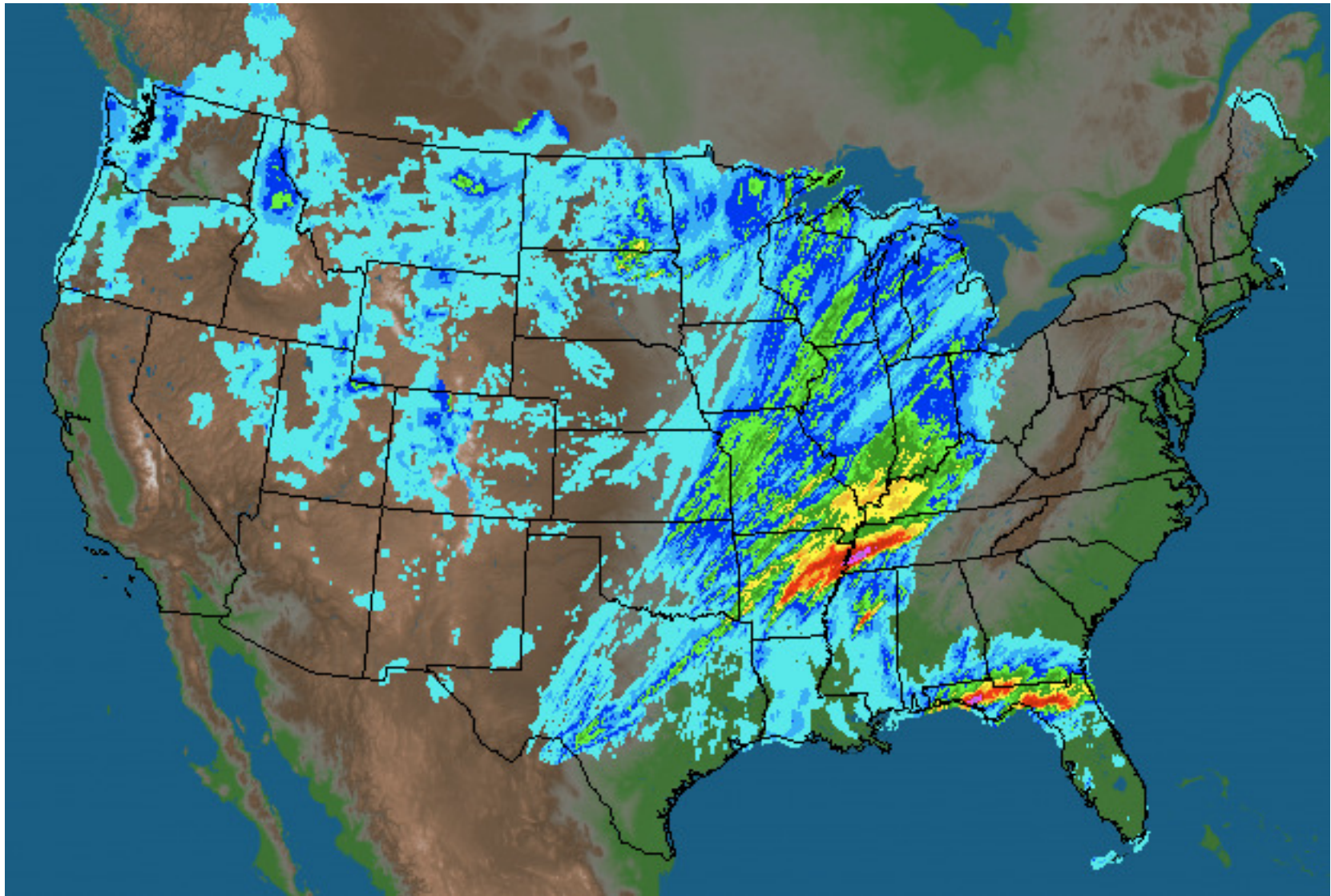


The 2010 Nashville Flood

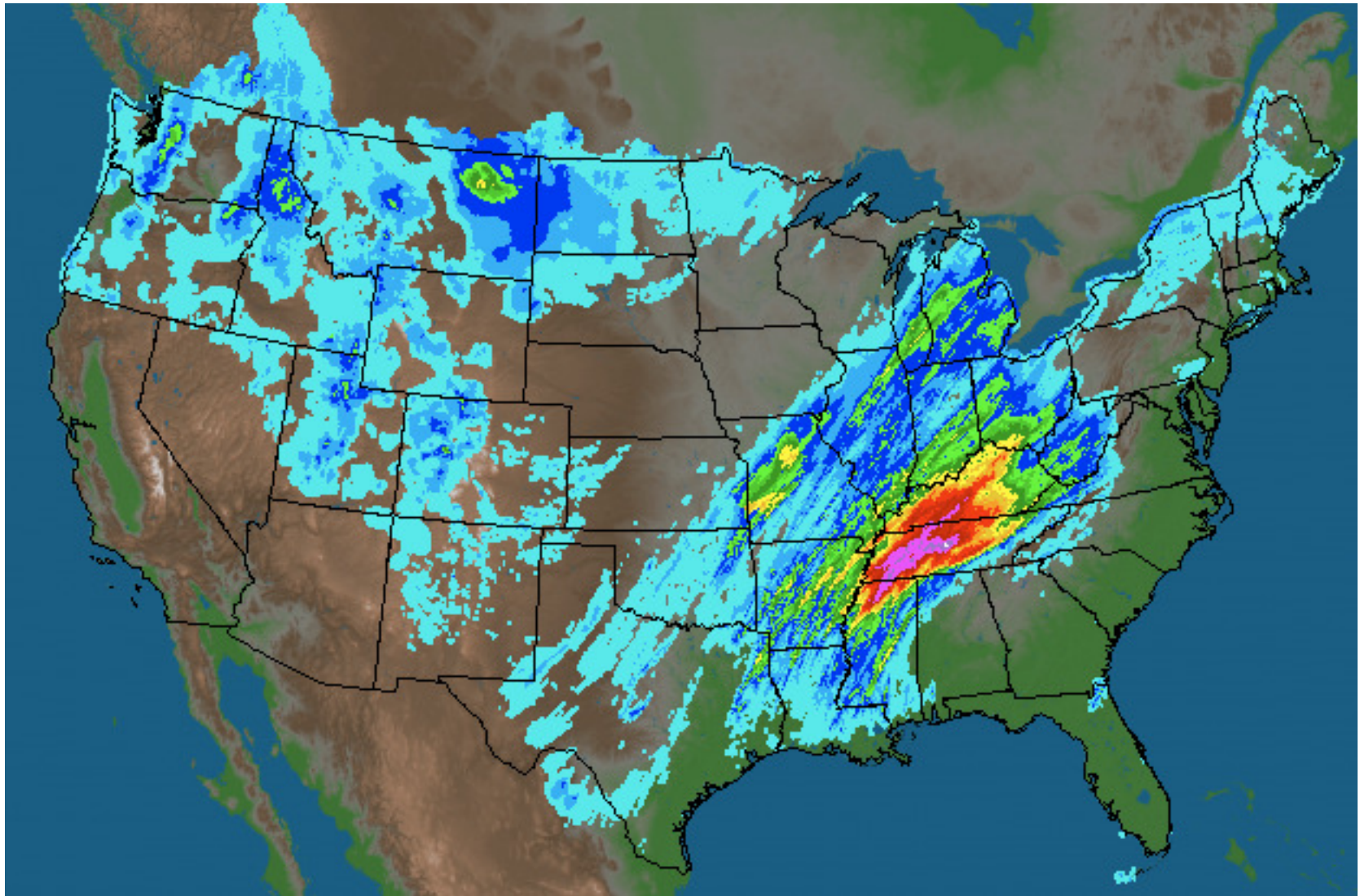


Photo by The Tennessean

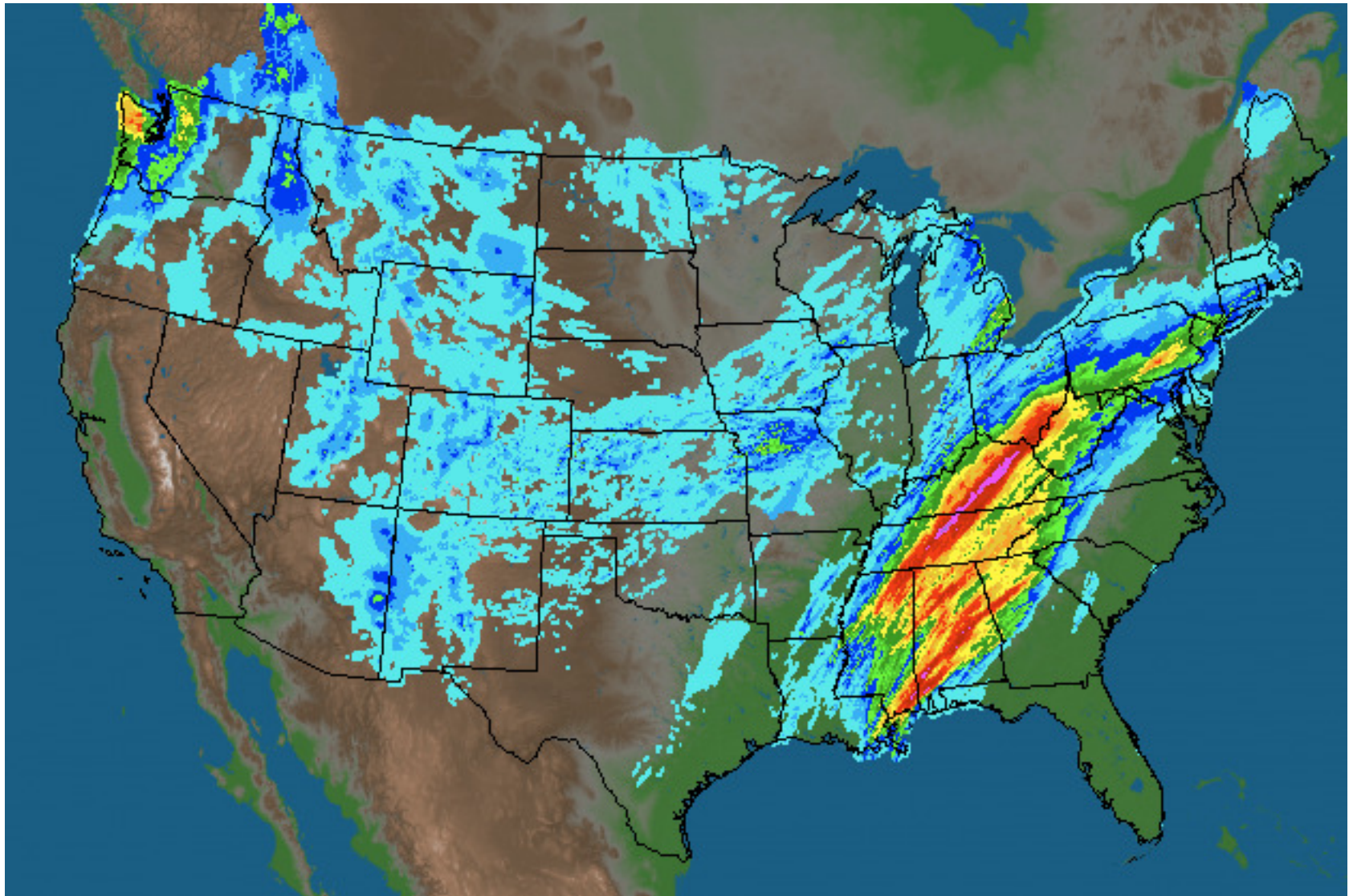
Friday, April 30th



Saturday, May 1st



Sunday, May 2nd



Monday, May 3rd



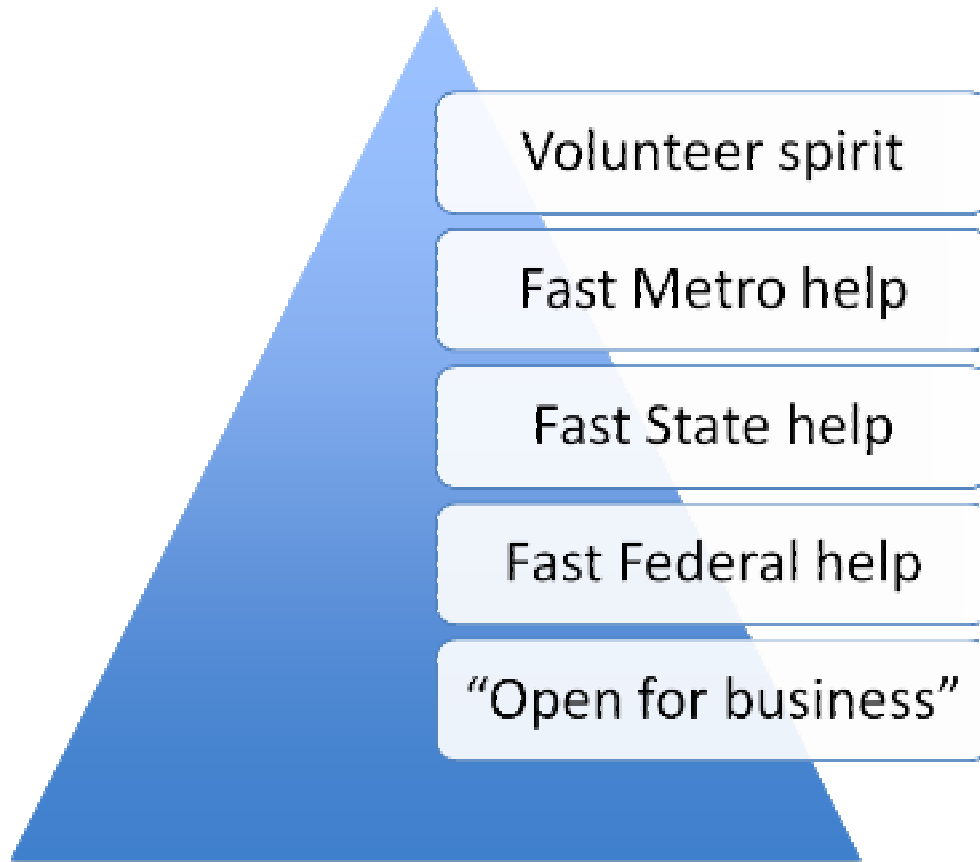
Photo by The Tennessean

Photo by The Tennessean



Best community response ever.
WE ARE NASHVILLE.

Path to recovery



The federal “alphabet soup”

1. Private insurance (if any)
 2. FEMA registration, emergency aid
 3. SBA loan application (for non-business too!)
 4. IRS tax refunds due to losses
 5. HUD assistance through CDBG or EDA?
 - State and Metro will allocate any such monies
- Documentation is KEY

SBA Loans

- \$240,000 limit for homeowners
- \$2 million limit for business
 - For each subsidiary or affiliate too?
- A 2nd mortgage but with better terms than 1st
 - Better terms than any bank can offer
 - 30-year, fixed rate financing as low as 2.75%
 - Forbearance on interest possible, depending on need



Picture by Patty Harbison

Never again

Who was warned?

