

Crop Insurance

John Buchanan
CARE Seminar – C-7
Philadelphia, PA
June 7, 2011

CARE 2011 – C7: Crop Insurance

PLATINUM
UNDERWRITERS REINSURANCE, INC.

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Crop Session Description

- **Crop Insurance**
Farmers purchase insurance to cover their agricultural crops against the reduction in yield or revenue because of specified perils. Expertise is typically required to underwrite and price a crop reinsurance program because of the wide range in agricultural crop exposures. This session will provide an overview of crop insurance, including outlining the impact of recent changes to the government assistance programs, and will discuss how crop fund allocation methods are made and reinsurance programs are developed. Additional topics may include the affect of recent and historical meteorological events, projected climate changes, and overview of the crop insurance marketplace in other countries.
- **Moderator:**
John W. Buchanan, Senior Vice President, Platinum Reinsurance
- **Panelists:**
Beth Collins, Senior Vice President, Guy Carpenter & Company, Inc.
Wade Shuler, Executive Vice President, Heartland Crop Insurance
Jack Seaquist, Assistant Vice President, AIR Worldwide

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Agenda

- Overview of Crop Insurance (10 mins – John Buchanan)
 - Overview
 - Basic Meteorological Information
- US Crop Insurance (20 mins – Beth Collins)
 - Class of Business Historical Perspective
 - Government Subsidied Program and Private Reinsurance
- Primary MPCCI Coverage (20 mins – Wade Shuler)
 - Types of Insurance – Loss Drivers
 - Underwriting Management - Fund Designation Basics
- Modeling Illustration (20 mins – Jack Seaquist)
 - General Framework – Agricultural Weather Index Approach
 - Applications – US and China
- Questions

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Overview

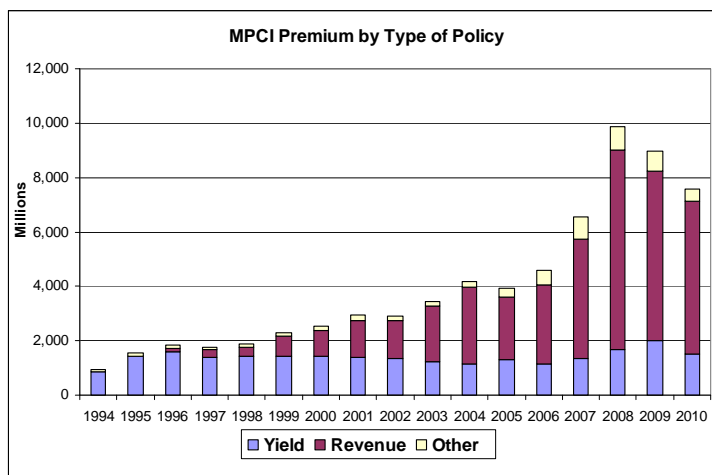
- Size of Primary MPCCI Market
- Overall Results
- Loss Drivers
 - Drought
 - Excess Moisture
 - Commodity Price Fluctuation

APPENDIX

- Longer term meteo
- Climate impacts
- Other markets

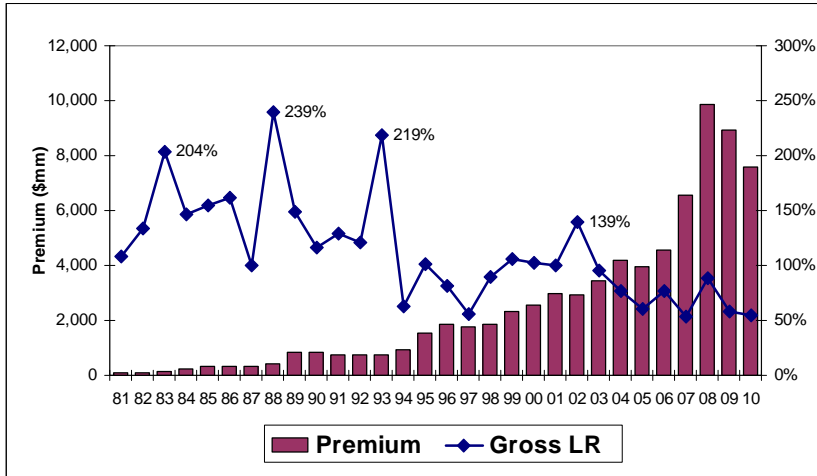
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Growth in MPCCI Premium



