National Aeronautics and Space Administration

John C. Stennis Space Center

# LAGNIAPPE

Volume 3 Issue 2 www.nasa.gov/centers/stennis February 2008

# NASA hosts Space Day at Capitol

Representatives from NASA John C. Stennis Space Center visited Jackson on Wednesday, Jan. 30, to meet with state legislators as part of NASA Space Day in Mississippi.

During the event, Stennis senior managers presented figures detailing the impact of the center and its nearly 5,000 employees on Mississippi's 2007 economy. Stennis' estimated global economic impact of $839 million represents a 27 percent increase over 2006. The economic impact within a 50-mile radius of the center is estimated at $622 million, a 33 percent increase over 2006.

Astronaut Mike Foale, a veteran of six spaceflights, joined the Stennis representatives in thanking Mississippi legislators for their continued support of NASA. Highlighted during the event was the important role of Stennis in the past, present and future of America's space program, and its positive effect on the life and economy of Mississippi. Also highlighted was the 50th Anniversary of NASA. Throughout this year, the agency is celebrating half a century of space exploration and scientific achievement. A resolution passed by both chambers of the Mississippi legislature designated Jan. 30 as NASA Space Day in Mississippi and acknowledged NASA and Stennis' significant accomplishments and the limitless potential that awaits future generations.

SSC displayed an exhibit in the

*See **SPACE DAY,** Page 6*

Astronaut Michael Foale (center) and Stennis Space Center officials met with Mississippi Lt. Gov. Phil Bryant (at rear podium) and Gulf Coast delegation members in Mississippi Senate chambers during NASA Space Day in Mississippi activities at the Capitol on January 30.

# STS-122 mission underway

Early concerns were that inclement weather might delay STS-122, but the skies held and space shuttle Atlantis launched Feb.7 right on schedule, beginning an 11-day mission to deliver a key component to continue construction of the International Space Station. The shuttle also is delivering a new crew member to ISS and bringing another astronaut home after a nearly two-month mission. Commander of the flight is Steve Frick, a native of Gibsonia, Penn., who served as pilot on STS-110. The STS-122 mission marks the 29th flight for the space shuttle Atlantis.

From the desk of

## Robert Cabana

**Director,**
**Stennis Space Center**

Teamwork.

If there's one thing I've learned during my career, it's the importance of teamwork.

Very few things that we accomplish in this world are accomplished by ourselves. Somewhere along the way, someone supported us to help make us, or our project, successful.

Teamwork is one of our four NASA core values and is an important one. Andrew Carnegie defined it as, "The ability to work together toward a common vision. It is the fuel that allows common people to attain uncommon results."

**"With the ... tremendous challenge we have in front of us, we will only be successful if we work together as one team."**

Our vision is clear and I don't think anyone can argue that the NASA team doesn't attain uncommon results; just look at our success in the face of adversity with the solar array repair on the last Shuttle mission.

This month, the scheduled launch of STS-122 was resumed and the Stennis team played an important role in making it happen; from the prior main engine tests on the A-2 stand to the external tank pressurization tests at Michoud that helped solve the engine cut-off sensor problem that initially delayed the launch.

Stennis civil servants and contractors were integral members of the team. Humans don't fly in space in the United States without us being on the team.

I can't stress enough how important it is when I say we at Stennis are a contractor/civil service team. We have to work together, treat each other with mutual respect and dignity, and look out for one another on a day-to-day basis.

If one of us has a problem, then we all have a problem. With the limited resources we have available, and the tremendous challenge we have in front of us, we will only be successful if we work together as one team.

We have the privilege of being members of a remarkable team, let's make sure we all continue to contribute to its success as we safely fly out the Shuttle and continue to build for the future.

# Stennis director visits with new U.S. senator

Stennis Space Center Director Robert Cabana (left) recently visited with newly-appointed U.S. Sen. Roger Wicker, R-Miss., in Washington, D.C., to discuss the role and importance of the South Mississippi facility. During the visit, Cabana outlined the economic impact of Stennis on its surrounding area, the history of the facility and its important role in testing engines for the Apollo, space shuttle and upcoming Constellation programs and the increasing applied research and technology work supported by the facility. Stennis generates an estimated $890 million economic global impact, which includes a $590 million impact within a 50-mile radius of the facility. Cabana also extended an open invitation to the senator and his staff to visit Stennis and witness firsthand the work of the facility. Wicker was appointed to the U.S. Senate at the close of 2007 to fill the Mississippi congressional seat recently vacated by former Sen. Trent Lott.