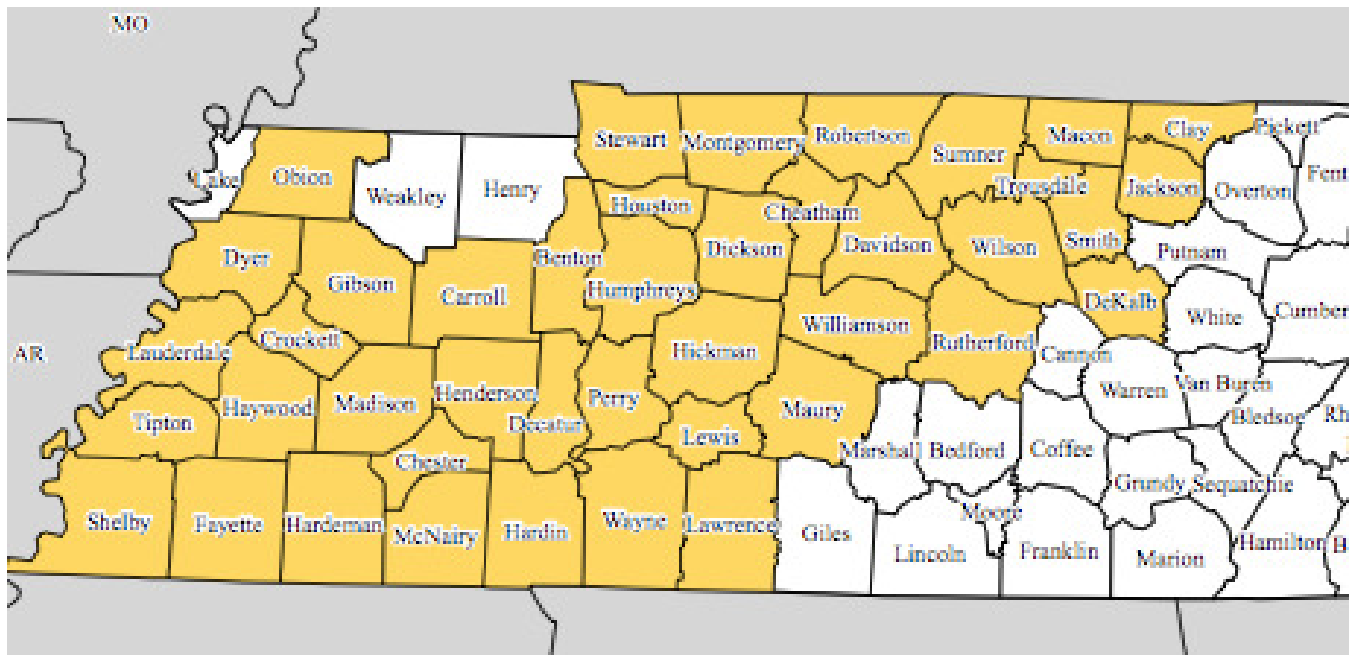
No one.

Worst damage since Civil War?

Cars left in driveways;

Trucks left in terminals

Official TN Disaster Counties





Typical rural damage
In Blackburn's district

You Could Ride High
For Days On This Plan

Page 4

'May I Come In?', Youth,
14, Asks at Boys Town

Page 13

Big Orange
BGA: All C

Details in Sport



THE TENNESSEAN

Business	10
Classified	11
Continued	12
Editorial	13

VOL. 45—No. 542

Third Class Postage
Paid at Nashville, Tenn.

NASHVILLE, TENN., SATURDAY, MARCH 13, 1953

25 CENTS

Weather Damage May Be 'Worst Ever' Ager

Tie T
By I

Federal investigators will arrive here tomorrow to determine whether the state qualifies for federal disaster relief, Gen. Ray Blanton said yesterday after a helicopter tour of water-logged Middle Tennessee.

"This may possibly be the worst dollar damage of any weather condition the state has ever suffered," the governor said during a press conference at the National Guard Armory here after visiting Springfield and Columbia with state officials, civil defense inspectors and members of the press.

BLANTON ALSO issued an executive order designating the Division of Civil Defense and the Emergency Preparedness of the Military Department in coordination with the Federal Disaster Assistance Administration. If areas of the state are declared disaster areas, the Department of Public Welfare will screen applicants for assistance, and the Department of Economic and Community Development will administer community disaster loans.

The governor said he "felt sure" that parts of Tennessee will qualify for federal disaster relief in the form of loans to replace buildings, roads and dams destroyed in the flood.

Blanton said it is impossible to tell how extensive the damage has been until the water recedes but he estimated damage to highways alone will exceed the \$11 million mark.

STATE CIVIL DEFENSE Director Jerry McFarland said Jackson County was one of the hardest-hit areas, with an estimated 204 bridges out and 800 homes damaged.

He said the water treatment plant in Carthage was back in operation yesterday, with National Guard tankers on standby.

The water plant at Springfield resumed service to the local hospital yesterday morning, and residential service was expected to be resumed there this morning.

DAMAGE in Robertson County was estimated at \$2.25 million. Bridge repairs alone will cost nearly half a million, according to Robertson County Civil Defense Director Art Carroll.

In Columbia, Blanton was briefed on flood damage to Bedford, Hindoe, Coffee, Franklin, Giles, Lawrence,

(This is Page 4, Column 1)



Flood Delays Opryland Opening Date

Opryland U.S.A., National Life's \$310 million theme park, is mostly underwater as the rising Cumberland River continued to creep up late yesterday. The flood waters forced cancellation of last night's and tonight's performances of the Grand Ole Opry in the new Opry House in background. The Opry was moved to Municipal Auditorium.

Water Edges Opry House Stage; 'Damage in Millions'

By LYNN HARVEY
Animal rescue operations continued at Opryland, U.S.A. last night, as pumps worked to keep the rising Cumberland River flood-water off the stage of the Grand Ole Opry House.

Meanwhile, the Friday night Opry celebrated its first anniversary in the new Opry House by moving downtown to the Municipal Auditorium, where tonight's

performances will also be held.

"THE OPRYLAND animals are in surprisingly good shape, and losses so far as we know at this point are very minimal," Ray Canedy, Opryland director of marketing, said late yesterday from temporary park headquarters in the Opryland Parkway Inn.

"The work areas and the tunnel underneath the Opry

House are flooded, but the water is still one foot below getting into the stage. We are pumping 21,000 gallons an hour out of there, and we don't think it will get onto the stage," Canedy said.

A number of seals on the lower level of the Opry House have been removed, and no serious damage was reported on the main floor.

PROPERTY DAMAGE (This is Page 4, Column 2)

Schools' Fund Loss Possible

The Williamson and Lincoln County schools were among 122 school systems throughout yesterday with possible loss of federal funds for allegedly dragging their heels on racial integration.

In his third major ruling in a suit brought four years ago by the NAACP Legal Defense Fund, U.S. Dist. Court Judge John H. Pratt of Washington ordered the De-

Sharp Cut in Unsold Goods Called First Recovery

By RICHARD BUGHES
UPI Business Writer

The government said yesterday U.S. business made the sharpest reduction in unsold goods in 34 years and provided the first substantial sign that recovery from the recession could begin this summer.

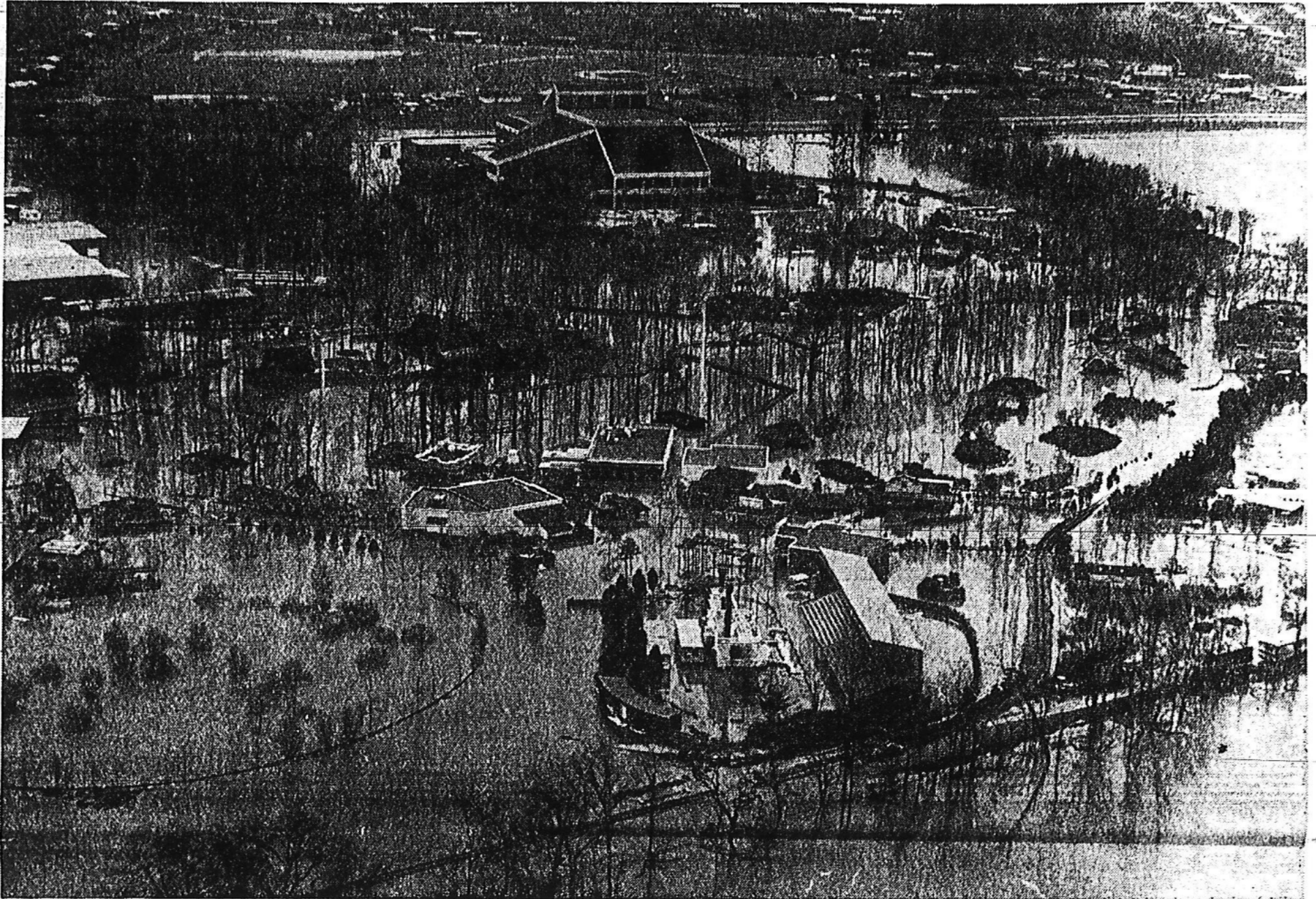
"That is magnificent!" says for the economy, said Irwin Kellner, economist for Manufacturers Hanover bank in New York.

"It's really super because this is the beginning of a long-awaited period of inventory liquidation which is necessary to lay the groundwork for an expected summer recovery," Kellner said.

THE COMMERCE Department said that for the first time since May, 1952, the amount of unsold goods held by businesses declined in January rather than increased.

The decline was since in \$434 million a 0-

WHAT retailers off the a-
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good up
slump t
business
(This is



—Staff aerialphoto by Jerry Thompson

Flood Delays Opryland Opening Date

Opryland U.S.A., National Life's \$350 million theme park, is mostly underwater as the cancellation of last night's and tonight's performances of the Grand Ole Opry in the new

Nashville Banner

Long May Our Land Be Bright With Freedom's Holy Light, Protected By The Right, Good God Our King

Vol. 100, No. 287

Published by The Banner, Inc., Nashville, Tenn.

Nashville, Tenn., Wednesday Afternoon, March 14, 1955

81 Pages

• •

Price, 10 Cents

Flooding Forces Evacuations, Snarls Traffic

Deluge Swamps Midstate

This story was compiled by staff writer Lester A. Powers. News by Tom Norwood, Bill Haver, Clegg Kambick and Mary Jane Evans.

Flash floods in Middle Tennessee early today causing evacuation for some residents in low lying areas and snarling traffic on arrival in major roads.

The conditions in Hendersonville and Clarksville areas were hardest hit, but authorities reported no deaths or injuries in flood related accidents. Quickly rising waters in several counties led police, civil defense units and rescue squads into action

trying to reach people trapped in their homes or autos. Officers in Hendersonville and Wilson County and rescue units were trying to reach the area's occupants. King County, Tenn., Hendersonville and Nashville by Clarksville County and Hendersonville, Ky., residents were evacuated from their homes before 10 p.m.

Flats in a range extended in effect throughout the day, as rain continued to pour. Middle Tennessee. Major police reported flooded streets and stalled driving problems all over the state and said 13,000 vehicles were stuck

throughout the day. A sheriff's office dispatcher in Clarksville said that 100 vehicles were under about a foot of water at 7:30 a.m. and the water was dropping. T. K. S. E. between Clarksville and Hendersonville area.

Wilson County schools were closed while classes in some areas of Montgomery County and Wilson County were unable to get to their schools. In Wilson County, 11 school buses were stuck, because of the heavy rain, officials said.

In Nashville, power lines were down in scattered areas of the city, but no injuries or major damage had been reported.

An electrical line fell on a Motor track at 20th Avenue North and Jackson Street, causing injuries to the occupants, Norman Anderson, Nashville County Service operations manager, said. Lines were also reported down on Van Hook Street and Campbell Drive and on Park Circle in Old Hickory.

According to Anderson, many power lines were down because of lightning that accompanied

the heavy rains causing "spit" lightning.

"The storm is causing more trouble — three or four customers in an area — but the trouble is widespread," Anderson commented.

In other areas, major roads and city streets were blocked, causing traffic snarls for thousands of area residents on their way to work. A massive flood was reported in Clarksville on U. S. 40 North, blocking U. S. 40 about 10 miles north of work was that area.

Clarksville was heavier in some areas than in others.

Clarksville was heavier in some areas than in others.

Clarksville was heavier in some areas than in others.

Clarksville was heavier in some areas than in others.

Clarksville was heavier in some areas than in others.

Grocers Seek Sale Of Wine

By BRADY CAMPBELL

Chief Executive Officer

...the wine industry has been...
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A truck and car meet in deep water on Marlborough Road after nearly two inches of rain in the Nashville area caused flash flooding in low lying areas in downtown Nashville during early morning work traffic hours.

Justice To Get Blanton Case, Valeo Claims

By FRANK VAN DER LINDEN

Washington (AP) — A Democratic party vote could determine the chances for House approval of charges against Sen. Ray Blanton in the case of Sen. Ray Blanton's alleged campaign funds will be reviewed by the Justice Department, reportedly for further action or dismissal.

Cambodian Aid Bid's Chances May Show In Caucus Balloting

Related stories on Page 8

Washington (AP) — A Democratic party vote could determine the chances for House approval of charges against Sen. Ray Blanton in the case of Sen. Ray Blanton's alleged campaign funds will be reviewed by the Justice Department, reportedly for further action or dismissal.

Stakeout Lull Spurs Robbers In Clarksville

By MARCEL STEELE

State Correspondent

Clarksville — Montgomery County and Clarksville authorities recently relaxed a "shoot to kill" policy for armed robbers, but it may be reinstated.

