5G could mean less time to flee a deadly hurricane, heads of NASA and NOAA warn

It’s become increasingly clear that the wireless industry is trying to push the *idea* of speedy 5G wireless networks before the technology is actually ready. It’s a race, and the race is bullshit. But until today, we hadn’t realized that people’s lives might also be at stake.

As reported by *The Washington Post* and *CNET,* the heads of NASA and the National Oceanic and Atmospheric Administration (NOAA) warn the issue could set back the world’s weather forecasting abilities by 40 years — reducing our ability to predict the path of deadly hurricanes and the amount of time available to evacuate.

It’s because one of the key wireless frequencies earmarked for speedy 5G millimeter wave networks — the 24 GHz band — happens to be very close to the frequencies used by microwave satellites to observe water vapor and detect those changes in the weather. They have the potential to interfere. And according to NASA and NOAA testimony, they could interfere to the point that it delays preparation for extreme weather events.

Last week, acting NOAA head Dr. Neil Jacobs told the House Subcommittee on the Environment that based on the current 5G rollout plan, our satellites would lose approximately 77 percent of the data they’re currently collecting, reducing our forecast ability by as much as 30 percent.

“If you looked back in time to see when our forecast skill was

30 percent less than today, it's somewhere around 1980. This would result in the reduction of hurricane track forecast lead time by roughly 2 to 3 days," he said.

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If we hadn't had that data, Jacobs added, we wouldn't have been able to predict that the deadly Hurricane Sandy would hit. A European study showed that with 77 percent less data, the model would have predicted the storm staying out at sea instead of making landfall. Jacobs said later that we currently have no other technologies to passively observe water vapor and make these more accurate predictions.

On April 19th, NASA administrator Jim Bridenstine made similar comments to the House Science Committee. "That part of the electromagnetic spectrum is necessary to make predictions as to where a hurricane is going to make landfall," he told the committee. "If you can't make that prediction accurately, then you end up not evacuating the right people and/or you evacuate people that don't need to evacuate, which is a problem."

None of this should be a surprise to the industry or the FCC, as experts have been debating this point for years in the buildup to 5G. In fact, recent versions of the 3GPP's 5G NR specification *specifically* have a carveout to protect satellite weather services, by reducing the emission levels of neighboring 5G signals between 24.25 and 27.5 GHz. (It's under "6.5.3.2.2 Additional spurious emission requirements for NS_201," if you go looking.)

But the NOAA is arguing the current emission requirements aren't enough – it'll lose that critical data unless they're clamped down even further. "I'm optimistic that we can come up with an elegant solution where passive microwave sensing and 5G can coexist," Jacobs said.

The industry is pushing forward

The FCC has definitely been warned, by the way: *Space News*

reported that NASA's Bridenstine and Commerce Secretary Wilbur Ross sent a letter to FCC Chairman Ajit Pai to discuss protections on February 28th – a couple weeks before the FCC started auctioning off 24GHz spectrum on March 14th – but that Pai rejected the invitation, claiming there was no "technical basis for an objection."

Senators Ron Wyden (D-OR) and Maria Cantwell (D-WA) sent a letter to Pai on May 13th as well: "To continue down the path the FCC is currently on, to continue to ignore the serious alarms the scientific community is raising, could lead to dangerous impacts to American national security, to American industries, and to the American people," they warned, asking Pai to not award any final 24GHz licenses or allow carriers to operate in the 24GHz band until it can protect satellite measurements in the way that NASA and NOAA believe they need to be protected.

And earlier this week, the wireless industry's trade association CTIA tried to ridicule these requests as fake news, by publishing an argument about how the scientific community's claims relied on a 13-year-old weather sensor that was never actually used. That was quickly rebutted by meteorologist Jordan Gerth, who pointed out on Twitter that a different 23.8GHz sensor, the JPSS, replaced it:

> *Dear @CTIA, I'd like to introduce you to the Advanced Technology Microwave Sounder (ATMS), a real instrument in flight right now with a sensing band at 23.8 GHz. Sure, NPOESS was cancelled but JPSS is the backbone of US-world space observing. #FactsMatter https://t.co/uQ5UozWSiw*
>
> *— Jordan Gerth (@jjgerth) May 22, 2019*

We haven't yet seen the study ourselves to confirm whether the CTIA is correct that the study relied on the older sensor and whether the new one would make a difference, but a CTIA spokesperson argues that the newer sensor is less sensitive to

interference from 5G signals.

For now, you'll have to have to decide whether you're more inclined to trust heads of two respected scientific agencies, or the groups that profit from rolling out 5G as quickly as possible.

https://www.theverge.com/2019/5/23/18637356/5g-interfere-weather-forecast-24ghz-frequency-band-satellite-predict-hurricane