

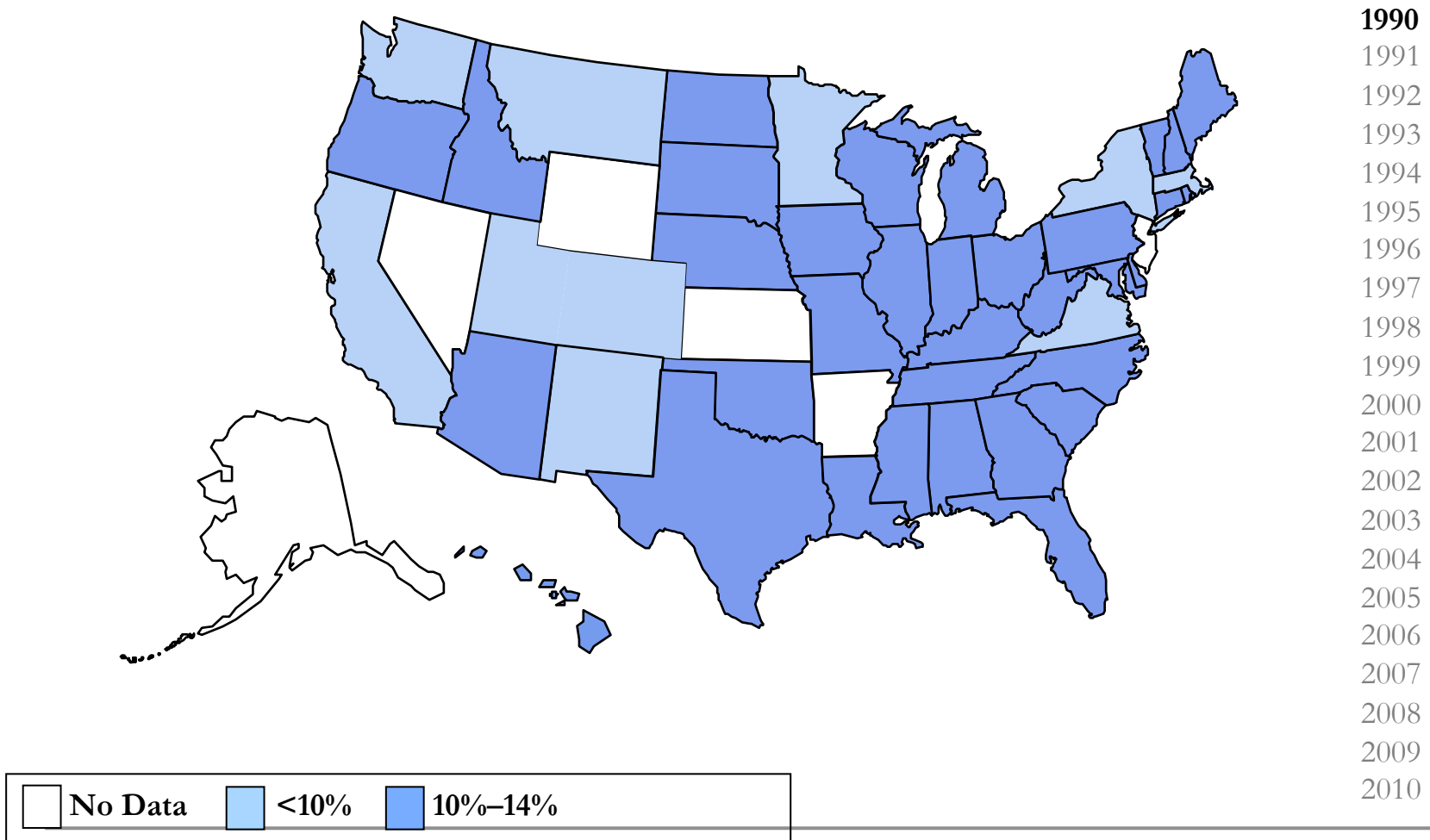


# UNDERSTANDING FOOD

## Nutritional Education with Data

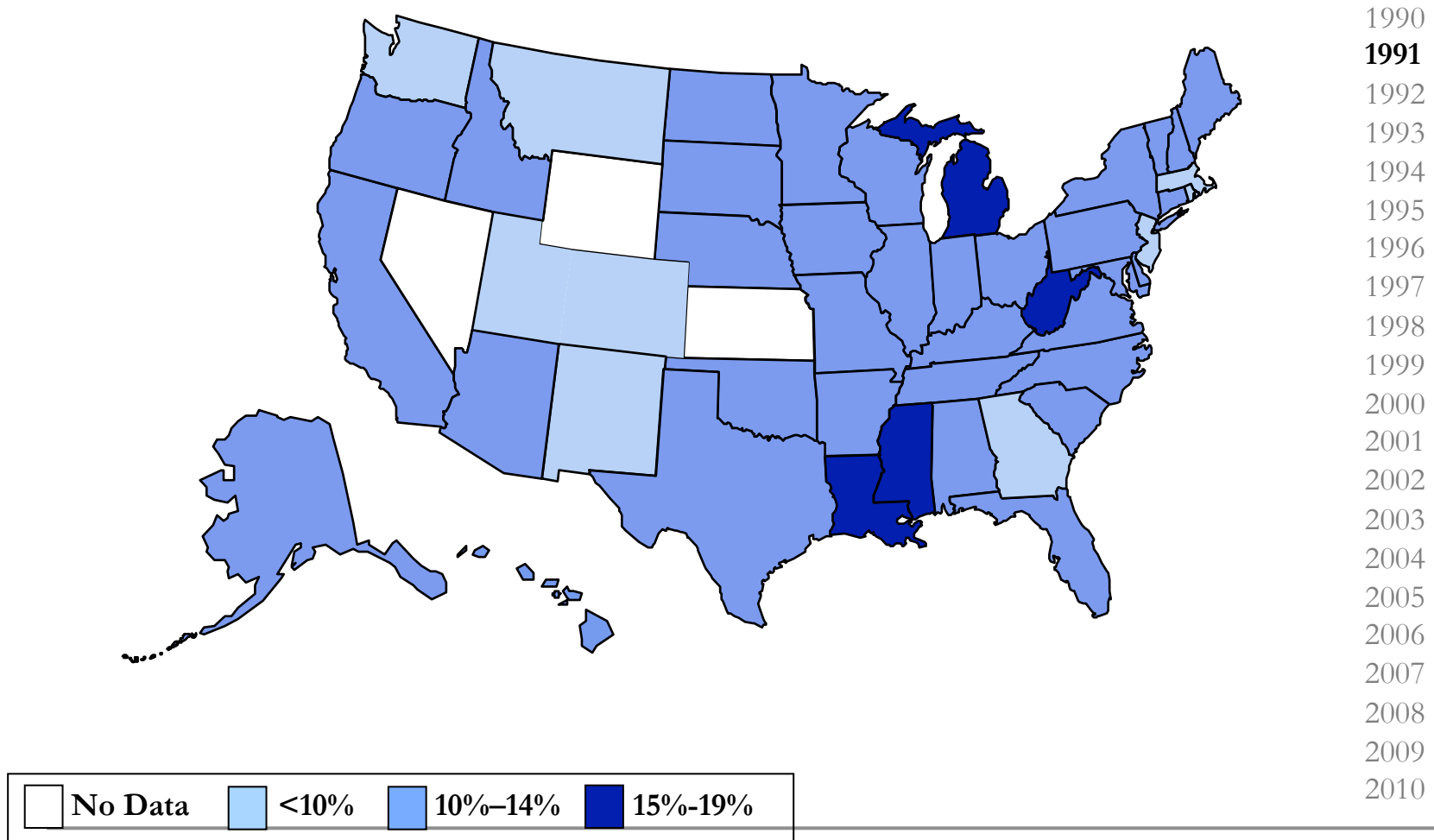
15.071x – The Analytics Edge

# Obesity Trends Among U.S. Adults

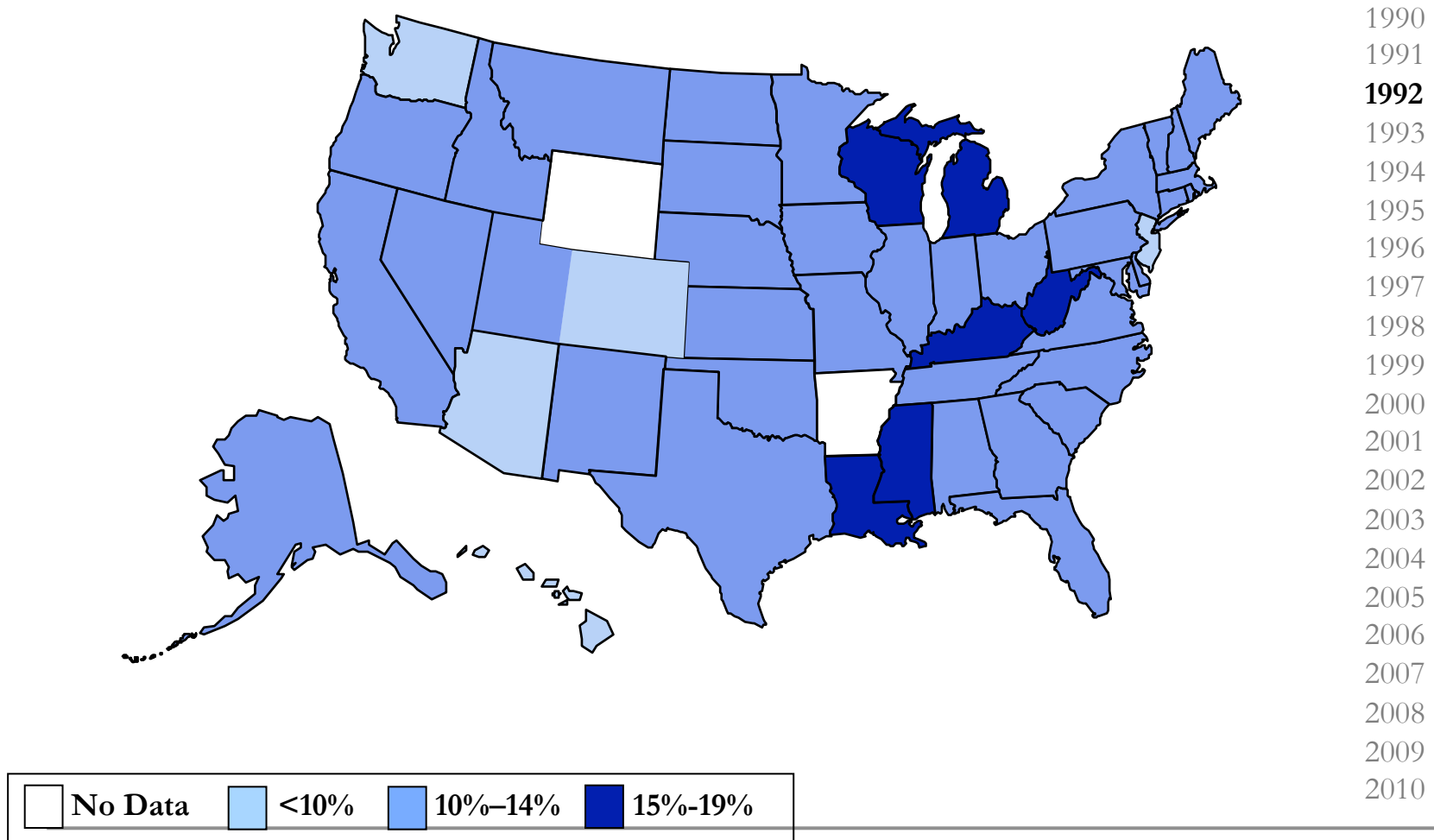


15.071x – Understanding Food: Nutritional Education with Data

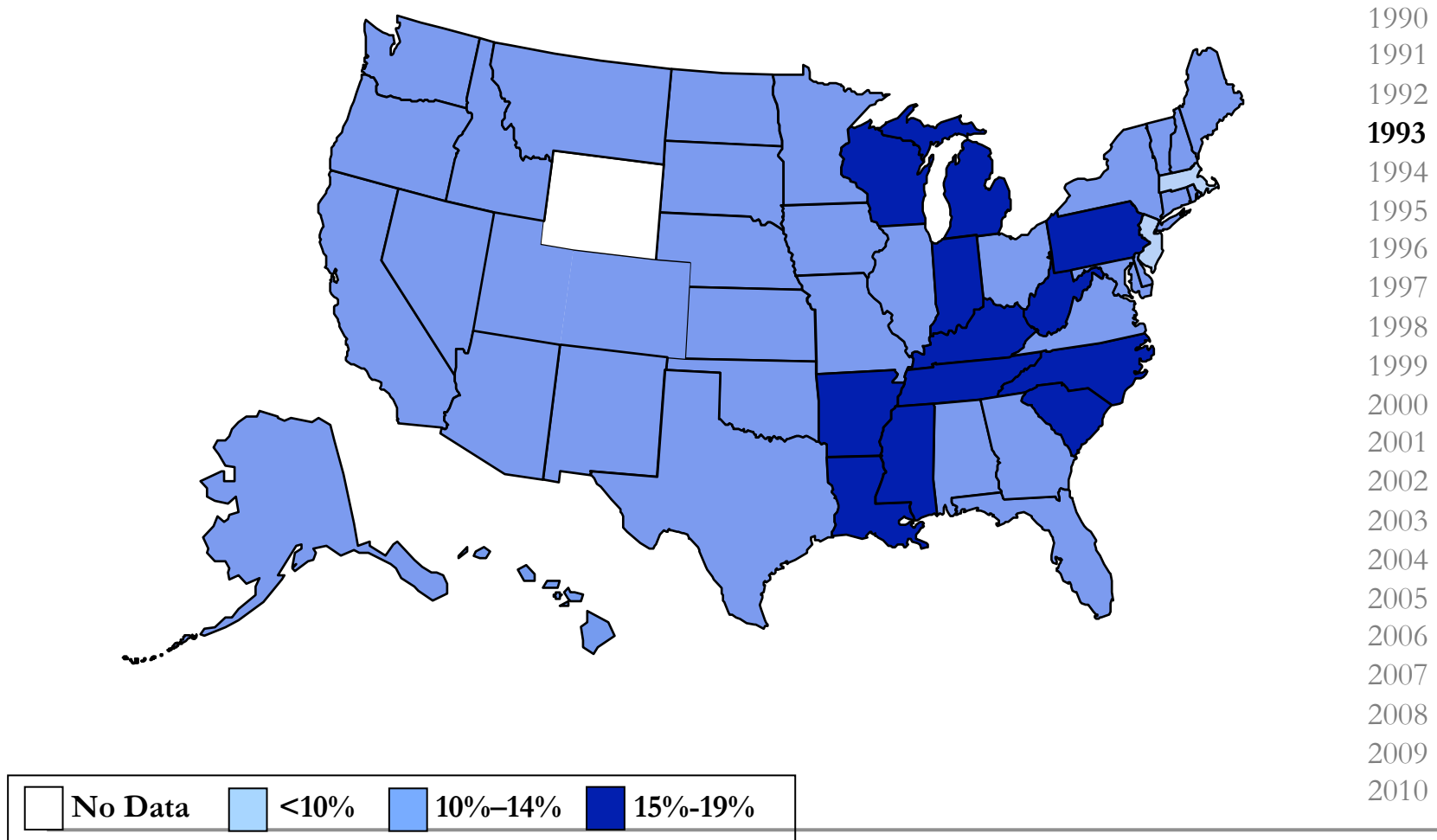
