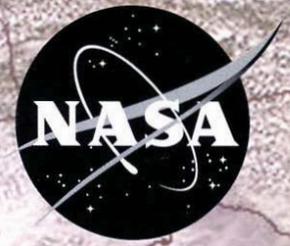


National Aeronautics and Space Administration



John C. Stennis Space Center
Hurricane Katrina Report



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(Front cover) NASA's Aqua satellite captured this image of Hurricane Katrina on the morning of Aug. 29, 2005, before the enormous storm slammed into the Louisiana and Mississippi coasts, causing the greatest natural disaster in U.S. history.

NASA Stennis Space Center's Hurricane Katrina Report is a product of the NASA Office of External Affairs – Public Affairs.

A letter from the NASA Administrator

National Aeronautics and
Space Administration

Office of the Administrator
Washington, D.C. 20546-0001



September 14, 2005

To the employees of NASA Stennis Space Center and Michoud Assembly Facility:

I am humbled by the heroism, devotion to duty and sacrifice our NASA Stennis and Michoud employees have displayed these last two weeks. You have demonstrated through your resolve the fortitude that will get us past this crisis and on the road to recovery.

A week ago, following my tour of our affected sites at Stennis and Michoud, I spoke, via a NASA Update, to all NASA and contractor employees about the devastation I had viewed while flying over the Gulf Coast. But more importantly, I stressed the need to recognize and honor the incredible bravery and commitment demonstrated by those employees who risked their lives to protect other lives and the facilities and flight hardware that were entrusted to them. I told those viewing the program, "You can't buy the kind of dedication that I saw down there from our folks for money, for any amount of money. It is not about salary or holding a job. It is about dedication to the program."

For people of your caliber, we have many obligations that we must fulfill. First, we will do everything possible in the days and weeks ahead to help you get your lives back on track. We will make certain that your pay and benefits continue uninterrupted and that we provide opportunities for employees to do productive work. We will utilize the NASA Family Assistance Fund to provide all eligible employees with grant and loan assistance to help supplement other emergency funding assistance. With respect to the Family Assistance Fund, I am gratified to report that your fellow NASA employees have provided \$45,000 in new donations to the fund since the hurricane struck the Gulf Coast. Finally, in the long term, we are committed to maintaining NASA's proud tradition of utilizing the Stennis Space Center and Michoud Assembly Facility to produce the space hardware and research applications products that contribute so greatly to our mission objectives. You have stood by NASA in good times and bad, and NASA's leadership is determined to honor your commitment.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Griffin".

Michael D. Griffin
Administrator

A message from Stennis Space Center Director **BILL PARSONS**

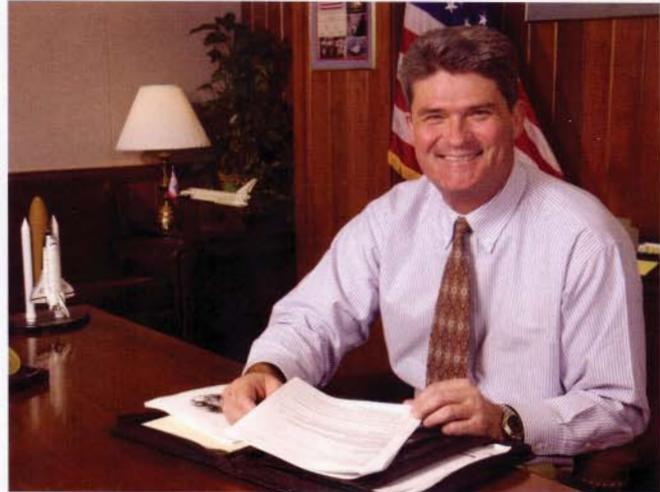
Hurricane Katrina has changed our lives forever and this publication will serve as a historical record of how NASA Stennis Space Center and Michoud Assembly Facility were impacted by the storm. I would like to take this opportunity to share some of my experiences and observations from the hurricane.

First, the people who ran the emergency operations centers across this agency, especially here at Stennis and Michoud, did an outstanding job during the storm. The ride-out crews and the crewman concept worked exceptionally well. They helped sustain our facilities and keep them where they could be brought back up, both at Michoud and Stennis. This is a stark reminder that this agency, the Gulf Coast and the New Orleans area are not about our product or our mission – it's about our people.

When I arrived at Stennis after the storm, nothing could have prepared me for the devastation. Although Stennis and Michoud suffered considerable damage, what really struck me was the impact on our employees. About 25 percent of the more than 4,000 employees who work with the various agencies at Stennis either lost their homes completely, or their homes were rendered uninhabitable. The figure was about the same for Michoud.

I'm sure there will be many lessons learned, but the shining star in this tragedy is how this agency came together to help Stennis and Michoud. I'm certain any outsider watching the NASA, resident agency and contractor teams at Stennis perform would have been amazed. They responded to this disaster. They took care of the people.

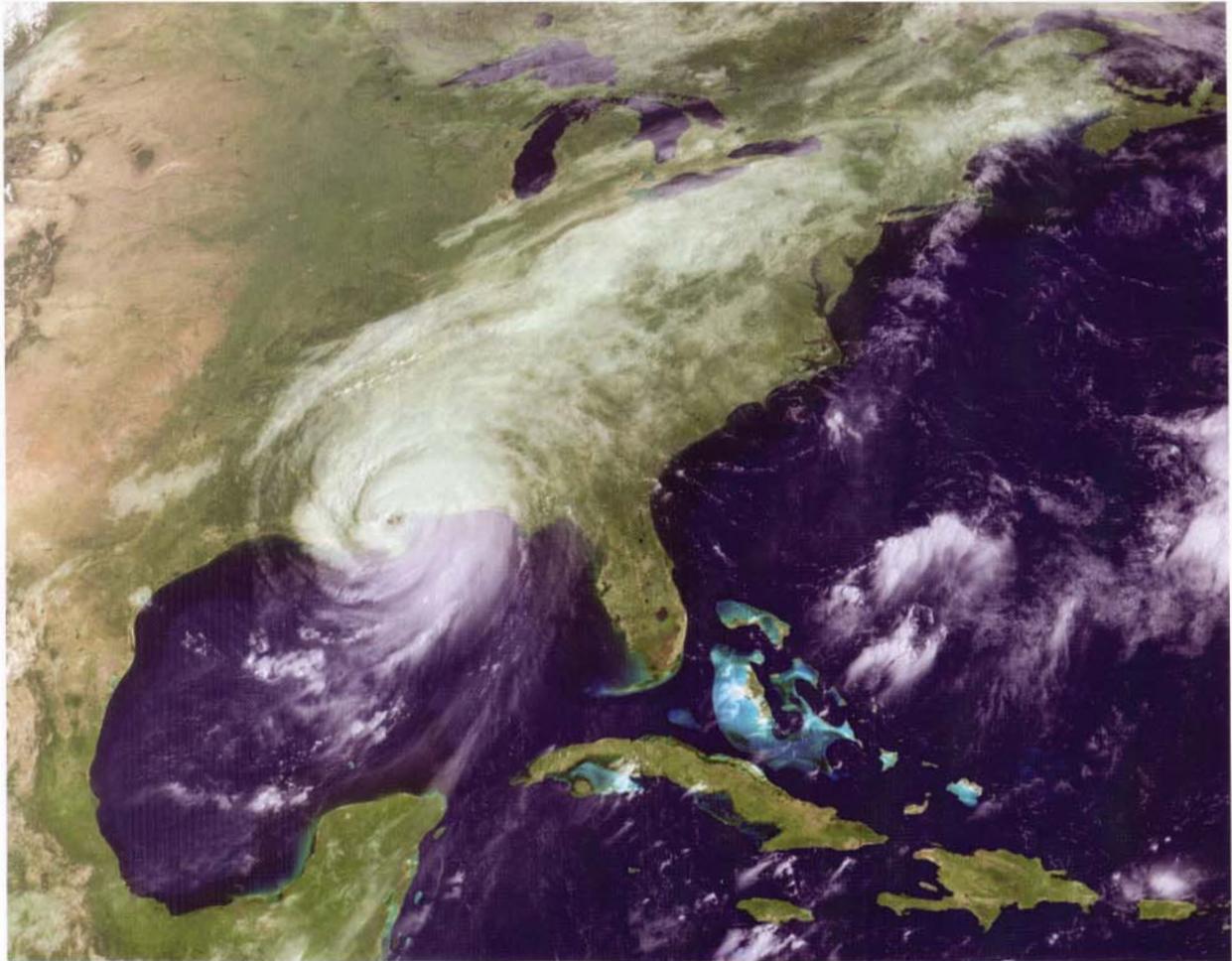
Now, the 2005 hurricane season is behind us, and we're moving into a new year. Both Stennis and Michoud are coming back strong. It is what our people do, and I'm proud to be part of it. Keep up the good work!



NASA Stennis Space Center Director Bill Parsons

An aerial photograph of a tropical storm, showing a well-defined eye and spiral cloud bands over the ocean. A semi-transparent map of the Atlantic Ocean is overlaid on the image, with the storm's position corresponding to the location of the storm. The text 'THE STORM' is centered over the eye of the storm.

THE STORM



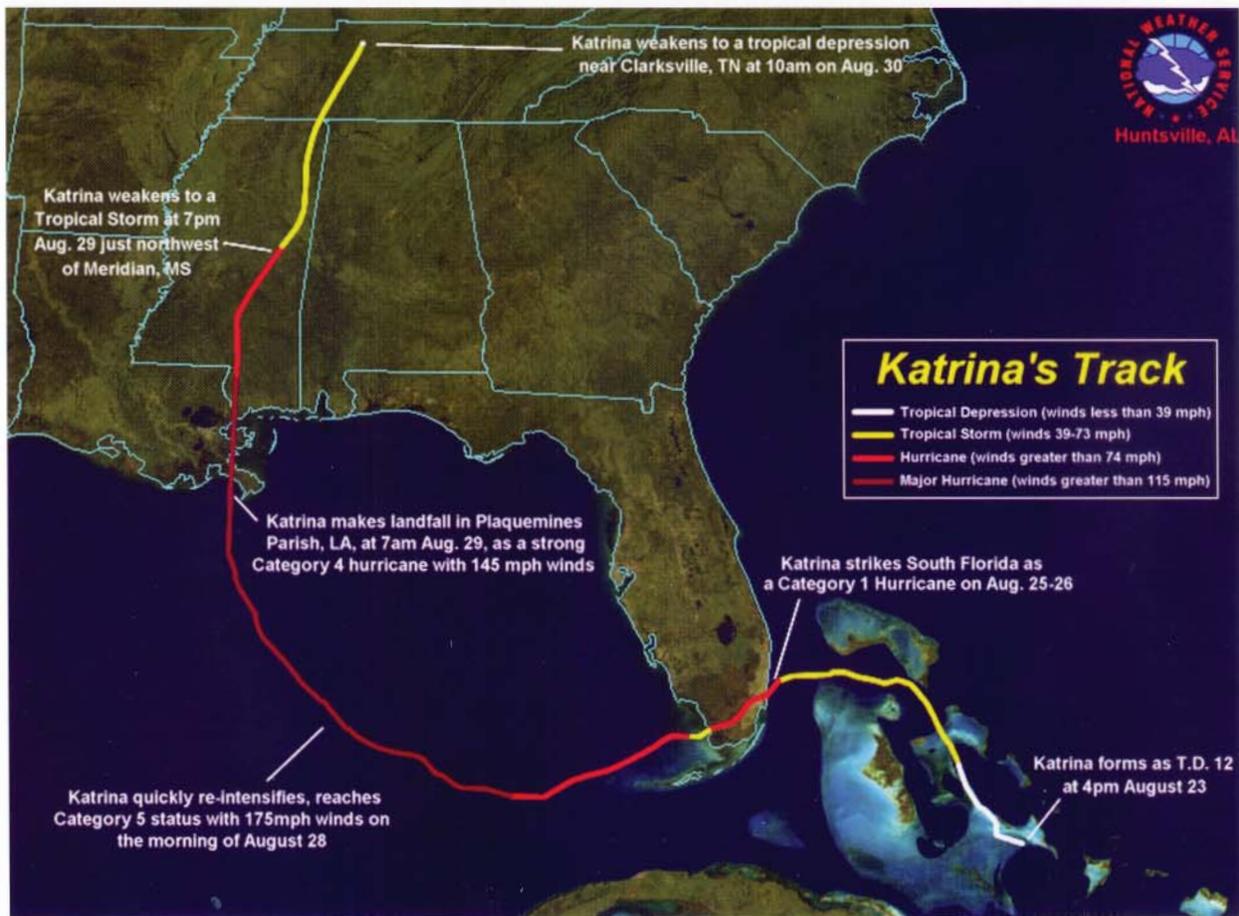
Data from the Geostationary Operational Environmental Satellite Program (GOES), a joint effort of NASA and the National Oceanic and Atmospheric Administration

On the morning of Wednesday, Aug. 24, 2005, a tropical disturbance merged with the remnants of Tropical Depression Ten, and the system was upgraded to Tropical Storm Katrina.

