NOAA-CESSRST CENTER FOR EARTH SYSTEM SCIENCES AND REMOTE SENSING TECHNOLOGIES

The City College of New York

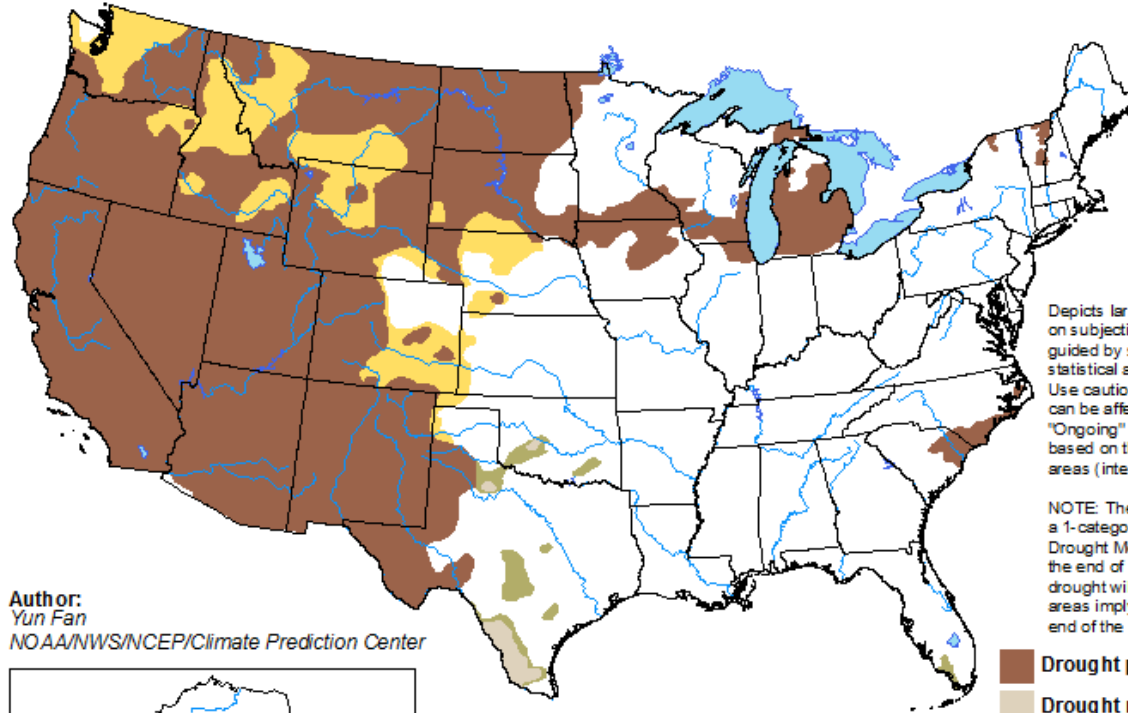# Analyzing Climatic & Anthropogenic Influences on Farm Output & Yield Behavior

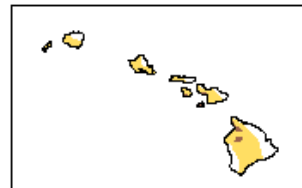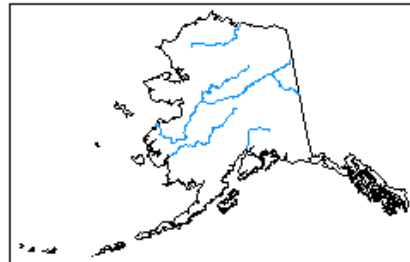**Caroline Schwab,** NOAA EPP/MSI Scholar

Mentor: Dr. Tarendra Lakhankar

Background

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for May 20 - August 31, 2021
Released May 20

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Yun Fan
NOAA/NWS/NCEP/Climate Prediction Center