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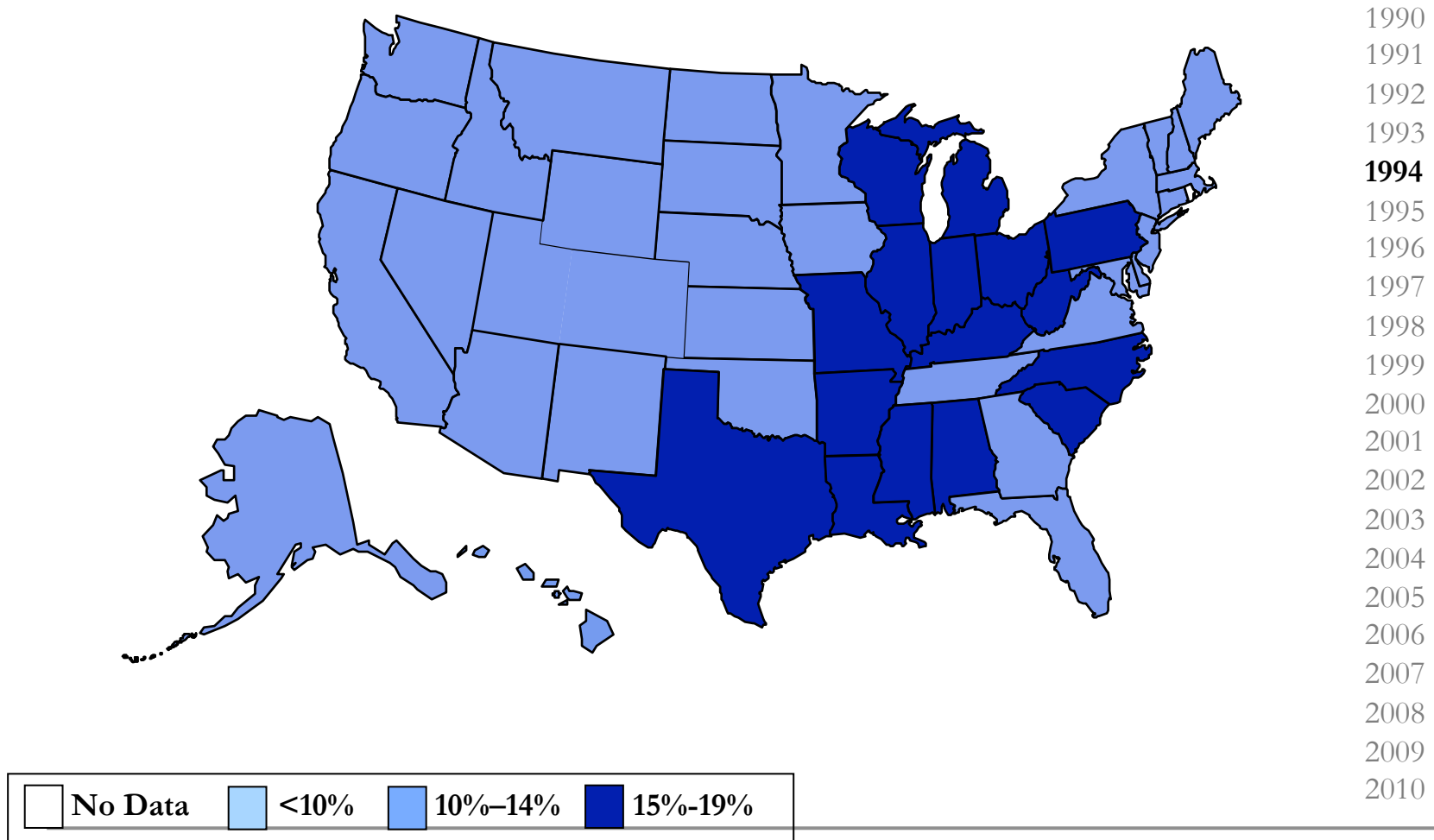
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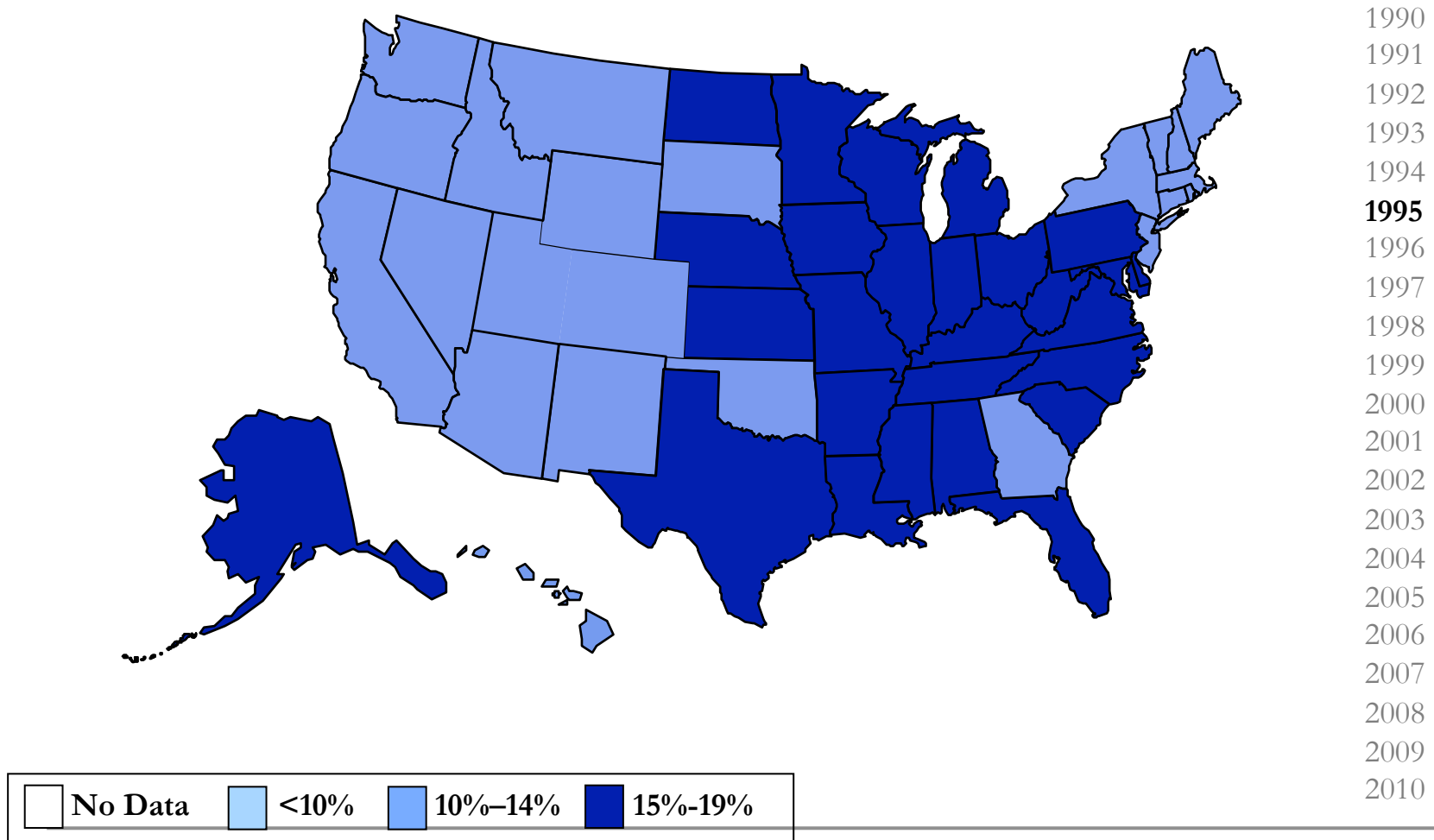
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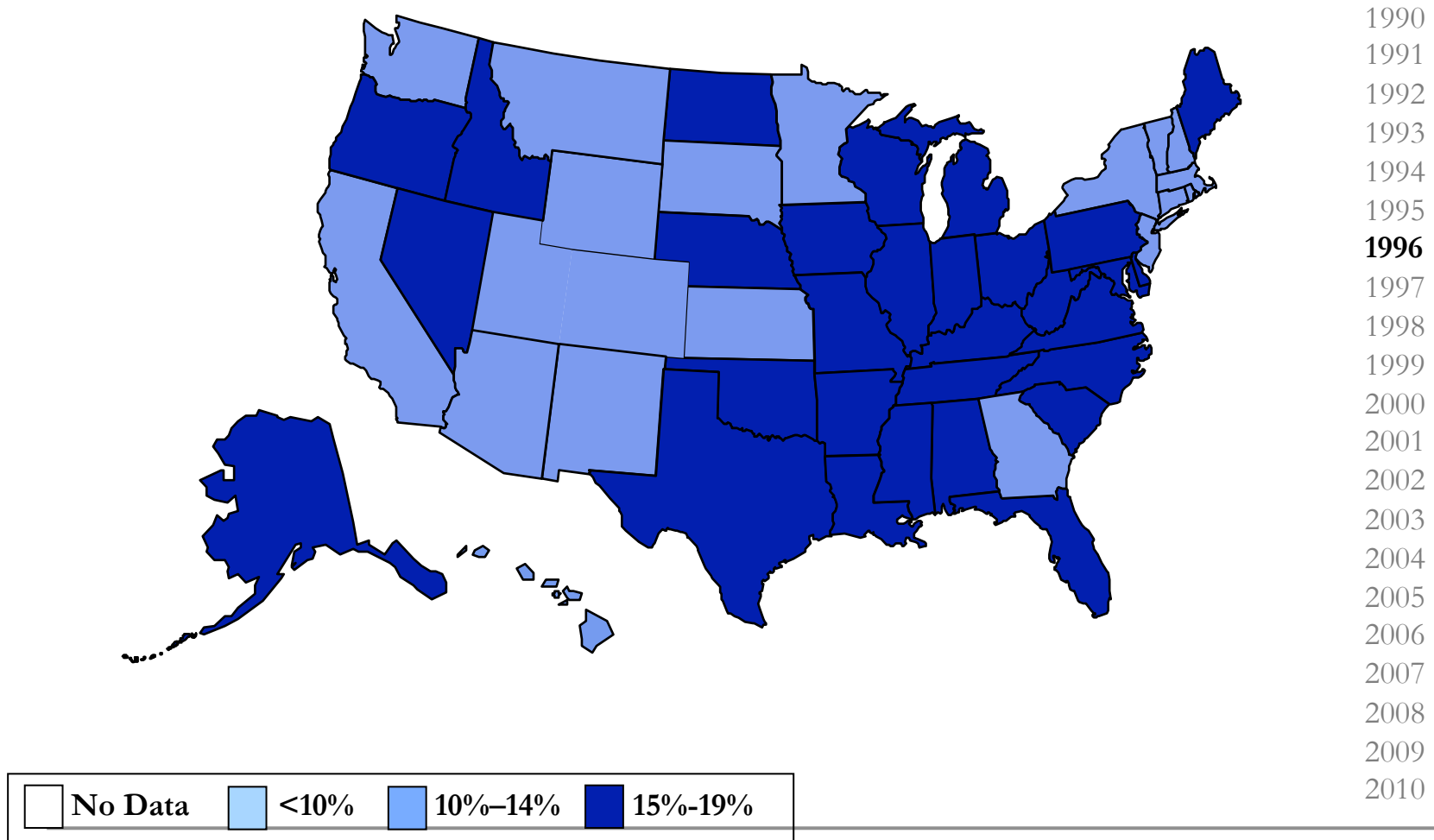
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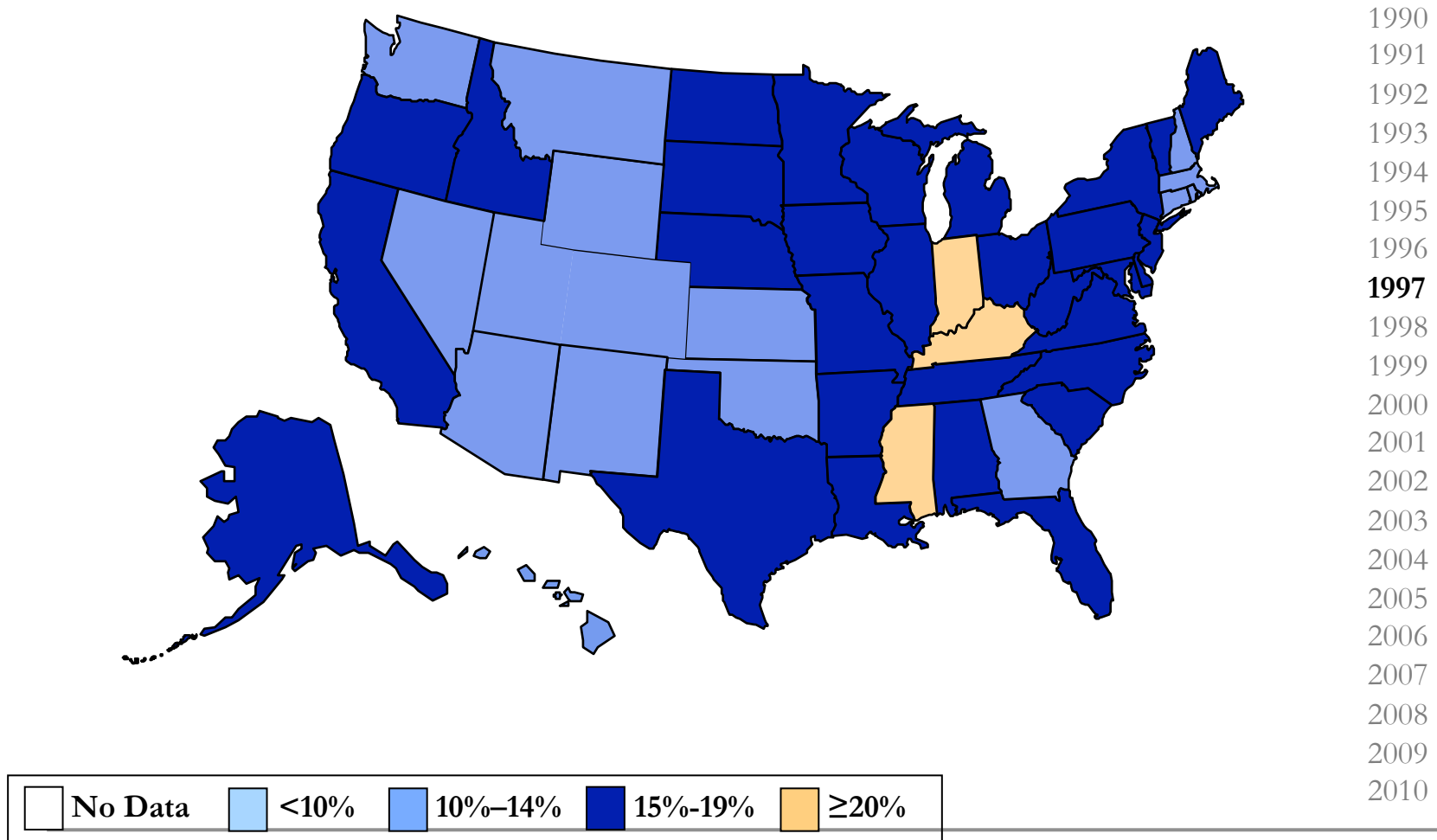