Katrina became the fourth hurricane of the 2005 season on Thursday, Aug. 25, and made landfall later that day around 6:30 p.m. between Hallandale Beach, Fla., and Aventura, Fla., north of Miami.

Katrina weakened over land on Friday, Aug. 26, becoming a tropical storm before growing to a Category 2 hurricane with winds of 100 mph.

By 11 p.m., updated predictions showed the storm was headed for Mississippi and Louisiana.



Katrina made landfall Monday, Aug. 29, as a Category 4 hurricane with sustained winds of 145 mph with higher gusts, at 6:10 a.m. CDT near Buras-Triumph, La.

The storm surge and the strong winds of the eyewall severely damaged most communities in Plaquemines and St. Bernard parishes, and also grazed eastern New Orleans.

A few hours later, it made landfall for a third time near the Louisiana/Mississippi border with 125 mph Category 3 sustained winds.

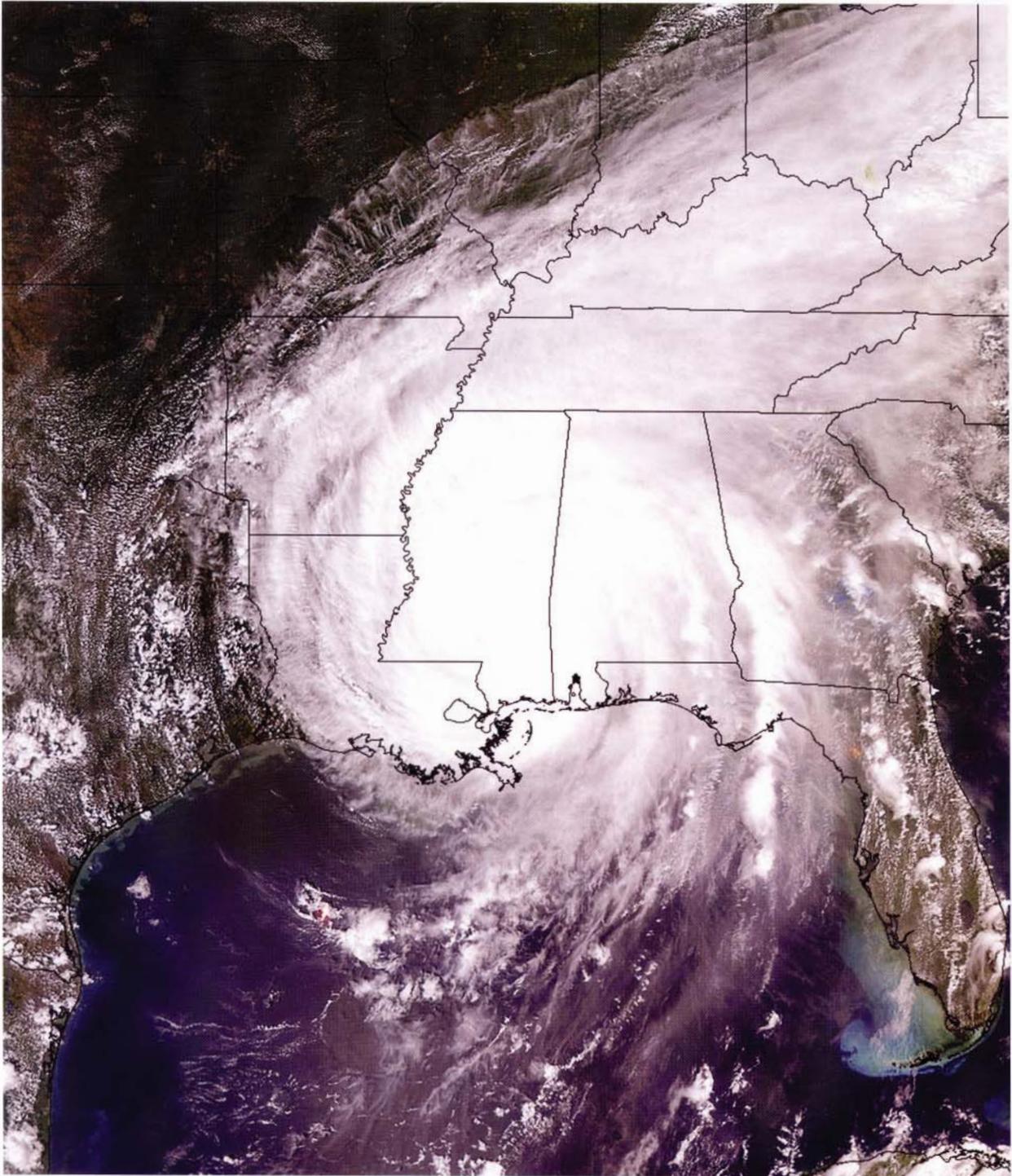
The storm's large size, extremely damaging eye-wall winds and the strong northeastern quadrant of the storm pushed record storm surges onshore and smashed the entire

Mississippi Gulf Coast, including the towns of Waveland, Bay St. Louis, Pass Christian, Long Beach, Gulfport, Biloxi, Ocean Springs, Gautier and Pascagoula, and, in Alabama, Bayou La Batre.

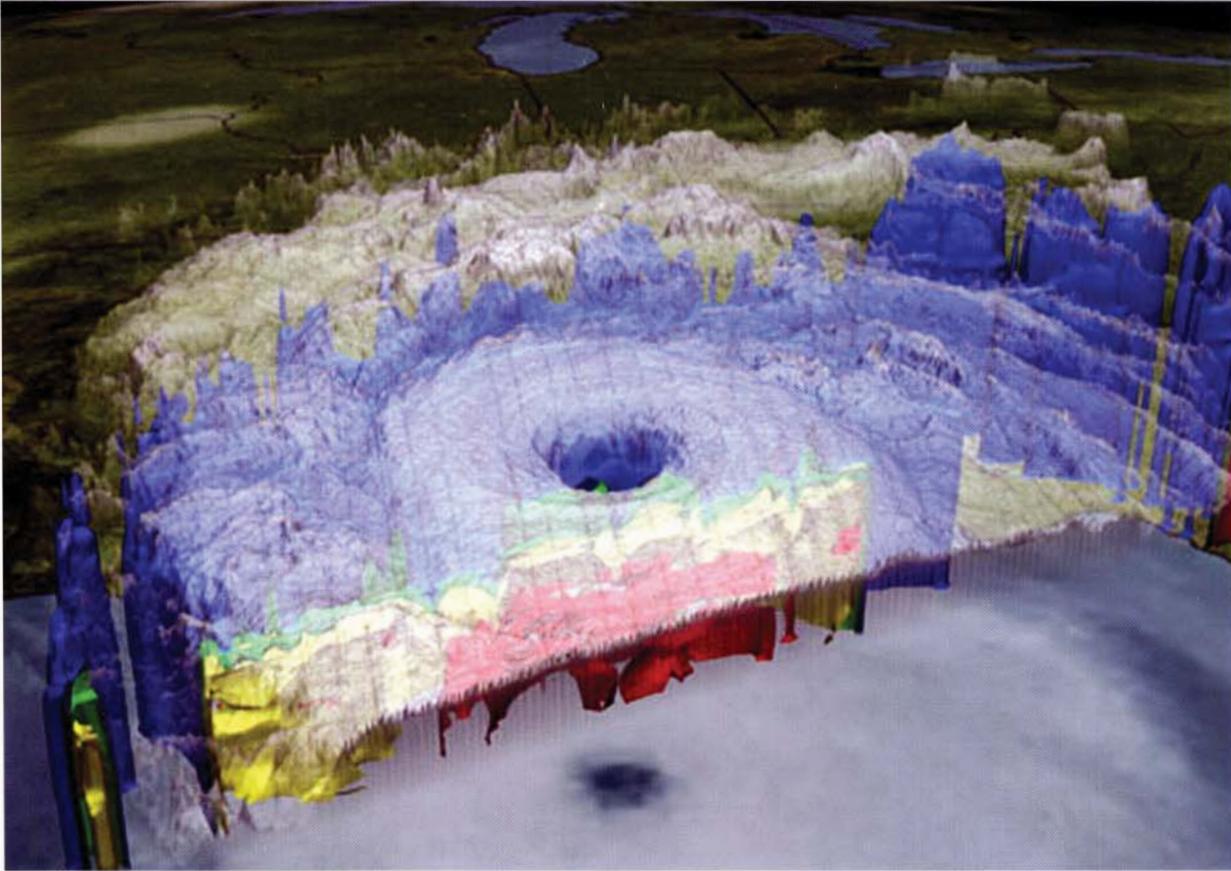
As Katrina moved inland diagonally over Mississippi, high winds cut a swath of damage that affected almost the entire state.

The lowest minimum pressure of Hurricane Katrina at landfall was 27.108 inches, making it the third-strongest hurricane on record to make landfall on the United States.

See *STORM*, Page 10



Hurricane Katrina was sprawled across all or part of 16 states at 2:15 p.m. Aug. 29, when NASA's Aqua satellite captured this image. After nearly eight hours over land, Katrina was still a Category 1 storm, with winds of 95 mph and stronger gusts. In this image, Katrina measures about 780 miles from east to west and about the same distance from north to south across its center. While most states under its clouds experienced only rain, Louisiana, Mississippi, Alabama and Florida were all pummeled by furious winds, heavy rain and a powerful storm surge. Katrina was reported as a strong Category 4 storm when its eye moved ashore earlier in the day.



This is an image of Hurricane Katrina at 5:30 p.m. Aug. 28, as seen by the Tropical Rainfall Measuring Mission (TRMM) satellite's Precipitation Radar, Visible Infrared Scanned, Tropical Microwave Imager and the GOES spacecraft. TRMM looks underneath the storm's clouds to reveal the underlying rain structure. Blue represents areas with at least 0.25 inches of rain per hour. Green shows at least 0.5 inches of rain per hour. Yellow is at least 1.0 inch of rain, and red is at least 2.0 inches of rain per hour.

STORM

Continued from Page 8

A 10- to 30-foot storm surge came ashore on more than 200 continuous miles of coastline from southeast Louisiana, including Mississippi and Alabama, across the Florida panhandle.