In the policy was relaxed, the number of armed robbers has increased, leading local law enforcement officers to again contemplate their get tough policy.

Seven robbers in the past nine days have been reported — doing of themselves who were arrested at gunpoint, police said.

At least one of the victims was injured during a robbery.

Robbers were reported by city police Monday night following the robbery by Clarksville, Tennessee, Monday night, a Clarksville arrest station was released.

James O'Connell, the city's representative in an appeal robbery squad, said the statistics were being reviewed after they had been investigated.

Should Paul Hinkle, said his department would support the situation.

Last November, Hinkle and Police Chief E. M. Nix announced the "shoot to kill" order after armed robbers in the area, resulted an average of six per week.

Robbers became aimed was...

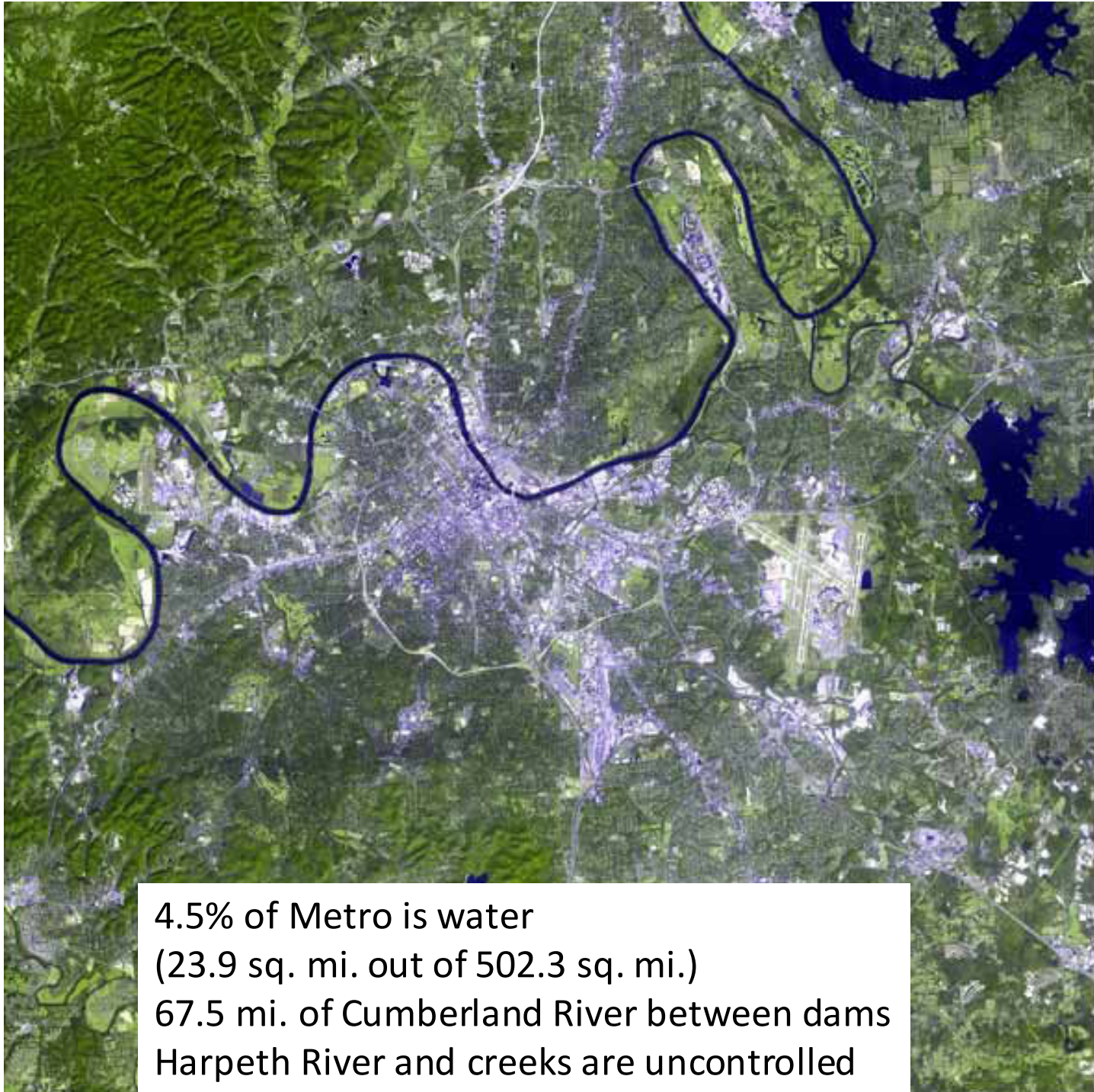
outside

Please turn to Page 8

Ullman Pulls Back; Nickel Gas Hike Seen

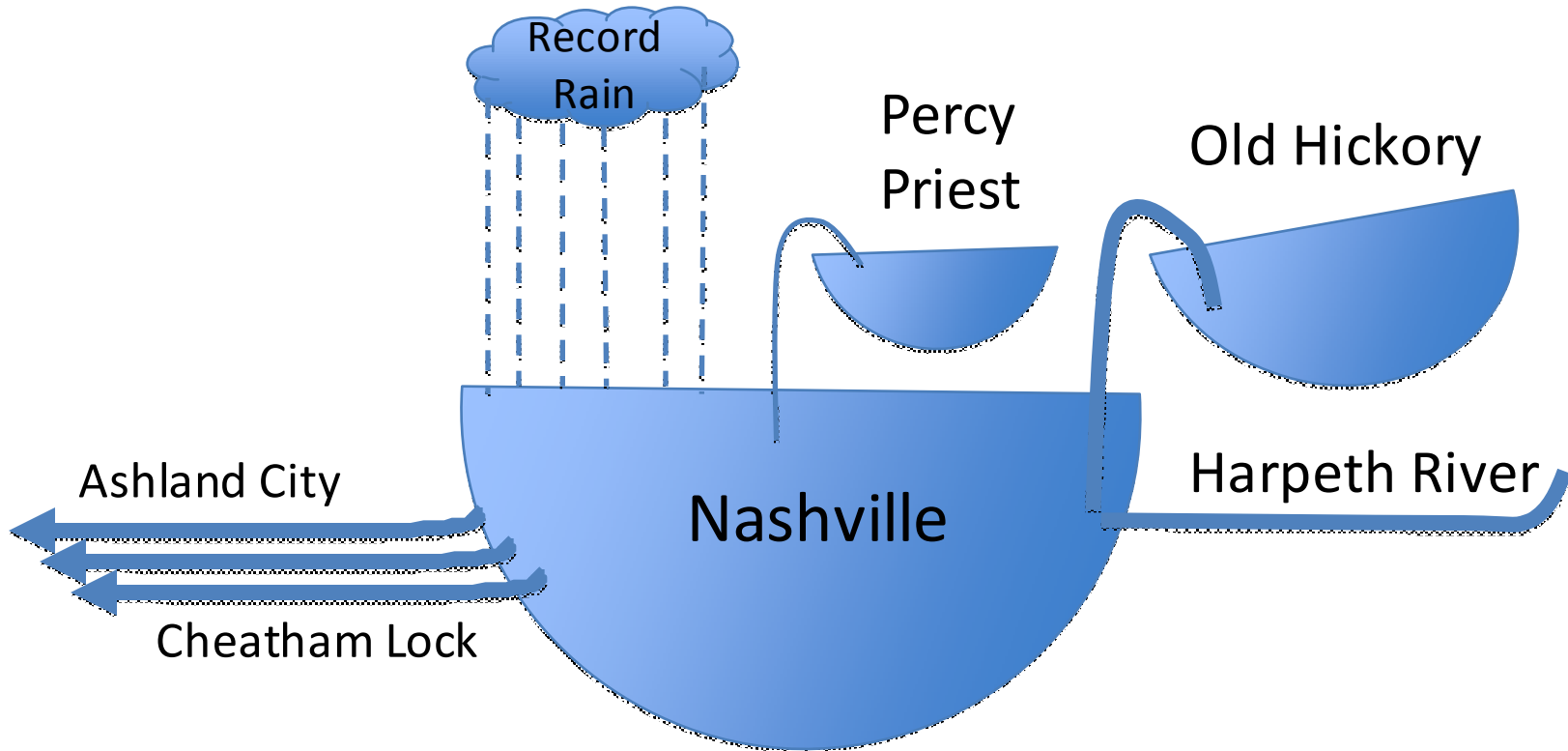
Washington (AP) — A key Democratic legislator backing an energy compromise between President Ford and Congress are moving to

Washington (AP) — A key Democratic legislator backing an energy compromise between President Ford and Congress are moving to



4.5% of Metro is water
(23.9 sq. mi. out of 502.3 sq. mi.)
67.5 mi. of Cumberland River between dams
Harpeh River and creeks are uncontrolled

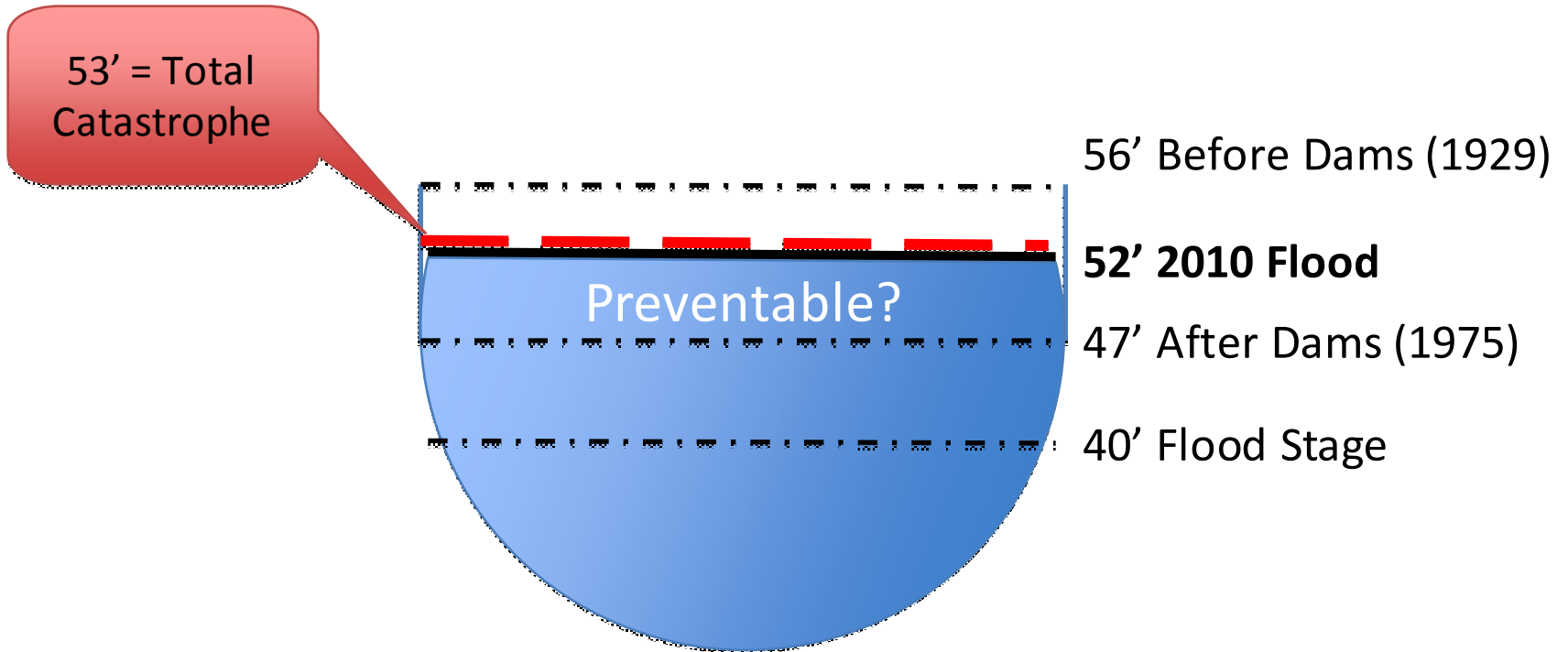
The Nashville Basin



Different flood levels:



Inches from total catastrophe:



5 extra ft. = \$1.5 billion?

\$300 million a foot?

No. Damage grows exponentially.

Controlled releasing of water from Old Hickory Dam prevented further flooding in Nashville

Release 10-29

For Immediate Release
May 4, 2010

Army Corps Statement

NASHVILLE, TENN. — The decision to release water from Old Hickory Dam this weekend prevented an additional four feet in flood waters from reaching downtown Nashville, the U.S. Army Corps of Engineers announced.

Water behind the dam in Old Hickory Lake reached a record elevation of 451.4 on Sunday afternoon, just seven inches short of the Corps losing control of the project due to the lake overtopping the dam.

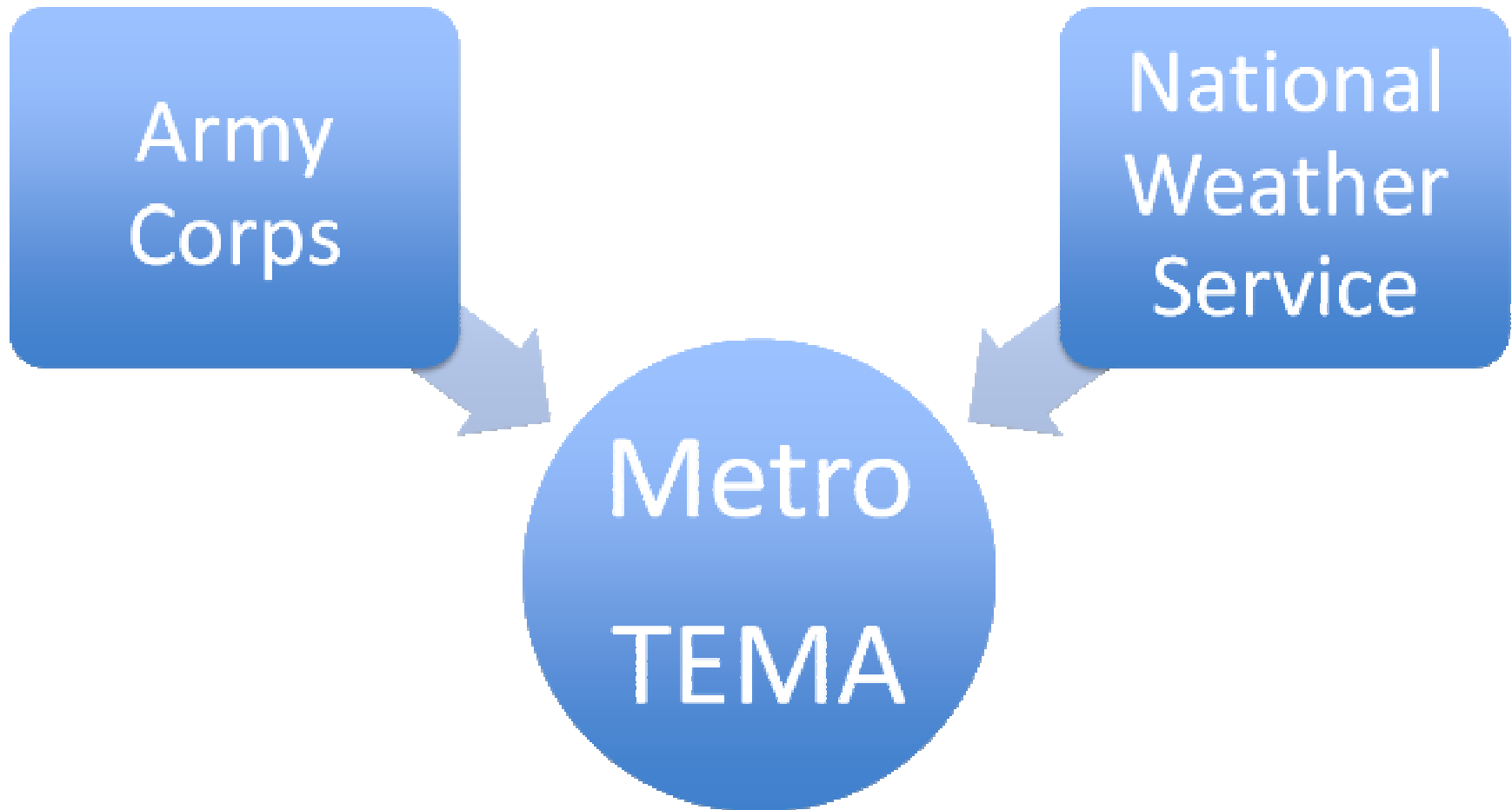
"If we had allowed the lake go to 452 and overtop Old Hickory Dam, the loss of that dam would have added another four feet to the flood levels in downtown Nashville," explained Lt. Col. Anthony Mitchell, Commander of the Nashville District.

