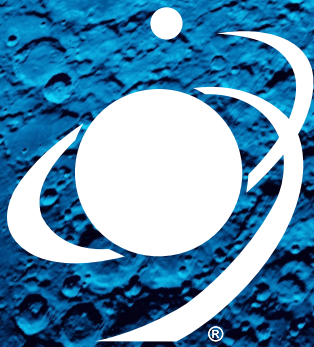


# **Space Policy 2022, an Introspective**

## **A White Paper**



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What do a human exploration program, a military branch, and a federal regulatory body have in common? Each of these entities contributed significantly to the development of space policy and U.S. space strategy in the past year and continue to be major contributors in 2022. This paper provides an overview and analysis of three significant space policy items: NASA's Artemis Program, the Space Force, and the National Space Council, as well as a look ahead at these policy items for 2022.

## Artemis

### Background on Artemis

On March 26, 2019, Vice President Mike Pence told the National Space Council meeting the Trump administration planned to get the United States back to the Moon by 2024, on a mission that would include the first woman and first person of color to land on the lunar surface. Soon after, the moon program was christened the Artemis program.

### Biden Administration supports Artemis

During a press briefing in February of 2021, the Biden administration offered resounding support of the Artemis program, sending a message of continuity to the space community.

Vice President Kamala Harris showed support for Artemis<sup>1</sup> at her first meeting<sup>2</sup> of the National Space Council on Dec. 1, 2021. The White House announced its Space Priorities Framework<sup>3</sup> which outlined the goals for the current administration. While Artemis was not cited within the framework, the administration has pushed similar themes and objectives within the Artemis Accords.

### Bipartisan support of Artemis continues on Capitol Hill

Support for Artemis continues on Capitol Hill, regardless of party affiliation. At an event in Washington D.C., U.S. Rep. Don Beyer, D-Va., chairman of the Subcommittee on Space in the House Committee on Science, Space, and Technology, said he was impressed that NASA's lunar timeline slipped only a year despite the challenges the agency and its contractors faced during the pandemic.

The Subcommittee's ranking member U.S. Rep. Brian Babin, R-Texas, also voiced his support for the Artemis program and mentioned his work with the Beyer to ensure it stays on track. Babin's district includes Houston and NASA's Johnson Space Center.

In the Senate, Artemis garnered support from U.S. Sen. Maria Cantwell, D-Wash., who heads the Commerce Committee and the panel's ranking member U.S. Sen. Roger Wicker, R-Miss. NASA's authorization measure passed the committee earlier this year and was rolled into the United States Innovation and Competitiveness Act<sup>4</sup> via an amendment.<sup>5</sup> S. 1260 passed the Senate and is waiting a House vote.

### NASA milestones must be met though challenges remain

Amid promising steps, the Artemis program weathered changes and challenges in 2021. The NASA directorate with oversight of the program saw changes in leadership, as well as a reorganization<sup>6</sup>. The Artemis program is now overseen by Associate Administrator Jim Free of NASA's Human Exploration Office.

Following an internal study by NASA and reports from the agency's Inspector General, last fall

Administrator Bill Nelson announced on a stakeholder call that the Artemis I mission would fly early 2022<sup>7</sup>, with a crewed mission around the Moon no earlier than May 2024. He confirmed a crewed landing on the Moon would happen no earlier than the year 2025.<sup>8</sup> Nelson cited several factors that led to the delays, including the impacts of the COVID-19 pandemic, lack of funding from Congress, and an ongoing lawsuit over the Human Landing System contracts. Additionally, NASA indicated that the cost of the Orion Crew Capsule was expected to rise.

In April 2021, NASA Awarded its Human Landing System (HLS) contract to SpaceX. Following this, a protest was issued, and all work stopped while the Government Accountability Office reviewed the decision. Following the GAO upholding NASA's award, a suit was filed. The lawsuit was later dismissed, allowing to begin work on the contract and designs.

### **International partnership is key to the success of the Artemis program**

The Artemis Accords were unveiled as a multilateral method of cooperation among nations with peaceful purposes in space. The accords include agreements on Emergency Assistance, Registration of Space Objects, Protecting Heritage Sites, as well as the agreement that resources obtained by entities are for their use.<sup>9</sup> As of December 2021, 13 Nations had signed the Accords. Many others have signed Memorandums of Understanding in order to work on Gateway<sup>10</sup>, the space station that will orbit the Moon to support lunar exploration.

