



UNLOCKED

## Who is collecting America's climate data—and why does it matter?

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### TRANSCRIPT

**Nancy Gibbs:**

Hi, I'm Nancy Gibbs, the Director of the Shorenstein Center at Harvard's Kennedy School. And this is Unlocked. My guest today is Justin Mankin, who's a professor at Dartmouth focusing on climate. And therefore, an excellent person to explain what we need to know about government data, how it's collected, and who can see it regarding climate particularly. So, Justin, let me start there. What kinds of climate data has the federal government historically collected?

**Justin Mankin:**

Oh, my goodness. So much data. So many of our observations of Earth are owed to federal investment by US tax dollars. So, we're talking about satellite missions launched by NASA, providing a host of Earth observations, whether that's extreme precipitation or the amount of water stored in the land, gravitational anomalies throughout our surfaces. The altitude of the oceans themselves as a function of the contributions from glaciers and ice trapped on land in Greenland and Antarctica. These endeavors, these data collection exercises, they are the province of nations. They generally have historically been beyond the scope of private actors. And so, they've really taken a huge amount of investment via our national labs and via our federal agencies.

Beyond that, almost every weather forecast that we have comes from the federal government, the National Weather Service, which sits under the aegis of the National Oceanic and Atmospheric Administration, NOAA. Those bodies sit under the Department of Commerce. And there's a really clear logic for that. These weather forecasts are essential to the wellbeing of the US economy. It has been too important an endeavor to be privatized, and so any weather app that any listener picks up and uses on their phone, the backbone of those data are National Weather Service forecasts.

**Nancy Gibbs:**

And that shapes everything from air travel and transportation to agriculture. I mean, that weather data must touch just about every aspect of the economy.

**Justin Mankin:**

Yeah. I mean, its origins were with the military enterprise. The military industrial complex coming out of World War I and II is one of the reasons why numerical weather prediction, which is this ability to simulate the fluid dynamics of our atmosphere, and make a determination of the likelihood of precipitation and temperature changes. They were so essential to military planning. And the data collection exercise around that, the distribution of meteorological stations in the Northern Hemisphere, at military bases around the world, the launching of weather balloons or what we call radiosonde measures, which give you the vertical profile of wind, temperature and humidity in our atmosphere.

These things are essential inputs into our weather prediction models. And absent those data, we are quite literally flying blind as a society.

**Nancy Gibbs:**

And is that data collection always preserved? Is it cumulative, or do changing circumstances or changing administrations change both what data is collected and what is accessible?

**Justin Mankin:**

New collection priorities tend to come online, but data collection is a reflection of the privilege, our profit and priorities of the data collector. It's really a reflection of values. And so, those can evolve in time. And data that were once collected gets archived or new data collection methods come up online, owing to new instrumentation or collection techniques. But there's also a lot of recalcitrance to changing data collection approaches. The US Geological Survey or USGS, which has an incredibly rich data set of stream gauge data, meaning flows in rivers and streams around the United States. Super essential work for a national flood model that, say, undergirds FEMA's National Flood Insurance Program payouts of where is the one in 100 year floodplain. Is your house in it or not?

Those kinds of data come from, say, stream gauge data from the USGS. And that data collection technique has been essentially the same, owing to a fear that changing it to more modern instrumentation would lead to a bias relative to historical instrumentation, that would then need to be corrected in some way. And so, these data collection approaches are constantly being updated, and that instrumentation, and change, and how that changes measurement to accuracy, and what that means about, say, inferring long-term changes in something like flood risk, we would need to take that on board in the scientific community.

And so, there's a tremendous amount of work that thinks about those choices. I, for example, am one of the scientists helping inform drought priorities for NASA's next decadal survey, which is helping inform what are our priorities as an Earth observation community for NASA. What satellite missions and instrumentation should we build? And how does that map to salient data gaps we have here for climate hazards, for example?

**Nancy Gibbs:**

So, if the data collection both needs to be consistent to be valuable, but also there are new tools and needs coming online at all times. How has data collection changed under this current administration? And are there changes in what they're collecting, what they're sharing or both?

**Justin Mankin:**

Both. Yeah. I think, again, data collection is a function of the values of the data collector. And I think we see pretty clearly what the values are here. By dropping the number of radiosonde weather balloons being launched at various locations around the United States, that is degrading the accuracy of our weather forecasts. By firing flight team leaders for the Hurricane Hunter aircraft platforms, we are degrading our capacity in the National Hurricane Center, NHC, under the National Weather Service, in its ability to accurately forecast the cone of destruction associated with a hurricane making landfall on the Atlantic seaboard, for example.

So, there is an effort pretty clearly underway to degrade our capacity to make accurate forecasts, in part because there has long been this ambition by the Trump administration and its allies, including during their first administration, to privatize a lot of these endeavors. And to see, say, AccuWeather or some

other private weather company picking up the slack and making the American people pay for those weather forecasts so essential to daily life. Please.