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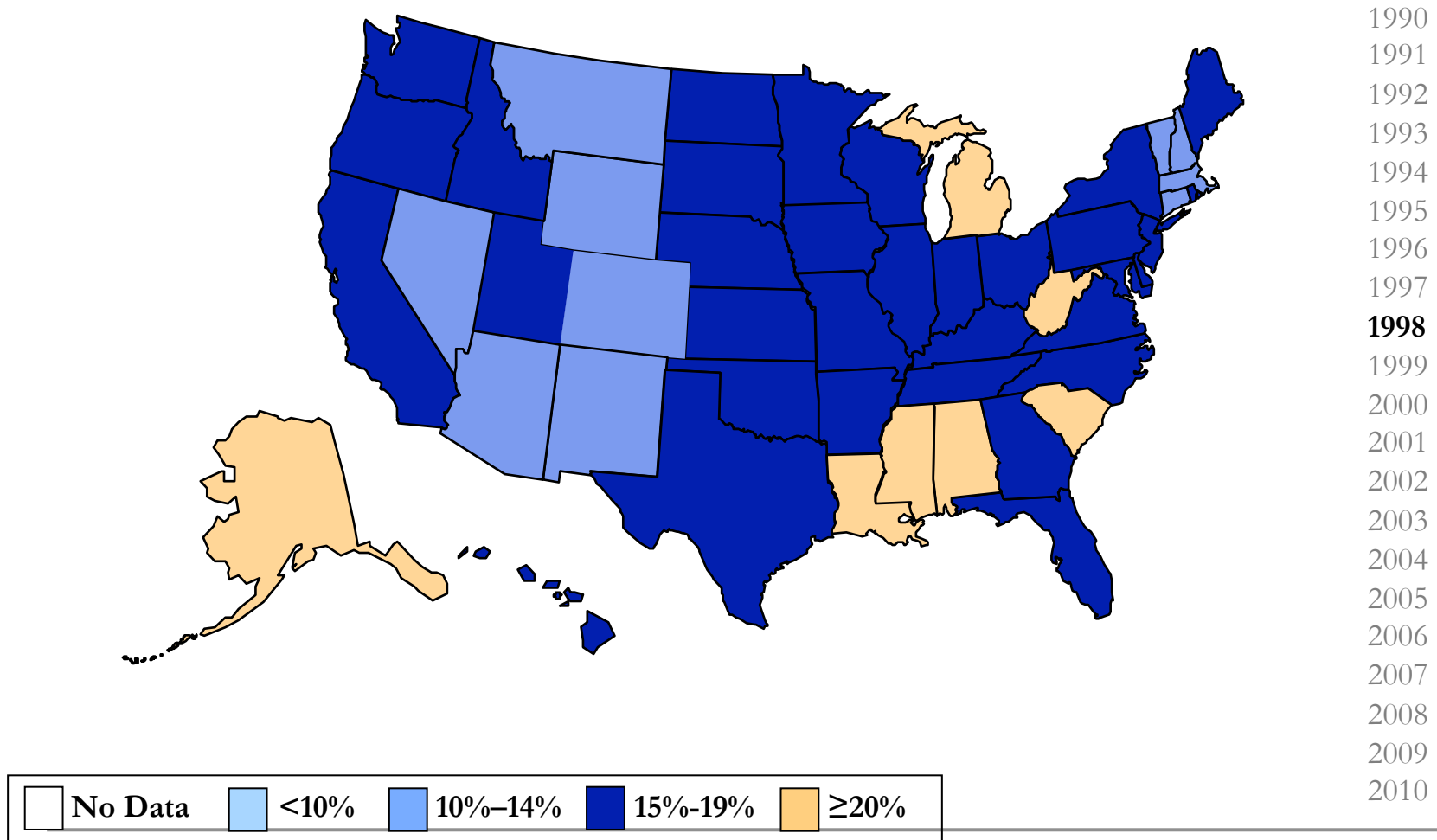




