SCIENCE AGENDA

OPINION AND ANALYSIS FROM SCIENTIFIC AMERICAN'S BOARD OF EDITORS

Let NASA Take Flight

Donald Trump and Congress should end Washington's bad habit of shifting our space goals

By the Editors

As a newly minted president, Barack Obama told NASA to steer away from the moon—a destination set by his predecessor George W. Bush—and head for Mars instead. Richard Nixon encouraged NASA to cancel its final Apollo missions to divert funds to the space shuttle program. Unfortunately, President-elect Donald Trump seems set to follow this precedent. "After taking office, we will have a comprehensive review of our plans for space and will work with Congress to set both priorities and mission," he told *SpaceNews* a month before the election.

These repeated relaunches come at great cost. Space exploration is a long-term proposition: changing our minds every four or eight years means wasting effort, time and money. Another reshuffle could prove disastrous. NASA has finally regained momentum after its last change of plans in 2010 and says it is on track with its giant Space Launch System (SLS) rocket, intended to target the Red Planet. "This is not a time that we can start over," NASA administrator Charles Bolden said in October 2015. Our space program needs stability, and several groups have proposed changes that could help.

One is that NASA administrators should serve terms longer than four years. Currently, when each president takes office, he or she can nominate a new administrator, to be confirmed by the Senate. The nonprofit Space Foundation suggested in a 2012 report titled *Pioneering* that NASA administrators should serve renewable terms of five years to prevent an overhaul every time someone new moves into the White House.

The report also argued that scientists and experts should play a stronger role in setting our country's human spaceflight goals, suggesting that the president and Congress appoint an independent commission to approve 10- and 30-year plans developed by NASA. The agency would then submit these plans to Congress for approval every five years. This method closely resembles the way NASA already sets its research goals for physics, earth science, and other fields and allocates the funds allotted from Congress, based on priorities determined through independent surveys conducted every 10 years by the National Academies of Sciences, Engineering, and Medicine.

Such guidelines would also give NASA badly needed financial stability. When Congress resets the agency's funding every year, it plays havoc with space projects that can take a decade to get off the ground. For example, reduced budgets over the past five



years have led to delays on new spaceships that NASA is developing with commercial companies to carry astronauts to the space station. The *Pioneering* report advocates that Congress create a fund that the agency can draw from as needed. This would let it spend more in years when large missions are starting up, then bank savings later when costs taper off.

Some of these goals overlap with the Space Leadership Preservation Act, introduced in 2015 by Representative John Culberson of Texas, that was never voted on. It would have created a board of directors to oversee NASA and make its yearly budget requests. That board would have also recommended candidates for NASA administrator to the president, who would then nominate someone from the list to serve a 10-year term. The bill was opposed by House Democrats who objected that board members picked by the president and Congress, using a formula based on which party held majorities in the House and Senate, "would inject partisan politics into that Board."

Although they differ on particulars, this bill, the Space Foundation report and other proposals agree that NASA needs longer-serving administrators and an advisory board to help set its goals based on science. When President Trump and the new Congress take office, they should enact these changes. By giving NASA more independence, they can free it to tackle truly visionary goals whose payoffs lie many years in the future.

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