The 30-foot storm surge recorded at Biloxi, Miss., is the highest ever observed in America. Record storm surges that had not occurred in at

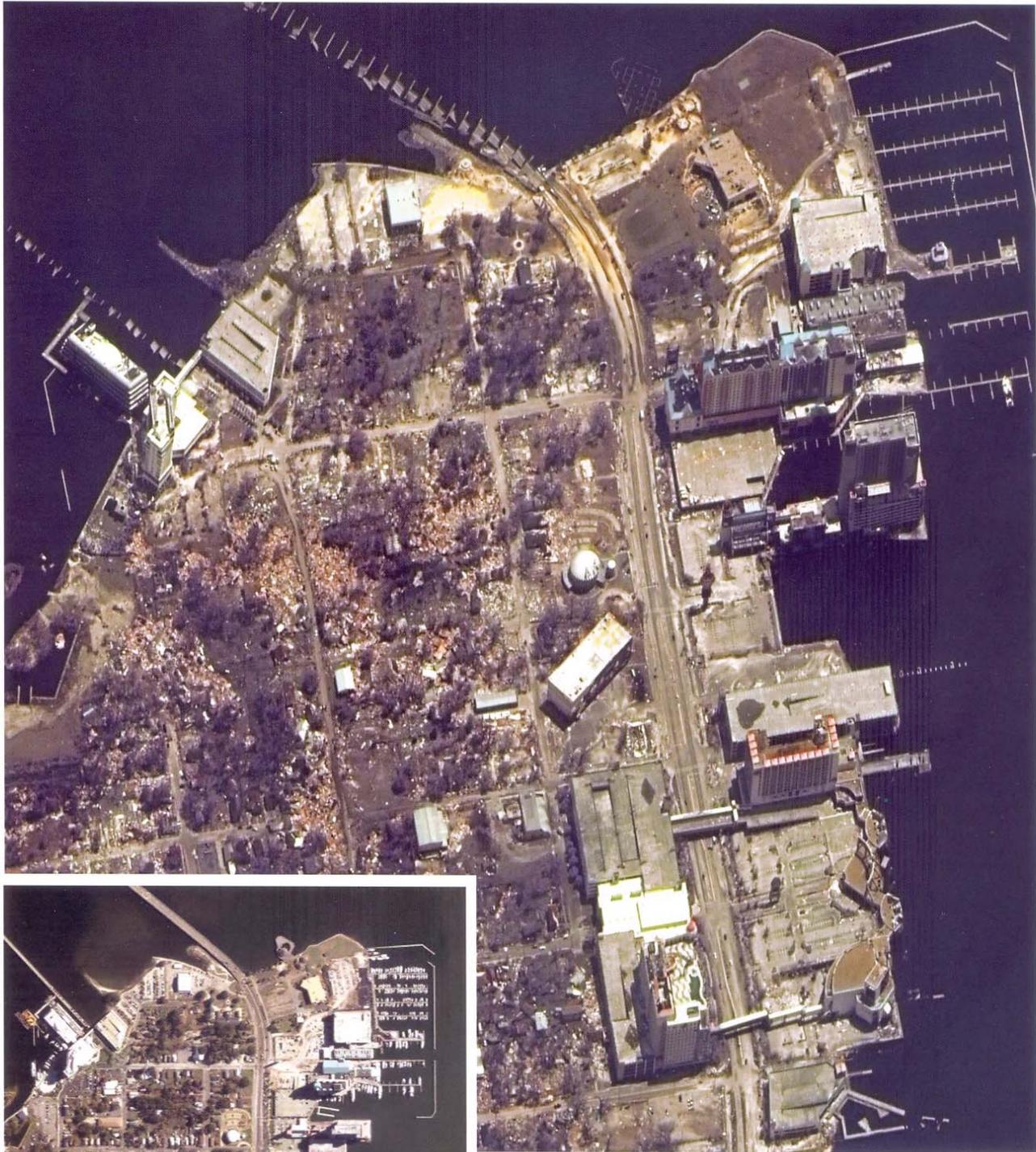
least the last 150 years inundated the entire Mississippi coastline.

Models show that the eye of the storm passed directly over Stennis Space Center. Most of the commercial power at Stennis went off early in the morning of Aug. 29, as Hurricane Katrina was making landfall. Some buildings were able to run generators for power, and the electrical generating plant at the rocket engine test complexes was able to provide power to the NASA administration building. Commercial power was restored to most of Stennis after about a week and a half.

An aerial photograph of the Gulf of Mexico coastline, showing the Gulf of Mexico in the center, the Florida peninsula on the left, and the Yucatan Peninsula on the right. The text "THE IMPACT" is overlaid in the center of the image in a large, black, serif font.

THE IMPACT

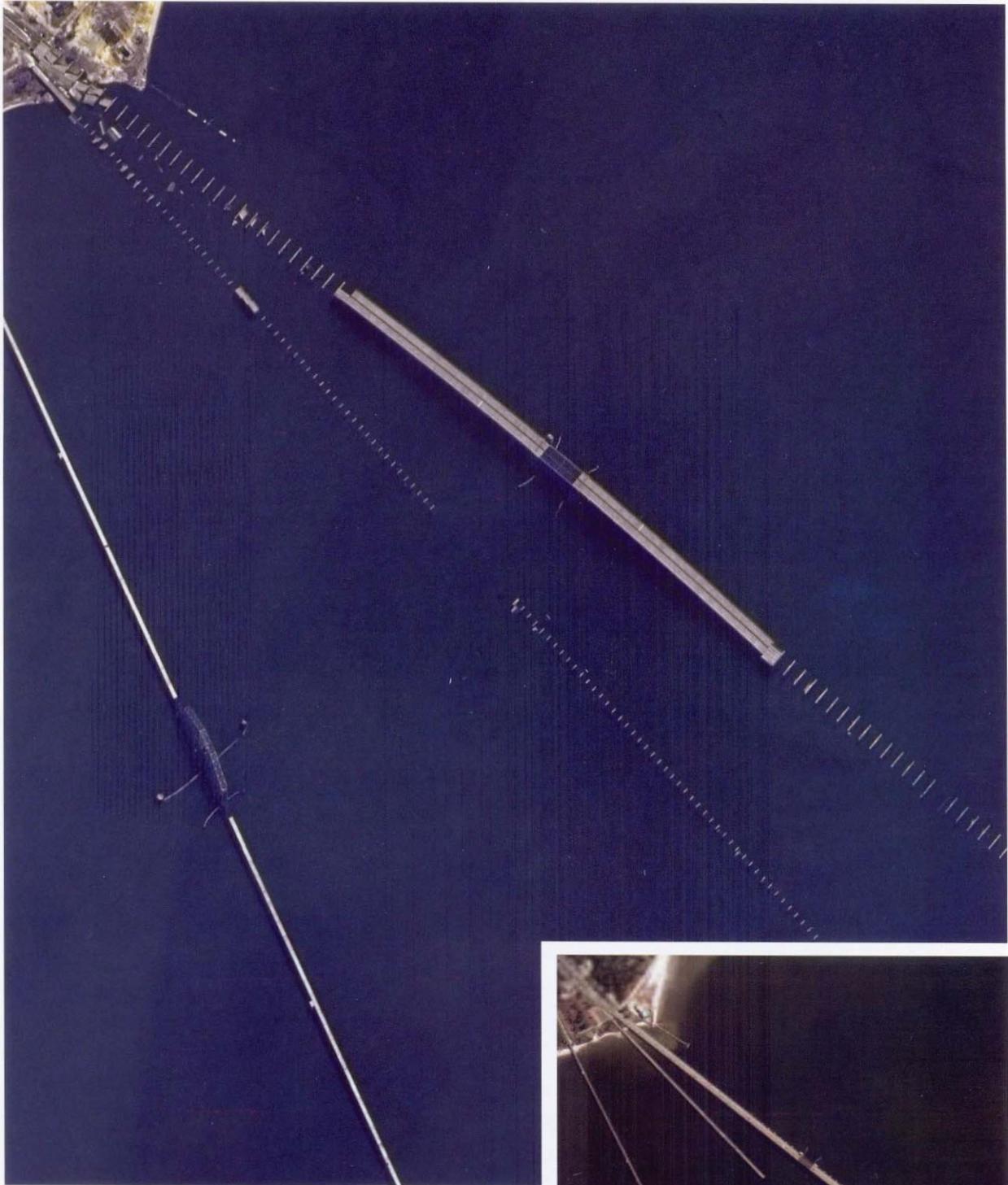
Storm damages seen from space



Images courtesy of Digital Globe

EAST BILOXI, MISSISSIPPI –

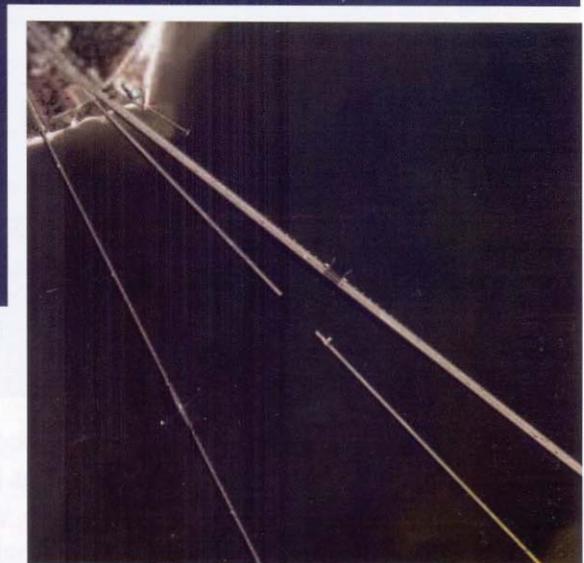
This satellite image of the Biloxi, Miss., coast after Hurricane Katrina (above) is inset with an image of the same area before the storm.



Images courtesy of Digital Globe

BILOXI - OCEAN SPRINGS BRIDGE -

This satellite image of the U.S. 90 bridge linking Biloxi and Ocean Springs, Miss., is inset with an image of the same area before the storm.





NEW ORLEANS LEVEE BREAK –

Extensive flooding of neighborhoods to the east of New Orleans' 17th Street Canal (left of center, running north-south) is evident in this image acquired on Sept. 8 from the International Space Station. Standing water in the street grid appears dark greenish-brown. Flooded portions of Interstate 610 (extending east-west) are clearly visible in the center of the image.



NEW ORLEANS FLOODING – The extent of flooding caused by Hurricane Katrina in the greater New Orleans metropolitan area is clearly visible in this image, acquired from the International Space Station on Sept. 8. Flooded areas are dark greenish brown, while dry areas to the west of the 17th Street Canal and along the banks of the Mississippi River (lower half of image) are light brown to gray.



BILOXI, DEER ISLAND and OCEAN SPRINGS – The above photo of the city of Biloxi, Ocean Springs and a portion of Deer Island was taken from the International Space Station on Sept. 8, and illustrates damage and flooding caused by Hurricane Katrina. Keesler Air Force Base's landing strip is visible left of center, and the damaged Biloxi-Ocean Springs bridge is visible right of center.

NASA'S MICHLOUD ASSEMBLY FACILITY – Below, NASA's Michoud Assembly Facility in New Orleans is located at right center of this image taken from the International Space Station on Sept. 8. While the facility itself, shown in the green area, is largely dry, the adjacent neighborhoods experienced extensive flooding.



PLOTTING KATRINA'S SURGE

Surveyors are documenting and refining the data from Hurricane Katrina's storm surge. Here are some of their preliminary findings.

