

# The Geographic Analysis of Cotton Production in the Mississippi Delta and Black Belt of the American South

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## Abstract

The Delta Blues region in the southern United States is a unique region both in the physical and cultural landscape and is different from its surrounding regions. The Delta Blues region stretches from Memphis to Vicksburg. As part of the Black Belt region (defined by the region's dark soils and African American Population in Alabama, Mississippi, and Georgia) the Delta has a long history in cultivating cotton. With the emergence of the cotton gin in the 18th century, cotton in this region experienced an agricultural boom. This project will analyze changes in agriculture throughout the Delta and the Black Belt. This data will be analyzed using GIS spatial models to create spatial models of the changes that have occurred throughout these decades.



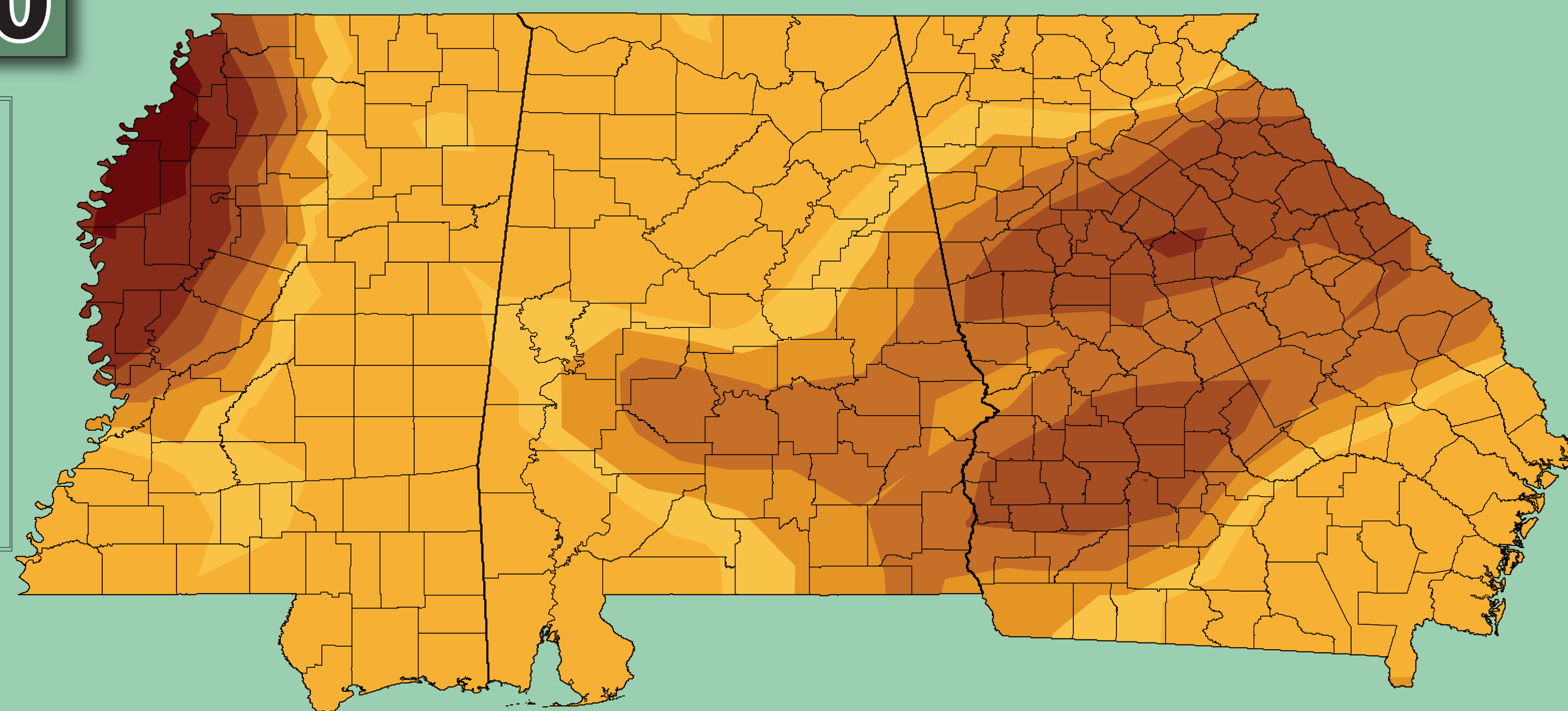
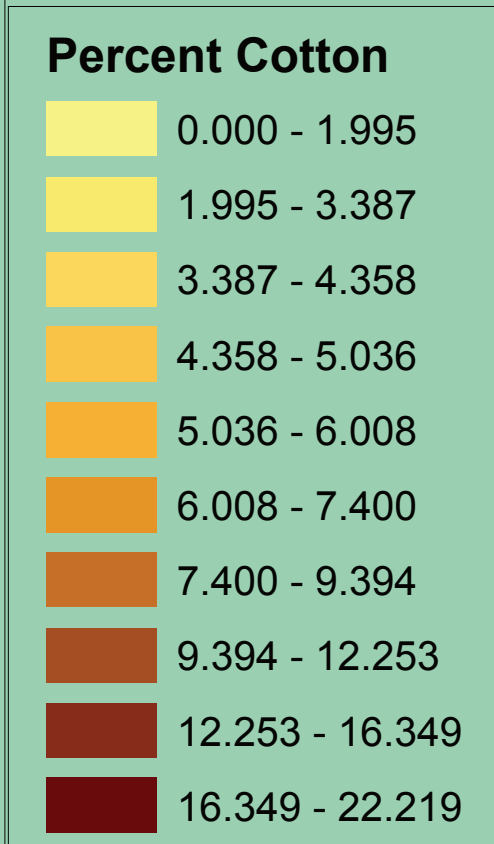
## Background