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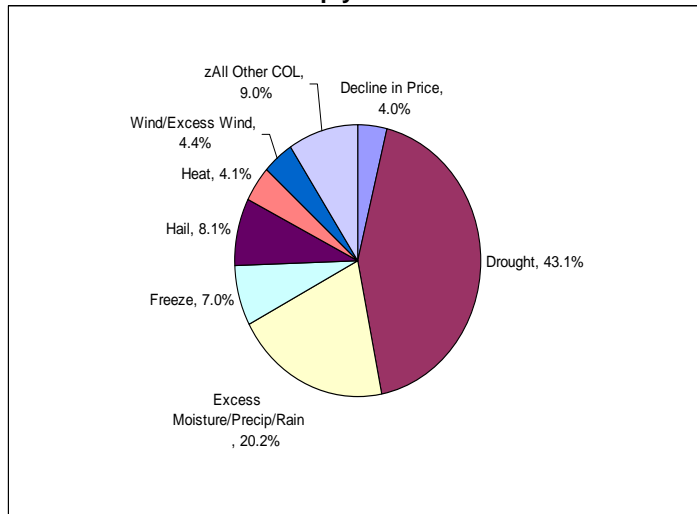
MPCI Results



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MPCI – Causes of Loss

Crop years 2002+



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Yields - Corn Drought Year (1988)

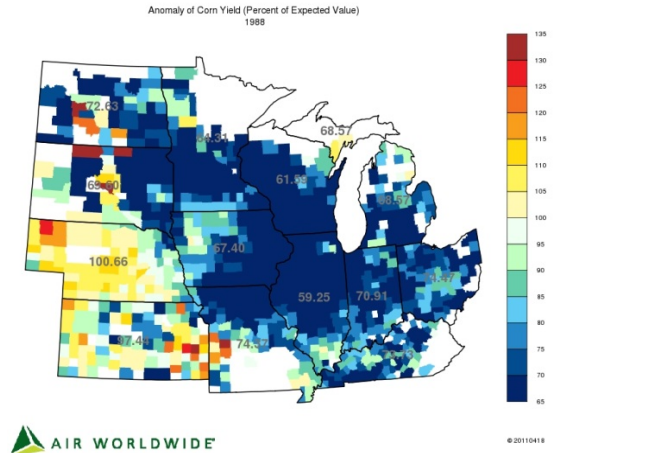


Figure 1: Corn Yield for Crop Year 1988

Yields - Corn Excess Moisture Year (1993)

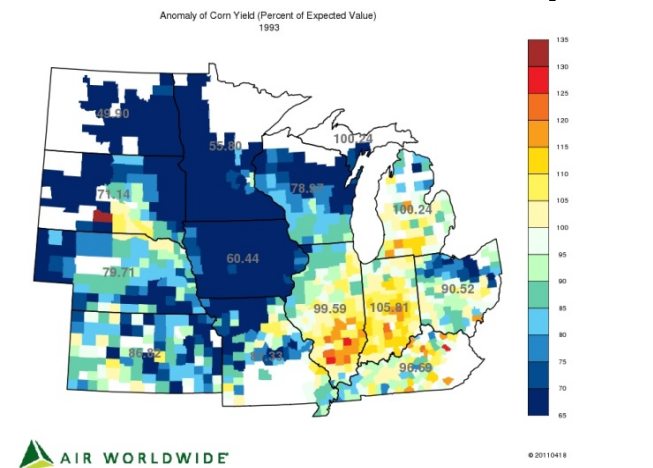
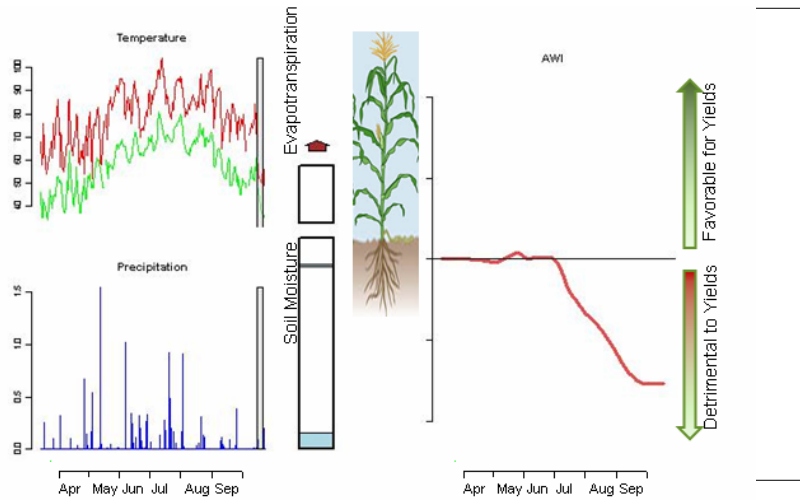


