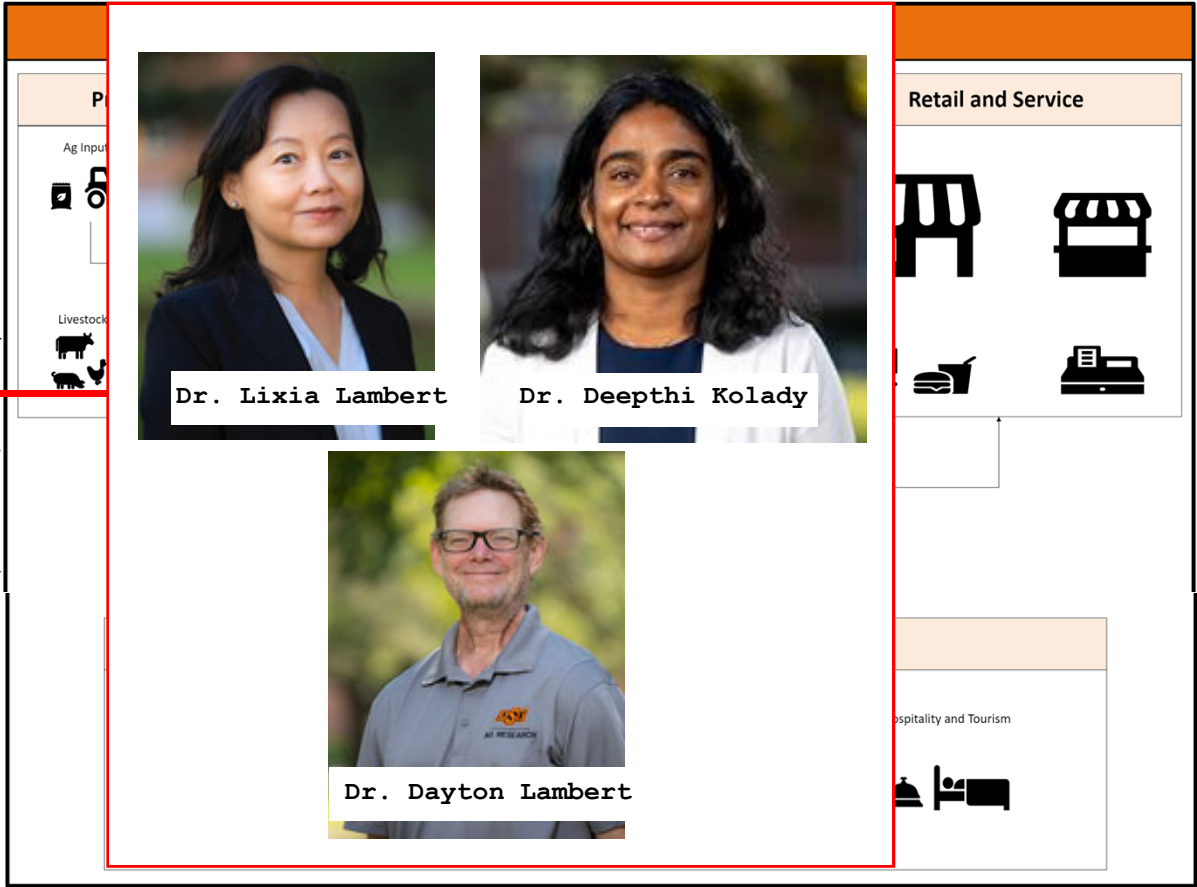
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Example of My Research

**Extreme Weather and Agricultural
Trade**



Research Question

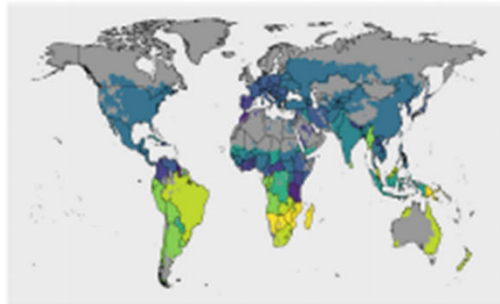
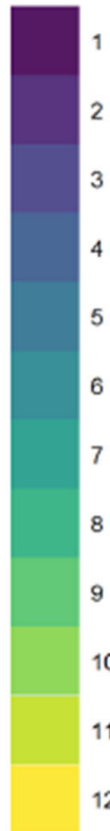
We assess the impact of growing-season extreme weather events on agricultural trade outcomes in the short run, as well as the trade implications of long-run shifts in climate variance.