The Mississippi Delta is technically not a delta but an alluvial plain. This is a flat, low lying physical feature with nutrient rich soil. The Black Belt Region has been historically defined by its dark, black top soil. These types of soils have been known for its high harvest yields in agriculture and farmers migrate towards these areas. The Black Belt region stretches from the Mississippi Delta, to through central Alabama, and spans across north/central Georgia.

## Methods

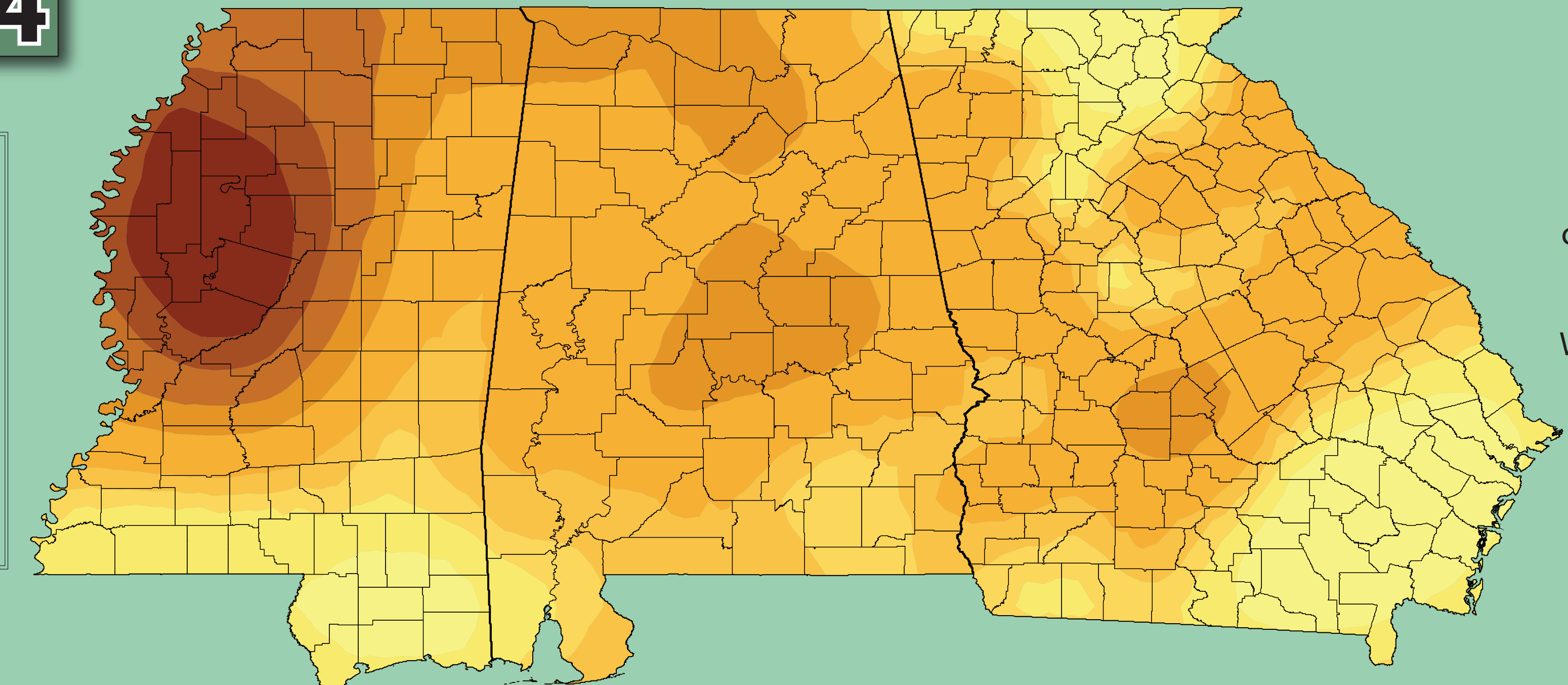
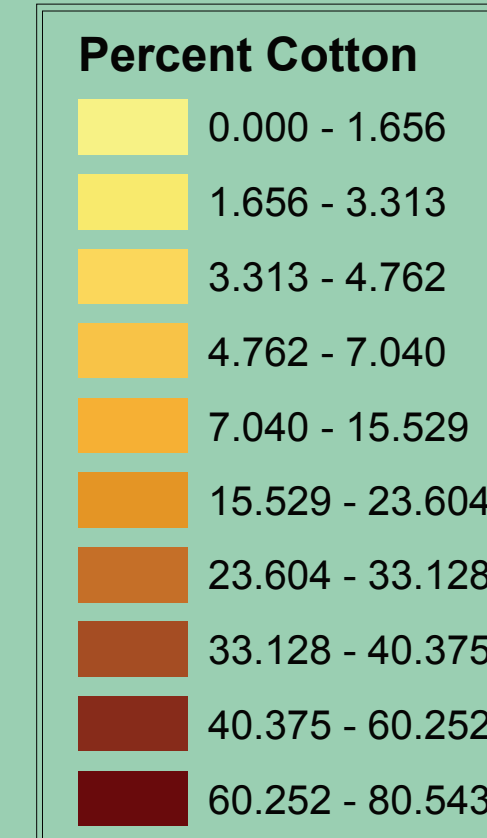
Using the Census of Agriculture for the years 1910, 1925, 1974, and 2002 we used the number of bales of cotton and the acres of cropland harvested in each county within Mississippi, Alabama, and Georgia. With these numbers we were able to calculate the percent of cotton harvested. With the percent cotton harvested, we were able map out the spatial patterns using GIS software. However in 1910 and 1925 some political boundaries were different than what they are presently so we had to obtain historical county boundary data.

### 1910



By 1910, the Boll Weevil had affected production in Alabama and Mississippi (outside of the cooler Delta Region). Although this resulted in a lower overall harvest in these states, the cotton yield remained high in Alabama's fertile Black Belt. Georgia, not yet affected by the Boll Weevil, harvested record yields this year.

