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The U.S. Crop Insurance Program: Recent Developments

March 2020

U.S. Department of Agriculture
Office of the Chief Economist
Risk Management Agency

Overview

- Overview of the U.S. Crop Insurance Program
  - –History
  - –Structure
  - –Current status

- Recent developments
  - –Legislative changes
  - –New products/coverage
  - –Improvements to current products

U.S. Crop Insurance Program

- What does it insure?
  - –Natural causes of loss
  - –Yield (e.g. bushels per acre)
  - –Revenue (dollars per acre or “whole farm”)
  - –Weather index
- Who sells it?
  - –Private companies called Approved Insurance Providers (AIPs)
- Who underwrites it?
  - –Federal Government: U.S. Department of Agriculture
- Who bears the risk?
  - –AIPs, U.S. Government, and private reinsurers

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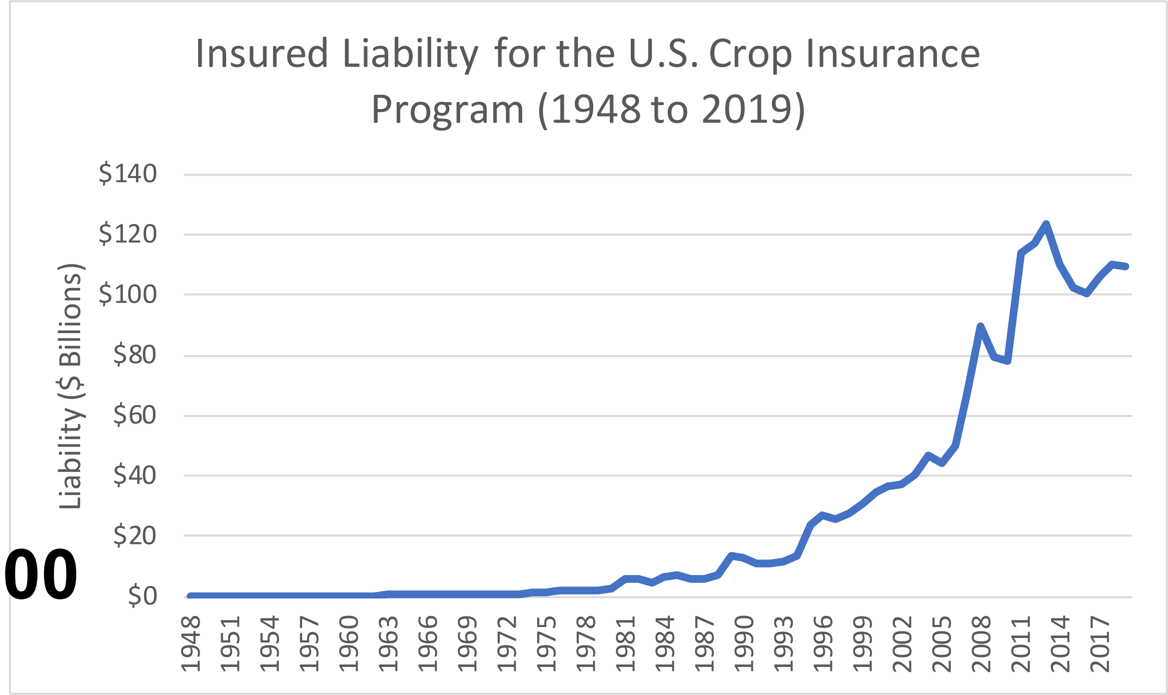
History (Trial and Error)

- Agricultural Adjustment Act of 1938
- Crop Insurance Act of 1944
  - –Minor amendments in 1949, 1953, 1956, 1957, 1959, 1964, 1972, 1975, and 1977
- Crop insurance amendment of 1980
  - –Minor amendments in 1986, 1990, and 1993
- Crop Insurance Reform Act of 1994
  - –Amendment in 1996
- **Agricultural Risk Protection Act of 2000**
  - **–Amendments in 2008, 2014, 2018**



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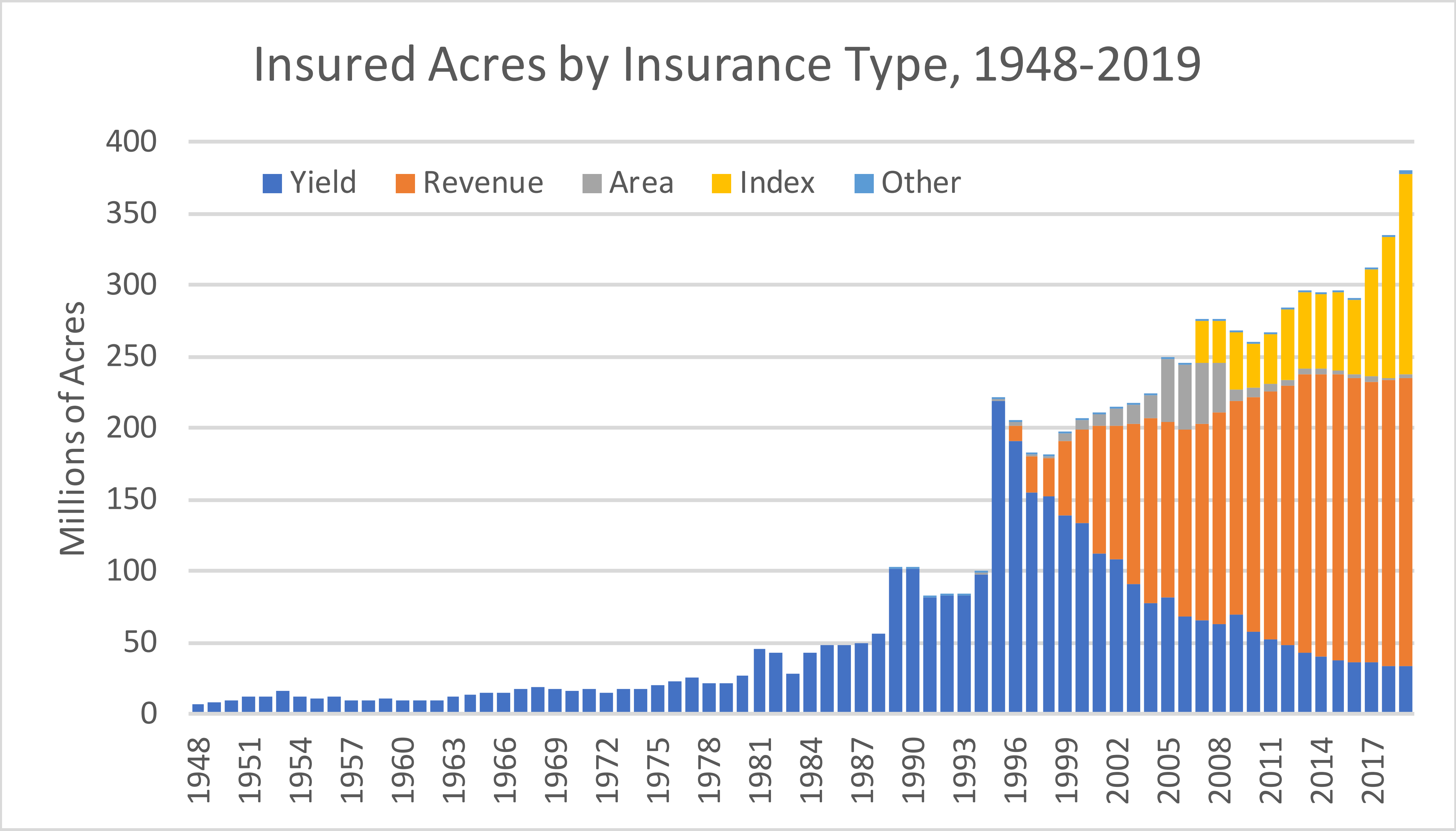
2000 to Present

- 2000: Agriculture Risk Protection Act
  - –Increased government share of premium Schedule for higher levels of coverage
  - –Assigned Yields and Actual Production History Adjustments
    - Decrease impact of a catastrophic year on average yield
  - –Revision to prevented planting coverage
    - 65% reduction if farmer plants a second crop
  - –Review and Adjustment in Rating Methodologies

2000 to Present

- 2000: Agriculture Risk Protection Act (cont.)
  - –Research and Development
    - Increase the quality and quantity of new insurance products
    - Private development, RMA contracts for research and development (over 70 new products)
  - –Pilot Programs –expanded pilot authorities, including coverage for livestock
  - –Education and Risk Management Assistance –competitive grants to educate producers
  - –Reduce fraud, waste and abuse
    - FCIC work with other USDA agencies to reconcile producer information on an annual basis
    - Investigating claims of waste, fraud or abuse

The Long View



2000 to Present

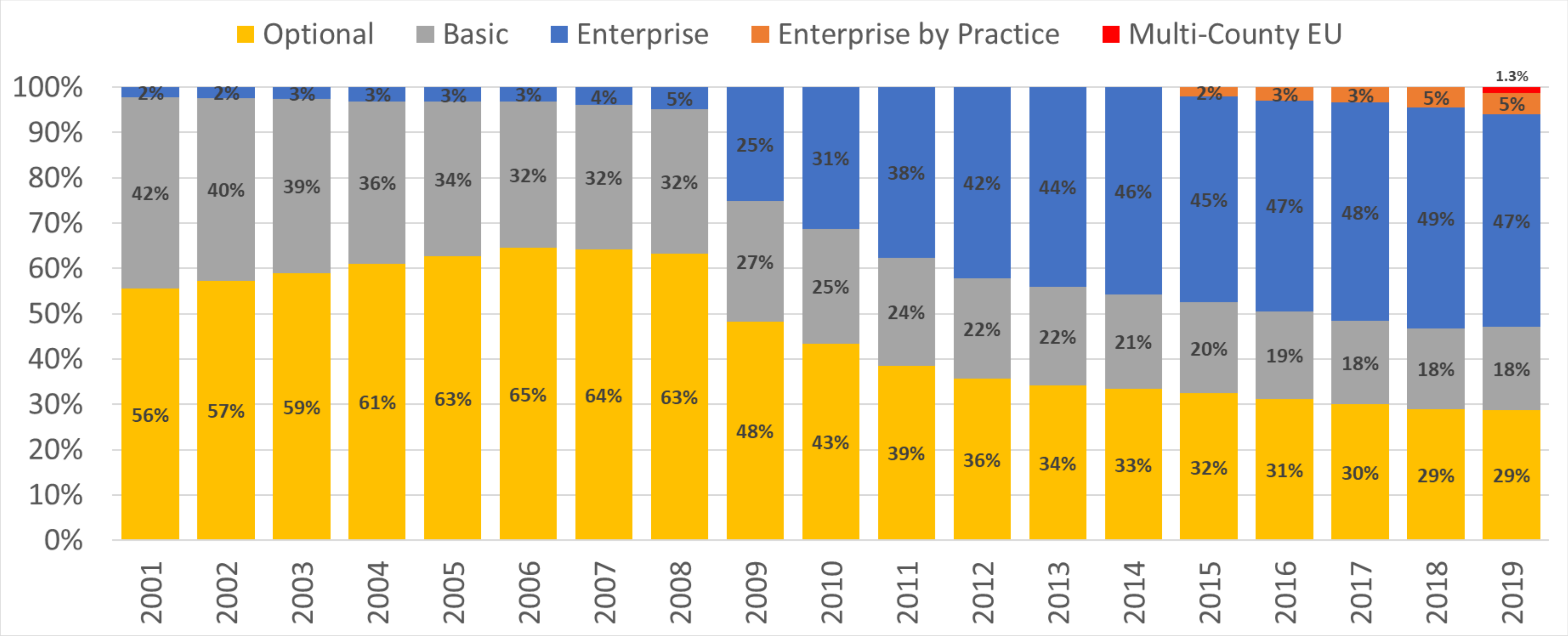
- 2008 Farm Bill
  - –Higher share of premium paid for ‘enterprise units’
- 2014 Farm Bill
  - –Supplemental area-based coverage of deductible for individual policy
    - Supplemental Coverage Option (SCO)
    - Stacked Income Protection for cotton (STAX)
  - –Whole Farm Revenue Protection
- 2018 Farm Bill
  - –Research/Studies: extend crop insurance to underserved areas/crops
  - –Greater emphasis on whole-farm coverage

Enterprise Units

Coverage Level	50%	55%	60%	65%	70%	75%	80%	85%
Subsidy Rate for Optional Units (field level)	67%	64%	64%	59%	59%	55%	48%	38%
Subsidy Rate for Enterprise Units (crop level)	80%	80%	80%	80%	80%	77%	68%	53%

Unit Structure – All Crops

Percent of Acreage by Unit Structure
(Crops with EU Available)



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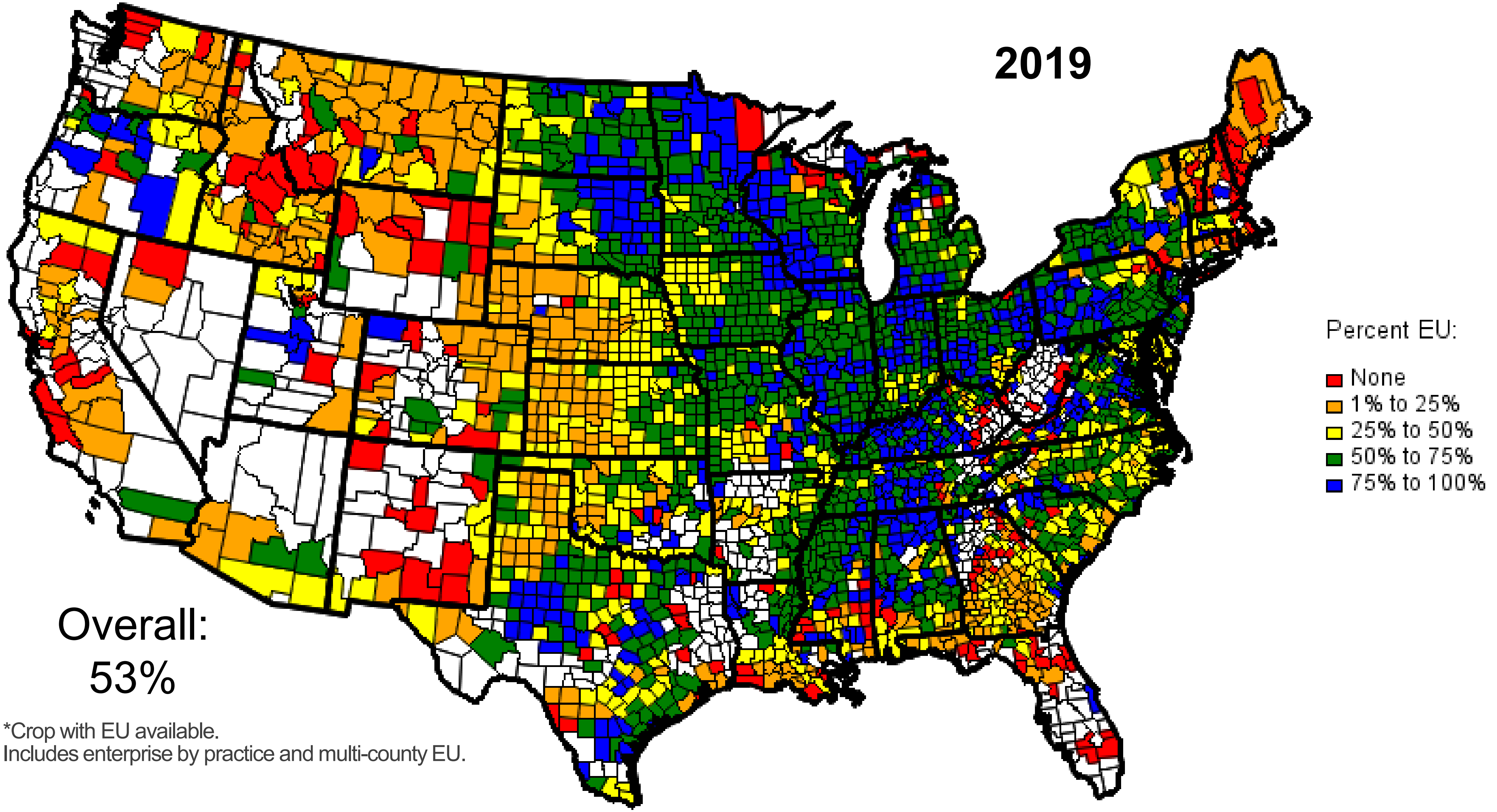
Enterprise Unit Acreage Insured

