



# IOWA DEPARTMENT OF NATURAL RESOURCES

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LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

# Water Summary Update Iowa Tool for Communicating Hydrology Conditions

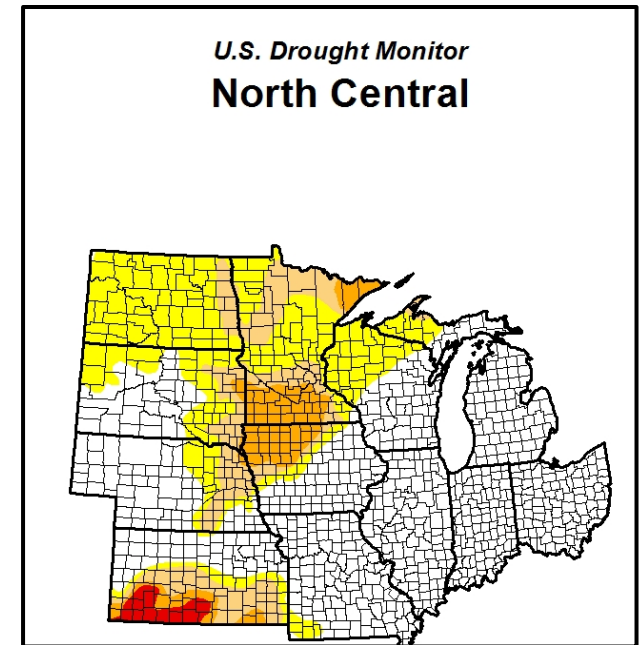
Michael Anderson, Iowa DNR, Water Supply Engineering

Midwest Drought Early Warning System (DEWS)  
Regional Workshop – November 9, 2016



# Water Summary Update

- History
  - Early in January 2012: staff discussion about field observations and stakeholder contacts
  - Indications troublesome
  - **Meetings January 31 & February 14.**



January 3, 2012

# Water Summary Update Meeting Participants

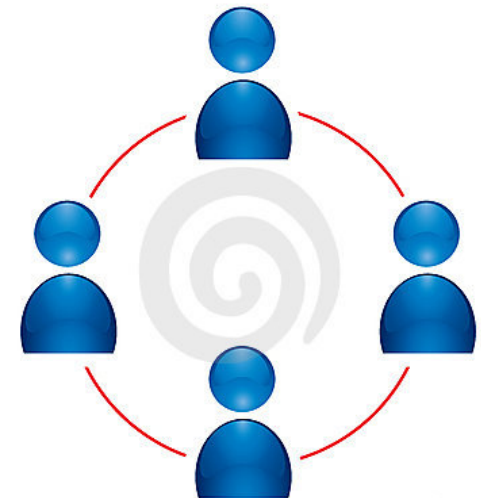
Iowa Department of Agriculture

Homeland Security and Emergency anagement Division

Governor's Office

Iowa Department of Natural Resources

USGS



- Group determined that best approach was a **simple** bi-weekly 2 page update.
  - Using readily available, or easily obtainable information
  - Not intended to be a scientific or technical document
  - Some wanted it longer, and with more detail
- The “Water Summary Update” was prepared (draft form) March 8, 2012
- This summary was not circulated beyond the technical group.



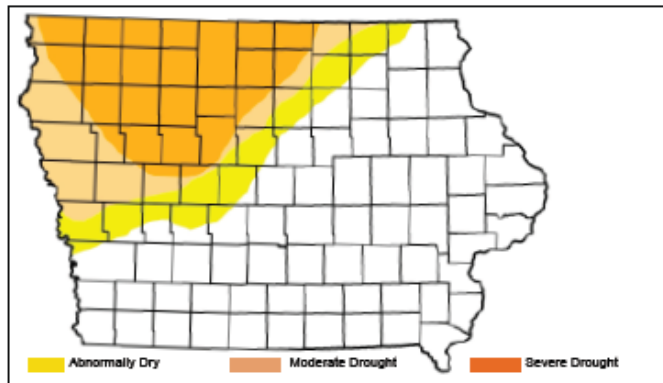
- Informational Needs
  - Precipitation: State Climatologist (NWS if needed)
  - Groundwater Iowa Geological Survey
  - Stream Flow USGS
  - National Drought Monitor From NDM web page
- Publication Date timed to NDM
  - NDM available at 7:30 a.m. on Thursdays
  - All other data submitted Thursday morning
  - Typically the WSU is compiled and issued late Thursday or early Friday



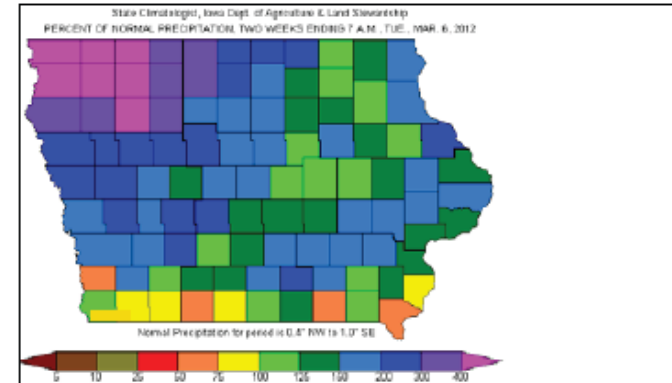
# Initial draft version . . . March 8, 2012