"By making the decision to release water from Old Hickory Dam, our water managers saved the dam and prevented flood waters from reaching even higher," he added.

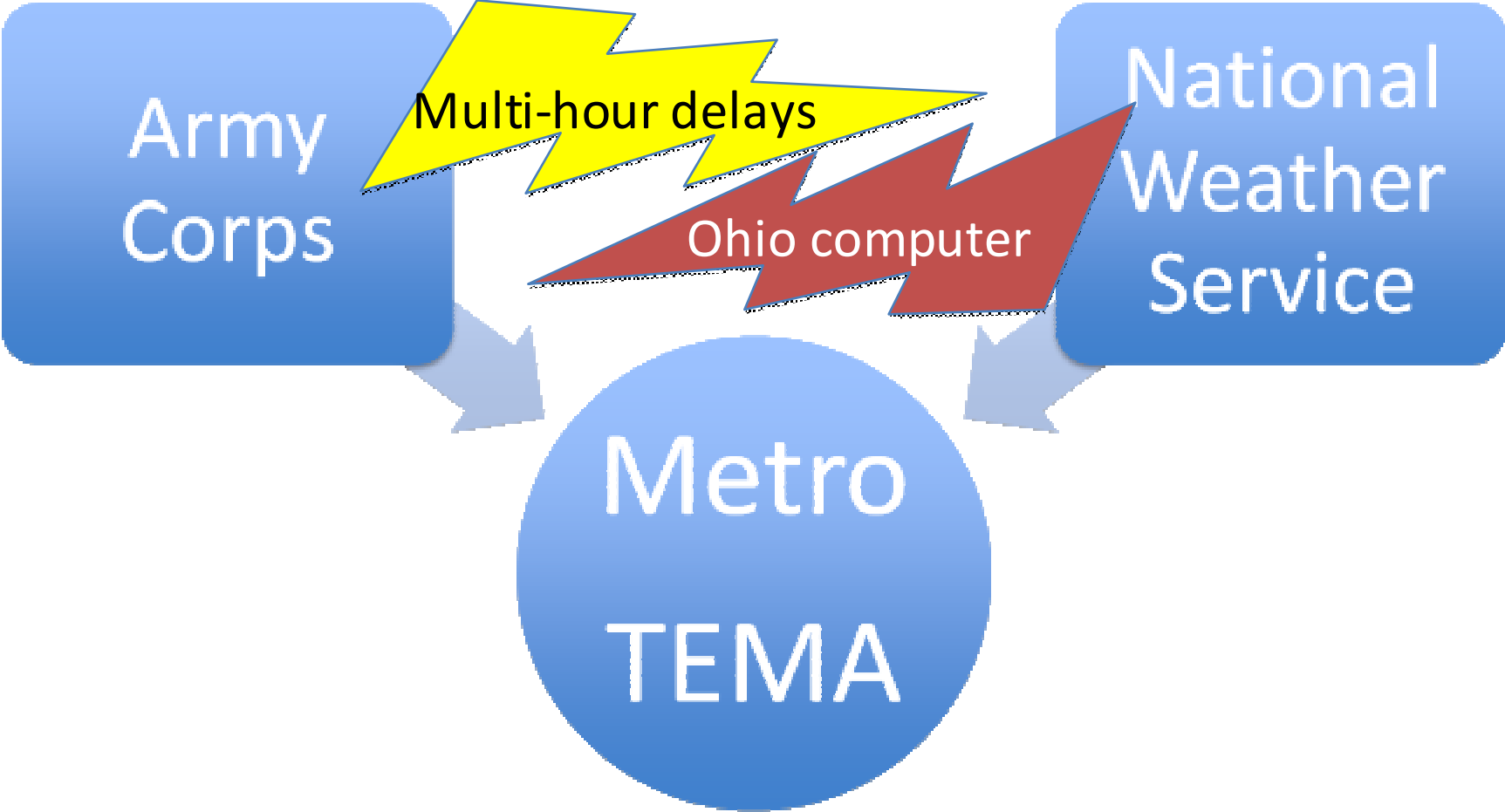
"The perception is that flooding along the Cumberland River was made worse by releases from Corps dams," stated Mitchell. "The truth is that Corps dams kept the flooding throughout the region from being much worse."

COULD HAVE BEEN \$3+ BILLION?

Information pathways



At least need better communication



Was the Corps or anyone else
at fault?

Was one of our disasters man-made?

**First rule of dams:
safer above than below**

Nashville is below two dams
(and lots more up the Cumberland and
Caney Fork)

Corps just spent \$150+ million
on Wolf Creek Dam repairs

Nashville still flooded
for other reasons

Man-made disaster?

- No

- Blame record rains
- 42-county disaster
- Uncontrolled Harpeth and creeks did much of our damage
- Metro Center levees held
 - Recently upgraded
 - Gov. actually worked

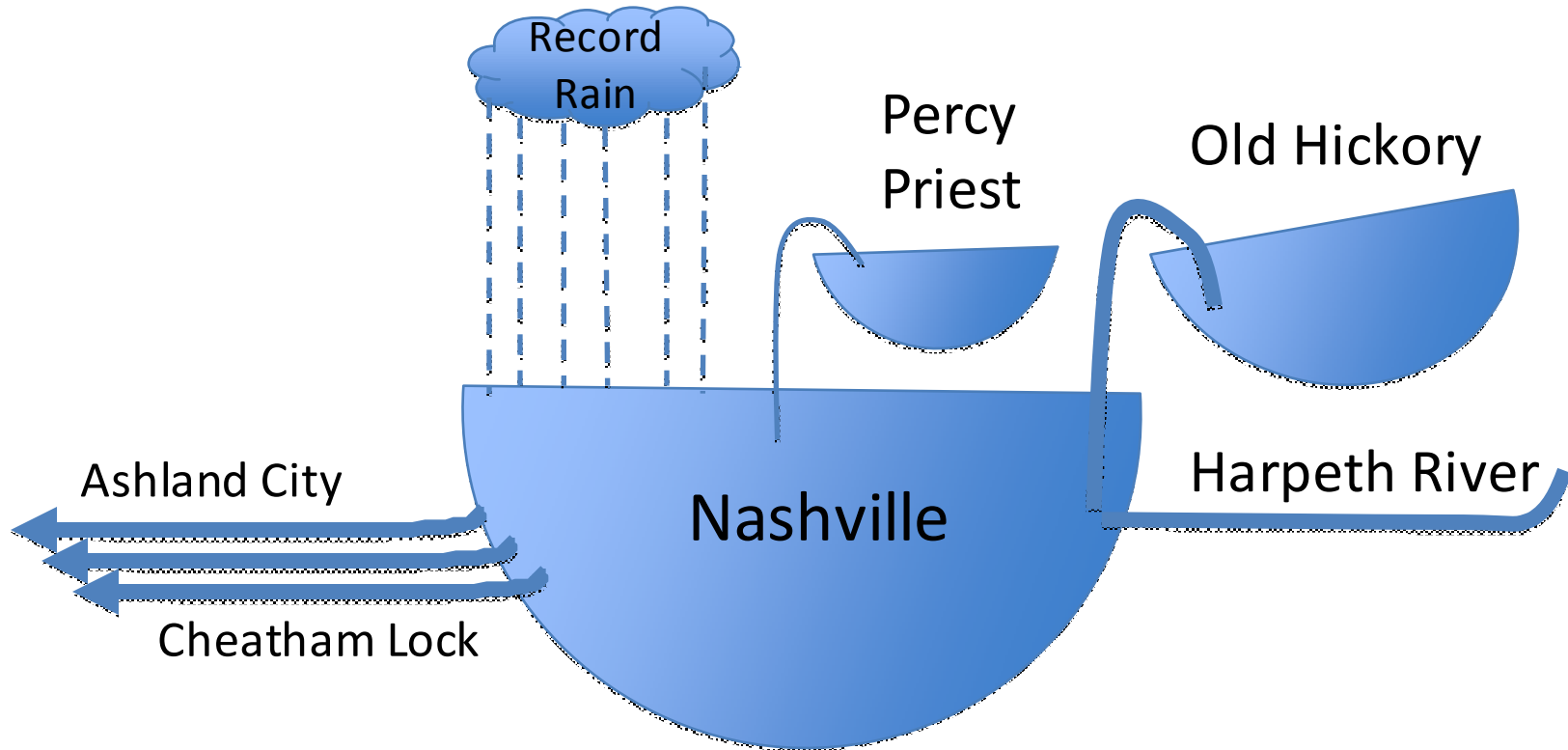
- Yes

- Poor weather forecast
- Poor communication
- No warning
- Dams could have helped reduce Cumberland and Stones River damage
- Almost as bad as if Wolf Creek Dam had burst
- 4 ft. off Old Hickory burst

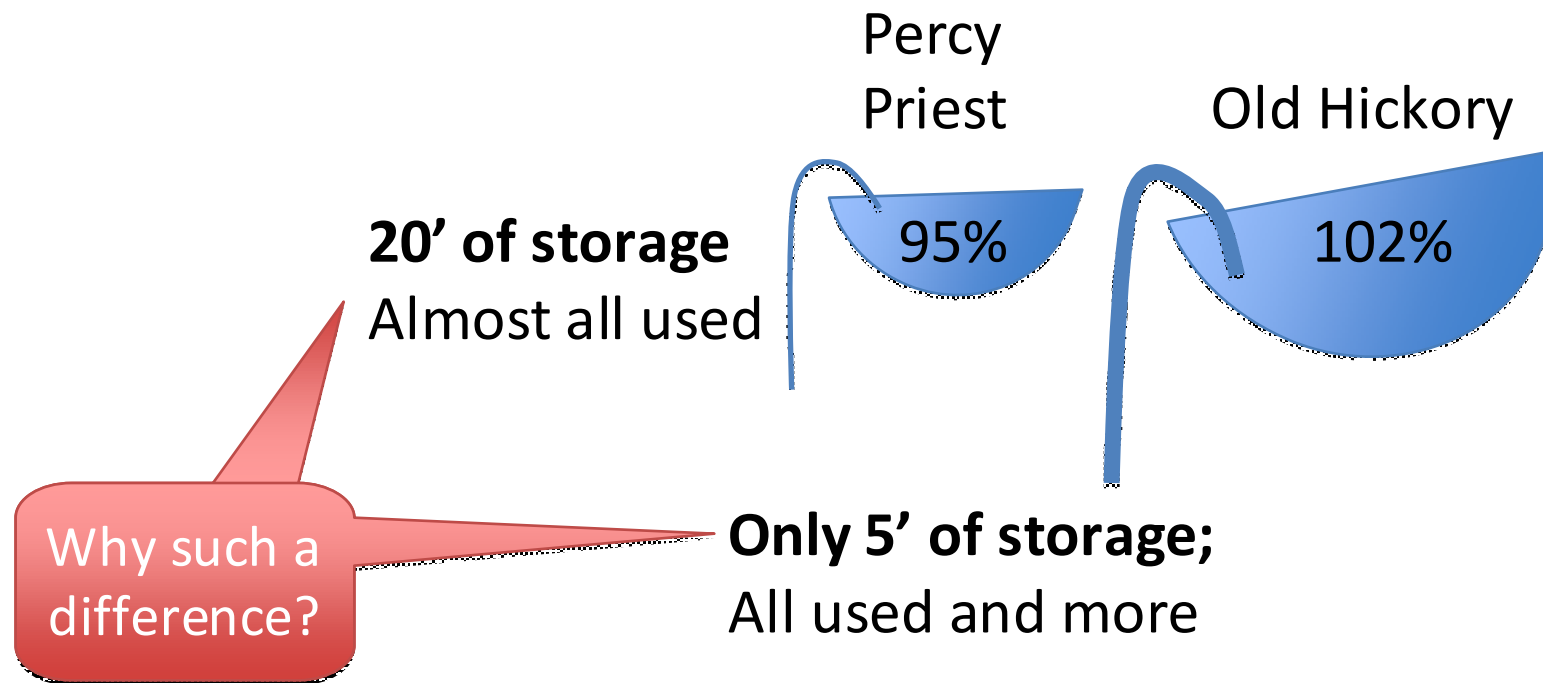
There should be an investigation

Sen. Alexander is right

The Nashville Basin



Priest and Old Hickory Dams

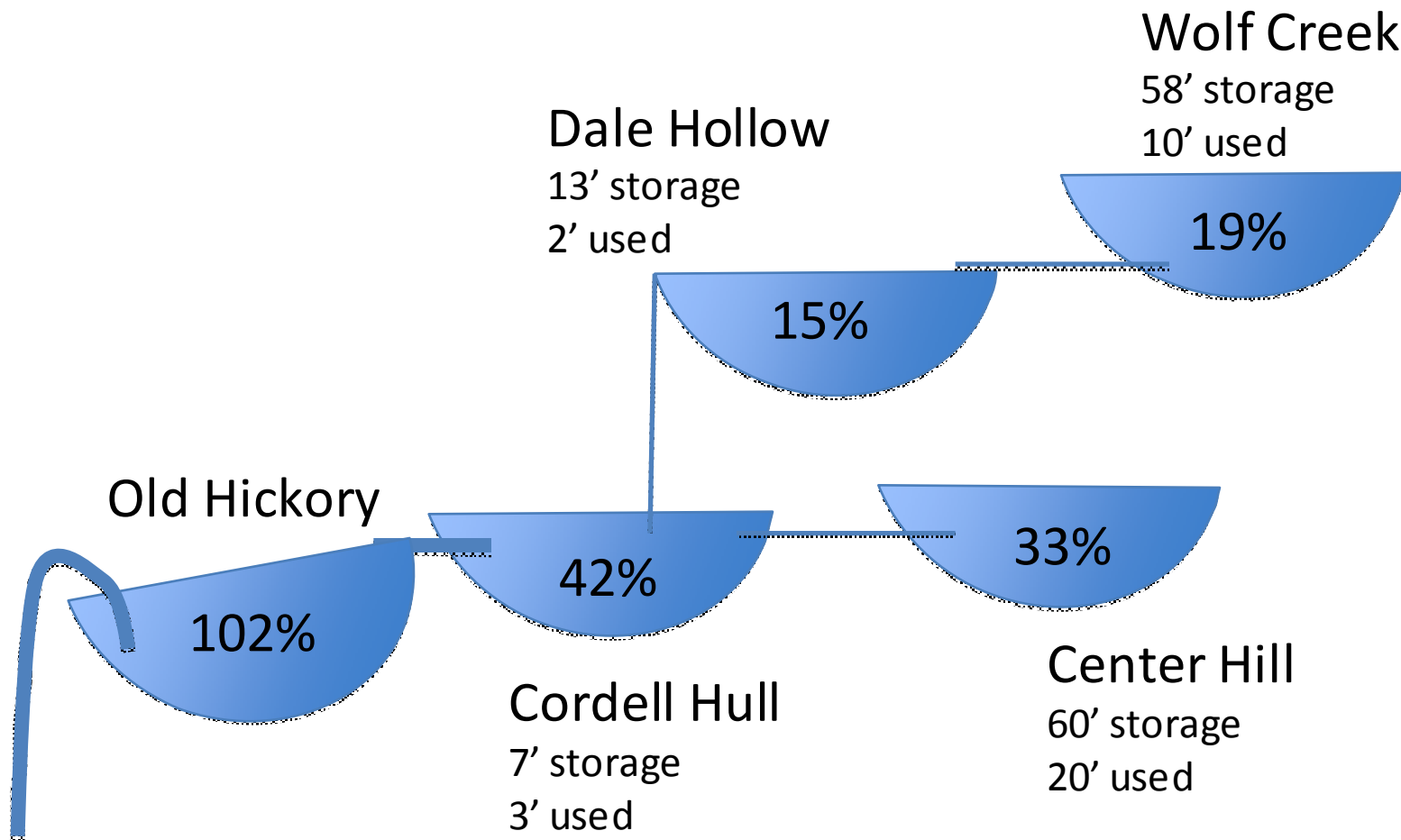


Every dam has a “decision rule”

Very difficult to change SOP.

