2016 Water Summary Review

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JANUARY 10, 2017

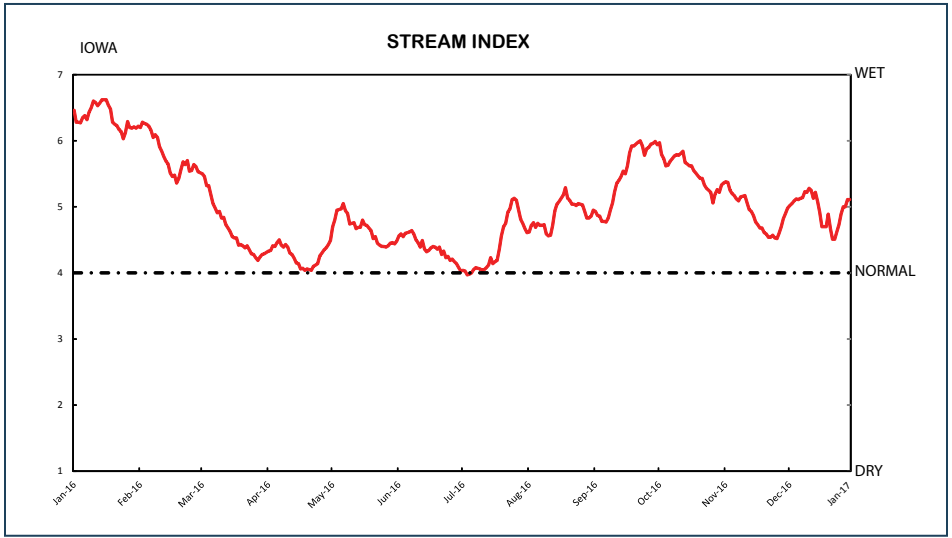
2016 Stream Flows Above Normal

2016 began with the high stream flow levels from the very wet late fall in 2015. By the spring and summer of 2016 statewide average streamflow had fallen to normal, or just above normal. The wet weather of late September pushed the average flow up to a peak in mid-October. During that time flows were the second highest ever recorded at Waterloo (76 years of record) and at Cedar Rapids (114 years of record). Since that time, the average flow has dropped slightly, but remains above average. Current conditions are above normal for the majority of the state. Many streams in Iowa are ice covered and USGS crews continue to make streamflow measurements throughout the winter to verify real-time values.

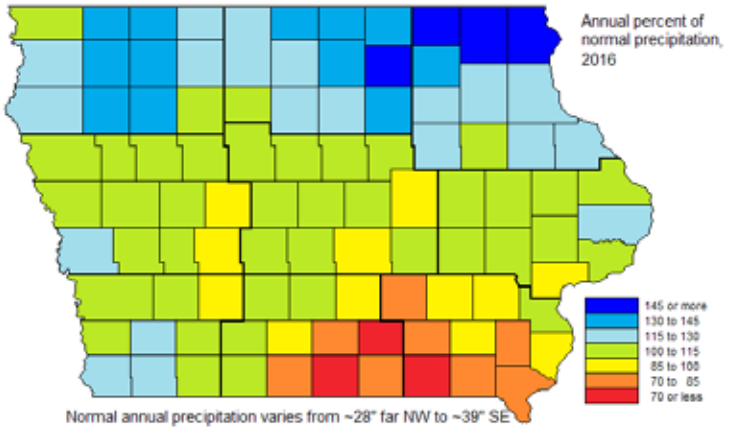
2016 Precipitation – Wetter than Normal

Relatively dry weather prevailed across Iowa for the first quarter of 2016 which was a welcome change from the record wet weather of late 2015. Persistently wet weather developed over western Iowa in late April and May causing planting delays in areas of the state, while the remainder of Iowa saw near to slightly below normal spring rainfall. June was unusually warm statewide and very dry over the southwest two-thirds of Iowa. Rain became more abundant statewide by the second week of July with a mostly

