

OUTLOOK FOR Fall 2010 INDIANA WILDLAND FIRE SEASON September 17, 2010



FIRE CONTROL HEADQUARTERS

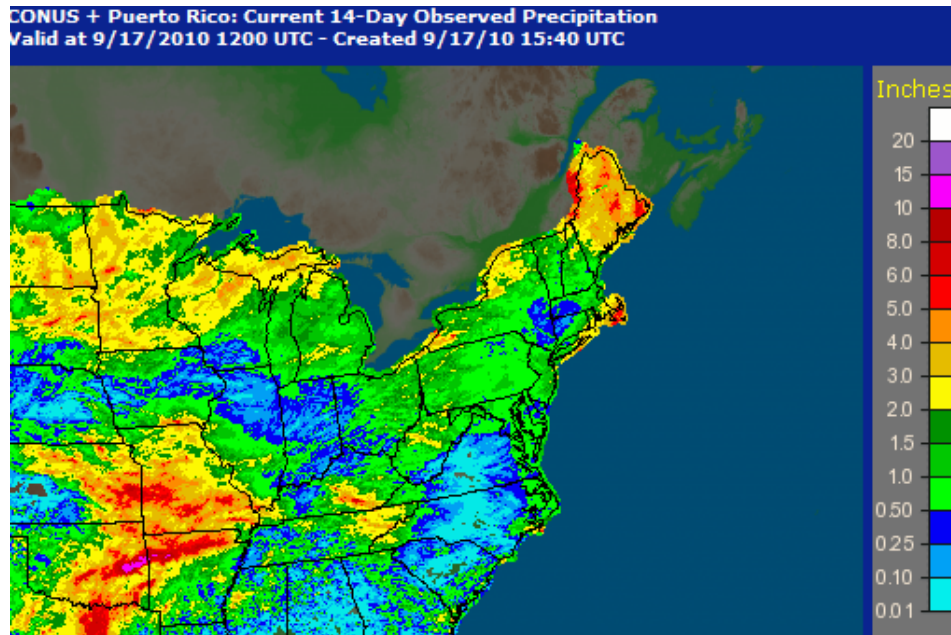
Update #1

EXECUTIVE SUMMARY

Historic data from the National Weather Service office in Indianapolis indicates that we are approaching a significant dry spell. Data indicates that we have to go back to the summer of 1988 to find a longer dry period. The current outlook is for the above normal temperatures and below normal precipitation to continue. If present forecasts pan out, fire danger will increase rapidly. Fire occurrence in agricultural fuel types and along roadsides is above normal for this time of the year with some of the fires proving problematic to suppress. Canopy cover in timber fuel types is providing both shading and sheltering preventing significant fire behavior in leaf litter fires. Early leaf fall is occurring and the persistent dry heat will accelerate fires transitioning into timber fuels. Burn bans on the county level are increasing in number as the recent precipitation provided little relief. Northern sections of the state have some chances of rain in the near-term which will check fire danger. The chances of rainfall in the southern half of the state are slim in the near-term and increasing fire danger is expected. Fuel moistures and other wildland fire severity indicators including the Keetch-Byram Drought Index are approaching levels that have been observed in the recent significant wildland fire years of 1988 and 1999. All measures of fire occurrence and severity are indicating significant probability of an aggressive start to the fall fire season in Indiana.

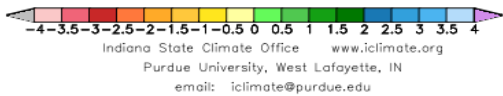
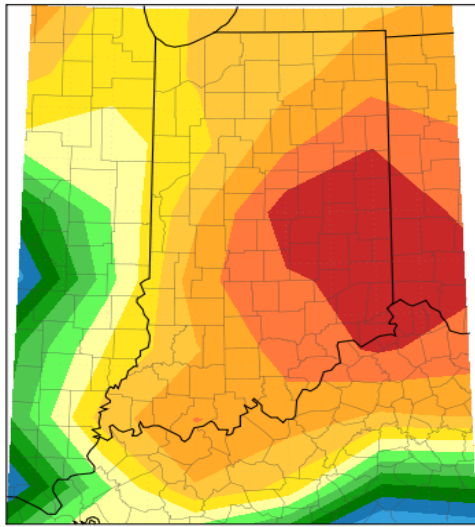
PRECIPITATION

The month of September is typically the driest month of the year, and thus far September is remaining primarily dry across the state. The southern half of the state received little relief from tropical storm Hermine and the best chance of rain in the past week passed through delivering primarily trace amounts in many areas. The Northern portions of the state have dried down, however remain primarily green due to more frequent precipitation. The 14-day observed precipitation map below paints an accurate picture of the last two precipitation systems to pass through and the fact that we have received little relief. Combine this snapshot of precipitation with the lack of precipitation in August and we have entered into a significant dry period.

