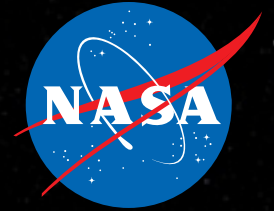


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NASA's 50th Anniversary Logo is Unveiled

Courtesy of NASA Headquarters



Caption: NASA's 50th anniversary logo, unveiled on Sept. 13, 2007, by Deputy Administrator Shana Dale at Wired Magazine's NextFest in Los Angeles.

Photo credit: NASA

NASA Deputy Administrator Shana Dale unveiled the Agency's anniversary logo Thursday in a ceremony at *WIRED* Magazine's annual NextFest in Los Angeles. NASA's "birthday" is October 1, 1958. Recent shuttle astronauts and future NASA technology were also in the spotlight at

NextFest, which features the latest innovations in products and technologies in many areas where NASA plays a leading role.

Dale and astronaut Scott Kelly introduced the *Space Shuttle's* STS-118 crew, including mission specialist and former educator Barbara Morgan, at NextFest opening ceremonies earlier Thursday. Morgan and the other crew members of the STS-118 mission signed autographs throughout NextFest in the Exploration Pavilion.

Other NASA technology on display:

- A four foot model of NASA's *James Webb* Space Telescope. The observatory is designed to study the faint light from objects at the farthest reaches of space and time and is targeted for launch in 2013.
- A 3-D panorama of Mars .
- Demonstrations of the all-terrain technology in the current Mars rovers.
- Information about experimental rovers that are helping scientists learn how robots could evaluate potential outposts on the Moon or Mars.
- An infrared video camera and monitor on display by the Stratospheric Observatory for Infrared Astronomy mission. It reveals remarkable temperature changes in the infrared spectrum on the faces of visitor volunteers.
- An interactive assembly project featuring *Constellation*, NASA's next generation of human spacecraft. ■

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Cover caption: Artist rendition of the Solar Dynamic Observatory (SDO). SDO is being built here at the NASA Goddard Space Flight Center.

Image credit: NASA

GoddardView Info

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Managing Editor: Trusilla Steele

Editor: Alana Little

Deadlines: News items and brief announcements for publication in the Goddard View must be received by noon of the 1st and 3rd Wednesday of the month. You may submit contributions to the editor via e-mail at alana.m.little@nasa.gov. Ideas for new stories are welcome but will be published as space allows. All submissions are subject to editing.

SDO Instrument Arrives at Goddard

By Rani Gran

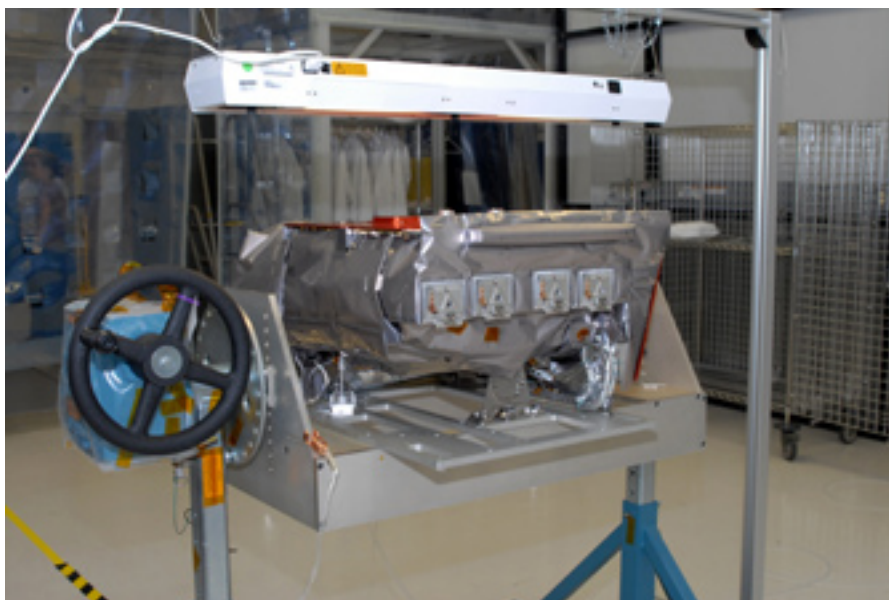


Photo credit: Barbara Lambert

Tom Woods, SDO EVE Principal Investigator. "These future SDO EVE measurements are important for many different space weather applications such as how solar storms can degrade or even disrupt our navigation and communications."

