

NASA science chief: 'I have no worries about the resilience of this country'

Thomas Zurbuchen on the agency's Earth-science programmes and the transition to a new president.

Alexandra Witze

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Joseph Xu/University of Michigan

Thomas Zurbuchen says that NASA's science programmes should be ambitious.

Solar physicist Thomas Zurbuchen became [NASA's science chief in October](#), replacing astronaut John Grunsfeld. Just one month later, the US political system went through a seismic shift [when Donald Trump was elected president](#).

As a high-profile agency perennially favoured by politicians of both parties, NASA usually fares well regardless of which group is in charge. But Trump has [appointed several climate-change deniers to his Cabinet](#), and questions remain about the future of NASA's Earth-science programmes.

Zurbuchen spoke to *Nature* on 14 December at a meeting of the American Geophysical Union in San Francisco, California. This interview has been edited for length and clarity.

When will a new NASA administrator be named to replace Charles Bolden?

If history is a teacher, it's either in January or sometime shortly thereafter.

How are you preparing for the change in administration?

When I came in, it was clear we needed to prepare information for the next administration, and we put together white papers. Then the elections came and I was asked, do you want to change anything you did, for example in Earth science? And I didn't change a single word. Because the principles that I drew out are the principles that I would use in any administration, no matter what it is.

What are those principles?

First, the science that we're doing is not science that I'm supposed to invent or prioritize. We have the National Academies [decadal surveys, which recommend mission priorities] for that.

Number two, I believe our science should be ambitious. I believe that missions should have the opportunities of bringing new tools into space, whether by launching a CubeSat with them or a larger small satellite or something else. We see a lot of important work, especially in the Earth sciences, from commercial partners, and we need to figure out how to leverage this and do the best job for the science community.

Third, we need to stick to the amazing tools of science. This agency has been the strongest when we are looking at what is in front of us. We see what is there, and we go and answer the biggest questions. We're a research agency that explores.

We want to look at new questions of what we could do — to increase what we know about nature but help utilize what we do for the benefit of society.

Given the climate scepticism of some of Trump's appointees, there have been a lot of questions about what might happen to NASA's Earth-science division in the next administration. What is NASA's role in Earth-science research?

Earth science has been part of NASA since the beginning. It's part of our chartering documents, and the reason is threefold. One, Earth is worthy of being explored like other planets. There's important science that we learn here. The second is that research on Earth can actually help save lives and make the world better. And the third is connectedness. If we want to understand Mars or Venus, or volcanism or atmospheres, we look at Earth as a data point.

Are we providing enough value for the taxpayer? I'm happy to have that discussion.

Has Trump's transition team asked for any lists of scientists who work on climate change, as happened at the Department of Energy?

No.

How will you work with members of Congress, who sometimes take a very hands-on approach to trying to determine NASA's priorities?

NASA has deep bipartisan support and I really like when congressmen and -women are really excited about it. I'm deeply non-political. I've worked with people from both sides of the aisle. In the end, it's about understanding the why of what we do, like understanding the context of it, and learning how to have clear communication and the decision process that brings us to that goal. I've done a lot of work on Capitol Hill in the past.

Let's see how far we get.

What do you want to accomplish in your first year on the job?

I hope I know who my boss is. [Laughs.] There are things we want to do. Look at the decadal [recommended missions] that we haven't done.

I hope we can really launch a space-weather initiative. I hope we know what the new planetary missions are, [the Discovery-class missions](#) that are going to be announced soon.

How do you deal with the stress of transition?

I purposely rented a place right next to the Mall [in Washington DC], which has always been one of the most inspiring things to me. I remember running up and down the Mall the day before the election, looking at the Washington Monument and the Lincoln Memorial. I was thinking about how many challenging times this country has gone through and how these symbols stand for what's great about this country. The next day I ran up and down the Mall and I thought, they're still here.

I have no worries about the resilience of this country.

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