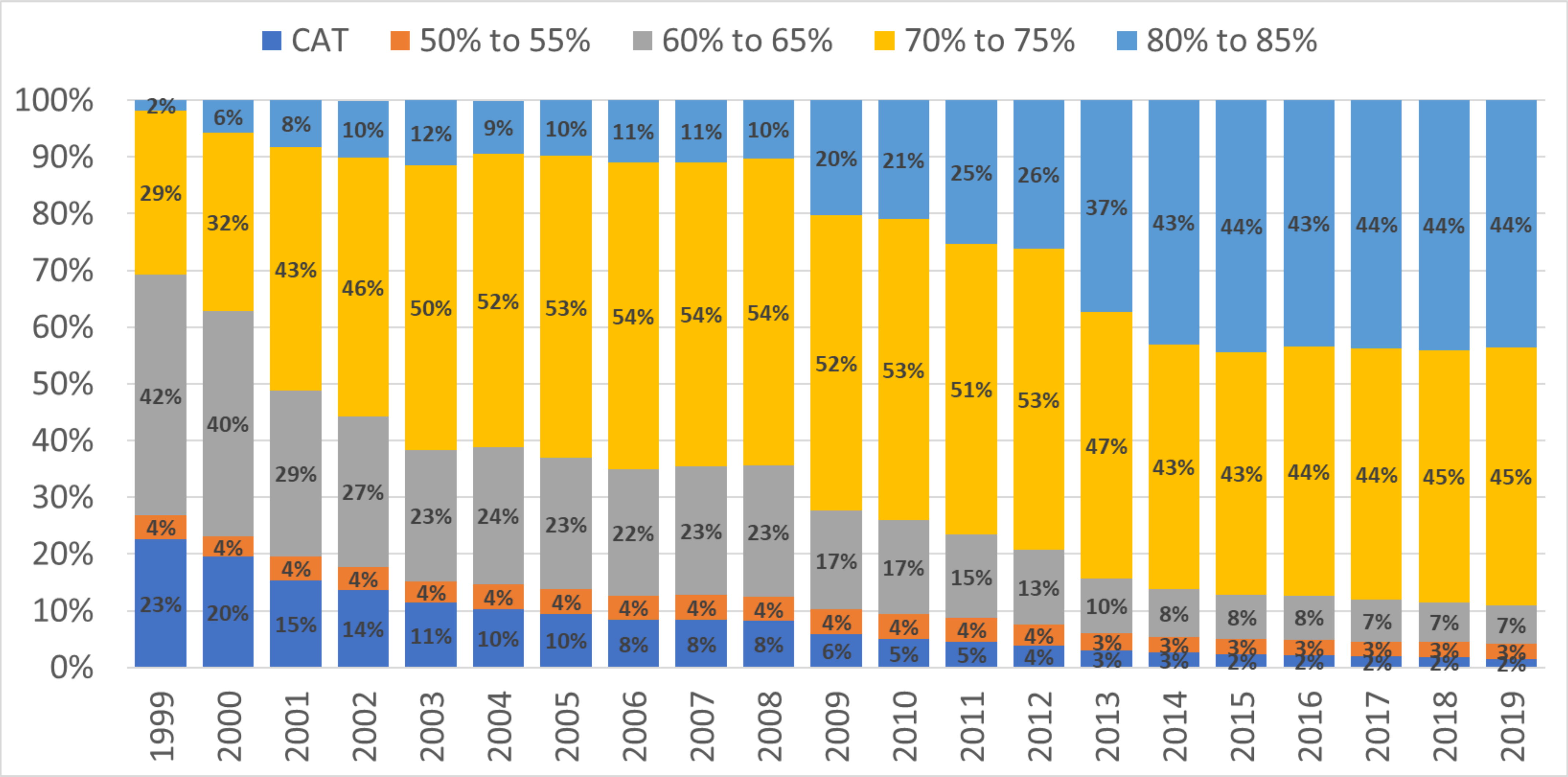


Overall:
53%

*Crop with EU available.
Includes enterprise by practice and multi-county EU.

Coverage Levels - Corn

Corn - Percent of Policies by Coverage Level
(Excludes Area-based Programs)



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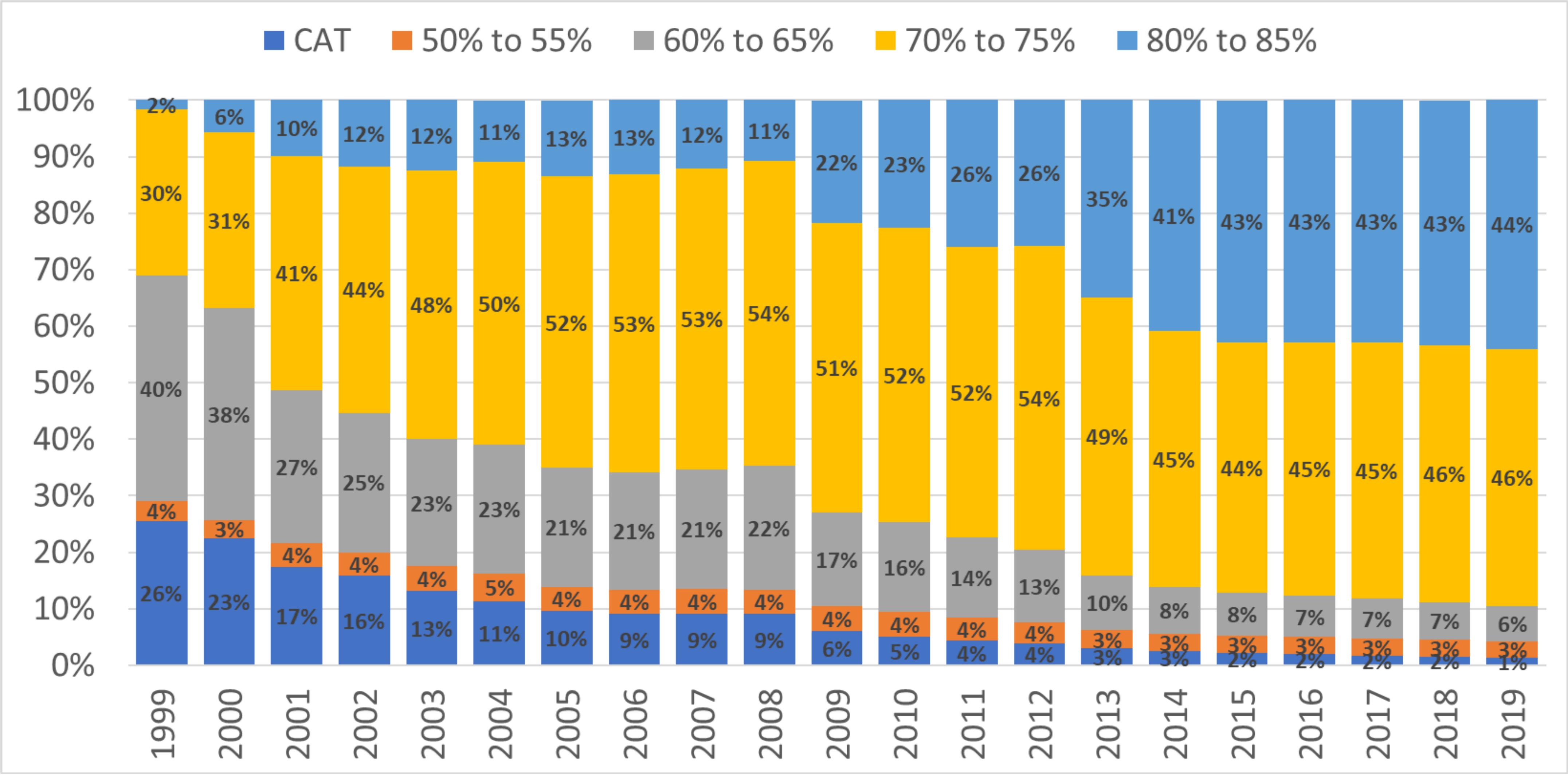
Coverage Levels - Soybeans

Soybeans - Percent of Policies by Coverage Level
(Excludes Area-based Programs)



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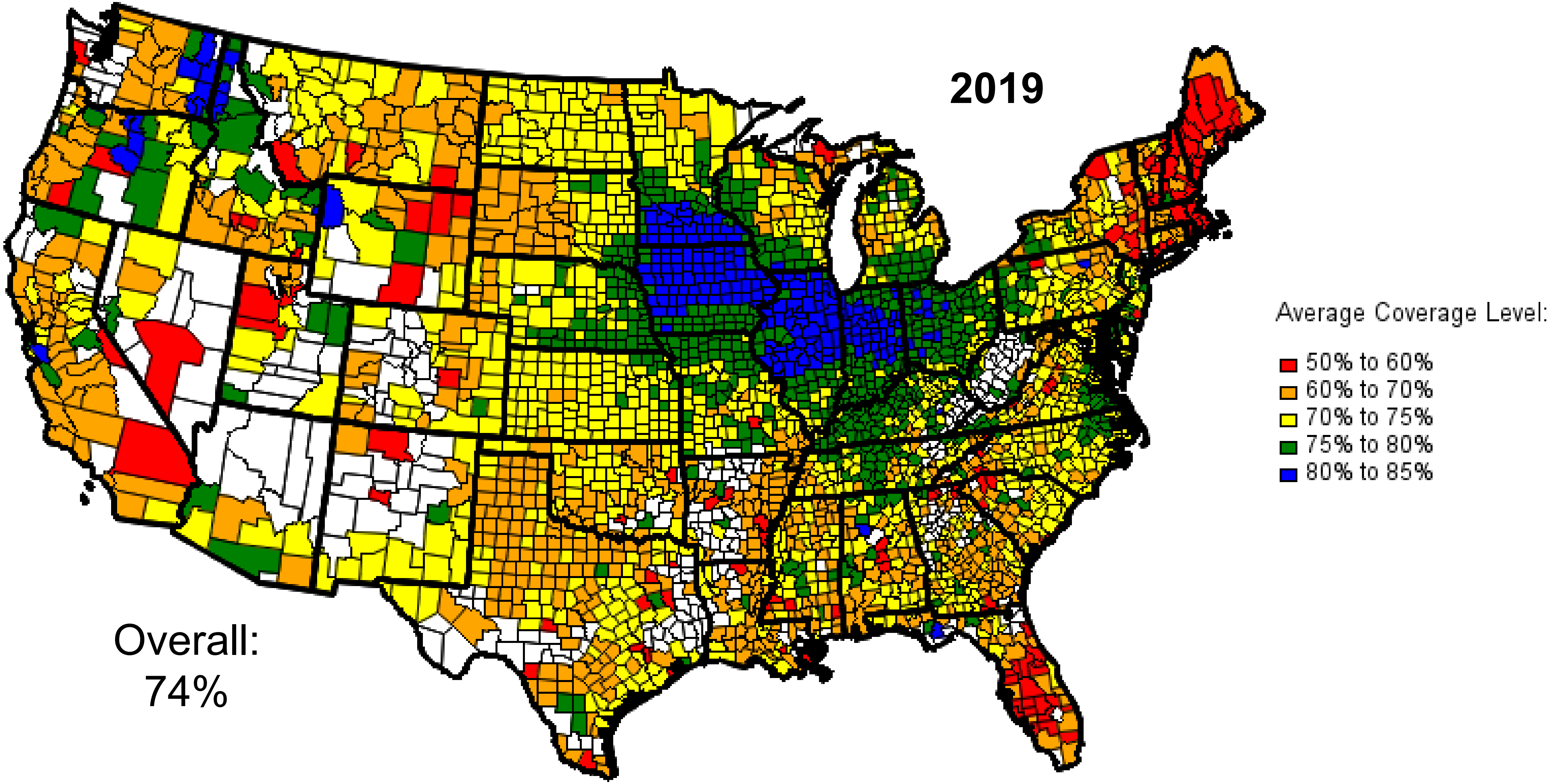
Average Buy-Up Coverage Level



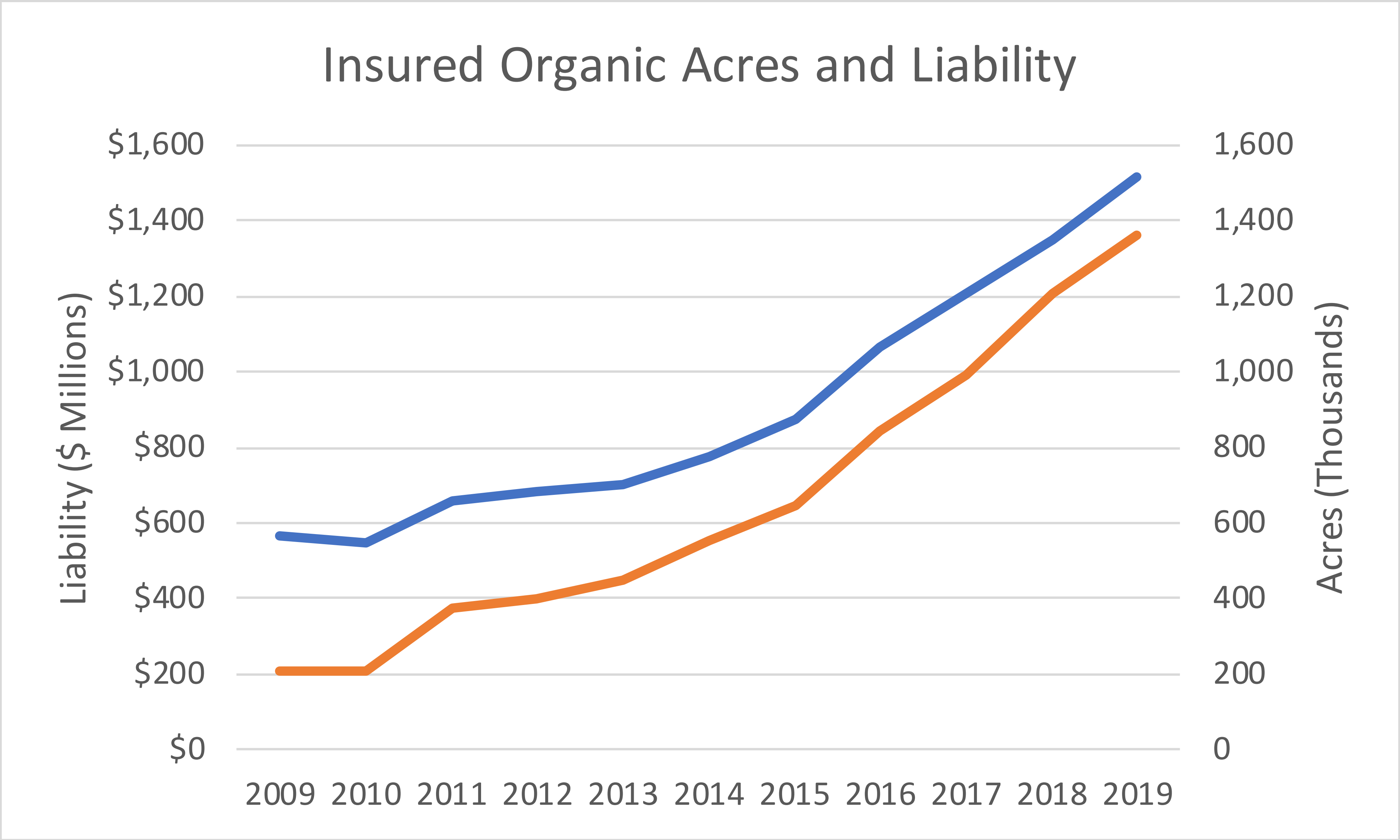
Overall:
74%

Organic Coverage

- Organic Price Elections have grown from 4 crops in crop year 2011 to 57 crops in crop years 2016 and 2017

