



# MAY 1-2, 2010



## Summary

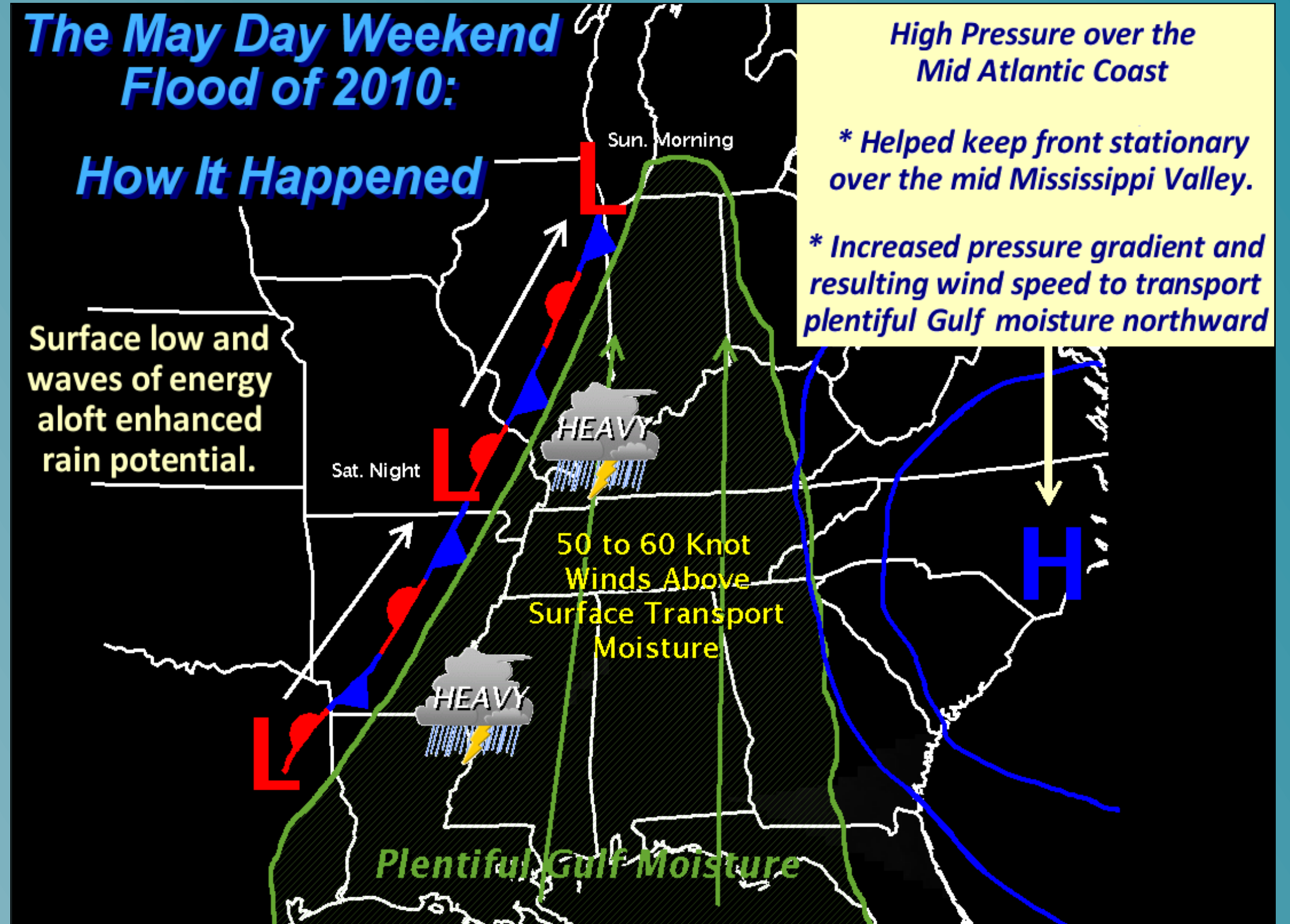
On May 1-2, 2010, a widespread flooding event impacted much of western Kentucky and Tennessee. Several synoptic-scale factors promoting atmospheric lift along with high moisture content from the Gulf of Mexico created the perfect setup for an excessive rainfall event. A southerly low-level jet (50-60 knots) originating in the tropical waters of the Caribbean brought warm, moist air as far north as Canada. Located to the west of high pressure along the East Coast, the low-level jet impinged on a stalled frontal boundary, which caused copious rainfall and high precipitation totals over the area.

Some locations in Tennessee saw as much as 20 inches of rain, while areas in Kentucky had up to 10 inches. Western Kentucky experienced significant flooding in rural areas and in major cities, like Bowling Green. Many river systems and creeks ranked within the top 10 for record flood crests. Damages in Kentucky totaled about 30 million dollars. Declarations of Emergency were issued in 83 Kentucky counties.

