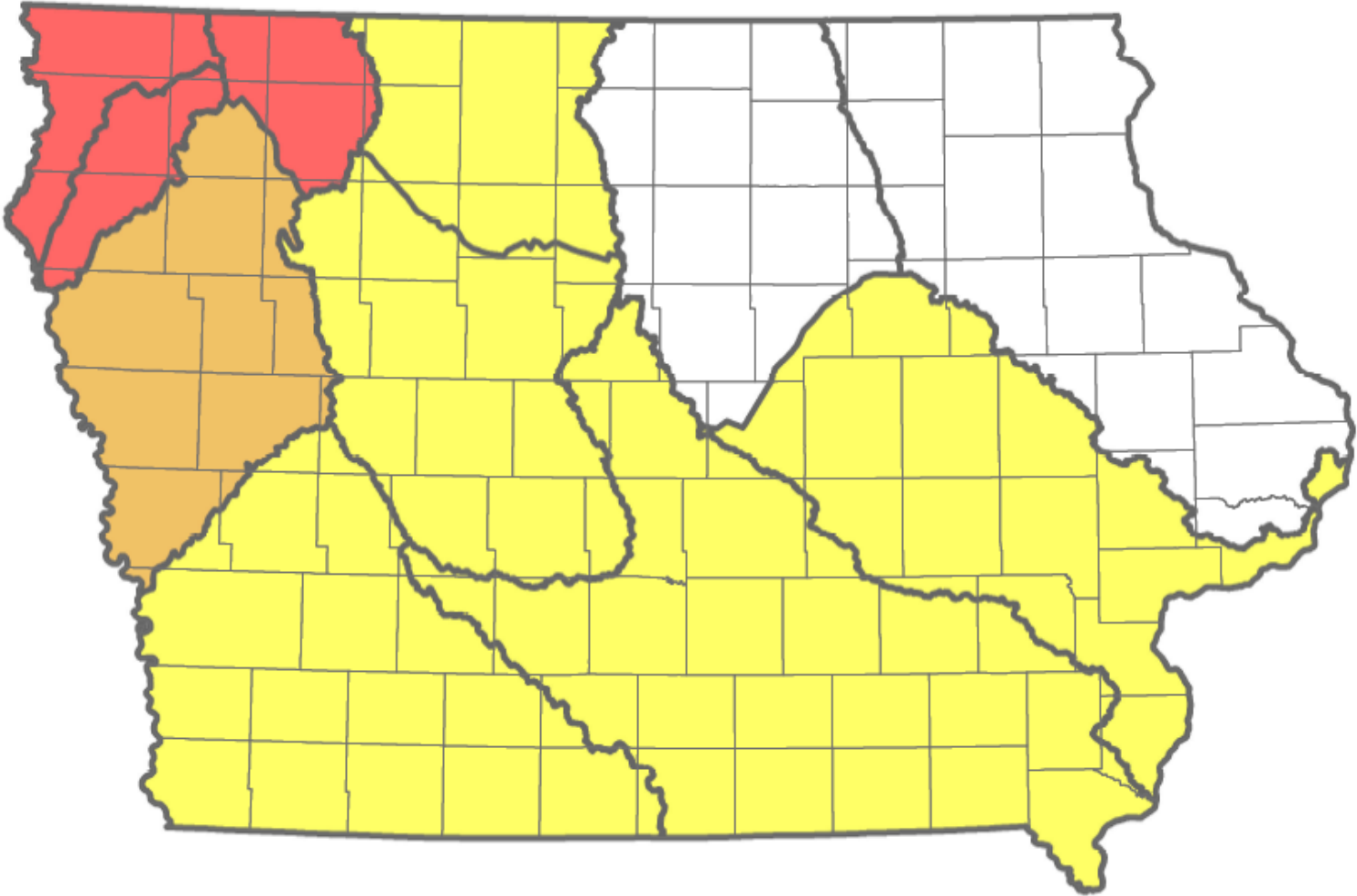


# *Drought Triggers Groundwater Impacts*



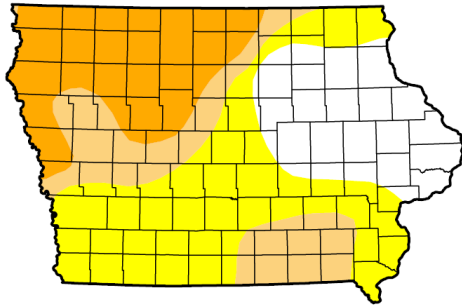
# Shallow Groundwater Drought Assessment May 20, 2014