After launch, SDO will study how solar activity is created and how space weather comes from that activity. SDO is designed to help us understand the Sun's influence on Earth and near-Earth space by studying the solar atmosphere on small scales of space and time and in many wavelengths simultaneously.

Caption: EVE unbagged in a clean room tent at Goddard Space Flight Center. EVE was built and designed by The University of Colorado at Boulder.

The University of Colorado at Boulder delivered the Extreme Ultraviolet Variability Experiment (EVE), the first of three Solar Dynamic Observatory (SDO) instruments, to Goddard Space Flight Center. EVE will measure how much the Sun's ultraviolet brightness changes.

Rapid changes in the ultraviolet radiation of the Sun can cause outages in radio communications and affect satellites orbiting the Earth. Increases in solar ultraviolet radiation from flares heat Earth's upper atmosphere, causing it to expand. The expansion makes the air more dense at low-Earth-orbit altitudes, where many satellites fly. The dense air increases the drag on these satellites, slowing them down and causing them to prematurely burn up in the lower atmosphere if there is no more fuel onboard to give them a boost.

EVE will take measurements of the Sun's ultraviolet brightness as often as every 10 seconds, providing space weather forecasters with warnings of communications and navigation outages.

The Sun's extreme ultraviolet output constantly changes. The small solar flares that happen almost every day can double the output, while the large flares that happen about once a month can increase ultraviolet radiation many times in minutes. This harmful ultraviolet radiation is completely absorbed in the atmosphere, which means we can only observe it from satellites.

"The Laboratory for Atmospheric and Space Physics (LASP) is very excited about delivering the state-of-the-art EVE instrument to measure the solar extreme ultraviolet irradiance with best ever spectral resolution and time cadence," said

SDO's other instruments include the Helioseismic and Magnetic Imager (HMI) and the Atmospheric Imaging Assembly (AIA). These instruments are expected to arrive at Goddard by the end of October.

"These three instruments together will enable scientists to better understand the causes of violent solar activity, and whether it's possible to make accurate and reliable forecasts of space weather," said Liz Citrin, SDO Project Manager at Goddard. "SDO will provide a full disk picture of the Sun in super HD quality."

SDO is the first mission of NASA's "Living With a Star" program, which seeks to understand the causes of solar variability and its impacts on Earth. SDO is being designed, managed, and assembled at Goddard. HMI is being built by Stanford University, Stanford, Calif. AIA is being built by the Lockheed Martin Solar Astrophysics Laboratory (LMSAL), Palo Alto, Calif. EVE is being built by the University of Colorado.

