



Never Again...

Sunday April 16, 1934
Dust Clouds Rolling Over The Prairies
Jerrell Studio, Dodge City, Kansas # 5



United States Department of Agriculture
Natural Resources Conservation Service

From Dust Bowl to Drought

Name,
State Conservationist









U.S. History of Gullies



“Since the achievement of our independence, he is the greatest patriot who stops the most gullies.”

Patrick Henry (1736–1799)
Attorney, planter, and politician
remembered for “Give me Liberty, or
Give me Death” speech



Looking Back

- In 1930, the U.S. faced a growing national problem
- Land in the Great Plains was over planted, over-plowed, & over-grazed
- Destructive farming techniques paired with persistent drought was a recipe for disaster
- The Dust Bowl was the worst manmade ecological disaster in our history



Hugh Hammond Bennett

Soil Erosion



- Hugh Hammond Bennett declares erosion a “national menace”
- Bennett called for transformational changes and for creation of on-the-ground solutions
- The first Erosion Reconnaissance Survey, a formal study of soil erosion, was launched

Then and Now...





“Out of the long list of nature's gifts to man, none is perhaps so utterly essential to human life as soil.”

Gullies Told The Story



CCC Camps Got The Job Done



New National Priority

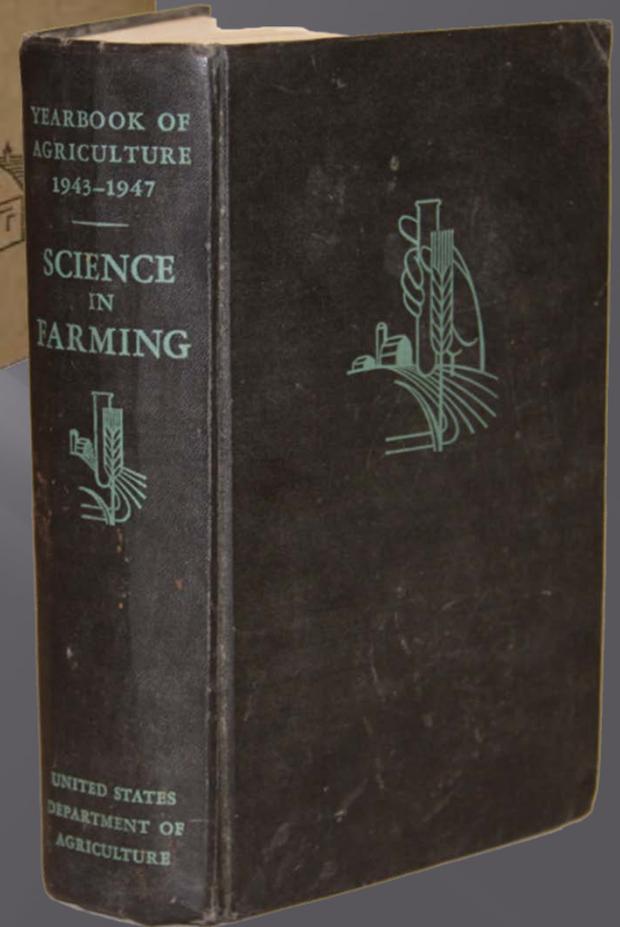
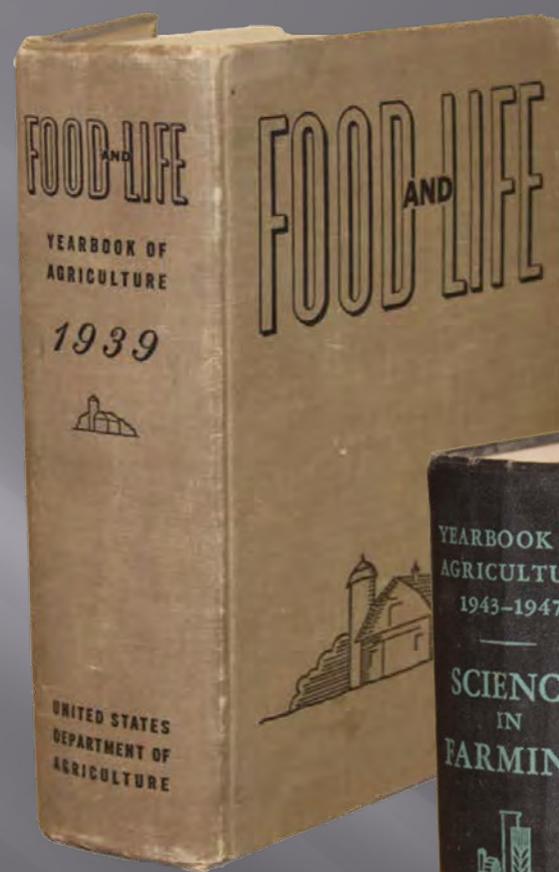
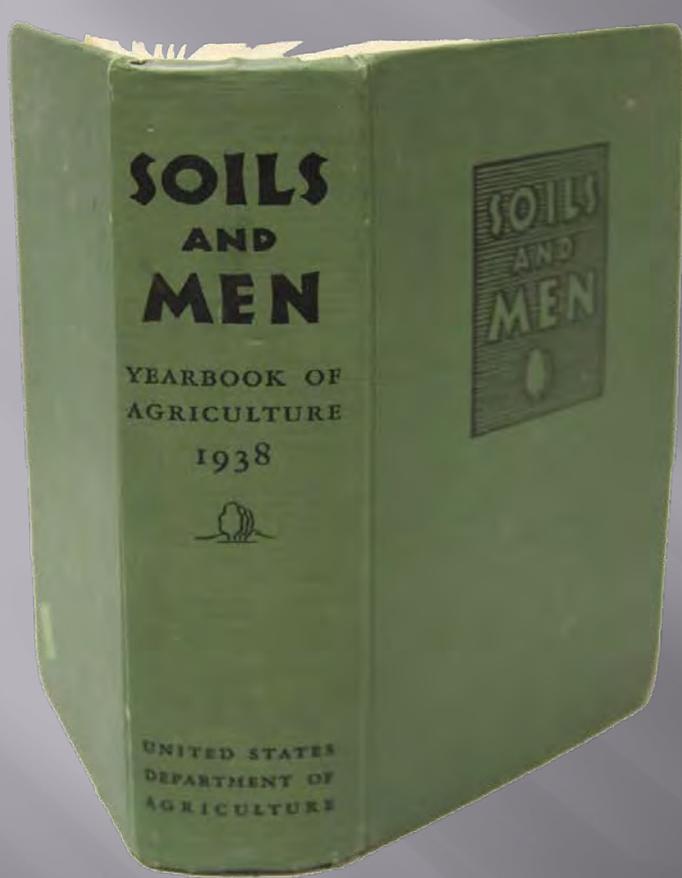