Normal Slight Moderate Severe

# Drought in Iowa 2011 to 2014

## U.S. Drought Monitor Iowa



**November 15, 2011**  
(Released Thursday, Nov. 17, 2011)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
<b>Current</b>	22.20	77.80	41.83	23.87	0.00	0.00	
<b>Last Week</b> 11/8/2011	13.56	86.44	68.49	19.23	0.00	0.00	
<b>3 Months Ago</b> 8/16/2011	58.03	41.97	7.80	0.00	0.00	0.00	
<b>Start of Calendar Year</b> 1/6/2011	100.00	0.00	0.00	0.00	0.00	0.00	
<b>Start of Water Year</b> 9/27/2011	29.04	70.96	25.98	9.92	0.00	0.00	
<b>One Year Ago</b> 11/16/2010	100.00	0.00	0.00	0.00	0.00	0.00	

**Intensity:**  
■ D0 Abnormally Dry    ■ D3 Extreme Drought  
■ D1 Moderate Drought    ■ D4 Exceptional Drought  
■ D2 Severe Drought

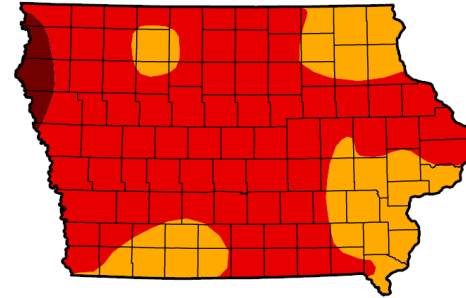
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Anthony Artusa  
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

## U.S. Drought Monitor Iowa



**October 2, 2012**  
(Released Thursday, Oct. 4, 2012)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
<b>Current</b>	0.00	100.00	100.00	100.00	75.31	2.52	
<b>Last Week</b> 9/25/2012	0.00	100.00	100.00	100.00	65.77	2.52	
<b>3 Months Ago</b> 7/3/2012	17.88	82.12	44.92	0.80	0.00	0.00	
<b>Start of Calendar Year</b> 1/3/2012	60.99	39.01	30.33	24.15	0.00	0.00	
<b>Start of Water Year</b> 9/25/2012	0.00	100.00	100.00	100.00	65.77	2.52	
<b>One Year Ago</b> 10/4/2011	17.09	82.91	43.02	9.92	0.00	0.00	

**Intensity:**  
■ D0 Abnormally Dry    ■ D3 Extreme Drought  
■ D1 Moderate Drought    ■ D4 Exceptional Drought  
■ D2 Severe Drought

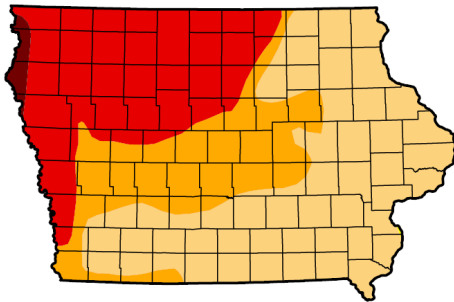
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Anthony Artusa  
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

## U.S. Drought Monitor Iowa



**March 5, 2013**  
(Released Thursday, Mar. 7, 2013)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
<b>Current</b>	0.00	100.00	99.97	53.85	32.05	1.23	
<b>Last Week</b> 2/26/2013	0.00	100.00	99.99	54.35	32.05	1.23	
<b>3 Months Ago</b> 12/4/2012	0.00	100.00	100.00	69.10	41.70	1.23	
<b>Start of Calendar Year</b> 1/3/2013	0.00	100.00	100.00	58.42	32.07	1.23	
<b>Start of Water Year</b> 9/25/2012	0.00	100.00	100.00	100.00	65.77	2.52	
<b>One Year Ago</b> 3/6/2012	61.22	38.78	30.10	19.87	0.00	0.00	

**Intensity:**  
■ D0 Abnormally Dry    ■ D3 Extreme Drought  
■ D1 Moderate Drought    ■ D4 Exceptional Drought  
■ D2 Severe Drought

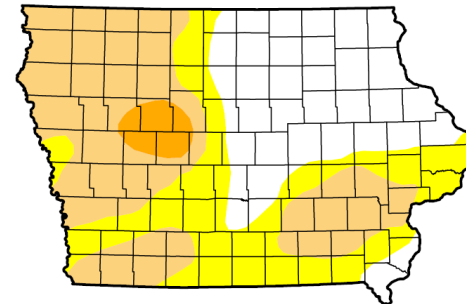
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Matthew Rosencrans  
CPC/NCEP/NWS/NOAA



