

National Aeronautics and Space Administration



# SPACE LAUNCH SYSTEM

ARTEMIS II POST-FLIGHT  
SPECIAL EDITION

# ARTEMIS RETURNS HUMANITY TO THE MOON



Spurred by American ingenuity, astronauts on NASA's Artemis II mission have launched and flown its full mission, preparing for the first crewed lunar landing in more than 50 years.

NASA's SLS (Space Launch System) rocket lifted off from Launch Pad 39B at the agency's Kennedy Space Center in Florida at 6:35 p.m. EDT April 1, 2026, sending four astronauts aboard the Orion spacecraft on a planned test flight around the Moon and back.

After reaching space, Orion deployed its solar array wings, enabling the spacecraft to receive energy from the Sun, while the crew and engineers on the ground immediately began transitioning the spacecraft from launch to flight operations to start checking out key systems.

While still in a high Earth orbit, the crew separated Orion from its in-space stage and performed a series

of maneuvers around it to evaluate Orion's manual handling characteristics as practice for future missions requiring rendezvous and docking. Orion then performed a translunar injection engine burn and flew by the Moon on Flight Day 6 and returned home on Flight Day 10, completing a mission spanning more than 9 days.

Following NASA's Artemis II mission successfully splashing down on Earth, engineers started diving into detailed analysis of data to assess how key systems and subsystems on the Orion spacecraft, SLS rocket, and systems at the launch pad at NASA Kennedy performed. The Artemis II test flight successfully began a new era of exploration, laying the groundwork for the third Artemis mission next year, lunar surface missions, a Moon base, and future missions to Mars.

Read more: [go.nasa.gov/4dvgNqC](https://www.nasa.gov/4dvgNqC) and [go.nasa.gov/4nio0xq](https://www.nasa.gov/4nio0xq)



*The Artemis II SLS's solid rocket boosters completed their mission and separated approximately two minutes into the ascent.*



*A camera on the Artemis II Orion spacecraft captured this view of the SLS (Space Launch System) rocket's interim cryogenic propulsion stage (ICPS) below the Orion and two of its solar array wings on the first day of the mission.*

# NASA'S ARTEMIS III MOON ROCKET HARDWARE ARRIVES, ARTEMIS II CAPSULE RETURNS TO KENNEDY

On the heels of a successful Artemis II test flight, teams at NASA are pressing forward for the next Artemis mission. Technicians maneuvered NASA's massive core stage of the SLS rocket inside the agency's Vehicle Assembly Building (VAB) at NASA Kennedy April 28 in preparation for Artemis III, as the Artemis II crew module arrived back at Kennedy for post-flight analysis.

The Artemis III core stage will be placed horizontally in the transfer aisle of the VAB before being lifted into High Bay 2, where it will be connected to the engine section and its boat-tail, which were integrated in August 2025. At 212 feet tall when fully assembled, the core stage houses two propellant tanks that collectively hold more than 733,000 gallons of

super-chilled liquid propellant to fuel four RS-25 engines, as well as the flight computers, or avionics, that act as the brains of the rocket to control flight during ascent. This marks the first time core stage assembly operations are taking place at NASA Kennedy.

Other SLS hardware for Artemis III is arriving in Florida. The first shipment of booster motor segments for the flight arrived at Kennedy April 13. These components will form the twin solid rocket boosters for SLS, which generate more than 75% of the rocket's thrust at liftoff. A second shipment of booster motor segments is expected this summer.

Read more: [go.nasa.gov/4cZvIP7](https://go.nasa.gov/4cZvIP7)



NASA's top four-fifths of the SLS core stage for the Artemis III mission is offloaded from the agency's Pegasus barge Tuesday, April 28, 2026, after arriving at NASA Kennedy the prior day.

# ROAD TO LAUNCH: WHO IS DOLLY LOU AND WHAT DOES SHE DO FOR SLS?

As the Artemis II launch date approached, one name kept popping up around launch preparations – Dolly Lou. She is apparently a key member of the launch team, and she seemed very concerned about the weather, but she never attended any meetings, and she’s not in any employee directory.

