

2015 WATER SUMMARY REVIEW

No. 60

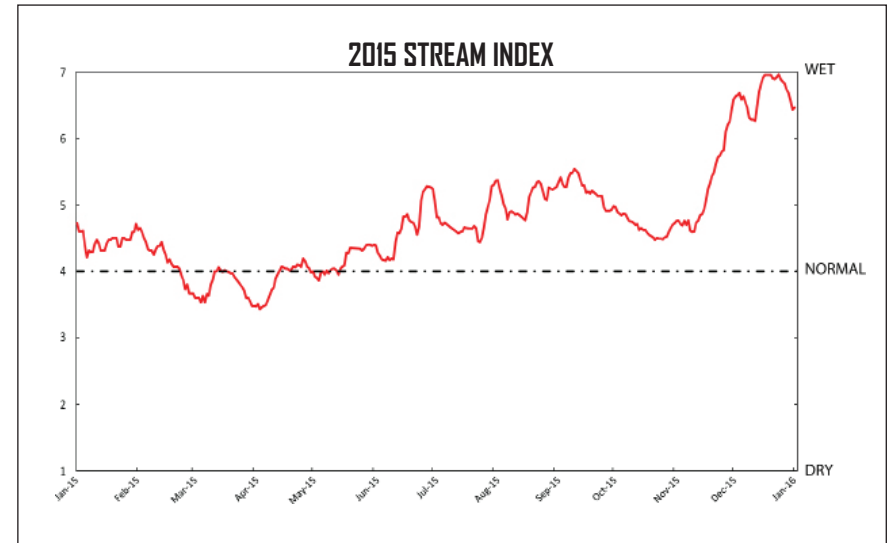
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Record Stream Flows in 2015

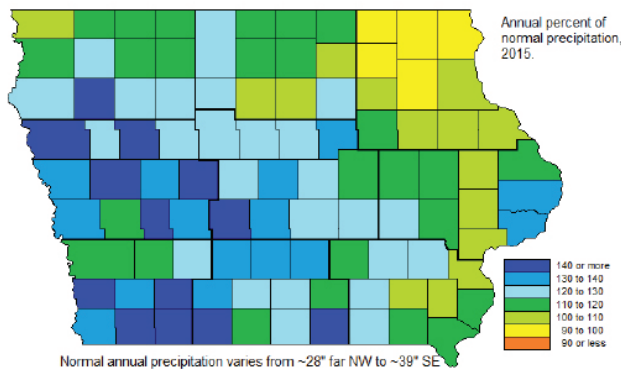
2015 began with streamflow slightly above normal, and ended the year much above normal. In between, average stream flows across the state were high in June and approaching normal in July. Stream flows increased again from August to October with a brief decrease until December, when flows climbed to much above normal levels. Almost every location in the state experienced record stream flows for December, as shown by the streamflow index graph approaching the top the streamflow index. Over 20 stream gages exceeded the National Weather Service (NWS) Flood Stage in Iowa in December. Streams remained ice-free at the end of December going into 2016.

2015 Precipitation – Wetter than Normal

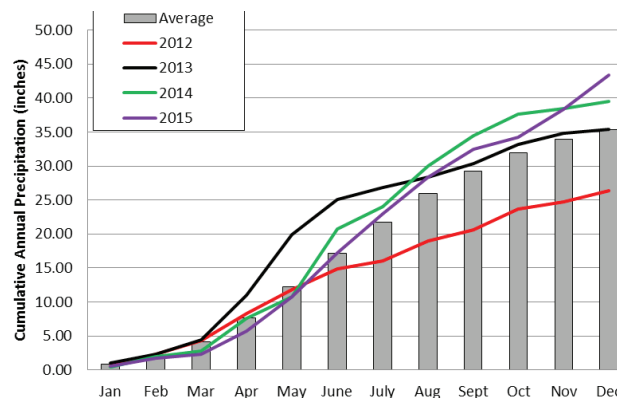
Since 2012, statewide average annual precipitation has increased each year, with 2015 ending more than 8 inches above normal. Iowa entered 2015 with dryness concerns in far northwest Iowa. January through March was the driest in the state since 1988, but frequent precipitation in April and May gradually eliminated drought worries statewide by the end of the spring season. Very wet weather developed in southwestern Iowa in May and persisted through the summer over much of central, west central, southwest and south central Iowa. Meanwhile a drier weather pattern began over northeast Iowa in July and over the southeast in August. Mild summer temperatures helped minimize impacts from this late season dryness and unseasonably wet