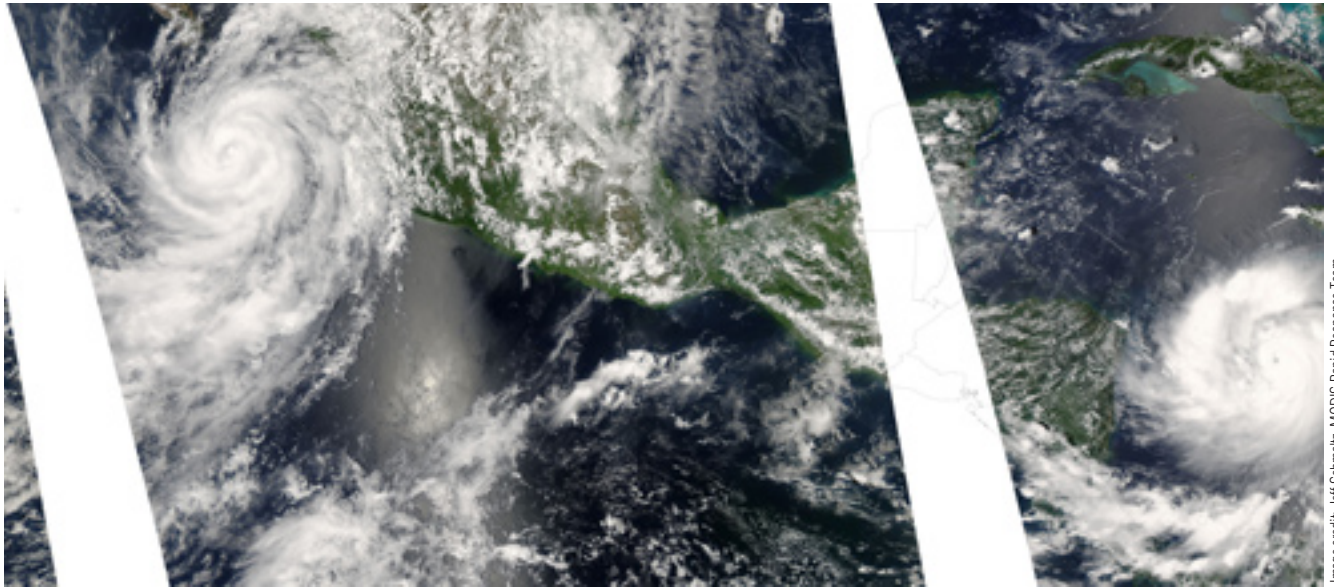
SDO is expected to launch no earlier than August 2008.

For more information and related images, please visit on the Web: http://www.nasa.gov/centers/goddard/news/topstory/2007/sdo_inst_arrival.html

For more information about the SDO mission, please visit on the Web: <http://sdo.gsfc.nasa.gov/> ■

Hurricanes Henriette and Felix Set a Record

By Rob Gutro



Caption: The right image of Hurricane Felix was created from data gathered at 2:30 p.m. EDT (18:30 UTC) on September 3 when the storm was headed toward Nicaragua. The left image of Hurricane Henriette was created from data gathered at 5:10 p.m. EDT (21:10 UTC). At that time, Henriette was moving northward along the western Mexican coast.

Never before have forecasters seen Atlantic and eastern Pacific hurricanes make landfall on the same day until September 2007. The National Oceanic and Atmospheric Administration's (NOAA) National Hurricane Center noted that this has never happened since they started keeping records in 1949.

At the time of Felix's landfall in extreme northeastern Nicaragua on Tuesday, September 4 at 8:00 a.m. EDT (5:00 a.m. PDT), he was deemed a "potentially catastrophic Category 5 hurricane." Six hours later, Henriette made landfall as a Category 1 hurricane with sustained winds of 85 mph (140 km/hour) and higher gusts. At 2:00 p.m. EDT (11:00 a.m. PDT) Tuesday, September 4, the National Hurricane Center noted in its advisory: "The eyewall of Henriette is nearing the southern tip of the Baja Peninsula."

The Moderate Resolution Imaging Spectroradiometer (MODIS) instrument on NASA's Aqua satellite captured images of the two hurricanes as they were near Central America. The image is a combination of two images collected in two consecutive orbits of NASA's Aqua satellite around the globe. The breaks in coverage between the orbits appear in gray.

Felix and Henriette have forever secured their place in the records of hurricane history for being the only storms from the Atlantic and eastern Pacific oceans to make landfall on the same day—and in the same region of the globe.