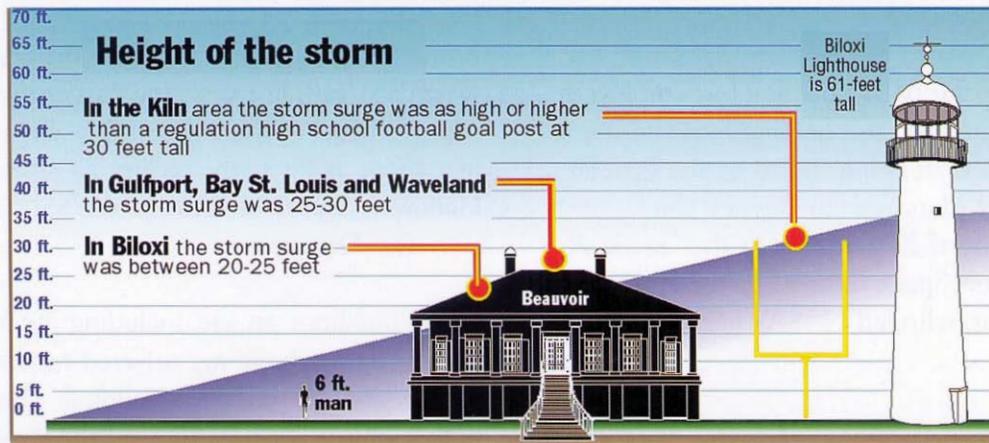
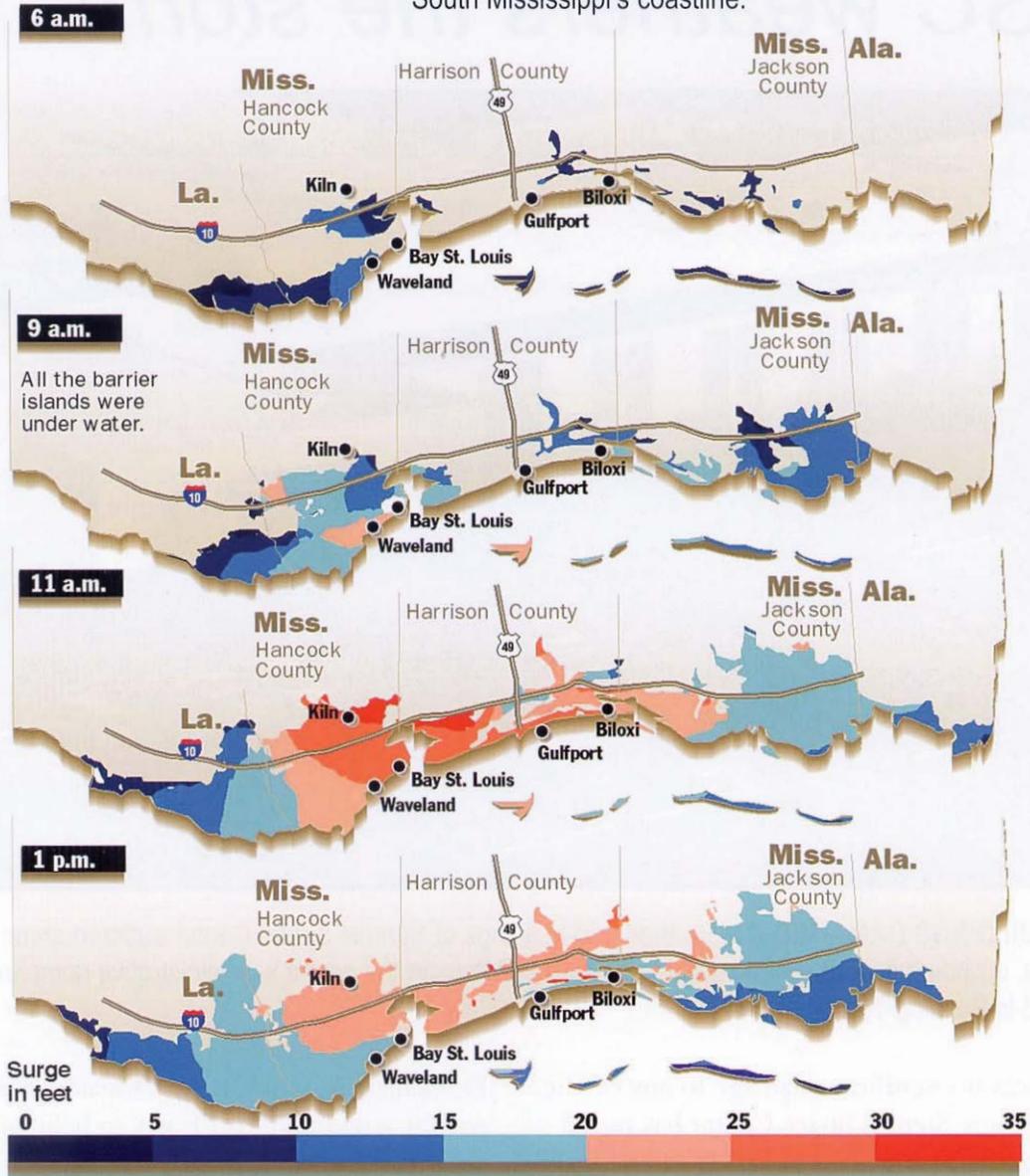


	Preliminary elevation	Location	Hurricane Camille	Rough difference
1	15 feet	East Pearl River at I-10 east bridge end	6.9 feet	+8 feet
2	15 feet	Devils Swamp at box culvert at I-10	10.4 feet	+5 feet
3	24 feet	Gulf side of I-10 overpass of Mississippi 43	14.6 feet	+9 feet
4	23 feet	Inland side of I-10 overpass of Mississippi 43	13.8 feet	+9 feet
5	21 feet	Jourdan River at I-10 west bridge end	14.2 feet	+7 feet
6	25 feet	Jourdan River at inland side of I-10 east bridge end	15.1 feet	+10 feet
7	28 feet	Jourdan River at Gulf side of I-10 east bridge end	16.9 feet	+11 feet
8	19.8 feet	Jourdan River at Mississippi 43 gage	12.2 feet	+8 feet
9	19 feet	Wolf River at I-10 west bridge end	13.5 feet	+6 feet
10	19 feet	Wolf River at I-10 east bridge end	13.5 feet	+6 feet
11	19 feet	Bernard Bayou at I-10	14.3 feet	+5 feet
12	20 feet	Fritz Creek at Cowan-Lorraine Road Extension	13.5 feet	+7 feet
13	19 feet	Tchoutacabouffa River at I-10	13.3 feet	+6 feet
14	16 feet	Old Fort Bayou at I-10	11.4 feet	+5 feet
15	18 feet	West Pascagoula River inland side of I-10 west bridge end	9.1 feet	+5 feet
16	10.6 feet	Escatawpa River at I-10 gauge	4.9 feet	+6 feet
17	20 feet	House on Kennedy Lane near Dampman Point, Biloxi	14.2 feet	+6 feet
18	24 feet	Isle of Capri Casino, Biloxi	15.6 feet	+8 feet
19	18.6 feet	Communications building on Whites Bayou, near Pearllington	8.8 feet	+10 feet
20	19 feet	Popp's Ferry Bridge, south abutment	13.9 feet	+5 feet
21	17.7 feet	Tchoutacabouffa River at Mississippi 15 and 67, D'Iberville	12.6 feet	+5 feet
22	20.8 feet	Old Fort Bayou at Mississippi 609	14.8 feet	+6 feet
23	20 feet	Biloxi Bay/Beach Mini Mart near east end of U.S. 90 bridge	15.5 feet	+5 feet
24	27 feet	1310 Scenic Drive, Pass Christian	23.4 feet	+4 feet
25	26 feet	1310 Scenic Drive, Pass Christian	23.4 feet	+3 feet
26	28 feet	1320 Scenic Drive, Pass Christian	23.4 feet	+5 feet
27	12.7 feet	Pascagoula River at I-10 east bridge end	8.6 feet	+4 feet
28	13 feet	Pascagoula River at I-10 west bridge end	8.6 feet	+4 feet

RUDY NOWAK/THE SUN HERALD

KATRINA'S SURGE

The storm surge from Hurricane Katrina inundated South Mississippi's coastline.



RUDY NOWAK/THE SUN HERALD

Source: Mississippi State University GeoResources Institute

SSC weathers the storm



SSC BUILDINGS DAMAGED – More than 150 buildings at Stennis Space Center suffered some type of damage, including severe roof damage to several buildings in the center’s administrative complex. Pictured is Building 1105.

There was no significant damage to any of the stands where Stennis Space Center has tested and proven flight-worthy all space shuttle main engines since 1975.

“Our top priority was helping our employees and their families, and helping facilitate the massive relief effort being staged by the Federal Emergency Management Agency, the Department of Defense, and other agencies from Stennis Space Center,” said SSC Director Bill Parsons, who led NASA’s hurricane recovery efforts.

Parsons was named Stennis center director Sept. 13, succeeding Rear Admiral Thomas Q.

Donaldson V, USN (Ret.). Donaldson was on special assignment to FEMA to help with recovery efforts in Mississippi.

None of the large run tanks on the test stands were damaged, nor were the barges used to transport fuel to the test stands. “We’re in excellent shape as far as the facility goes,” said Randy Galloway, deputy director of the SSC Propulsion Test Directorate.

Other buildings on site, including the NASA administration building, suffered roof and water damage, but all remained standing. They were built in the 1960s to withstand the strong winds of a hurricane.

Katrina's impact on NASA

Two NASA centers were significantly impacted when Hurricane Katrina rolled ashore. The eye of the powerful storm passed directly over Stennis Space Center on the Mississippi Gulf Coast. Both Stennis and the Michoud Assembly Facility in New Orleans were forced to close temporarily to normal business.

Stennis Space Center

- Stennis was closed for normal operations for about one month due to the storm damage.
- During the storm, the center lost all commercial electricity. Carefully maintained diesel generators provided power to essential buildings at Stennis, as well as enabled pumps to provide potable water.
- 152 buildings suffered some type of damage; 62 suffered moderate to severe damage.
 - ◆ A tornado hit the headquarters buildings and took off the entire roof of one wing, causing major water damage. 150 employees remain displaced while repairs are being made.
 - ◆ The Educator Resource Center in the basement of StenniSphere, the visitor center, was extensively damaged due to flooding and is being permanently relocated.

See IMPACT, Page 20





STENNIS SPACE CENTER'S BUILDING 1100 – Building 1100, the main administrative complex at Stennis, was struck by a tornado that took off the entire roof of the building's south wing, causing major water damage to many of the offices.

IMPACT

Continued from Page 19

- A team of employees in the Stennis rocket propulsion test complex protected the health of all test infrastructure, ensuring an uninterrupted supply of purge gases to all required facility infrastructure and test hardware.
- During Hurricane Katrina, about 3,700 people (including employees, their families and the public) sought shelter at Stennis.
- 18 NASA employees relocated to other NASA centers and Headquarters.
- Twenty-five percent of Stennis Space Center's entire workforce (including NASA, contractors and resident agencies) lost their homes in the hurricane, or their homes were uninhabitable.
- More than five months after the storm, work is still under way to repair buildings and clear downed trees.

Michoud Assembly Facility

■ Michoud, on the eastern side of New Orleans close to where the eye of Katrina made landfall, was closed for one month due to the storm damage. The storm knocked out power to the entire facility for several days.

■ Almost all Michoud buildings suffered some type of hurricane damage.

■ Michoud ride-out crew members braved the storm to set the water pumps and maintained their positions at a critical pumping station. These water pumps directed more than 1 billion gallons of water out of Michoud.

■ Outside Michoud's gates, within 7 to 10 miles, there are no neighborhoods, schools or businesses occupied. The area still does not



MICHOD'S VERTICAL ASSEMBLY FACILITY – Above, the Vertical Assembly Building at Michoud Assembly Facility suffered damage to its roof. Below, the damage to the building as viewed from inside.



have power or reliable water, and those resources aren't expected until late 2006.

■ Michoud has its own water supply after drilling a water well after the storm.

■ It took weeks to locate and account for more than 2,200 civil servants and Lockheed Martin contract employees. Many Michoud employees lived in areas hard-hit by the storm.

■ Three months after the storm, nearly 90 percent of Michoud's civil service and contractor workforce had returned to the job, displaying amazing dedication in the face of personal hardships.

■ About 1,000 employees completely lost their homes, or their homes are uninhabitable.

Workers share their stories

In the aftermath of Hurricane Katrina, employees of Stennis Space Center were invited to share their personal storm stories on a blog set up by NASA's Office of External Affairs – Public Affairs. The following are excerpts from some who recorded their experiences, as well as photos taken by Stennis employees.

I have lived on the Mississippi Gulf Coast since January 2005 in a beautiful home in Pass Christian, Miss. The house and surrounding communities no longer exist; they are gone, and still today, I find it difficult to fully comprehend the destruction of Katrina.



HOUSES LEVELED – Hurricane Katrina destroyed 275,000 homes in Louisiana, Mississippi and Alabama.

My plan was to evacuate to NASA Stennis 25 miles away. I was among 3,700 evacuees riding out the hurricane at Stennis. Katrina made landfall at 6:10 Monday morning. It was a Category 4 storm (131-155 mph). I felt

very isolated and alone watching the storm through my office windows. After the major thrust of the hurricane was over, tornadoes descended on us, and one hit my office building.



INTERSTATES BLOCKED – Interstate 59, an access road to Stennis Space Center from the north, was obstructed by trees.

Afterwards, in the late afternoon, I tried to return home only to learn that there was nowhere to go. Later that evening I worked in the cafeteria serving meals to the 3,700 mouths to feed. I thought my cafeteria work proved to be my finest hour(s).

