



Upper Mississippi River Basin Drought Resilience Planning



UMRBA Background

- Governor-level interstate organization
- Facilitate dialogue, cooperative action, coordination
 - Interstate forum
 - Cooperative planning, coordinated management
 - Information exchange
 - Regional positions, advocacy on states' behalf



Annual precipitation
↑ 1.34" each of
last 3 decades

Precipitation
↑ 0.4"/decade
winter & spring

Heaviest storms
↑ 37% 1958-2012



Source: NOAA, National Weather Service

Annual flood magnitude
↑ 15% every decade

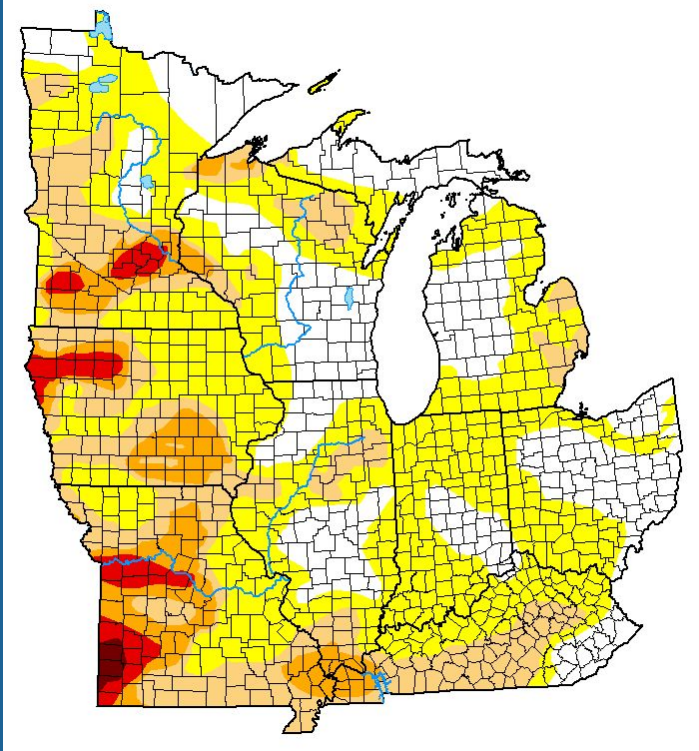
2010s > Last 80 years
Flood stage duration
↑ 5X to 10X