- Contract Price Option allows producers who receive a contract price for their crop to get a guarantee that is more reflective of the actual value of their crop
  - Available for 73 crop types

Organic Insurance Coverage



Map of Organic Policies 2018

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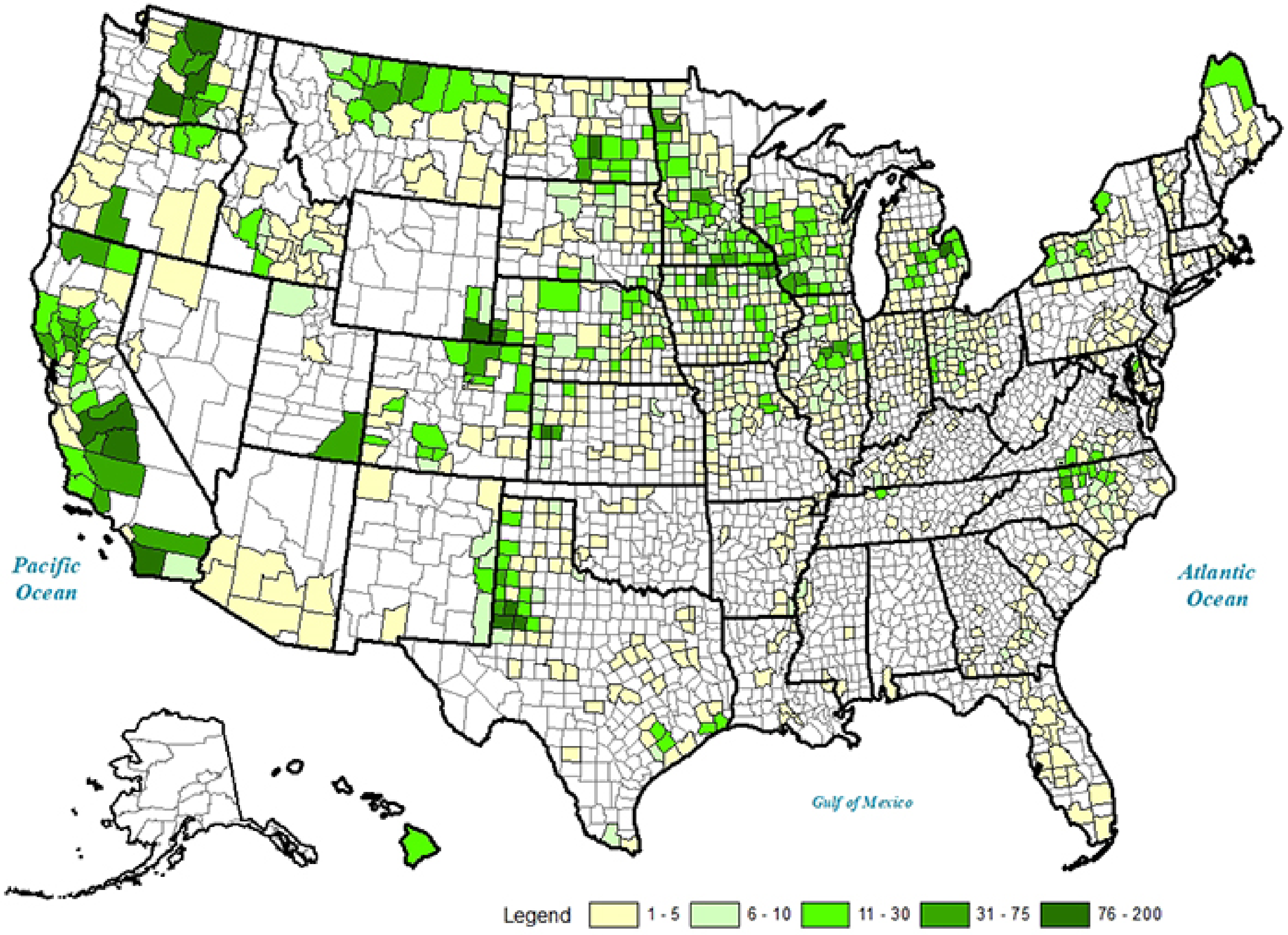

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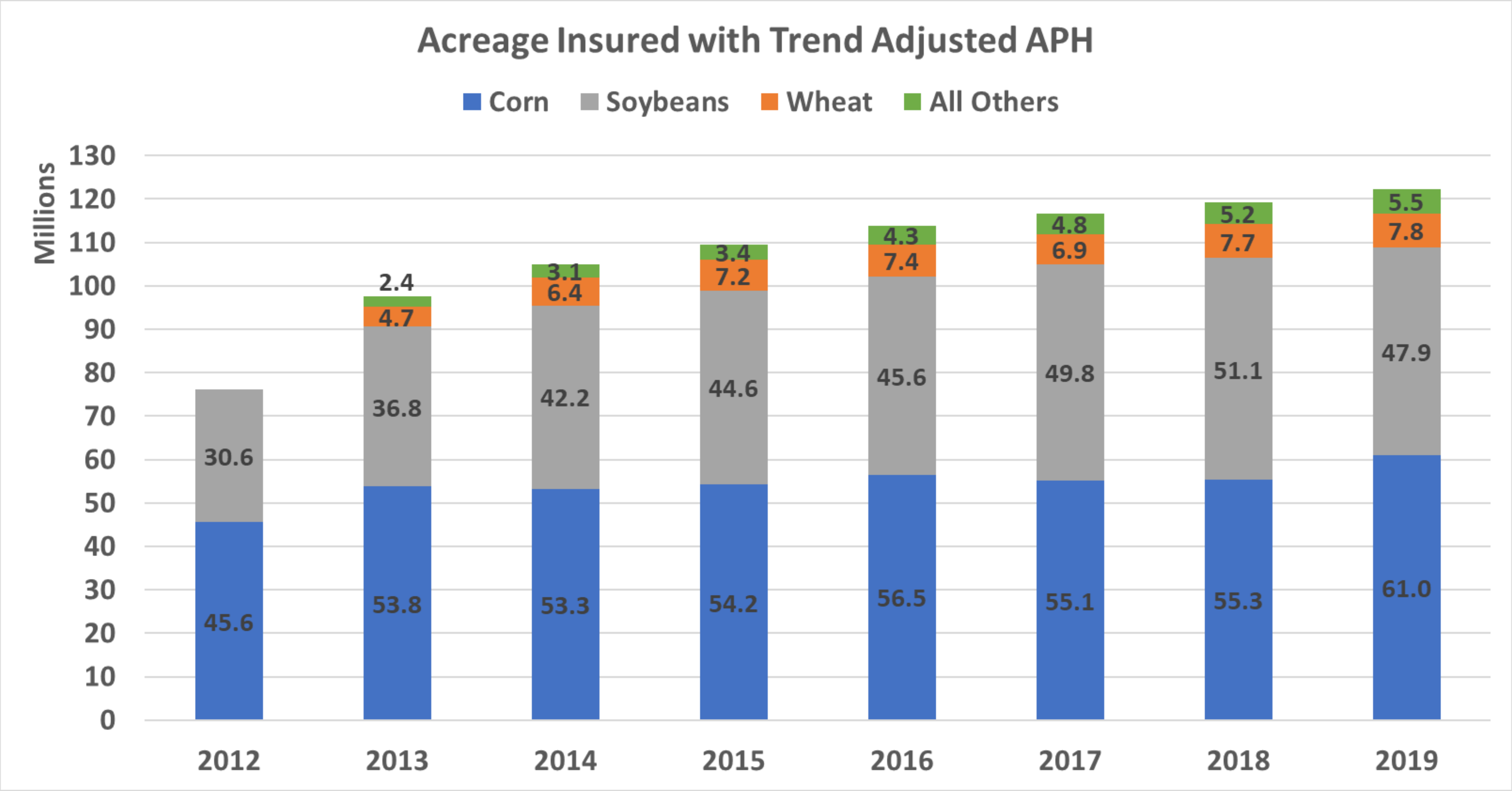
Trend Adjusted APH



Year	Acres
2012	76.2M
2013	97.7M
2014	104.9M
2015	109.5M
2016	113.8M
2017	116.7M
2018	119.3M
2019	122.2M

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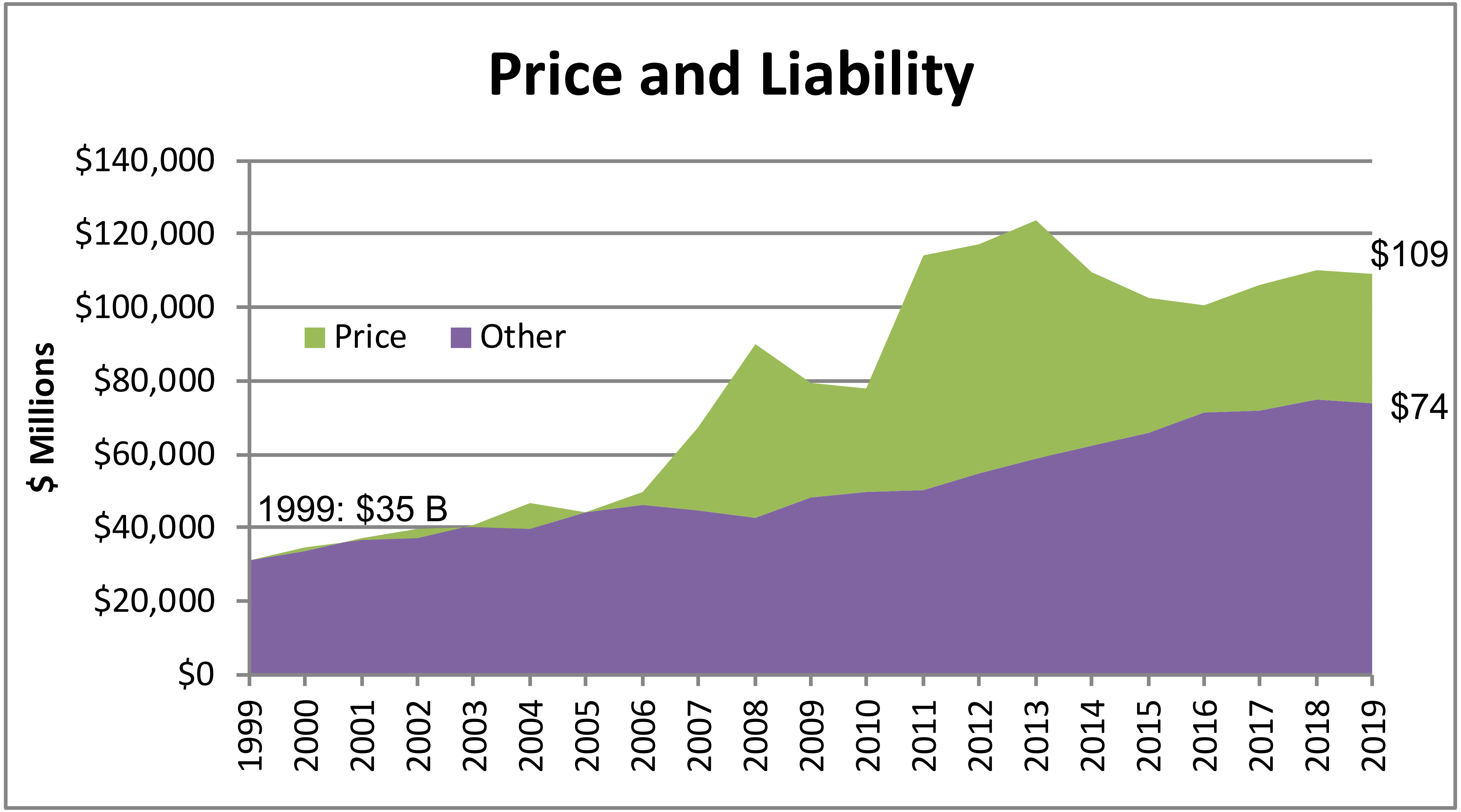
Program Growth



