



National Aeronautics and Space Administration

# GODDARD NEWS

Greenbelt, Maryland/Wallops Island, Virginia

The Goddard News is published weekly by the Office of Public Affairs, Goddard Space Flight Center, Greenbelt, MD 20771

Goddard Space Flight Center  
Greenbelt, Maryland/Wallops Island, Virginia

July 30, 1999

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## Safety – Our Number One Value

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### Administrator Calls Cuts to NASA Budget "Devastating"

"The NASA team just launched Chandra, the world's most powerful space telescope," NASA Administrator Dan Goldin said on July 27. "Today, we will have to turn it back on Washington to see what remains of the NASA budget."

On July 26, a U.S. House of Representatives subcommittee passed a funding bill that cuts NASA's budget about 11 percent below the President's request for Fiscal Year 2000.

"Year after year, NASA is touted for doing more and more with smaller budgets and held up as a model of good government," said Goldin. "The NASA employees get up every day to achieve what most think is impossible. They have risen to the challenge of smaller budgets. And this is the reward the NASA team gets? Not only is this cut devastating to NASA's programs, it is a knife in the heart of employee morale.

"It is a shame that in the same week that we are celebrating the legacy of the space program -- and we are building on it by sending the first woman to command the Space Shuttle -- we could be effectively smashing one of America's crown jewels," Goldin said. "NASA continues to deliver amazing scientific discoveries and reach new heights of exploration. To many Americans, NASA is a cornerstone of our national pride. But there is nothing to be proud of in this budget.

"Over the past five years, NASA has restructured the Agency, done more with less, reduced government employees by one-third without forced layoffs, and still significantly increased productivity. Up until now, NASA has always stepped up to the budgetary challenge. This time the NASA team plans to fight. These cuts would gut space exploration. They may force the closure of one to three NASA centers, and significant layoffs would most certainly follow," said Goldin.

The Administrator noted other implications for the budget as well:

\* For the past seven years, the NASA budget has declined and, because of inflation, the Agency's buying power is already down by one-third.

\* While the subcommittee's cuts total \$1.325 billion, if these figures are projected out five years, the cuts would total approximately \$5.3 billion.

\* Over the past five years, NASA's streamlining efforts have saved the taxpayer \$35 billion.

"This cut destroys the technology base built by NASA," Goldin said. "Our ability to further reduce costs and increase scientific productivity would end. NASA is one of only a few investments our nation makes to ensure a bright future, a strong economy and the technology base to achieve it. As a result of the cuts, we would be forced to eat our seed corn, and in the long-term it would weaken America's technological and defense sectors. Perhaps most sadly, we will lose the opportunity to inspire a future generation of children."

"I won't feel better until every nickel is restored," said Goldin.

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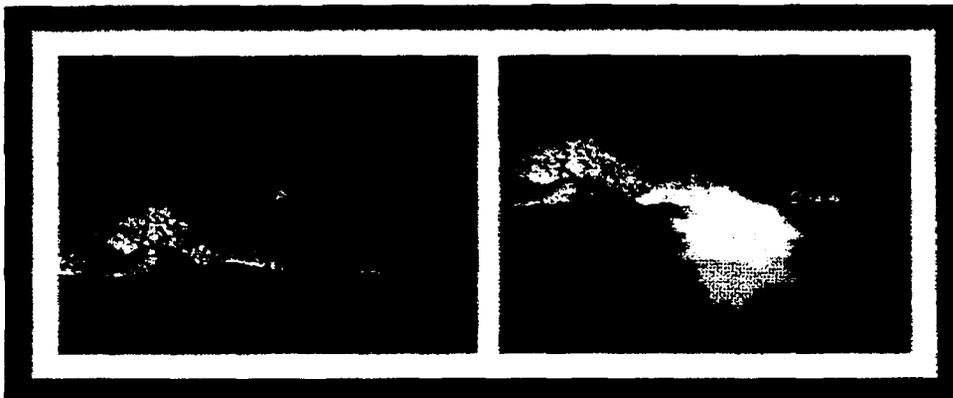
## Goddard's ISO Registration Audit is Coming

August 23 to 27 at Goddard

August 30 to Sept. 3 at Wallops

Are You Ready?

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## Goddard Hopes to Find Water With Lunar Prospector

Several ground and space-based observatories, including Goddard's Hubble Space Telescope and Submillimeter Wave Astronomy Satellite, will assist NASA in a search for water in material hurled upward from the planned impact of the Lunar Prospector spacecraft in the early morning hours of July 31.