Annual precipitation
↑ 4" 2041-2070

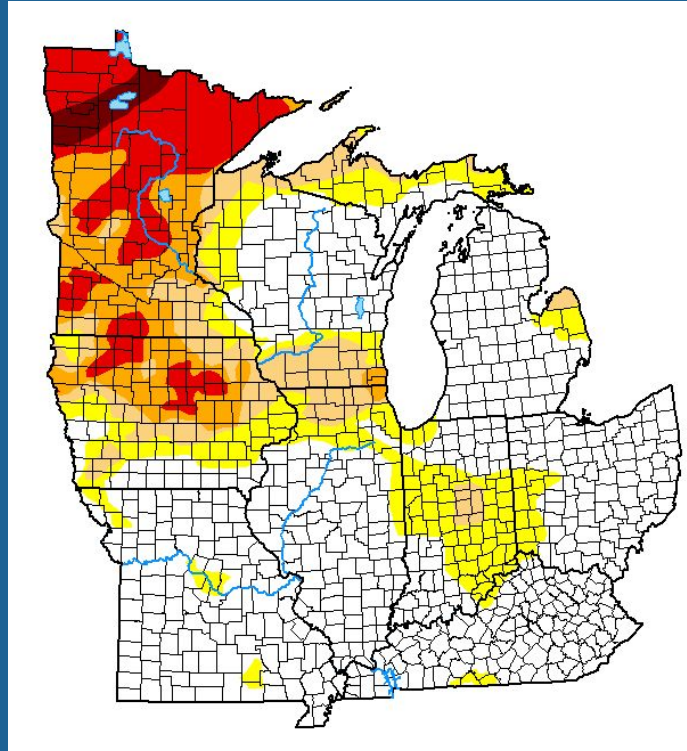


Source: NOAA, National Weather Service

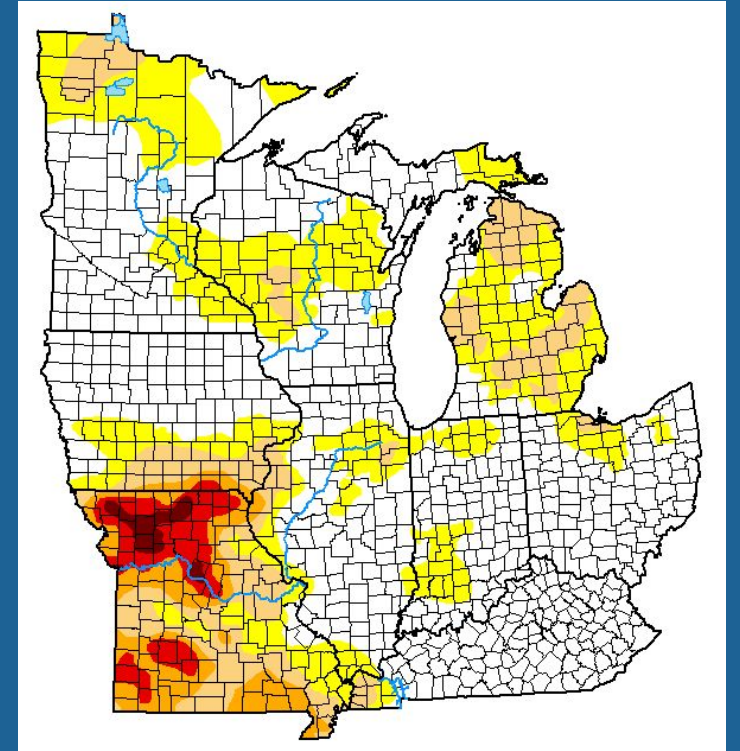
2022



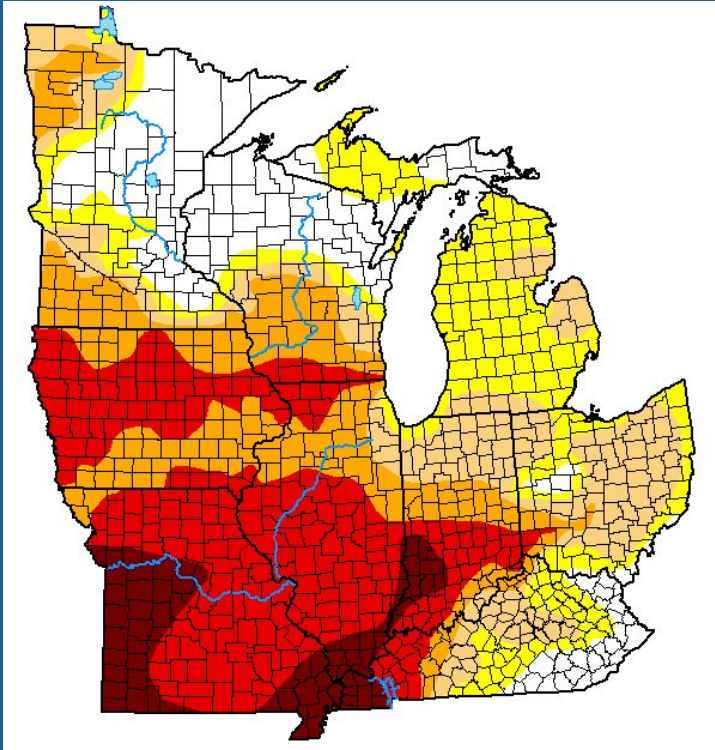
2021



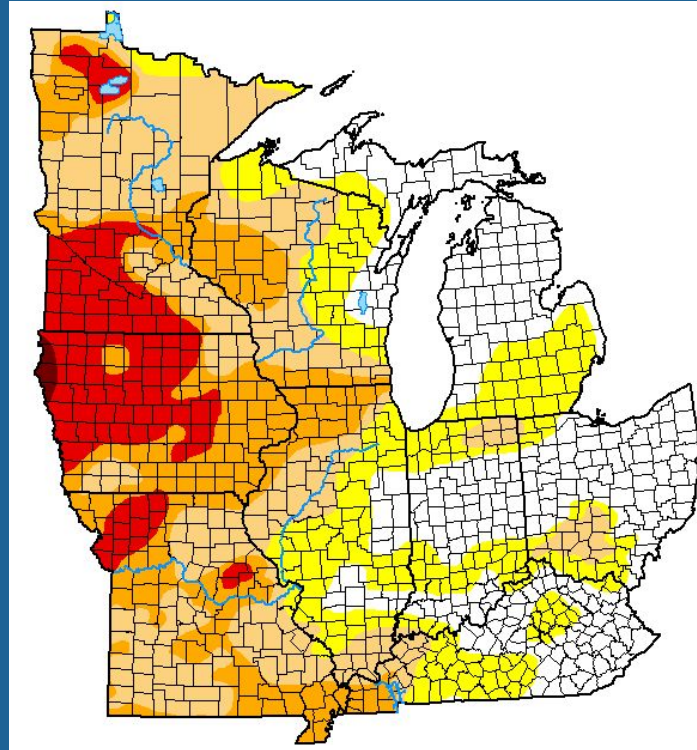
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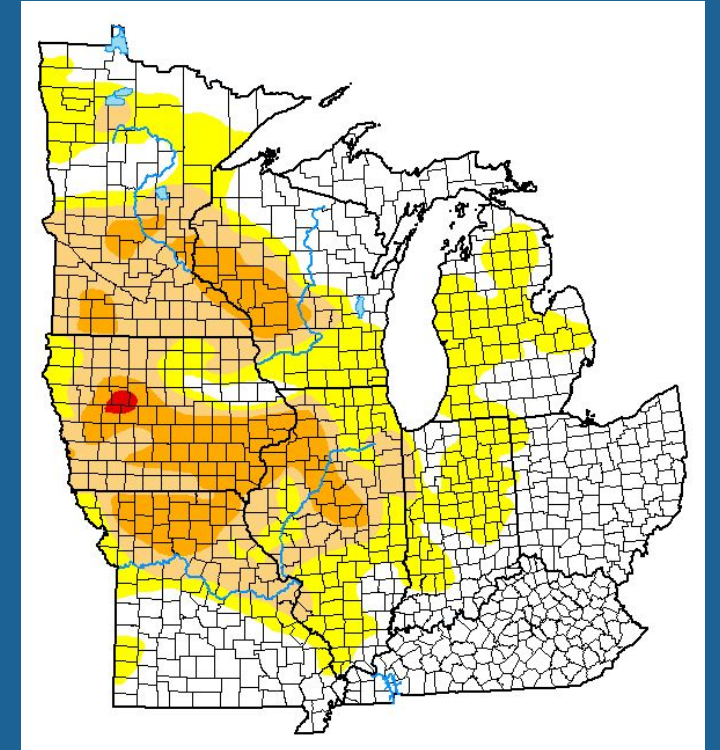
August
2012



November
2012



October
2013





UMRBA Keys to the River Report

- High impact solutions
- Complicated, complex questions
- Communities' involvement

UMRBA Keys to the River Report

- Where and how should existing land uses be protected and sustained into the foreseeable future?
- Where should land use be different?
- What does resilient and sustainable flood, drought, and sediment management look like?
- Collectively, how can management actions minimize the economic and social vulnerabilities?
- What impacts will occur and can we establish an equitable method for distributing costs and benefits?



UMRBA Resilience Program

- Strengthen states' cooperation re diversions
- Learn from, participate in, and share science
- Understand impacts to economies and ecosystems
- Build staff, states, and network capacity
- Strengthen long range climate assessments
- Plan basin water storage and flow



Communities' Engagement

Science + Collaboration + Planning = Resilience



Systematic Development of Informed Consent

Rates Skyrocket

St. Louis barge shipping prices surge as Mississippi waters recede

US dollars per short ton



Source: USDA

Bloomberg



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