



Human Space Exploration Update (March – April 11, 2017)

FY17 and FY18 Budgets

- **NASA Funding:** [FY2018 budget may be topic A, but FY2017 still not settled](#) Though Congress is soon to get more details from the Administration on the proposed 2018 budget, the White House and lawmakers must still come to terms on a spending plan for 2017. Unable to agree on a budget last year, lawmakers and the previous administration settled on a budget Continuing Resolution (CR) that holds current year spending at 2016 levels. The CR expires on April 28. President Trump wants a \$33 billion supplemental budget increase for Defense and Homeland Security, which means \$18 billion in reductions across non-defense agencies, including NASA, though the path forward appears "murky." (See also: [Trump's NASA budget supports deep space exploration](#); [White House seeks near-term cuts to NASA and NOAA programs](#); [A farewell to ARM?](#); [Opinion: NASA's requested budget of \\$19 billion is a true bargain](#))

NASA Authorization Legislation

- **President Signs:** [Trump touts bipartisanship of NASA reauthorization in weekly address](#) In a video address early Saturday, President Trump pointed to his signing of the 2017 NASA Transition Authorization Act last week as an effective example of Washington bipartisanship. The president said with the NASA Transition Authorization Act, "we renew our national commitment to NASA's mission of exploration and discovery." (See also: [President Trump signs NASA Authorization Bill](#); [Lightfoot seeks stability at NASA despite budget uncertainty](#); [House passes NASA authorization bill](#); [Cruz plans new NASA authorization and commercial launch bills](#))

International Space Station

- **Operations Beyond 2024:** [Congress Mulls Options for Space Station Beyond 2024](#) The future of the International Space Station beyond 2024 was the focus of a congressional hearing. According to Representative Babin, the head of a congressional subcommittee that oversees NASA, the United States' ability to send astronauts to Mars in the mid-2030s depends, in part, on cutting back or ending government funding for the International Space Station after 2024. While Bill Gerstenmaier urged Congress to plan a smooth transition from the station to beyond-low-Earth-orbit initiatives, with an eye on preserving U.S. leadership in space. (See also: [NASA, Roscosmos open to extending Station operations to 2028](#); [NASA marks 50 Space Station expeditions with flown metal mementos](#))
- **Twins Research:** [NASA twins study researchers take genetic data to next level](#) NASA astronaut Scott Kelly set a U.S. record of 340 days in space for a single mission as he returned to Earth from the International Space Station in March 2016. Though Scott's twin brother, retired NASA astronaut Mark Kelly remained behind, the two men made and are making a significant contribution to future human deep space travel by serving as subjects in a range of health research projects. The "twin studies" are looking at how long space missions affect genes and how those changes influence physical and psychological well-being.

Orion and Space Launch System

- **Senate Letter to President:** [Hatch Urges Continued Support of Space Exploration in Letter to President Trump](#) Senator Orrin Hatch (R-UT), the senior Republican in the United States Senate, led 23 of his colleagues in a letter to President Trump highlighting the importance of space exploration infrastructure, including the Space Launch System (SLS), the Orion Spacecraft, and the Exploration Ground System (EGS). The letter calls for a renewed focus on deep space assets and urges the President to continue supporting these critical systems.
- **Orion Testing:** [Orion's parachutes tested under launch abort conditions](#) NASA exercised the descent parachute system for the Orion crew exploration capsule this week over the U.S. Army Proving Ground in Arizona. The test capsule, without crew, was dropped from a U.S. Air Force transport aircraft at an altitude of 25,000 feet to check out the chutes that would be deployed in the event of an Orion launch abort.
- **SLS Testing:** [New SLS engine controller tested in hold-down firing](#) Engineers at NASA's Stennis Space Center in Mississippi completed a 500-second test firing Thursday of an RS-25 engine, one of the four that will power the first stage of the Space Launch System (SLS), an essential part of U.S. human deep space exploration plans. The test included a new Honeywell/Aerojet Rocketdyne engine controller that will be assigned to the first SLS test launch, Exploration Mission-1, currently planned for late 2018 on a mission that will send an Orion capsule around the moon and back to Earth. (See also: [NASA SLS rocket's 'upper part' tests underway | Video](#); [SLS upper stage arrives at the Caps as the LETF tests its umbilicals](#))