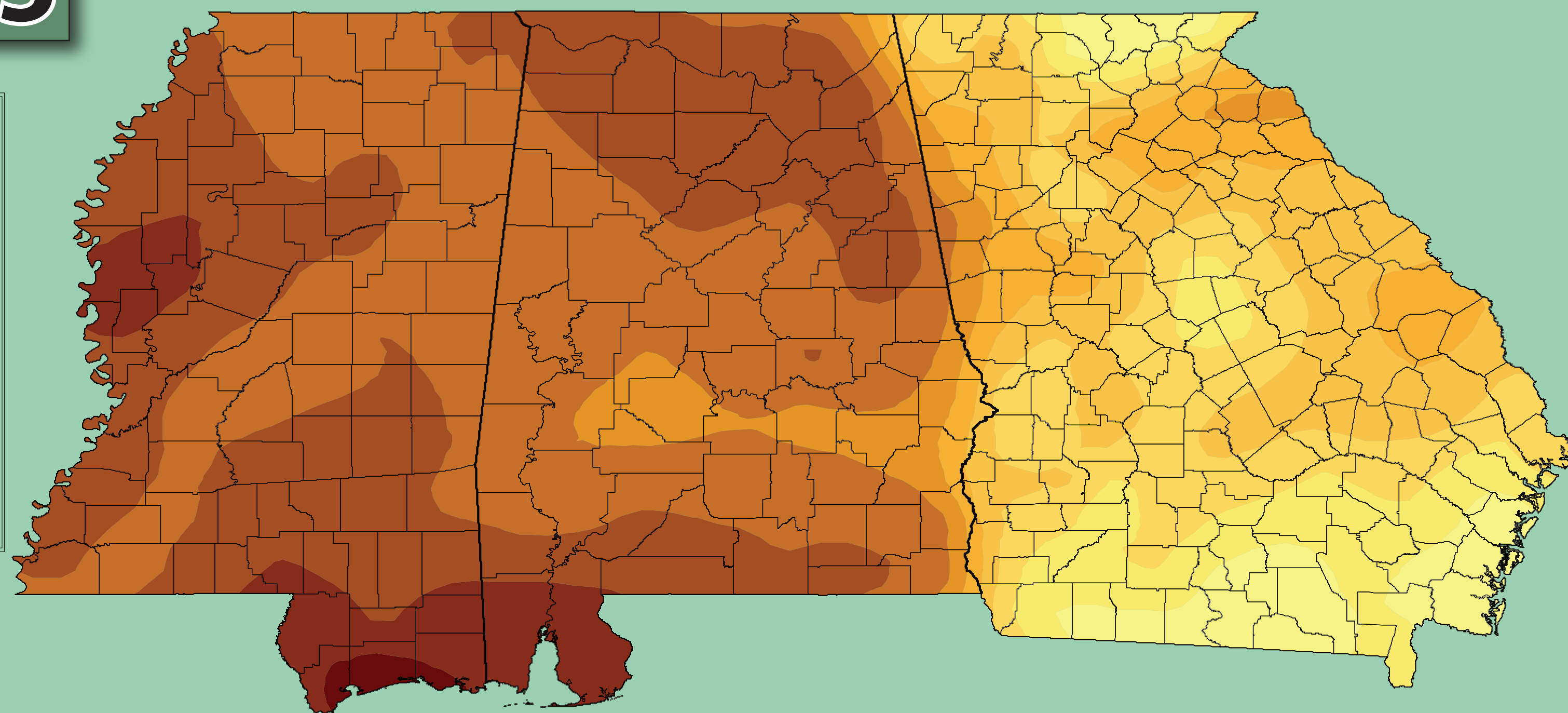
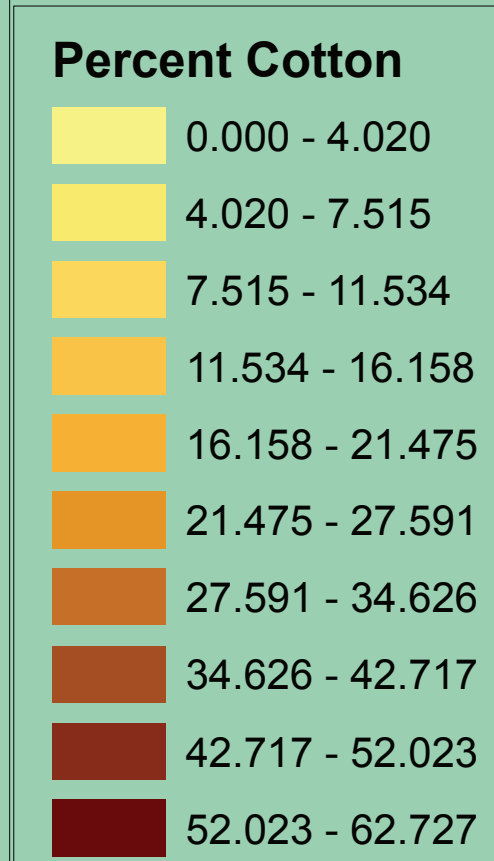
### 1974



Although Boll Weevil was still common, Alabama switched from 98% handpicked cotton to 98% machine picked cotton in the 1970's. Still struggling with Boll Weevil wasn't fully under control, Georgia began moving forward in its cotton harvesting.