FULFILLING NASA'S EXPLORATION MISSION

# Stennis preparing for the future

Stennis Space Center recently achieved two major accomplishments leading to the development of NASA's new spacecraft Ares I and Ares V. The first hotfire of components that will aid in the development of the J-2X engines that will power these new rockets was accomplished on Stennis' A-1 Test Stand. Additionally, construction is moving forward on the new A-3 Test Stand that will begin testing the complete J-2X engine in 2010.

## 1st Powerpack hotfire test successful

Development of the new J-2X rocket engine that will carry humans back to the moon and on to Mars took a key step forward with the first hotfire test of the Powerpack 1A gas generator at Stennis Space Center on January 31. Indications were that all objectives were met during the test performed at the A-1 Test Stand at the Mississippi facility. The test was designed as a 3.42-second helium spin start with gas generator ignition and it went the full scheduled duration. Test conductors reported a smooth start with normal shutdown and described the event as a "good test." The test was part of the early component testing for the J-2X engine. It is one in a series of 12 scheduled tests. Those began last November at Stennis, but the January 31 event represented the first hot-fire test. The Stennis tests represent a critical step in the successful development of the J-2X engine.

## A-3 Test Stand update

With the main foundation for the new A-3 Test Stand poured and cured, work has been progressing on foundations for the support structures, reported Bo Clarke, NASA's contracting officer technical representative for the foundation contract. Early in February, foundations for the isopropyl alcohol tanks and water tanks and liquid oxygen tanks structures had been completed. Work was proceeding on the foundations for the gaseous nitrogen bottle battery and the diffuser. Once the support structure foundations are completed, the next step in the test stand construction process is to begin erecting the structural steel tower.

# Stennis selection ushers Mis

*Note: NASA celebrates its 50th anniversary this year, marking five decades of space exploration and excellence. The following story presents part of Stennis Space Center's role in that history.*

In 1957, Americans, along with people across the globe, gazed at the heavens in amazement as the world's first artificial satellite, the Soviet Union's Sputnik 1, streaked across the sky. President Dwight D. Eisenhower responded to this perceived Cold War threat with the establishment of the National Aeronautics and Space Administration in 1958. NASA was formed from the National Advisory Committee on Aeronautics, a group that had researched flight technology for more than 40 years.

President John F. Kennedy's May 25, 1961, speech to a special joint session of Congress set the pace for America's entry into the space race. He said, "I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the Earth."

The goal of landing astronauts on the moon required a place to test the large rocket engines that would propel them on that journey. Sen. John C. Stennis was a strong supporter and advocate of the American space program. He answered Pres. Kennedy's space exploration challenge by recommending the establishment of a rocket engine test facility in his home state of Mississippi. Just six months after Kennedy's speech, NASA announced on Oct. 25, 1961, that the Mississippi Test Operations, a national rocket test site, would be built in Hancock County, Miss


The area in Hancock County provided access to the Pearl River basin and state and U.S. highways, allowing transport of the large engines and rocket stages. Isolation from populated communities to buffer noise associated with the engines; availability of utilities; community support within a 50-mile radius; and a climate that permits year-round testing were other NASA requirements for the location. The main portion of the site occupies 13,800 acres in the center of a 125,000-acre acoustic buffer zone, which extends into St. Tammany Parish, Louisiana.

At the time of NASA's announcement, five communities occupied the land alongside the Pearl River that forms what is now known as NASA's John C. Stennis Space Center. Gainesville, Logtown, Napoleon, Santa Rosa and Westonia had been prosperous 19th century logging communities. Gainesville, founded in 1810, was able to boast a former status as the one-time seat of Hancock County. Its economic engine was the Pearl River Lumber Co.

The town of Gainesville was once a thriving community in South Mississippi. However, by the time NASA acquired the land for Stennis Space Center, most of the community had moved on to new locales, leaving only about 100 residents. But the Loveless House (left) and Grocery remained. Both were owned by Mrs. Louise Elizabeth Loveless. The grocery was the only store -- and the last business -- in Gainesville by the 1960s.