On Wednesday, I returned to Pass Christian to check on my house. I drove on Scenic Drive until the road was missing and decided it was a good place to stop and park. I noticed a fire hydrant and wondered

where I was – there had been a fire hydrant in front of my house but nothing now was recognizable.

I walked a few blocks along the yards of debris – homes were destroyed, street signs and mailboxes were gone... there were no recognizable landmarks. Then it slowly dawned on me that I must have parked in front of my house because of the fire hydrant.

Nothing in the main house was recognizable – it was only a shell. The double balconies were gone and large sections of the wood floor were on the driveway. Since much of the front of the house was missing, I could see clearly into the kitchen. I could also see into the second floor. I wanted to get my clothes and belongings out, but I was afraid



AUTOS OBLITERATED – Numerous cars were lost in the storm-afflicted areas.

that the house would collapse on me. I decided I could live without my clothes. It killed me to walk away.

This hurricane changed all our lives. I saw a community of people that was devastated and responded with resiliency and compassion. We are a stronger community as a result. We know what it means to live one day at a time and not be able to focus, or think straight sometimes. We know that we'll be fine. It's getting better every day. We'll make it. We're survivors.

**Margaret
Roberts**

Attorney
NASA

Pass Christian, Miss.



TREES ON HOMES – Further inland, homes unaffected by the surge were damaged by fallen trees.

See *STORIES*,
Page 24

STORIES

Continued from Page 23



Before Katrina, I was just beginning to be settled in my newly purchased home in Slidell, La. Having just bought the house in May, I was happily settling in. Life was good! Then came Hurricane Katrina.

I took the standard precautions. I boarded up the house and got batteries, portable radio and TV, and food and water. I picked up and moved a few things that were low to the floor thinking that at worst case I might have an inch or two of water.

I decided to go to Hattiesburg with my eldest son and his family to his wife's family's home. We left Sunday morning and arrived safely in Hattiesburg. Then we waited.

The day after the storm, able to get no information on St. Tammany Parish or Slidell, my son and I attempted to return. The trip was fruitless. Returning to Hattiesburg, the situation there was bad enough we decided to pack up our three cars and grandchildren and head to the Atlanta area.

I stayed with my sister-in-law in Decatur, Ga., for a week glued to the TV trying to get information about St. Tammany and specifically Slidell. My son finally got word on Sunday following the hurricane that Slidell would allow people to start

coming back to assess damages. So my son left on Monday a week after the storm to assess his home and mine. On Tuesday night he called me and said "Mom, it's bad! I think you better get back as soon as you can."

I returned to Slidell one week and two days after Katrina. As I approached the house, I could see the very evident water line. I hoped against hope. When I opened the front door, my heart sank. All over the house it was as if someone had turned on a giant washing machine and it just agitated and moved everything everywhere.

But miracles do happen. My children and grandchildren are all safe and accounted for. And we have made a promise that we will have Thanksgiving and Christmas at Maw Maw's house next year for sure.

Margie Pharr

CSC/ITS, SSC Records & Documentation
Management Office (RDMO) Liaison
Slidell, La.

My husband, who also works at Stennis, and I lost our beachfront apartment in Long Beach, Miss. We lost everything. All that is left of the building is a concrete slab. We had only taken three days' worth of clothes, our wedding photos, our vehicles and our dog. We thought that the floor might get wet; we didn't expect the whole place to be gone. We are very grateful to be alive and have jobs to come to. We wish the best to all of the employees at Stennis who lost something to Hurricane Katrina.

Jennifer Norris

Administrative Assistant
Mississippi Space Services
Long Beach, Miss.

We stayed at home in Carriere to take care of our 5-acre farm and animals during Hurricane Katrina. Our old ranch house is built like a fortress and took the storm likewise.

Unfortunately, we did have a tremendous amount of damage to our property in the way of dozens (maybe hundreds) of trees broken, cov-

ering or blocking most of our property, fencing damaged or down, outbuildings destroyed and a huge pecan tree that brought down a portion of our barn. And, the most unexpected outcome – our property has gone from mostly full shade to full sun in one day.

But all of our living things weathered the storm well. We are now left with the realization that maybe not even in a lifetime could we clean up all the resulting mess. We have many holes from tree roots up in the air that we could easily fit our SUV into. We think we'll try to turn at least a couple of them into ponds. We are saddened to know so many co-workers and friends have lost all of their possessions, yet we are envious that they are at least able to start fresh. We feel very overwhelmed with all that lies ahead of us to accomplish in the way of property cleanup. But, like most things, we figure it will all work out eventually!

Sharon and Tom Nicolaides

Financial Analyst, CSC
Propulsion Test Engineer, NASA
Carriere, Miss.



BAY ST. LOUIS BRIDGE – The U.S. 90 bridge across the Bay of Saint Louis in Hancock County, Miss., was eradicated by the storm.

An aerial photograph of a coastal region, likely the Gulf of Mexico. The image shows a large body of water in the center, surrounded by land. The land is a mix of green and brown, indicating vegetation and possibly some urban or developed areas. The water is a deep blue, and there are some white clouds or waves visible. The overall tone is somewhat muted, with a slight purple or blue tint. The text "THE RECOVERY" is overlaid in the center of the image.

THE RECOVERY



HAPPY FOR A WARM MEAL – After the storm, while Stennis served as a shelter, the cafeteria served approximately 9,000 meals a day to the evacuees.

For more than a week immediately after the storm, Stennis Space Center served as an emergency shelter for more than 3,500 people – including area residents and employees and their families – who safely rode out the hurricane and the initial aftermath at the center.

During that week, cafeterias and volunteer workers served approximately 9,000 meals a day to the evacuees.

The Stennis Occupational Health Clinic provided primary and emergency care to the evacuees. Supported by doctors and nurses from other NASA centers and volunteer medical personnel including emergency medical teams from Florida, the

clinic saw between 90 and 150 patients a day, and provided care to 32 special-needs patients. The clinic staff also administered more than 800 inoculations during the week to people at Stennis, and provided 200 tetanus shots to victims in the surrounding community.

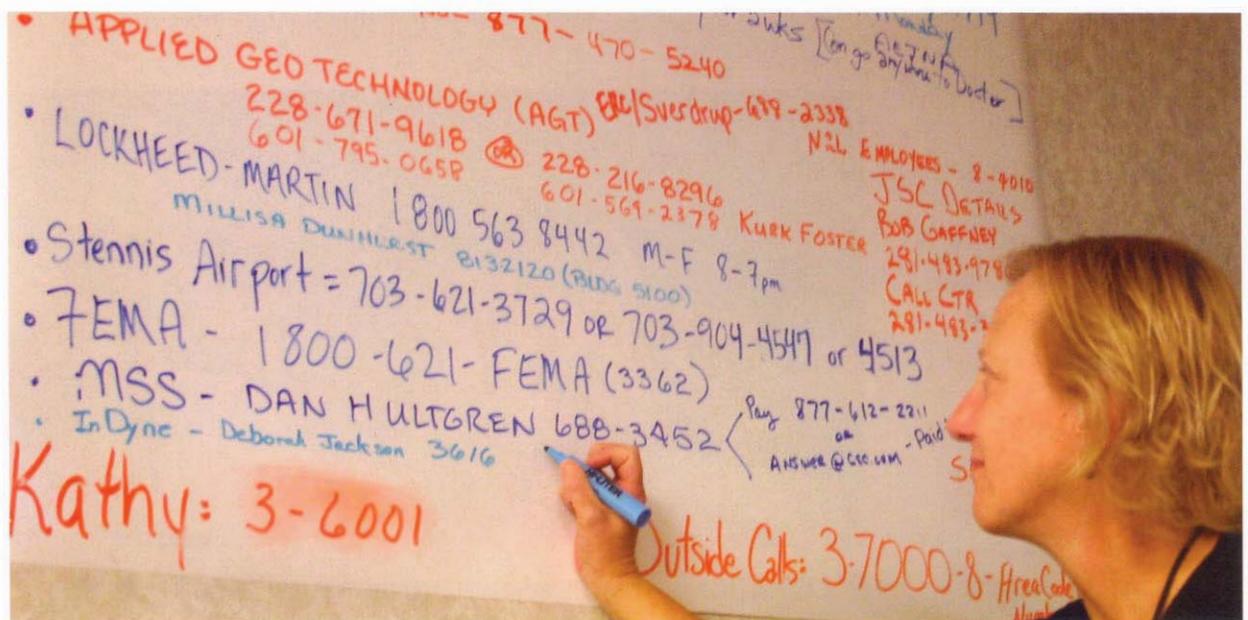


VACCINATIONS – Nurses administered tetanus and hepatitis shots to employees and victims in the surrounding community.



RIDING OUT THE STORM – Pictured are some members of the Stennis ride-out crew, along with other employees who stayed at the site through the duration of Hurricane Katrina, ensuring buildings and equipment were as secure as possible. Like other Stennis employees, many lost their homes in the hurricane and sheltered at the center for weeks after the storm.

NEW WAYS TO COMMUNICATE – Below, Susan Gentile, a volunteer relief worker from Marshall Space Flight Center, updates contact information maintained during recovery operations at Stennis. Immediately following the hurricane, bulletin boards served as a primary means of notification on site, especially while other modes of communication were unavailable.





MANNING THE PHONES – Following the storm, Stennis Space Center set up a call center to contact its workers and answer questions about the site’s status.

After the storm passed, Stennis provided telephone service to enable evacuees to contact family members and arrange other accommodations, and provided fuel or offered bus transportation so stranded evacuees could leave the area for better, long-term accommodations.

In the days following the storm, efforts focused on locating employees. By Sept. 1, NASA had set up a call center to locate all SSC employees. When some couldn’t be reached, employees who had returned to duty set out to physically track down their co-workers, conducting house-to-house searches for those they hadn’t heard from. Within a week, all NASA employees had been accounted for.



AGENCIES PITCH IN – The U.S. Forest Service, on behalf of the Federal Emergency Management Agency, led a recovery force at Stennis that included 1,500 people.



FEMA SETS UP CAMP – Stennis Space Center aided areawide recovery support by providing a base of operations for federal and state relief agencies.

The Stennis center also aided areawide recovery support by providing a base of operation for federal and state relief agencies. A Federal Emergency

Management Agency-affiliated recovery force at Stennis included 1,500 people, and the number of relief workers eventually totaled more than 3,500. The site also served as a staging area and temporary housing site for more than 7,000 Marines, Navy SeaBees, U.S. Coast Guard and Army National Guard personnel from five states who provided relief in the region.

Steve Brettel, director of NASA's Program Development Directorate at Stennis, served as FEMA liaison for the site.



GENERATING POWER – NASA coordinated with Lockheed Martin to use its facility at Stennis Space Center, using one of only three huge generators in the nation to power the building, which was used as a command center for the Federal Emergency Management Agency.

RESUPPLYING THE REGION –

At right, a line of 18-wheelers stretches more than 5 miles at Stennis Space Center, waiting to enter the site's FEMA staging area.

Below, bottles of water, ready-to-eat meals, ice and other essential items were dispatched daily from Stennis Space Center to points of distribution in the region.





LINING UP FOR FUEL – Following the storm, Stennis Space Center was one of the only locations in the hurricane-affected area with a steady supply of gasoline. Employees were grateful for a place to fuel their vehicles and generators.

Truckloads of essential items, including water, ready-to-eat meals, ice, tarps and baby food were dispatched daily from Stennis to points of distribution in the storm-affected region. A store was set up at the Stennis warehouse where donated items were made available to employees and their families.

Stennis also served as a staging point for urban search-and-rescue teams. An estimated 1,500 rescue personnel operated from the facility at the peak of search operations in the days following the hurricane.

The last of the area residents who sheltered at SSC left by Sept. 9 for other, more permanent accommodations. Stennis Space Center provided its employees with other support following the storm. Red Cross, FEMA and Small Business Administration representatives processed applications for aid on site at Stennis.