In fact, Dolly Lou is “DOLILU”, one of NASA’s many acronyms. It is an abbreviation for Day-of-Launch I-Load Update. As the name suggests, DOLILU is a launch day update to SLS flight software data originally loaded onto the rocket’s flight computers months before launch. It adjusts the trajectory and other key flight software data to accommodate weather conditions.

Like millions of people planning a trip by car or airplane, NASA follows the weather forecast in the weeks before launch, and it checks several more times on the day of departure. For Artemis, the goal is to minimize wind-caused stresses on the rocket while delivering the Orion spacecraft and its four crew to exactly where they need to be in space. That’s where DOLILU comes in.

In response to the DOLILU updated commands, SLS turns into the wind to minimize stress-inducing side forces. There is little impact on the core stage operation time, especially because SLS is out of the densest region of the atmosphere in about two or three minutes out of an eight-minute climb to orbit.

While DOLILU is mainly about winds, it also accounts for other environmental conditions. Launch day temperatures can affect booster performance. The higher or lower the propellant mean bulk temperature (PMBT), the greater or lower the booster thrust, respectively, which will affect the required burn time for the four liquid engines. Booster contractor Northrop Grumman provides booster temperature predictions for the DOLILU update.

Most rockets have a DOLILU process to avoid exceeding their structural limits. SLS and other rockets are most sensitive to winds during the first 80 seconds or so of ascent, particularly at altitudes of 20,000 to 60,000 feet.

On launch day for Artemis II, the 45th Space Wing at Cape Canaveral Space Force Station, part of the Eastern Range that also includes NASA Kennedy, used a combination of weather balloons and a Tropospheric Doppler Radar Wind Profiler to collect real-time data on winds aloft.



*Wind data is collected by the Tropospheric Doppler Radar Wind Profiler at NASA Kennedy to assess upper atmosphere winds and update SLS guidance software prior to launch.*

Together, they provided temperature, humidity, atmospheric pressure, and wind speed information at a range of altitudes. The first two balloons were launched six hours before launch. A series of weather balloons were launched, including after launch for post-flight trajectory analysis.

The 45th Space Wing sent the data to NASA's Marshall Space Flight Center in Huntsville, Alabama, and the agency's Johnson Space Center in Houston. At NASA Marshall, the SLS Natural Environments and Mission Analysis (NEMA) team analyzed the wind data and generated a weather profile for several altitudes along the SLS trajectory from the surface up to 60,000 feet.

This was provided to the NASA Johnson DOLILU team which then tailored the rocket's trajectory to the wind and atmospheric data via steering commands to the SLS engines and boosters and performed the software upload of the refined data. The wind profile was also provided to NEMA's Mission Analysis team. Both NASA Marshall and NASA Johnson DOLILU independently checked the trajectory and structural loads several times throughout the day to protect for the two-hour launch window.

The DOLILU data upload is time critical – the confirmed software data update gets uploaded about an hour before launch and no later than 40 minutes before launch. Because the steering commands are updated so close to launch, they need to be double-checked and verified by running computer trajectory simulations.

The Launch Control Center at NASA Kennedy uploaded the commands to the SLS flight computers. The SLS Integrated Avionics System Parametric Control File (IAS PCF) team verified accurate upload. These checks were used as part of the Artemis II launch director's go/no-go decision.

Throughout the remainder of the launch countdown, the NEMA team continued to assess the winds, comparing them with the forecast provided by the NASA Johnson Spaceflight Meteorology Group and the wind results from the doppler radar, balloons, etc. available at the Eastern Range to make sure the design was still within limits, as the NASA Johnson and NASA Marshall DOLILU teams continued to confirm the loads and trajectory.

The NEMA team was part of the DOLILU go/no-go call for launch. The NASA Johnson and NASA Marshall DOLILU teams used about a dozen pieces of software to perform these critical functions and checks, with some functions needing to be performed within five minutes or less. For this reason, the DOLILU teams performed many computer simulations and failure scenarios leading up to the launch. This helped the team to work to improve the timing of functions and become efficient with the software.