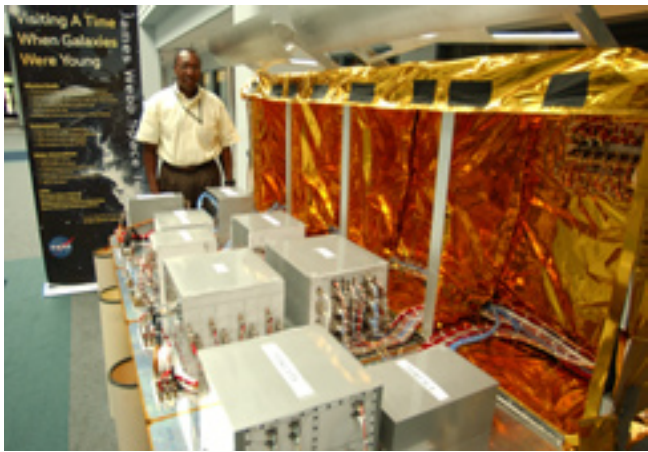
NASA's Hurricane Resource Web Page has been getting a lot of attention this hurricane season. Updated daily from Goddard whenever there's a storm brewing, visitors can see NASA satellite images from Aqua, Aura, GOES, Landsat, QuikSCAT, Terra, the Tropical Rainfall Measuring Mission (TRMM), and learn about all the different ways that NASA studies these massive storms. The Hurricane Page is one of the top 10 viewed NASA Web sites throughout the Agency, and is a resource for reporters, scientists, educators, and anyone interested in tropical cyclones.

You can find the Hurricane Page at: www.nasa.gov/hurricane. ■

Image credit: Jeff Schmaltz, MODIS Rapid Response Team

JWST Hardware on Display in Building 28

By Lynn Chandler



Caption: Robert Rashford, IEC Project Manager showcases the IEC.

The *James Webb* Space Telescope (JWST) is one of the newest “rock stars” of space hardware. If you’ve been in the atrium of Building 28 lately, chances are pretty good that you’ve noticed a rather large, shiny box set off to the side and highlighted by white ropes usually reserved for the red carpet. The shy and somewhat standoffish silver and gold box enclosure is a demonstration unit for JWST’s Integrated Science Instrument Module Electronic’s Compartment (IEC) and is being displayed in support of the Preliminary Design Review that was held on August 21.

The IEC is a subsystem of the Integrated Science Instrument Module (ISIM). The ISIM is the unit that will house the four scientific instruments and a star tracker that helps maintain telescope pointing. The IEC houses the 10 electronics boxes that operate JWST’s science instruments. The box structure of the IEC is composed of a lightweight composite shell that encloses and protects the 10 boxes. On one side of the IEC are specially shaped baffles, or louvers, that direct the heat generated in the IEC from the electronics boxes out into space. The baffles have a mirrored surface that ensures that the heat travels away from the observatory in order to keep the instruments operating at approximately -400°F.

The demo model of the IEC was built to confirm that all 10 electronics boxes and their harnesses fit as planned. The demonstration model is also used to help define the integration procedures for the IEC. You will be able to catch a glimpse of the IEC until the end of October.

While the unit currently in Building 28 is only a model, the actual flight unit will be delivered to Goddard for Integration and Testing in Building 29 in March 2009. The IEC is being developed by GSFC, with support from the Johns Hopkins University Applied Physics Lab, SGT, and Genesis Engineering.

For more information on the JWST, visit: <http://www.jwst.nasa.gov/> ■

NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES)

Supporting research in science and technology is an important part of NASA’s overall mission. NASA solicits this research through the release of various research announcements in a wide range of science and technology disciplines. NASA uses a peer-review process to evaluate and select research proposals submitted in response to these research announcements. Researchers can help NASA achieve national research objectives by submitting research proposals and conducting awarded research. This site facilitates the search for NASA research opportunities.

For more information, please visit <https://nspires.nasaprs.com>

Solicitations:

Cooperative Agreement Notice (CAN) Dual Use Technology Development at NASA John C. Stennis Space Center

Released: 2007-04-30

Proposal Due: TBD

Observing at the NASA Infrared Telescope Facility—Call for Proposal

Released: 2007-02-20

Proposal Due: TBD

Request for Information: Science Mission Partnership Opportunities

Released: 2007-09-04

Proposal Due: 2007-09-21

Small Explorer (SMEX) and Missions of Opportunity—DRAFT

Released: 2007-06-08

Proposal Due: 2007-09-30

Undergraduate Student Research Program (USRP)

Released: 2007-08-10

Proposal Due: 2007-09-21

Celebrate Goddard 2007

By Trusilla Steele



Caption: Mike Ryschkewitsch gives the opening speech at Celebrate Goddard Day 2007.