An Employee Assistance Program team, comprised of the Stennis EAP coordinator and EAP staff from other centers, visited shelters, provided trauma counseling and education on common stress reactions following a disaster. The team conducted group debriefings sitewide and offered such support to Stennis employees temporarily assigned to other NASA centers. The Office of Diversity and Equal Opportunity joined the EAP effort, assisting in developing an EAP Katrina-related Web site and providing continual updates to Orbiter, the Stennis electronic newsletter. Other help included planning and scheduling group and individual sessions, assisting with debriefings and offering legal assistance.

A real estate fair held on site offered employees an opportunity to search for new housing, and classes such as mold remediation aided in workers' personal cleanup efforts.

Director initiates sitewide council to speed SSC's recovery efforts



LEADING THE WAY – Stennis Space Center Director Bill Parsons (right) and NASA Administrator Mike Griffin toured the hurricane-ravaged areas, including SSC and Michoud Assembly Facility in New Orleans.

Parsons, NASA's senior official in charge of recovery for both facilities, initiated daily meetings among a council of SSC's key personnel to make decisions following the storm.

Soon after Hurricane Katrina roared ashore near the borders of Mississippi and Louisiana, it became apparent that recovery from the record-setting storm for NASA Stennis Space Center and the entire Gulf Coast would require leaders to make key decisions quickly.

Senior managers at the center, led by Bill Parsons, NASA's senior official in charge of recovery for SSC and the Michoud Assembly Facility in New Orleans, saw the need and began daily meetings to collectively address priority issues. Meeting at 7:30 a.m. and 4 p.m., nearly 50 representatives from across the center focused on employee accountability, how to best help those most impacted by the storm and caring for the more than 3,000 people sheltering at the center.

As the whereabouts of employees became known, and refugees from the storm began

moving to other locations, attention turned toward the stabilization and recovery process.

Assessment and repair of facilities at SSC and Michoud were main topics of interest. Participation in the twice-daily meetings soon pared to approximately 25, with only NASA senior managers, resident agency heads and contractor senior management attending. Although many concerns continued to be addressed, the heart of discussions centered on helping FEMA's efforts in supplying food, water and housing to those in need.

Within two months of the hurricane's landfall, the majority of critical issues had been addressed and the need for continued meetings diminished. The recovery process continues, and will continue for quite some time, but the initial impact of Hurricane Katrina was met head-on by management, who focused on what mattered most – the people.

Employees lend a helping hand

In the days after Hurricane Katrina slammed the Gulf Coast, Stennis Space Center employees traded the tools of their regular jobs for winches, hammers and chain saws, and formed volunteer teams to help put their communities back together.

According to Dave Carstens of Mandeville, La., director of NASA's Business Management Directorate, nearly 500 requests for tree or debris removal, roof repair or salvage were fulfilled in the first weeks after the storm hit. Stennis employees who sheltered at the site first organized into volunteer teams, and others joined as they returned to work.

Mark Glorioso, division chief for the Propulsion Test Directorate at Stennis, said, "We're taking crews out that are normally testing rocket engines, and just digging people out. We've basically hauled people's lives to the curb from the flood zone."

More than 300 SSC employees volunteered as relief workers. Carstens coordinated the relief teams, which consisted mainly of NASA and

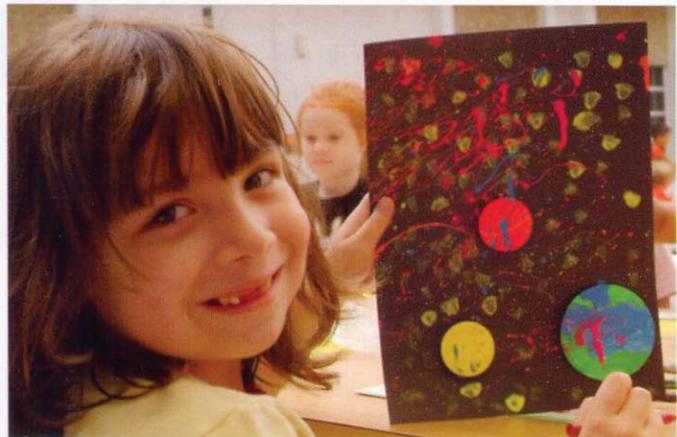


VOLUNTEERING FOR CLEARING – From left, Haynes Haselmaier, Bartt Hebert and Tom Jacks work to clear an oak tree near a home in Slidell, La. The three were part of a team of Stennis volunteers helping with recovery efforts in the wake of Hurricane Katrina.

Navy or Naval Oceanographic Office employees and their contractors. The teams fanned out to work across the region: in Pearl River, Hancock and Harrison counties in Mississippi; St. Tammany Parish, La.; and other areas including Jackson County, Miss., and metropolitan New Orleans.



HELPING IN THE COMMUNITY – John Harding, who works at the Naval Oceanographic Office, joined a team of fellow SSC employees at DeLisle Elementary School that helped transport relief supplies that had been stored at the school since the hurricane, so that the school could reopen Oct. 3.



HEADED FOR THE STARS AT DAY CAMP – Students display tetrahedrons and artwork created at Stennis Day Camp, a free camp for Stennis employees' children whose schools did not resume for weeks – and sometimes months – after Hurricane Katrina hit the region Aug. 29.

HELPING

Continued from Page 34

“It’s all about helping the community get back on its feet,” Carstens said, “and helping people get their lives stabilized so they can get back to a more normal life.”

From Sept. 19 until Nov. 4, Stennis employees enrolled their children in a day camp run by the NASA Office of External Affairs and Education.

More than 200 K-12 students registered for the camp, which saw an average of 100 students a day during the first two weeks of operations. The camp, which conducted educational activities and projects throughout the day, operated until public and private schools reopened.

Part of helping restore normalcy meant getting local schools up and running. One team from Stennis helped distribute items that were donated to schools. When the schools reopened after being closed for nearly a month, there was no room to store the items and no one to distribute them. Stennis volunteers helped get those donations to places where they were needed.



LEARNING TO FLY AT DAY CAMP – Employees of StenniSphere, the visitor center at Stennis, served as camp counselors during Stennis Day Camp, which saw about 100 students per day while schools and the visitor center were closed.

All of these efforts helped Stennis employees and the communities around the space center slowly return to life as they knew it before Katrina struck.

“It’s all about helping the community get back on its feet, and helping people get their lives stabilized so they can get back to a more normal life.”

– Dave Carstens



EDUCATOR RESOURCE CENTER GOES MOBILE – Above, after Hurricane Katrina, Stennis Space Center's Educator Resource Center staffers took educational materials to south Mississippi and Louisiana schools, where teachers could select from curriculum guides and other classroom materials.

'OPERATION BACKPACK' – Below, 'Operation Backpack,' in Homer Glen, Ill., donated about 250 children's bookbags to Stennis Day Camp. Volunteers stuffed the packs with school supplies, a stuffed animal and other goodies. Pete Comanda (second from right) and Dennis Michels (far right), who are friends and neighbors in Homer Glen, drove the packs down and delivered them to Stennis Day Camp on Sept. 23.



Committee helps employees find shelter after the storm



A PLACE TO CALL HOME – Thanks to the effort of the Stennis Housing Committee, 75 Stennis Space Center employees who lost homes in Hurricane Katrina are being housed in FEMA trailers at the Bay Village site in Bay St. Louis.

Nearly a quarter of Stennis Space Center’s 4,500-member workforce lost their homes in Louisiana and Mississippi after Hurricane Katrina pounded the Gulf Coast on Aug. 29. Two hundred of them had sheltered at Stennis Space Center and had nowhere to go; they were living in office space at the center.

Center Director Bill Parsons and other agency heads saw the need, formed a Stennis Temporary Housing Committee and approached the Federal Emergency Management Agency to help house those who had applied to FEMA for aid. Steve Brettel, director of NASA’s Program Development Directorate at Stennis Space Center, served as the FEMA liaison. FEMA gave the committee authority to process housing requests from employees, and Miguel Rodriguez, director of NASA’s Propulsion Test Directorate at Stennis Space Center, headed the Stennis Temporary Housing Committee.

“It was a pleasure to work with representatives from the resident agencies in finding solutions

for our employees,” said Rodriguez.

The Stennis Temporary Housing Committee consisted of representatives from Stennis resident agencies and other organizations located at Stennis Space Center. The committee met daily for several months working hard to help those displaced. They also held briefings for all Stennis employees, and set up a table where they met with employees who had questions on housing.

“One particular member of the housing committee that worked many of the details was Karen Vander and due to her dedication, the committee as a whole was able to succeed,” said Rodriguez.

There are 168 trailers in Bay Village, a newly-formed trailer community in Bay St. Louis, Miss. Seventy-five of the trailers are occupied by Stennis Space Center employees and their families. The other 93 will house hospital workers, teachers and other locals displaced by the storm. They’ll be able to live in their trailers for 18 months.

“This may have been a first from FEMA,” said Rob Harris, Deputy Procurement Officer in NASA’s Acquisition Management Office at Stennis Space Center, who wrote the contract for Bay Village. “It definitely was a first for NASA. The cooperation between the two agencies has been admirable.”

“This accomplished so much more than just taking care of our own,” said Dale Woolridge, project manager for NASA’s Center Operations Support Directorate at Stennis Space Center. “We wanted to be able to keep people in the area. Bay Village residents can now channel all their disposable income toward rebuilding their homes and their

community. In the meantime, they get to live in a secure, well-designed, centrally located site.”

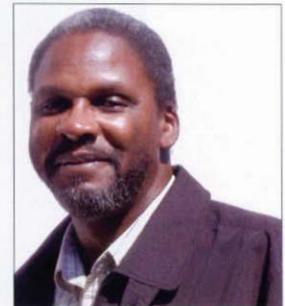
While the Stennis Temporary Housing Committee helped place employees and their families in Bay Village, they also were able to place dozens of Stennis workers and their families in Sun Roamers RV Resort in Picayune, Miss., as well as other parks in the area.

“Even though Stennis Housing Committee members were affected themselves, they didn’t lose their focus on taking care of their affected co-workers,” Harris said. “Because of the housing committee, these people have homes.”

Wilbert “B.J.” Johnson and his wife have been living in an 8’ x 27’ trailer at Sun Roamers RV Resort after their home in New Orleans East was flooded in Hurricane Katrina. *“Since my co-workers live at Sun Roamers, too, we go to dinner or barbecue together, watch a movie or just talk. We’ve been helping each other out in that way. It’s just one day at a time, go with the flow until you get to where you need to be.”*

Wilbert “B.J.” Johnson

Network data communications analyst, Lockheed Martin Information Technology



Cecile Saltzman has been living in an 8’ x 21’ trailer at Sun Roamers RV Resort in Picayune after Katrina’s storm surge rose 2 feet into her Pass Christian home. *“I am so grateful to have a roof over my head. This whole experience has confirmed to me that my identity and level of happiness have nothing to do with what I own.”*

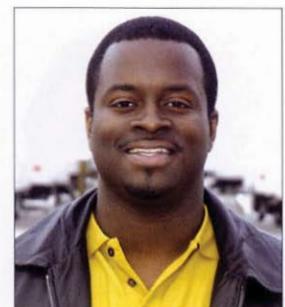
Cecile Saltzman

NASA program analyst for Systems Integration Office, Program Development Directorate

Eddie Sorrell Jr. had lived in Pass Christian’s Penthouse Garden Apartments for a year when Hurricane Katrina struck. The Stennis Housing Committee placed him in a trailer in Bay Village on Dec. 19. *“It’s a big adjustment, but I’m so glad to have a place to go. It always could be worse. I’m fortunate I still had a job to come back to. If it hadn’t been for (the housing committee at) Stennis, I still wouldn’t have housing. I would’ve had to leave and start over elsewhere if I couldn’t find a place to live.”*

Eddie Sorrell Jr.

Geospatial analyst, 3001 Intel Defense Solutions



NASA workers helped by temporary assignments

To help those employees who lost their homes in Hurricane Katrina, NASA offered several Stennis Space Center civil servants an opportunity to temporarily relocate to centers across the country that were unaffected by the storm.