Just downriver along the Pearl at Logtown, the H. Weston Lumber Co. sawmill was said to be the largest in the United States in 1948, and the town's population peaked at 3,000 around that time. Millions of board feet in lumber, cut from the surrounding virgin pine forests and cypress swamps, passed through the

# ississippi into the space age


river towns' sawmills, feeding the construction of railroads along the Gulf Coast.

Unfortunately, the effects of the Great Depression and World War I closed the lumber businesses and caused a decline in population. When the Army Corps of Engineers began land acquisition negotiations in 1962, only 250 residents remained at Logtown and 100 at Gainesville.

Relocating the residents of Gainesville, Logtown, Napoleon, Santa Rosa and Westonia was an enormous undertaking. Construction began at MTO in 1963, and by that fall, the last remnants of the communities had been safely moved. By that time, 660 families had given up their homes to make way for the future.

Construction was sufficiently completed for the site to be activated for testing in 1966, only three years after it began. The first static test-firing of a Saturn V engine stage was conducted April 23 of that year. Less than four years later, astronauts Neil Armstrong and Buzz Aldrin walked on the lunar surface, safely transported thousands of miles by the Saturn V rocket, powered by engines tested at SSC. The test stands that were built to test those rocket engines are still in use.

Today, SSC is America's largest rocket engine test complex. The South Mississippi facility's main line of business is testing and proving flight worthy every space shuttle main engine. Since the first space shuttle launch in 1981, each flight has been propelled by engines tested at SSC.

As the Space Shuttle Program is drawing to its conclusion, a new fleet of launch vehicles is transitioning to take its place. SSC is preparing to test the rocket engines that will power NASA's next generation of spacecraft, Orion, which is being designed to carry astronauts back to the moon with eventual journeys to Mars.

SSC will test NASA's Constellation Program J-2X rocket engine that will power the upper stage of NASA's new crew launch vehicle, the Ares I, and the Earth departure stage of Ares V, the new cargo launch vehicle. The Ares I and V vehicles will provide the thrust, while the Orion crew capsule will be future astronauts' home in space. SSC recently broke ground for a new rocket engine test stand that will perform altitude tests on the J-2X engine, which is derived from Apollo's Saturn V rockets, tested at the center more than 40 years ago.

Over time, SSC has evolved into a multidisciplinary facility. Thirty other resident agencies, including the U.S. Navy's world-class oceanographic research community, work alongside NASA's rocket scientists, and are engaged in space and environmental programs and national defense. Today SSC is home to modern-day explorers creating a high-tech network involving space, oceans and Earth. NASA's construction of the new A-3 Test Stand ensures that SSC and south Mississippi will continue to play a vital role for the next generation of space pioneers.

In its heyday, the H. Weston Lumber Co. sawmill in the South Misissippi community of Logtown along the Pearl River was said to be the largest sawmill in the nation. The mill and the town thrived in the early 1900s, then went into decline. There were only about 250 people left in the community by the time NASA acquired the property for Stennis Space Center in the early 1960s.

# SPACE DAY

*Continued from Page 1*

Rotunda, marking NASA's 50 years of exploration and discovery, and featured an actual moon rock brought back by Apollo 15 astronauts in August 1971. Models of NASA's next generation spacecraft, the Ares I and Ares V that will replace the space shuttle and return to the moon, were also displayed. The engines for these new rockets will be tested at Stennis Space Center.

"This is truly an exciting time for NASA and Stennis Space Center," emphasized SSC Deputy Director Gene Goldman.

"NASA is developing a new spacecraft to replace the shuttle and planning to return to the moon with eventual travel to Mars. Stennis Space Center is already testing components to help develop the engines for the new spacecraft, and building a new rocket engine test stand to carry space travel into the next 50 years and beyond."

Stennis is a unique federal city that is home to NASA and more than 30 federal, state and private sector agencies, including the U.S. Navy, the National Oceanic and Atmospheric Administration and NASA's Shared Services Center (NSSC), which provides all of the agency's financial, procurement, human resources, customer contact and administrative processing services.