## The May Day Weekend Flood of 2010:

### How It Happened

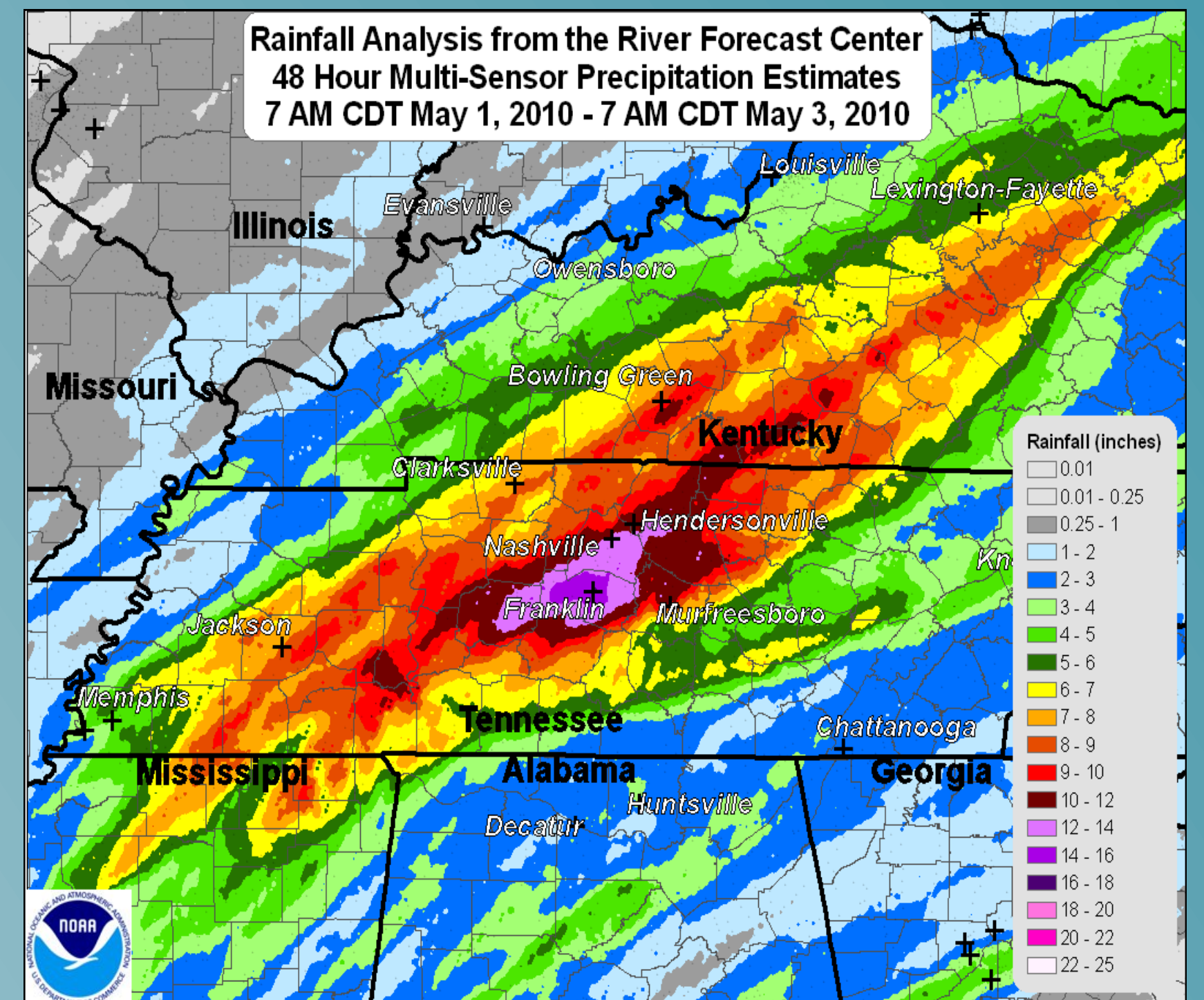
Surface low and waves of energy aloft enhanced rain potential.



River/Location	Flood Stage	Crest/Date	Rank	Highest Since
Stoner Creek at Paris	20 ft	26.15/5-3	3rd	1997
S Fork Licking River at Cynthiana	20 ft	21.92/5-4	9th	1997
Licking River at Blue Licks Springs	25 ft	40.95/5-5	6th	1997
Kentucky River at Ford	26 ft	32.30/5-3	10th	2003
Kentucky River at High Bridge	30 ft	42.60/5-3	3rd	1978
Kentucky River at Frankfort	31 ft	42.84/5-3	5th	1997
Rolling Fork River at Boston	35 ft	50.74/5-5	6th	1997
Rough River at Dundee	25 ft	28.72/5-3	14th	2008
Barren River at Bowling Green	28 ft	43.69/5-3	5th	1962
Green River at Munfordville	28 ft	51.88/5-4	5th	1984
Green River at Brownsville	18 ft	37.50/5-5	5th	1984
Green River at Woodbury	33 ft	49.52/5-5	6th	1984
Green River at Rochester	17 ft	28.60/5-7	9th	1997