<http://droughtmonitor.unl.edu/>

## U.S. Drought Monitor Iowa



**May 6, 2014**  
(Released Thursday, May. 8, 2014)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
<b>Current</b>	32.90	67.10	40.70	3.13	0.00	0.00	
<b>Last Week</b> 4/29/2014	32.90	67.10	37.23	3.13	0.00	0.00	
<b>3 Months Ago</b> 2/4/2014	14.04	85.96	52.56	19.70	0.00	0.00	
<b>Start of Calendar Year</b> 1/3/2014	23.40	76.60	52.56	19.70	0.00	0.00	
<b>Start of Water Year</b> 9/25/2013	5.32	94.68	78.89	38.39	1.76	0.00	
<b>One Year Ago</b> 5/7/2013	58.35	41.65	20.75	3.93	0.06	0.00	

**Intensity:**  
■ D0 Abnormally Dry    ■ D3 Extreme Drought  
■ D1 Moderate Drought    ■ D4 Exceptional Drought  
■ D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Mark Svoboda  
National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

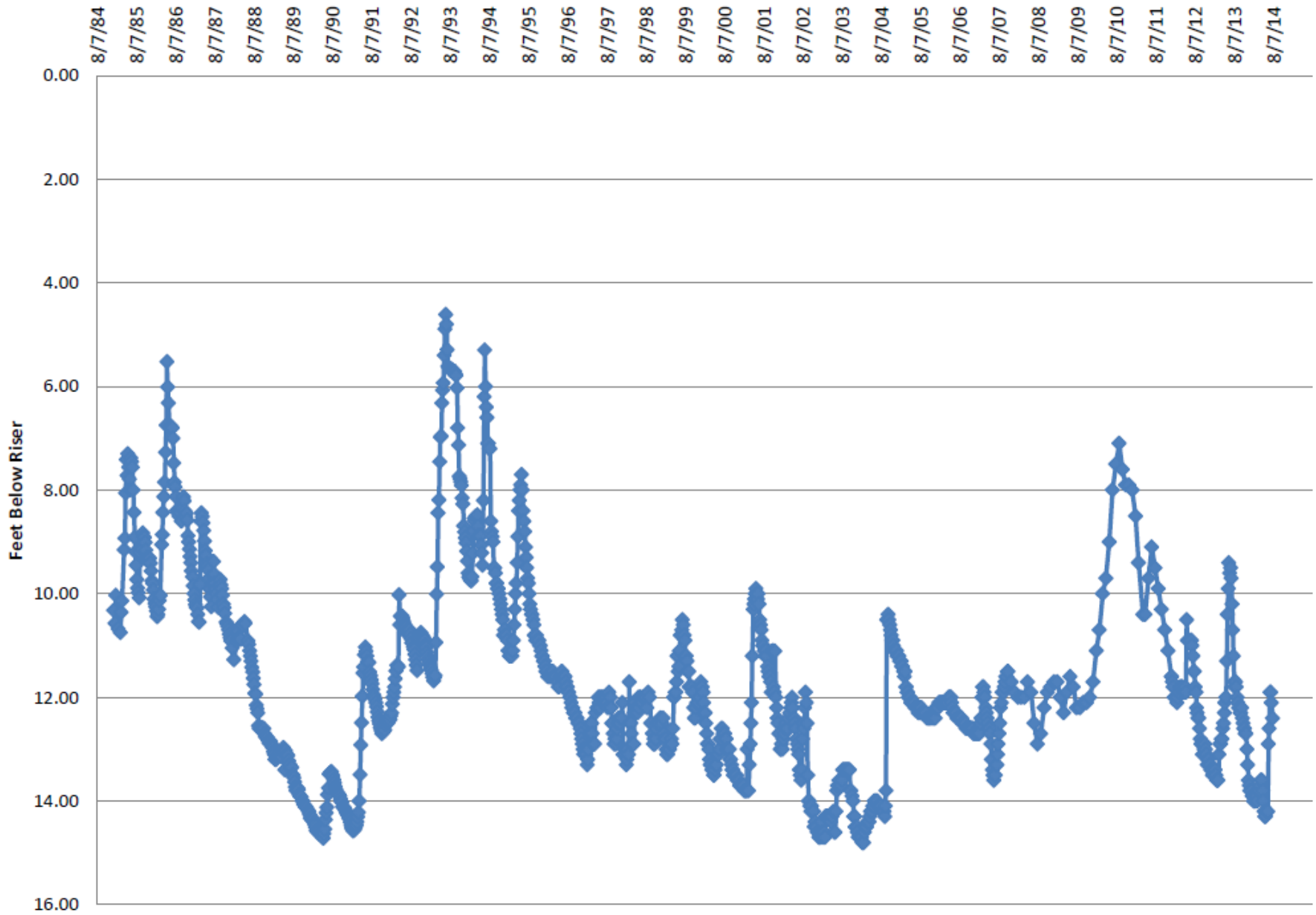
# ***Drought Triggers for Shallow Groundwater***