How do we do it?...

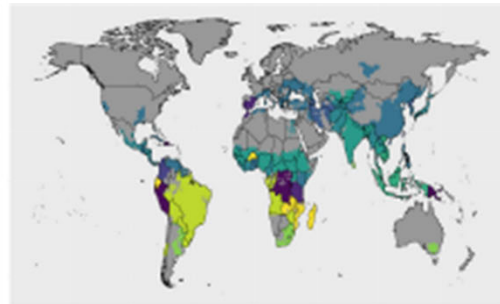
- We match information on bilateral trade flows with high-resolution, geospatial data on growing area, planting and harvest dates, and weather for three highly traded staple crops:
 - (1) maize,
 - (2) soybeans, and
 - (3) rice.

Figure 2: Planting and Harvest Months, by Country and Crop

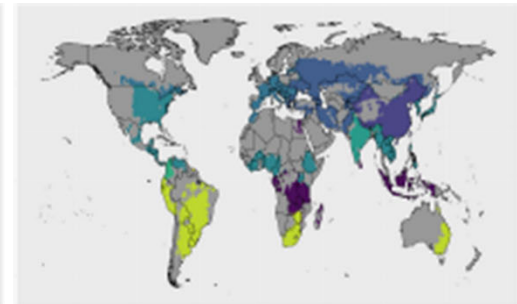
Month



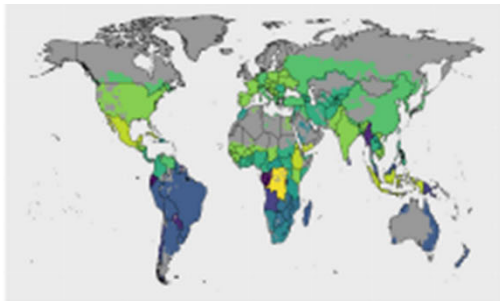
(a) Maize Planting



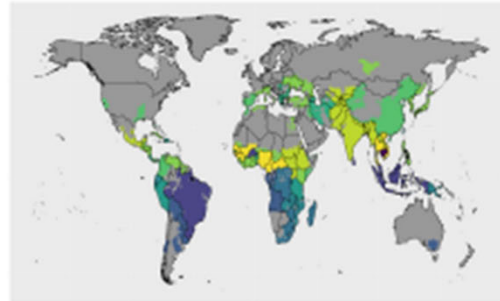