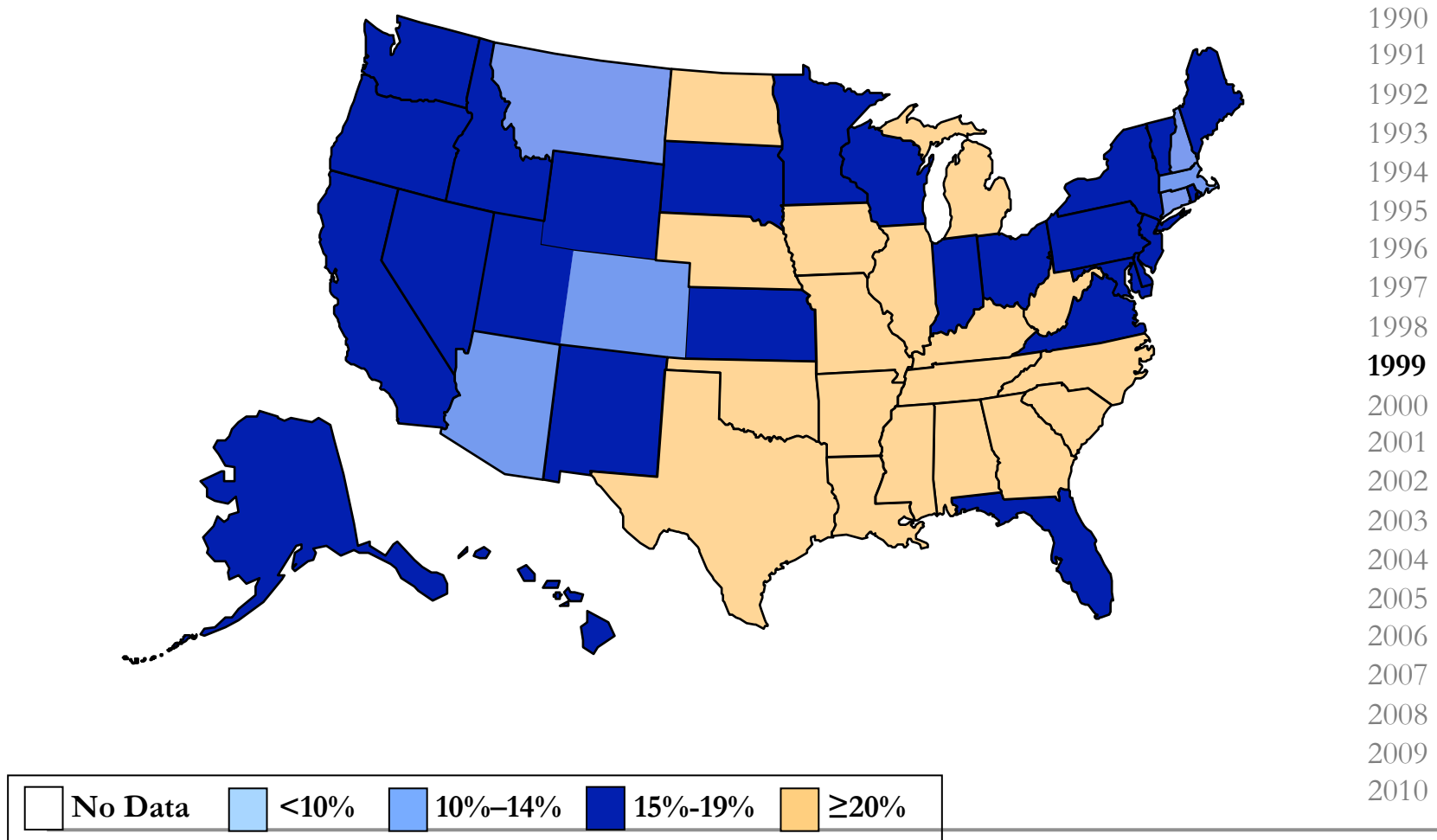
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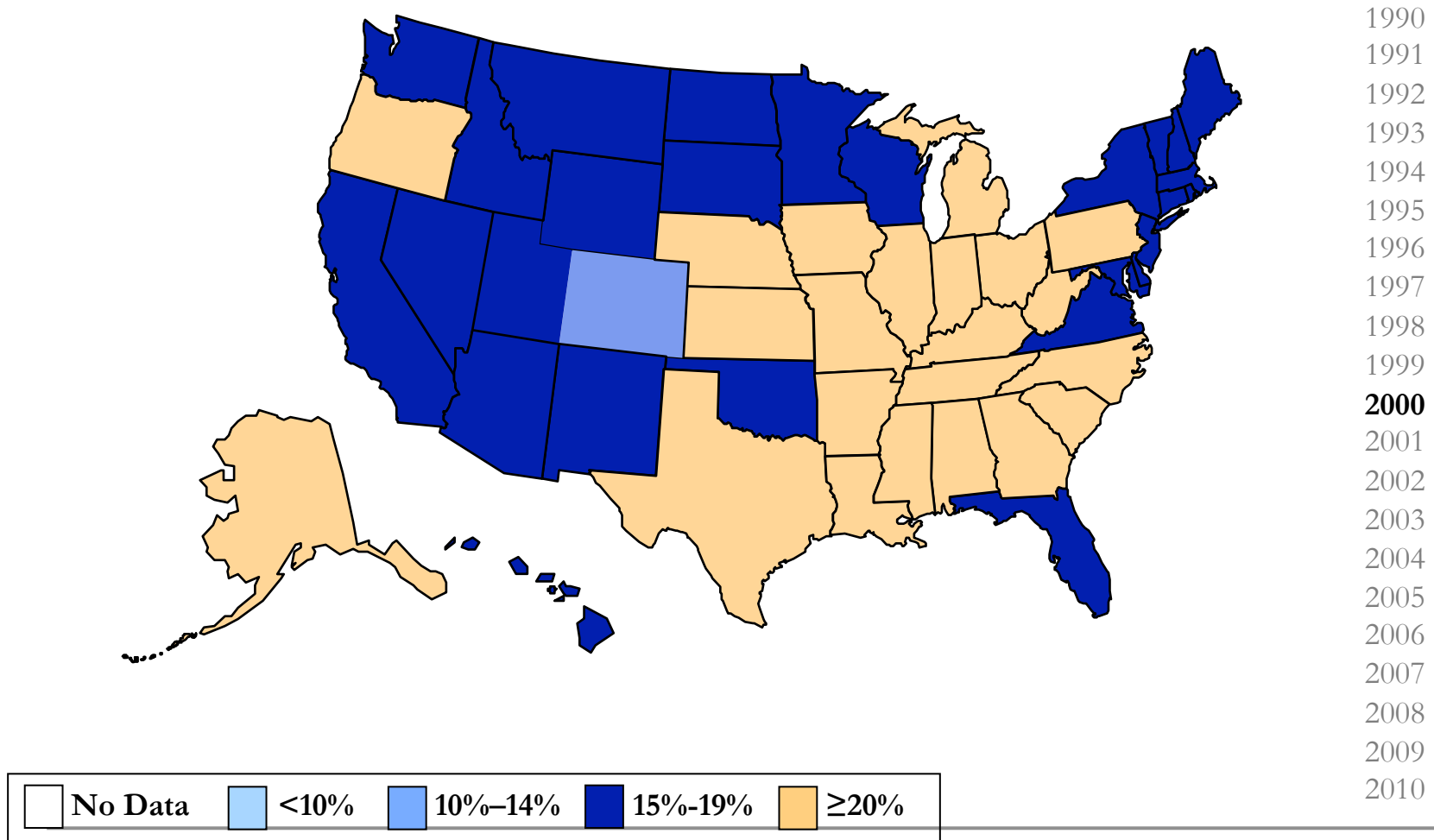
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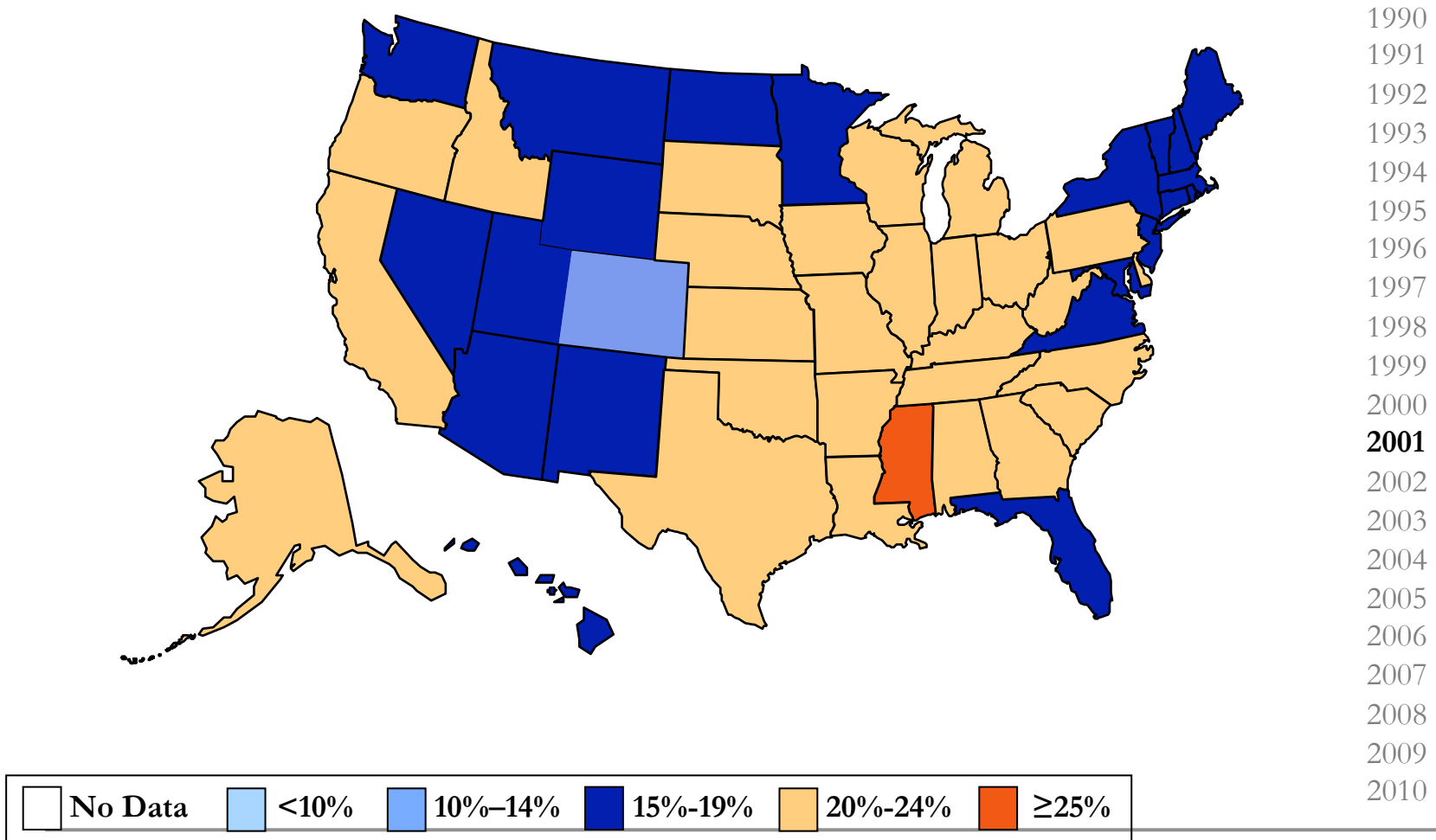
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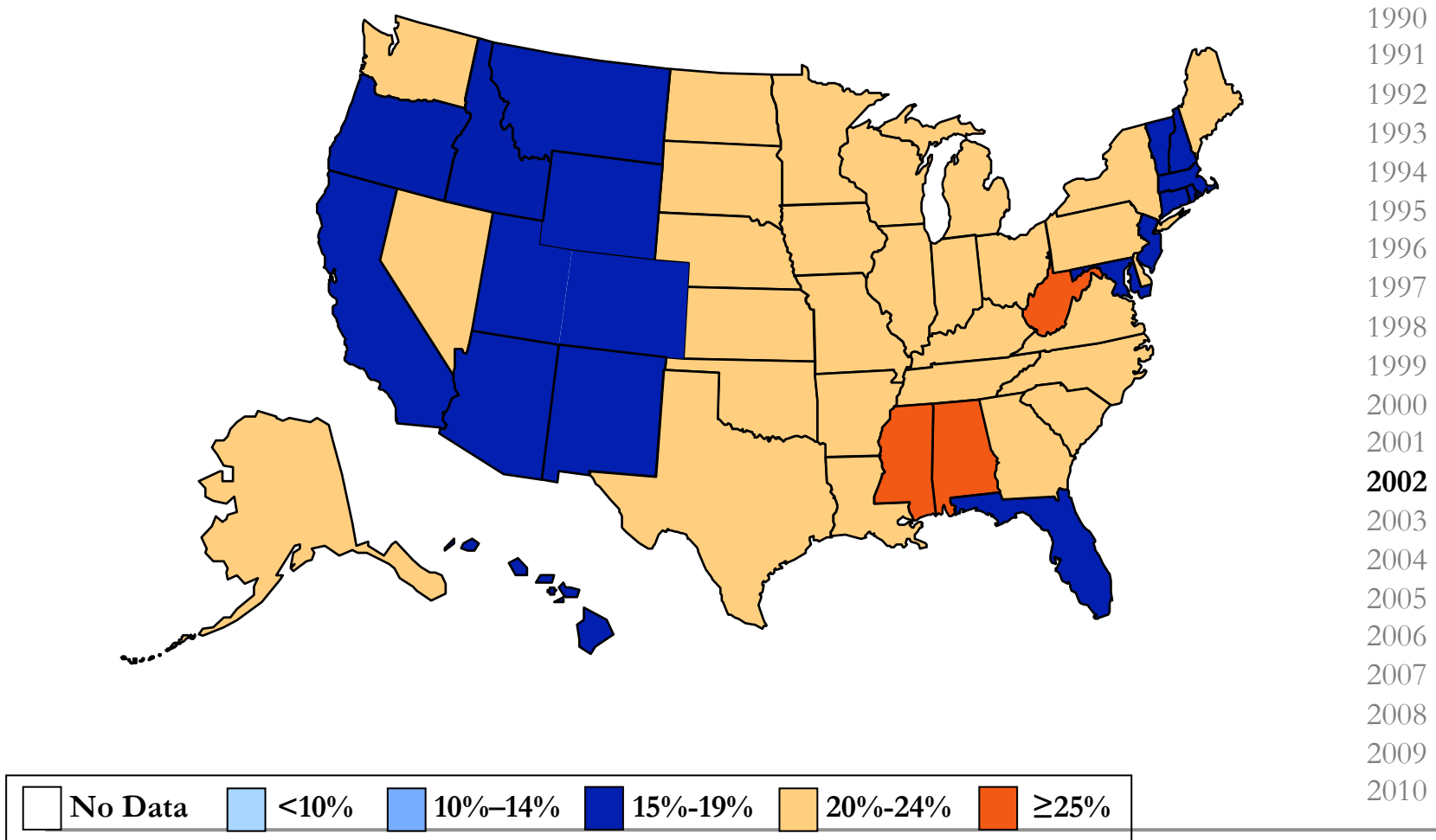