A group of NASA Stennis Space Center aerospace technologists temporarily relocated to work at NASA Johnson Space Center in Houston. Pictured are, from left, Aaron Allcorn, aerospace engineer; Fernando Figueroa, electronics engineer; Larry deQuay, aerospace engineer; Pedro Curiel, aerospace engineer; Debra Rushing, data systems; Rhonda Foley, quality assurance; Andrew Holguin, experimental development; and Juan Tiscareno, technical resources management.



At left, Stennis Space Center aerospace technologists David Walters, data systems, and Kelvin Ruiz, data systems, reported to Kennedy Space Center in Florida.



A group of NASA Stennis Space Center employees also temporarily relocated to work at NASA Marshall Space Flight Center in Huntsville, Ala. Pictured are, from left, (front row) Christine Powell, lead, systems engineer; Miyoshi Thompson, procurement intern; Dawn Davis, aerospace technologist, electronics instrumentation systems; Melba Harris, aerospace technologist, propulsion systems and technologies; Elizabeth Messer, mechanical engineer; Al Pulley, aerospace technologist, flight systems test; Candace Rogers, human resources specialist; (back row) Ben Powell, aerospace technologist, technical management; Mark Moody, lead, liaison office; Steve Taylor, chief, mechanical test operations branch; Barry Robinson, supervisory mechanical engineer; and Peter Sulyma, aerospace technologist, aerospace engineer.



Above, Nick Cenci (left), lead, aerospace technologist, Safety & Mission Assurance, reported to NASA Headquarters in Washington, D.C. James Washington, quality assurance specialist, reported to Goddard Spaceflight Center in Greenbelt, Md.

Other NASA centers aid Stennis



MARSHALL CENTER DIRECTOR – Above, Marshall Space Flight Center Director David King hauls a box of relief supplies off a NASA jet at Stennis International Airport.

■ **NASA Headquarters** – Provided overall coordination for the agency, including managing the medical relief teams.

■ **Goddard Space Flight Center** – Sent a truckload of employee-donated supplies and material for the NASA team members impacted by the storm. These were staged at Stennis for distribution to NASA employees in the area.

■ **Glenn Research Center** – Took the lead as the procuring element for all fuel purchases and donated supplies to the Stennis Child Development Center. The GRC Financial Management Division Social Committee conducted fundraising activities to provide SSC employees with a holiday party and gifts for their children.

■ **Ames Research Center** – Provided communications support and reverse osmosis purification unit to produce potable water for Michoud Assembly Facility.

■ **Johnson Space Center** – Provided medical team assistance and relief teams for security and communications equipment. Served as the “air boss” for agency air operations in the area, including managing all NASA flights into and out of Stennis International Airport. Also coordinated all offers of housing from around the agency for displaced NASA team members and their families.



JSC LENDS A HAND – Johnson Space Center employees supported relief efforts for the victims of Hurricane Katrina in a variety of ways, including holding a food drive to assist evacuees.



FUEL CONTRIBUTION – A container of diesel fuel is loaded onto a truck at Kennedy Space Center for a trip to Stennis. Kennedy sent a helicopter with medical supplies and an emergency medical technician to Stennis, plus a 1-megawatt generator, 125- and 225-kilowatt generators, and 1,000 gallons of diesel fuel.

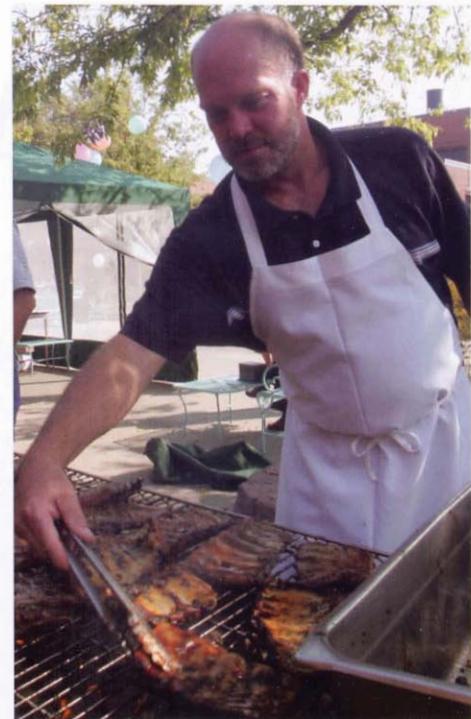
■ **Kennedy Space Center** – Provided medical team assistance and supplies, relief teams for security, critical supplies and materials (high voltage breakers and roof netting to protect the external tanks at Michoud), high voltage electricians and several truckloads of supplies and materials donated by employees.

■ **Langley Research Center** – Provided medical team assistance and medical supplies, and a truckload of employee donations.

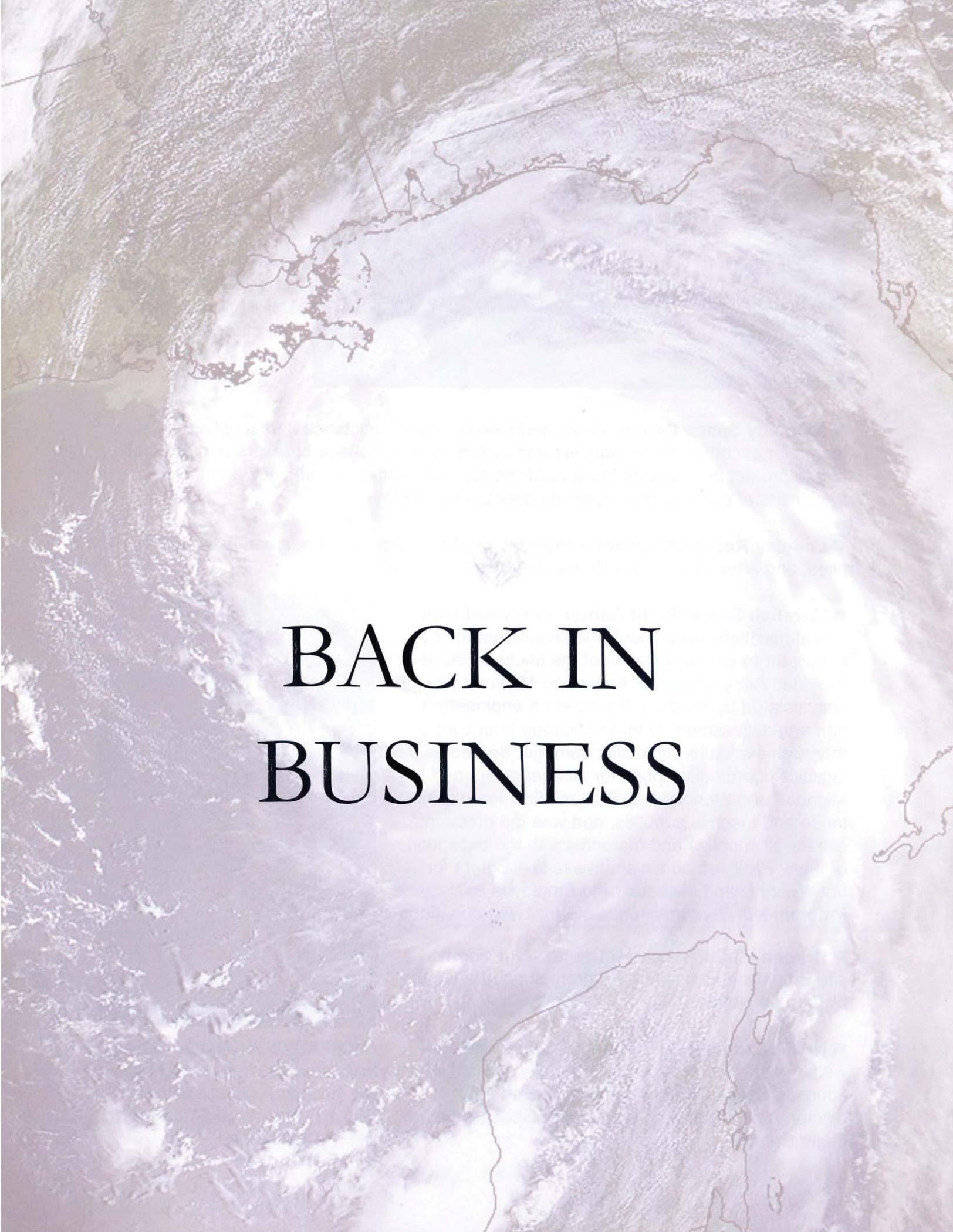
■ **Marshall Space Flight Center** – Provided early communications equipment and security teams by helicopter to ensure integrity of the Michoud facilities. Provided Army helicopter to support Michoud when it was isolated by flooding. Provided an engineering damage assessment team to Michoud to ensure a thorough evaluation of facility damage. Served as the logistics coordination point for all agency support to Michoud and Stennis. Provided medical team assistance and medical supplies, and was the procuring site for all supplies and materials with the exception of fuels. Provided administrative relief workers for both Stennis and Michoud, and Employee Assistance Program aid. Sent truckloads of employee donations.

■ **Dryden Flight Research Center** – Provided on-site Employee Assistance Program support and supplies to employees.

■ **NASA Exchange** – Funds for SSC morale and welfare activities provided by Kennedy Space Center, Johnson Space Center, Marshall Space Flight Center, Ames Research Center and Goddard Space Flight Center.



COOKING FOR A CAUSE – Langley Research Center held a week of activities, including a barbecue picnic, to raise relief funds for NASA team members and their families.

An aerial photograph of the United States, showing the coastline and major landmasses. A large, semi-transparent white circle is overlaid on the map, centered over the central United States, highlighting the area where the text is located. The text is in a bold, black, serif font.

BACK IN BUSINESS

Moving forward after the storm



WELCOME BACK! – Stennis Space Center Director Bill Parsons welcomed NASA employees back to work on Sept. 14 during the first All-Hands meeting after Hurricane Katrina.

Though Stennis Space Center and Michoud Assembly Facility in New Orleans are in the storm-ravaged areas, NASA Administrator Michael Griffin said the agency is committed to maintaining long-term operations at SSC and Michoud as the communities around them rebuild after the storm.

SSC Director Bill Parsons was assigned as the senior NASA official for Katrina recovery and relief, and led the effort to work with state and federal agencies stationed at the center and at Michoud to help restore a sense of normalcy as soon as possible.

Parsons welcomed SSC employees back Sept. 14 during the first All-Hands meeting after the storm. Although the site was still operating in recovery mode, the meeting was the first to reunite many employees and began the initial steps of returning

the center toward normal operations.

The first post-Katrina rocket engine test was an RS-68 engine, which powers Boeing's Delta IV rocket. The test on the B-1 Test Stand at SSC was conducted Oct. 12 by Pratt & Whitney Rocketdyne. Soon afterward, NASA returned to its main line of business at Stennis Space Center: testing space shuttle main engines. On Oct. 25, engineers successfully test-fired a space shuttle main engine for 520 seconds. That's the length of time it takes the space shuttle to reach orbit.

"My hat's off to the members of our NASA and contractor teams who rode out the storm, took care of the facilities, took care of each other and helped thousands of people who were in dire need after the storm," Parsons said. "They are the reason we can get back to doing our NASA mission."



PREPARING THE FIRST ENGINE FOR TESTING – Alvin Pittman Sr., lead electronics technician with Pratt & Whitney Rocketdyne, and Janine Cuevas, a mechanical technician with PWR, perform final preparations on the space shuttle main engine that was tested Oct. 25 at NASA Stennis Space Center.

On Dec. 8, a test of the Integrated Powerhead Demonstrator was the first at SSC's E Complex after the storm. The IPD is a reusable, liquid-fuel rocket engine being jointly developed by the U.S. Air Force, NASA and two contractors, Pratt & Whitney Rocketdyne and Aerojet Corp.

NASA's Applied Sciences Directorate at SSC also began important post-Katrina work. The ASD is using its remote sensing capabilities to track and respond to Mississippi's public

health conditions. For example, the state can now tap NASA resources to map boil water notices, then follow up on disease outbreaks in the areas where notices were issued.

At nearby Michoud Assembly Facility, the center once again began processing space shuttle fuel tanks. External Tank 119, which is expected to be used in the next shuttle mission, arrived at Michoud on Oct. 2. Michoud workers began limited testing on the tank as soon as it arrived.