Although this year's Celebrate Goddard was conducted differently than in past years, employees still gained a wealth of information and a sense of pride while enjoying the camaraderie of others.

The August 1, 2007 event began with Mike Ryschkewitsch, former Deputy Director, expressing pleasure in seeing so many employees celebrating Goddard's achievements and taking the time to acknowledge how "our differences make us stronger," which was this year's Celebrate Goddard theme. In addition, Ryschkewitsch expressed his appreciation to the team that planned and executed the celebration, which was led by Mindy Deyarmin and Anetra Tucker. He also praised directorates and the advisory committees for exhibiting and showcasing the work of their employees. Opening remarks from Ryschkewitsch were followed by Kimberly Weaver singing the National Anthem.

Employees joined in the celebration by visiting the Building 8 Auditorium to gain information from the various directorates as they provided literature detailing their organization's services and accomplishments. In addition, they were entertained by talented colleagues. Mark Branch, also known as "DJ Scientific," kept everyone moving to the beat with musical interludes played in between demonstrations from members of the Goddard Employee Welfare Association (GEWA) clubs. Cuong Nhu Karate, Goddard Toastmasters, and Goddard Photo clubs all demonstrated their passion for, and expertise in, their respective areas. A guitar and vocal performance from Nancy Newman-Pape, Code 153.1, soothed the souls of all in attendance.

Participants whetted their palettes with a bite to eat from the various vendors that were on the Goddard Mall area. The outdoor menu selection included Greek, Mexican, German, and American favorites. If the menu wasn't of interest, attendees could participate in one of the five outdoor activities, which included an adult moon bounce.

To get behind the scenes of the diverse work performed at NASA Goddard, participants were able to register for Center tours. The Mission/Network Operations Management Center in Building 14 was one tour stop that gave participants a glimpse of the 24/7 support for all forms of operational communications to the entire NASA mission community. A tour of the Building 7/10/15/29 complex gave the tourists insight into the Solar Dynamics Observatory (SDO) and the *Hubble* Space Telescope (HST) projects.

Another tour allowed employees to view the brand-new Goddard TV Studio in Building 28.

Registered participants also had the option of viewing a mesmerizing visualization of animated data displayed on "Science on a Sphere" at the Goddard Visitor Center.

The positive feedback from those in attendance revealed that the new format of celebrating Goddard wasn't as compromising as some had expected. Although the planning committee had to deal with space, time, and monetary constraints, the celebration did what it was meant to do, which was to create an encouraging environment for acknowledging "how our differences make us stronger." ■



Caption: Lori Levine and Alexia A. Martinez from the Waste Management committee provided information about conservation services on Center.

Celebrate Goddard 2007

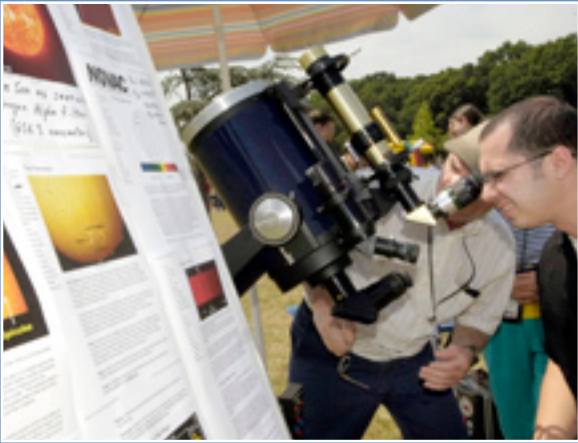


Photo credit: Debbie McCallum



Photo credit: Jean-Marie Denis



Photo credit: Debbie McCallum



Photo credit: Debbie McCallum



Photo credit: Debbie McCallum



Photo credit: Jean-Marie Denis

Employee Spotlight:

Paul Lowman

By Rob Garner



Caption: Paul Lowman

NASA was not quite a year old in 1959 when Dr. Paul Lowman, Jr. started working here. The geophysicist has spent 48 of his 76 years with NASA, and he still commutes daily to Goddard.