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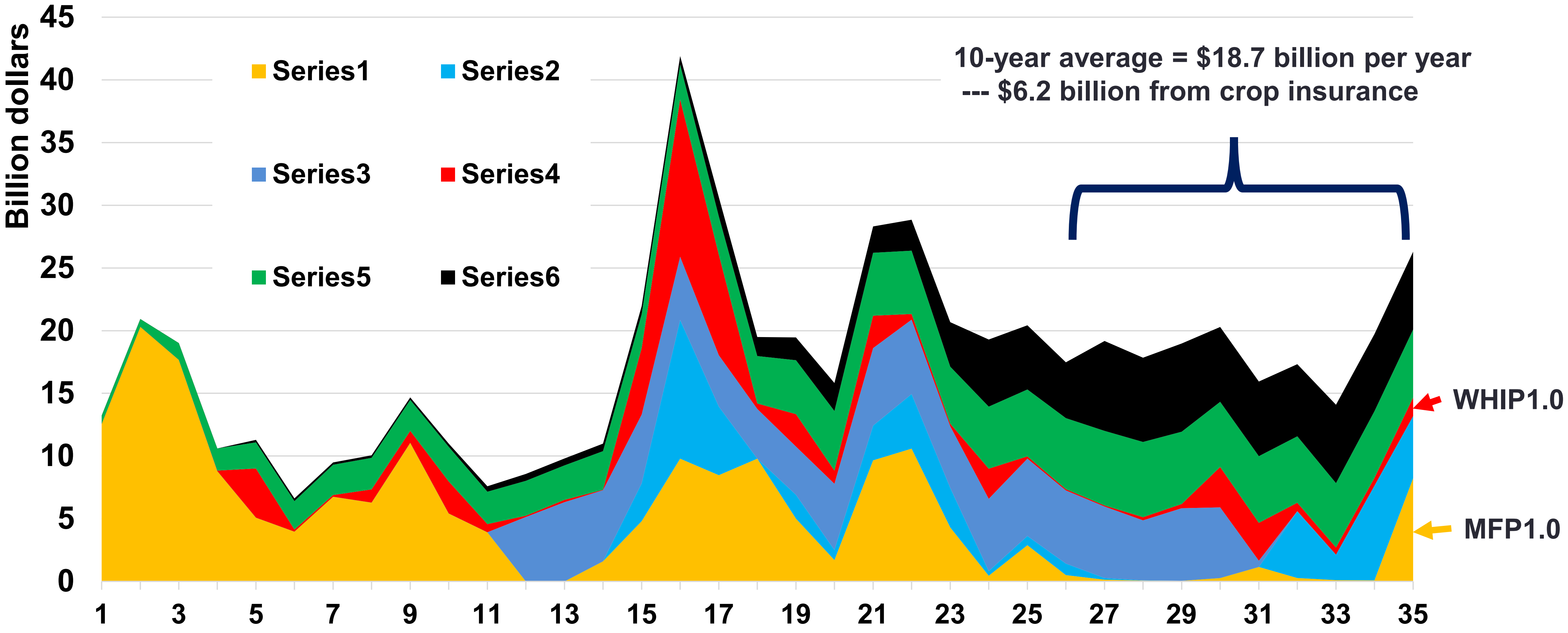
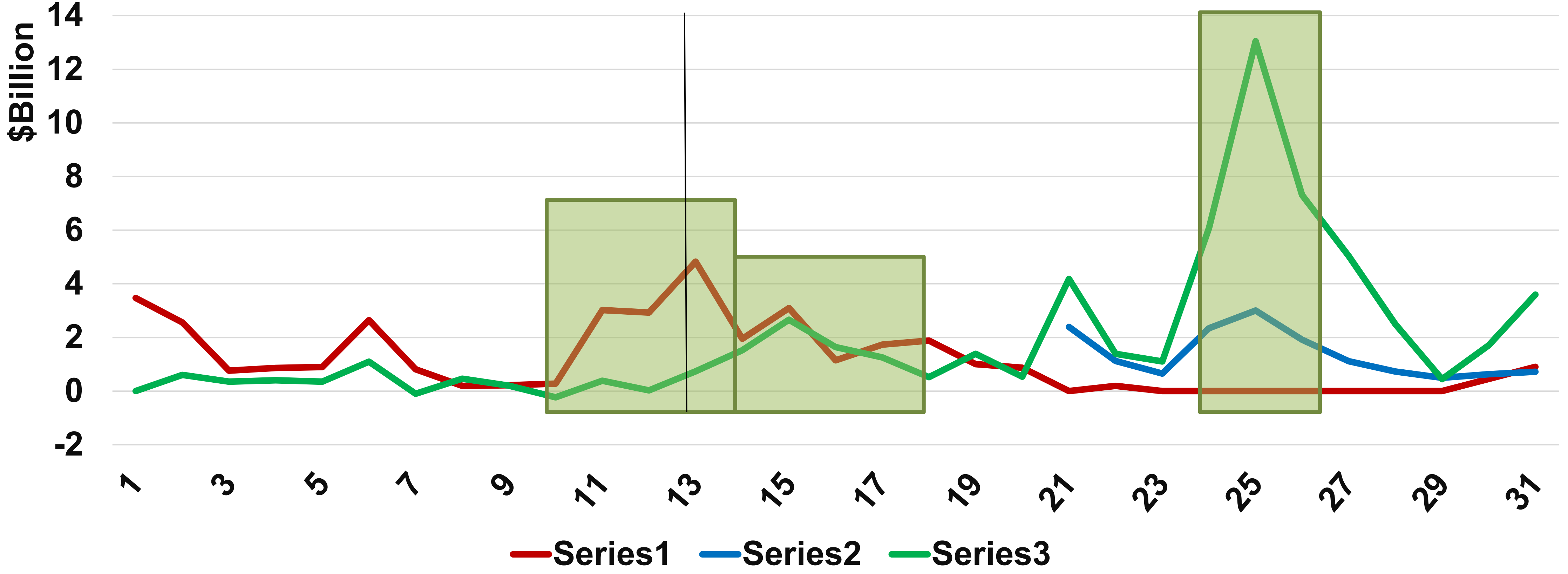
Characteristics of US farm programs changing over time; crop insurance increasing in importance



Data: USDA, fiscal year.

Crop insurance indemnities began to replace ad hoc assistance with ARPA in 2000



Data: USDA FSA and RMA.

Crop Insurance Today

- Coverage available for over 540 varieties of crops
  - –Up from 325 varieties of crops covered in 2000
- Most coverage purchased also includes price/revenue protection
- Premium cost is shared between farmers and government
  - –$10.1 billion in premium
    - $3.7 billion paid by farmer
    - $6.4 billion paid by government (63%)

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Top 10 Crops by Liability 2019

Rank	Crop	Liability ($ Billions)	% of Total
1	Corn	$43.0	40.0%
2	Soybeans	$24.0	22.3%
3	Wheat	$7.1	6.6%
4	Cotton	$5.3	5.0%
5	Pasture, Rangeland, Forage	$2.6	2.4%
6	Whole Farm Revenue Protection	$2.2	2.1%
7	Almonds	$2.2	2.0%
8	Grapes	$1.7	1.6%
9	Nursery (FG&C)	$1.5	1.4%
10	Rice	$1.5	1.4%
	All Other Crops	$16.3	15.1%
	Total	$107.6	100.0%

Data: USDA-RMA

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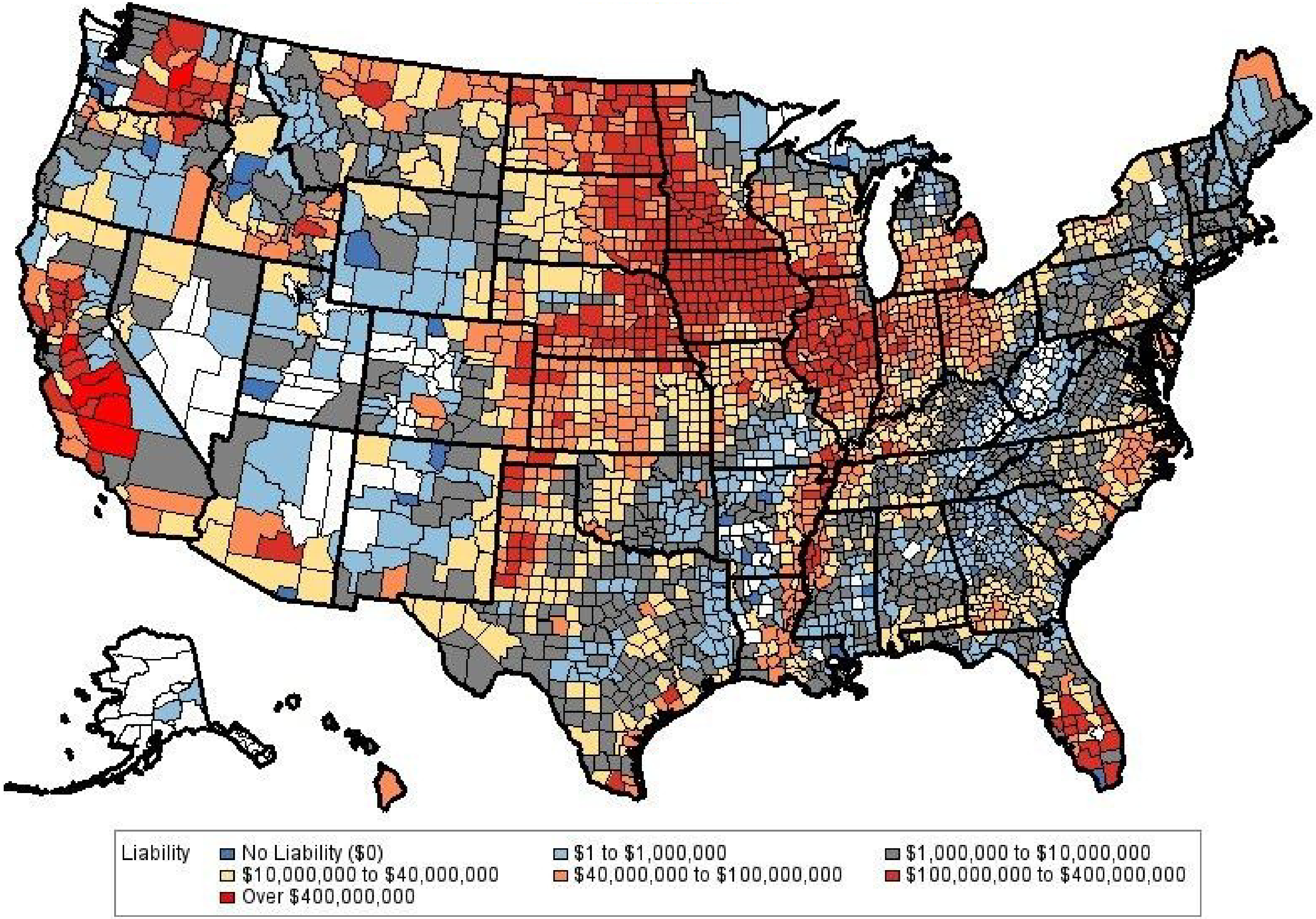
Liability by County 2019



Crop Insurance Market Share

- Principle field crops - 85 percent planted hectares insured
  - –Barley, corn, cotton, grain sorghum, peanuts, potatoes, rice, soybeans, tobacco, and wheat
- Other field crops - 61 percent
- Fruit and Nuts - 74 percent
- Vegetables - 36 percent

- Pasture/rangeland/forage/hay - 12 percent
  - –Low market penetration but third largest crop based on hectares insured

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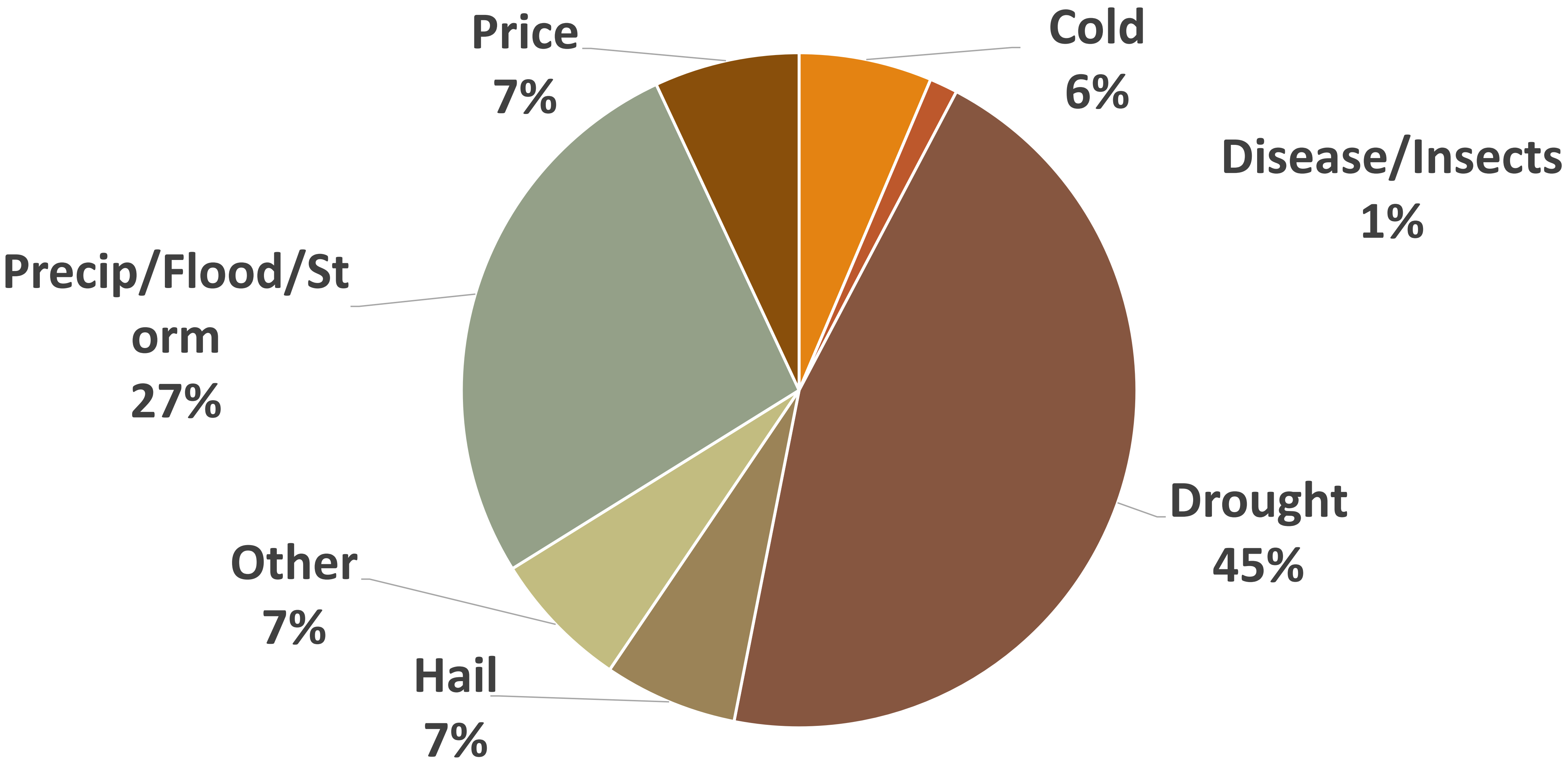
Share of Indemnity by Peril: 2001-19



Actuarial Performance

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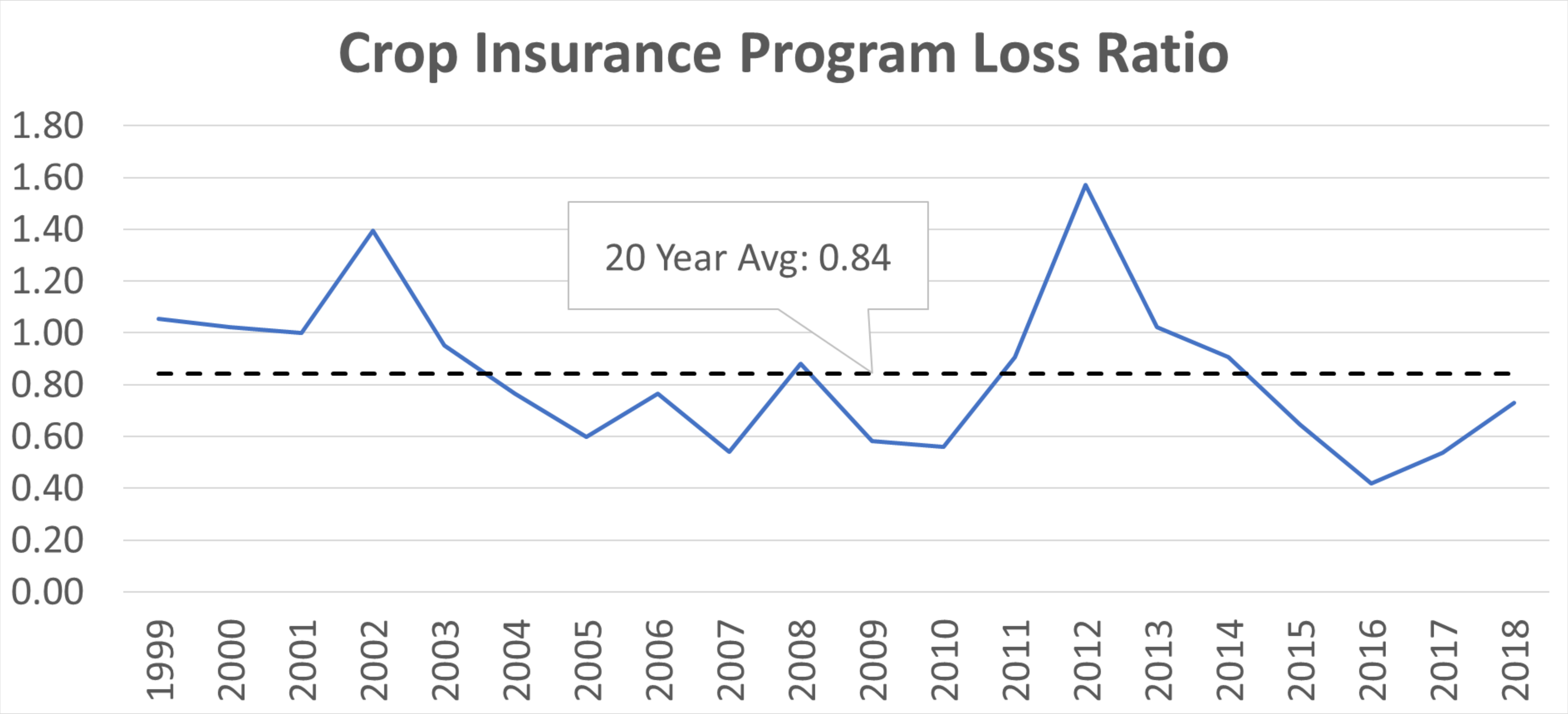

Rate and T-yield Reviews

- Generally occur every 3 years for APH programs
  - ✓Approximately 1/3 of crop-programs reviewed each year.