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Flight dynamics controllers at Goddard are guiding the Lunar Prospector to the designed crash inside a crater near the south pole of the Moon. Scientists believe there may be water ice near the surface in the crater bottom, which is in permanent shadow. The Goddard Guidance, Navigation and Control Center will provide the trajectory design, maneuver generation and navigation for the event.

*Pictured are three team members of the Goddard Guidance, Navigation and Control Center. Shown from left to right are: Marco Concha, Dave Folta, and Mark Beckman. Not pictured are: Karen Richon and Greg Marr.*



To view the full Lunar Prospector news release, visit the Goddard website at: <http://pao.gsfc.nasa.gov/gsfcc/newsroom/flash/flash.htm#release>

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### STS-93 Lands at Kennedy Space Center

The Space Shuttle Columbia touched down at Kennedy Space Center, Fla. on July 27 at 11:20 p.m. EDT, wrapping up the five-day mission to deploy the Chandra X-Ray Observatory. The observatory was deployed on July 23, and begins its five-year mission to study the structure and evolution of the universe.



Chandra will enable astronomers to study hot turbulent regions in space with images 25 times clearer and sharper than previous x-ray images. Chandra's capabilities will allow for detailed studies of black holes, supernovas, and dark matter. For the latest on Chandra, check out the following website: <http://xrtpub.harvard.edu/index.htm>

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## Amateur Radio Satellite Visits Goddard

The latest and largest amateur radio satellite, AMSAT Phase 3D, was at Goddard last week for vibration testing to certify the spacecraft safe for a launch scheduled for later this year.

This project has been ongoing for about eight years and is funded mostly by out of pocket contributions from the ham radio operators of the world, and built mostly by volunteer labor of several hundred people.

The AMSAT organization was founded in Washington D.C. 30 years ago in order to facilitate the construction and launch of amateur satellites for ham radio communications and scientific experiments. Today it has members and volunteer workers scattered all over the world.



*Amateur radio enthusiasts working on the AMSAT satellite.*

Parts and subsystems of the Phase 3D spacecraft come from over a dozen countries. The satellite also will be carrying a Global Positioning System receiver experiment provided by Goddard. The satellite underwent testing in the vibration test facility where its fuel tanks were filled with alcohol to simulate the 200 kilograms of hydrazine that it will be carrying when it is launched.

To see AMSAT pictures, visit the following websites at: <http://www.clark.net/pub/tac/p3d.htm>

and a project overview at: <http://www.amsat.org/amsat/sats/phase3d.html>

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## Employees Must Reregister for August Family Nights at the National Air and Space Museum



Response to the Aug. 16 & 17th Family Science Night at the National Air and Space Museum (NASM) for NASA Goddard civil servants, contractors and their families has been overwhelming.

Over 1,400 people signed up at the interest survey website. NASM will support both nights. Unfortunately, they can only accommodate 480 people per evening. If you entered your name at our interest survey website last week, be advised that you are not signed up for the program. A formal sign-up is now underway at the following website: <http://www.challenger.org/fsn/gsfcc>

You must sign up at this new website to attend.

Please be advised that seating will be assigned on a first-come, first-served basis. The website includes all program information. Once theater capacity has been reached, the website will no longer accept requests. Given the remarkable level of interest, please sign up only if you plan to attend. A master list of attendees will be used to gain entry to the Museum. NASM is very sorry that they cannot accommodate everyone and hope to be able to provide a similar learning experience for your family in the future. Thanks again for the tremendous interest.

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## Security Presentations Are Available Online

Earlier this week Lee Holcomb, NASA Chief Information Officer (CIO), and Mark Borsi, NASA Security Officer, spoke to the Goddard Community about NASA Safety. Borsi discussed physical security and Holcomb discussed information technology security. Copies of Borsi's and Holcomb's presentations can be found at following websites respectively:

<http://internal.gsfc.nasa.gov/directives/speeches/borsi/GSFC-Borsi/index.htm>

<http://internal.gsfc.nasa.gov/directives/speeches/holcomb/GSFC-Holcomb/index.htm>

In each html version there is an option to download the PowerPoint version of the files.

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## STS-99 Causeway Passes

NASA causeway car requests are now being accepted for the viewing of the next Space Shuttle launch at Kennedy Space Center, Fla. If interested in a pass, submit your name and address to: [Trusilla.Y.Steele.1@gsfc.nasa.gov](mailto:Trusilla.Y.Steele.1@gsfc.nasa.gov)

The Space Shuttle Endeavour is scheduled to launch Thursday, Sept. 16 at 8:47 a.m. EST. The primary payload for STS-99 is the Shuttle Radar Topography Mission. This radar system will gather data that will result in the most accurate and complete topographic map of the Earth's surface that has ever been assembled.