- 1. Very few long term historical groundwater elevations.**
- 2. A few USGS drought monitoring wells,**
- 3. Future plans to establish real time hydrologic monitoring network (bridge sensors, soil moisture probes, monitoring well network)**

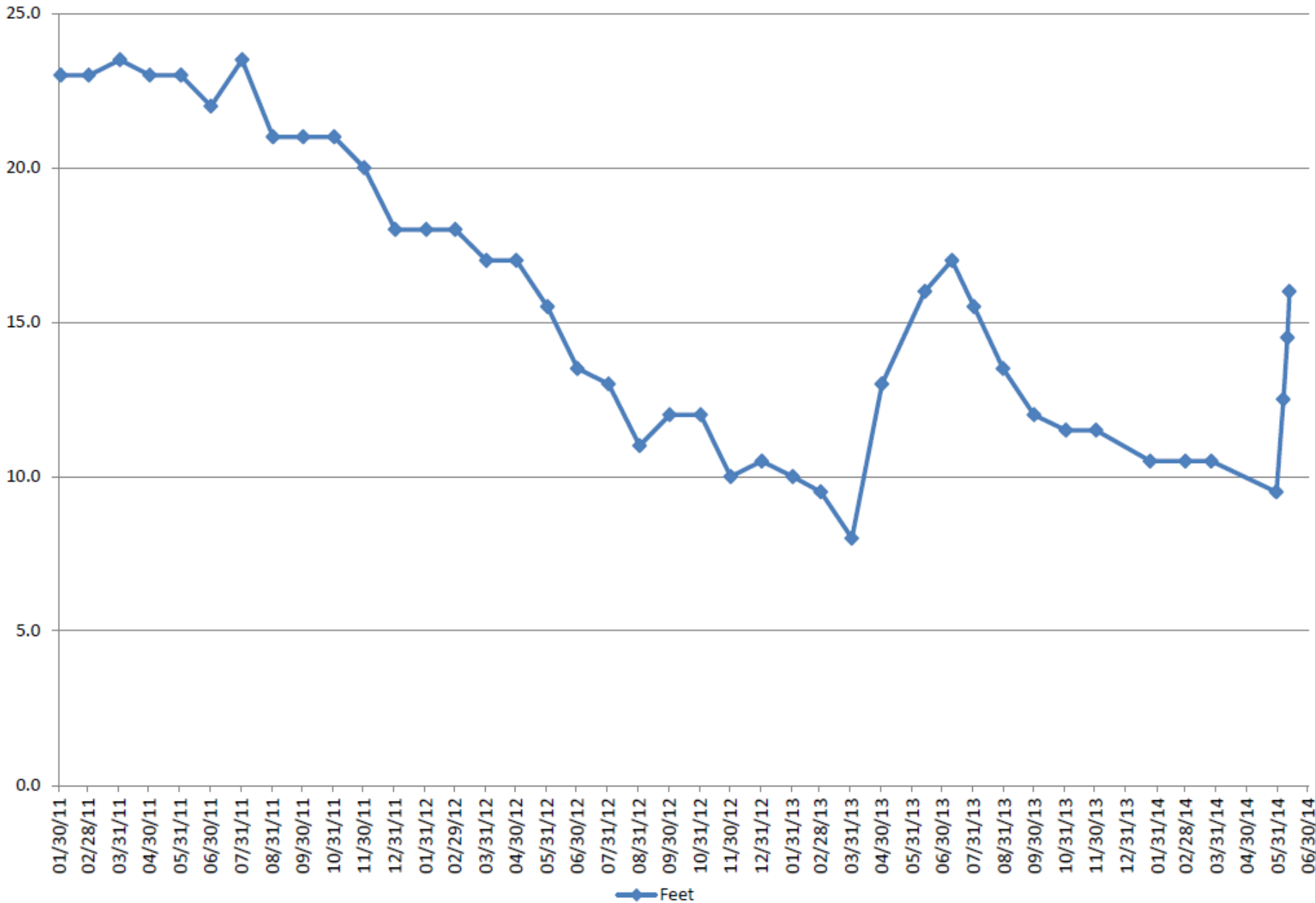
**REAL TIME DATA**



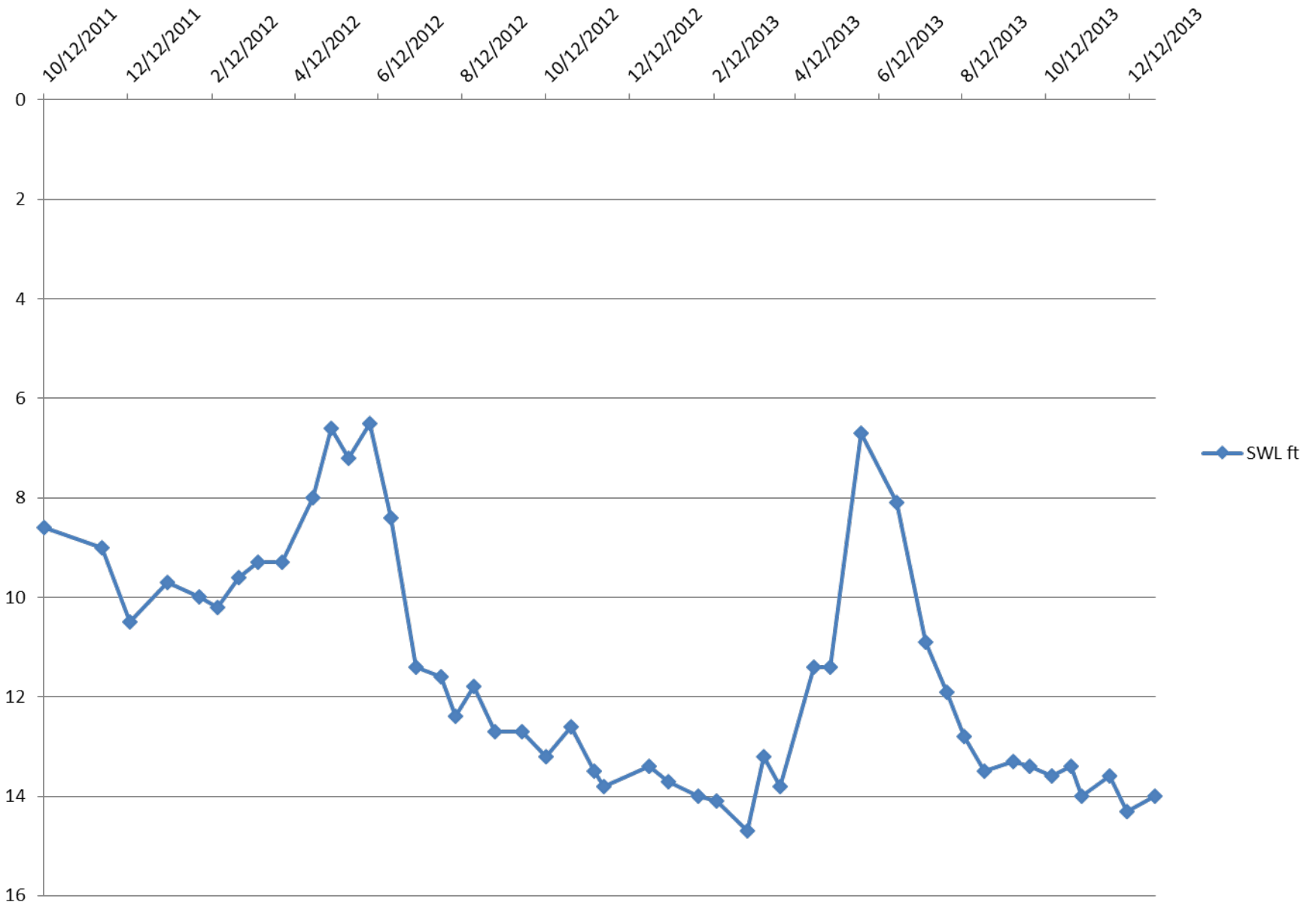
# Water Level Ob Well 6



# Rock Valley Rural Water Observation Well



# Osceola RW R-1 ObWell 1





**STATE OF IOWA**

Population	3,046,355
Land Area	55,872 sq mi



LEGEND