"This is important as the teams work to a tight launch timeline", said Karen Altino, the SLS NEMA lead. "The DOLILU function is a well-choreographed effort because it includes several teams across several organizations. The flow of communication and data must be efficient and well-synced to meet the timeline for the upload and assessments throughout the countdown."

The SLS NEMA and IAS PCF teams were the only mission-critical teams at NASA Marshall on day-of-launch, meaning that if for some reason these two teams cannot perform their function on launch day, the launch would likely be scrubbed.

"Providing the wind profile and agreeing on the structural loads and trajectory inputs is important," Altino said. "We don't want to get a mixed pair of DOLILU results that would cause uncertainty for a 'go' or 'no-go' launch decision."



*A total of 640 antennas on the five-acre site can collect wind speed and direction data from 6,000 to 62,000 feet every five minutes.*

# ROAD TO LAUNCH: NO “OOPS” ALLOWED – THE SLS CORE STAGE JOURNEY TO THE LAUNCHPAD

**B**efore the smoke and fire and thunder, main engine start, booster ignition, and Mach 26, the elements of the world’s most capable operational rocket travel hundreds of miles on Earth’s surface at a much slower pace.

The components of NASA’s SLS rocket are built and assembled at large and small companies in nearly every state in the nation. The SLS booster motor segments are cast by Northrop Grumman in Promontory, Utah. The RS-25 core stage engines are manufactured by L3Harris Technologies in Los Angeles and assembled at NASA’s Stennis Space Center in Bay St. Louis, Mississippi. The core stage is manufactured by Boeing at NASA’s Michoud Assembly Facility in New Orleans. The SLS launch vehicle stage adapter and Orion stage adapter are manufactured at NASA Marshall. The Orion crew module atop SLS that will deliver astronauts to the Moon is built by Lockheed Martin at NASA Michoud, while its service module is built by Airbus in Bremen, Germany.

They come by rail, air, water, and road to be integrated at NASA Kennedy. It is up to the transportation teams of NASA and the SLS contractors to make sure they get to the launch site safely.

Every piece of NASA’s Moon rocket faces its own transportation challenges. Perhaps nothing exemplifies this logistical choreography quite so much as the mammoth SLS core stage – 212 feet long, 27.6 feet in diameter, and 219,000 pounds with engines and without fuel.

There is no road and only one vehicle big enough to carry that load – NASA’s Pegasus barge towed front and rear by a pair of commercial towboats for seven days across 900 miles of the Gulf of America and up Florida’s Atlantic coast.



*The Artemis II core stage is transferred from the facilities at NASA’s Michoud Assembly Facility in New Orleans, where it was made, to the barge Pegasus. The barge is responsible for transporting the stage and other components from NASA Michoud to NASA Kennedy for integration and launch.*

According to SLS Stages Transportation Lead Marc Verhage, it is an effort no less critical and complex than the SLS space mission itself, involving manufacturing schedules, multiple organizations and vehicles, customized handling equipment, weather considerations, security, and safety. Route analysis and planning examines every mile to include road surfaces, river lock timing, road and river bridges, barge ballasting, and several more variables.

“We plan the work, and we work the plan,” he said. “We take it very seriously. We make sure we carry forward lessons learned to the next move.”

Originally designed to carry space shuttle external tanks, Pegasus was lengthened and strengthened to fit the bigger SLS core stage. It has a crew of six, three 200 kilowatt generators that could power a small town, a refurbished pilot house, new avionics, and a Starlink satellite system that allows crew to discuss any issues any time with SLS experts onshore.

Planning for core stage moving day starts months in advance and undergoes multiple updates up to the departure date, Verhage said. Weather is a key part of shipping plans, and hurricane season gets extra attention, with particular focus on wind speeds and wave heights. There are ports along the route where Pegasus and its tugboats can dock and ride out a hurricane threat.

When the core stage is checked out and ready for the trip to NASA Kennedy, it is the NASA-designed-and-built and Boeing-operated ground support equipment – GSE – and the combined government and industry transportation teams in charge of delivery.