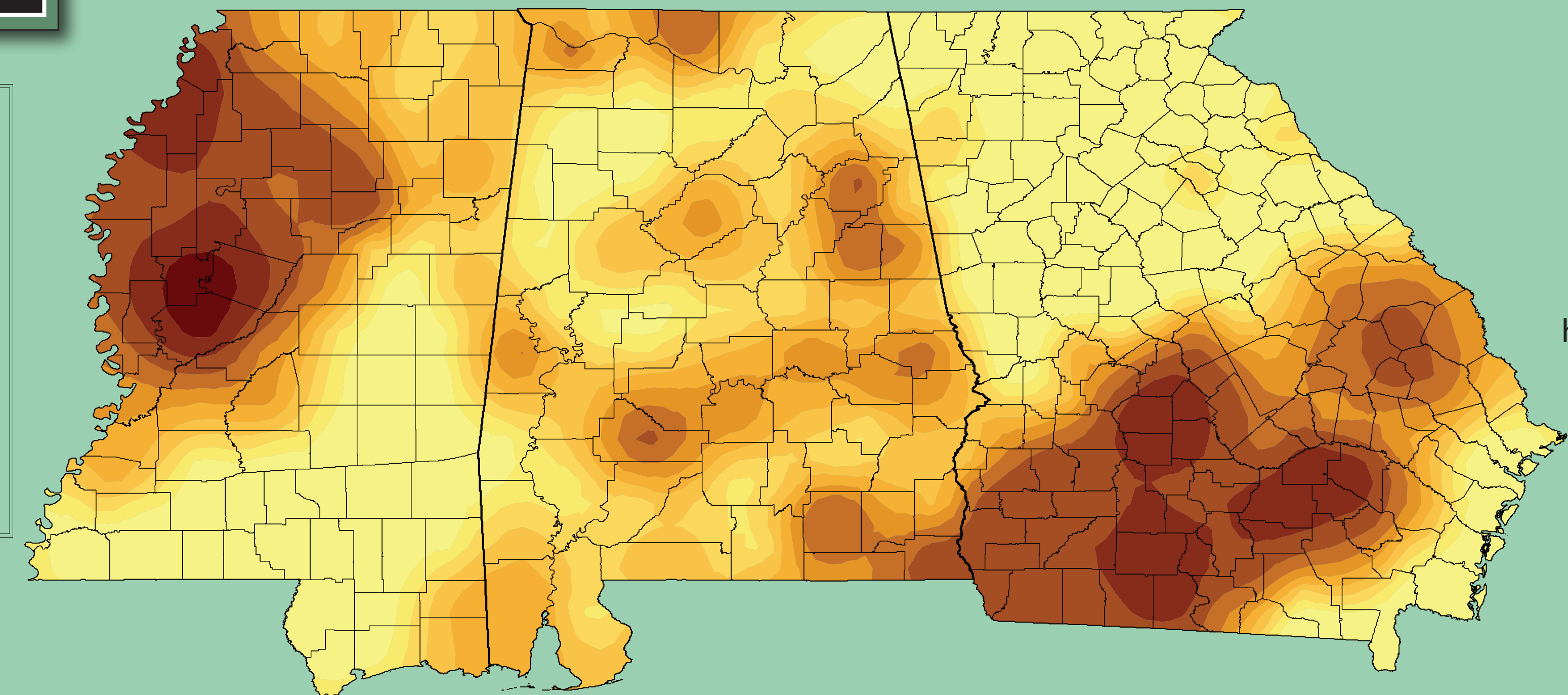
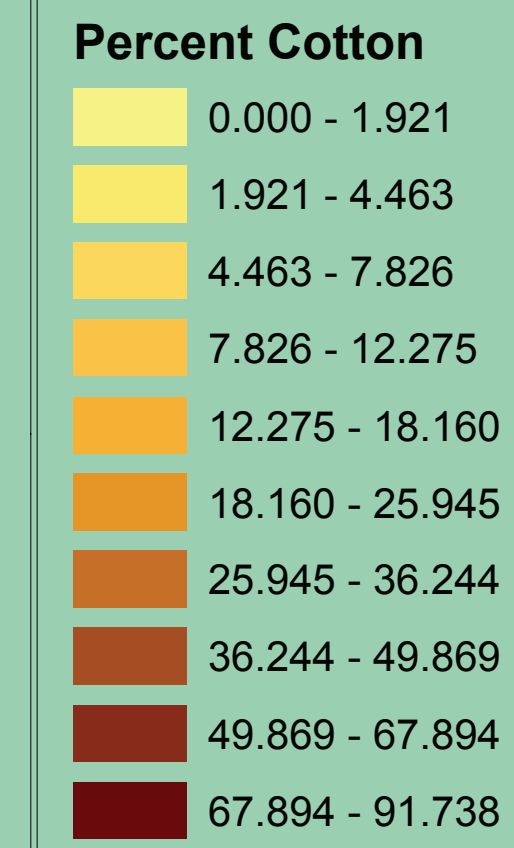