### **Conclusion**

What does this mean for the future of Artemis? The mission must meet milestones including finalization of the Orion crew module and completion of spacesuits for Artemis astronauts. Both programs are over budget and behind schedule. As of December 2021, Artemis I stands fully stacked for final testing prior to an expected launch in March. A successful launch will be critical for the future of this mission and its current timeline. All eyes will be on the Kennedy Space Center for that event. Additionally, other large space countries' hesitation to sign onto the Artemis Accords, including Russia and China, could shadow the long-term success of the program.

The push for the accords comes as reaching orbit becomes easier and more accessible, making the domain more congested and contested. For the United States to maintain dominance in space, agencies will need to lead in the development and exploration of space. It is clear that in 2021, the Biden administration, Congress, NASA, and the Pentagon recognize this need. Their work and policy indications delivered solid momentum in 2021 and a strong footing to start 2022.

## **U.S. Space Force**

Dec. 21, 2021, marks the second anniversary of the creation of the U.S. Space Force, the military's newest branch. Space Force has continued to show considerable progress and growth despite great challenges.

### **Biden-Harris Administration supports Space Force**

During the presidential transition, a question lingered over whether the Biden Administration would continue to support Space Force, which was a key initiative touted by former President Donald Trump. Since taking office, President Biden has proven to be a supporter of Space Force, despite some initial confusion surrounding the new branch. In a Feb. 2, 2021 briefing, White House press secretary Jen Psaki expressed confusion about the Administration's point of contact for Space Force

and the Administration's stance on the new branch. However, Psaki returned the following day and confirmed that the new military branch had the "full support" of the Biden Administration.<sup>11</sup>

In the past year, the Biden Administration has also continued to show its support for Space Force through seeking increased funding in defense appropriation bills.<sup>12</sup>

### **Financial support from Congress**

In the past year, Space Force has seen support for increased financial allocations from Congress, with its budget set to grow 13.1% from FY21 to FY22.<sup>13</sup> In addition to its FY22 budget of \$17.4 billion, the Department of the Air Force has also been allocated \$930 million to transfer to Space Force once an integrated agency pay system is fully operational.<sup>14</sup> As its budget grew, so did the Space Force, with its chief, Gen. Jay Raymond, saying in January that its roster included more than 13,000 Guardians and civilian workers.

Along with the rest of the Pentagon, the Space Force faces uncertainty ahead while Congress mulls whether to approve a full 2022 budget. Since the start of the fiscal year on Oct. 1, the agency has relied on continuing resolutions, which keep money flowing at 2021 levels with no provisions for new programs. A policy bill for the service, the FY22 National Defense Authorization Act (NDAA)<sup>15</sup>, passed the House and Senate in December and was signed into law by President Biden on December 27, 2021.<sup>16</sup> However, Congressional appropriators have yet to pass a budget that will start the funds envisioned in the authorization act flowing. The short-term continuing resolution expires at the end of February.<sup>17</sup> Gen. Raymond warned a House Armed Services Committee panel in January that continued short-term budget measures could harm Space Force plans, endangering national defense as tensions rise with rivals Russia and China.<sup>18</sup>

### **Gaining greater acquisition authority**

Air Force Secretary Frank Kendall announced at the 36th Space Symposium that the Department of the Air Force was making space policy realignments.<sup>19</sup> He announced that acquisition policy would remain under the agency's Space Acquisition and Integration Office while broader space policy would be developed across the Space Force. This change combined the space acquisition office with the Air Force Acquisition, Technology, and Logistics Office, allocating the new service branch broader acquisitions.<sup>20</sup>

U.S. Rep. Jim Cooper, D-Tenn., who heads the Strategic Forces Subcommittee of the House Armed Services Committee, has complained that while the Space Force has an adequate budget, it acts too slowly to acquire cutting-edge technology.<sup>21</sup> Space Force will continue its process of acquiring the Space Development Agency into 2022. Adding the fast-moving Development Agency is expected to speed acquisitions across the new service branch and drive industry innovation.<sup>22</sup>

### **Conclusion**

Between support from the Biden Administration, Congressional support, and gaining greater autonomy, Space Force's second year has been an overall success despite significant challenges. While negative political discourse surrounding the branch posed a threat to its initial establishment, this no longer poses a significant threat to the force. A developing workforce and financial constraints will pose the greatest threats to Space Force's current and future success as it continues to grow. Looking to 2022, Space Force's continued development, ability to access congressional funds, support from the Administration, and overall growth will be items to monitor.