Getting the core stage from NASA Michoud’s final check-out building to Pegasus and from the dock at NASA Kennedy to the center’s iconic Vehicle Assembly Building is the job of four self-propelled modular transporters (SPMTs) christened Elpis, Novus, Pandora, and Aegis.

With two transporters in front and two in back, it’s their job to keep the core stage oriented to not exceed specified transportation loads. Each SPMT is approximately 33 feet long and 12 feet wide, with 12 electric wheel modules powered by a V8 propane engine as well as electrical power when required. Each one can support 75 tons. The transporters communicate wirelessly with each other and operate as a single unit while transporting the core stage. The driver/operator walks alongside, guiding them by joystick at a sloth-like typical speed of 60 feet per minute. The core stage is cradled at both ends by two semicircular hardware interface structures mounted to a multi-purpose carrier (MPS) that can be transferred from the transporters to Pegasus and bolted to the deck.

Stout and slow, the wheeled transporters have a nimble computerized hydraulic system that can raise and lower left and right, front and back to keep the stage level, while the semicircular cradles have rollers and other devices that allow the entire stage to adjust in place to stay in proper transportation configuration rather than concentrating loads on the stage attach points.

Together, the system reacts to road conditions and movements to prevent, absorb, or compensate overloading or overstressing caused by unfavorable road conditions like loose gravel or slick concrete causing transporter tires to slip or bumps and potholes causing sudden pitching, yawing, and rolling caused by turns or changes in elevation. Even for a rocket designed to fly several times the speed of sound, that’s important.

“SLS was designed with flight loads in mind, but transportation loads may put stresses into the structure in a drastically different way,” said David Adcock, who managed ground support equipment for SLS during development. “Ground and barge transportation produce significant concentrated loads at attachment points which are perpendicular to the direction of flight loads the vehicle was mainly designed for.”

Along with the SPMT wheeled transporters, ground support equipment for the SLS core stage includes an assortment of smaller brackets, shackles, and pins that secure the giant rocket hardware to the transporters and specialized lifting brackets and beams for lifting and installing qualification and flight hardware into test stands or buildings. Among those is the Forward Lifting Spider, a circular, multi-legged structure that attaches to the top of the core stage to lift it into and out of the test stand.

The SLS stages transportation team is so far 2-0 for SLS core stages as well as other trips carrying structural test articles, a core stage pathfinder, and core stage major sections to NASA Kennedy for SLS. For them, only a perfect record will do.

“It’s a team sport,” Verhage said. “Everybody’s got to play their positions. For us, there’s no ‘oops’ in ops. It’s a dangerous business. It’s also one of the most rewarding because you deal with spaceflight hardware.”

# ROAD TO LAUNCH: PRACTICE MAKES PERFECT FOR ARTEMIS TEAMS PREPARING MOON ROCKET LAUNCH

While the rocket for NASA's Artemis II crewed flight to the Moon underwent testing of every system, the agency also tested the people who will launch it.

The SLS Engineering Support Team along with their counterparts at NASA Kennedy, NASA Johnson, and their industry partners, began practicing their roles in August 2025 for countdown and ascent by conducting simulated launches and flights.

"The SLS launch team works computer console positions in control centers across the country," said Kira O'Sullivan, launch and flight operations lead for SLS. "Every member is a full-time SLS subject matter expert in their assigned role, with part of their role being real-time console support."

The launch team includes the people who designed, built, and tested every component and system – core stage, engines, boosters, upper stage, adapters, software, and other avionics. The team also included the experts who designed the trajectory, updated it before launch based on weather conditions, and maintained communications and data connections with the rocket.

Most of the team staffed the Artemis I launch in 2022 and returned to their workstations for Artemis II. The team practiced how and when to talk on the multiple voice channels, with the clipped and stripped-down urgency of spaceflight where every second counts. And they knew the chain of command for efficiently routing questions, problems, and solutions.