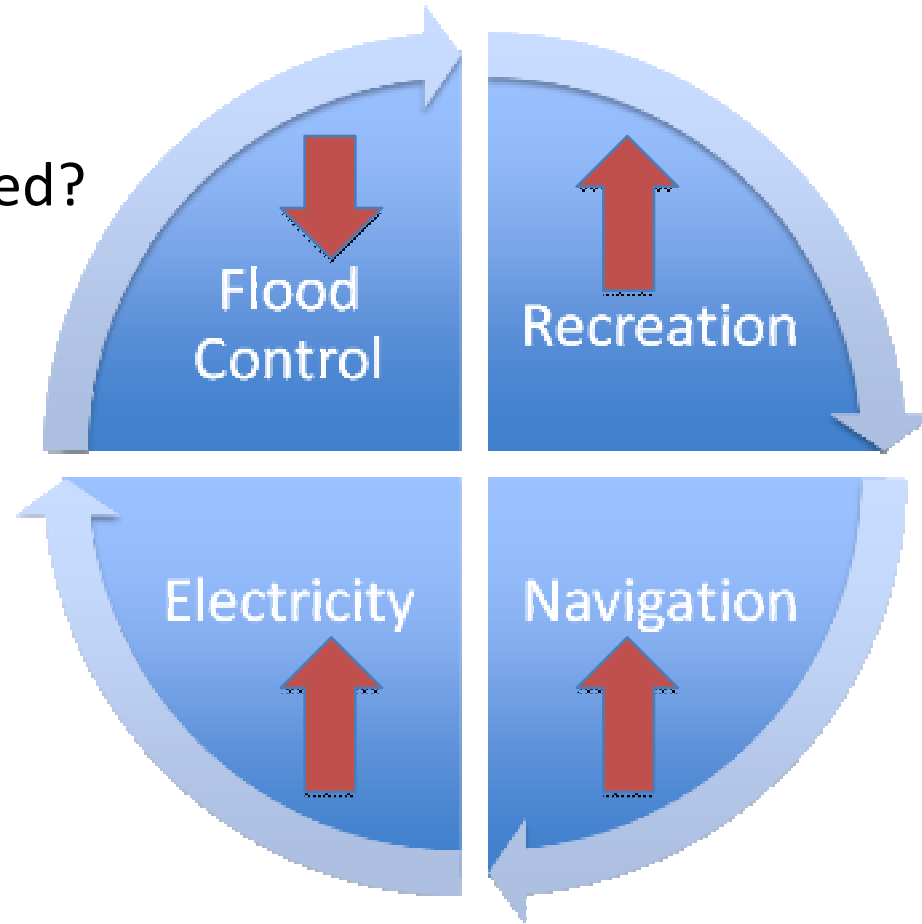
Does ours make sense for Nashville?

Upstream dam capacity unused?



Corps' duties v. Lake levels

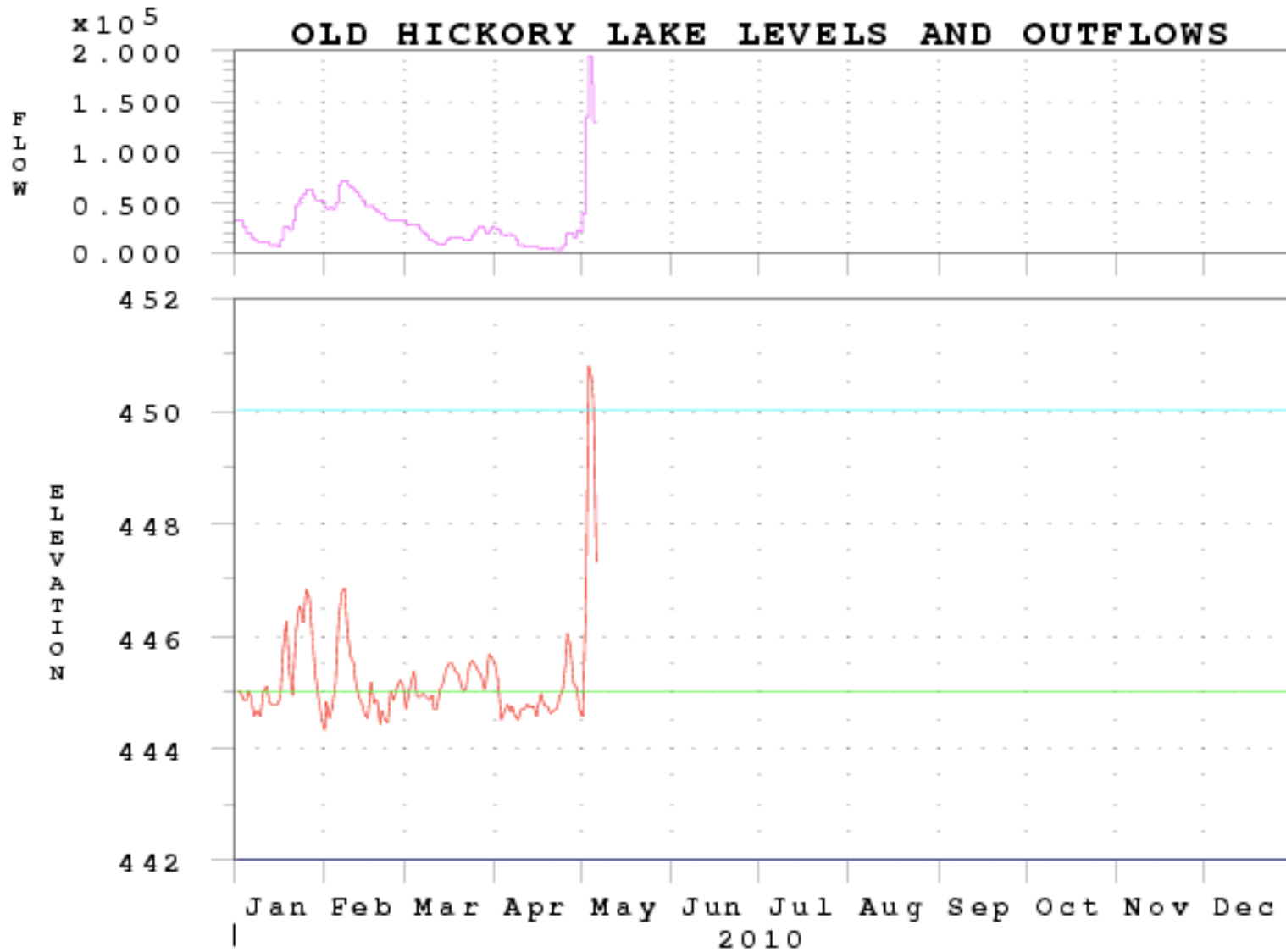
Under-rated?



Is “flood control” an oxymoron?

“Part-time anti-flood efforts”
is more accurate?

06MAY10 09:55:05

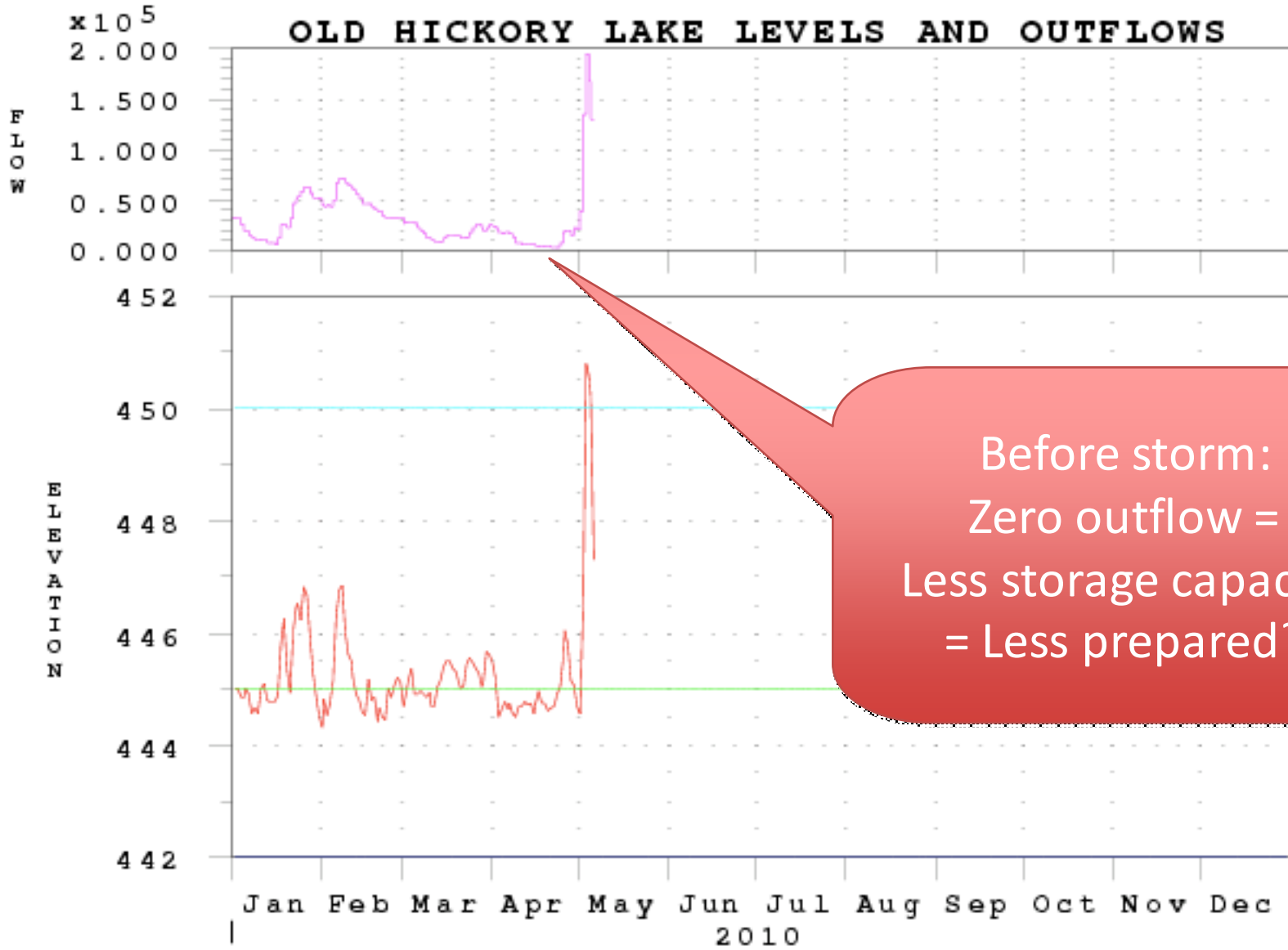


Top of dam

Max for electricity?

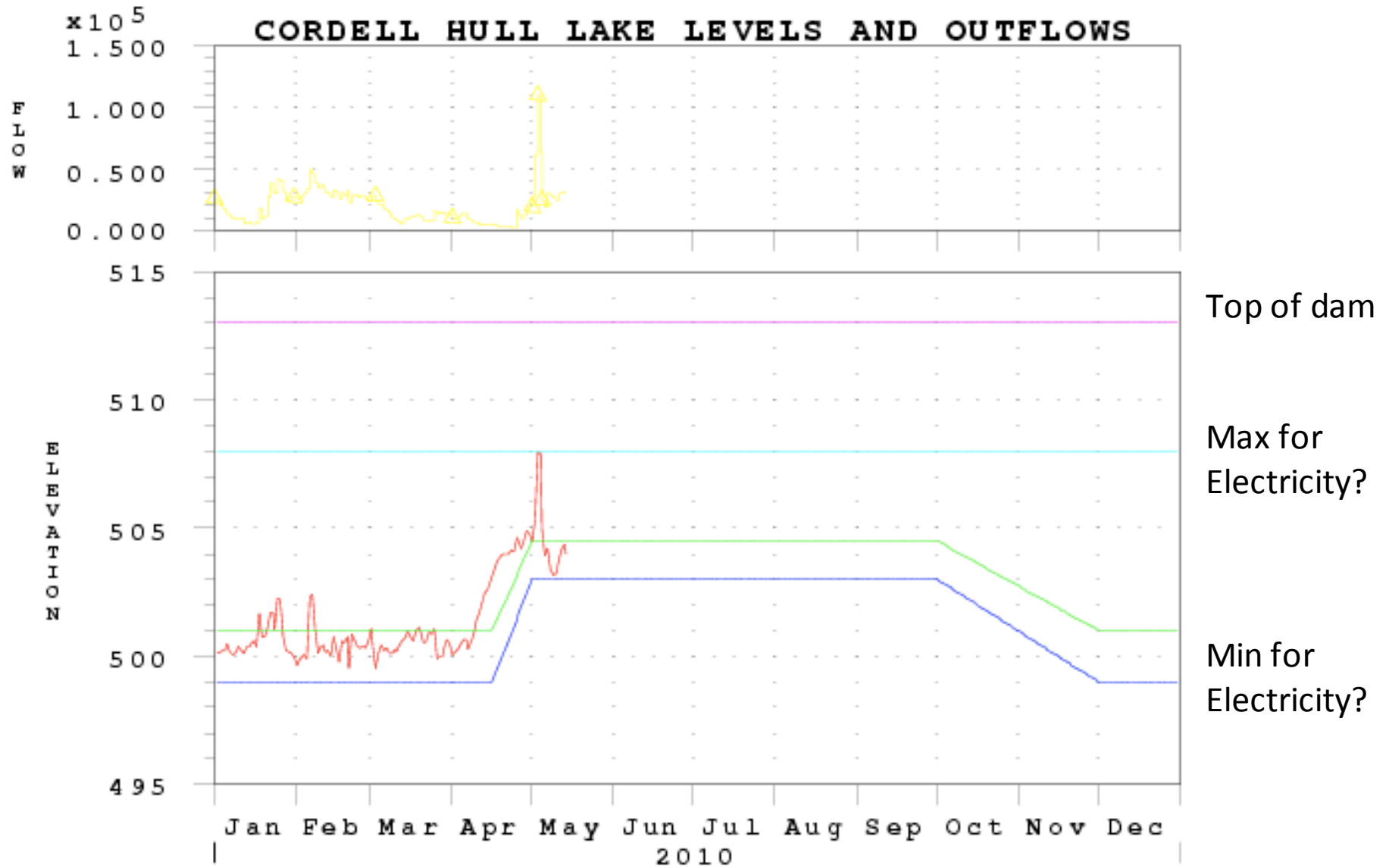
Min for electricity?