# National Space Council

## Background on the 2021 National Space Council Meeting

In 2017, President Trump reintroduced National Space Council and President Biden indicated in 2021 that he would retain it. The first Biden-era meeting of the Council convened on Dec. 1, 2021. The Biden Administration grew the number of council members, adding the Secretaries of Labor, Interior, Agriculture and Education along with the White House's climate. Chaired by Vice President Kamala Harris, the Council's December meeting focused on three points of the current administration's space framework: setting international norms and rules, using space to assess the climate crisis, and growing the space workforce through STEM education.

### First Panel: Norms and Rules

The first panel on norms and rules shed light on U.S. policy regarding Space Traffic Management (STM), norms of behavior, and the space environment. The Secretary of Commerce, Gina Raimondo commented on the implementation of future United States Space Situational Awareness and STM systems that are undergoing prototype testing and will make the jump to becoming a commercial system in the next several years. Such technologies are proving their worth as Deputy Secretary Wendy Sherman of the State Department, Deputy Secretary Kathleen Hicks of the Defense Department, and National Security Advisor Jake Sullivan commented on the November 2021 Russian Anti-Satellite (ASAT) test.

Secretary Hicks stressed the importance of keeping a level head to reduce the potential perils of misguided escalation as dangerous situations caused by international actors increase. Her statement tied into Transportation Secretary Pete Buttigieg's comment on how the FAA will continue to communicate with NASA and international partners when it comes to launches, specifically commercial launches, to mitigate potentially overlooked debris-generating events.

### Second Panel: Environmentalism

The Space Council platform highlighted the intersection between environmentalism and the space technologies that supports academia, farmers, rural communities, FEMA, and the public. The panel highlighted the space industry's contributions to progressing toward net-zero carbon output and restructuring water damage insurance pricing in flood zones thanks to national laboratories, which translate the images received from satellites into actionable data.

### Third Panel: STEM Education

The panel expressed anxiety was conveyed about the possible loss of America's 'edge' in space. Defense Intelligence Agency Director Avril Haines and U.S. Space Command's leader Gen. James Dickinson underlined the need for STEM-educated troops and civilian employees in America's intelligence and military communities.

NASA Administrator Bill Nelson said he believes that the Artemis missions and the challenge of establishing a human presence on Mars will compel students to join the space industry. However, for that to happen, new council member Education Secretary Miguel Cordona stated the need for more and improved STEM education for students through investments in teachers and the creation of pathways for students of color.

## Conclusion

With a growing cast of members, the National Space Council in 2022 has an opportunity to show how these seemingly individual undertakings complement each other. The meeting drew discussion of America's space goals but set no concrete mission.

The Space Council is entrusted with determining a course of action in space for domestic and international policies, setting an agenda for Congress, and outlining strategic concerns for the Pentagon. Council members in December effectively spoke about previous achievements, contributions, and offered an optimistic outlook. Space industry leaders await the council's next meeting to see if the ideas of December turn into policy or if the additional leaders prove to be additional bureaucracy.

## Takeaways:

### Artemis:

It will be important to keep an eye on the administration and agencies in these key policy areas in 2022. In addition to milestones ahead for Artemis and ongoing international cooperation, commercial space policy decisions are in the future for the Biden team as it wrangles growing commercialization in low-Earth orbit and commercial plans for lunar exploration. What this means for FAA launch authorization, regulation of LEO, and other orbital policy items remains to be seen.

### Space Force:

Political threats to the ongoing success of the Space Force should not be taken lightly. In 2022, we look forward to seeing more cohesive coordination across all branches with space domain assets, continued international partnerships, and speedier acquisitions to meet ongoing technological advances within the space sector. In the national security world, the success of the Space Force is key to setting norms of behavior. Interagency and international discussion of space traffic management will be key to the sustainable use of space.

### National Space Council:

Finally, the National Space Council drew discussion throughout 2021. This mechanism of policy discussion in the Trump Administration was lauded as a useful collaboration tool. Since the Biden Administration was keen to keep the council, the first meeting was seen as setting the agenda for the space policy of the current Administration. An expected focus on climate change and STEM education was evident, but with the recent anti-satellite test by the Russians in November of 2021, a focus on space debris and norms of behavior was also in the discussion. The push by the administration to include additional cabinet secretaries on the council bolsters the idea that the space ecosystem is growing and touches all facets of life. A key focus will be on actionable steps to be taken by the next meeting of the Council and if additional Cabinet members bring bureaucracy or vision to the council. How Vice President Harris moves forward on the Space Framework will be a key item to watch for 2022.

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