



IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

Drought Planning In Iowa

Drought Early Warning System Workshop

Tim Hall, DNR Hydrology Resources Coordinator

February 9, 2016

NW Iowa, 8-23-2012



Central Iowa, 8-20-2012



Drought Planning In Iowa

- Drought Planning (Reaction?)
 - Awareness
 - Governor's Proclamation
 - Allocation - Prioritization

Awareness

- **Collaboration**
 - Iowa DNR
 - Iowa Dept. of Ag/Land Stewardship
 - Homeland Security
 - National Weather Service
 - USGS
 - Iowa Geological Survey
- **Regular Publication:** Water Summary Update (WSU)

WATER SUMMARY UPDATE

No. 57

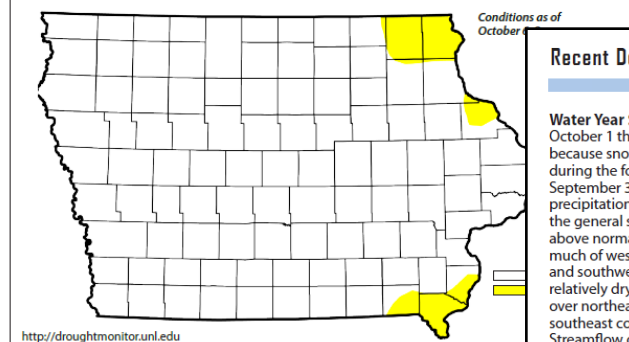
Published Date
October 9, 2015

Drought Monitor

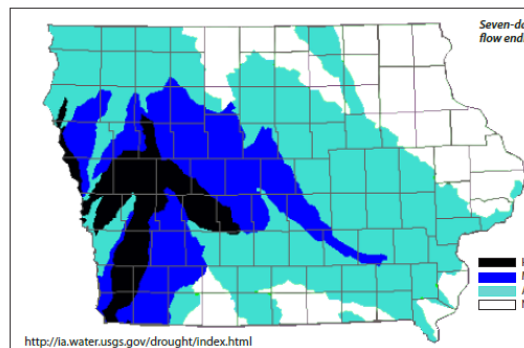
National Drought Mitigation Center and partners

Precipitation

State Climatologist



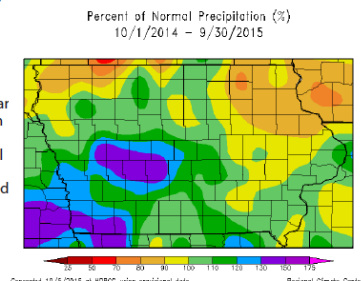
Stream Flow



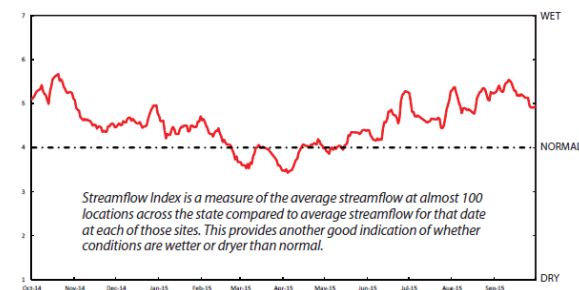
Recent Developments and Changes

Water Year Summary – A bit wetter than “Normal”:

October 1 through September 30 is known as the “water year”. This time period is used because snow accumulation after October 1 is the primary source of runoff to streams during the following calendar year in many parts of the country. The water year ending September 30, 2015 could best be summarized as normal to just wet of normal. Statewide precipitation averaged of 37.7 inches of rain or 2.4 inches above normal. Interestingly the general statewide rainfall pattern was very similar to the previous year, with well above normal precipitation over much of west central, central and southwest Iowa while relatively dry weather prevailed over northeast Iowa and the southeast corner of the state. Streamflow during the water year varied but remained generally in the wetter than normal range – but not excessively. The National Drought Monitor showed the greatest area of the state affected peaking at less than 50% of the state in a condition of abnormal dryness in April of 2015, which coincides with the lowest levels of the streamflow index.