- **Congress created a new agency:** USDA's Soil Conservation Service
- **Purpose:** To take care of the nation's soil
- Research – Education – Technical Assistance
- SCS works alongside & assists farmers
- Conservation & Sustainable agriculture concepts were born



Education is Key





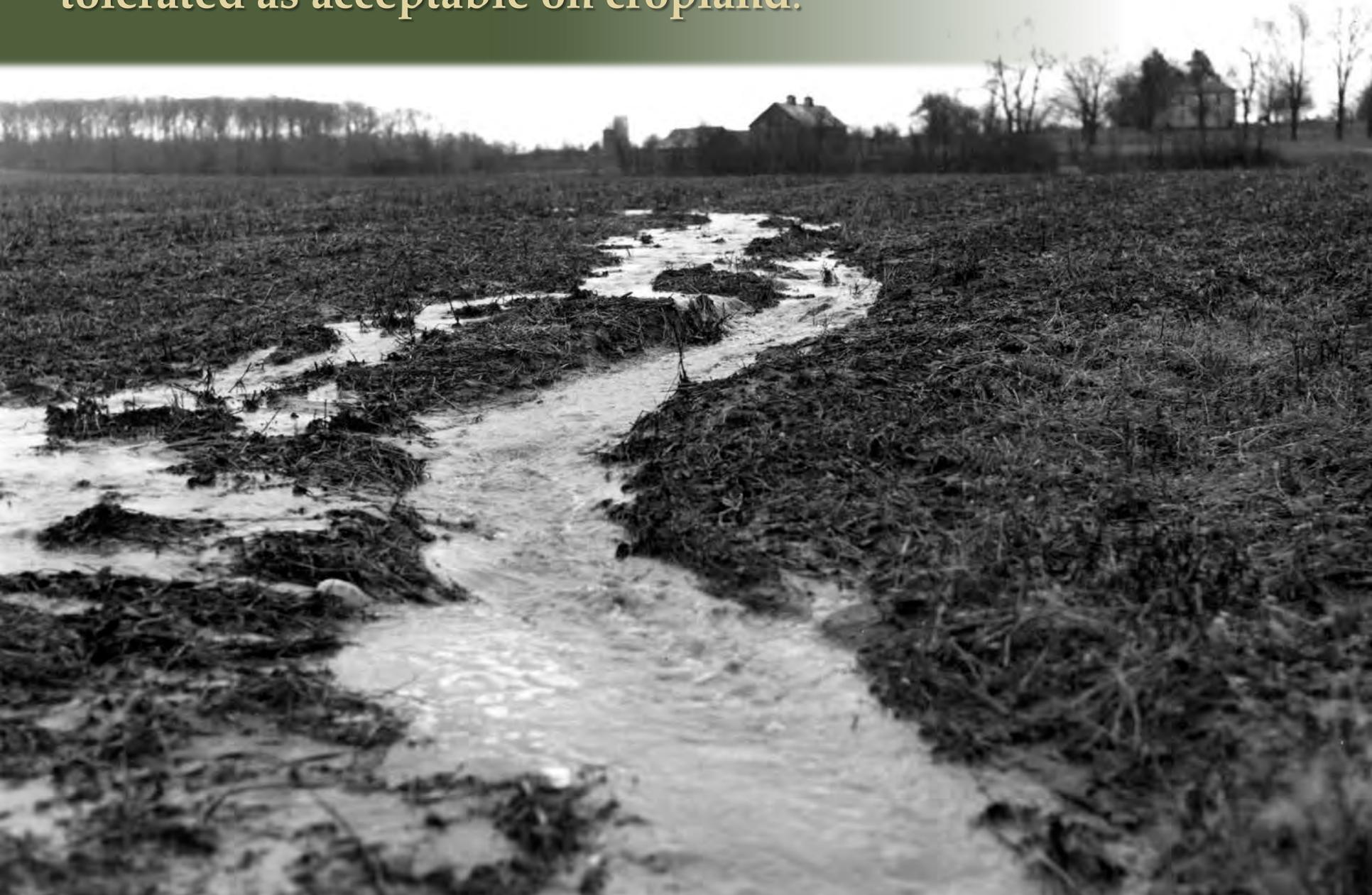
The task of teaching,
researching, and learning
new ways of farming began;
they will never end.



