

Illinois State Water Survey

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SOIL MOISTURE SUMMARY

December 5, 2008
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Soil moisture in Illinois at the end of November was generally slightly above normal to slightly below normal in all layers.

Precipitation during November was below to much below average across all of Illinois, especially in central areas, which recorded roughly one-third of normal precipitation. Consequently, near-surface soil moisture content fell below normal for the first time since February (Figure 1). In the 0- to 6-inch layer, values ranged from 60 percent of normal at Ina (Rend Lake) to 105 percent at DeKalb and Brownstown, with an anomalous value of 153 at Topeka. Conditions in the 6- to 20-inch layer were a little drier, varying from 33 percent at Springfield to 122 percent at Carbondale. Soil moisture in the 20- to 40- inch layer was above normal, except over central Illinois: 56 percent at Springfield and Topeka to 153 percent at Olney. Conditions varied the greatest in the 40- to 72-inch, ranging from 60 percent of normal at Topeka to 191 percent at Ina. Overall, soil moisture in Illinois at the end of November was below normal (Figure 2).

Compared to conditions at the end of October, changes in soil moisture at the end of November varied statewide, but generally were small (Table 1). Moisture in the 0- to 6-inch layer increased by 44 percent at Topeka and 24 percent at Olney, but decreased by 27 percent at Ina. Other sites reported changes under 13 percent. In the 6- to 10-inch layer, increases occurred at Brownstown, Carbondale, and Olney (11-18 percent), while changes at the remaining sites were 8 percent or less. Similarly, in the 20- to 40-inch layer all stations reported changes of 12 percent or less.

The extended climate outlooks issued by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climate Prediction Center for December call for below normal temperatures and equal chances of above, below, and normal precipitation across the state. Outlooks for climatological winter (December through February) call for above normal temperatures and equal chances of above, below, and normal precipitation statewide.

Table 1. Soil Moisture in Various Layers on December 1, 2008

<i>Location</i>	<i>Dec 1 0 - 6 (inches)</i>	<i>Change from Nov 1 (%)</i>	<i>Dec 1 6 - 20 (inches)</i>	<i>Change from Nov 1 (%)</i>	<i>Dec 1 20 - 40 (inches)</i>	<i>Change from Nov 1 (%)</i>
Freeport (NW)	2.2	3	5.1	-2	7.5	-1
DeKalb (NE)	2.1	-1	5.3	-1	7.5	-2
Monmouth (W)	1.7	8	4.3	-3	7.0	-3
East Peoria (C)	2.1	-3	5.2	-2	7.8	-1
Topeka (C)	1.4	44	2.6	1	2.5	-3
Stelle (E)	1.7	-11	4.8	-7	6.9	-11
Champaign (E)	1.8	13	5.1	-2	7.1	-2
Bondville (E)	1.7	-10	4.9	-5	7.6	-1
Perry (WSW)	2.1	-7	4.8	-6	7.3	-3
Springfield (WSW)	1.7	-11	4.2	-3	7.1	-2
Brownstown (ESE)	2.2	0	5.1	11	7.3	-12
Olney (ESE)	1.8	24	4.4	18	7.3	2
Belleville (SW)	1.8	9	4.7	2	7.6	0
Carbondale (SW)	2.2	12	5.0	11	7.8	8
Ina (SE)	1.5	-27	4.9	-3	7.0	-9
Fairfield (SE)	1.6	6	5.1	8	7.9	5
Dixon Springs (SE)	2.2	11	5.4	4	7.9	1



