



LAGNIAPPE

John C. Stennis Space Center

Volume 8 Issue 7

www.nasa.gov/centers/stennis

July 2013

NASA associate administrator visits Stennis



(Above photo) William Gerstenmaier (center), NASA associate administrator for human exploration and operations, views a next-generation J-2X rocket engine installed on the A-1 Test Stand at Stennis Space Center during a visit to the facility June 21. He is joined by Stennis Space Center Director Rick Gilbrech (right) and Mike Kynard, manager of the Space Launch System (SLS) liquid engines office at Marshall Space Flight Center in Huntsville, Ala. During his visit to the Mississippi facility, Gerstenmaier also toured the Aerojet Rocketdyne engine processing facility and the B-2 Test Stand, which is being prepared for testing the SLS core stage.

(Left photo) Gerstenmaier conducts an all-hands session with engineers during his June 21 visit to Stennis Space Center.

2013 Hurricane Season Guide appears at end of this issue

“Preparation is essential to individual and organizational success. Take the time up front to plan, coordinate and communicate.”



From the desk of
Freddie Douglas III

Director, Safety & Mission Assurance Directorate, Stennis Space Center

I hope everyone had a great Fourth of July holiday. It is also my hope that your celebrations were safe and joyous. It is important that we take this time to reflect on our country's Declaration of Independence and to celebrate all that it means to us today and into the future. As I reflect on this, I have a few thoughts I'd like to share with you.

It is summertime and hurricane season. In both instances, it is necessary that we prepare. As we enjoy the outdoors in our yards, at the ballparks, on the water, while biking and so on, it is important to be aware of the dangers our climate presents.

Heat stress, dehydration and lack of proper protective equipment are all serious conditions that can very quickly turn a fun time into one of sadness. As you enjoy what makes this part of the country a great place to live and work, take a little time to prepare, drink plenty of fluids, use sunscreen and use the appropriate protective equipment and practices for your activities.

This preparation translates to our work activities as well. As we are all aware, these are times of ever-tightening budgets. However, as center management systematically works through the situation, be assured that the safety and well-being of the workforce is always paramount. Your health and best efforts continue to always be at the core of accomplishing the Stennis mission. Each and every one of you is an essential element of the Stennis story.

Last year, Stennis was recognized by Orbital Sciences Corporation as a supplier of choice. This means Or-

bital recognizes the high-quality products and services delivered as a result of our propulsion test partnership. This recognition is the result of an effective management system; how well the workforce understands it; and, more importantly, how well the teams understand how to employ it. This is particularly true in the processes we share with our customers and how we handle the unexpected events that naturally occur while trying to manage the controlled explosion we call propulsion testing.

The Orbital recognition is a testament to the dedication of the entire workforce in delivering high-quality products and services. As we look forward, this designation is an extremely important and positive factor in helping the center in its competitive posture as it pursues new and additional customers. We will continue to smartly and competitively move into the future, recognizing that the safety and well-being of the Stennis team is essential to achieve the vision and mission set before us as a NASA center.

The takeaway here is that preparation is essential to individual and organizational success. Take the time up front to plan, coordinate and communicate. These are critical elements to performing our mission safely, efficiently and effectively. And at the end of the day, we can go do the things we enjoy, and love those we care about the most.

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

Access monthly copies at: www.nasa.gov/centers/stennis/news/publications/index.html

Contact information – (phone) 228-688-3749; (email) ssc-pao@nasa.gov; (mail) NASA PUBLIC AFFAIRS OFFICE,

Attn: LAGNIAPPE, Mail code IA10, Building 1100 Room 304, Stennis Space Center, MS 39529