New Engine Driving Agriculture

- The nation engaged in new research & science
- SCS offered field visits, farm tests, field days & workshops for landowners and operators
- Farmers were taught, re-trained in ag methods
- The industry adopted a new perspective on productivity AND soil protection
- SCS & farmers designed and built innovative conservation practices on the land

Soil erosion, runoff, and gullies were no longer tolerated as acceptable on cropland.



New Concepts



- Contour Farming
- Grassed Waterways
- Terraces
- Drop Structures
- Strip Cropping
- Conservation Compliance





To Stabilize & Restore

- When Dust Bowl drought conditions broke, landowners & SCS began to restore the land
- New partners & partnerships were formed
- Soil & Water Conservation Districts became key to solving local problems
- Farmers & conservation partners rebuilt the land, the soil, American agriculture



Agriculture Today

- 77 years later, SCS = NRCS
- Stewardship & conservation principles expand
- Sustainable farming operations thrive
- Ag techniques balance profitability & ecologic responsibility
- Technological advances continue on all ag fronts
- Science-based solutions offer continual new options, ideas, & improvements



Conservation Works!

- National Resources Inventory (NRI) research confirms reduction in soil erosion
- Productivity increases & conservation goals achieved simultaneously
- Real savings for ag producers — time, fuel, soil loss, capital costs
- Other resource issues emerge:
 - Water quality
 - Flooding concerns
 - Wildlife habitat
 - Drought

Changing Issues Affect Agriculture

- Climate
- Population growth
- Wildfires
- Flooding
- Drought
- Water quality & quantity