# WATER SUMMARY UPDATE

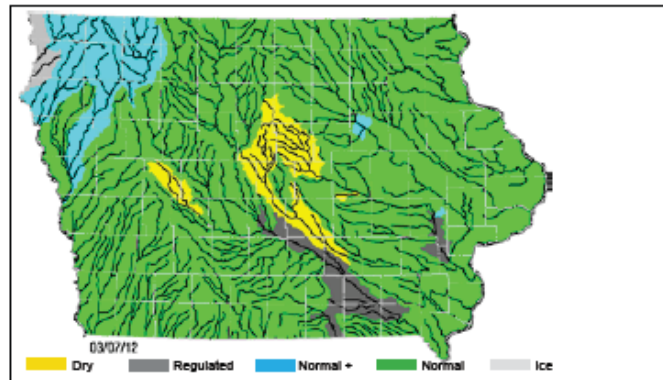
**Drought Monitor**



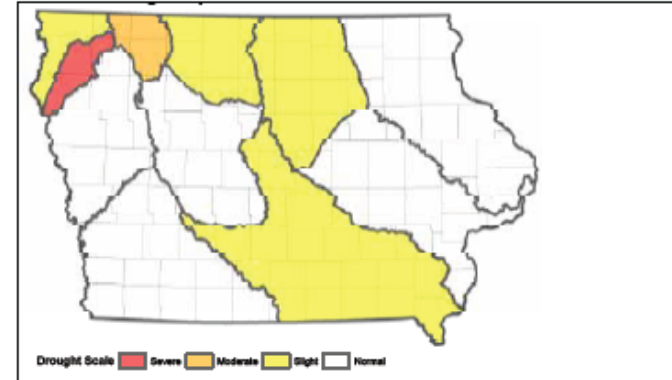
**Precipitation**



**Streamflow**



**Shallow Groundwater**



- After review, comment, and changes – the first “Water Summary Update” issued April 6, 2012.
- March was “Flood Awareness Month” and it was decided to wait until April, for obvious reasons . . .





# FREQUENCY

- During the early Spring to early Fall – issued bi-weekly
- During late Fall through Winter – issued monthly



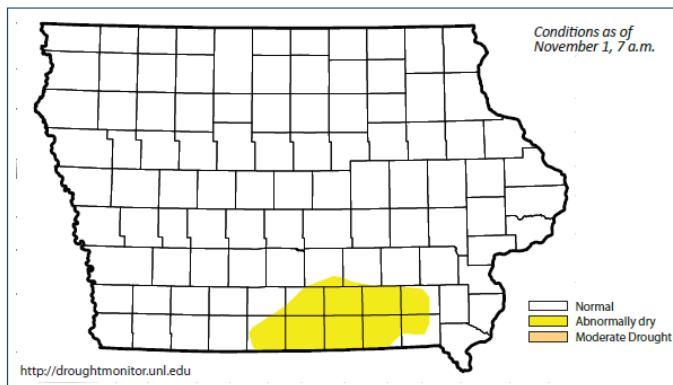
- Current Version and Layout
- Just issued WSU #70