## Impacts

- River flooding and flash flooding
- State of Emergency declared in 83 Kentucky counties
- Estimated 30 million dollars in damage in Kentucky
- Hundreds of roads blocked by water and debris
- 5 flood-related fatalities in Kentucky
- Severe storms and 1 tornado

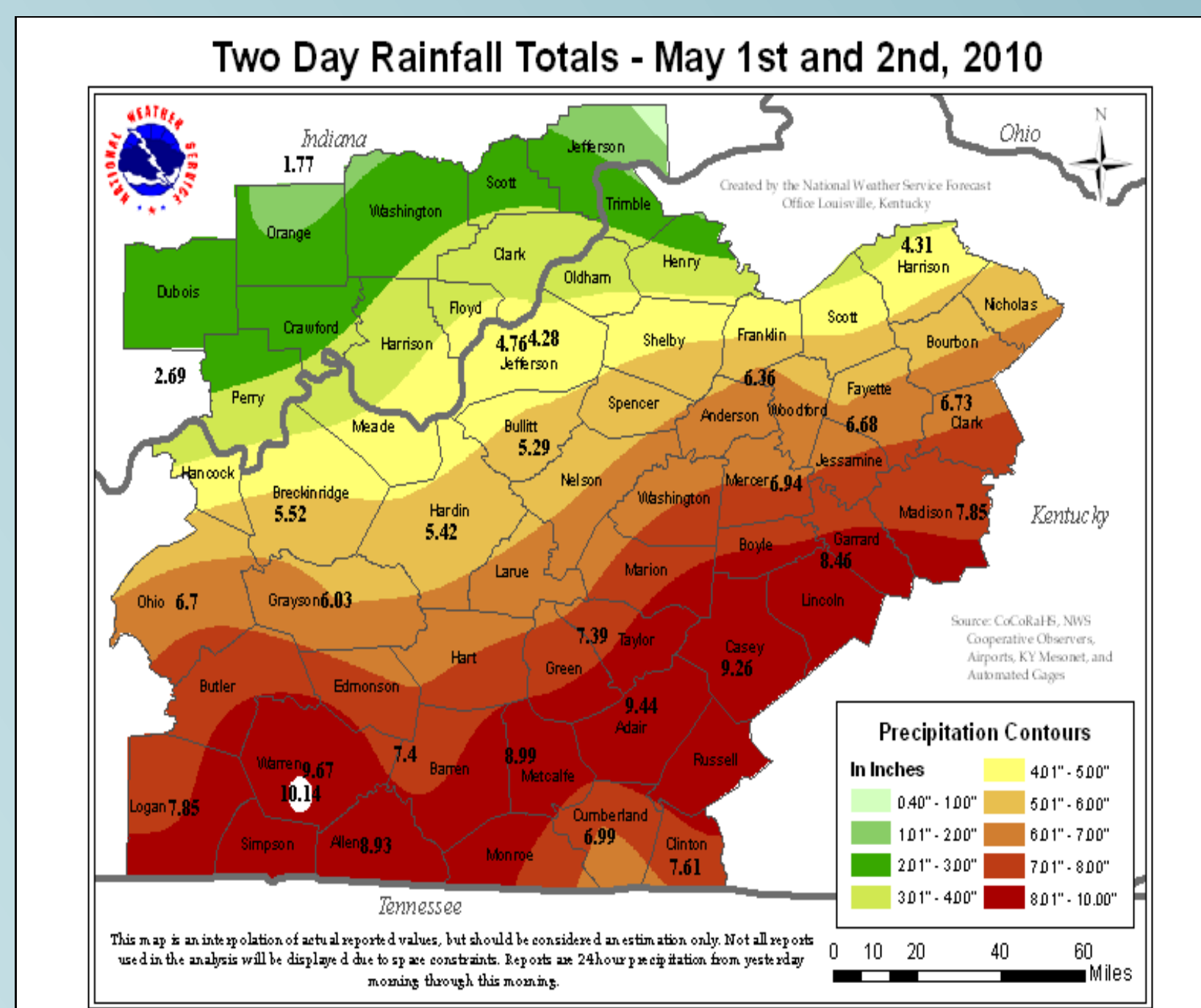


Significant flooding occurred due to high crests on major rivers. The table above lists the affected rivers in Kentucky. Dunham Lake Dam in Metcalfe County (above) experienced structural damage and almost breached due to high water levels. River flooding also affected county roads near river beds, shown below (Roseville Road, Barren County).



**"It was one of the most unique flooding situations in Warren County history."**

**- Ronnie Pearson, Warren County KY Emergency Manager**



Two-day rain totals for the event. Warren County saw the most with over 10 inches, with 8-10 inches (shown in red) from Warren County northeastward into Metcalfe, Adair, Casey, and Lincoln counties. This included Barren River, Green River, Kentucky River, and Cumberland River, all of which flooded in the event.



Heavy rainfall amounts and rates brought flash floods to residential areas and farmland. Many homes and structures were damaged. Pictured above is a residential area in Hunters Crossing, KY where water levels exceeded several feet. Below, first responders in Allen County rescue a man washed off the road during flash flooding.



# FLOOD