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WEATHER & TRAFFIC IN-DEPTH

Google rolls out AI tool to predict flash floods up to 24 hours ahead

by: [Eric Henrikson](#)

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AUSTIN (KXAN) — New tools are making flash flood forecasting more accurate.

Last month, [Google launched a new Flood Hub](#) designed to help meteorologists and emergency managers better predict flash flood risk up to 24 hours in advance.



Big Sandy Creek at Big Sandy Drive during deadly July 2025 flooding in Central Texas. (Photo courtesy: National Weather Service)

It's one of [several artificial intelligence tools](#) now being developed to improve early warnings and reduce the dangers posed by fast-moving floods.

Why flash floods remain difficult to predict

For years, flash floods have been a challenge to forecast because they can strike suddenly and far from riverbanks.

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“Flash floods can occur anywhere. They are not confined to the river,” said Gila Loike with the Google Research team.

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That challenge, Loike said, is what Google's new system is trying to address.

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Flood Hub allows the public and professionals to interact with a new AI model that shows where flash flooding is more likely during the next 24

hours. Unlike traditional river forecasting, the tool focuses on rapid flooding driven by intense rainfall.

Google said it trained the model using millions of real-world flood reports, including two decades of local news coverage, to help fill gaps where sensor data does not exist.

Turning forecasts into real-world impact

At the University of Texas at Austin, researchers are working on AI-driven flood models that go beyond predicting rainfall totals.

“The community needs to know where the water may accumulate or may flood at the street or neighborhood,” said Wonhyun Lee, a flood modeler with the Bureau of Economic Geology at UT Austin.



Minor flooding near a field in Granger, Texas on April 21, 2026 (KXAN Viewer/ Nikki Barcuch)

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Lee said his team is focused on determining what flooding could actually look like on

roads. This includes how deep flood waters are and how long they may be there.

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“Meteorologists already provide real-time rainfall forecasting. Our approach can help to translate those kinds of forecasts into the possible flooding impact on the ground,” Lee said.

NOAA urges caution

At the national level, NOAA is also studying how artificial intelligence can be used in weather and flood forecasting, but researchers stress its limitations.

“It’s trying to emulate something that it has seen before. It’s not necessarily going trying to connect the full picture,” said Isidora Jankov of NOAA.

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San Angelo flooding, damage, and recovery efforts. (Photos courtesy of San Angelo Emergency Management and San Angelo Police Department)

Jankov said AI models often rely on historical data patterns, which can make long-term forecasting more challenging when compared to traditional models that calculate what should happen based on the laws of physics.

“I think that maybe interpreting results from machine learning models is harder in that way,” Jankov said.

An added layer, not a replacement

Despite the differences in approach, experts agree on one key point: AI tools are meant to strengthen the ability of local forecasters and not replace them.

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“A lot of what we’re trying to do here is provide this information to be an additional tool for

National Meteorological and Hydrological Services, NOAA, local authorities, et cetera, to strengthen their existing early warning systems,” Loike said.

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Frio River crossing at CR 337 near Leakey during deadly July 2025 flooding in Central Texas. (Photo courtesy: National Weather Service)

Why cities may benefit the most

Google said Flood Hub's reliance on local news data makes it especially useful in cities, where flash flooding can occur away from rivers and where traditional monitoring data is often limited.

Loike noted the tool is less effective in rural areas, where news reports are less common.

ADD AS PREFERRED SOURCE ON GOOGLE

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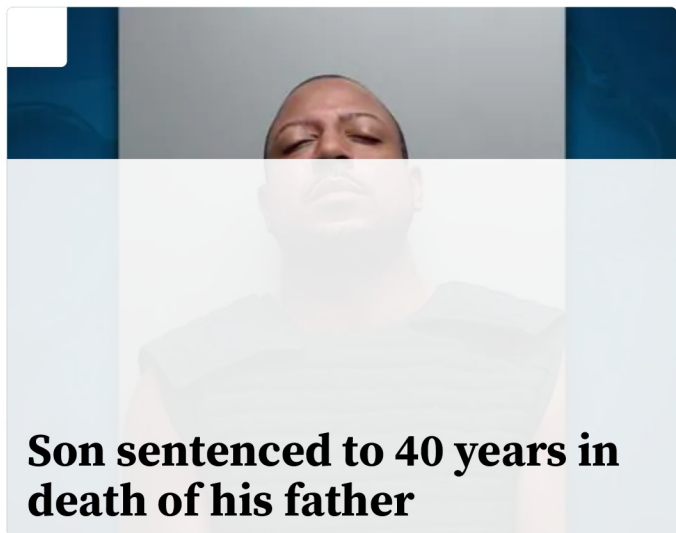
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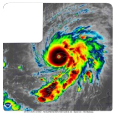
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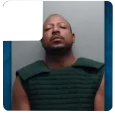
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7 -DAY AND HOURLY FOR CATEGORY