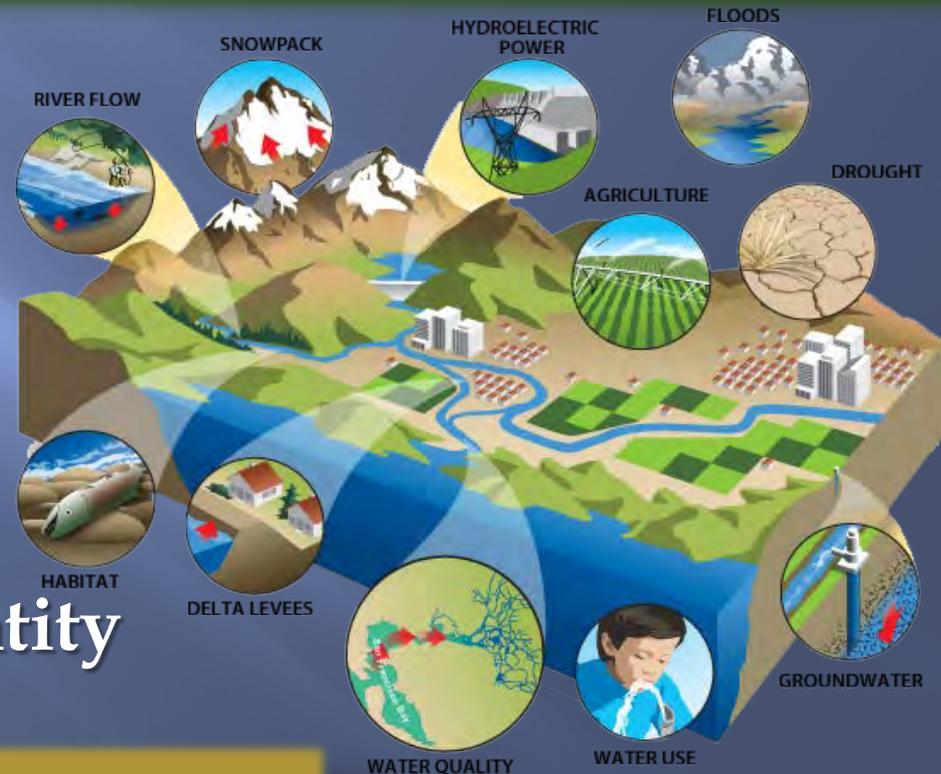
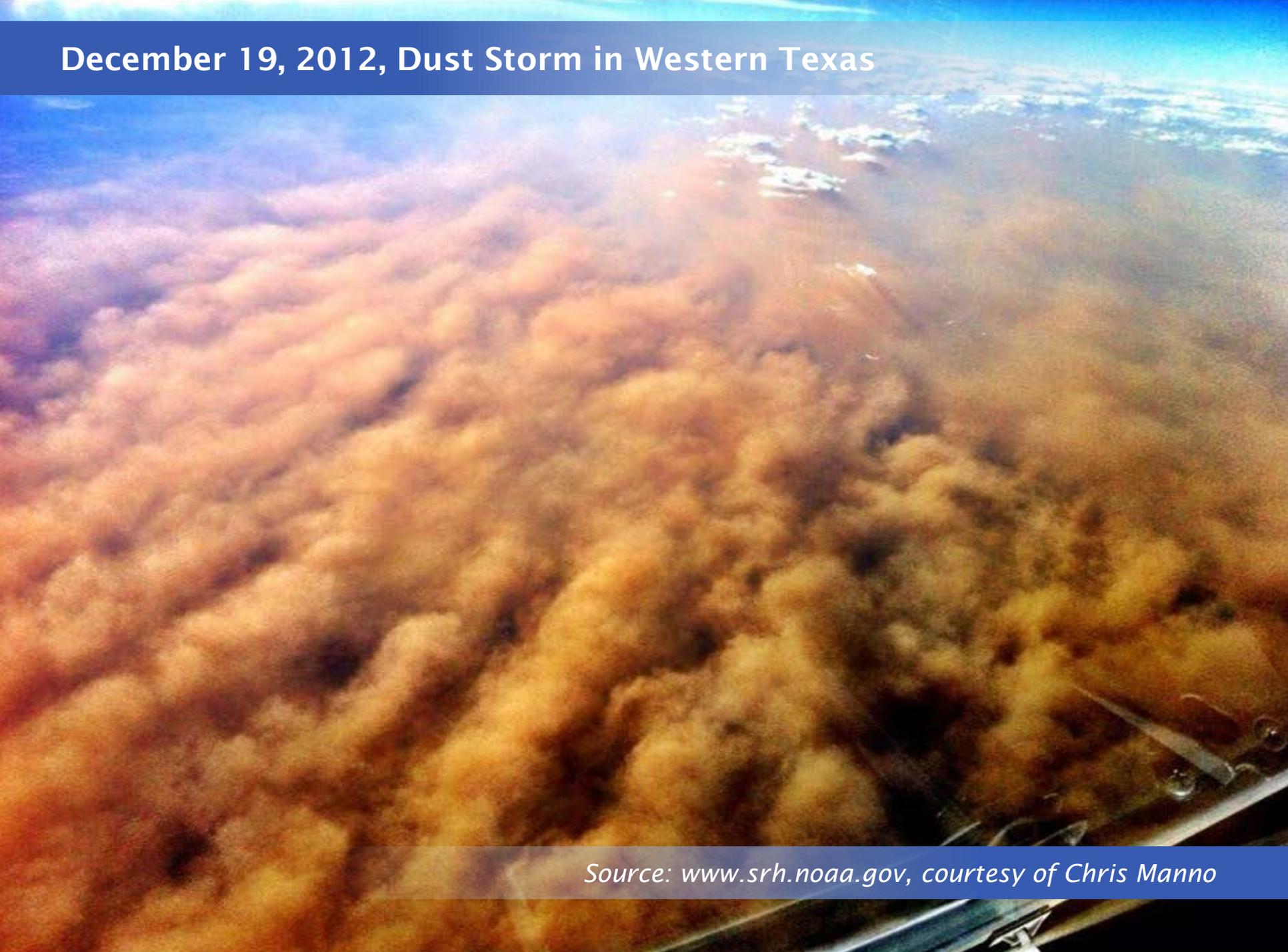


Illustration from ciria.opengreenspace.com

So much we CANNOT control; but so much we can learn to manage better.