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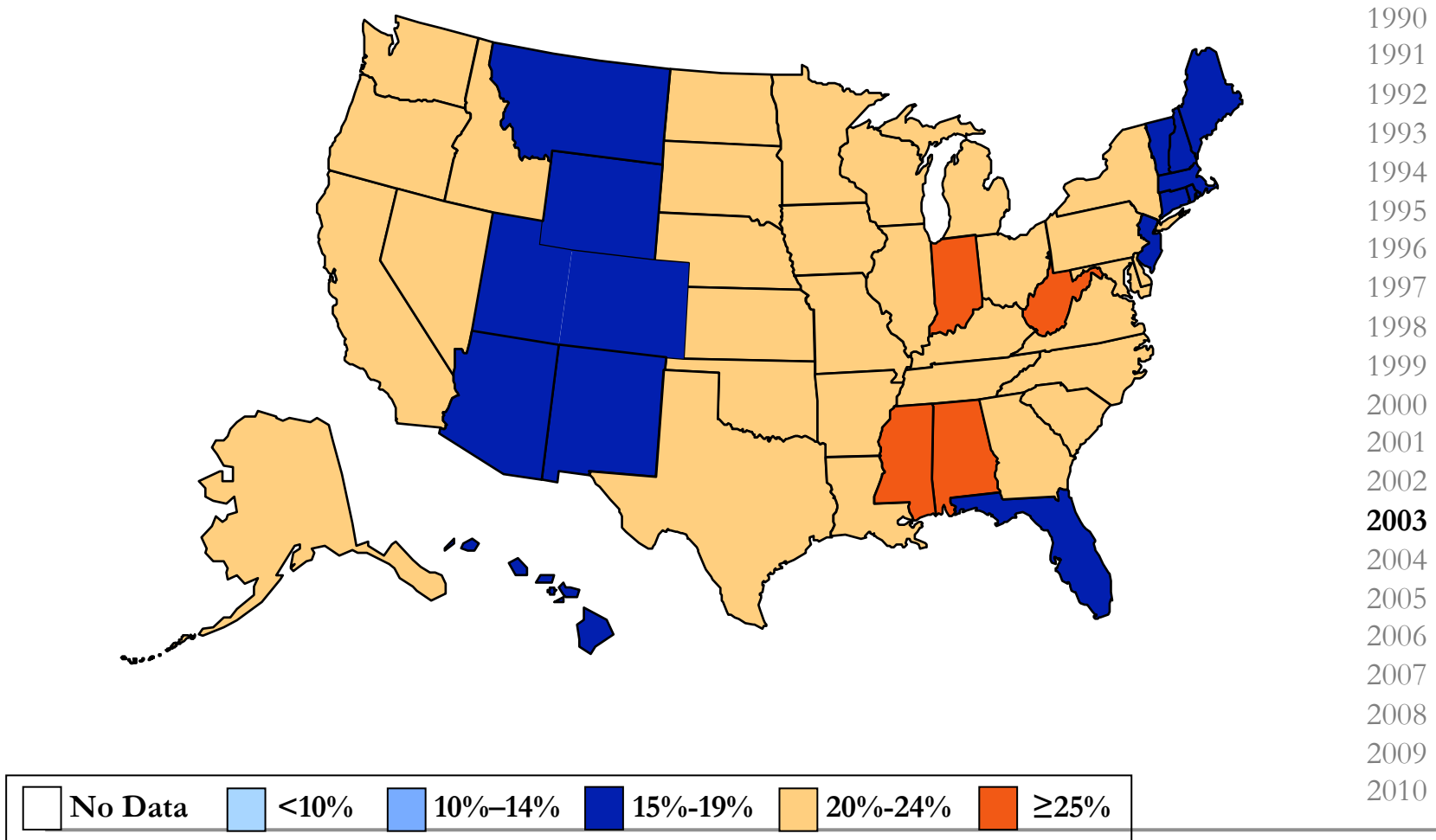
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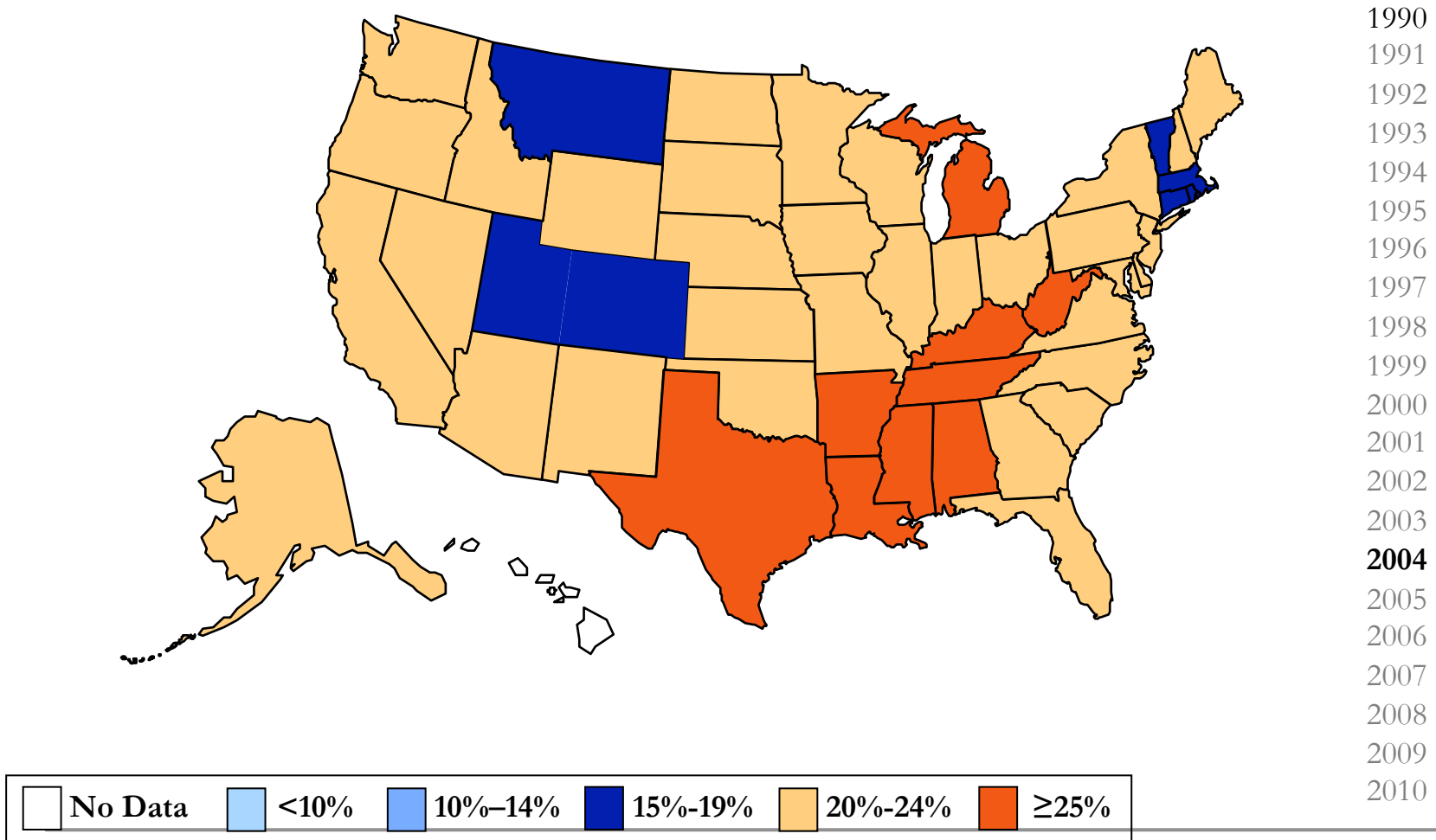
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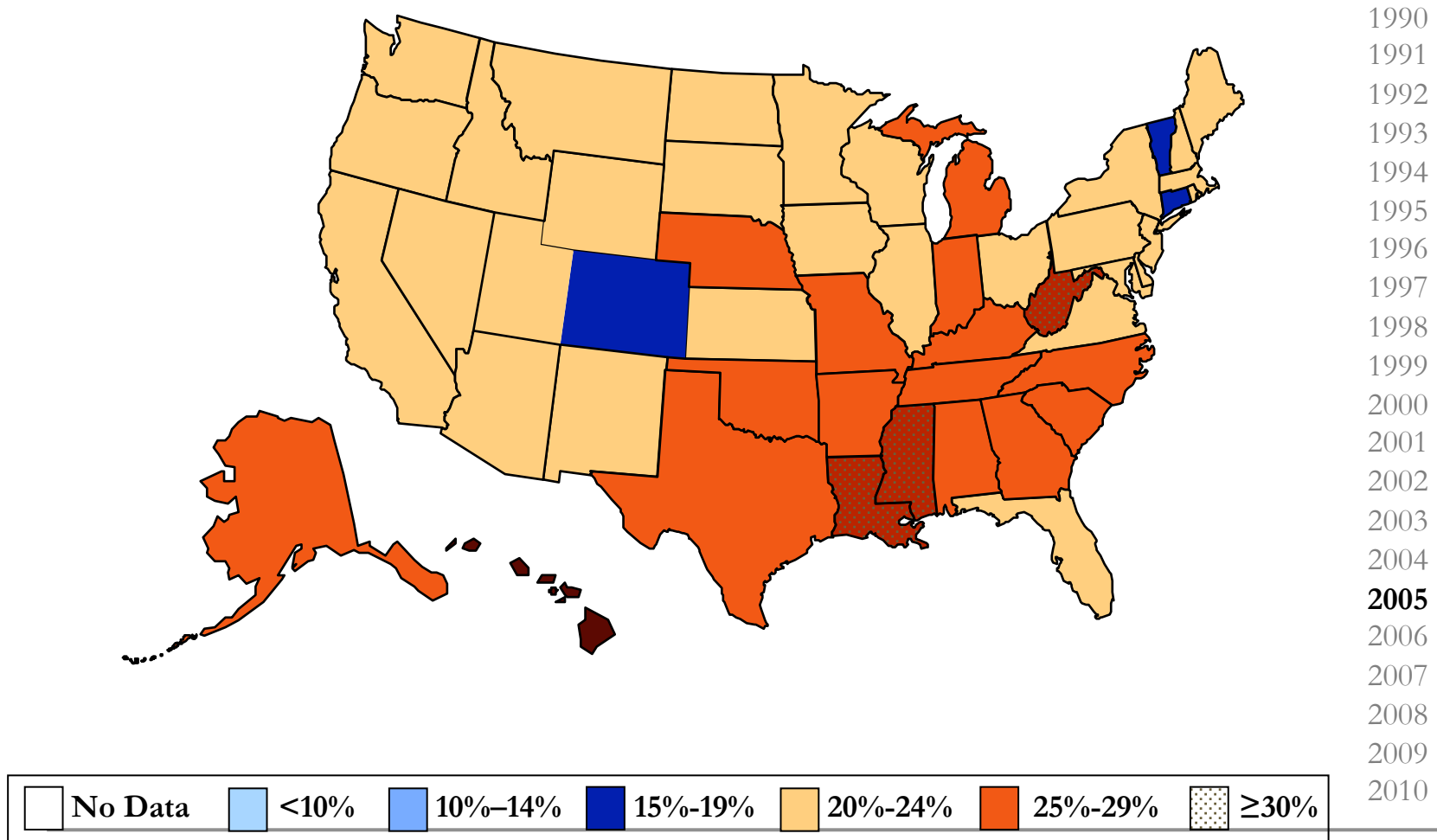