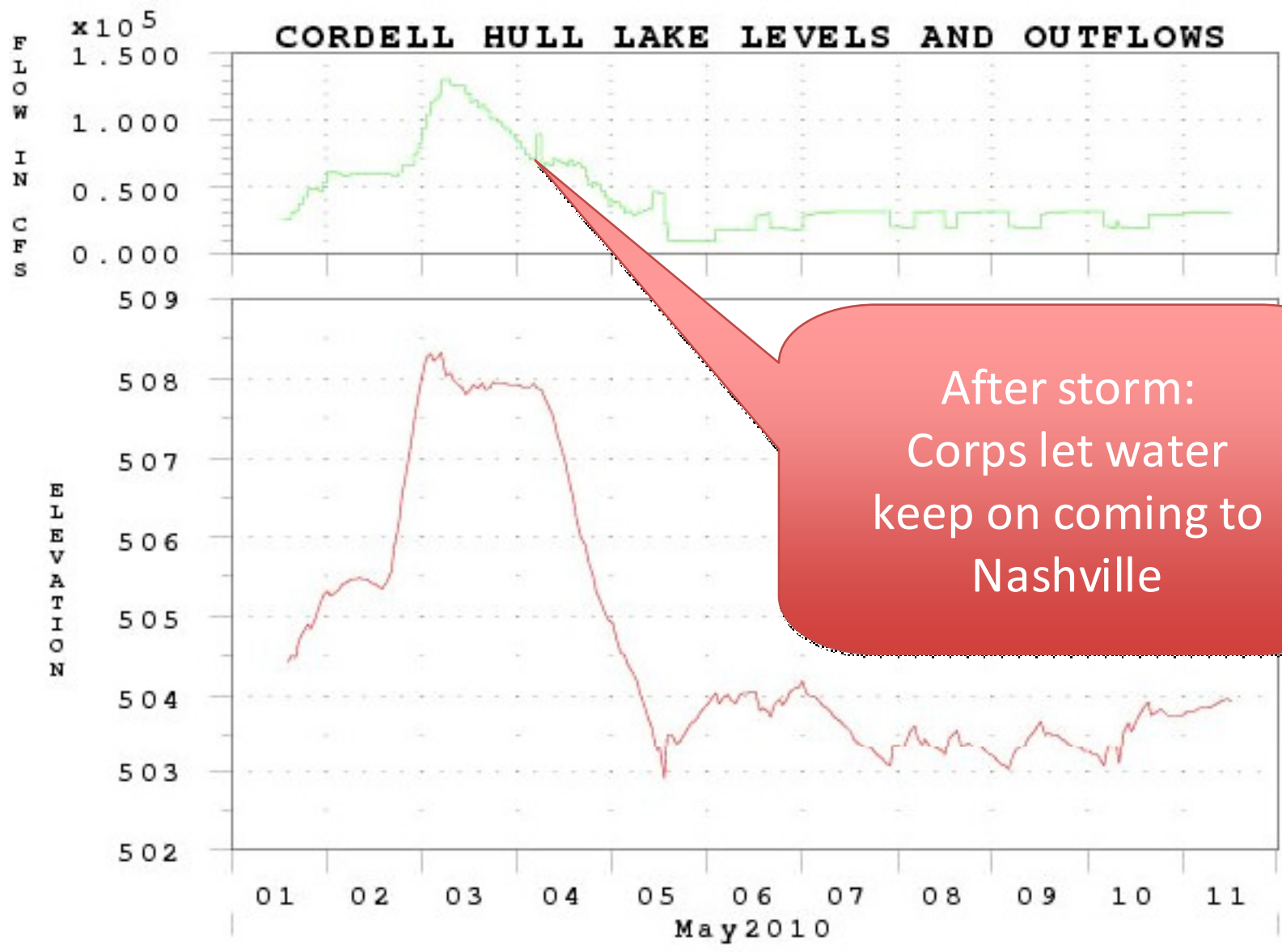
06MAY10 09:55:05



Before storm:
Zero outflow =
Less storage capacity
= Less prepared?

14MAY10 20:55:04



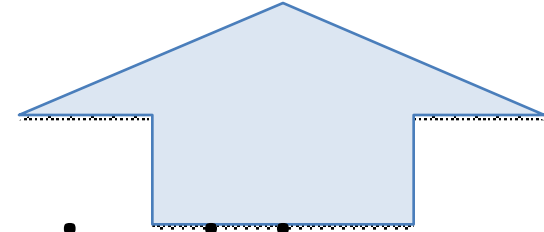


100-year flood way/plain means:

No flood for 100 years?

No!

26% chance of flood in a 30-yr mortgage.

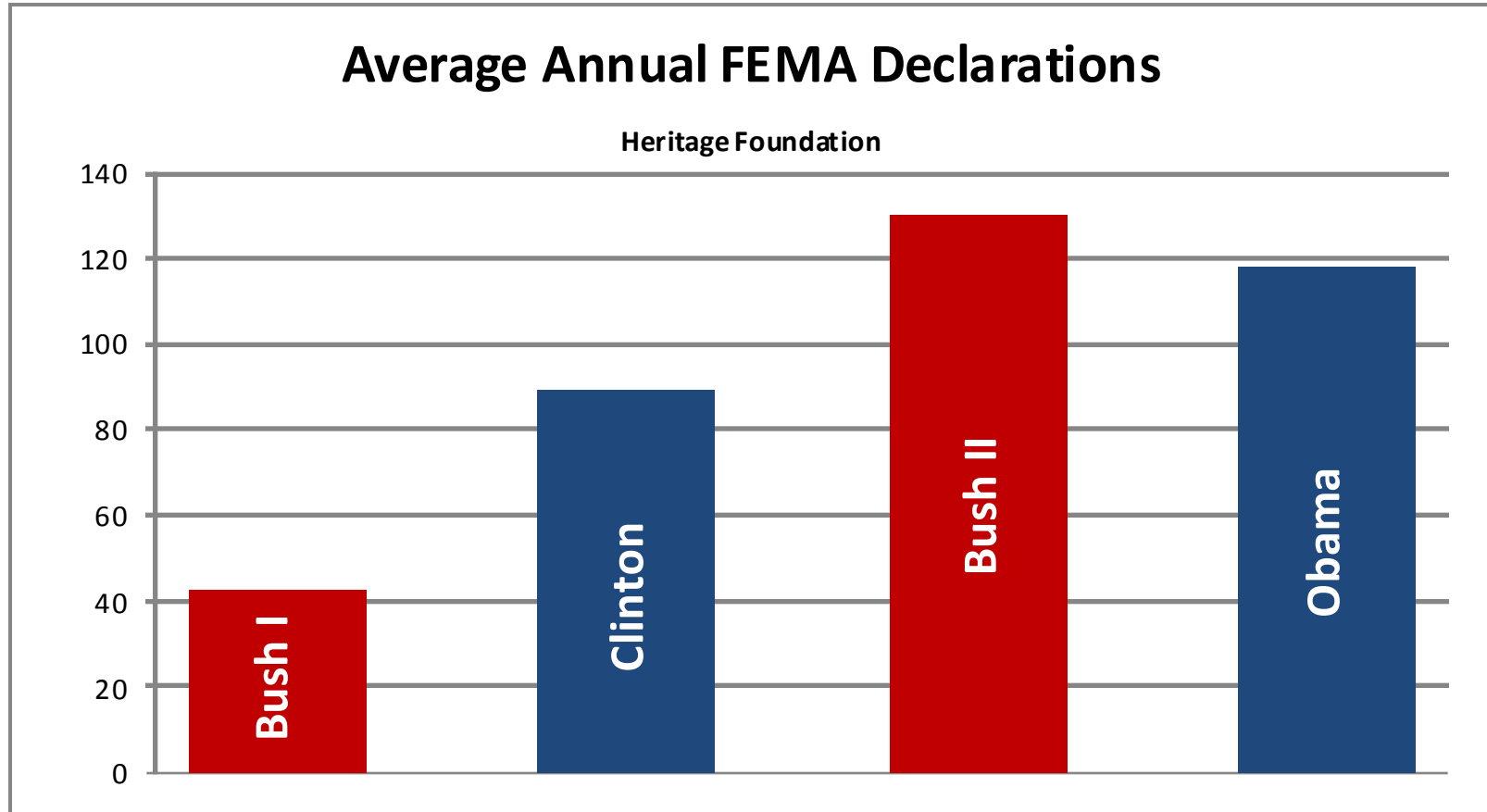


100-year flood map is rising:

Every new development raises the probability
of flooding.

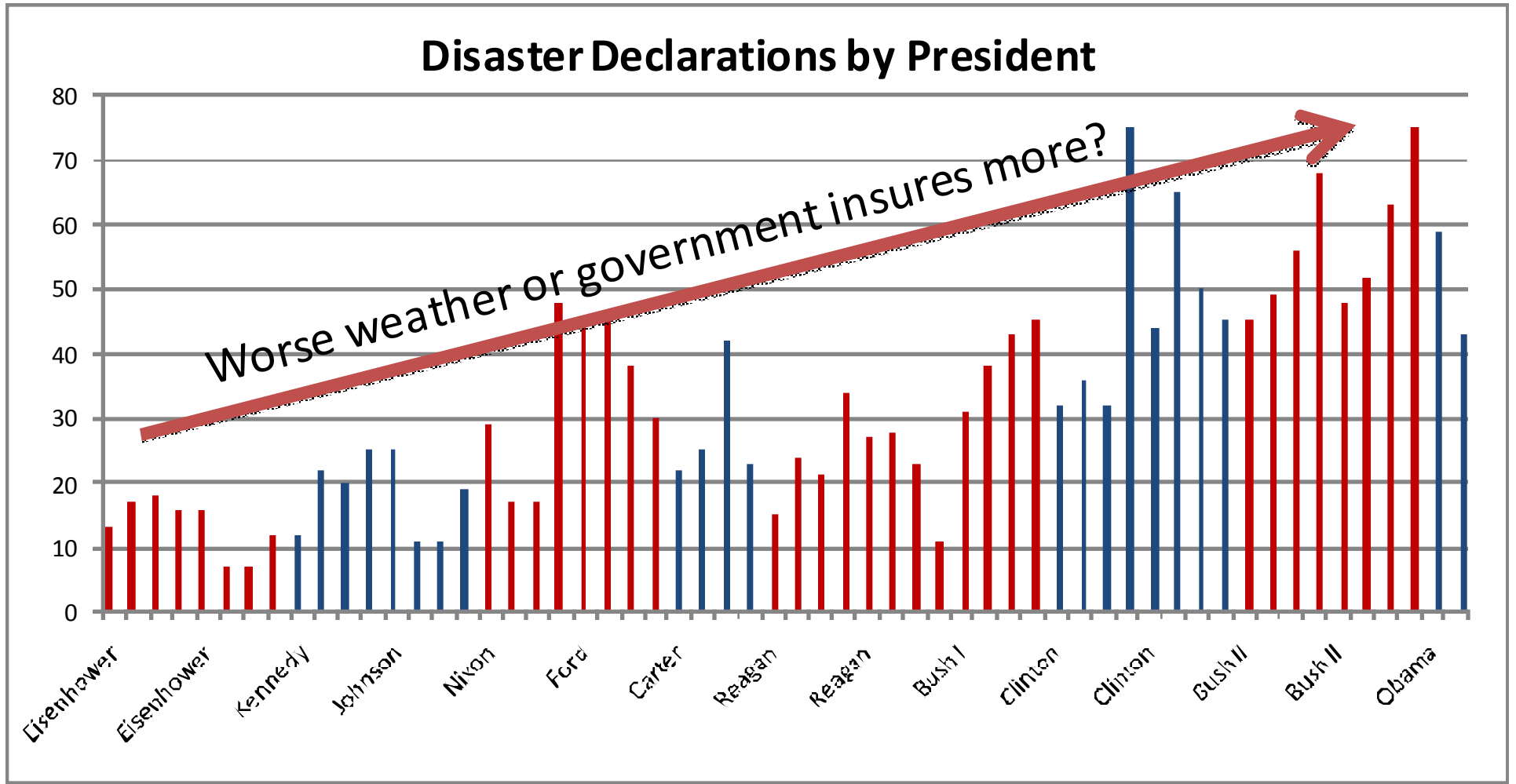
Expect 1-3 increases during 30-yr. mortgage?

120 disasters every year nationwide?



A disaster every 3 days?

More risk, or less insurance?



Solutions?

- Better weather forecasting?
 - Is weather more volatile today?
- Lower lake levels before rains?
 - What about recreation, hydropower, etc.?
- Less development in flood plains?
 - Offer 500-yr maps? Drives costs up?
- More, better flood insurance?
 - Even if you have it, only pays \$250,000

Urgency of solutions

Urgency is in the eye of the beholder:

- 500-year flood?
 - Business as usual
- 100-year flood?
 - Take small steps over time
- 30-year flood?
 - Take much bigger steps now
- Or history cannot predict the future?