- T-yield (average yield for county) based on most recent 10 year average of yields reported to RMA.

- Rates based on most recent 20 years of experience.

- Annual revisions in base rates reflect movement towards targets.

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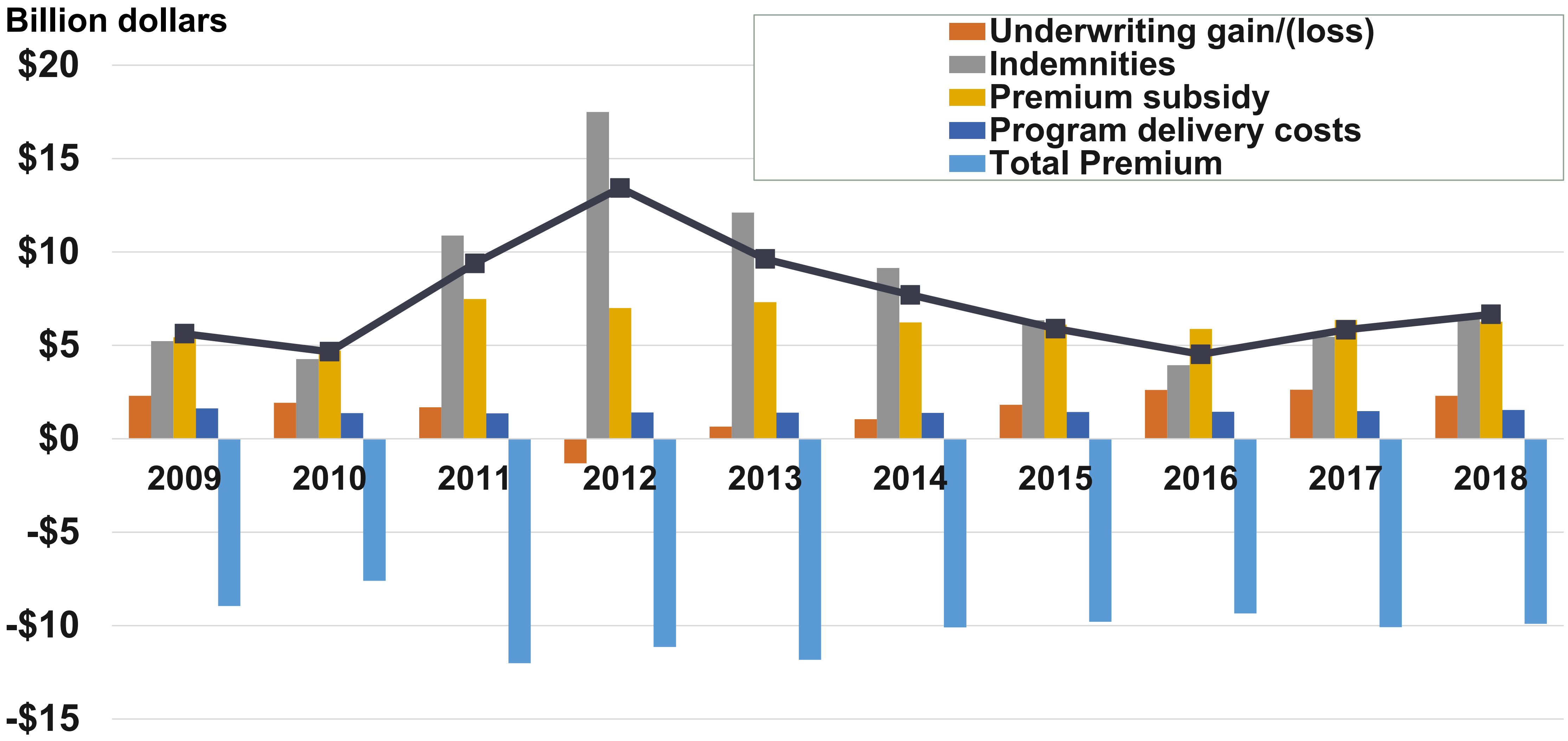
How much does the program cost?



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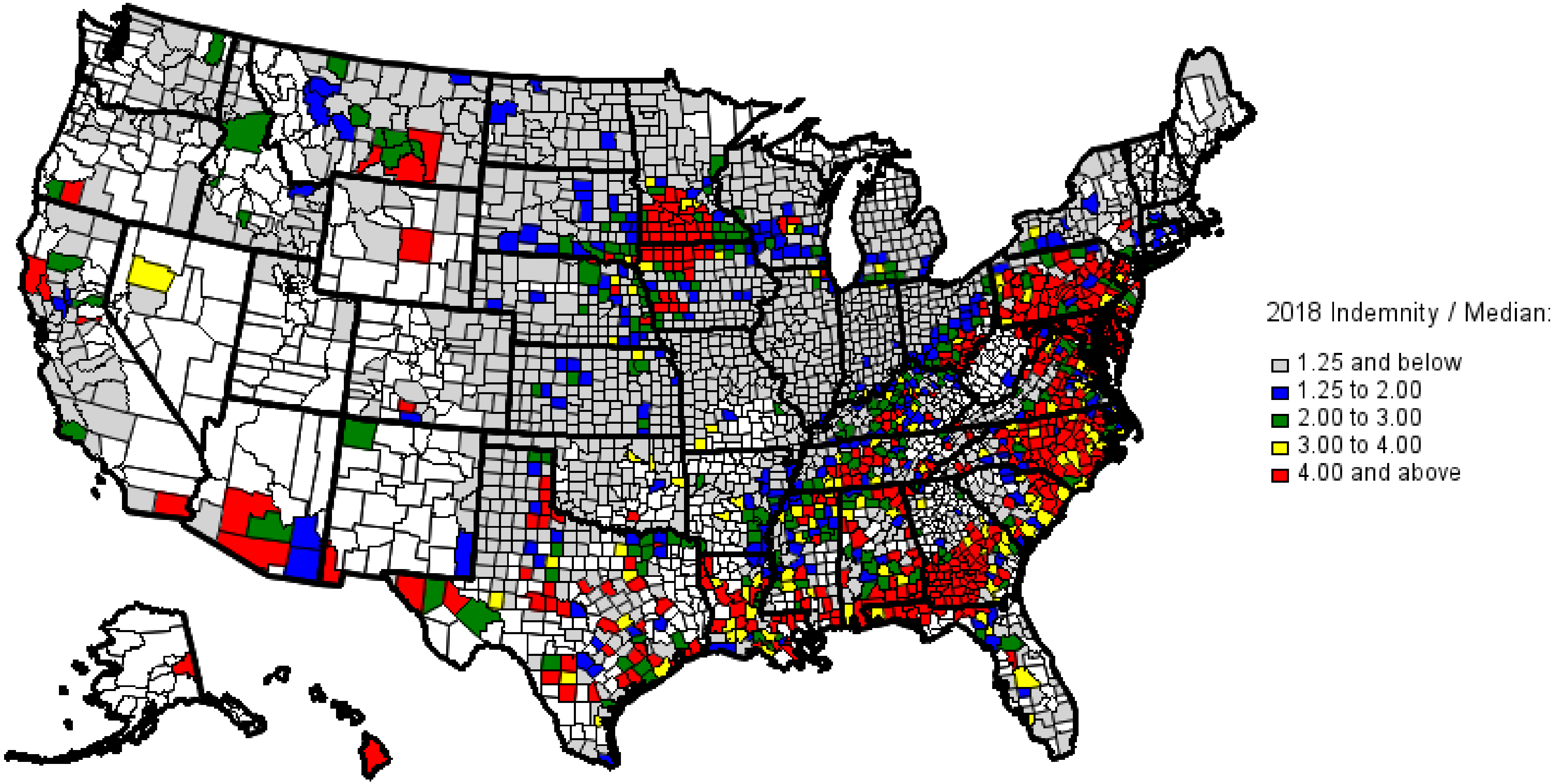
2018 hurricanes caused increased indemnities in the southeast U.S.

2018 Indemnity Compared to the Median for Previous 10 Years

(excludes losses related to drought, freeze, and area plans)



Source: USDA-RMA

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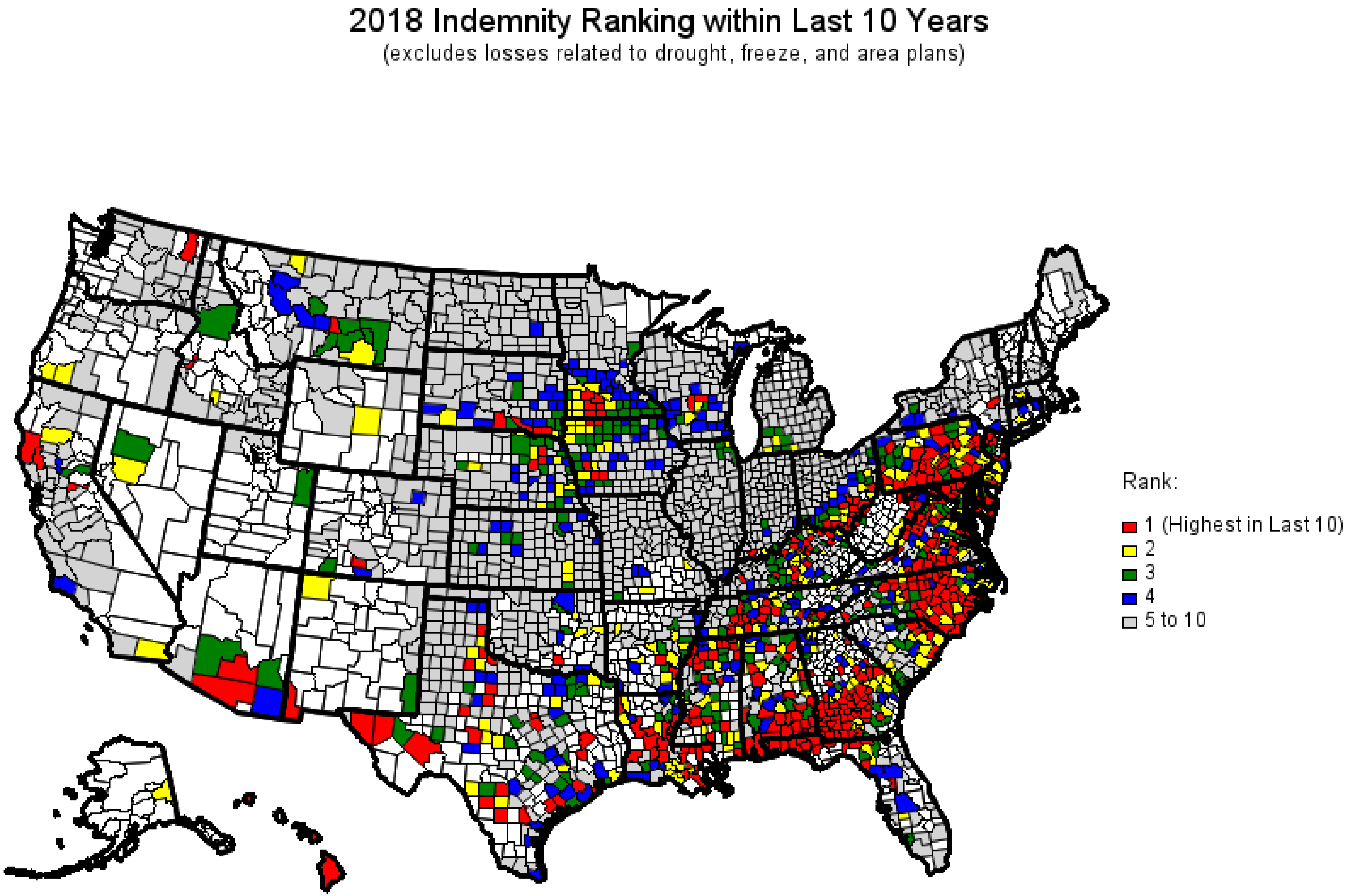
…causing historically high indemnities in many counties.



Source: USDA-RMA

2018 Farm Bill

- "The Corporation shall carry out research and development . . . regarding a policy to insure crops (including tomatoes, peppers, and citrus) against losses due to a tropical storm or hurricane."
- Coverage design principles
  - –Focus on hurricane (wind); not specific for excess precipitation/flood
  - –Simplicity of design (understandable to farmers, feasible for delivery system)
  - –Timeliness of payments
  - –Balance between meaningful coverage, affordability
  - –Target 2020 hurricane season

Hurricane Insurance Protection

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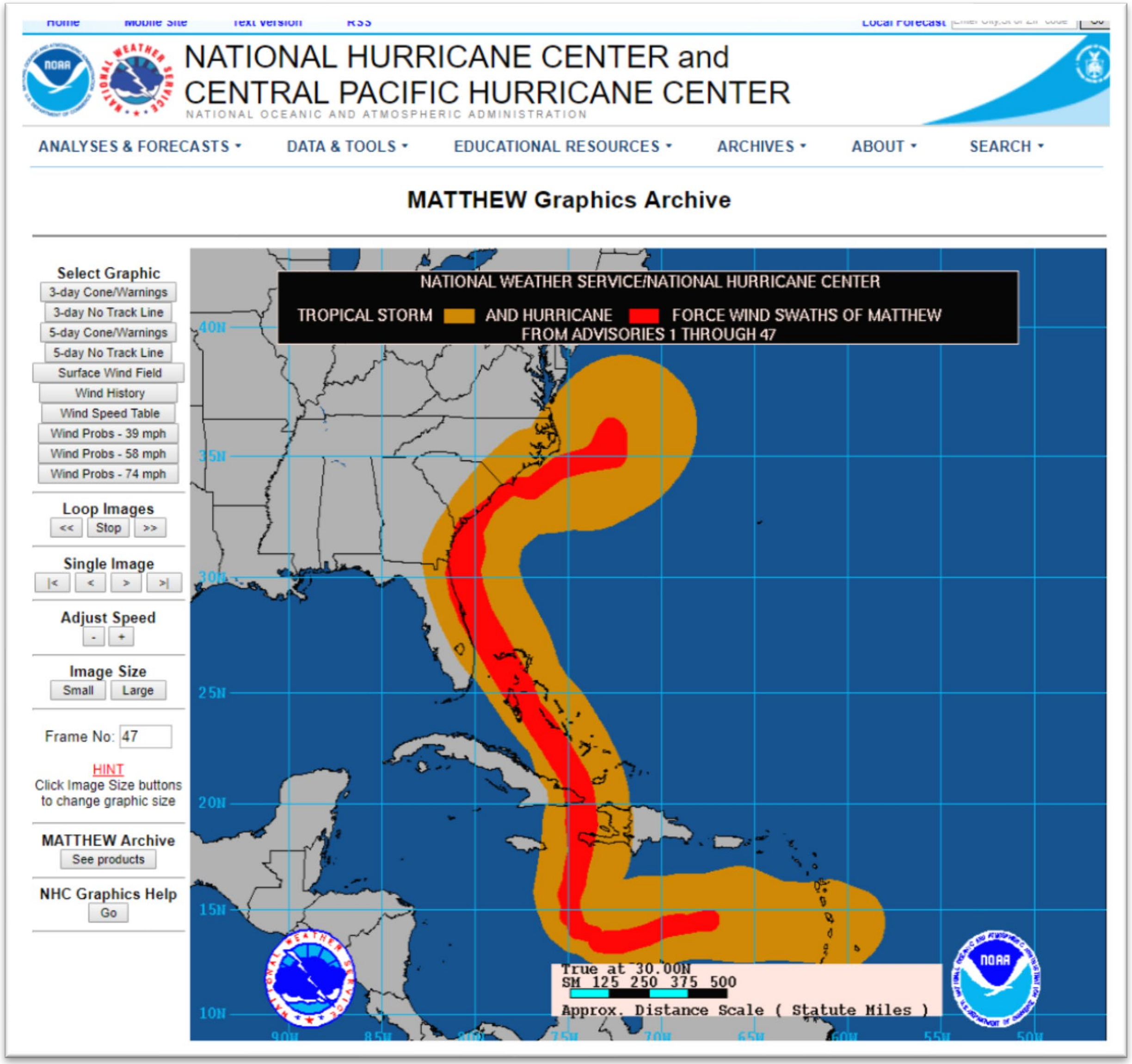
- Add specific coverage for hurricanes to an already-existing multi-peril crop insurance (MPCI) policy
- Cover part of the MPCI policy's deductible
- If a hurricane occurs during insurance period, payment is made
  - –Triggered by hurricane-force winds (118 km/h or greater) in a county
  - –Data available from the National Hurricane Center