(b) Rice Planting



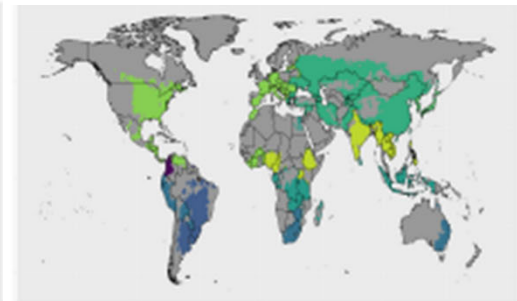
(c) Soybean Planting



(d) Maize Harvest

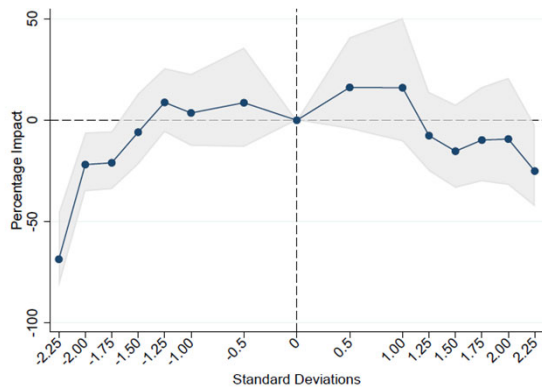


(e) Rice Harvest

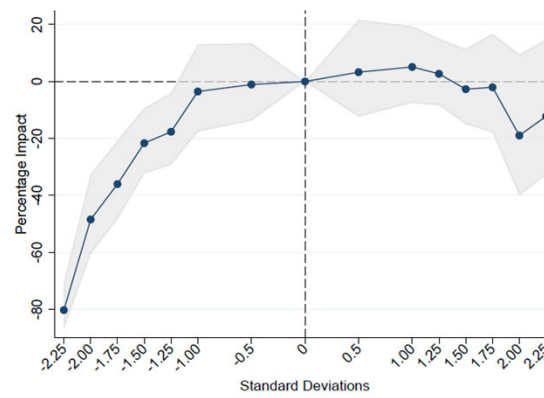


(f) Soybean Harvest

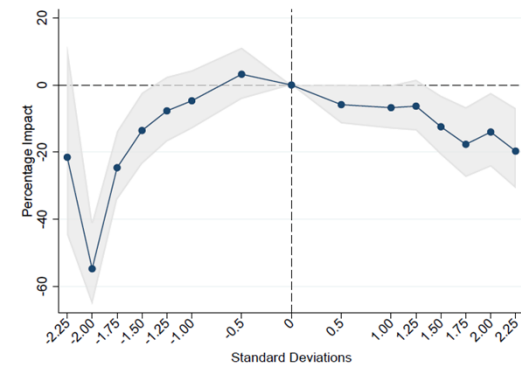
Short-Run Impacts



(c) Soybeans

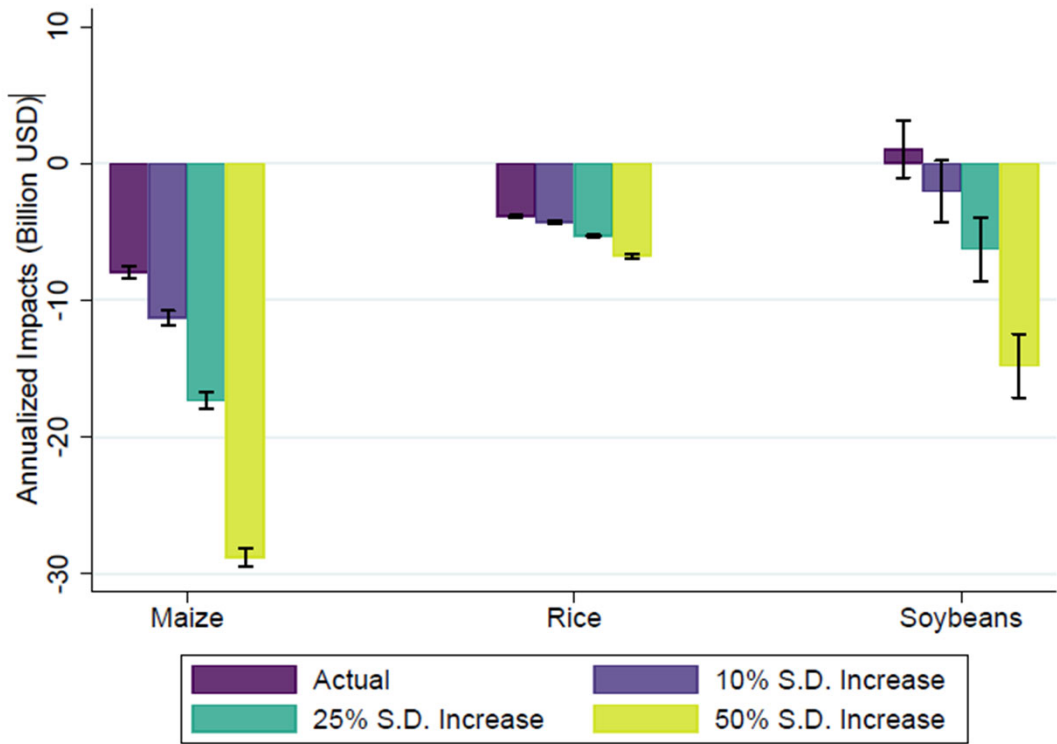


(a) Maize

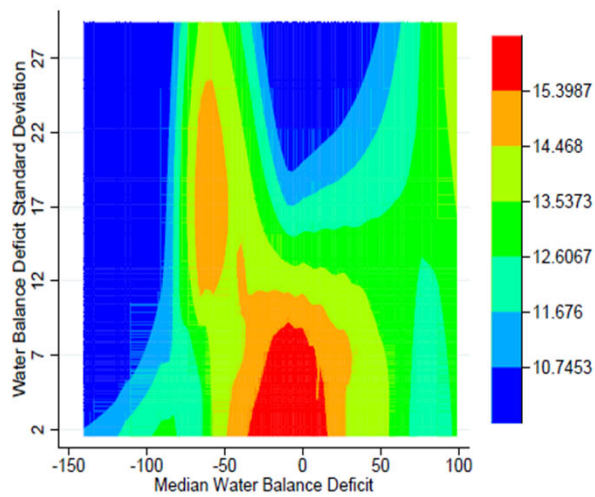


(b) Rice

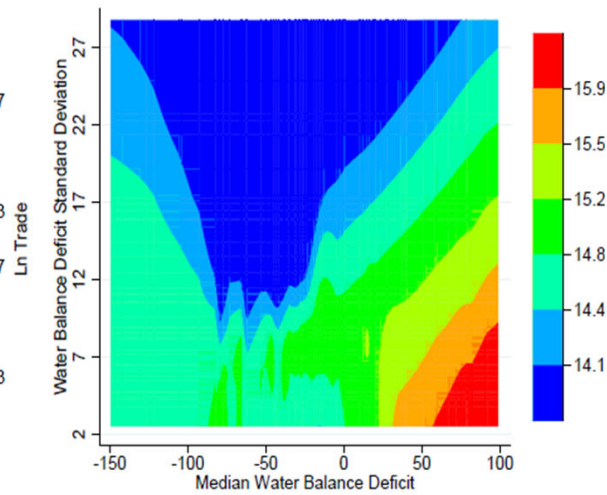
Global Consequences of Extreme Weather on Ag Trade



