



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY

Opening Statement

Chairman Don Beyer (D-VA)
of the Subcommittee on Space and Aeronautics

Space and Aeronautics Subcommittee Hearing:
NASA's Earth Science and Climate Change Activities: Current Roles and Future Opportunities

May 18, 2021

Good morning and welcome to today's hearing on "NASA's Earth Science and Climate Change Activities: Current Roles and Future Opportunities". First, I want to thank our panel of expert witnesses for being here.

There is no more important time for addressing climate change and the health of our planet. Delaying action risks everything from increased exposure to heatwaves, spread of vector-borne diseases, drought, crop failures, and severe weather.

Actions taken and policies developed to respond to the climate crisis must be informed by peer-reviewed science, and that science starts with measurements, observations, and research that leads to understanding.

That's where NASA comes in.

When studying the Earth, space is the ultimate vantage point. Thanks to NASA's fleet of space-based science observations and measurements, we have long-term research data sets that show the scientific signals of climate change.

Those signals, unlike short-term variations in terrestrial weather, change over longer time periods.

NASA Earth observation measurements also provide important inputs to models that enable our ability to predict and forecast climate change.

And NASA satellite measurements contribute to studies such as the National Climate Assessment—a scientific assessment of climate change and its impacts across the United States.

Beyond the data, satellite observations have the ability to tell a compelling visual story, such as the significant loss of sea ice and glacier melt in the Arctic.

Several astronauts have remarked on their experiences of viewing the Earth from space. In a Scientific American article issued just a few days ago, former NASA astronaut Scott Kelly said,

During my first mission, in 1999, to fix the Hubble Space Telescope, I remember passing over South America and being awed by the sheer size of the Amazon rainforest. On my last mission in 2016, only 17 years later, burning and clear-cutting were clearly evident. After seeing the Earth dramatically change from this unique perspective, I firmly believe that solving climate change is the moonshot of the 21st century.

Closer to home, NASA satellite data are helping identify algal blooms, and NASA and NOAA satellite data are helping farmers increase their efficient use of water resources for irrigation -- saving money and increasing profitability.

These are just a few examples that illustrate the value of NASA's Earth science research to businesses, local resource managers, and environmental decision makers.

NASA once referred to its Earth science activities as "Mission to Planet Earth".

In the midst of economic, property, health, and environmental impacts from climate change, it's clear we have an urgent mission before us.

We need to look at every opportunity to act now.

Is there more that NASA could and should do?

- Are there gaps in our scientific understanding of the Earth system that need to be addressed?
- Are there opportunities to expand the transition of research into information tools?

And it's not just NASA.

Other Federal research agencies are working on climate change research and mitigation efforts.

Commercial satellite imaging companies, philanthropists, and not-for-profit entities are ready and willing to contribute to the climate challenge.

We need them all.

Where and how do they fit into to an overall climate strategy? How should NASA effectively partner with non-Federal entities, and also maintain free and open data?

In closing, the nation is planning aggressive efforts to mitigate the climate crisis, and we'll need to check our progress.

While NASA is not a regulatory agency or a carbon police, how can space-based measurements validate or check the effectiveness of mitigation strategies? Should NASA play a role?

Today's hearing is an important opportunity to consider these and other questions, and I look forward to hearing from our witnesses.

And now I'd like to turn to the Ranking Member, the gentleman from Texas, Dr. Brian Babin for his opening statement.