During Capitol Day, NSSC representatives provided a display and information about their operations and its 125,000-square-foot facility currently under construction, which is funded by a $33 million Mississippi appropriations bill.

"The great state of Mississippi has been a staunch supporter of NASA Stennis Space Center since its beginnings more than 45 years ago, and that support remains very evident today," said Goldman.

For more information about the John C. Stennis Space Center, visit: http://www.nasa.gov/centers/stennis.

Astronaut Michael Foale (center) and Stennis Space Center officials meet with members of the Mississippi House of Representatives Gulf Coast delegation, including Speaker William "Billy" McCoy (far right), during NASA Space Day in Mississippi on January 30.

## Arbor Day

Mandy Spadoni and Kristin Parker of the NASA Shared Services Center choose saplings during the tree giveaway at the Stennis Space Center Arbor Day Celebration on January 24. During the day, thousands of free saplings were distributed by NASA's Natural Resource Management Team to site employees.

## Remembering the pioneers

Stennis Space Center Director Robert Cabana (right) greets Robert A. Decatur during a Martin Luther King Jr. Day program at the Mississippi test facility. Decatur, a former Tuskegee airman during World War II, told the story of that group and how it laid a foundation for the desegregation. "I'm hoping people will remember what we did and how we did it," said Decatur, one of only 130 remaining Tuskegee Airmen, a group that once numbered 966. During World War II, the Tuskegee Airmen overcame tremendous adversity to become fighter pilots. Eventually, the airmen escorted 1,500 bombing missions in Europe without a single bomber lost.

# Carter G. Woodson - historian and pioneer of multiculturalism

Black History Month is sponsored by the Association for the Study of African-American Life and History The theme for 2008 is "Carter G. Woodson and the Origins of Multiculturalism."

The story of Black History Month begins with historian Dr. Carter Godwin Woodson – the "Father of Black History." Born to former slaves 10 years after the Civil War, Woodson was denied early education - there were few black schools. He spent early years working in Kentucky coal mines, where he would converse with black Civil War veterans. Woodson soon realized documentation of the African American experience was sparse, setting the stage for his future accomplishments.

From the **Office of Diversity and Equal Opportunity**

Understanding the need for education, Woodson taught himself English and arithmetic between backbreaking hours in the mines. At 20, he moved to West Virginia to attend a high school for black students and mastered the four-year curriculum in less than two years.

At 22, after part of a year at Berea College in Kentucky, he returned to the mines and studied Latin and Greek on breaks. He then earned bachelor's and master's degrees from the University of Chicago, attended Sorbonne University in Paris and went to Harvard University, becoming, at the time, the second African-American to earn a degree. He taught and held posts at several schools.

In 1915, Woodson founded the Association for the Study of Negro Life and History for "the collection of sociological and historical data on the Negro, the study of peoples of African blood, the publishing of books in the field and the promotion of harmony between the races by acquainting the one with the other."

In 1926, Woodson initiated the annual February observance of Negro History Week to honor the contributions of African Americans in American history. He chose February because the birthdays of abolitionist Frederick Douglas and President Abraham Lincoln fall in this month. This was perhaps his proudest accomplishment and has since expanded into Black History Month.

Dr. Carter G. Woodson worked to educate Americans about cultural diversity and democracy, laying a foundation for the multiculturalism of our times. He should be known not simply as the "Father of Black History" but as pioneer of multiculturalism as well.

## AROUND NASA

■ **SOFIA prepares to view the cosmos:** NASA's Stratospheric Observatory for Infrared Astronomy, or SOFIA, recently passed a significant mission milestone, completing the first phase of experimental flight tests. The tests confirmed the structural integrity and performance of the modified 747SP SOFIA aircraft that carries a huge infrared telescope, which eventually will peer through a 16-foot-high door cut into the fuselage. "SOFIA is already a technological marvel, and will soon be a powerful tool for studying the birth and evolution of planets, stars, and galaxies," said Alan Stern, associate administrator of NASA's Science Mission Directorate, NASA Headquarters, Washington. Limited observation flights are set for 2009.