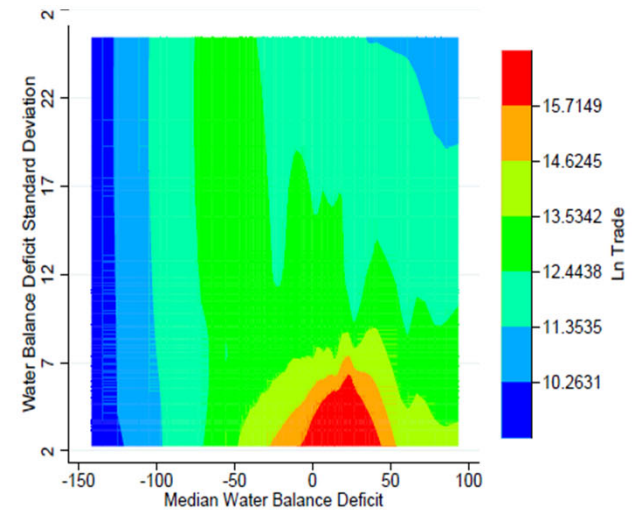
Long-Run Relationships



(b) Maize - Fitted Relationship

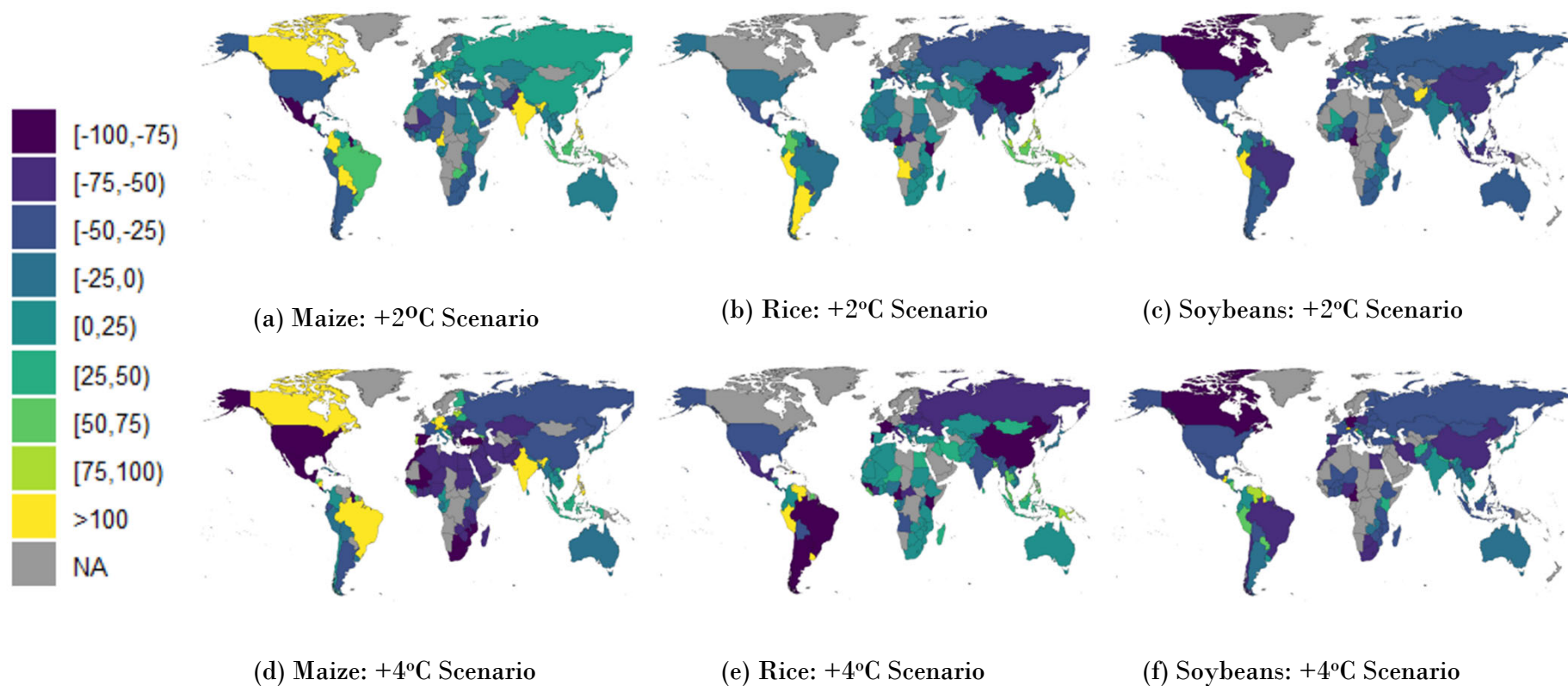


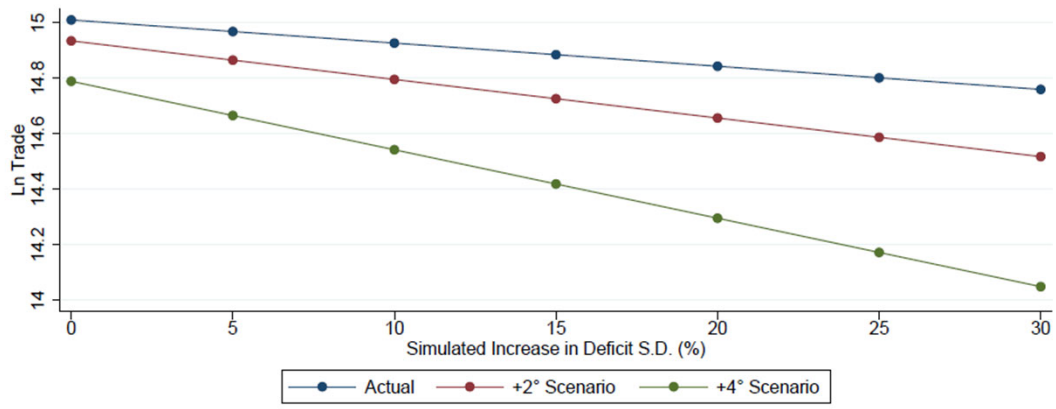
(d) Rice - Fitted Relationship



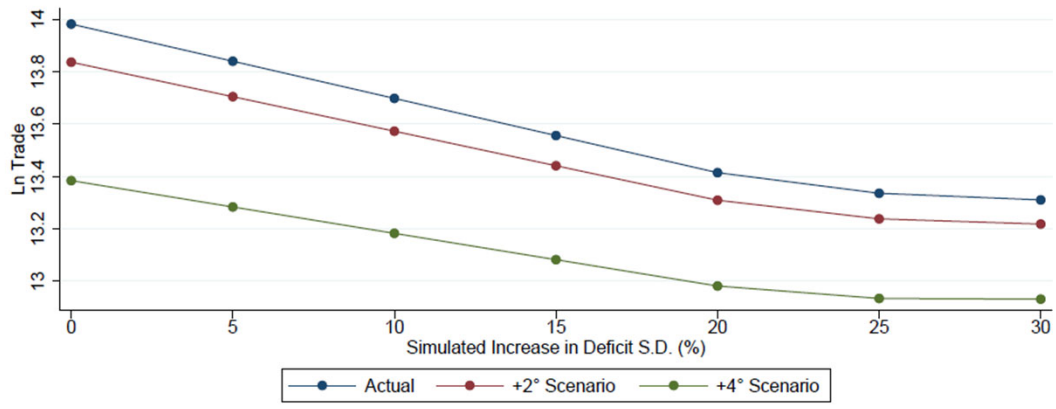
(f) Soybeans - Fitted Relationship

Figure 7: Simulated Long-Run Impacts of Climate Change on Agricultural Trade for +2°C and +4°C Scenarios (%)





(b) Rice



(c) Soybeans



Contact Information

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Email: aleks.schaefer@okstate.edu