



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

Opening Statement

Chair Kendra Horn (D-OK)
of the Subcommittee on Space and Aeronautics

Subcommittee on Space and Aeronautics Hearing:
Discovery on the Frontiers of Space: Exploring NASA's Science Mission
Tuesday, June 11, 2019

Good morning, and welcome. I especially want to welcome our witnesses, thank you for being here.

Before we begin our second hearing, I want to say it's an honor and a pleasure to chair this Subcommittee. Our investments in Space and Aeronautics are catalysts for discovery, innovation, and economic growth in America. I am grateful for the opportunity to work with Ranking Member Babin and all the Members as we consider the important issues before the Subcommittee. We began by focusing our first hearing on human exploration, and today we're turning our attention to science.

Space science has come a long way in the sixty years since NASA's founding and James Van Allen's launch of Explorer 1—America's first science satellite—in 1958. While Explorer 1 provided initial glimpses into what could be discovered from vantage points above and beyond the surface of Earth, NASA's science spacecraft have gone on to study our Sun and every planet in the solar system, to look back to into the early Universe, and to enhance our understanding of our own planet.

Today, NASA's Science Mission Directorate represents a \$6.9 billion investment that funds space-based and suborbital science missions, ground-based research, data analysis, and technology development. These elements support NASA's programs focused on planetary science, Earth science and applications, astrophysics, and heliophysics—the study of the Sun and its interactions with Earth and the solar system.

Through these programs, scientists are seeking answers to fundamental questions:

- What is dark energy and, how and why is the Universe expanding, and at what rate?
- How have the many chemical and physical processes that shaped the solar system evolved and interacted over time?
- What are the structure, function, and biodiversity of Earth's ecosystems, and how and why are they changing in time and space?

- What are the origins of the Sun's activity and how can we predict variations in the space environment?

In pursuing answers to these and other questions, NASA's scientific findings, increasingly, become interwoven into our everyday lives—from decisions to reroute aircraft due to solar activity and space weather, to surveying the skies for potentially harmful near-Earth asteroids, to using ocean color and temperature maps for commercial fishery forecasting, or in using satellite data to assess the impacts of our changing climate, and much more.

Through an organized, science community-led process known as the “decadal surveys,” NASA's Science Mission Directorate has benefited from a systematic approach to setting priorities that guide NASA's planetary, heliophysics, astrophysics, and Earth science programs over ten-year periods. Not only do the decadal surveys guide the content of NASA's science programs, they also help us commit to the highest priorities identified by the science community. The decadal surveys keep us honest and focused on top priorities when funding constraints or competing interests arise.

However, consistently following and implementing decadal priorities has not always been easy. The complexity involved in ambitious, large-scale missions has led, in some cases, to significant cost and schedule growth, so we must be vigilant in ensuring that NASA is as innovative in program and cost management as it is in advancing scientific discovery.

How can NASA and the community both encourage ambitious, breakthrough science while minimizing the unanticipated costs and delays that may come with pushing the edges of innovation? And must pushing the edges of innovation and discovery always be equated to large and expensive missions? Or can the use of small satellites and cubesats, and hosted payloads, where appropriate, also help us acquire scientific observations and measurements at lower cost?

It is clear we have a lot to discuss, and I look forward to our witnesses' testimony and perspectives on these critical issues.