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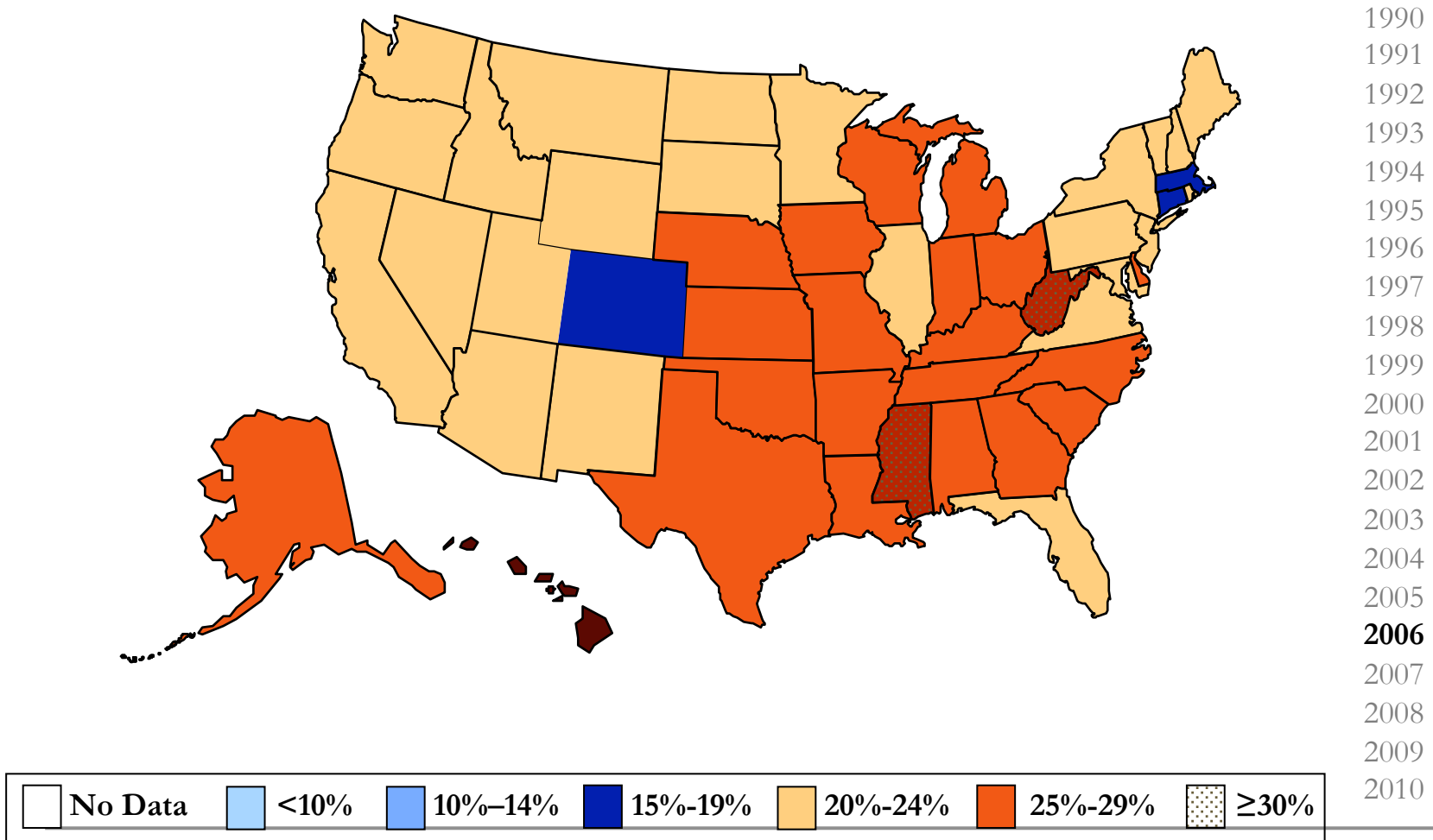