2015 Iowa Streamflow Water Index



September Overall Conditions

Generally favorable hydrologic conditions continued across the state in September. Heavy rains fell across some portions of the state, and on average precipitation in Iowa was 0.7 inches above normal. Streamflow remains above normal, and with the exception of small areas in northwest and northeast Iowa, groundwater is at normal or better levels. The National Drought Monitor indicates small areas of the state that are abnormally dry, but no areas of drought.

Precipitation:

Iowa experienced an unusually warm September with temperatures averaging 5.3 degrees above normal. Precipitation amounts during September were highly variable but were generally above normal over the southwest one-half of Iowa. Driest conditions were over the southeast and northeast corners of the state, as well portions of north central Iowa. Torrential rains fell over western Pottawattamie and Mills County on the morning of September 23. Very heavy rains also occurred on the night of the 6th over parts of central, southwest and south central Iowa. The statewide average precipitation was 4.08 inches or 0.70 inches above normal to rank as the 50th wettest September among 143 years of records. September was the fifth consecutive month with above normal precipitation.

Groundwater:

Precipitation in parts of Osceola, Dickinson, and Clay counties was below normal in September, and the area is designated at slight risk. Parts of Northeast Iowa and Southeast Iowa were also dry. Consistent fall rains will be welcome across the northern areas of the state.

Streamflow:

Streamflow conditions are above or much above normal for the majority of the state. The Nishnabotna, Boyer, and Raccoon River flows have increased since the last WSU, and are now into the high streamflow condition

Drought Monitor:

The National Drought Monitor (NDM) indicates a few small areas along the eastern edge of Iowa that are abnormally dry, totaling about 5 percent of the state. Conditions in Iowa have been relatively unchanged over the past two months, and conditions in the states surrounding Iowa are also free from any significant drought conditions.

Contacts

General Information Tim.Hall@dnr.iowa.gov 515-725-8298
Drought Monitor Harry.Hillaker@iowaagriculture.gov 515-281-8981
Precipitation Harry.Hillaker@iowaagriculture.gov 515-281-8981
Stream Flow Daniel.Christiansen, dechrist@usgs.gov 319-358-3639
Stream Flow Michael.Anderson@dnr.iowa.gov 515-725-0336
Shallow Groundwater Mike-Gannon@uiowa.edu 319-335-1581

Prepared by the Iowa DNR in collaboration with the Iowa Department of Agriculture and Land Stewardship, the U.S. Geological Survey, IHR-Hydroscience and Engineering and The Iowa Homeland Security and Emergency Management Department.

Governor Proclamation

29C.6 Proclamation of disaster emergency by governor . . . the governor may:

1. After finding a disaster exists or is threatened, proclaim a state of disaster emergency.

Governor's Proclamation – July 26, 2012

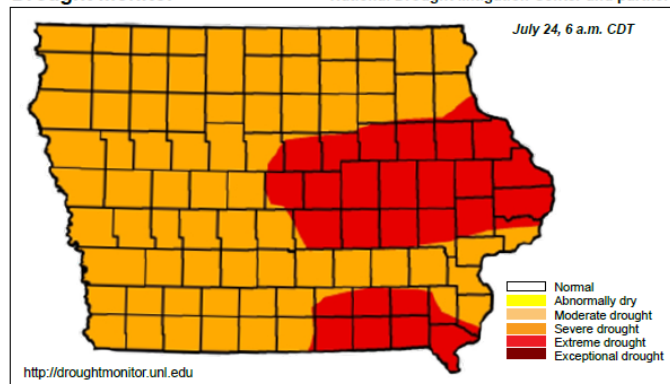
WATER SUMMARY UPDATE

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Published Date
July 26, 2012