IN THE TEST CONTROL CENTER – Above and at right, engineers at Stennis Space Center monitor readings in the A-Complex Test Control Center during a space shuttle main engine test Oct. 25 at Stennis. It was the first main engine test since Hurricane Katrina hit the Gulf Coast on Aug. 29.





FIRST SPACE SHUTTLE MAIN ENGINE TEST AFTER KATRINA – A vapor plume billows out of the A-1 Test Stand at NASA's Stennis Space Center during the first space shuttle main engine test conducted since Hurricane Katrina hit the Gulf Coast on Aug. 29. The test ran for 520 seconds, the length of time a space shuttle takes to reach orbit. Stennis Space Center has tested and proven flight-worthy every main engine since the first test in 1975.



UP CLOSE – At left is a close-up of the first post-Katrina space shuttle main engine on the test stand.



IPD TEST – Above, a Dec. 8 test on the Integrated Powerhead Demonstrator was the first conducted at Stennis Space Center's E Complex after Hurricane Katrina. The IPD is a reusable, liquid-fuel rocket engine being jointly developed by the U.S. Air Force, NASA and two contractors, Pratt & Whitney Rocketdyne and Aerojet Corp.



RS-68 TEST – Above, a test on the RS-68 engine was conducted Oct. 12 by Pratt & Whitney Rocketdyne on Stennis Space Center's B Stand. The RS-68 program was the first to resume testing after the storm.

Tradition of Safety Day continues



Booths offering everything from bone density scans to safety equipment demonstrations were part of NASA Stennis Space Center's Total Health & Safety Day on Oct. 27. The event is an annual observance to raise awareness of safe work practices. Food and demonstrations of safety equipment and procedures were also offered.

Mike Smiles, manager of NASA's Office of Safety and Mission Assurance at Stennis, said observing Total Health & Safety Day was particularly important this year in the wake of Hurricane Katrina. "We have a lot of people out doing things they don't normally do: running chain saws, getting up on ladders, fixing roofs. Hurting yourself at a time like this can complicate things."

The Office of Safety and Mission Assurance coordinates Total Health and Safety Day.

STAYING SAFE AFTER THE STORM –

Above, Steven Guercia (left) of Northshore PSA Screening, draws blood from David Harrell, one of many Stennis employees who participated in the health screenings and safety equipment demonstrations.

At right, Astronaut Doug Hurley addresses employees about the importance of preparation and safety awareness.



NASA Shared Services Center committed to locating at SSC



SCOUTING OUT EMPLOYEES –

Nearly 1,100 applicants attended the NASA Shared Services Center job fair at SSC after Hurricane Katrina. The NSSC decided to remain at the space center, despite Katrina's devastating effects to the area.

In May 2005, NASA announced that the NASA Shared Services Center facility would be located at Stennis Space Center. The NSSC will bring 450 jobs to SSC with an average salary of \$50,000. It will be a consolidation of activities being performed across NASA in the areas of human resources, procurement, financial management and information technology operations. NASA expects significant annual savings from consolidating services.

Following the devastation and destruction caused by Hurricane Katrina, the NSSC Project Office temporarily relocated to Washington, D.C., to assess the situation and develop options for the return to Mississippi. NSSC worked in conjunction with the service provider, Computer Sciences Corp., to determine when returning and opening would be possible. Because of the many challenges, the NSSC readjusted its Oct. 2, 2005, opening at SSC to March 1, 2006.

“Our hearts and prayers go out to the many

affected NASA and contractor employees as they work to rebuild their homes,” said Rick Arbuthnot, executive director of the NSSC. “Returning the NSSC to Mississippi is the right thing to do – every day, new signs of life appear, and the people of Mississippi and Louisiana are eager to get on with their lives.”

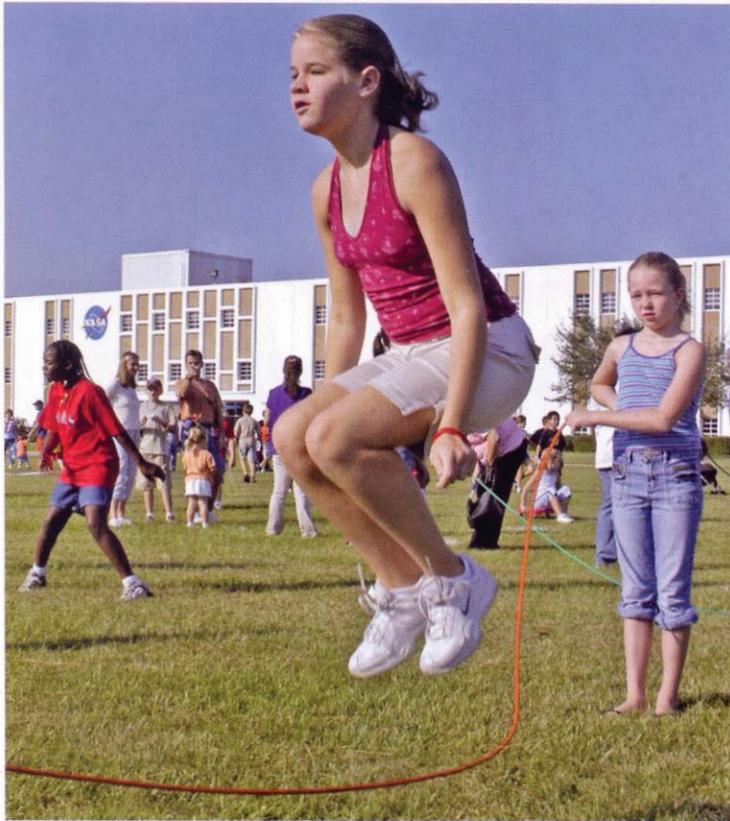
The NSSC celebrated a number of achievements after Hurricane Katrina, including a successful job fair held at SSC. Nearly 900 applicants visited the fair seeking career contractor positions, along with approximately 200 people interested in civil servant positions. Also, Eustis Engineering, a Geotechnical Engineering company, recently performed soil borings and cone penetrometer tests for the new NSSC permanent facility.

All current NSSC employees have relocated to the Gulf Coast area and are working from the NSSC interim facility. In addition, a number of upcoming events include a groundbreaking ceremony and a ribbon-cutting ceremony when the doors open.

An aerial photograph of a coastal region, likely the Chesapeake Bay area, showing a large body of water surrounded by land with various geographical features and infrastructure. The image is overlaid with a semi-transparent white rectangular box containing the title text.

GRATITUDE AND CELEBRATION

SSC helps raise spirits in the aftermath of the storm



NICKELODEON DAY OF PLAY –

Approximately 150 children of Stennis employees participated in Nickelodeon's Worldwide Day of Play celebration at Stennis Space Center on Oct. 1. The Worldwide Day of Play is sponsored annually by the Nickelodeon television network to encourage children to be physically active. On the day of the event, children all over the world participate in physical activities as part of the celebration. Nickelodeon chose Stennis as a Day of Play site to help bring fun into the lives of children affected by Hurricane Katrina.

BARBECUE BASH – From left, Pennie Turner of NASA's Propulsion Test Directorate, Keith Brock of Marshall Space Flight Center, and PTD's Pat Mooney share a laugh and a meal at the NASA family picnic and barbecue held Nov. 10 at Stennis Space Center. The gathering was the first such event for NASA employees after Hurricane Katrina ravaged the region.





GIVING THANKS – At the NASA Fall Family Feast, a Thanksgiving dinner for NASA employees and their families, Stennis' grateful employees pause to send a heartfelt "Thank You" to the other NASA centers that offered aid following Hurricane Katrina.



ROCKIN' IN THE HOLIDAY VILLAGE – In the weeks leading up to the holiday season, Stennis Space Center hosted a Holiday Village featuring local arts and crafts vendors and live entertainment by employees and community members. Pictured are 'Mark Glorioso and the Rockin' Rocket Engineers,' which included Lonnie Dutriex, NASA's Propulsion Test Directorate; Terry Addlesperger, NASA's PTD; Sallie Bilbo, NASA External Affairs; Irene Penn; Tessa Quave, NASA External Affairs; Mark Glorioso, NASA's PTD; John Burns, Mississippi Space Services; and Michael Jetty.

**NOT YOUR
AVERAGE SLEIGH –**

Santa Claus made a special entrance to the NASA Holiday Party; he arrived by boat, courtesy of the Navy Seals' Special Boat Team TWENTY-TWO.



BUILDING A PLAYGROUND – More than 650 volunteers – many of them employees at Stennis Space Center – weathered rain and cold to transform Bay St. Louis' old City Park into a playground on Saturday, Dec. 17. Volunteers assembled and erected a slide, swing set, jungle gym, sand box and planter benches in an eight-hour time frame. The playground was the first new structure built in the town devastated by Hurricane Katrina.



LAUNCHING OUR SPIRITS –

Above, Astronaut Eileen Collins, and at right, Collins and Steve Robinson, crewmembers of STS-114, NASA's Return to Flight mission, offer words of encouragement to Stennis Space Center employees during a visit to the center after Hurricane Katrina.



Stennis employees, community express their gratitude

The following are excerpts from letters written by SSC employees and members of the community who received help at the site during and after Hurricane Katrina.

“Like so many other Stennis employees, we lost our home in Hurricane Katrina... Words cannot express the deep sense of gratitude we have for the support we have been given during this difficult time... And, although this has been a tragic and emotional time for us, we will always look back on these days in awe of the compassion and generosity offered to us by our Stennis community... And behind the scenes, scores of Stennis employees worked together to sort donations, manage the shelters, clear and repair home sites, and seek temporary housing for us. Because of you, we can more quickly and effectively begin the process of starting over. We are deeply moved by your overwhelming response and we thank you from the bottom of our hearts.”

– **Tim Donohoe**, OHI Employee Assistance Consultant, and **Marcia Stewart Donohoe**, MSS Supervisor, Environmental Services



Those sheltering or working at Stennis during Hurricane Katrina's aftermath camped out in offices, hallways, trailers and even tents.





The atrium of Building 1100, the main administrative building at Stennis Space Center, served as an eating and gathering place for the 3,700 people who sought shelter at Stennis.

"I really wanted to send a sincere 'Thank You' for the quick establishment and implementation of the Day Camp immediately following Hurricane Katrina. I, for one, can say that if it had not been for the Day Camp, I really would have had nowhere to bring my 6-year-old son... the staff running the Day Camp was nothing short of awesome – every last one of them. They took time with each child, helped them with building models and other projects, and always greeted everyone with a cheery welcome every morning. My son learned as much while he was there as he would have if he'd been back in school. Please thank those responsible for putting together such a wonderful service for the Stennis community."

– Camille Biojack-Townsend,
Dept. of the Navy Civilian Benefits Center,
Southeast Remote Site

"Words could never express the gratitude we feel for all of you who worked so hard

during this crisis. You were in the same boat we 'refugees' were in, yet you helped us... Thanks to the shelter managers who did everything they could to meet the needs of us all. And, equally, shelter workers. Thanks to security... Thanks to housekeeping... Thanks to the cafeteria workers... Thanks to the medical staff... Thanks to all of you."

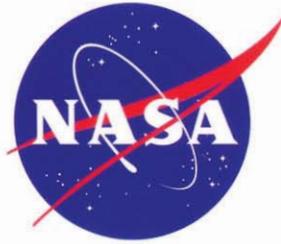
– The Ewing Family &
The Phelps Family

"We thank y'all so much for giving us a place to stay in our time of need. May God bless and keep us all. Thanks so much."

– Raymond & Deborah Goins,
Allen & Justina Morgan

"You have been our guardian angels. Thanks so much for watching over us and helping us during this difficult (time). May God send many blessings to all of you."

– Kevin, Deborah & Brad Hill



“My hat’s off to the members of our NASA and contractor teams who rode out the storm, took care of the facilities, took care of each other and helped thousands of people who were in dire need after the storm. They are the reason we can get back to doing our NASA mission.”

– **NASA Stennis Space Center Director**
BILL PARSONS

*"What lies behind us and what lies before us
are tiny matters compared to what lies within."*

- Ralph Waldo Emerson

