Central United States 2012 Drought Assessment

Jim Angel
State Climatologist for Illinois

University of Illinois at Urbana-Champaign
1. preamble (nidis)
   a. characterize drought climatologically and via impacts
   b. highlight the collaborative nature of the report
2. climatological overview of the drought
   a. observations
      i. MRCC/HPRCC/NCDC – climate variables
      ii. NDMC – DM statistics/summary
      iii. NRCS – soil moisture
   b. forecasts
      i. CPC – seasonal T/P/drought outlooks
      ii. CIRES – experimental outlooks
      iii. NWS/USFS – wildfire outlooks (????)
      iv. NWS/RFC – 90-day stream flow forecasts
      v. NRCS – stream flow forecasts
      vi. USACE – water supply forecasts
   c. attribution
      i. ERSL
      ii. SCs
3. Regional Environmental and Economic Impacts
   a. Great Plains Agriculture
      i. Wheat
      ii. Corn
      iii. Soybeans
      iv. Horticulture and Specialty Crops
      v. Livestock
      vi. Rangeland
   b. Midwest Agriculture (irrigation)
      i. Wheat
      ii. Corn
      iii. Soybeans
      iv. Horticulture and Specialty Crops
      v. Livestock
      vi. New irrigation/tiling implications?
   c. Water:
      i. River and Great Lakes Transportation
      ii. Energy
         1. Production
         2. Demand
      iii. Municipal Water Supplies
a. Wildfires (plains, mountains, forests)
b. Ecosystems
c. Recreation and Tourism?
d. Tribal

4. Risk Management
   a. Agriculture
      i. Crop insurance (RMA, FSA)
      ii. On-farm grain storage
      iii. Irrigation
      iv. Policy?
      v. Genetics?
   b. Transportation
   c. Energy

5. Regional climate services provided in response to the drought (NCDC, USDA???, SCs)
   a. NOAA (NCDC, NWS)
   b. SCs
   c. RCCs
   d. USDA
   e. DOI (USFWS, BOR, USGS)

6. Lessons learned, best practices, and next steps
   a. Information Delivery
   b. Types of Information Delivered
   c. Expressed Needs
The 2012 Drought - Illinois

- Worst drought since 1988 and rivaled the 1930s and 1950s drought
- Corn yield, 101 bu/acre (64% of last year)
- Soybean yield, 43 bu/acre (89% of last year)
- Estimated costs in Illinois alone, $6 billion and rising
ET Gauge (CoCoRaHS)
June 1, 2012 – September 19, 2012 Water Balance for Station IL–CP–64 (Champaign 2.4 SSE)

Source: CoCoRaHS Station Water Balance Summary Report

4 Jul 2012
Water Balance: -4.35"
Precipitation: 0.00"

Accumulated Daily Water Deficit/Surplus (in)
Case Studies/Success Stories

• City of Decatur Illinois
• Drought-Ready Community
• Planning
• Mitigation
Issues Related to the Drought

- Cover crops
- Tillage practices (no-till)
- Nitrogen management
- Mix of crops next year
- Soil moisture recovery
- Seasonal forecast
- Irrigation options
- Assessing long-term risk of drought
- Mississippi River navigation
Timeline

• SC reports by April 30

• First Draft of Report by the July 9 AASC meeting

• Final report by the Fall?
Other Details

• Scope: 2012 Calendar Year

• Living Document

• Set up Dropbox for reports by agency/state
Questions?