Employees should receive their pass no later than two weeks before the launch.

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## The Emotion of Space by Daniel S. Goldin, NASA Administrator

(The following speech was given by the Administrator during the NASA Headquarters Apollo 11 30th Anniversary Celebration on July 20.)

Not too long after I became NASA Administrator I ran into a friend. She talked to me about the space program and took the opportunity to test me.

She asked, "Why do we spend money on space when there are so many ills here on Earth?"

Instead of describing the incredible scientific research we do or making the case for the investment we make in America's future, I said "Come to a launch and you will understand."



*Crew of STS-95*

I dispensed this advice based on my own experience. Prior to coming to NASA, I worked for a major space company, and for a time I was responsible for many of the Shuttle's large payloads. I was proud of my work. I could talk about the potential for discovery, the edge it gives our economy and how some projects were crucial for our nation's security. But, like my friend, I didn't truly grasp the significance of human space exploration. I rarely went to the Kennedy Space Center for launches and, somewhat selfishly, I only kept in touch by phone to learn of our spacecraft's release into orbit. It wasn't until I started to make a point to watch the launches that I understood the emotion of space.

As the person who has ultimate responsibility for the safety of the astronauts, it was no longer a business proposition. Knowing the astronauts, knowing their families, all of us on the NASA team know we each must do our jobs right. In the dynamic moments before liftoff, we wish them a successful mission and a safe return home. We make it as safe as possible, but we also know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth.

Viewing a Space Shuttle launch is not an intellectual experience, rather it is an emotional one. And like most things in life, it cannot be fully appreciated through a lens or played back on a television screen. In the moments before launch there is always a tension I can never seem to adequately describe.

I don't watch launches from the control center partly because I want the members of the launch team to take full responsibility for their tasks and to remain accountable. Their jobs require split-second decision making skills. Conventional wisdom may call for added layers of supervision in such a critical situation. In this case, however, delayed judgment could be the difference between success and failure.

For me, the place to watch is outside on the bleachers with friends, family, employees, fellow Americans and our foreign guests. Together, we share one of the most awesome displays of sheer power as the astronauts are catapulted to space.

As the launch time approaches more and more people arrive. The viewing site becomes a beehive of activity. Cameras start whirring. Conversations grow louder. The combination of sounds drown out the pre-launch commentary.

It isn't until built-in hold occurs at about T-minus nine minutes and a call from launch control declares all-systems are go that there is a shift in the crowd's mood. There is brief applause. But as the countdown resumes, so does the chatter and movement.

Shortly after, the Star Spangled Banner begins to play over the loudspeaker and for the first time the crowd seems to appreciate the weight of the moment. Some people are singing, some are saluting and some are praying silently. The Space Shuttle and the launch tower appear to be standing at military attention. The words to the National Anthem play through your mind like they have a thousand times before. But this time, at "the home of the brave," a giant lump has formed in your throat and a mist has glazed your eyes.

As the countdown clock ticks away, you cannot help but think that people are sitting atop 4.5 million pounds of high energy fuels and complex aerospace machinery. Subconsciously, it becomes a life and death experience. First your breathing slows, then your heartbeat becomes noticeable and then an uncomfortable muscle tension fills your body. You don't want to talk with anyone and your eyes are fixed on the Shuttle. You begin listening intently to the words of the launch commentary to try and pick up any nuances. Are there any problems?

We make it as safe as possible, but we know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth. As you watch from 3 miles away, you try to imagine what must be going through each astronaut's mind in the moments before liftoff. My adrenaline is flowing and I'm not one of the people that's about to go 17,500 miles per hour to space. Just fifteen minutes ago you were part of a crowd and now, you might as well be alone as you stand among thousands of others who do the same amid the silence.

"T minus 10 - 9 - 8 - ..."

It feels like an eternity, is it just me? "7 - 6 - ..."

The engines are lighting and we haven't even reached T-minus 1 yet, what's going on? "5 - 4 - 3 - ..."

Wait, flames are pouring out and the Shuttle just moved back and forth in the tower. Is something wrong?

"2 - 1 - Liftoff of the Space Shuttle ..."

Slowly, as if in time-lapse photography, the Shuttle climbs upward. At first, it seems surreal as the massive spaceship appears to hover at the tower, yet it is still eerily quiet. Still in a dreamlike state, you see huge clouds of smoke and then a light from the rocket's engine that seems nearly as bright as the Sun. Out of nowhere a rumbling shockwave comes across the water and the sound reaches your chest and shakes you back to reality. It seems like the soundman has realized he forgot to connect the speakers when an unnatural thundering crackle from the Shuttle's engines reaches alarming levels. What's that sound, is that supposed to happen?