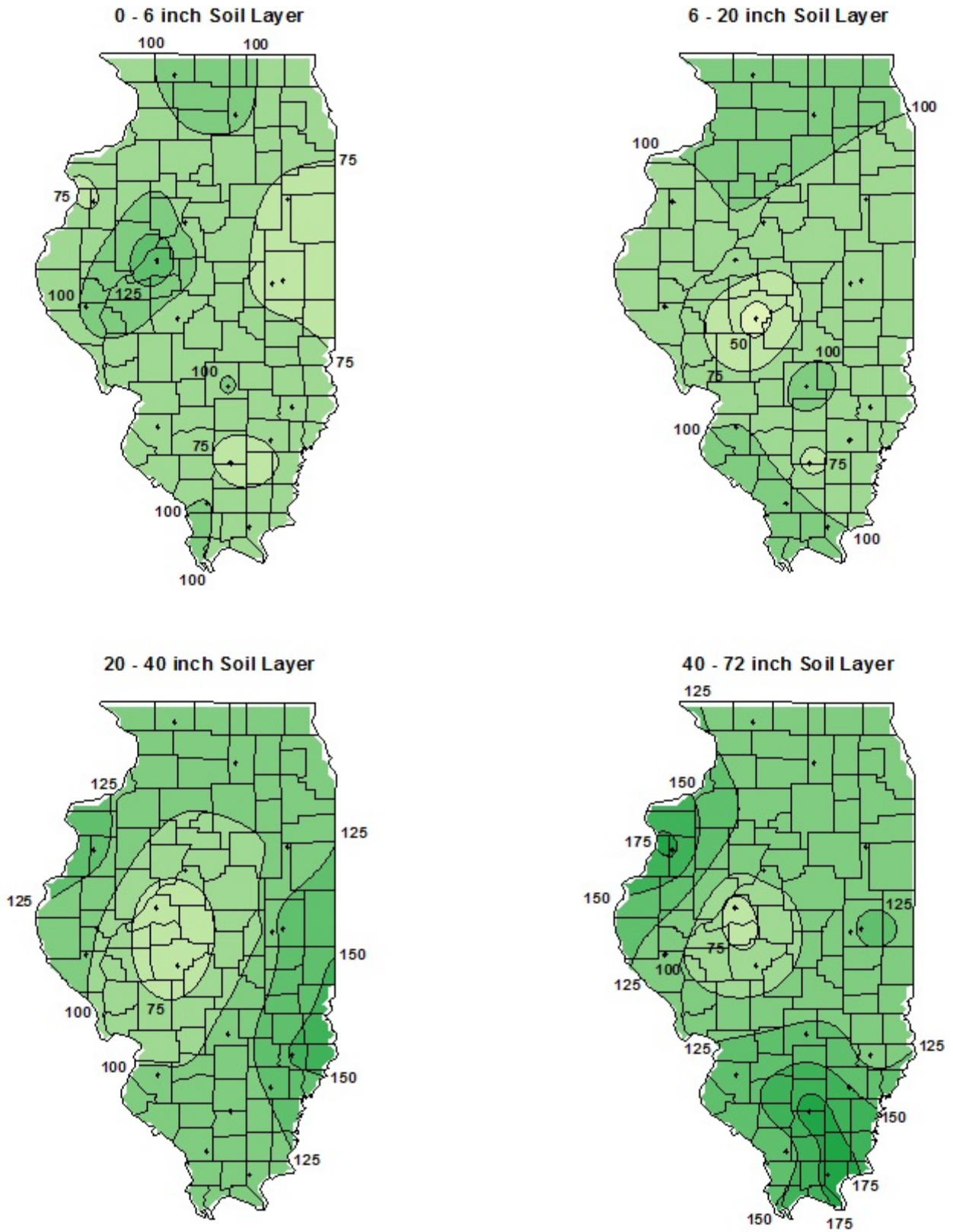


Figure 1. December 1, 2008 observed percent of normal soil moisture based on 1985-1995 mean.

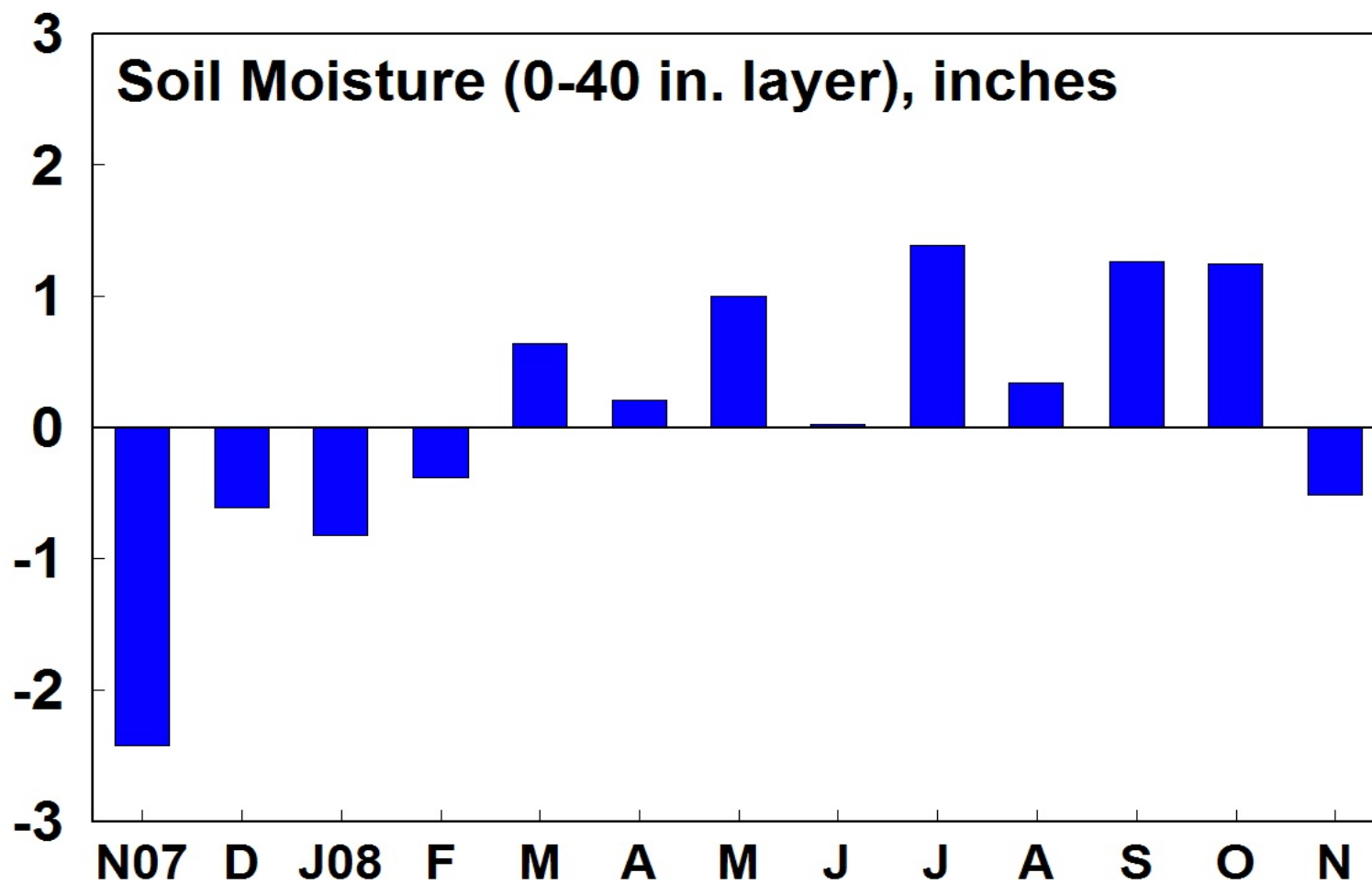


Figure 2. Illinois soil moisture departures from normal (1985-1995 mean).