We need an upbeat recovery,



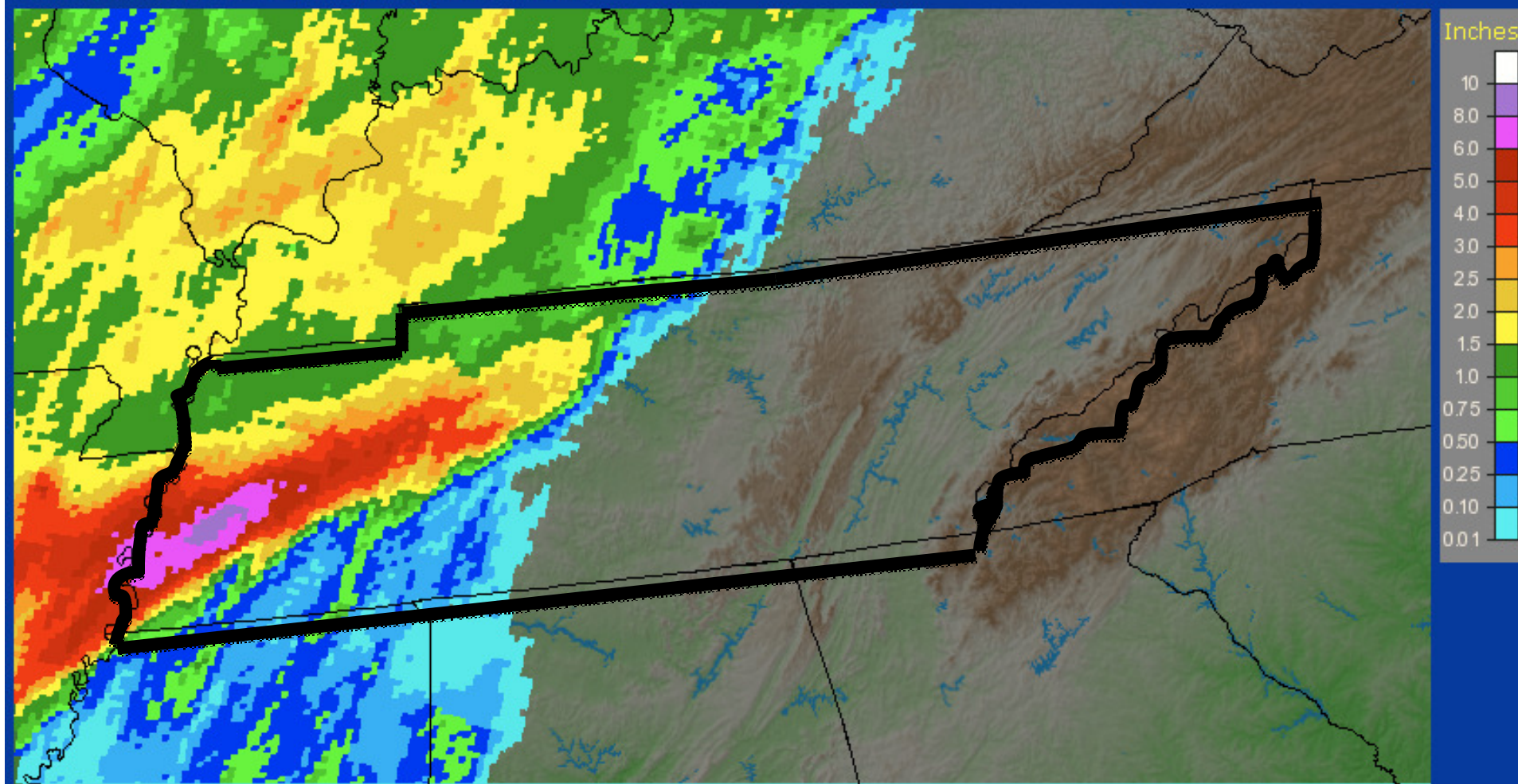
not a blues song.

Photo by The Tennessean

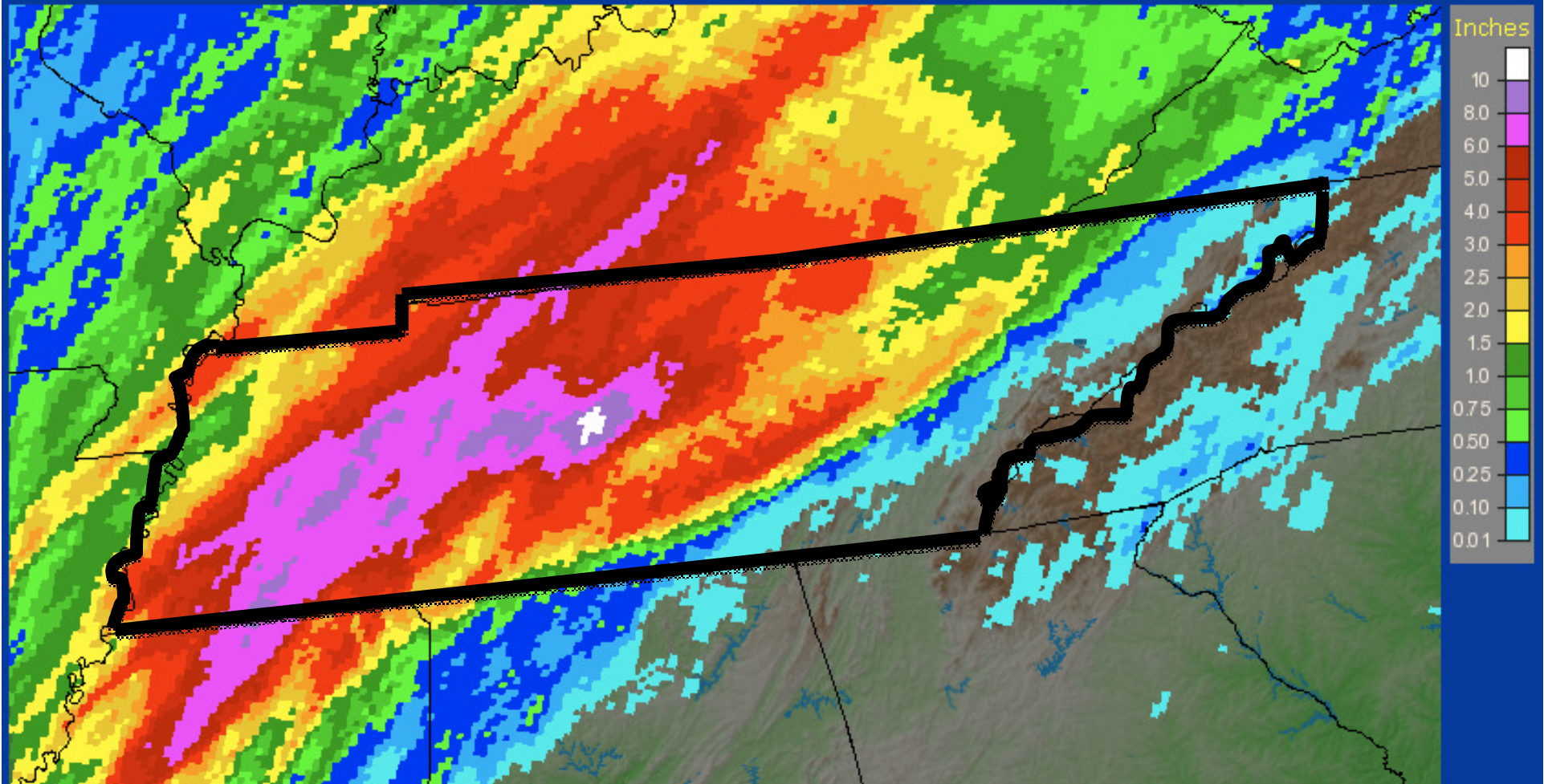


The Tennessean

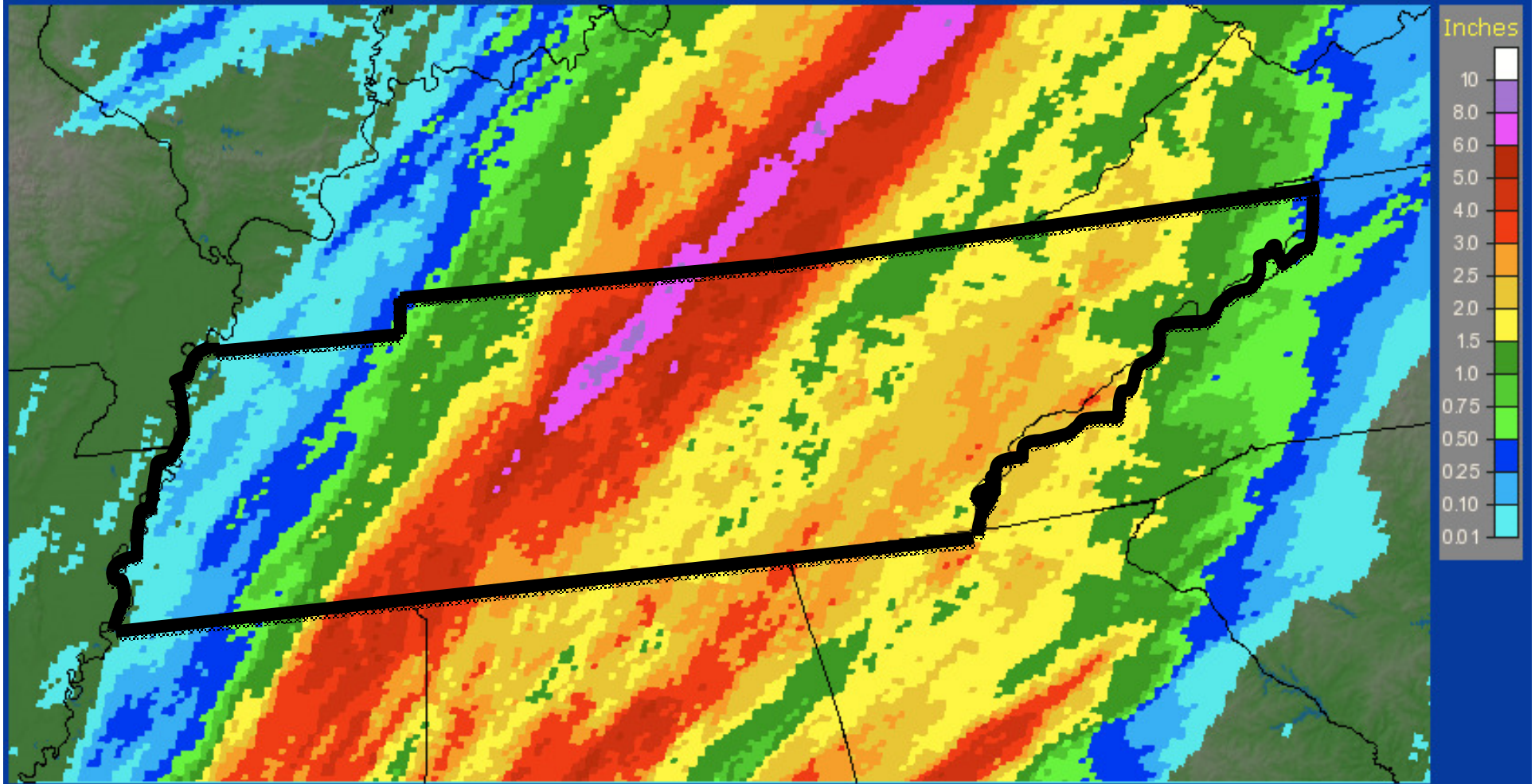
Tennessee: 5/1/2010 1-Day Observed Precipitation
Valid at 5/1/2010 1200 UTC - Created 5/5/10 16:26 UTC



Tennessee: 5/2/2010 1-Day Observed Precipitation
Valid at 5/2/2010 1200 UTC - Created 5/4/10 23:00 UTC

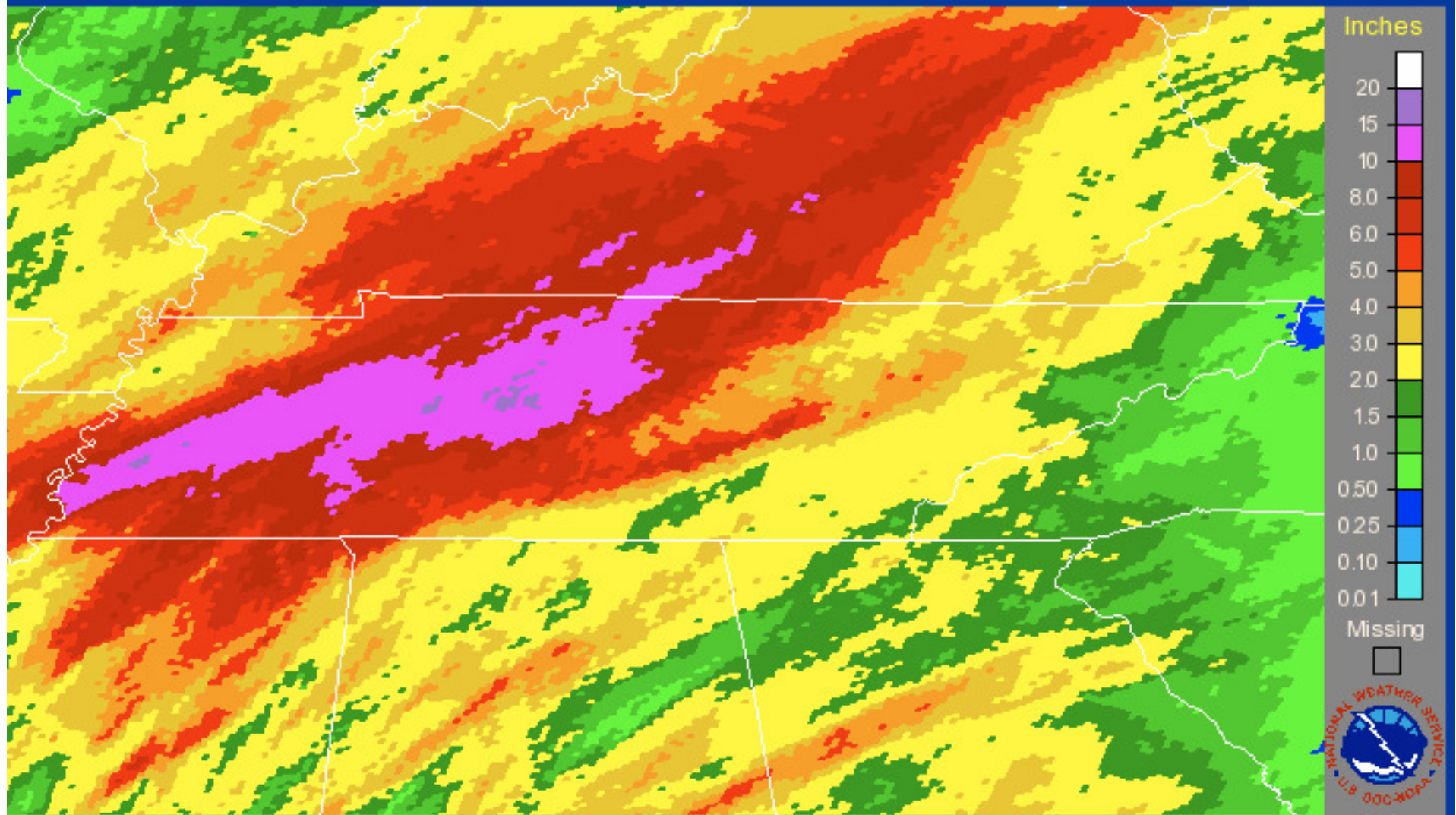


Tennessee: 5/3/2010 1-Day Observed Precipitation
Valid at 5/3/2010 1200 UTC - Created 5/5/10 19:00 UTC