Their preparations began with making sure they could sign on to their consoles and customize their computer displays. Then they participated in exercises by each element of the rocket – stages, engines, boosters, and payloads. Once the SLS team completed their dry runs, they united as an entire Artemis team, including the launch site team at NASA Kennedy and the Orion spacecraft team at NASA Johnson, for rehearsal sessions devoted to propellant loading, terminal countdown, ascent, and Orion's rendezvous with the SLS rocket stage.

The simulation software injected various "off-nominal" scenarios such as a wayward temperature or pressure reading, an intermittent circuit, or a balky propellant valve. Then the team studied the data to decide if the reading was accurate and how to fix it or work around it. Those rehearsals, complete with potential launch day problems, began last year and continued into 2026.

"The sims are supposed to drive out ways we can improve," O'Sullivan said. "At the end, we debrief on things we want to improve or change completely. The purpose is to force you to look at yourself and say, 'Am I ready to support this launch?' I think we are supposed to be challenged, so when we get to the big launch day, we are going to be ready."

Through Artemis, NASA will send astronauts to explore the Moon for scientific discovery, economic benefits, and build the foundation for the first crewed missions to Mars.



*The SLS Engineering Support Team practices during an Artemis II mission simulation in August 2025 at the Huntsville Operation Support Center at NASA Marshall. The SLS team provides real-time console support for the Artemis II mission.*

# ROAD TO LAUNCH: THE SLS LAUNCH TEAM

NASA's Artemis II missions uniquely consolidated a broad cross section of the entire team that designed, built, and tested the SLS which launched the first humans to the Moon since 1972.

The SLS launch team features government and industry experts, including backups for computer console positions in control centers across the country.

“The people SLS has supporting launch are a fraction of those who created the SLS vehicle,” said Kira O’Sullivan, launch and flight operations lead for SLS. “But they represent a larger team that is responsible for our success.”

According to O’Sullivan, about 50 SLS personnel traveled to NASA Kennedy to staff data support console positions in Firing Room 4 in the Launch Control Center adjacent to the Vehicle Assembly Building. Others were in the nearby Booster Launch Operations Center watching incoming data on structures, avionics, exhaust nozzle steering, and temperatures.

Many SLS prime contractors and their suppliers monitored from their corporate facilities around the country as “reach back” expertise for any anomaly that could occur during the checkout, test, and countdown at the launch pad.

However, the largest number of SLS personnel were located at NASA Marshall, home of the SLS Program. The SLS Engineering Support Center, or SESC, is the central point for monitoring every system and sensor on the launch vehicle, evaluating performance, looking for potential “off-nominal” behavior, and coordinating with the Launch Control Center. Formerly used to support space shuttle missions, the SESC consists of a main control room surrounded by several smaller rooms dedicated to the rocket’s key hardware and functions.



*The SLS Engineering Support Team practices during an Artemis II mission simulation. The SLS team provides real-time console support for the Artemis II mission.*

The SESC main room has 48 consoles for experts on the RS-25 and RL10 liquid engines, core stage, solid rocket boosters, in-space stage, flight software, electronics, guidance, weather, pneumatics, thermal protection systems, operations, safety, secondary payloads, and more. Down adjacent hallways are smaller working rooms for small teams devoted to those same areas, watching data streaming in from the rocket, looking at trend data that could suggest a problem before it happens.

In nearby labs, test areas, and conference rooms, more experts monitor the countdown and launch, ready to rapidly summon dozens of previous computer simulations and component tests with real hardware in search of similarities or set up their own tests to simulate some anomaly happening on the launchpad.

“At this level, it’s easier to talk within your team when you’re seeing something off-nominal,” O’Sullivan said. “You have those conversations and figure out how you need to elevate them. There’s a lot of value to a group working together and talking through ideas, looking for similarities or differences, or to find out what it takes to create any anomaly that may occur on the pad.”

When an anomaly occurs, the suspect condition is discussed within a hardware element with their chief engineer or discipline lead engineer before elevating the information to the SESC manager or the SLS chief engineer. The critical chain of communications is established before they practice it in multiple pre-launch simulations.