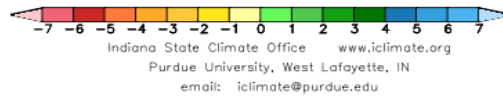
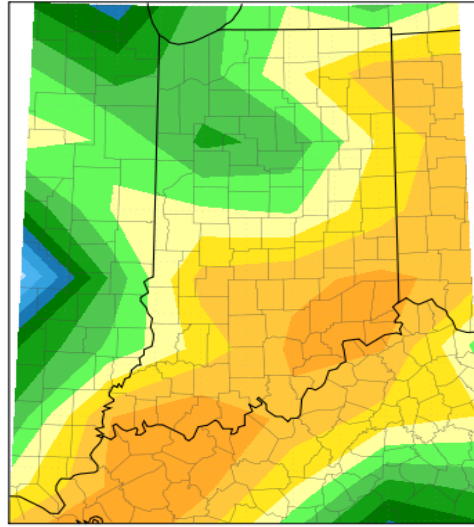


The current seven day forecasts show little chance for precipitation for the southern half of the state and a couple of better chances for the north. The 30-day precipitation outlook indicates that the entire state will be below normal chances for precipitation. The indicated negative values of normal precipitation over the past ninety days in the graphic below combined with the below normal outlook results in a need for a long duration significant rainfall to alleviate the building threat of wildland fire.

Total Precipitation (inches): Departure from Mean
August 18, 2010 to September 16, 2010



Total Precipitation (inches): Departure from Mean
June 19, 2010 to September 16, 2010



FUELS

Live fuel moistures have dropped since the last report due to the lack of rainfall and relatively low relative humidities. This is in part due to seasonal effects, but primarily due to the persistent dry conditions. The drop in live fuel moistures is indicative of a cumulative effect of the extended period of reduced precipitation. Dead fuel moistures have also dropped with 100 hr. and 1,000 hr. fuels approaching levels of concern. Below is a comparison of observations between 1999 and 2010 for the same period taken at Hardin Ridge in Monroe County (1999 being a year of significant fire occurrence and severity). These figures are fairly indicative of returns in much of the southern half of the state.

	<u>10 hr.</u>	<u>100 hr.</u>	<u>1000 hr.</u>	<u>Woody Fuels</u>	<u>Herbaceous Fuels</u>	<u>KBDI</u>
1999	5.2%	14.7%	15.3%	70%	5%	693
2010	7.8%	15.7%	16.7%	70%	6%	686

Given the forecast on hand all fuel classes, especially in areas south and in the vicinity of US 36, will continue to fall into levels that that will support active fire behavior. Leaf wilt and leaf abortion will progress creating increased build-up of fine fuels in timbered fuel types. Over the next two weeks fires will probably begin to actively transition into timbered areas as both shading and sheltering is reduced.

The fine dead fuels (1 hour) and 10 hour fuels will be the predominant carrier of a flaming front. Expect 100 hour fuels to combust given adequate fuel heating provided by both 1 and 10 hour fuels. 1000 hour fuels will char and smolder persistently in sheltered areas and actively combust in un-sheltered areas creating extended mop-up and patrol conditions should fire occurrence increase. One hour fuels will dry quickly with sunshine and lower relative humidity, the 10 hour fuels will take a full day to react to ambient weather conditions dependant upon whether we are entering a drying period or a wetting period.

FIRE BEHAVIOR

With current conditions expect 6 inch – 1.5 foot flame lengths in leaf litter and 1-6 foot flame lengths in typical grass fuels. Agricultural fuels in both harvested and standing crop fields will produce problematic fire behavior under present conditions. Wind above 10 mph. will create conditions that will support quick fire growth in grass and agricultural fuel types.

DROUGHT CONDITION SUMMARY

The current U.S. Drought Monitor indicates that the portion of Indiana south of Interstate 74 and counties immediately north are in a “D0” drought indicating that conditions are at the abnormally dry level. The southeast third of the state has been elevated to “D1” or moderate drought conditions.

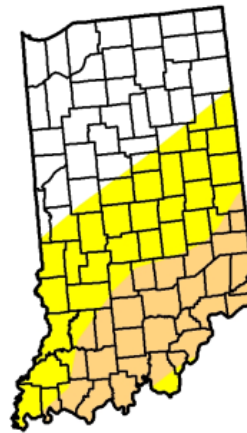
U.S. Drought Monitor Indiana

September 14, 2010
Valid 7 a.m. EST

	<i>Drought Conditions (Percent Area)</i>					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.6	61.4	25.9	0.0	0.0	0.0
Last Week (09/07/2010 map)	38.7	61.3	0.0	0.0	0.0	0.0
3 Months Ago (06/22/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	57.5	42.5	0.0	0.0	0.0	0.0
One Year Ago (09/15/2009 map)	93.0	7.0	0.0	0.0	0.0	0.0

Intensity:

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



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

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



Released Thursday, September 16, 2010
Author: M. Rosencrans, CPC/NOAA

The best index measure of drought for wildland fire related purposes is the Keetch-Byram Drought Index (KBDI). This index is a measure of moisture deficiency in the duff and upper soil levels based upon current and recent weather conditions and the resulting relationship to potential fire behavior. The index is a number ranging from 0 – 800 with “0” indicating no moisture deficit and “800” indicating the maximum drought possible.