■ **An investment of real value:** In a January speech at Calvin College, NASA Administrator Michael D. Griffin cited the surprising cost effectiveness of space exploration. "America's annual investment in NASA is less than one penny out of every federal dollar spent, ..." Griffin stated. "To be more exact, NASA's current budget is 6/10ths of one percent of every federal dollar spent. … In fact, NASA's budget this year is $17.3 billion, the Pentagon's operating budget (not including supplemental appropriations for our operations in Iraq and Afghanistan) is $459 billion and the overall federal budget is more than $2.5 trillion. (And) From this small investment in NASA over many years, new engineering and scientific capabilities built originally for our nation's space program are now pervasive in our lives, critical to a range of activities that create and provide value."

■ **Aiming toward 2010:** With a Sept. 30, 2010 deadline for retiring the space shuttle looming, NASA officials said recently they are. confident the agency can safely fly 12 assembly flights to the International Space Station and a final Hubble Space Telescope servicing mission by that date. However, recent reports acknowledge the schedule will be tight and will have little margin for major delays. "(But) I think we've easily got the capability to go fly the four flights a year that we need to go do to accomplish the manifest,' NASA Space Operations Chief Bill Gerstenmaier said.

## Hail & Farewell

**NASA bids farewell to the following:**

| | |
|---|---|
| **Winnie Johnson** | Secretary (office automation)<br>Engineering & Science Directorate |
| **Patricia Johnson** | Equal Employment specialist<br>Office of Diversity & Equal Opportunity |
| **Cathey Bultman** | Secretary (office automation)<br>Office of the Chief Financial Officer |

## Education goes digital

The Digital Learning Network (DLN) is the newest addition to NASA's Office of Education. The network provides video conferencing capability to schools throughout the nation, allowing NASA engineers, scientists, and educators to present to schoolchildren without having to travel. Kelly Witherspoon, with Oklahoma State University, is SSC's DLN Coordinator. Pictured here, Witherspoon presents "Living and Working in Space" to a museum in Seattle as part of the informal education outreach.

# Astro Camp children will 'Soar to Explore'

Children, prepare to explore! Children ages 7-12 years old are invited to participate in one of seven week-long Astro Camp sessions planned for the upcoming summer months. During the sessions, campers work together in teams to accomplish the camp mission.

This year's camp mission is - Soar to Explore: NASA Turns 50! For 50 years, NASA has explored the earth, solar system and beyond. This year's Astro Camp participants will look back at NASA's extraordinary achievements and look forward to new visits to the moon and Mars. Staff will work with campers in a team environment to investigate NASA's rich history and discover the promising future in space. Along the way, campers will broaden their own horizons and learn how much fun hands-on math and science can be.

Astro Camp Summer sessions for children ages 7-9 are scheduled for June 2 - 6, June 9 - 13, June 16 - 20 and June 23 - 27

Astro Camp Summer sessions for children ages 10-12 are set for July 7 - 11, July 14 - 18 and July 21 - 25.

Each day, campers should be dropped off at 8:15 a.m. and picked up about 4 p.m. The session fee is $150 per camper, which includes a T-shirt, supplies and snacks. Lunch is not provided, so campers should bring a sack lunch each day.

To reserve a space for this summer, fill out the Astro Camp Registration Form and mail it, along with a $50 deposit, to: Astro Camp Registration, Building 1200, Stennis Space Center, MS 39529

Applications will be confirmed when deposits are received. Money orders or checks should be payable to Jacobs Technology, Inc. The balance of the session fee ($100) is due upon arrival on the first day of camp.

To access the Astro Camp Summer 2008 registration form online, visit http://education.ssc.nasa.gov/AstroCampSchedule.asp.

For more information about Astro Camp, call (228) 688-7623 or (800) 237-1821 (Option 4).

LAGNIAPPE

is published monthly by the Office of External Affairs – Public Affairs at NASA's John C. Stennis Space Center.

Comments or suggestions should be forwarded to:

NASA PUBLIC AFFAIRS OFFICE
Attn: LAGNIAPPE
Mail Code IA10
Building 1100, Room 306
Stennis Space Center, MS 39529

or call:
228-688-3749

National Aeronautics and Space Administration

**John C. Stennis Space Center**
Stennis Space Center, MS 39529

Official Business
Penalty for Private Use $300

PRESORTED STANDARD
U.S. POSTAGE
**PAID**
BATON ROUGE, LA
PERMIT NO. 984