# WATER SUMMARY UPDATE

PUBLISHED DATE  
NOVEMBER 3, 2016

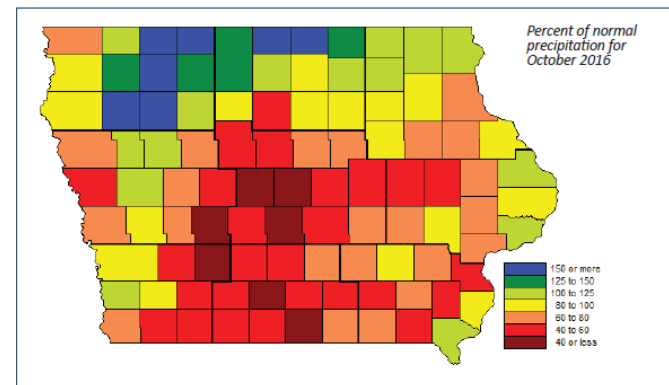
Drought Monitor

National Drought Mitigation Center and partners



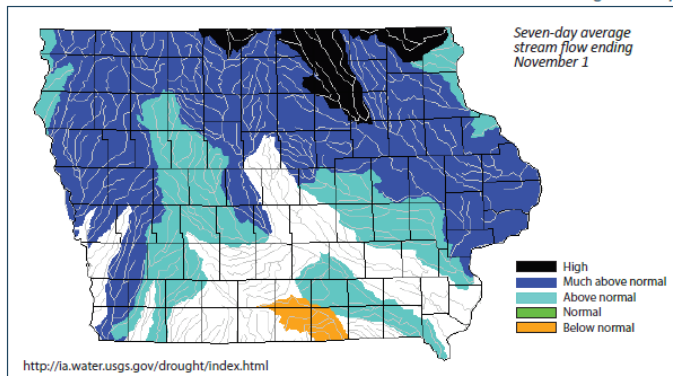
Precipitation

State Climatologist



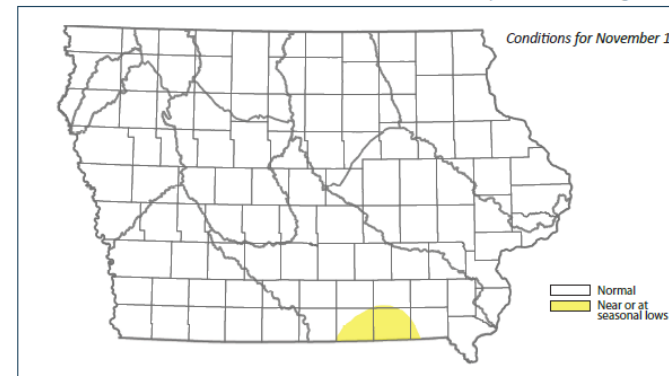
Stream Flow

US Geological Survey



Shallow Groundwater

Iowa DNR and IHR-Hydroscience and Engineering



## RECENT DEVELOPMENTS AND CHANGES

### SUMMARY

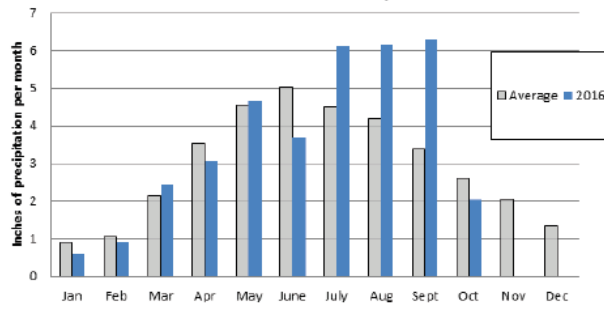
The month of October was the first month since June for below normal rainfall in the state. Despite this drier than normal month, stream flows remain high over much of Iowa, and groundwater conditions are predominantly good. There is only a small area of the state rated as Abnormally Dry – D0 in the National Drought Monitor. Iowa is now headed into the driest four months of the year, and also typically the most hydrologically stable time for the state as well.

### PRECIPITATION:

Statewide average precipitation during October was just over 2 inches, or about 0.6 inches less than normal. A small area at Keokuk experienced a localized downpour of nearly five inches of rain on October 5, which pushed their monthly total to nearly 7 inches. Otherwise, unlike the previous four months, there were not any widespread excessive rain events in Iowa during the past month. Driest areas in October were across central and south central Iowa where monthly rain totals were under an inch with the lowest October amount reported from Gilbert in Story County of 0.54 inches. North central and northeast Iowa, which had seen exceptionally heavy rains in the previous two months, finally received a very welcome period of mostly dry weather from the last week of September until October 25 when widespread rains of 1.5 to 3.0 inches returned to that area.

This was the warmest October since 2007 with temperatures averaging 4.5 degrees above normal. While a hard freeze on October 13 ended the growing season over much of the northwest two-thirds of the state there remain some areas in extreme eastern and southeast Iowa, plus the Des Moines metro area, where a freeze has yet to occur.

2016 Iowa Statewide Precipitation



### GROUNDWATER:

Moderate to heavy rainfall occurred across much of Iowa during the last 2 weeks of September. However, the far southeast corner of Iowa (primarily Appanoose and Davis counties) has experienced below normal rainfall, and shallow groundwater levels are slightly below normal.

### STREAMFLOW:

Streamflow conditions are above normal for the majority of the state. Since the last water summary update, streamflow conditions across the south central portion of the state decreased to the normal condition, with the Chariton River Basin moving into the below normal condition. Stream flow across the northern half of the state remains much above normal, especially in the Cedar, Des Moines, and Upper Iowa River basins.

### DROUGHT MONITOR:

The area of the state that is rated as D0, or “Abnormally Dry” continues to persist in south-central Iowa. In fact, that area has increased from about 5 percent in early October to nearly 7 percent this week. The condition of the state is much better than it was a year ago, and remains positive headed into the driest months of the year.

### NORMAL YEARLY PRECIPITATION

The next four months (November through February) are the four driest months of the year in Iowa. During this third of the year, Iowa normally gets less than 5.5 inches of total precipitation, or only 15% of the annual total. Compare this with the months of May through August, when Iowa typically sees over 18 inches of precipitation, or just

### CONTACTS

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 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 ..... Michael.Anderson@dnr.iowa.gov 515-725-0336

- **Questions**

