Agriculture & Weather

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Spring and Summer Rainfall In Iowa (1893-2013)
1-in-20-yr return in 1893-1980 has 1-in-4-yr return in 1981-2013
Figure 3. Nominal Corn Yield and Palmer Drought Severity Index, CRD 10

Drought:
-1 to -1.99 = mild
-2 to 2.99 = moderate
-3 to 3.99 = severe
-4 or less = extreme
Adapting to Weather

• Mechanization
• Technology
  – Size
  – Speed
  – Endurance
  – Accuracy
• Genetics
Acres of Iowa Corn & Soybeans Planted Per Favorable Day During the "Biggest Week" of Plantings

\[ y = 5566.9x + 1 \times 10^6 \]

\[ R^2 = 0.0219 \]
Total Acres of Iowa Corn & Soybeans Planted in "Biggest Week" of the Planting Season

Acres Per Week

y = 29211x + 6E+06
R² = 0.0669
In 37 counties, farmers had a net conversion of cropland back to grassy habitat. In 42 counties there was a relatively small conversion of grassy habitat to cropland. In 20 counties there was a more significant conversion of grassland to cropland, especially where there was a lot of CRP contracts expiring.
Farmer Adaptation to Weather

- Adaptive cropping patterns
- Crops with more residue
- More conservation tillage
- More cover crops
- Earlier planting
- Longer-season hybrids
- Biotechnology traits
Concluding Thoughts

- Be cautious of generalizing about long-term land use from short-term economic outcomes
- Risk management is becoming more important and diversification will increase in value
- As volatility increases, cash flow becomes more important in investment decisions
- Capital investment horizons are 3 to 20 yrs.
- Farming careers are 20-40 years.
Thank You