### 1925



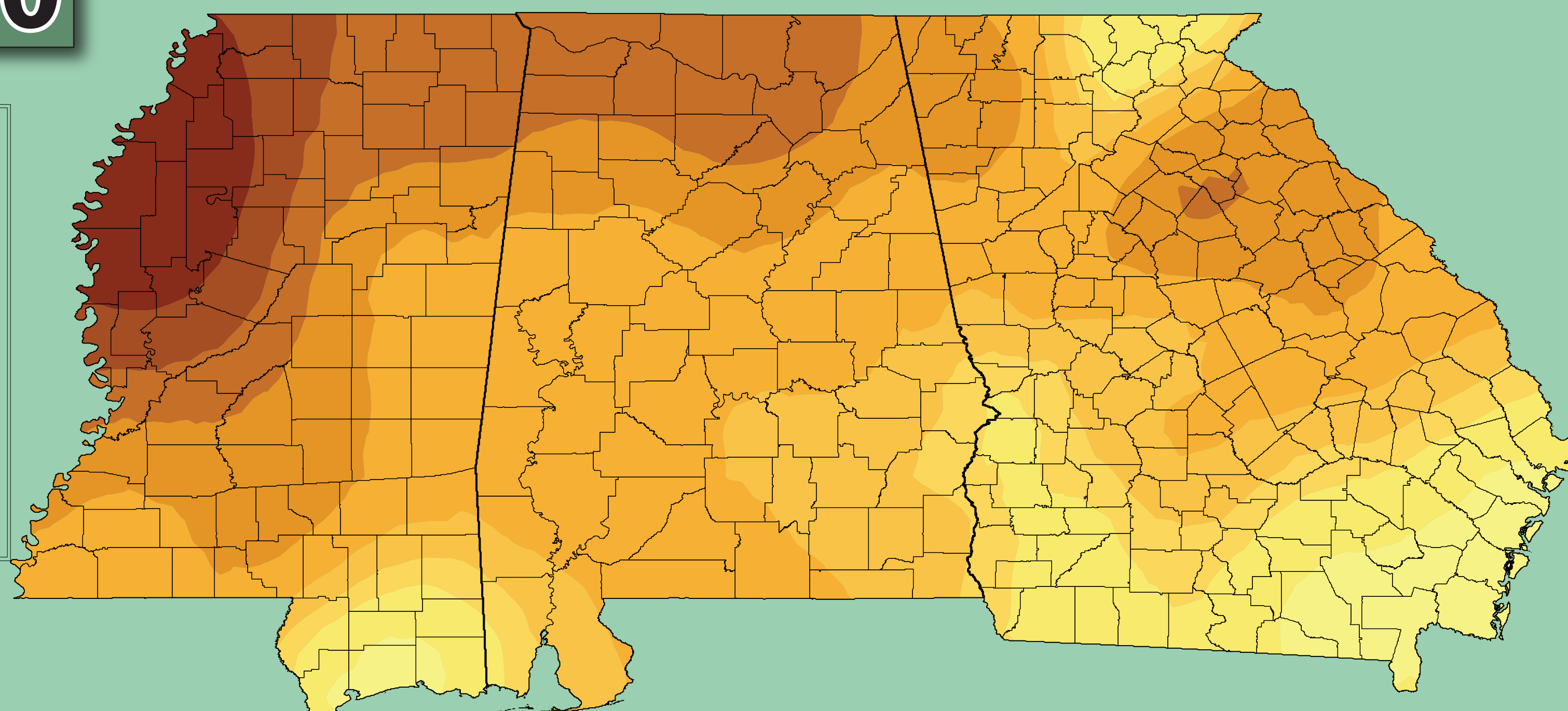
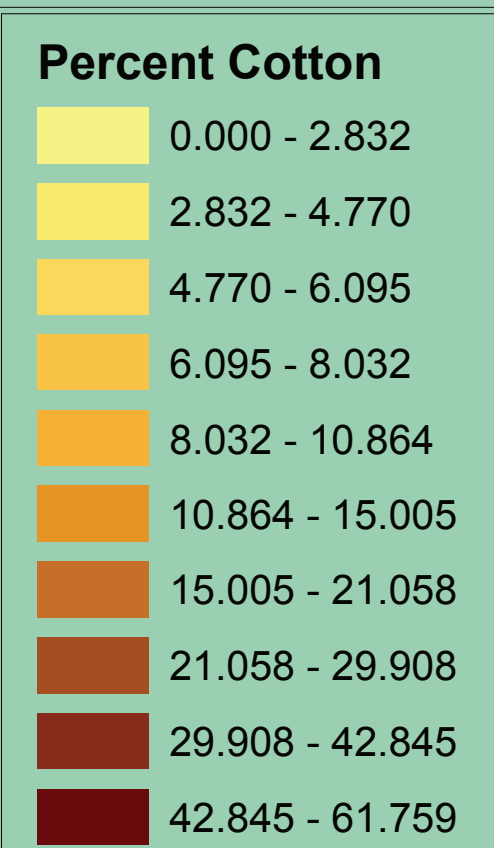
Alabama had begun using pesticides to control the Boll Weevil population giving it a larger harvest than in 1910. Between 1910 and 1925, Boll Weevil arrived in Georgia cutting harvest levels by half in many areas. Due to this, many farmers left Georgia and settled in Alabama and Mississippi.