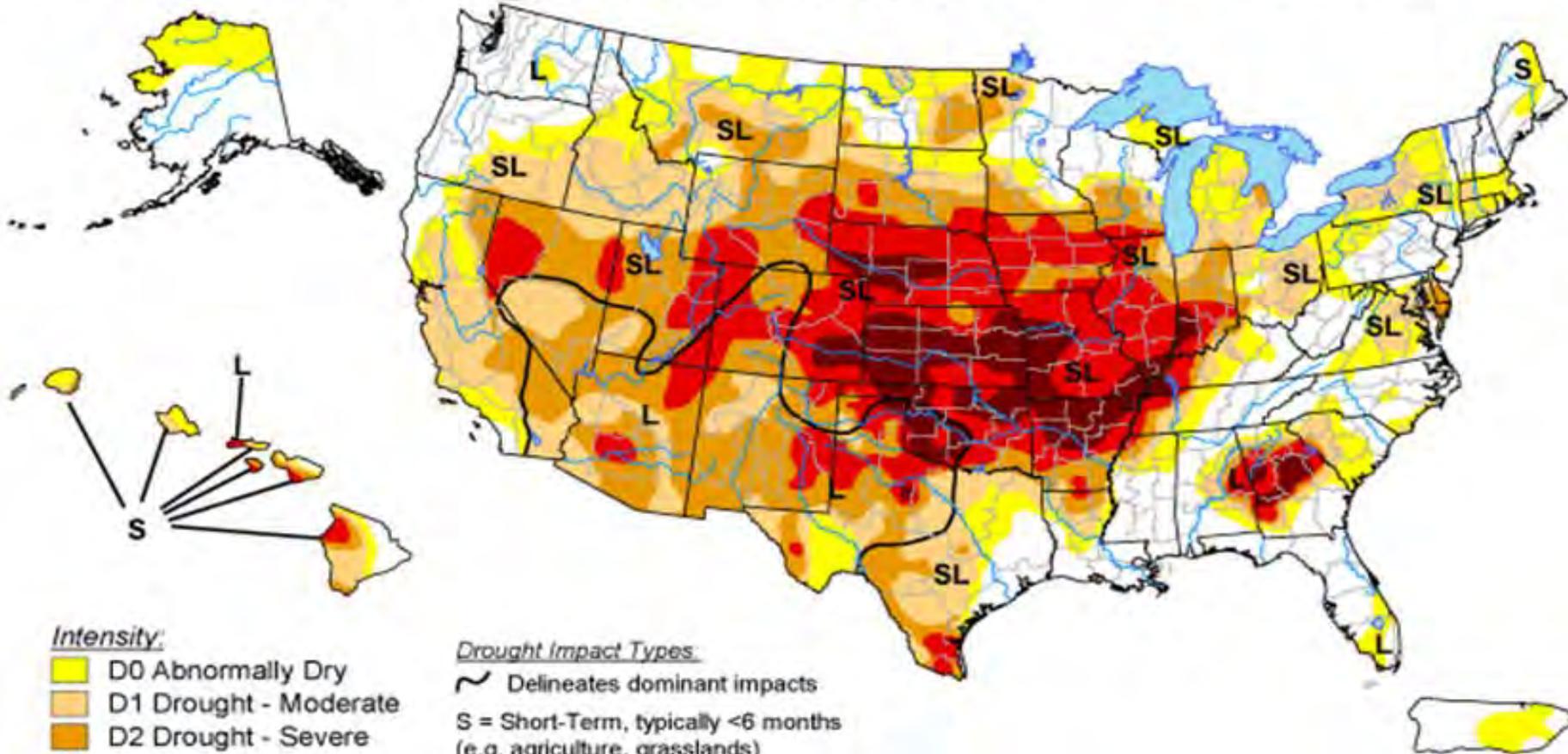
December 19, 2012, Dust Storm in Western Texas