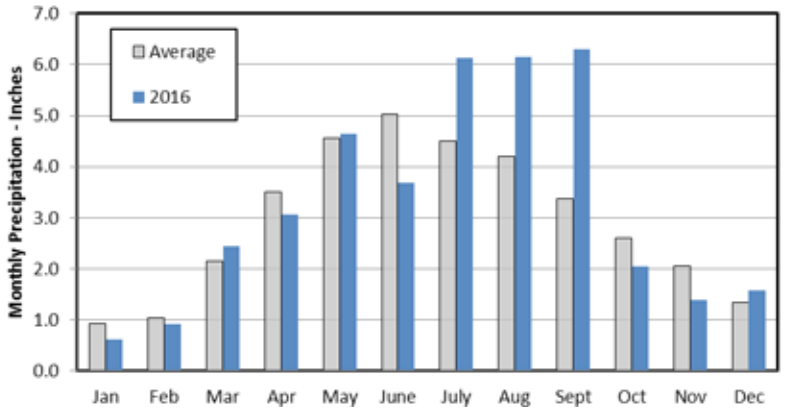
2016 Stream Index



2016 PRECIPITATION BY COUNTY



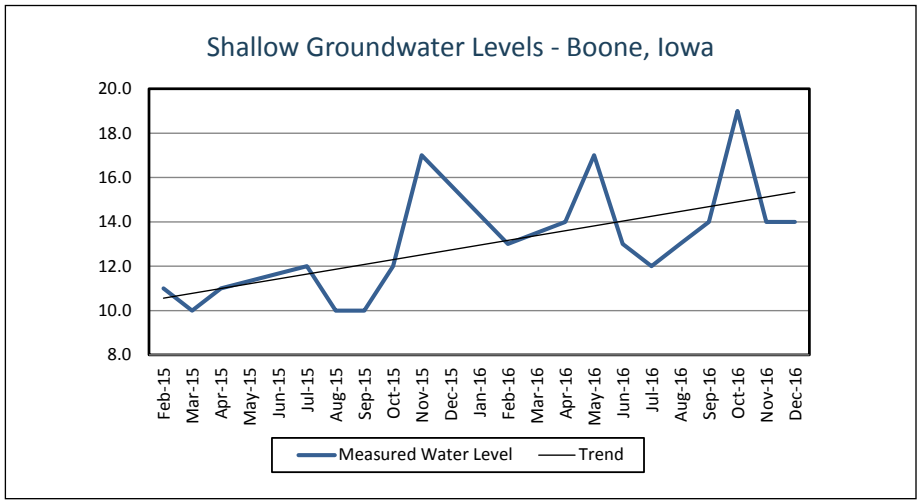
2016 MONTHLY PRECIPITATION



wet weather pattern prevailing through late September. Very wet conditions were the rule over much of north central and northeast Iowa every month from June through September with major flooding resulting from excessive rains on August 23-24 and September 21-23. The final three months of the year averaged slightly drier than usual. For the year as a whole the statewide average precipitation was 38.97 inches or 3.68 inches more than normal. This ranks as the 19th wettest year among 140 years of records. Record high annual precipitation totals were established over portions of north central and northeast Iowa, while very dry weather prevailed over portions of south central and southeast Iowa where Albia and Lake Rathbun Dam recorded their driest year since 1988 with below normal rainfall every month except for August.

Variable Conditions for Shallow Groundwater

Shallow groundwater conditions varied considerably across Iowa during 2016. Most of the state had normal to above normal shallow groundwater levels throughout 2016. The one exception was south central and southeast Iowa, where dry conditions occurred during the summer and fall of 2016. Adequate spring rainfall in 2017 will be critical across south central and southeast Iowa to recharge the shallow aquifers and prevent drought conditions from reoccurring.



Contacts

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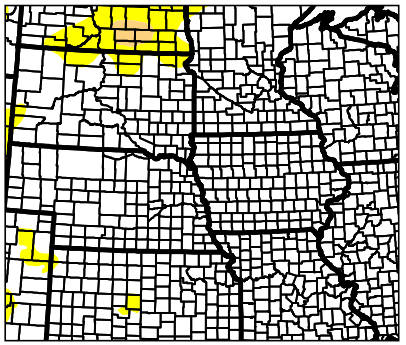
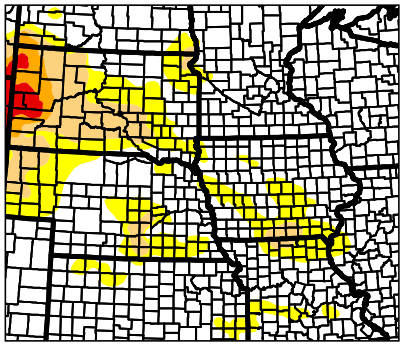
Drought Monitor Throughout 2016

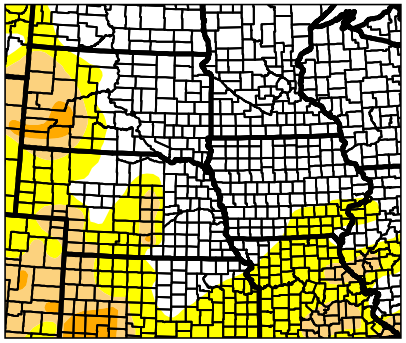
DECEMBER 29, 2015



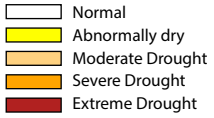
July 26, 2016



January 3, 2017



Over the last year, the National Drought Monitor showed small areas in the central region of the United States moving into and out of drought in 2016. Iowa enjoyed a year of relatively good conditions, with the worst conditions occurring late June, when about a third of the state was abnormally dry, while an additional 16 percent of the state was shown in moderate drought. Those conditions, however, improved throughout the summer and fall. Current conditions show only 14 percent of Iowa rated as abnormally dry, with no areas of moderate drought. Likewise, portions of western South Dakota that were in extreme drought in late July have improved. A large area of dry conditions exist to the south and west of Iowa.



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