Figure 1: Corn Yield for Crop Year 1993

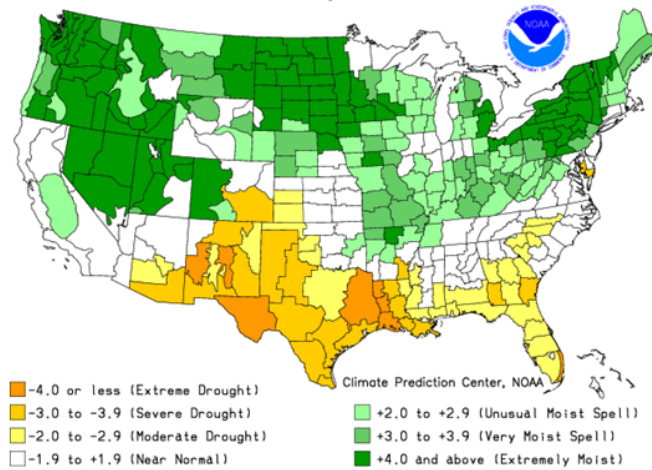
Illustration of Drought Year



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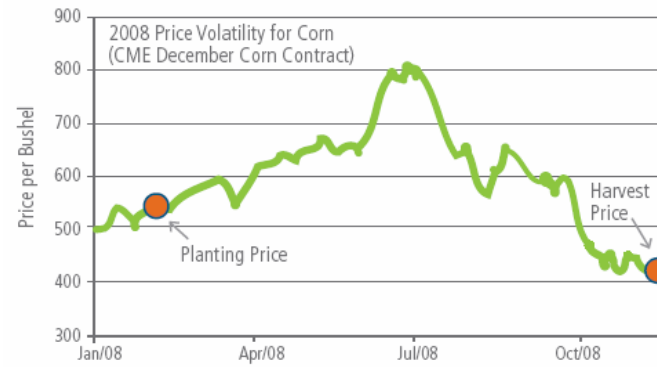
Current Drought Index

Drought Severity Index by Division
 Weekly Value for Period Ending MAY 21, 2011
 Long Term Palmer



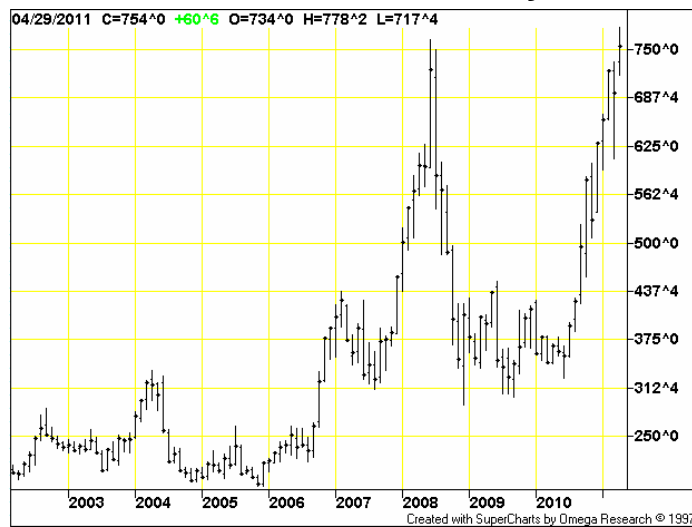
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Commodity Price Fluctuations