Hurricane Insurance Protection

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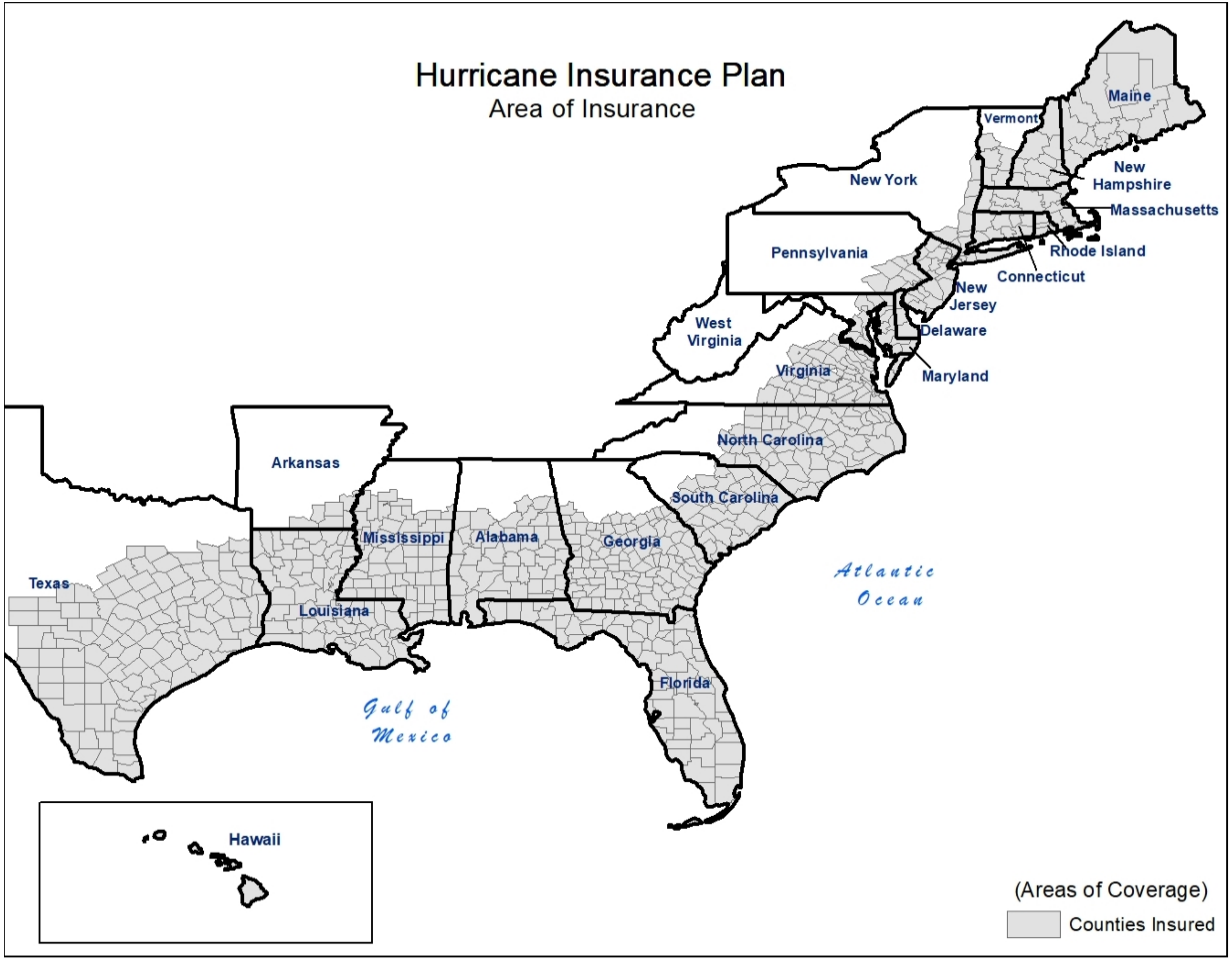
- Crops: Covered by the Common Crop Insurance Provisions
  - –Around 70 crops

- Area: Based on hurricane probability
  - –At least a 2% probability (1-in-50)



Pasture, Rangeland, Forage (PRF)

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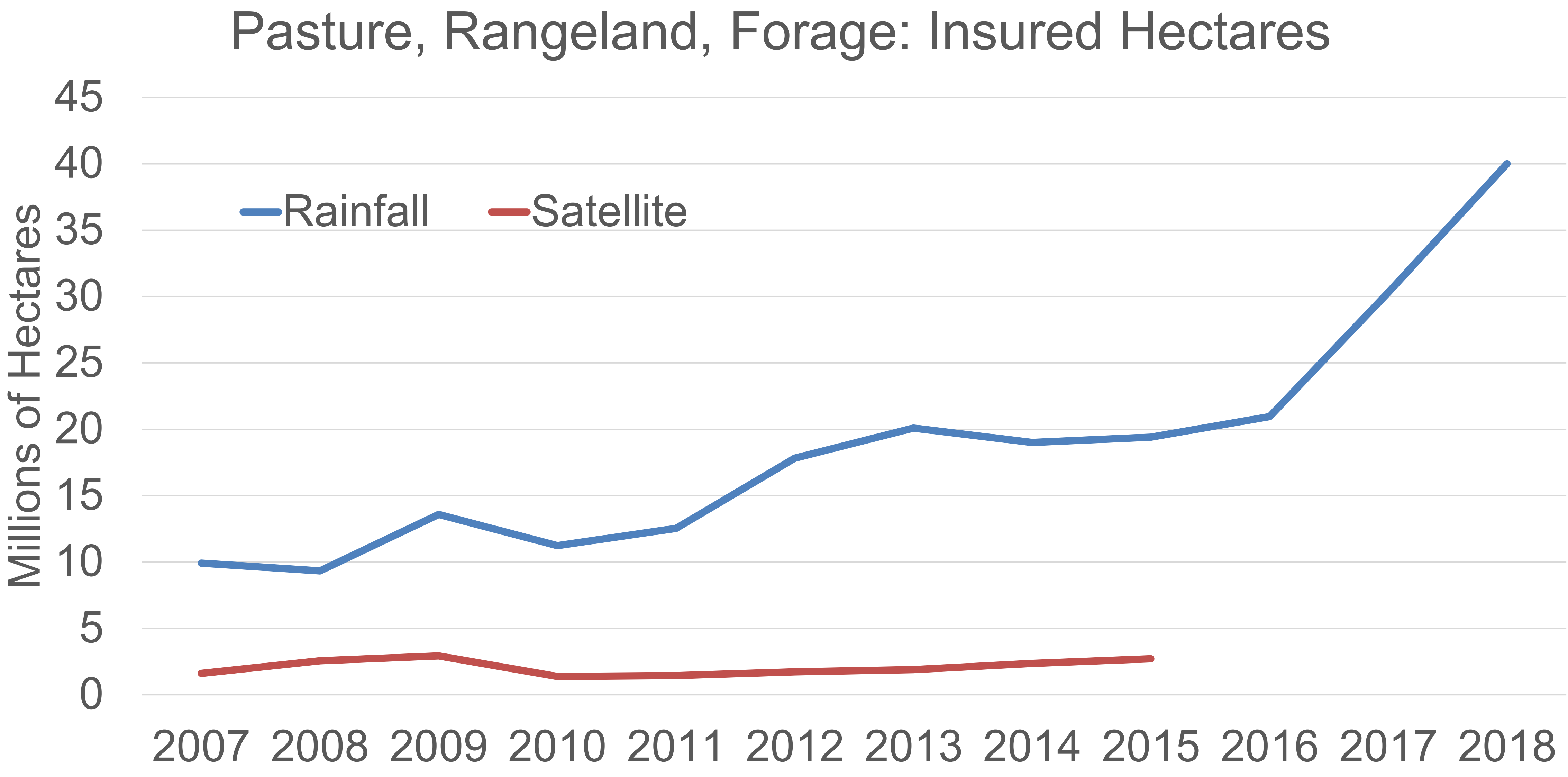

Pasture, Rangeland, Forage (PRF)

- Where exactly are people buying PRF?

- Example of 2019 Jan-Feb interval with grid locations

- Blue dots = more acres
- Green dots = less acres

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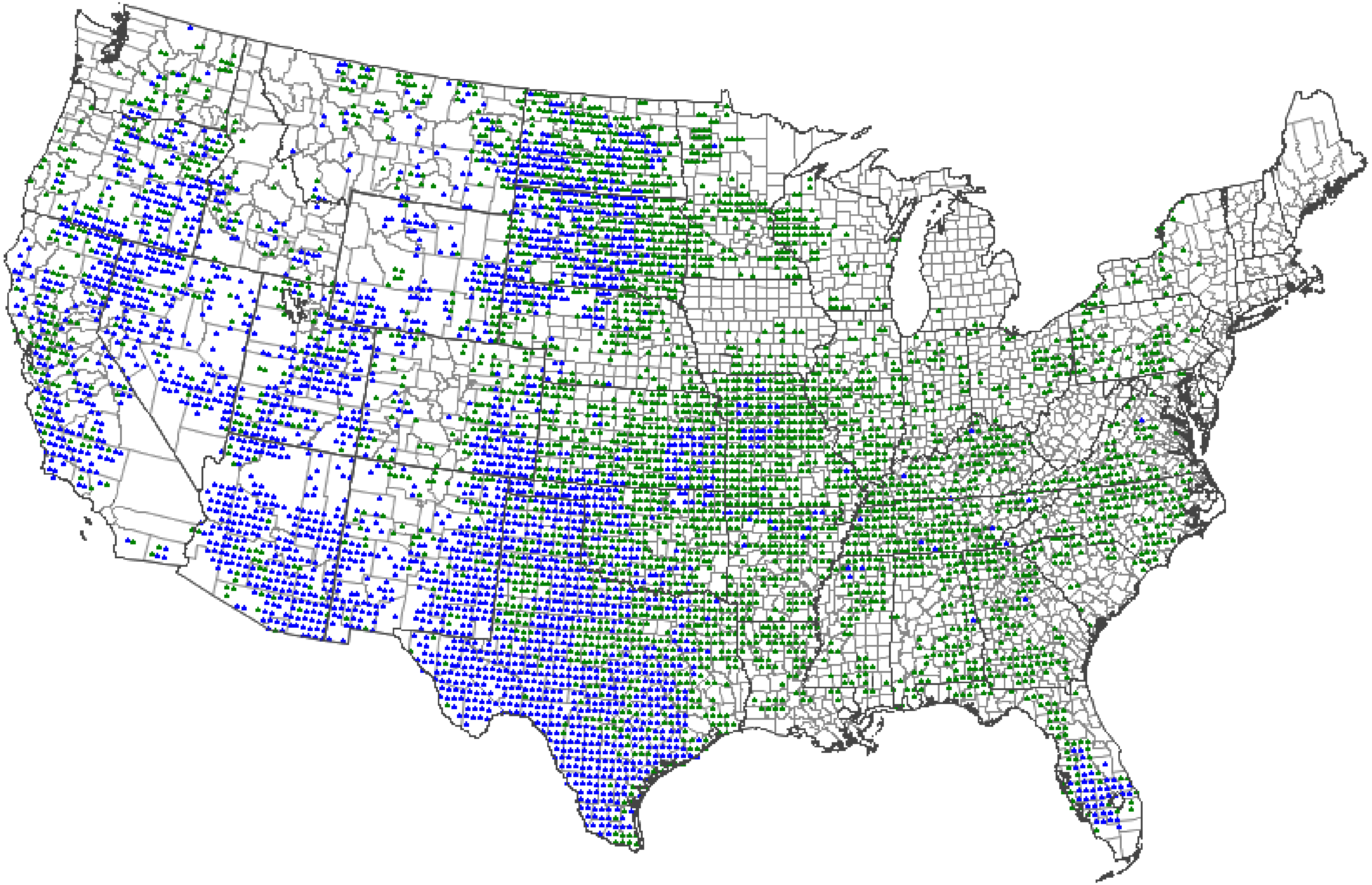
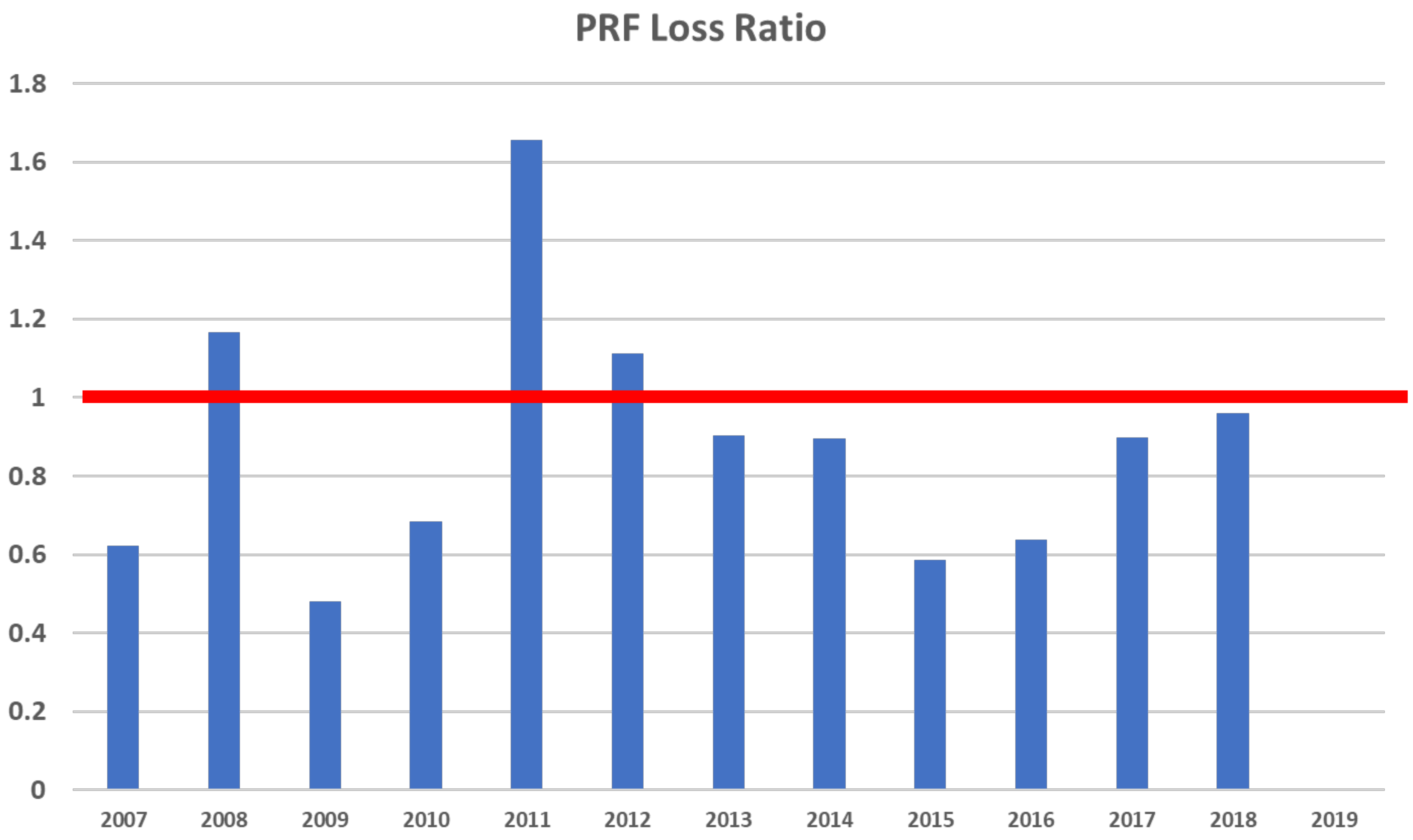
Interval 625 - Grids with a policy