Source: www.srh.noaa.gov, courtesy of Chris Manno

U.S. Drought Monitor

August 21, 2012
Valid 7 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



Released Thursday, August 23, 2012

Author: Michael Brewer/Liz Love-Brotak, NOAA/NESDIS/NCDC

Areas Under Moderate to Extreme Drought Over Time

2010-2012



2000-2009



1990-1999



1980-1989



1970-1979



1960-1969



1950-1959



1940-1949



1930-1939



1920-1929



1910-1919



1900-1909



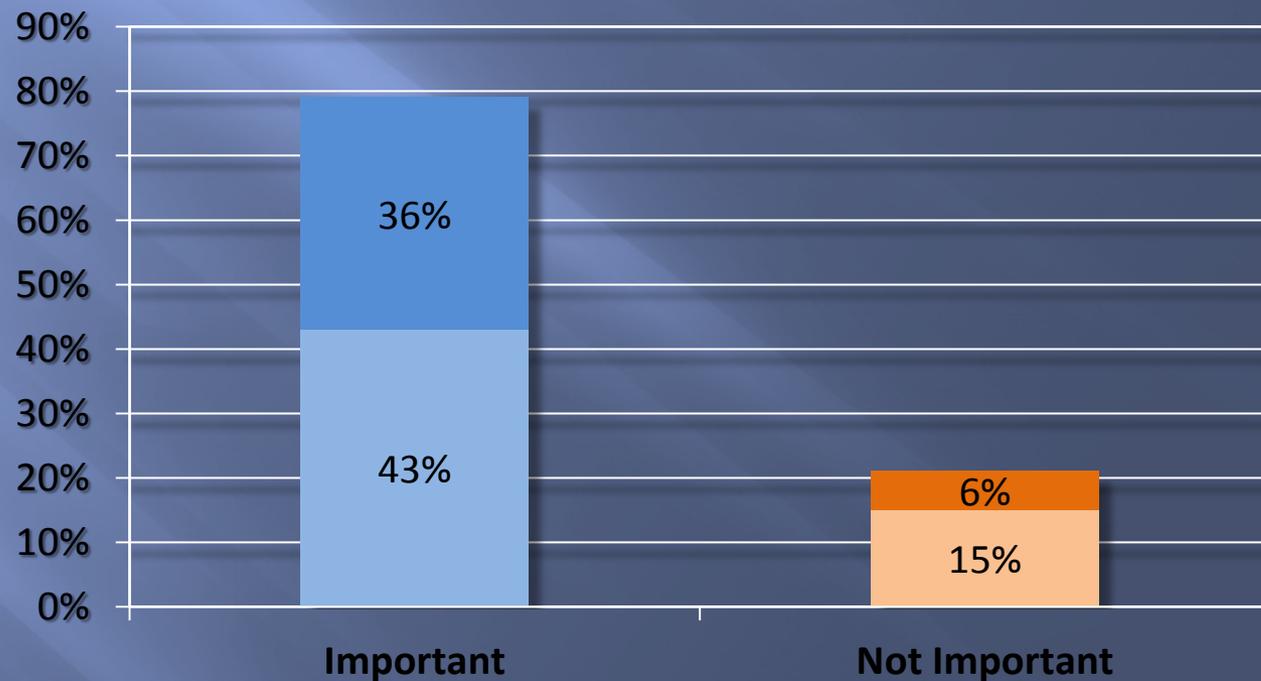
Is **drought** really a new problem?

Note: Precipitation measured in June of each year.

Source: *The New York Times*, from data from the National Climatic Data Center, National Oceanic and Atmospheric Agency

Farmers' Response to Drought

“Farmers view conservation programs as critical to dealing with drought conditions.”



Source: *Greenberg Quinlan Rosner Research Public Opinion Strategies*,
September 6, 2012

Visual Evidence

NRCS Promotes Soil Health to Improve Water Quality, Combat Drought, Mitigate Flooding, and Improve Productivity