Drought persists
Drought remains but improves
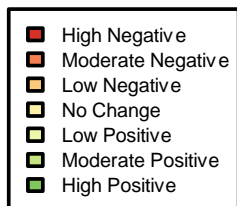Drought removal likely
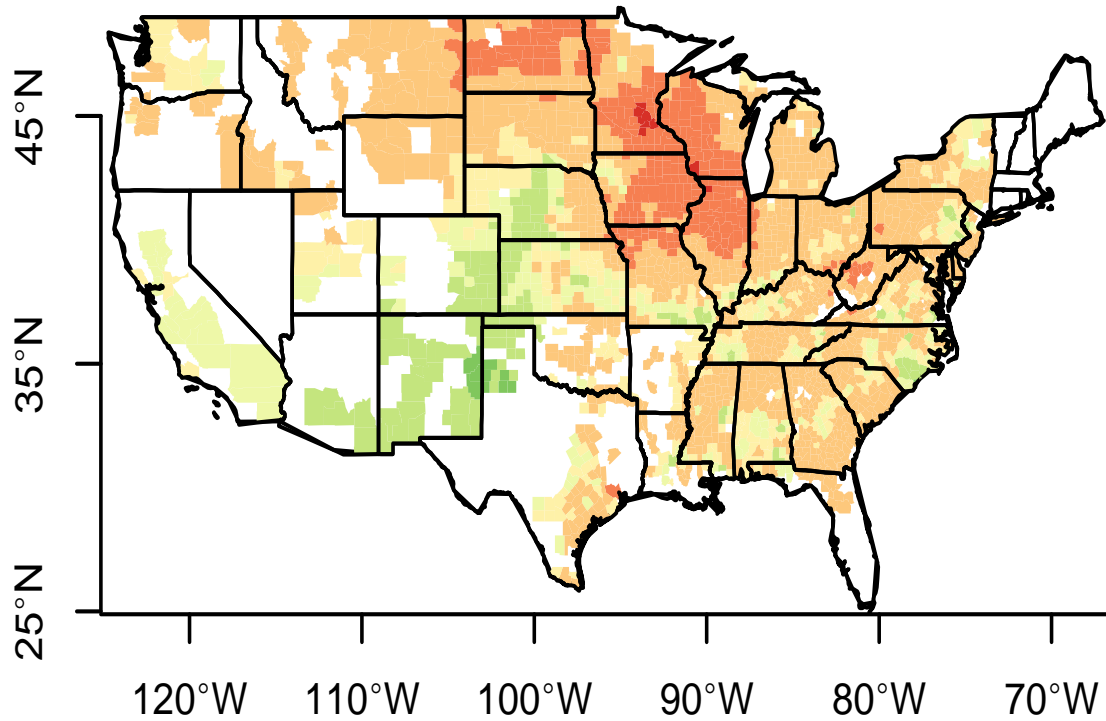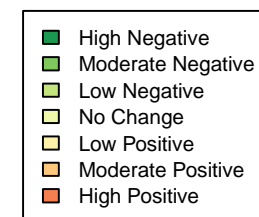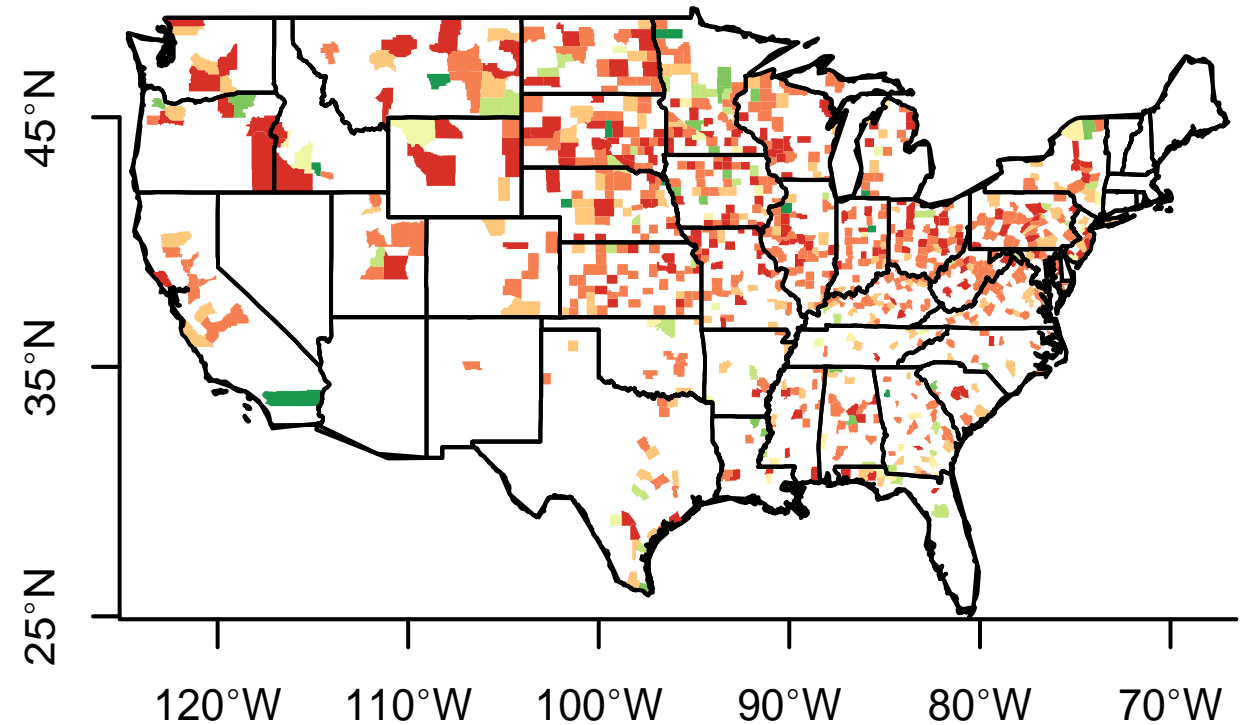Drought development likely