Artemis II followed the successful Artemis I mission that sent an uncrewed Orion spacecraft into orbit around the Moon to check out SLS, Orion, launch and recovery operations, communications, and NASA’s launch team itself. SLS again hurled Orion to the Moon, this time with four astronauts who fully checked out their spacecraft’s life support systems, propulsion, navigation, communications, and ability to rendezvous with another spacecraft.

For the SLS team, working with their Orion and ground systems partners, the methodical process of bringing SLS to life on the launch pad and committing it to flight demands every rocket discipline to be ready for any contingency.

“Launch is the culmination of years of work,” SLS Chief Engineer John Blevins said. “Hitting our two-hour launch window on a given day can depend on understanding every part of the rocket and being able to react to whatever it’s doing within minutes or even seconds to take advantage of that opportunity. We got to this point because of this entire team, and we need that team watching everything through countdown and ascent.”

SLS, along with the Orion spacecraft, advanced spacesuits and rovers, and commercial human landing systems, compose the infrastructure for a generation of deep space explorers supporting America’s Golden Age of innovation and exploration. Rockets for the next crewed Artemis missions are currently in production.



*After years of preparation and months of training, the team at the SESC supported a successful launch of the Artemis II mission April 1.*

# ROAD TO LAUNCH: SLS PAYLOAD INTEGRATION TEAM HELPS SMALL SPACECRAFT REACH BIG HEIGHTS

On April 1, the SLS boosters and liquid engines roared to life, and the 322-foot-tall beast climbed off the launch pad at NASA Kennedy. At the top of the stack was the Orion spacecraft, named Integrity, which carried the four intrepid Artemis II astronauts to the Moon. They were the first people to travel to the vicinity of the Moon since the Apollo 17 crew in 1972.

Inside the Orion stage adapter, which attached Integrity to the rocket, rode four additional flyers – 12U CubeSats – as secondary payloads. These spacecraft, each about the size of a small microwave oven, hailed from NASA’s international partners and signatories of the Artemis Accords. The payloads, which were deployed a few hours into the mission, were the result of their developers and a small, dedicated team within the SLS Program at NASA Marshall called Payload Integration.

The secondary payloads on Artemis II were:

- **ATENEA:** Developed by the Argentina National Space Activities Commission (CONAE), to investigate radiation shielding, orbital design optimization, and long-range communications.
- **TACHELES:** Developed by the German Aerospace Center (DLR), to demonstrate key in-space technologies, including electrical components, for future lunar logistics vehicles and operations.
- **Space Weather CubeSat-1:** Developed by the Saudi Space Agency (SSA), to measure various aspects of space weather such as radiation, solar X-rays, solar energy particles, and magnetic fields.
- **K-Rad Cube:** Developed by the Korea AeroSpace Administration (KASA), to measure space radiation and its biological effect across the Van Allen radiation belts.

“Secondary payloads are payloads of opportunity. If there’s excess SLS performance margin after the primary mission has been manifested, it allows us to fly some additional science,” said Russell Lane, SLS’s acting deputy manager of systems engineering and integration. “We’re using performance that would otherwise go unused.”

CubeSats are small, lower-cost spacecraft. They are designated by size, based on the number of units or U’s. A single unit or 1U CubeSat is 10 cm tall, 10 cm deep, and 10 cm wide. A 12U CubeSat is essentially 20 cm tall, 30 cm deep, and 20 cm wide.

“CubeSats do larger-than-CubeSat science. They have onboard propulsion systems, computer systems, and solar cells. They are their own spacecraft that operate independently from SLS and the mission once we deploy them,” said Courtney Ryals, acting manager of SLS’s payload integration team.

When performance margins allow for secondary payloads, NASA releases an announcement. Selected spacecraft and their developers are each assigned a payload integration manager (PIM) within SLS whose job is to ensure the stringent requirements and verifications are met.

“There are weekly meetings, biweekly sometimes, to go over requirements, special topics, or questions the developers have,” said Ben Patton, the deputy PIM for ATENEA and TACHELES.