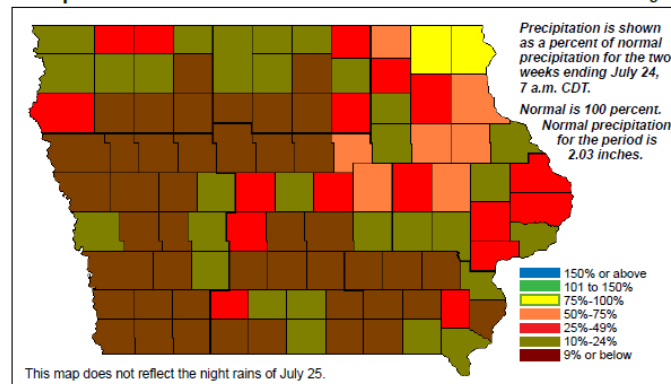
Drought Monitor

National Drought Mitigation Center and partners



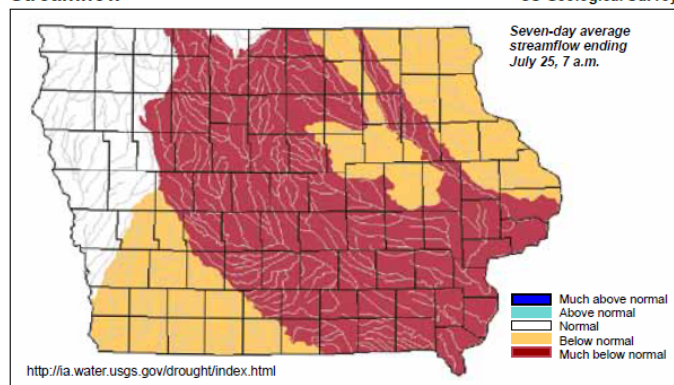
Precipitation

State Climatologist



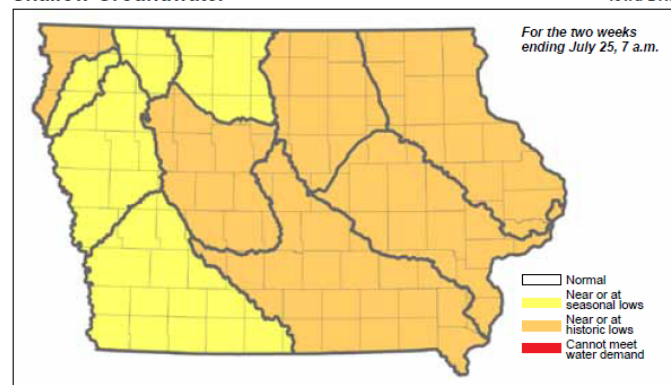
Streamflow

US Geological Survey



Shallow Groundwater

Iowa DNR

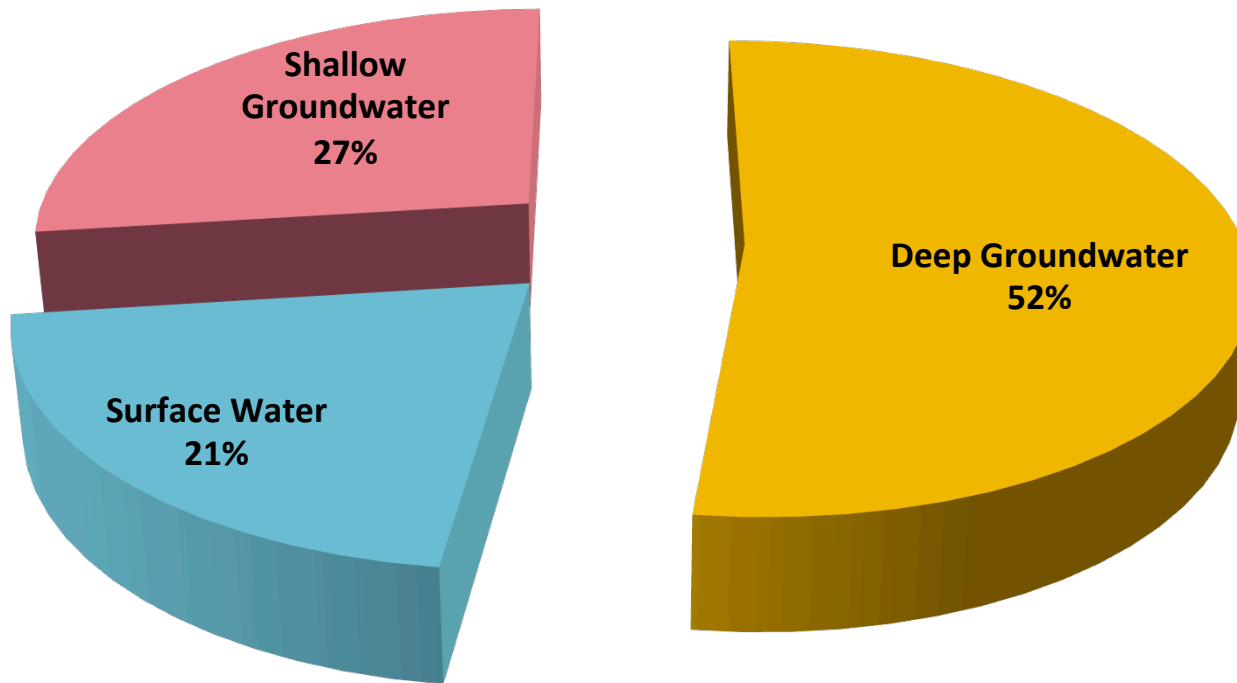


Allocation - Prioritization

52.10(3) Priority allocation plan . . . the department may suspend or restrict usage of water by category of use on a local or statewide basis in the following order:

- ~~a. Water conveyed across state boundaries.~~
- ~~b. Water used primarily for recreational or aesthetic purposes.~~
- ~~c. Uses of water for the irrigation of any general crop.~~
- d. Uses of water for the irrigation of any specialty crop.
- e. Uses of water for manufacturing or other industrial processes.
- f. Uses of water for generation of electrical power for public consumption.
- g. Uses of water for livestock production.
- h. Uses of water for human consumption and sanitation supplied by rural water districts, municipal water systems, or other public water supplies.