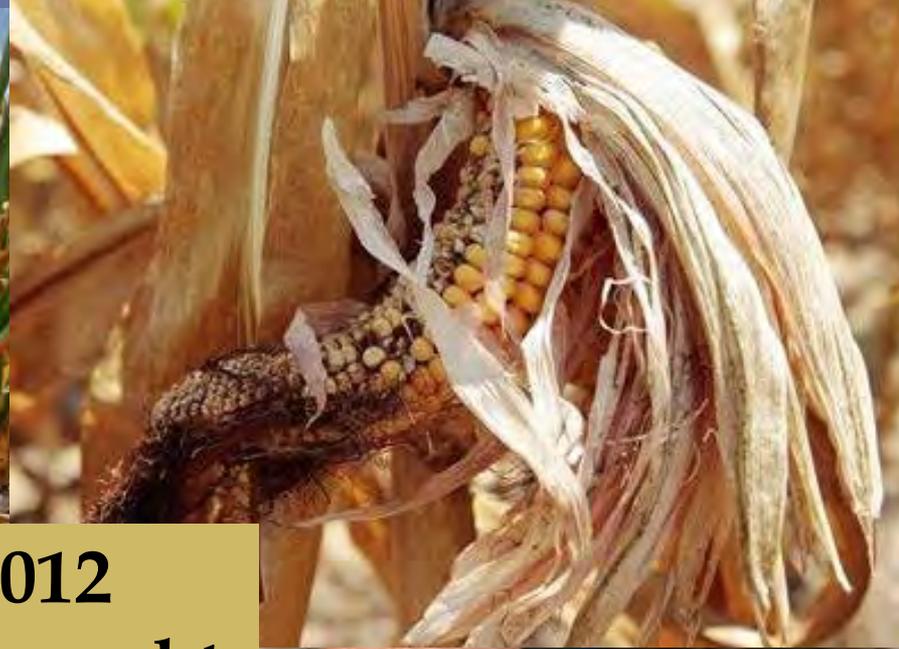
Neighboring farms in Ohio, very different responses to the 2012 drought.



Farm that uses conventional practices, such as tilling the soil.



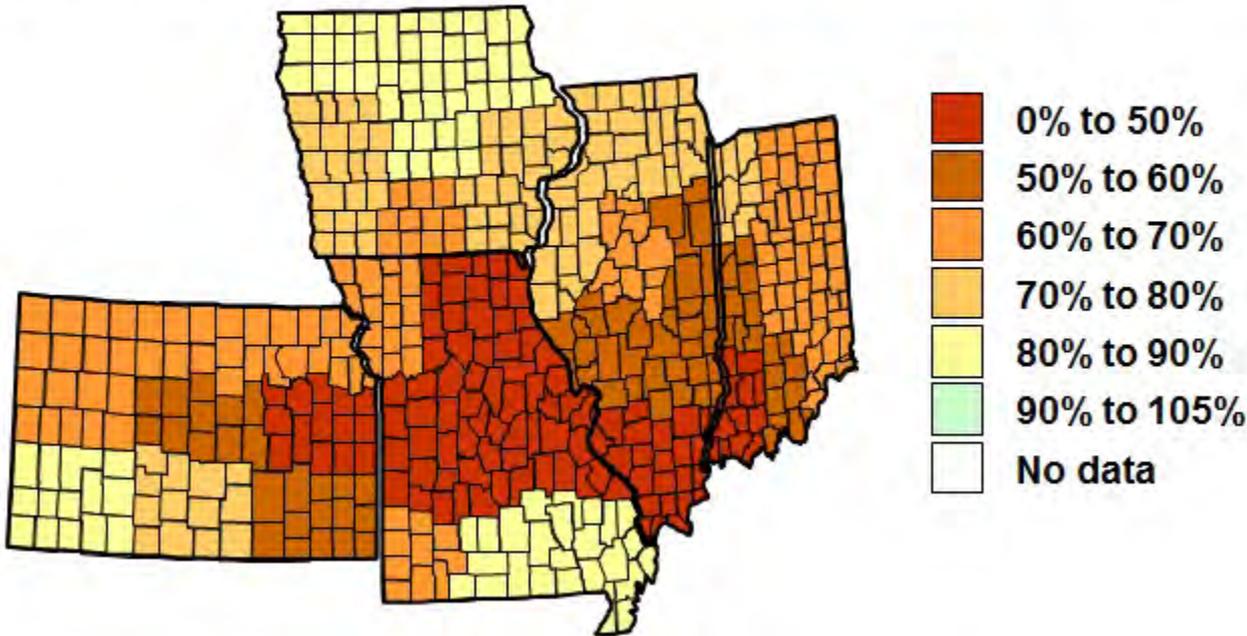
Farm that has used no-till for four decades.



**2011, 2012
modern drought
images**



Figure 1. Projected 2012 CRD Corn Yields as a Percent of Trend Yields.



2011/2012 Droughts



- Not comparable to 1930's Dust Bowl
- Intensity, length similar to U.S. 1950's drought
- Impact & result on land? Yields?
- No comparison.

What lessened the impact of recent droughts?



What Changed?

- Better predictions & preparation
- New & more durable seed/genetic traits
- More use of irrigation options
- More diverse, sustainable farming systems
- Healthy soil characteristics
- Regular use of stewardship tactics
- Wise use & management of ag land & natural resources



All the above!