The bespectacled scientist has a wide grin, a hearty laugh, and a touch more salt than pepper in his hair. Over the years he says he has built up the reputation of being a bit of a maverick. Like most of his memories, this one comes with a great anecdote.

About 15 years ago, Lowman brought his nephew, Neil, to a two-mile run held at Goddard. He introduced the young boy to Dr. Noel Hinners, Center Director at the time: "I said, 'Neil, I want you to meet my boss, Dr. Hinners.' And Noel replied, 'Paul, you don't have a boss. Nobody can manage you!' We were friends from the old days, so he knew me well." That's the kind of guy Lowman is, but if he's something of a maverick, it hasn't gotten in the way of his friendships or accomplishments.

Lowman grew up in Rahway, N.J. His father instilled a love of science in him. Books, magazines, and newspapers were constant surroundings in the household, Lowman says. He watched his first lunar eclipse from his backyard before he was eight years old.

After high school, a two-year Army stint, and college at Rutgers, Lowman enrolled at Colorado University for graduate and doctoral studies in geology. As he was finishing his doctorate, the Space Age was just getting started.

NASA, though but a year old, was Lowman's first choice for a job. There he could combine his interests in geology and the Moon to pursue new and exciting research opportunities—but his first application was turned down. While on the East Coast for another job interview, he decided to try his luck again.

Lowman went door to door at NASA Headquarters in Washington, D.C., where someone suggested he talk to John O'Keefe, who worked in the Theoretical Division of the freshly formed Goddard Space Flight Center.

"O'Keefe and I hit it off perfectly from the very beginning," Lowman says. "He was interested in a problem that I already knew something about, namely tektites and the Moon. That really got me fired up." Lowman was familiar with tektites from his work in Colorado.

Tektites are essentially pieces of natural glass, similar to obsidian. Scientists used to think they came from the Moon, knocked off by impacts and pulled in by Earth's gravity. Research since the 1960s has shown tektites are likely the result of meteorite impacts on Earth.

Budding tektite research was only the beginning. In the early 1960s, O'Keefe and Lowman worked on the Sonett Report, which outlined possible experiments for the *Apollo* missions. O'Keefe and Lowman helped select geological tests for astronauts to perform on the Moon.

In addition to his work on lunar geology's unknowns, Lowman was partly responsible for getting astronauts to take the first photos of Earth from space.

He is quick to point out the project was not his idea. "It was Paul Merifield and Dr. John Crowell," Lowman says. Merifield, who had been a doctoral student at the University of Colorado, got the idea from Crowell while he was at UCLA. Lowman presented the plan to O'Keefe, who was able to push the project through.

On the first Mercury missions, astronauts snapped Earth photos in what little free time they had, but soon the project became a formal experiment. "From then on, we were off and running," Lowman says.

These early photos were a far cry from the quality of later satellite images, but they represented the first time someone pointed a camera down at Earth to look at something other than weather patterns.

Lowman has accomplished much during his Goddard tenure, but that doesn't mean he's thinking of calling it quits. "I plan to work for NASA as long as my health holds up," he says. Lowman bikes to work most of the time.

The Moon's persistent mysteries and Lowman's lunar enthusiasm have led to his current project. "There is a burning need for a usable book on the geology of the Moon," he says. "I think it's going to be a real blockbuster, because there's nothing like it now up to date."

That's one of many reasons he calls future Moon missions imperative, and one of many reasons why he's pleased to be involved with the Lunar Reconnaissance Orbiter (LRO) scheduled for launch next October. Among other things, LRO will scout possible landing sites for future manned missions.

Lowman is glad we're on our way back and thrilled to be part of making mankind's return a reality. ■