http://go.usa.gov/3eZ73

- As climate change persists, the frequency of drought is projected to increase

- Agriculture at risk

- Our work aims to integrate demand and water use into drought predictions by forecasting crop yields
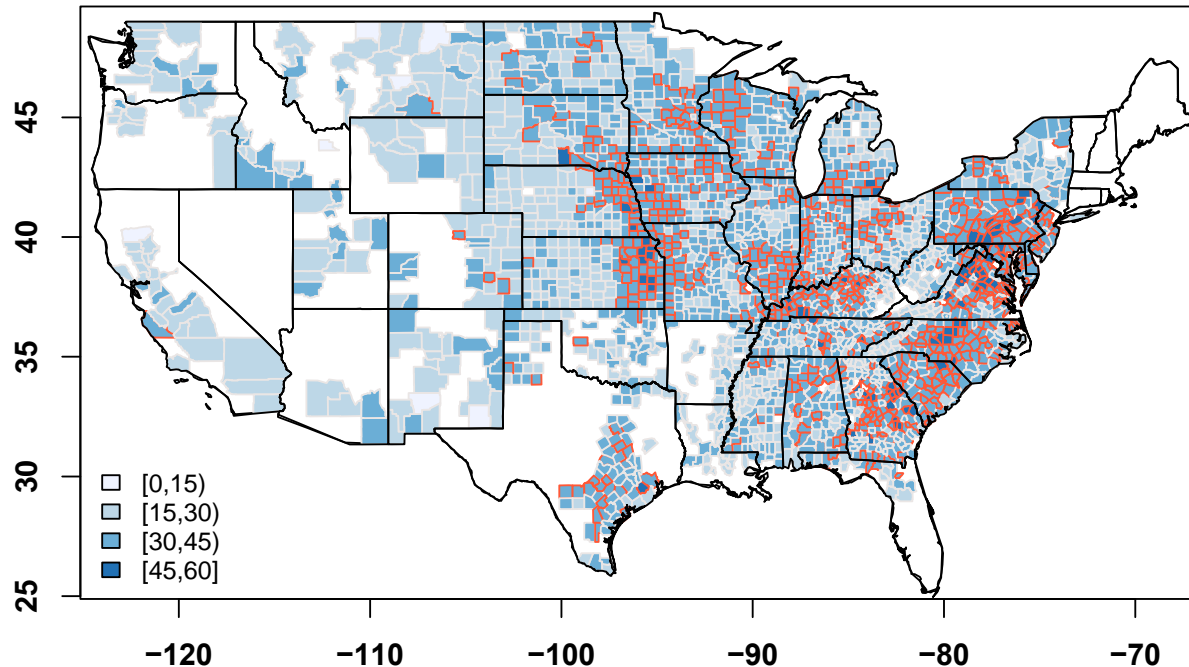
Our Research So Far

Deficit Anomaly 1988

Impacted Yield 1988

Questions we are Investigating

Quadrant 2 (Low Deficit, High Yield)

- **Statistical Analysis:** What are the climatic links to yield? (ENSO, etc.)
- **Econ/Policy Analysis:** Why do these counties and states not follow climate dependencies? (Farm data)

   What suggestions would you make for farm policy based on the data?

What you will work on
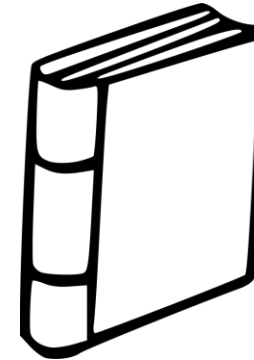
Economic & Farm data

Global Climate Data

R Studio*
Excel
Statistical Analyses

Reports, Newspaper Articles

County, State, Federal Policy

Become an expert on your own state, and direct HIRES on county procedures!