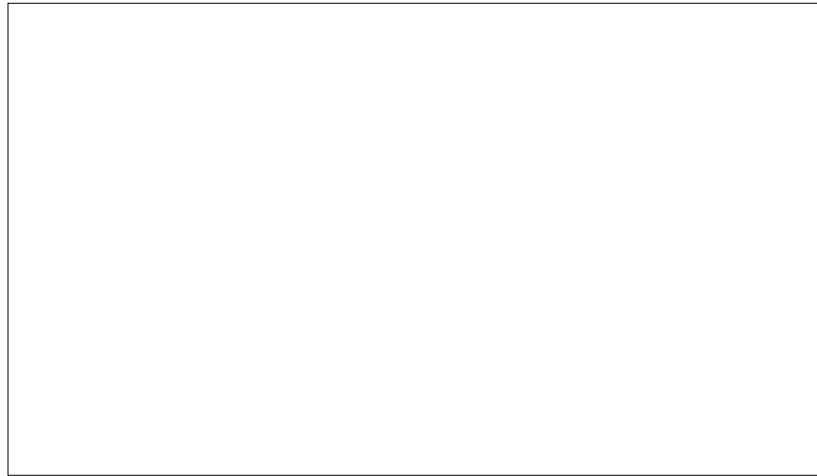
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Historical Price Fluctuations Corn – CBOT Monthly



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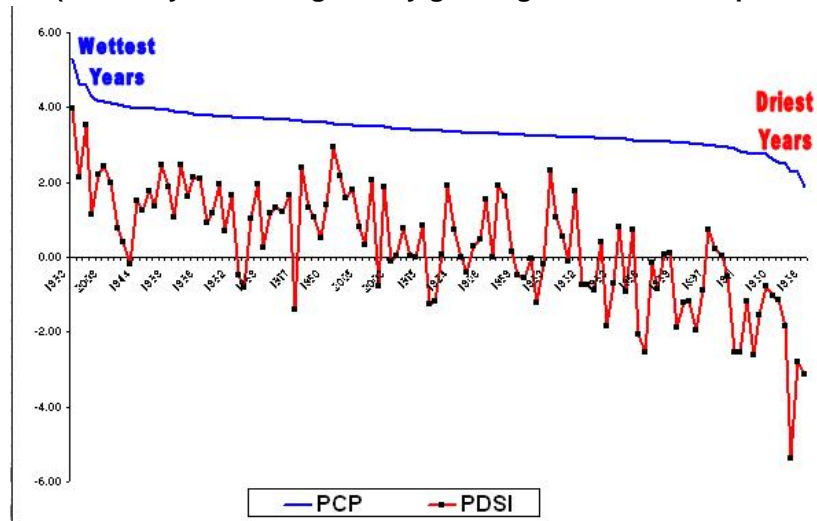
Appendix



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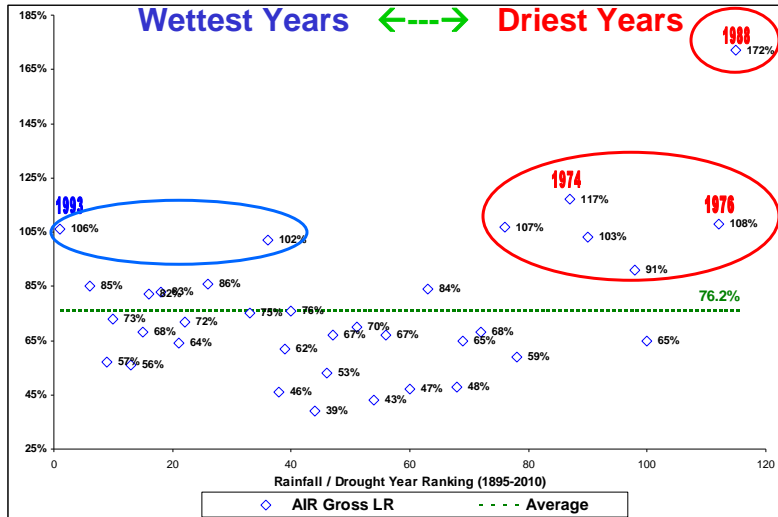
Meteo History