### 2002



New genetically engineered cotton was introduced in the 1990's to control Boll Weevil infestation in Alabama. This gave farmers opportunity to harvest higher yields in the Black Belt soil once again. Federally funded programs to control Boll Weevil and a move to corporate farming resulted in harvest increase in Georgia.

### 1950



The 'New Deal' (that Franklin Roosevelt established in the late 1930's) affected the entire region as people started to migrate from rural areas to urban areas. At the same time, DDT was introduced in Alabama and was widely used to control Boll Weevil. Cotton harvesting in Georgia was still low due to smaller number of farmers and the Boll Weevil.

## Conclusion

The Mississippi Delta is the region with the most consistent, highest yields because Boll Weevils do not prefer the cooler Delta region as a winter site since the Boll Weevil starts dying at 23 degrees Fahrenheit. Cotton farmers slowly migrated to the Mississippi Delta as their farms were infested with the Boll Weevil, giving the Delta strong yields in cotton. The Boll Weevil population highly influenced the cotton harvest patterns within Alabama and Georgia. The Black Belt region within Alabama and Georgia struggled with the infestation until recently, when they were finally able to harvest larger yields of cotton once again. Our results show that the Mississippi Delta and the Black Belt can be defined by percent cotton harvested.

## Sources

ESRI, US Census of Agriculture, National Historical Geographic Information Systems, [http://www.extension.org/pages/History\\_of\\_Alabama\\_Cotton](http://www.extension.org/pages/History_of_Alabama_Cotton), <http://www.georgiaencyclopedia.org/nge/Article.jsp?id=h-2087>, [http://southeastfarmpress.com/mag/farming\\_boll\\_weevil\\_changed/](http://southeastfarmpress.com/mag/farming_boll_weevil_changed/), <http://www.genome.clemson.edu/images/cotton.jpg>, <http://www.weenicampbell.com/wiki/images/4/45/Boll-weevil.jpg>

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