**Nancy Gibbs:**

Do they make arguments about why there's a logic or it would benefit, weather collection could benefit from being privatized?

**Justin Mankin:**

I think there's a fallacious narrative of government inefficiency and of private sector efficiencies, but the fact of the matter is, is that the private sector interest is not the public interest. And when it comes to something like the return on investment for the American taxpayer, every dollar of tax money that goes into the National Oceanic and Atmospheric Administration, that is being systematically degraded in terms of its capacity right now. Like a generational loss in intellectual capacity at this administration. Every dollar we pay into NOAA, we get \$6 back. That's a 500% return on investment in terms of mitigating loss associated with severe weather and disasters.

The argument that AccuWeather could provide more accurate forecasts than, say, the National Weather Service, when all of AccuWeather's forecasts, should they exist privately, are based on publicly available and publicly collected data paid for by US taxpayers. I think the argument becomes a bit more of a house of cards. The fact of the matter is, is that the National Weather Service and the people that work at NOAA are pretty heroic and they're interested in serving the public to the best of their ability. And I think we see that in the quality of the work that they've done to date, to mitigate harm facing the American people.

There's an anecdote that the former CEO, Joel Myers, of AccuWeather likes to tell, with regards to their forecasts. And this pay to play model that they embrace privately. They tell a story or he tells a story where there are two trains approaching a convective system that's going to possibly trigger a tornado. So, there's a storm system, there are trains on the tracks carrying cargo. Those trains, that company, that rail company pays for enhanced weather forecasts from AccuWeather. So, they pay money to that company for the warning to stop the train and let tornadoes pass. They do that. They tell the rail company to stop the train.

A tornado touches down, passes over the rail line between two trains, but then marches into a nearby town killing 12 people. A town that did not pay for that enhanced weather forecast from AccuWeather. I ask you, where is the justice in that? Those people could've been saved by that forecast from AccuWeather, given their supposed enhanced weather forecast accuracy. Now, Mr. Myers holds this up as emblematic of the added value of the private sector to numerical weather prediction. But I would actually argue that it just reveals the tragedy associated with the privatization of that which should be a public good.

**Nancy Gibbs:**

What are scientists, research centers, others trying to do to preserve...? I know during every transition there are always efforts to preserve and archive government data and make sure it remains broadly accessible. How much are you seeing that happening now?

**Justin Mankin:**

Yeah. There are lots of efforts underway. I am a national climate assessment author, which is an assessment that is pursued every five years or so, federally mandated, congressionally mandated in order to build a cogent picture of the insult from climate change and how that affects the United States.

I, like 400 of my other co-authors, was fired by the Trump administration in that capacity. And you better believe we were working to preserve the effort that we had put into that project beforehand. The National Center for Environmental Information or NCEI, which collects data on the billion dollar weather and climate disasters facing the United States in any given year, they fired the analyst who led that work. And those data are no longer being collected or published.

**Nancy Gibbs:**

But just to be clear, because I don't want to confuse between publicly collected data and the privatization that you talked about. Is it that the data is not being collected by anyone, or that it is being collected and is accessible by different people than in the past?

**Justin Mankin:**

That was an analytical synthetic product put together by the United States government. That is no longer being put together and published. So, it is no longer available. And it falls from this logic that we saw with COVID. If you do not test, there are no cases. If you do not assess billion dollar disasters and their impact on the economy, non-exist. I think we can see how fallacious that argument is.

**Nancy Gibbs:**

What do you think, finally, that journalists might be missing in their coverage of this issue, and particularly its implications for local communities around the country?

**Justin Mankin:**

Yeah. I think one really important thing is that we are in the midst of a vast privatization of data, data that should be a public good. And the consequence of that is to privatize the gains of our collective climate losses. Climate change is occurring, and it is amplifying societal inequities in terms of wealth and well-being, and will continue to do so. It is also going to create a new class system within that. Those who have access to information to mitigate climate risks, whether they be wildfire, floods, droughts, heat waves, and the like, and those that do not. And climate change as a hazard simply selects for the most vulnerable among us. And it's always going to impact, mostly the most vulnerable among us.

And this is another way by creating a privatization of either weather and forecast data, or the information to undertake costly and contentious adaptations to climate change, whether that's at the municipal scale or for an individual farmer, or rancher in the American West. Where does that information come from? How is the trustworthiness of that information assessed? And do you have to pay for it? The idea that we would have this tragedy of being hit with climate losses at the same time that we're masking and privatizing the very data one would need in order to manage those climate losses and mitigate the risk of future ones, I think is a pretty epic tragedy. And that is where the public sector needs to step in to fill an informational gap.

**Nancy Gibbs:**

Justin Mankin, thank you very much for unlocking the secrets about government data collection and how it impacts people's lives. Thank you for your time.

**Justin Mankin:**

Yeah. My pleasure. Thanks for having me, Nancy.