

AMERIA: David Easterling has a rain gauge in his backyard just outside of Asheville.

And he checked it about a week ago as the storm from Hurricane Helene came in.

He knew it would be a lot of rain, but even still...

DAVID EASTERLING: To walk out and see it almost full was just incredible.

I mean, I just rain and rain and rain.

I was mind boggling to see that much rain.

AMERIA: Easterling is quite possibly the last person who would be surprised by this.

He spent his career studying extreme rainfall.

For more than 30 years, he's worked at the National Oceanic and Atmospheric Administration.

Asheville is where the agency stores huge amounts of climate and weather data.

So Easterling assumed he understood the forecast for the hurricane.

EASTERLING: You know, I looked at it, and I said, yeah, man, we're supposed to get up to 15 or 16 inches of rain.

But it just didn't really - even with me, really click about, what's that really going to mean?

AMERIA: It meant widespread destruction.

The hills were already saturated from a previous storm, so the river rose to almost record breaking levels.

Easterling's house is OK.

But he's thinking about the neighbors who live in remote valleys.

EASTERLING: Well, all the roads are washed out.

They don't have cell service, and there's no telling how many people have died up of those places.

It's heartbreaking.

AMERIA: Easterling and his colleagues have started crunching the numbers on how extreme the storm was.

EASTERLING: It looks like, you know, we exceeded a one in a thousand-year rainfall event.

AMERIA: But that doesn't mean it won't happen again soon.

The planet is heating up, and hotter air can hold more moisture.

That means rainstorms drop more rain.

EASTERLING: You know, and I know a lot of people don't want to hear global warming and climate change and all that, but this is just a classic sort of event that we sadly expect to see probably more of in the future.

AMERIA: Easterling and his colleagues have done some of the most definitive studies on that.

They show in the Southeastern U.S., the most extreme rain storms are already dropping more rain.

And in a hotter climate, those storms get more than 20% heavier.

EASTERLING: The bottom line is you got to start planning for these kinds of events.

AMERIA: Many communities aren't planning for that because they're designing their infrastructure around how storms used to be.

Easterling says his colleagues at NOAA are now updating the rainfall records to help cities be better prepared for extreme storms.

It's all the more urgent now, he says, having just lived through it.