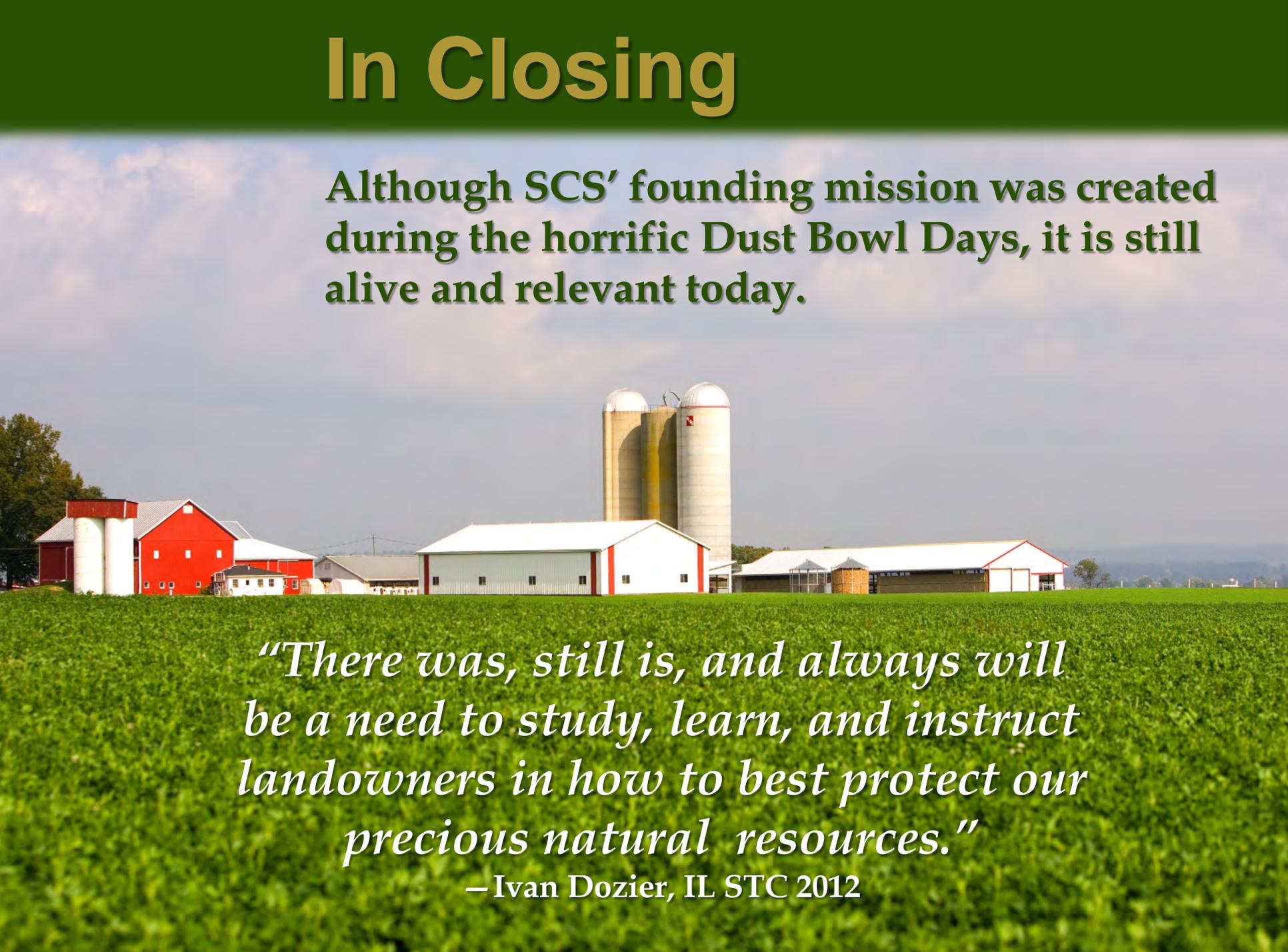
Conservation Systems

- They work! Short and long term
- Effects are cumulative, compounded
- Serve as an investment in the future
- Sustainable for growing population
- Voluntary, incentive-based
- Becoming market-driven



In Closing

Although SCS' founding mission was created during the horrific Dust Bowl Days, it is still alive and relevant today.

A photograph of a farm with a red barn, white silos, and a green field. The farm is situated in a green field, and the sky is blue with some clouds. The text is overlaid on the image.

“There was, still is, and always will be a need to study, learn, and instruct landowners in how to best protect our precious natural resources.”

– Ivan Dozier, IL STC 2012



Helping People Help The Land

USDA-NRCS is an equal opportunity employer and provider.