JAN - FEB INDEX INTERVAL



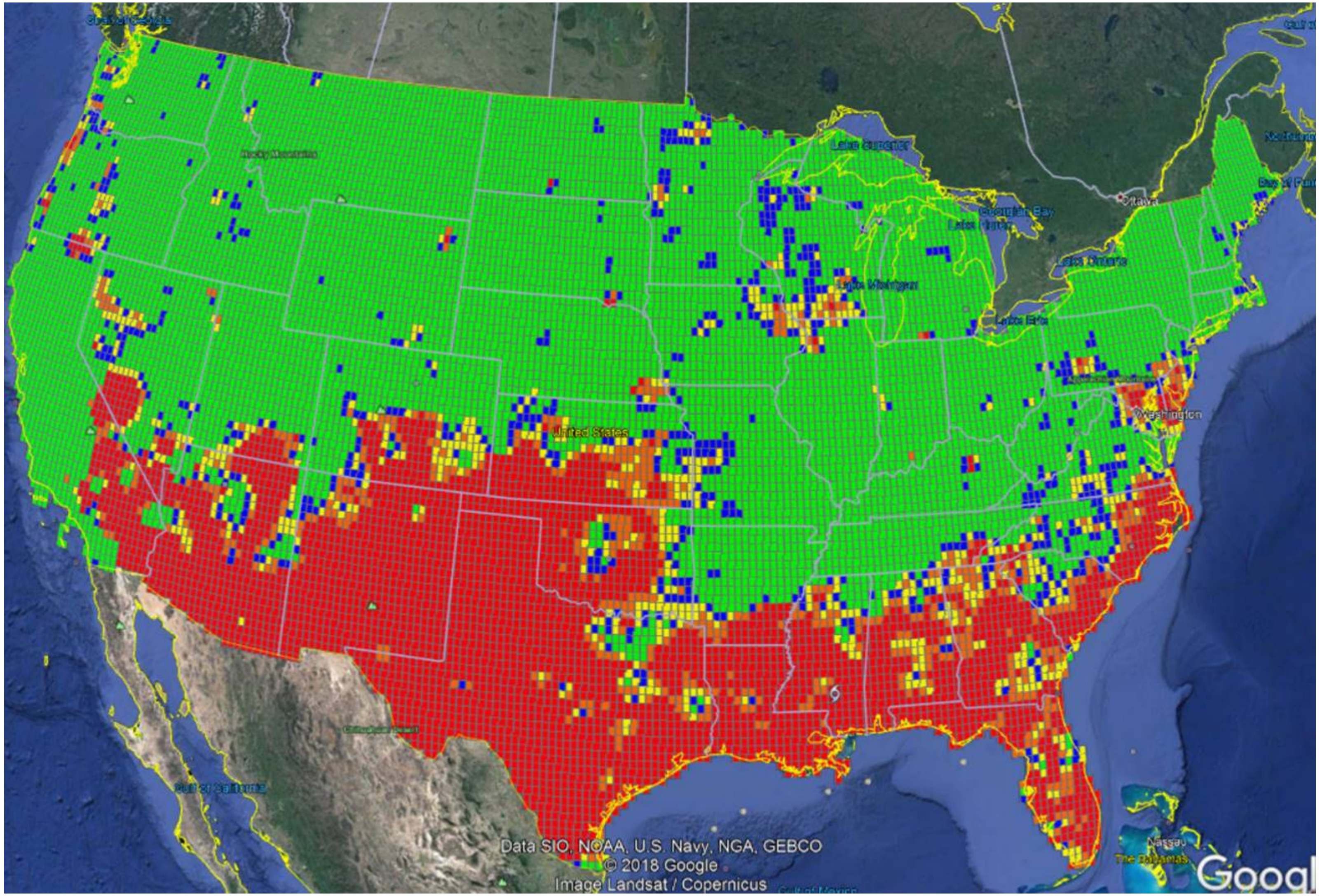
< 1,000 Acres > 1,000 Acres

Pasture, Rangeland, Forage (PRF)



Pasture, Rangeland, Forage

- Rainfall Index
- March/April 2016



Pasture, Rangeland, Forage

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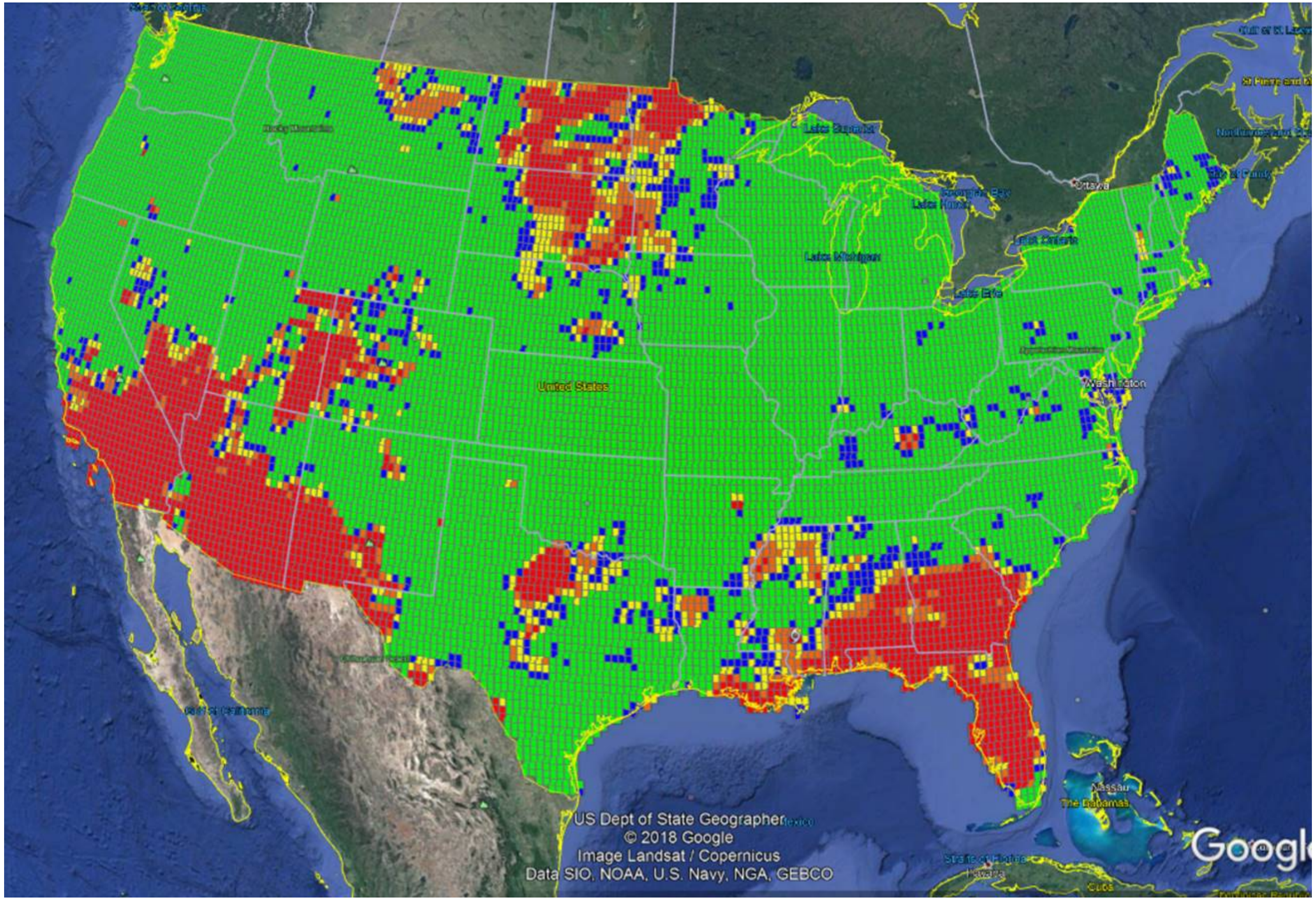
- Rainfall Index
- March/April 2017



Location/Density of Rain Gauges

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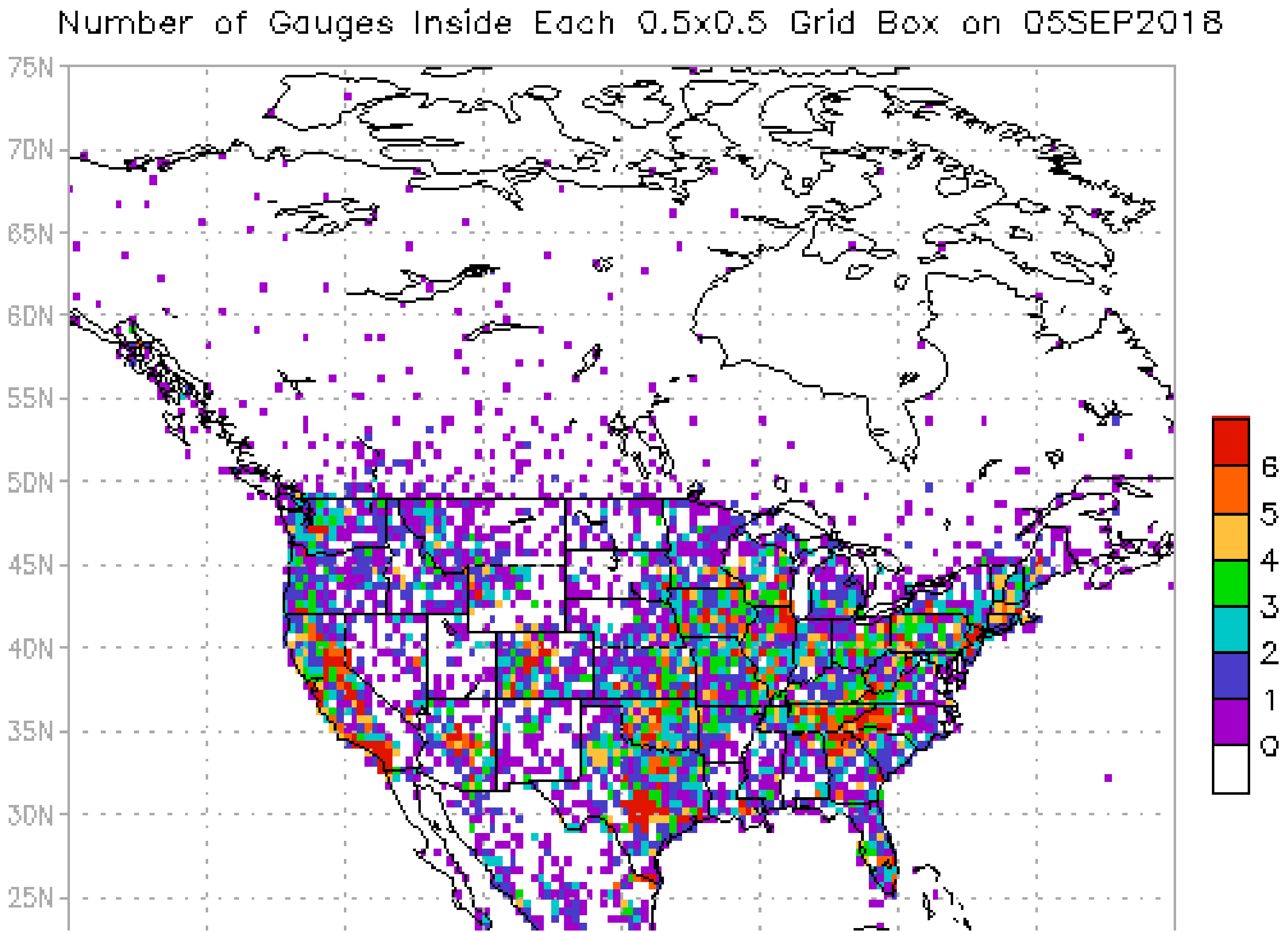

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PRF is not ‘Drought insurance’

- Farmer/rancher confusion about what PRF covers
- Ideas for a drought endorsement or some new type of coverage?
  - Extra payment (how much?) based on some drought index at certain times of the year
  - Drought Monitor
  - PDSI…. Others drought metrics?

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Dairy Revenue Protection

- Provides area-based revenue protection for dairy production
  - –Similar to Area Risk Protection Insurance (ARPI) for other crops

- Approved by FCIC Board in February 2018
- Available for sale in October 2018
  - –Fast implementation
  - –Communication/cooperation between RMA, AIPs, and developer

- January 31, there were 9,379 endorsements covering over 30 billion pounds of milk (5,223,262 cows)
  - –14 percent of total production

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Dairy Revenue Protection (DRP) and Livestock Gross Margin-Dairy (LGM)

	2019			2020		
Policies	**Policies Earning Premium**	**Quantity (Billion Pounds)**	**Percent of Estimated Production**	**Policies Earning Premium**	**Quantity (Billion Pounds)**	**Percent of Projected Production**
DRP	2,496	30.0	13.8%	1,755	34.2	15.5%
LGM	197	0.8	0.4%	150	0.9	0.4%
Grand Total	**2,693**	**30.8**	**14.1%**	**1,905**	**35.3**	**15.9%**

Data: USDA-RMA, USDA-NASS

Whole Farm Revenue Protection

- Insure overall revenue from all crops
  - –Includes livestock up to $2 million
  - –Based on farm income tax form
- Premium discount based on number crop insured
  - –Diversification Discount
- Can be purchased with underlying MPCI policies on individual crops