*The SLS Payload Integration team ensures secondary and co-manifested payloads meet the stringent requirements to fly on SLS and Artemis missions.*

SPACE LAUNCH SYSTEM

# ARTEMIS II

SMALL SATELLITES + BIG SCIENCE

Four small satellites — called **CubeSats** — will launch to **high Earth orbit** in the Orion stage adapter (**OSA**) of the **SLS** (Space Launch System). These high-risk, high-reward experiments will be deployed after the OSA has separated from Orion.

Orion Spacecraft  
OSA  
Interim Cryogenic Propulsion Stage (ICPS)  
Core Stage

All four **Artemis II CubeSats** are provided by countries that are signatories of the **Artemis Accords**.

Avionics Unit

**CubeSats**  
Artemis II CubeSat deployments occur at **1-minute intervals** following ICPS disposal.

Payload deployment, which begins approximately **five hours after launch**, is controlled by the avionics unit.

CubeSat	Space Agency
<b>1</b> ATENEA	Argentina National Space Activities Commission ( <b>CONAE</b> )
<b>2</b> K-RadCube	Korea AeroSpace Administration ( <b>KASA</b> )
<b>3</b> Space Weather CubeSat-1	Saudi Space Agency ( <b>SSA</b> )
<b>4</b> TACHELES	German Aerospace Center ( <b>DLR</b> )

Color Key:

- Technology Demonstration
- Science Experiments
- Avionics Unit

www.nasa.gov/sls

CONAE DLR SSA KASA

When NASA's SLS launched the agency's Artemis II mission to the Moon, four CubeSats, or small satellites, were hitching a ride inside the rocket's Orion stage adapter (OSA).

While ensuring testing is completed and verifications are met, the payload integration managers are also a voice for the developers.

"We are the one-stop shop for the payload developers and the vehicle. We have to keep both sides apprised of what's going on," said Ryals.

The bond between developer and manager is special, especially for Ryals who has worked on payloads for both Artemis I and Artemis II.

"It's really cool to see that integration come full circle from the time we started working with the payload developers to meeting them at NASA Kennedy to put their spacecraft on the rocket we've been telling them about," she said. "In my seventeen years at NASA, those two weeks where we met the payload developers at NASA Kennedy are my favorite."

With teams spread across the world, meetings, town halls, and reviews often mean very early mornings and very late nights. The payoff is a trip to a highly elliptical Earth orbit that enables the spacecraft to pass in and out of

the Van Allen belts multiple times, collecting science and technology demonstration data that cannot be obtained in orbits closer to Earth.

"There are a ton of missions close to Earth that have been characterizing our planet. We've sent a lot of missions out to the Moon to characterize the area around the Moon, but the Artemis II payloads went into a less studied regime of space that we're about to start sending a lot of people through," said David Hitt, the PIM for Saudi Arabia's Space Weather CubeSat-1.

While the data collected from the secondary payloads are important, the relationships being developed through flying these payloads are also critically valuable as the United States and partners strive to return to the Moon and prepare for Mars.

Driven by these secondary payloads, new international agreements exist between the United States and the partnering countries, helping ensure the peaceful exploration of space for the world.

# ARTEMIS II IMAGES AND VIDEOS AVAILABLE ONLINE

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During the Artemis II mission, thousands of images and videos were taken by NASA photographers and videographers. You can view them here: [go.nasa.gov/4ubNEXB](https://www.nasa.gov/4ubNEXB)