Commercial Space Transportation

- **Commercial Crew on Schedule for 2018:** [Commercial Crew on tight but achievable timeline for crewed flights in 2018](#) Boeing and SpaceX are showing signs of achieving crewed test flights of their CST-100 Starliner and Dragon space capsules by the end of 2018. Both are developing systems to transport astronauts to and from the International Space Station under NASA's Commercial Crew Program.(See also: [NASA engineers evaluate ECLSS for Commercial Crew missions](#))
- **Starliner Testing:** [Returning astronauts safely: Starliner test provides crucial re-entry data](#) New Mexico's Spaceport America is the site of parachute testing for Boeing's CST-100 Starliner, one of two spacecraft in development under NASA's Commercial Crew Program to transport astronauts to and from the International Space Station. A helium balloon is carrying a capsule mockup to high altitude for the parachute release. The most recent test was carried out on March 10.
- **Dragon Supply Mission:** [SpaceX's Dragon supply carrier wraps up 10th mission to Space Station](#) NASA's latest contracted re-supply mission to the International Space Station concluded early Sunday with a Pacific Ocean splashdown and recovery. The mission, launched February 19 by SpaceX, delivered a new external sensor to monitor the health of the Earth's atmosphere; a stem cell investigation for cancer treatment and another investigation of processes influencing bone and tissue injuries; and sensors to help develop a new commercial satellite servicing industry. SpaceX's Dragon capsule returned with over 5,400 pounds of science gear and no longer needed equipment.
- **Dream Chaser Tests:** [Sierra Nevada to resume Dream Chaser flight tests](#) Engineers are preparing Sierra Nevada's winged, reusable Dream Chaser spacecraft for tow and landing tests at NASA's Ames Research Center in California this spring. Sierra has been contracted by NASA for delivery of the cargo to the International Space Station using Dream Chaser beginning in 2019.
- **Docking Portal for Commercial Space:** [Docking port relocated at Space Station to support commercial spacecraft](#) Using Canadian robotics on the outside of the International Space

Station, NASA ground controllers have moved a former space shuttle docking component, Pressurized Mating Adapter-3 (PMA-3), from the outside of the Station's U.S. segment Tranquility to a space-facing location on the outside of the Harmony module. The work will prepare PMA-3 to serve as the base for a NASA/Boeing International Docking Adapter, which is to arrive at the Station by early next year to complete a new docking port for astronauts launched aboard Boeing's CST-100 Starliner and SpaceX's Dragon.

Space Policy, Missions, Benefits, International ...

- **Keep Exploring:** [Ex-NASA official at CU's Conference on World Affairs: 'We have to keep exploring'](#) Former NASA Deputy Administrator Dava Newman told the audience at the University of Colorado at Boulder's Conference on World Affairs that space exploration must go forward. "All of this exploring is not for the faint of heart," explained Newman. "But we have to keep exploring."
- **Mars Exploration:** [NASA's human spaceflight plans come into focus with announcements of Deep Space Gateway](#); [Future human space activities concepts presented by Boeing at the 33rd Space Symposium](#); ['Mars Base Camp': Lockheed fleshes out Red Planet Space Station plan](#); [SpaceX studying landing sites for Mars missions](#)
- **Lunar Exploration:** [Blue Origin ready to support NASA lunar missions with Blue Moon](#); [NASA moving ahead with plans for cislunar human outpost](#)
- **China, Russia and Space Exploration:** [CNSA boss outlines China's space exploration agenda](#) China intends to expand its space influence with a possible Mars sample return mission, missions to Jupiter and Venus, Earth science satellites and commercial initiatives, as well as a previously planned lunar sample return mission and assembly of an Earth orbiting space station, according to Yulong Tian, general secretary of the Chinese National Space Administration. (See also: [Report: China developing advanced lunar mission spaceship](#); [Russia's space program is struggling mightily](#))
- **Space Exploration Policy:** [Op-ed | Wishful thinking collides with policy, economic realities in 'Capitalism in Space'](#) Scott Pace, director of the Space Policy Institute at George Washington University, assesses the role of government and the private sector in current space activities and those planned to resume the human exploration of deep space. He finds justification for NASA oversight in order to achieve success in the latter and questions whether the sometimes highly publicized advances of the private sector have yet to do more than challenge the European and Russian share of the global commercial launch business. (See also: [Pence confirms plans to reestablish the National Space Council](#))
- **AF Space Corps:** [Rogers calls for separate "Space Corps" within the Air Force](#) Rep. Mike Rogers, chair of the U.S. House Armed Services strategic forces subcommittee, intends to initiate steps establishing a Space Corps, a separate branch of the military within the Department of Defense, much as the Air Force was split off from the U.S. Army Air Corps decades ago.

Citizens for Space Exploration – a pro-space, taxpayer, grassroots advocacy group (www.citizensforspace.org) – has travelled to Washington, D.C. the past 25 years to meet face-to-face with Members/staff of Congress to discuss the value of America's investment in space exploration. In order to sustain that dialogue on a regular basis, Citizens distributes "Space Exploration Update" to Congressional offices on a weekly basis. The intent is to provide an easy, quick way to stay abreast of key human space exploration program and policy developments.