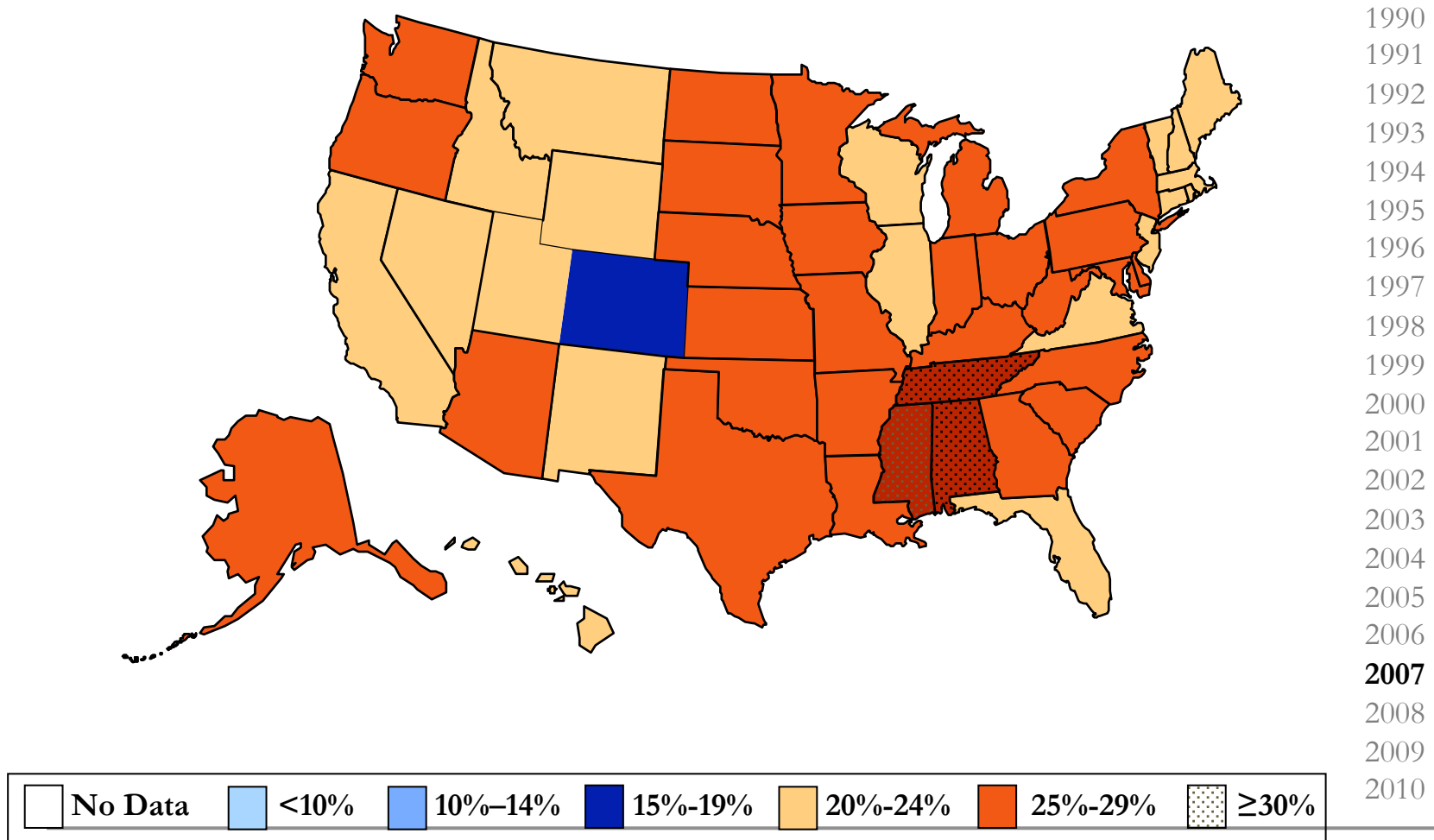
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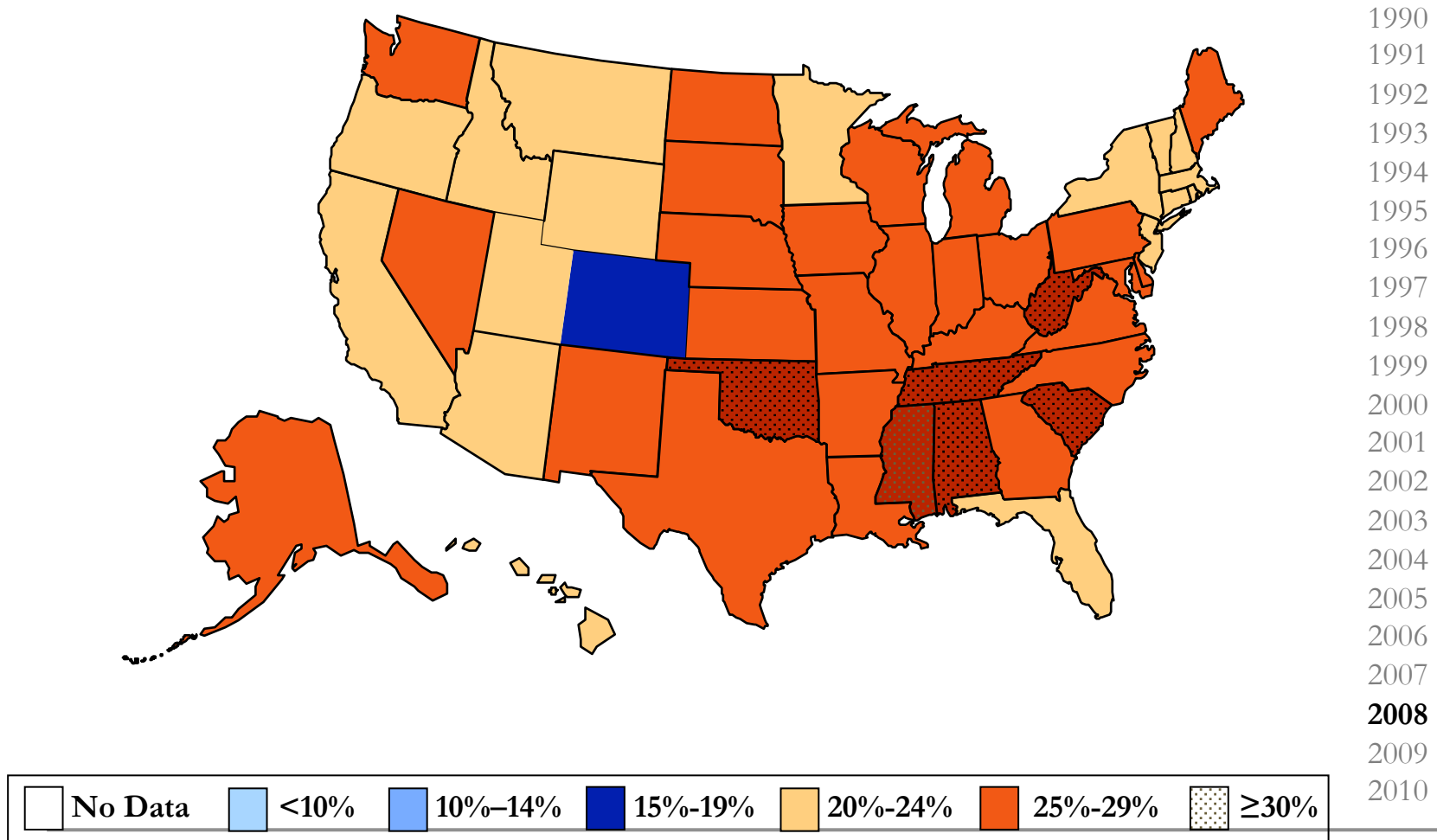
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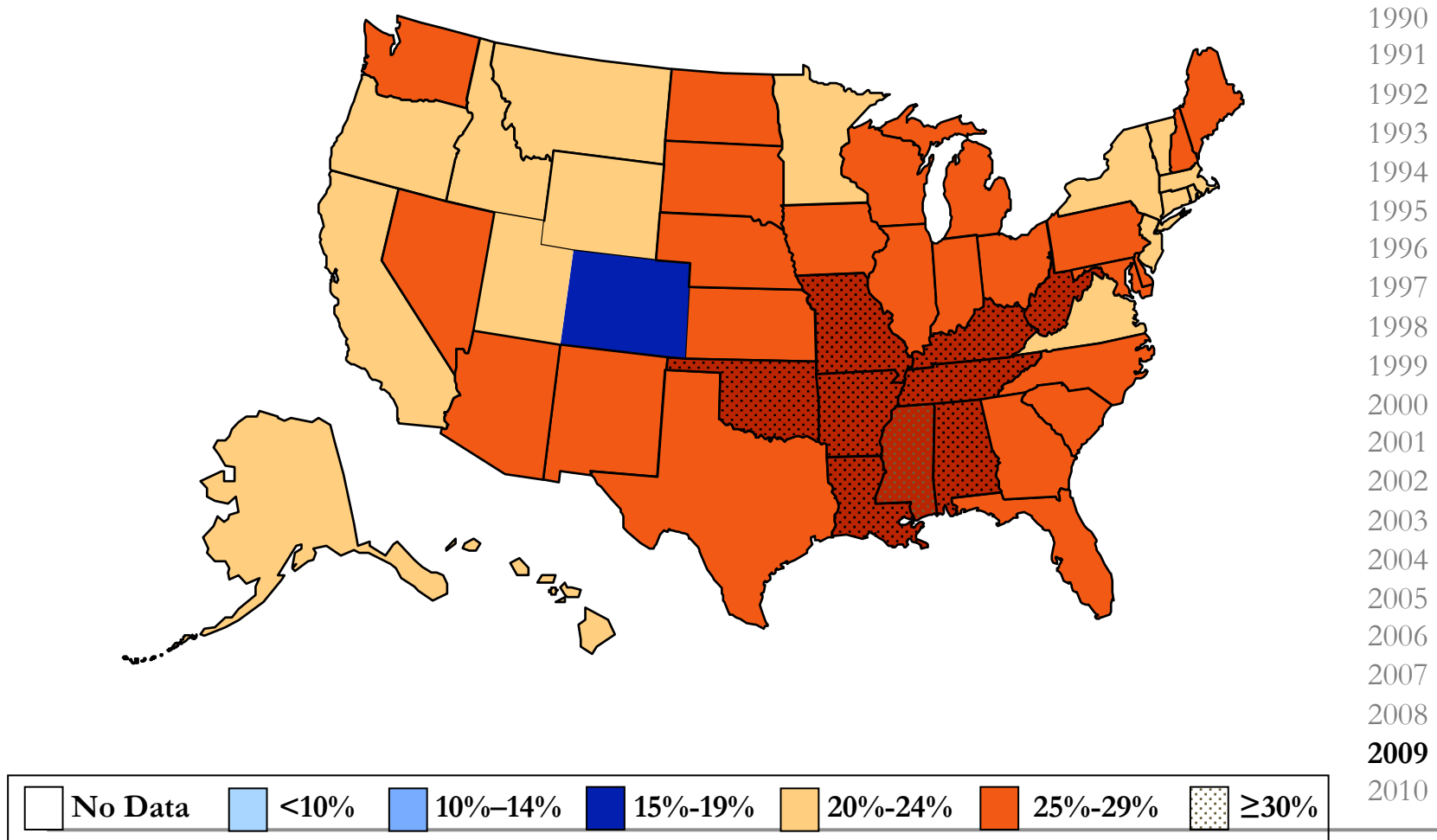
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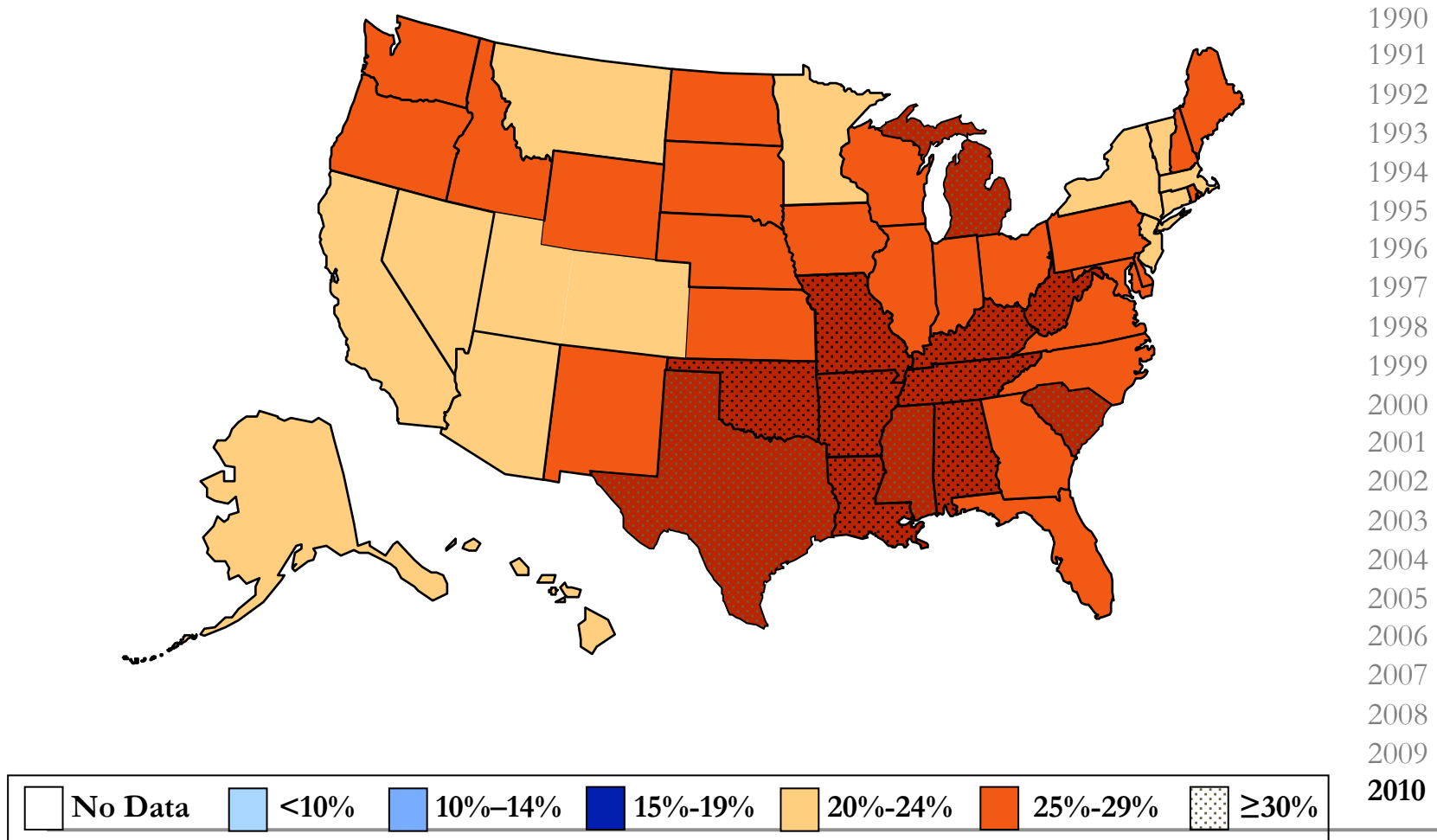
# Obesity Trends Among U.S. Adults



