



Lesson 8 - Monitoring Drought

Monitoring Drought

Estimated Lesson Time: 15 minutes

Introduction

Drought is a complex issue and requires an assessment from many aspects. The doctor looks at more than your temperature to determine your illness. The doctor looks at your symptoms as well. The same approach is taken by drought decision-makers.

Drought creates severe impacts on the economy, such as crop failures, water shortages, and increases in wildfires. In fact, drought is one of the most costly U.S. natural disasters. Congress has appropriated approximately \$30 billion in drought relief since 1988. Drought can increase the cost of food, and require cities to enforce water restrictions.

In order to monitor drought, we have to pay attention to the indicators. Precipitation is the key indicator for vegetation growth and water resources. Temperature effects are also important, but precipitation dominates. Precipitation is easy to calculate to determine departure from normal precipitation.

The U.S. Drought Monitor, a national drought map, includes several characteristics to determine the severity of a drought: the drought's magnitude (duration + intensity), spatial extent (how widespread), how often similar conditions occur, and its impacts. The U.S. Drought Monitor rates drought intensity with a ranking from D0 - D4. These ratings are used to determine drought assistance. The longer a time at a higher rating, the more assistance has traditionally been provided.

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U.S. Drought Monitor Activity

Reading the U.S. Drought Monitor Map

The Dryness and Drought Intensity Categories are:

D0 = Abnormally Dry ... It is used for areas showing dryness but not yet in drought, or for areas recovering from drought. Going into drought: there is short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.

D1 = Moderate Drought ... Some damage to crops, pastures, streams, reservoirs, or wells low; some water shortages developing or starting to take place; voluntary water-use restrictions requested.

D2 = Severe Drought ... Crop or pasture losses likely; water shortages and restrictions common.

D3 = Extreme Drought ... Major crop/pasture losses; widespread water shortages or restrictions.

D4 = Exceptional Drought ... Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams and wells creating water emergencies.

Drought or Dryness Types

A ... Agricultural (crops, pastures, grasslands)

H ... Hydrological (water supplies - rivers, groundwater, reservoirs)

Questions using provided maps

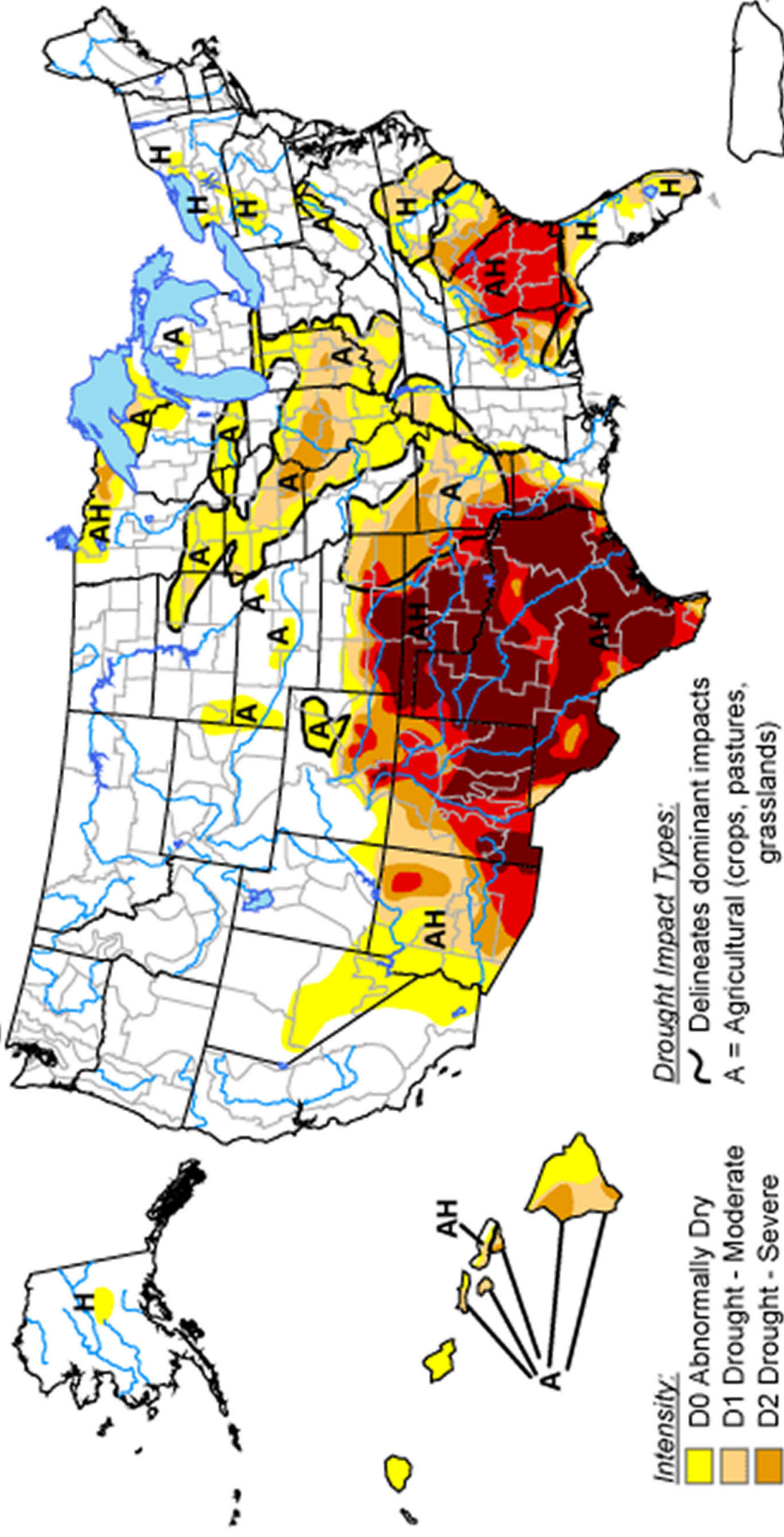
1. Looking at the national U.S. Drought Monitor map from September 6, 2011 on the next page, what region is primarily in a D4 category drought?
2. Looking at the region map, what two states are primarily in a D4 category drought?
3. Looking at the Oklahoma map, what category (categories) of drought is your county under?