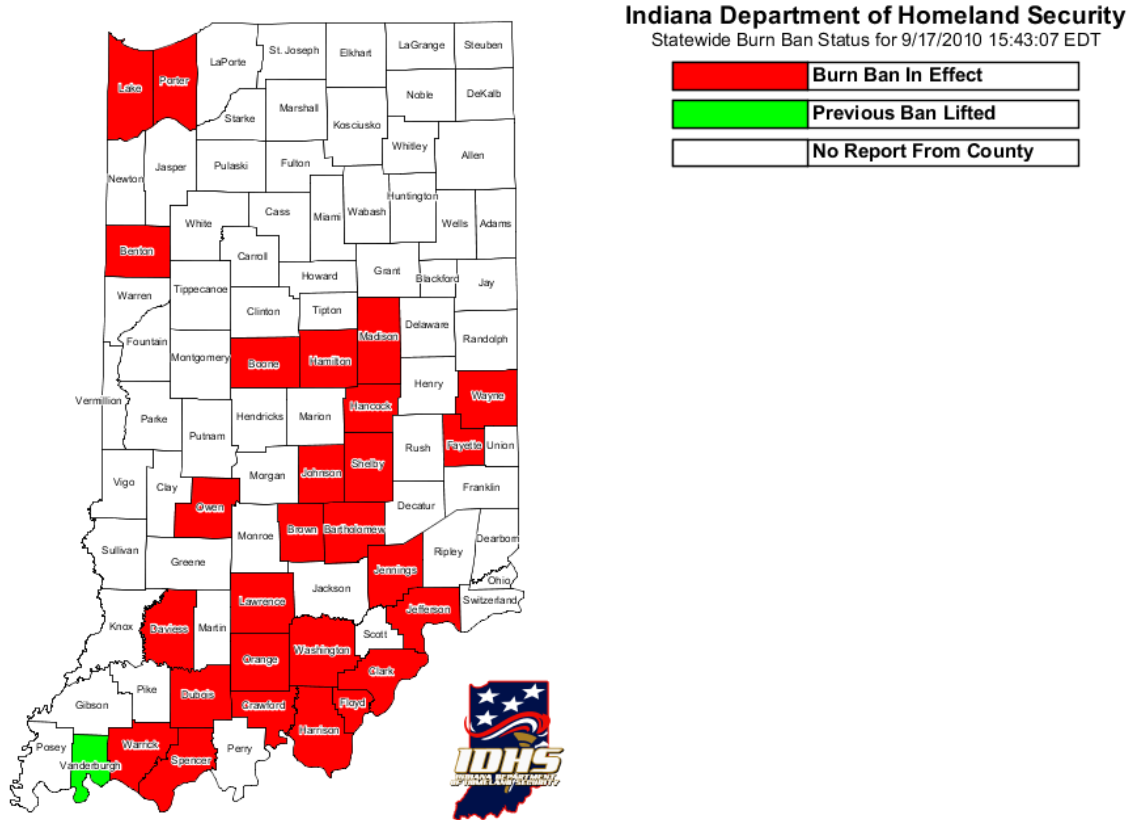
****Presently KBDI ranges from approximately 300 in Northern Indiana to 686 in Southern Indiana.**

****KBDI above 500 indicates that fires will begin to burn more aggressively. At 600, expect fires to burn aggressively and consume duff and organic soil layers resulting in intensive mop-up and follow-up patrols.**

NARRATIVE

Current outlooks indicate that there is a good chance that much of the state will experience well above normal temperatures and below normal precipitation for the next thirty day period. This will only intensify existing conditions. The warm and windy days will pose an added threat of both fire occurrence and severity. Presently, canopy cover is preventing fire behavior in timber fuel types from becoming problematic. Several tree species are beginning to shed leaves and the higher, drier ridges in southern Indiana have oak and hickory stressed to a point where green leaves are being shed. Of note, these conditions are conducive to an elevated re-burn potential as any timber fires will cure foliage and encourage leaf fall. Fire occurrence is more frequent than normal for this time of the year with agricultural fires dominating as the area of origin. Fire personnel need to take precautions as fire behavior should be expected to be well above normal.

At this time, twenty-seven (27) counties have registered active burn bans with the Indiana Department of Homeland Security. While many of the bans still permit attended fires in fire rings, some are restrictive of all open burning. Please check with your local authorities to assess actual restrictions.



NOTICE: Burn ban status information is provided by each county's emergency management agency.

The preceding is an assessment of current climatic and fuels observations taken around the State that have the potential to influence the severity of fire season severity. Information to produce this assessment has been pulled from many resources including (but not limited to): National Oceanic and Atmospheric Administration, National Weather Service, Indiana State Climate Office, USDA Forest Service and Cooperator RAWs sites. The above information is not an official forecast, however should be considered for planning and preparation purposes.