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# Obesity Trends Among U.S. Adults



# Obesity



- More than 35% of US adults are obese
  - Obesity-related conditions are some of the leading causes of preventable death (heart disease, stroke, type II diabetes)
- Worldwide, obesity has nearly doubled since 1980
- 65% of the world's population lives in countries where overweight and obesity kills more people than underweight

# Nutrition



- Good nutrition is essential for a person's overall health and well-being, and is now more important than ever
- Hundreds of nutrition and weight-loss applications
  - 15% of adults with cell phones use health applications on their devices
- These apps are powered by the USDA Food Database



# USDA Food Database



- The United States Department of Agriculture distributes a database of nutritional information for over 7,000 different food items
- Used as the foundation for most food and nutrient databases in the US
- Includes information about all nutrients
  - Calories, carbs, protein, fat, sodium, . . .

# Summarizing by Group: tapply

- The tapply function takes three arguments

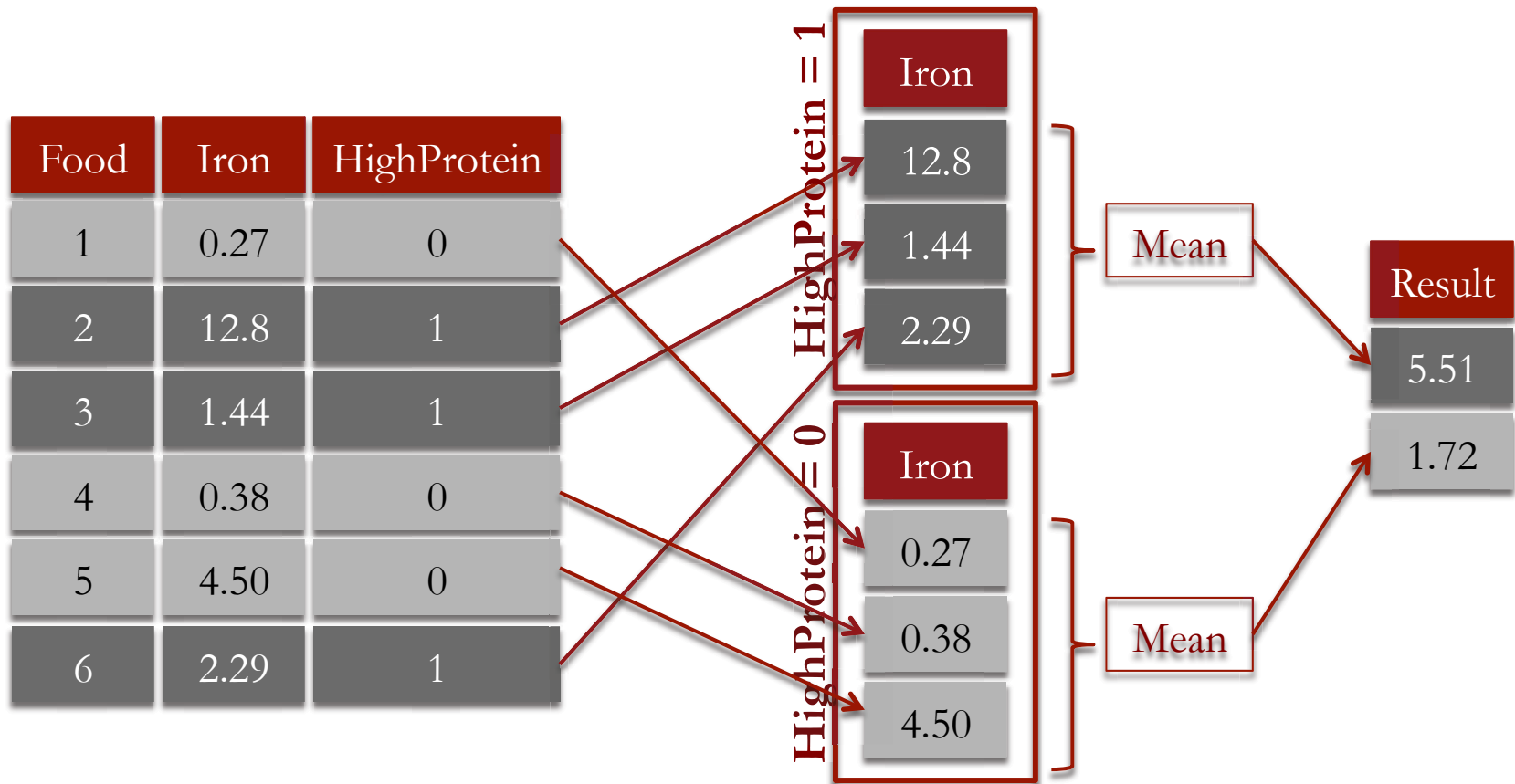
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tapply(argument1, argument2, argument3)
```

- Group argument 1 by argument 2 and apply argument 3
- To compute the average amount of iron, sorted by high and low protein

```
tapply(USDA$Iron, USDA$HighProtein, mean, na.rm=TRUE)
```

# What exactly does tapply do?

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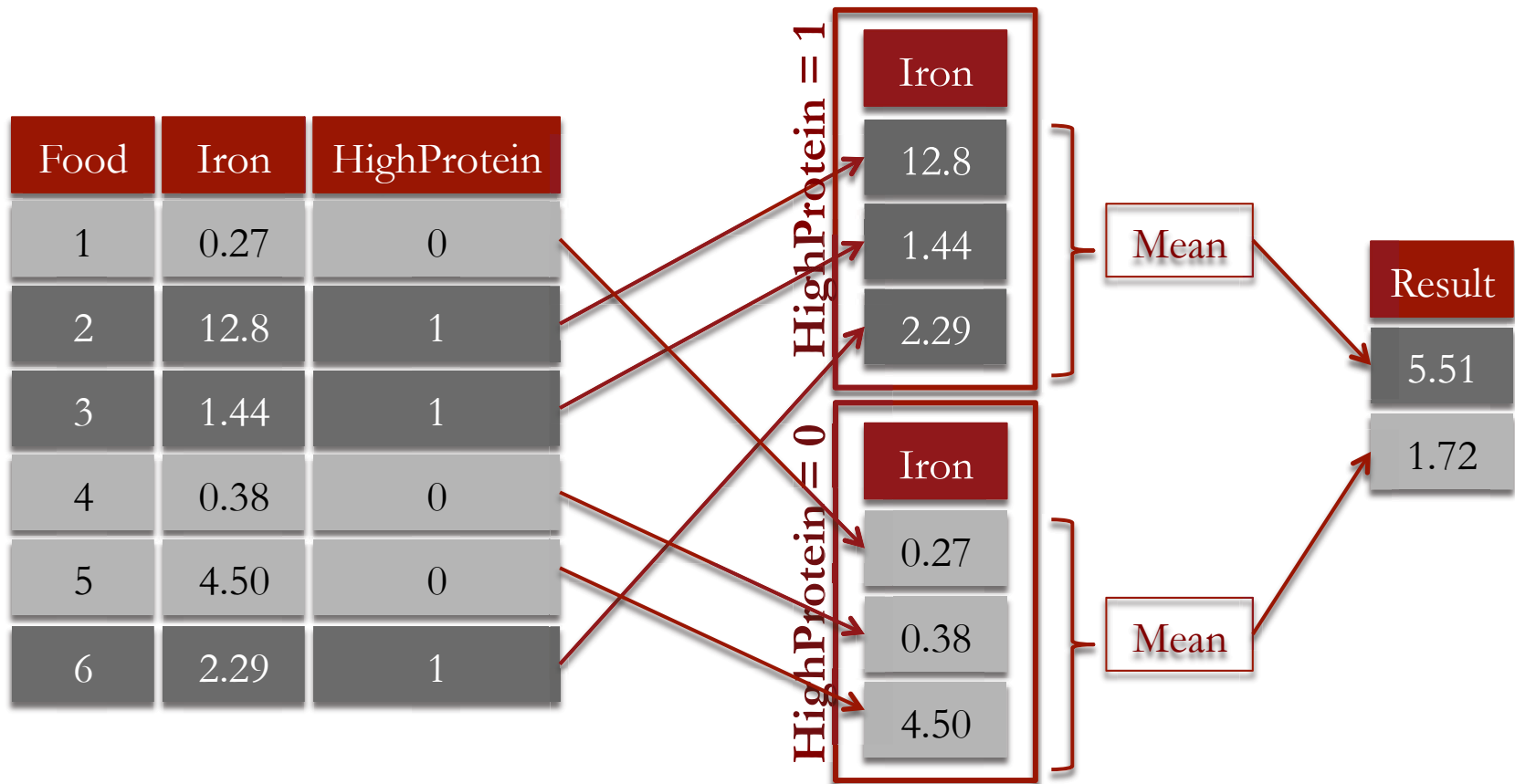
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