Answers: 1.) Southern Region 2.) Oklahoma and Texas 3.) Answers will vary

U.S. Drought Monitor

September 6, 2011

Valid 8 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions.

Local conditions may vary. See accompanying text summary for forecast statements.



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<http://drought.unl.edu/dm>

U.S. Drought Monitor

September 6, 2011

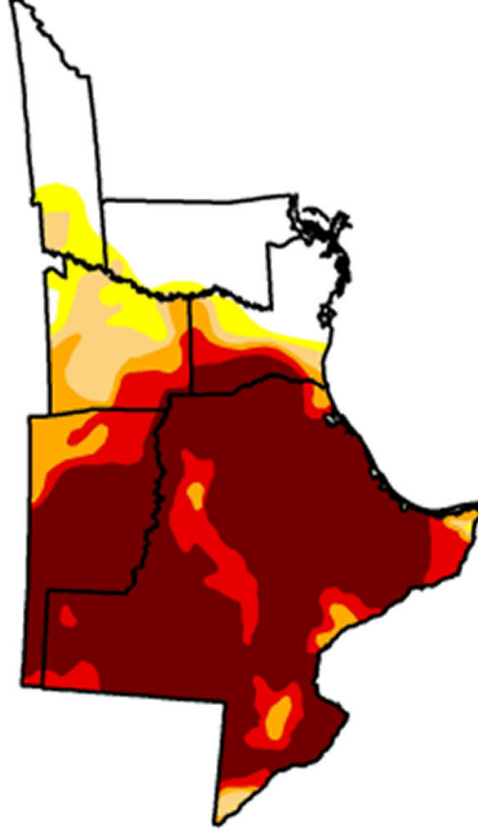
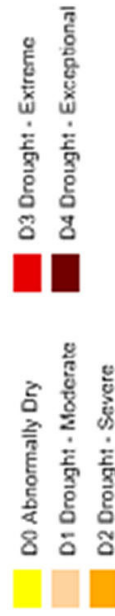
Valid 7 a.m. EST

South

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.36	81.64	76.27	70.39	63.73	51.88
Last Week (08/30/2011 map)	2.44	97.56	85.82	75.52	66.34	53.74
3 Months Ago (06/07/2011 map)	21.94	78.06	72.36	64.67	54.75	32.36
Start of Calendar Year (12/28/2010 map)	8.86	91.14	67.65	35.21	10.17	0.00
Start of Water Year (09/28/2010 map)	54.23	45.77	20.04	6.79	0.83	0.00
One Year Ago (08/31/2010 map)	49.96	50.04	21.81	3.45	0.83	0.00

Intensity:



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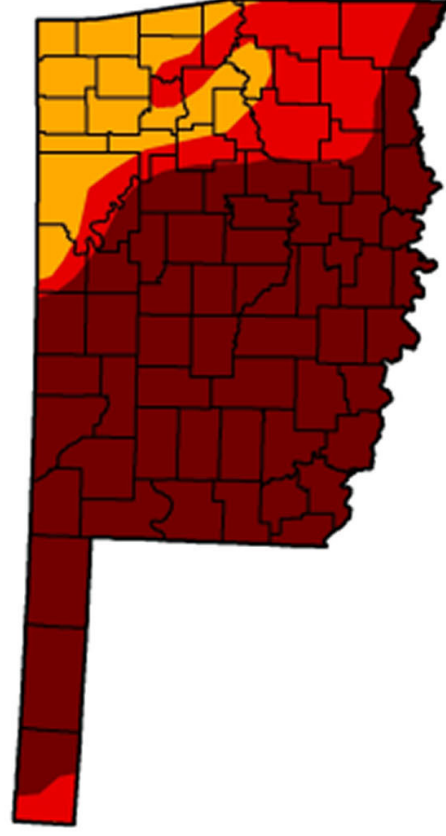
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	100.00	85.44	69.15
Last Week (08/30/2011 map)	0.00	100.00	100.00	96.64	85.37	69.15
3 Months Ago (06/07/2011 map)	22.11	77.89	59.26	42.32	33.11	9.90
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/28/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00
One Year Ago (08/31/2010 map)	42.29	57.71	36.20	0.00	0.00	0.00

Intensity:



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