In just a few seconds any doubts that the rocket is powerful enough are dispelled. Once those twin solid rockets are lit, at T-zero, there is no turning them off. Then at 40 seconds, to ensure the vehicle's pressure limitations are not exceeded, the three main engines are throttled down to idle. Straight up, faster than the speed of sound.

At 70 seconds, the astronauts get a command from mission control to urge the beast back to full-throttle. A knot forms in your gut and all ears are honed in on the launch commentator as he calls the order, "Go at throttle up." Challenger passes through my mind.

Another few seconds slowly drip by until the commander calls back and says, "We're go at full throttle."

Two minutes and five seconds — at nearly five times the speed of sound, the expended solid rocket engines are jettisoned and parachute into the ocean. Another call to the astronauts is made: "Performance nominal."

The almost insignificant term is the astronauts' signal that the first stage of their journey to space is safely behind them. I heave a sigh of relief and the weight begins to lift from my shoulders. A light streaks higher and higher, leaving a graceful white trail in its wake.

As the engines' sounds fade away, we all try to follow the astronauts' path. Soon, they have disappeared into orbit. But it isn't until eight and a half minutes later when the engine's explosive hydrogen and liquid oxygen fuels are depleted that we hear the call for main engine cut-off. Our astronauts have climbed safely to orbit. Thank God. We take our first real breath since liftoff and then let out a big cheer.

We make it as safe as possible, but we know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth.

I ran into my friend at a speech shortly after she saw her first launch. She said, "Dan, I have to talk to you." I said, "I'm about to deliver a speech. Can we talk later?" "No," she said, "I have to tell you that I went to see the Space Shuttle launch. I realized that there were 3 million things that could go wrong, but they didn't. I understand and I cried."

She got it.

Yes, NASA has cool robots that rove other planets and cutting-edge telescopes that peer into other galaxies, but the heart and soul of NASA are our astronauts. They are the role models on which children pin their hopes and dreams. They connect us with our ancestors, those who founded this great country and bravely explored the next unknown horizon. And they help us understand that we are only human.

This article is also available as a pdf file at: [http://www.nasa.gov/bios/goldin\\_speeches.html](http://www.nasa.gov/bios/goldin_speeches.html)

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## NASA Values

To implement the Strategic Plan, the NASA Team will strive to uphold core values related to people, excellence, and integrity.

### **Safety**

Safety permeates everything we do at NASA, and the entire NASA workforce is committed to safety as a priority. The NASA management team is held accountable for safety. We foster an environment with zero tolerance for mishaps. We must protect the safety and health of the general public and the NASA workforce on and off the ground. By focusing on the safety of our missions, we also focus on improving quality and decreasing schedule and cost.

### **People**

Our greatest strength is our workforce. We aggressively build a team of highly qualified individuals that is representative, at all levels, of America's diversity. We foster a culture that is built on trust, respect, teamwork, communication, creativity, and empowerment in an environment that is free of unlawful discrimination and ensures equal opportunity for all.

### **Excellence**

We are committed to demonstrating and promoting excellence and continually improving processes, products, and services to better satisfy our customers' needs and requirements. We utilize quality-focused leadership and management, as well as scientific, engineering, and technical excellence to provide our customers with highly valued products and services in the most cost-effective, timely, and safe manner.

### **Integrity**

We preserve America's confidence and trust by ensuring that our missions are consistent with national goals, carefully conceived, and well executed. We deliver on our promises and are accountable for our performance. We are open and honest with one another and with our customers, and we cooperate within and across organizations to deliver the highest quality results. We are bold but prudent in confronting challenges and accepting risks. We work with integrity and are dedicated to fulfilling our vision in an

environment in which adherence to fundamental ethical principles and compliance with related laws and regulations flourish.

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Press Releases from the past week can be found here: [Hot Topics](#)

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## Mission Success Starts With Safety

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If you would like to make comments or ask questions concerning the content of the Goddard News for this week please address your email comment to: [James.Sahli.1@gsfc.nasa.gov](mailto:James.Sahli.1@gsfc.nasa.gov)

If you would like to make comments or ask questions regarding the HTML (on-line) version of Goddard News for this week please address your email comment to: [Lynn.A.Jenner.1@gsfc.nasa.gov](mailto:Lynn.A.Jenner.1@gsfc.nasa.gov)