2015 PRECIPITATION BY COUNTY



2015 MONTHLY PRECIPITATION

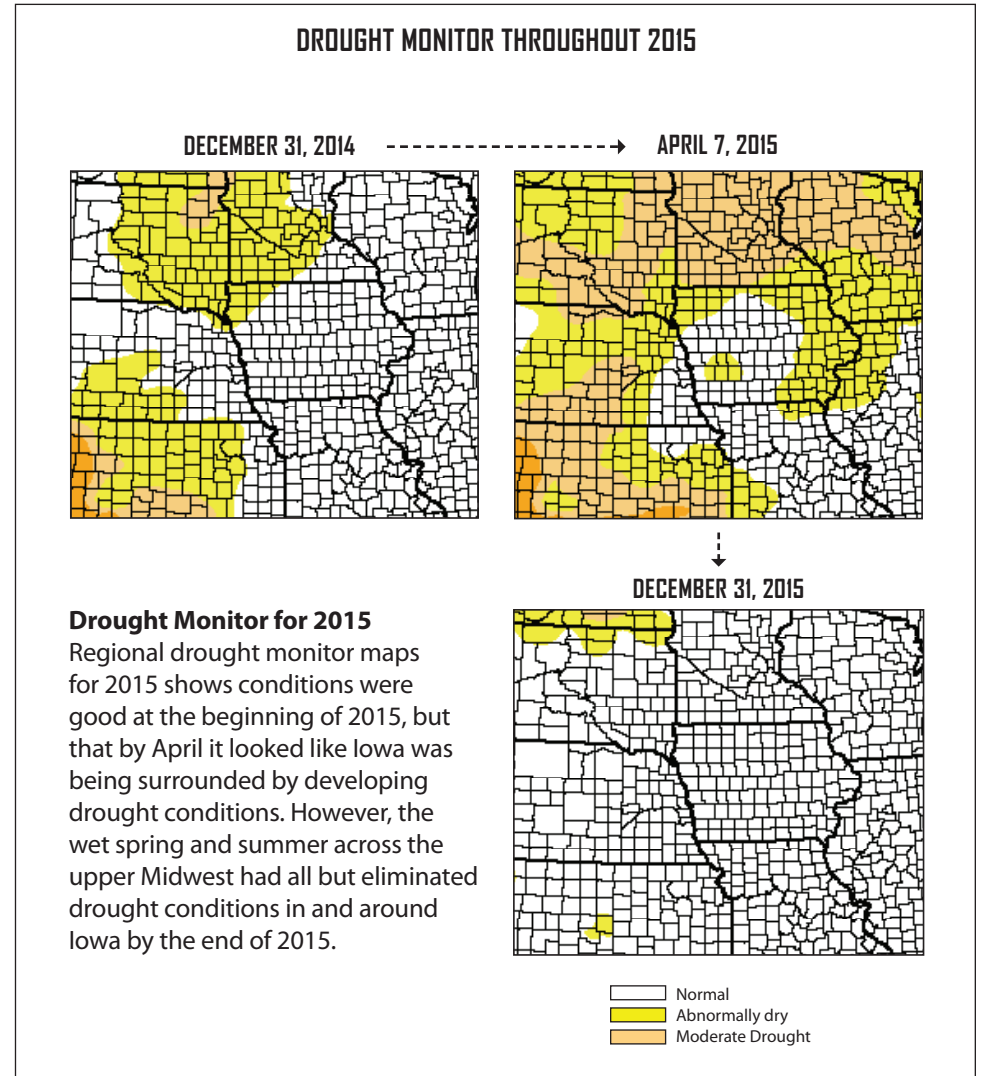
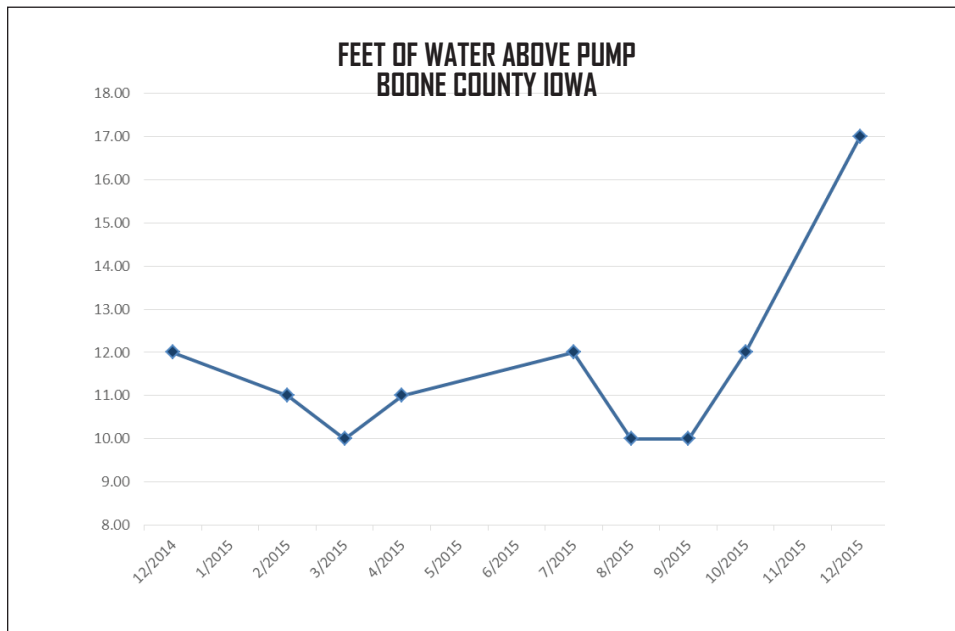