Whole Farm Revenue Protection

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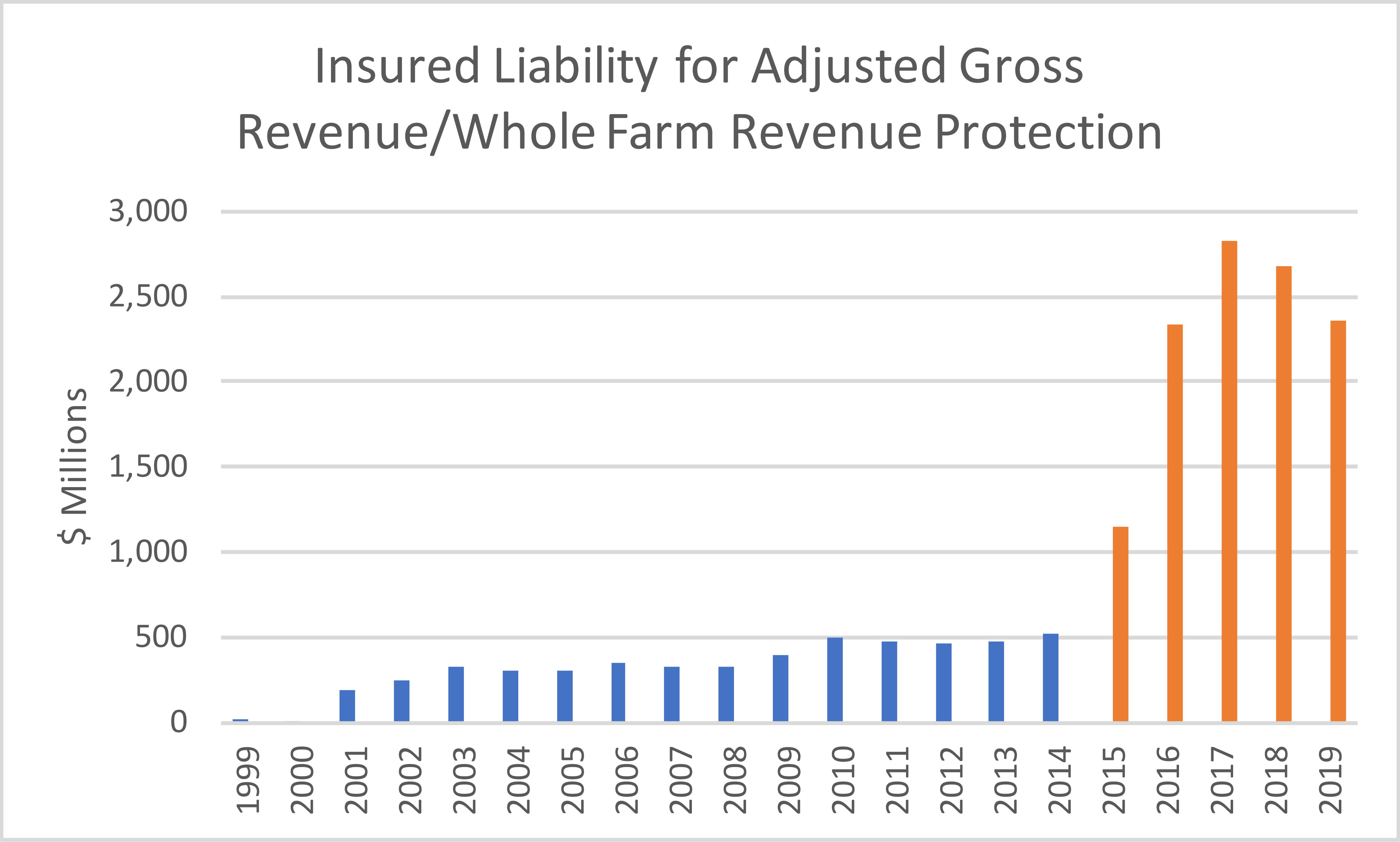

Other Developments

- Quality Loss Option
  - –Allows farmers to reduce the impact of poor quality on insurance coverage
- Nursery Value Select policy
  - –Improved version of current nursery policy

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Other Developments

- APH Hemp Pilot Policy will cover fiber, grain, and CBD
  - Sales Closing Date March 15, 2020
  - Approved by FCIC Board in November 2019

- Offered in 21 states (where significant acres were reported to FSA)

- Implemented a little more than a year after industrial hemp provisions in 2018 Farm Bill encacted

Other Program Improvements 2019-20

- Cover crops
- Revised LRP policy
- EU/OU by FAC and NFAC for soybeans and sorghum
- Revised coverage for White/waxy corn types
- Implemented Intermittent Flood Irrigated Rice and Furrow Irrigated Rice
- Revised the yield cap on early harvest adjustments for sugarbeets
- Revised SCO/STAX to account for ARC/PLC participation

Other Program Improvements 2019-20

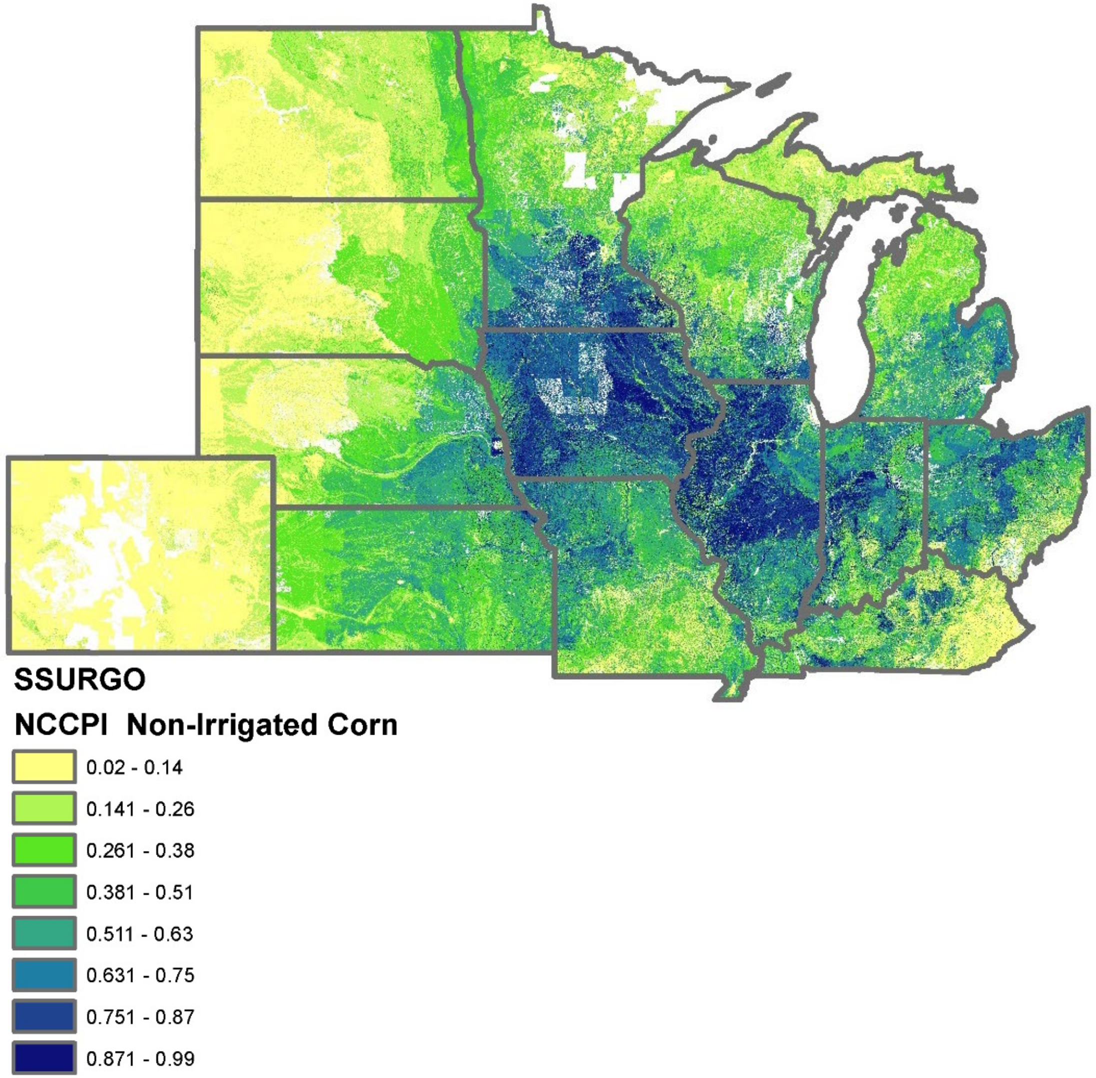
- Allow coverage levels by planting period for fresh market beans
- Revised sweet potato policy to allow optional units and other changes
- Revised pecan tree policy to improve marketability
- Implemented apple tree policy
- Expansion of sesame policy
- Revised high risk coverage options

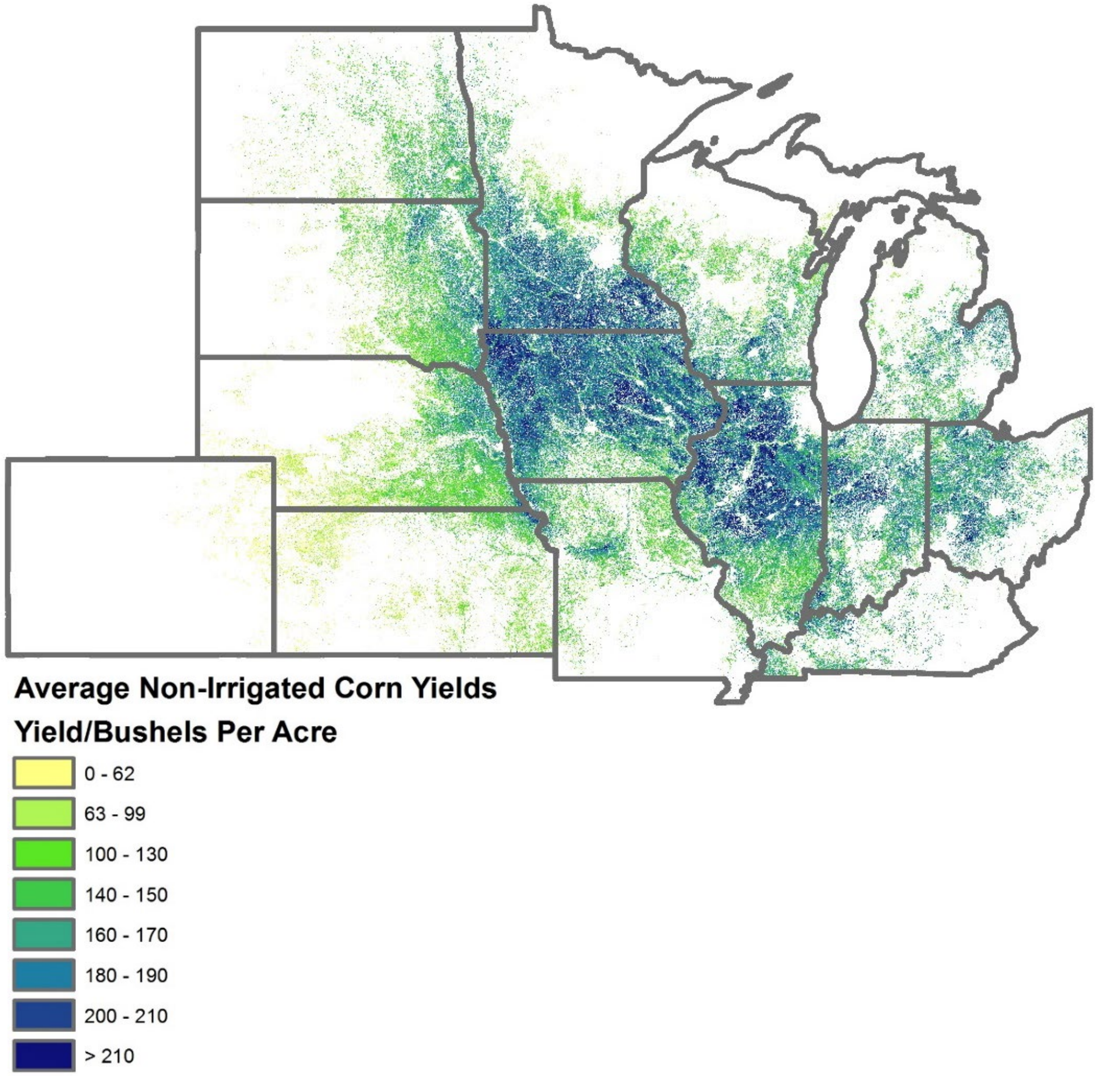
Ongoing Research and Development

- Subsurface Irrigation
- Limited Irrigation
- Hops
- Batture Land
- Grain Sorghum
- Urban agriculture

- In general
  - Expand coverage for underserved areas and crops
  - Expand revenue coverage

Non-Irrigated Corn: NCCPI and Yield





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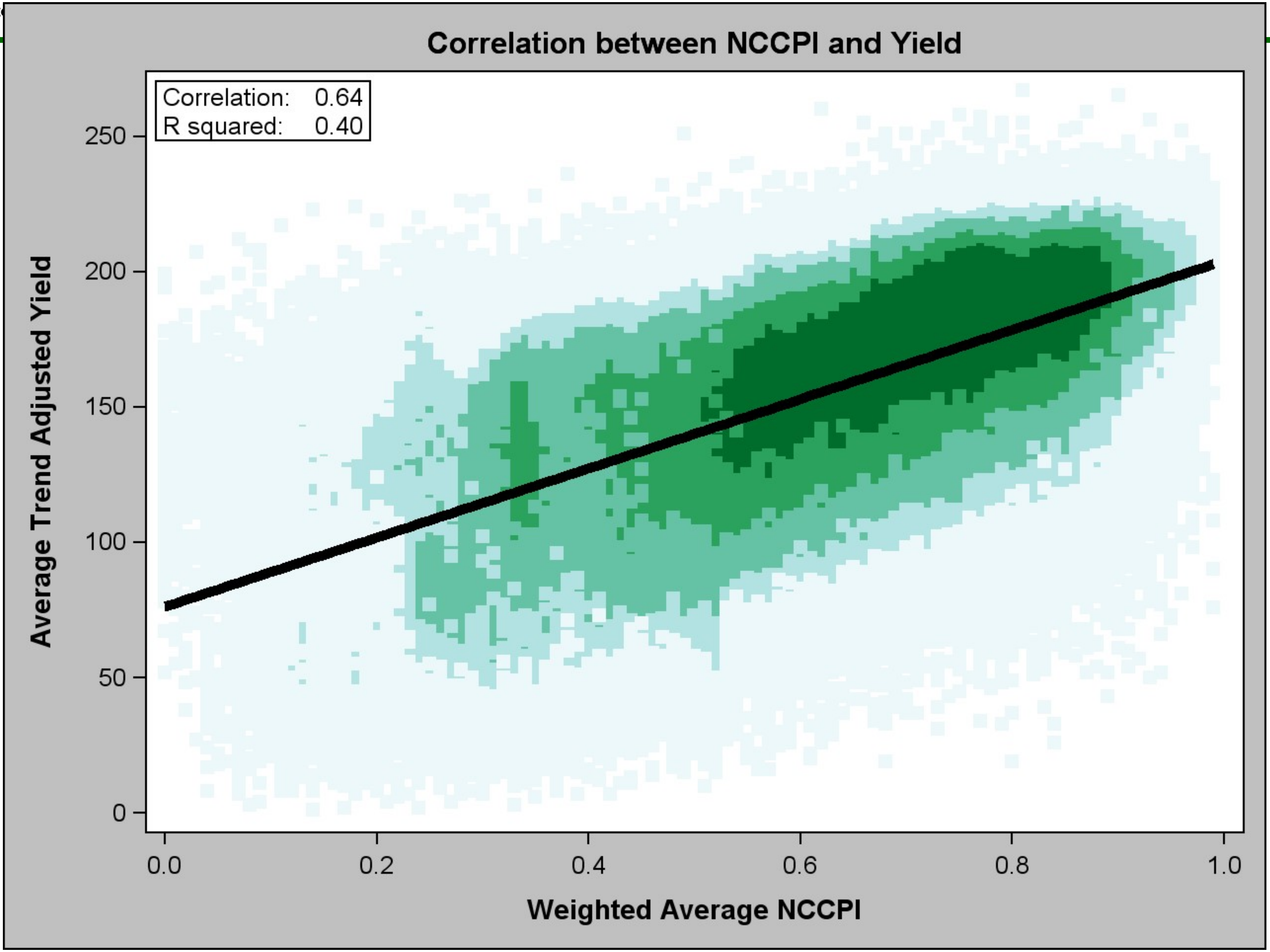

Thank You!

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