- i. Uses of water for human consumption and sanitation supplied by a private water supply.

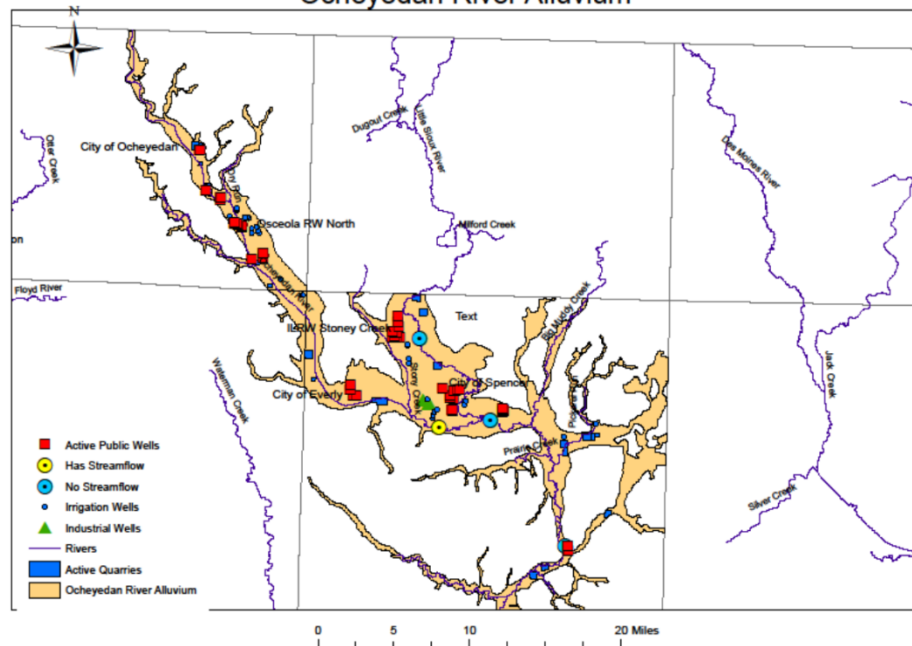
Source of Drinking Water in Iowa



Allocation - Prioritization

- **Drought Planning in Iowa is a local issue**
 - Not just from a policy perspective, but from a technical perspective
- **It is not easy for a community to “cut off” a particular use or user**
 - Technical considerations
 - Economic considerations
- **Priority Allocation is Unlikely to be invoked for municipal or municipal-type systems**
 - Not invoked in 1988-89, 2000-2002, 2005, or 2012

Active Public Wells, Irrigations Wells and USGS Gages
Ocheyedan River Alluvium



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TIM HALL Hydrology Resources Coordinator



Iowa Department of Natural Resources

P 515.725-8298 | F 515.725-8201 | tim.hall@dnr.iowa.gov

Wallace State Office Building 502 E 9th St. | Des Moines, IA 50319

WWW.IOWADNR.GOV



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