(last 115 years – weighted by growing season and crop states)



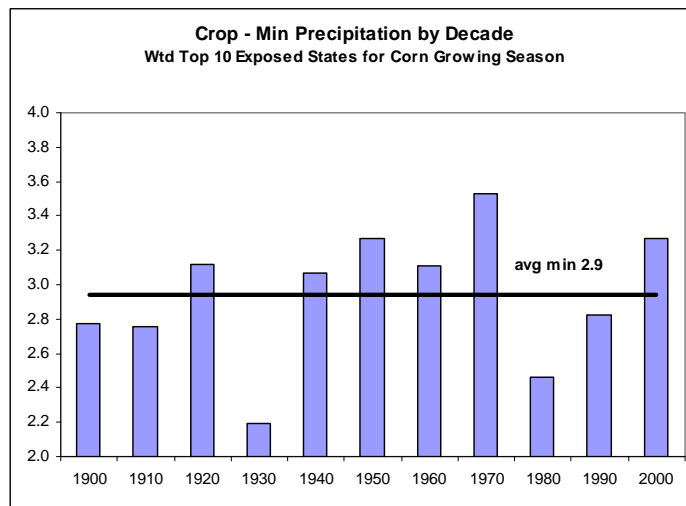
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Meteo Compared to Results



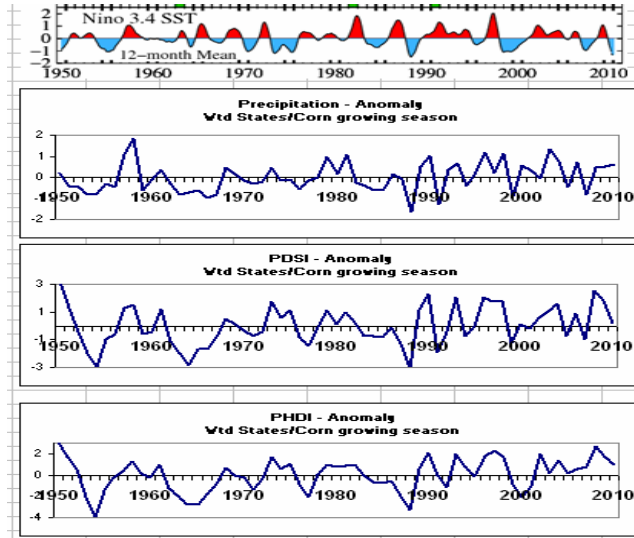
Source: AIR recasted gross loss results under 2011 SRA program, historical weather and commodity price fluctuations 17

Climate Change Impacts



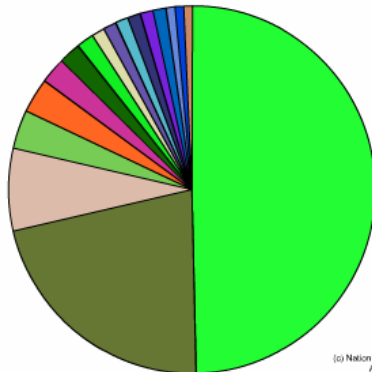
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ENSO Link?



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World Markets Corn and Soybean Production



United States	49.5%
China	21.7%
Brazil	7.2%
Mexico	3.6%
Argentina	3.1%
India	2.5%
Canada	1.8%
South Africa	1.7%
Indonesia	1.2%
Romania	1.1%
Egypt	1.1%
Ukraine	1%
Nigeria	1%
Hungary	1%
Philippines	0.8%
Thailand	0.8%
Serbia and Montenegro	0.8%

Top Soybean Producers in 2008		
(million metric tons)		
United States	80.5	
Brazil	59.9	
Argentina	46.2	
China	15.5	
India	9.0	
Paraguay	6.8	
Canada	3.3	
Bolivia	1.6	
European Union	0.6	
World Total	230.9	

Source: [FAO Food & Agriculture Organization](#)
(FAO) [2]

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