# WHAT'S NEW IN SLS SOCIAL MEDIA

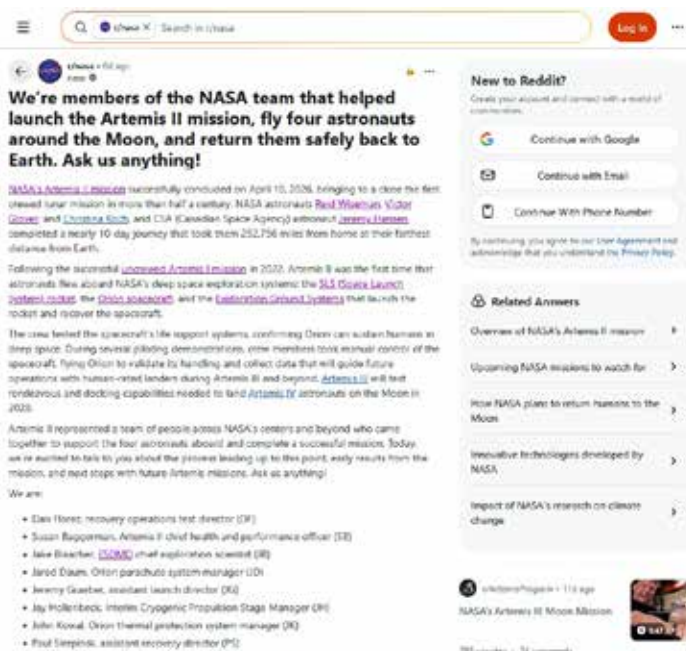
## RELIVE THE ARTEMIS II MISSION



Artemis II was full of exciting, awe-inspiring, and heartwarming moments. On Flight Day 6, the crew announced a new crater on the Moon would be named for mission commander Reid Wiseman's late wife, Carroll.

See this moment and so many more on the NASA Artemis X channel: [bit.ly/4wrlNUB](https://bit.ly/4wrlNUB)

## READ ALL ABOUT IT ON REDDIT



On April 23, NASA experts joined the public on Reddit and discussed all thing Artemis II.

Read the full AMA here: [bit.ly/3R4bOod](https://bit.ly/3R4bOod)

# SLS ON THE ROAD



SLS team members, including communications strategist Will Bryan, exhibited at the Kennedy Space Center Visitor Complex in Merrit Island, Florida, in conjunction with the Artemis II launch in April. Along with partners from NASA Orion, Exploration Ground Systems, Human Landing Systems, and Extravehicular Activity and Human Surface Mobility Program, the Artemis team reached more than 50,000 people at the exhibit. More than 10,000 people interacted with SLS at splashdown activities at the Fleet Science Center in San Diego, other events in the San Diego area, and in downtown Huntsville, Alabama.



SLS's Megan Carter and Madison Spencer visited and taught students at Rocky Ridge Elementary in Birmingham, Alabama, about SLS, the Artemis missions, and how the students are part of the Artemis Generation which is returning humans to the Moon and will go to Mars.

# SPACEFLIGHT PARTNERS:

## UNITED TEAM LAUNCHES WORLD BACK TO THE MOON

SLS is America's rocket, and Artemis is America's and the world's return of humans to the Moon to build an enduring presence there to prepare for Mars. Built by hands across the country, 888 suppliers and companies in 45 states each played a role in SLS for the Artemis II mission.



# GET THE LATEST SLS UPDATES SENT TO YOUR INBOX EACH MONTH!

**SLS in 3... 2.. 1.**

**What's SLS in 3... 2.. 1. ?**  
Welcome to "SLS in 3... 2.. 1.," the newsletter that connects you to the latest news and resources related to NASA's SLS (Space Launch System) rocket. Want to know more about NASA's heavy-lift rocket and the Artemis campaign?

With "SLS in 3... 2.. 1.," you're only a few clicks away. — [Learn more](#)

**Top Three Countdown**  
What you need to know right now

**3... Hangar Time** — After launching Artemis II, NASA's mobile launcher has returned to the Vehicle Assembly Building at NASA Kennedy Space Center in Florida to prepare for the Artemis III mission. — [Read more](#)

**2. Special Delivery** — On the heels of Artemis II, teams at NASA Kennedy received the top four-fifths of the SLS core stage for Artemis III. — [Read more](#)

**1. Post-Flight Analysis** — After the successful completion of the Artemis II mission, engineers turned to mission data to assess how key systems and subsystems performed for each of the major elements. — [Read more](#)

**Picture of the Month**  
We know how to wow

Technicians moved the top four-fifths of the SLS core stage for the crewed Artemis II mission from NASA's Michoud Assembly Facility in New Orleans to the Pegasus barge.

## FOLLOW THE PROGRESS OF NASA'S NEW LAUNCH VEHICLE FOR DEEP SPACE:

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