Tennessee

Click on the image

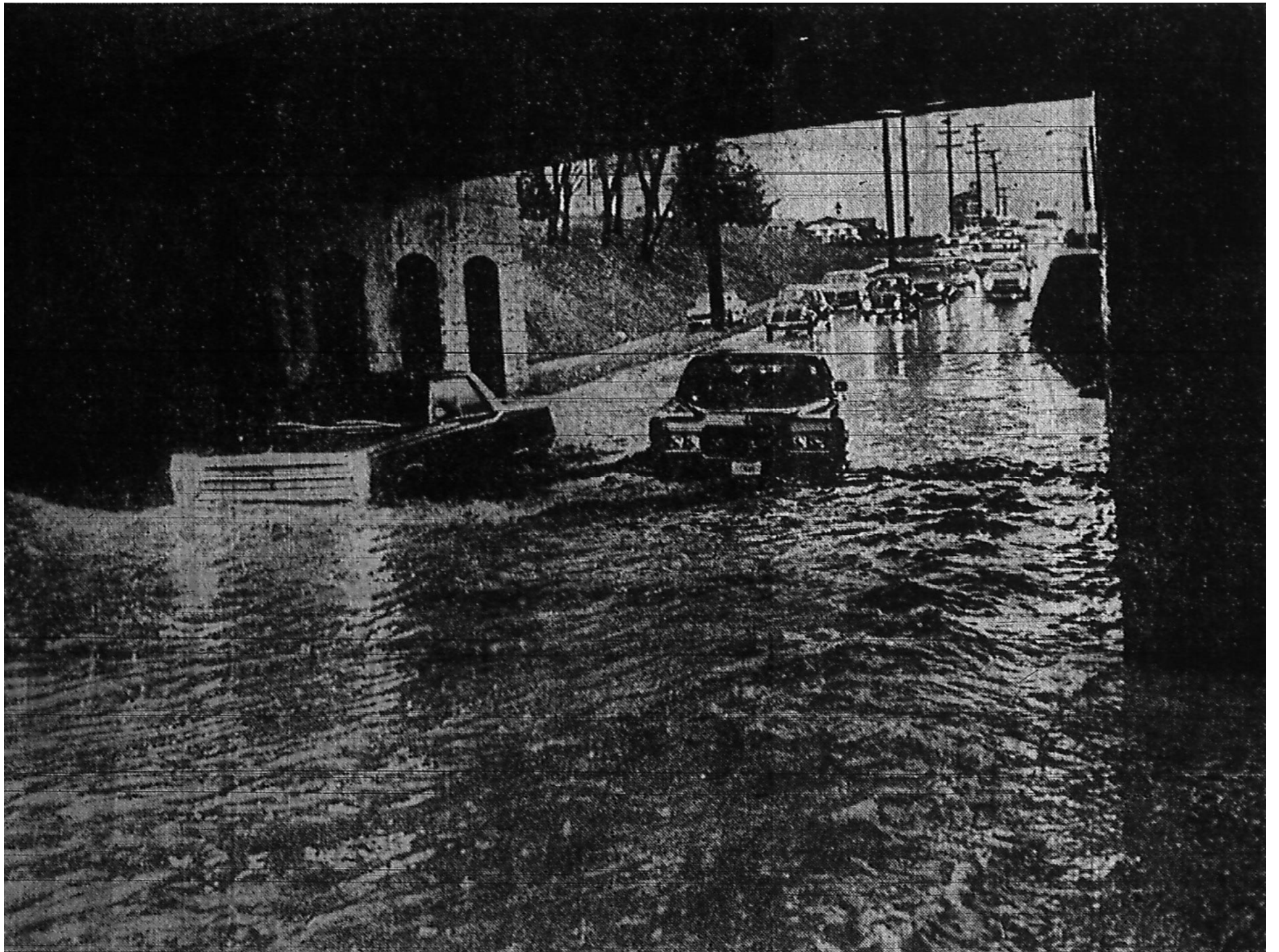


high water



Johnny Woodward, Opryland Park ranger, paddles rowboat away from flooded Grand Ole Opry House where waters threatened main floor Friday.

— Staff Photo by Bill Hense

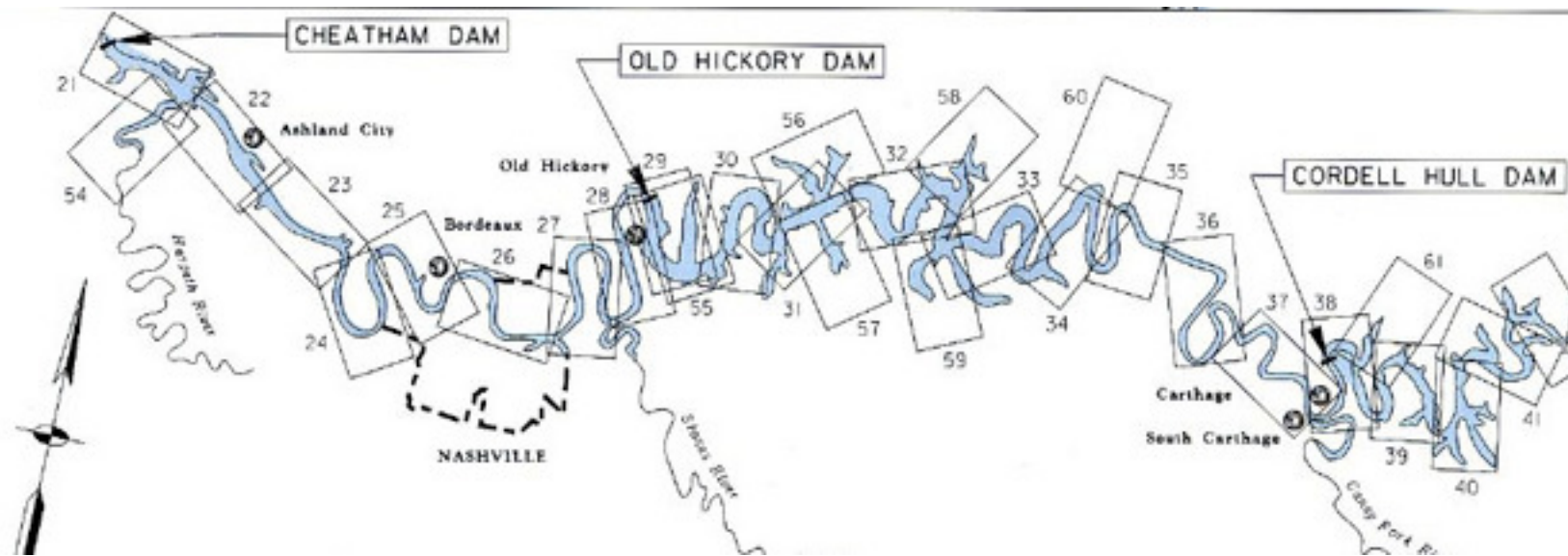


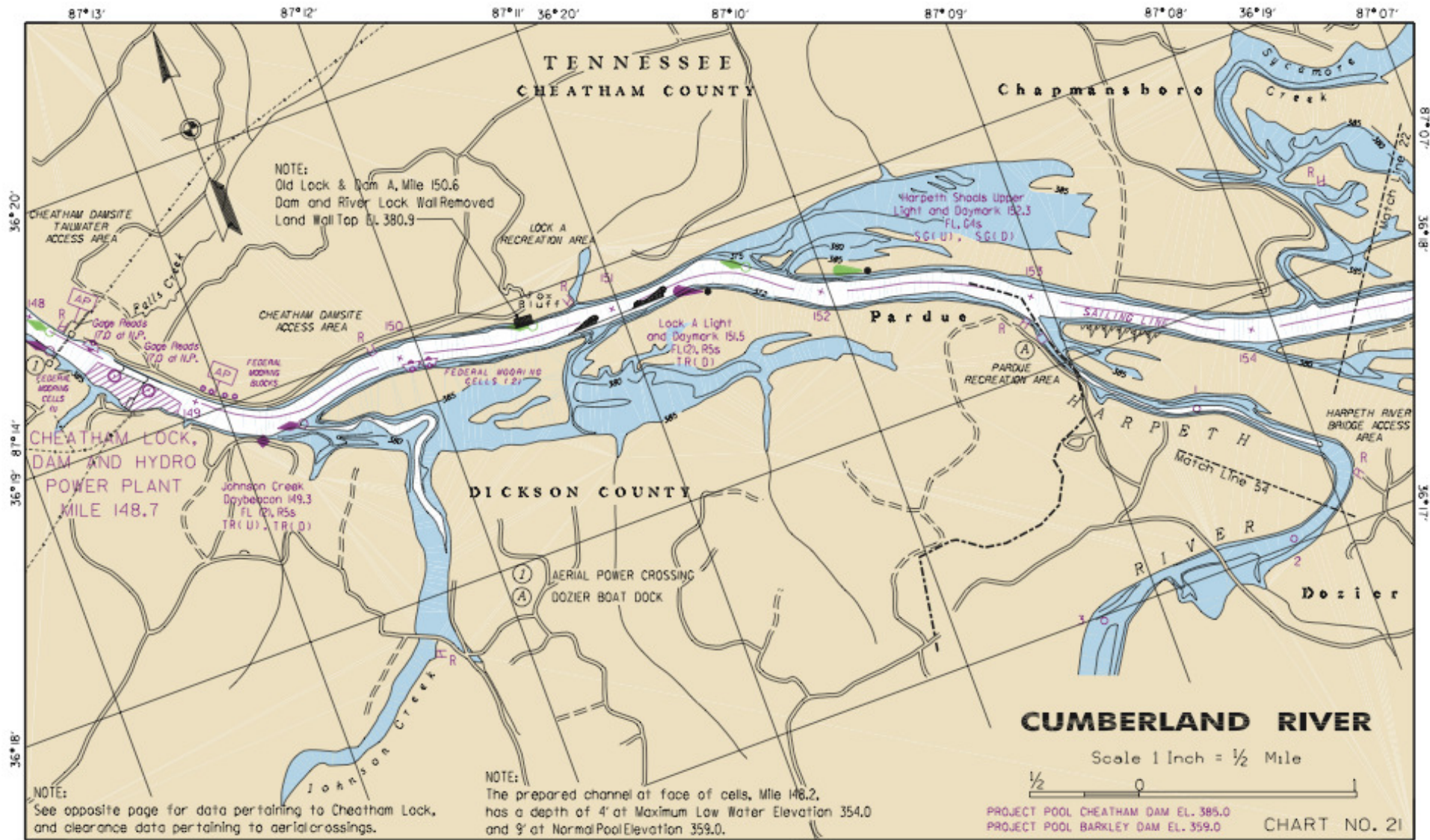


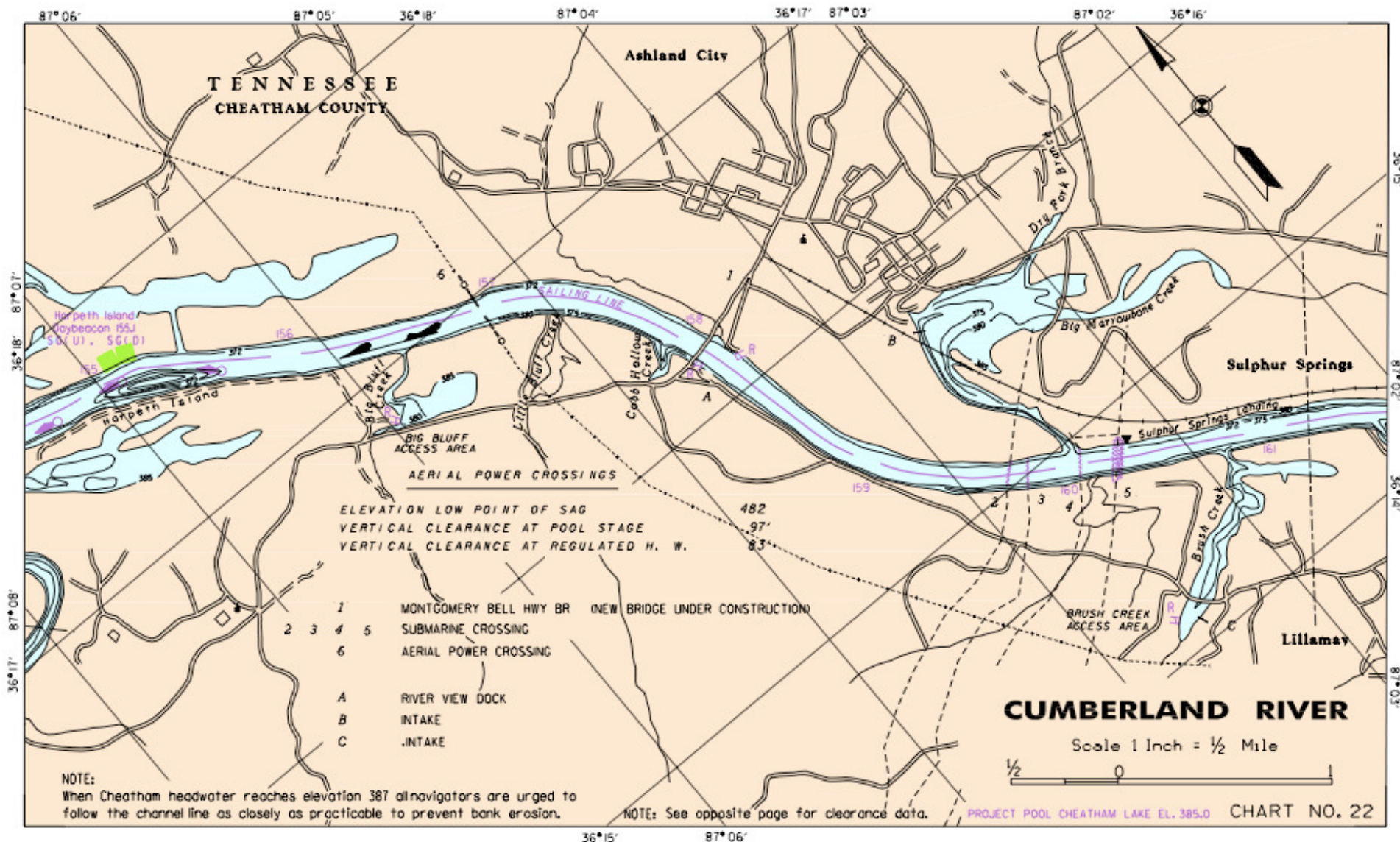
...and aerial photo by (my) Thompson

Metro's Industrial Park Succumbs to the Cumberland

Metro's industrial park on Visco Drive is underwater from flood waters from the Cumberland River. The Silliman Evans Bridge is in the background and Shelby Park, also mostly under water, is at the lower right.







TENNESSEE
CHEATHAM COUNTY

Ashland City

Sulphur Springs

Lillamay

ELEVATION LOW POINT OF SAG
VERTICAL CLEARANCE AT POOL STAGE
VERTICAL CLEARANCE AT REGULATED H. W.

- 1 MONTGOMERY BELL HWY BR (NEW BRIDGE UNDER CONSTRUCTION)
- 2 SUBMARINE CROSSING
- 3 SUBMARINE CROSSING
- 4 SUBMARINE CROSSING
- 5 SUBMARINE CROSSING
- 6 AERIAL POWER CROSSING
- A RIVER VIEW DOCK
- B INTAKE
- C INTAKE

CUMBERLAND RIVER

Scale 1 Inch = 1/2 Mile



NOTE: When Cheatham headwater reaches elevation 387 navigators are urged to follow the channel line as closely as practicable to prevent bank erosion.

NOTE: See opposite page for clearance data.

PROJECT POOL CHEATHAM LAKE EL. 385.0 CHART NO. 22

36°15' 87°06'