weather in November and December eliminated all dryness concerns. Precipitation totals for the year as a whole were above normal for nearly all of the state. Below normal annual totals were confined to a portion of northeast Iowa and scattered small areas across the far northwest. Record annual precipitation totals were recorded over parts of southwest and west central Iowa. Noteworthy among those records was over 63 inches total at Bedford, and over 53 inches in Denison. The statewide average precipitation total for the year was 43.28 inches, 8.01 inches above normal. 2015 precipitation was much more evenly spread out during the year, resulting in frequent, but less pronounced flooding than in other wet years. Iowa entered 2016 with saturated soils statewide and unseasonably high flows on all rivers and streams thanks to a record wet November-December period.

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Shallow Groundwater for 2015 Recovers Statewide

Shallow groundwater conditions across Iowa varied considerably during 2015. Slight drought conditions existed during the winter, spring, and summer months of 2015 in northwest Iowa. Slight drought conditions developed in parts of far northeast and southeast Iowa during the summer, and this persisted into October. Shallow groundwater conditions improved considerably across all of Iowa during November and December of 2015. Statewide precipitation in November and December provided abundant recharge to Iowa's shallow aquifers. This additional recharge has replenished groundwater storage for 2016, especially in the shallow alluvial aquifers of northwest Iowa. The graph shows a typical shallow groundwater well in Iowa – the water level was generally consistent throughout the year, but then rose significantly late in 2015 with these fall and early winter rainfall events.



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