7 Day Forecast

Hourly Forecast

Friday

Saturday

Sunday

Monday

Tuesday

Wednesday

Thursday

86° / 72°

87° / 74°

91° / 75°

92° / 76°

93° / 75°

93° / 75°

94° / 73°

Scattered
Thundersto
rms

Scattered
Thundersto
rms

Spotty Rain
& Storms

Partly
Cloudy,
Isolated
Rain

Partly
Cloudy,
Isolated
Rain

Partly
Cloudy,
Isolated
Rain

Partly
Cloudy,
Isolated
Rain

60%

50%

30%

10%

10%

10%

10%

86°

87°

91°

92°

93°

93°

94°

72°

74°

75°

76°

75°

75°

73°

Current
86°

Mostly Cloudy

Tonight
72°

Scattered Thunderstorms
Precip: 40%

Tomorrow
87°

Scattered Thunderstorms
Precip: 50%

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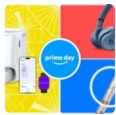
AUSTIN WEATHER

<p>Current 86°</p> <p>Mostly Cloudy</p>	<p>Tonight 72°</p> <p>Scattered Thunderstorms Precip: 40%</p>	<p>Tomorrow 87°</p> <p>Scattered Thunderstorms Precip: 50%</p>
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TRENDING STORIES

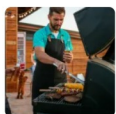
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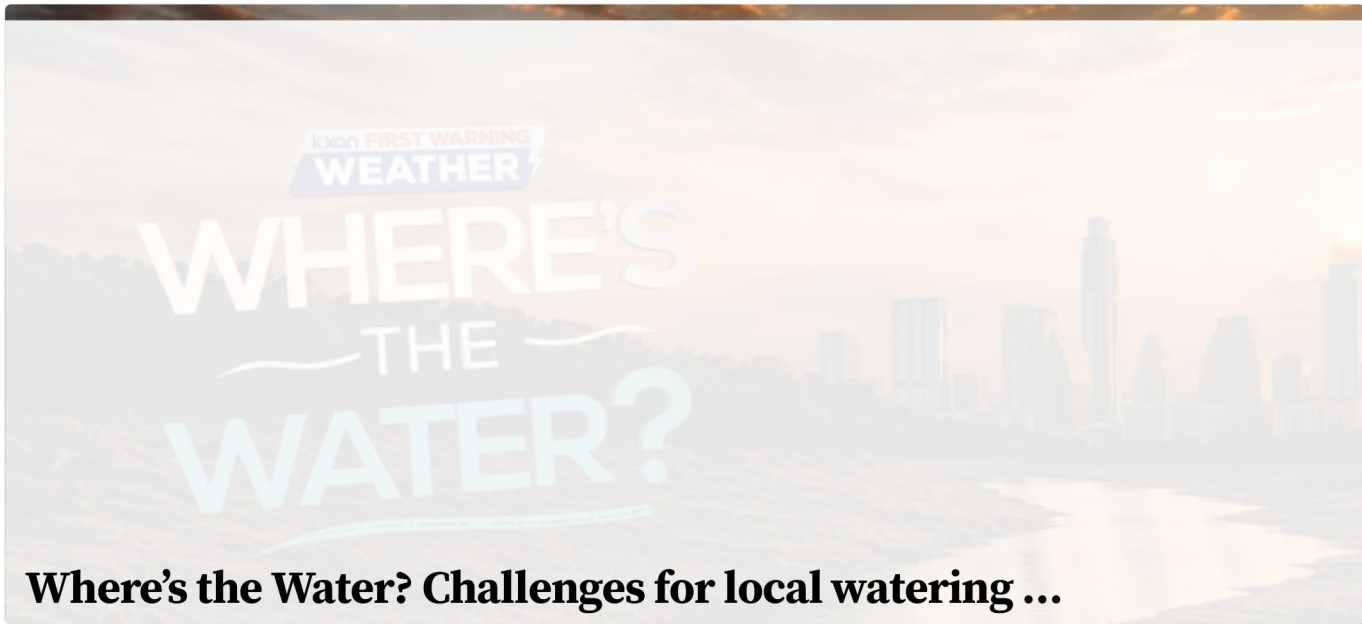


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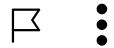
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- Very likely
- Somewhat likely
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