Managing Editor – Rebecca Strecker

Editor – Lacy Thompson

Staff Photographer – Danny Nowlin



FULFILLING NASA'S EXPLORATION MISSION

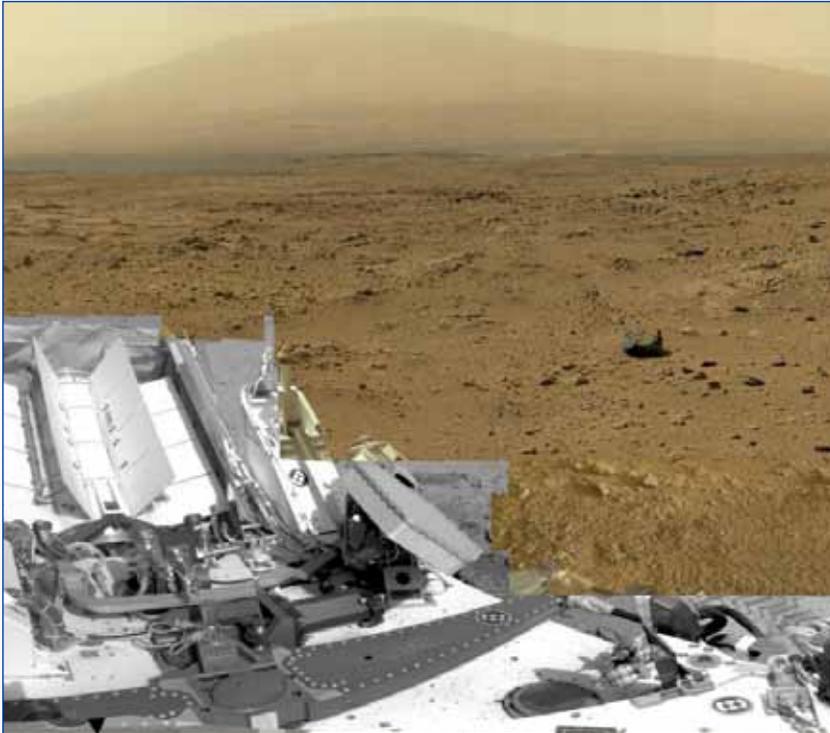
NASA gimbal tests J-2X engine

(Top photo) A closeup shot of the J-2X rocket engine shows how it was gimbaled during a June 14 test on the A-1 Test Stand at Stennis Space Center. A summer series of tests is being conducted on the advanced rocket engine, being developed for NASA by Aerojet Rocketdyne of Canoga Park, Calif. The engine will prove upper-stage power for NASA's new heavy-lift Space Launch System vehicle, which will enable missions beyond low-Earth orbit.

(Right photo) J-2X engine No. 10002 is tested June 14 on the A-1 Test Stand at Stennis Space Center in south Mississippi. The 60-second test signals the start of a series of firings to collect critical data on engine performance. By the time the J-2X tests conclude later this summer, the engine will have been fired at full power and for the total time it would operate during an actual flight, while being gimbaled in the same way it must move during flight.



FULFILLING NASA'S EXPLORATION MISSION



Curiosity rover provides detailed image of Mars

A billion-pixel view from the surface of Mars, from NASA's Mars rover Curiosity, offers armchair explorers a way to examine one part of the Red Planet in great detail.

The first NASA-produced view from the surface of Mars larger than 1 billion pixels stitches together nearly 900 exposures taken by cameras onboard Curiosity and shows details of the landscape along the rover's route. The 1.3-billion-pixel image is available for perusal with pan and zoom tools at: <http://mars.nasa.gov/bp1/>.

The full-circle scene surrounds the site where Curiosity collected its first scoops of dusty sand at a windblown patch called "Rocknest," and extends to Mount Sharp on the horizon. "It gives a sense of place and really shows off the cameras' capabilities," said Bob Deen of the Multi-Mission Image Processing Laboratory at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "You can see the context and also zoom in to see very fine details."

Deen assembled the product using 850 frames from the telephoto camera of Curiosity's mast camera instrument, supplemented with 21 frames from Mastcam's wider-angle camera and 25 black-and-white frames from the navigation camera. The images were taken between Oct. 5 and Nov. 16, 2012. Raw single-frame images received from Curiosity are posted on a public website at: <http://mars.jpl.nasa.gov/msl/multimedia/raw/>.

Information regarding the Mars Science Laboratory is available online at: www.nasa.gov/msl and <http://mars.jpl.nasa.gov/msl/>.

NASA in the News

NASA tests composite tank

NASA recently completed a major space technology development milestone by successfully testing a pressurized, large cryogenic propellant tank made of composite materials. The composite tank will enable the next generation of rockets and spacecraft needed for space exploration. In the past, propellant tanks have been fabricated out of metals. The almost 8-foot-diameter composite tank tested at NASA's Marshall Space Flight Center in Huntsville, Ala., is considered game changing because composite tanks may significantly reduce the cost and weight for launch vehicles and other space missions. Built by Boeing at their Tukwila, Wash., facility, the composite tank arrived at NASA in late 2012. Engineers insulated and inspected the tank, then put it through a series of pressurized tests to measure its ability to contain liquid hydrogen at extremely cold temperatures.

Satellite will study sun

NASA's Interface Region Imaging Spectrograph (IRIS) spacecraft launched June 27, beginning a mission to study the solar atmosphere. The satellite was placed in orbit by an Orbital Sciences Corporation Pegasus XL rocket. "We are thrilled to add IRIS to the suite of NASA missions studying the sun," said John Grunsfeld, NASA's associate administrator for science in Washington. "IRIS will help scientists understand the mysterious and energetic interface between the surface and corona of the sun." IRIS is a NASA Explorer Mission to observe how solar material moves, gathers energy and heats up as it travels through a little-understood region in the sun's lower atmosphere. For more information about the IRIS mission, visit: www.nasa.gov/iris.

For the latest NASA news, visit online: www.nasa.gov/news/releases/latest/index.html.

Stennis employees receive NASA awards



Stennis Space Center Director Rick Gilbrech (third from right) and astronauts Dorothy Metcalf-Lindenburger (l) and Ricky Arnold stand with recipients of 2013 Silver Snoopy awards following a June 24 onsite ceremony. Seventeen Stennis employees received the astronauts' personal award, which is presented to less than 1 percent of the total NASA workforce annually in recognition of contributions to flight safety and mission success. This year's award recipients and ceremony participants were: (front row, l to r) Metcalf-Lindenburger; James Scogin (Jacobs Technology Facility Operating Services Contract Group), William J. Davis (Jacobs Technology FOSC Group), Wendy Houser Bateman (NASA),

Brian King (A²Research), Richard Franzl (Lockheed Martin IS&GS Civil Test Operations Contract), Roger Clements (Jacobs Technology FOSC Group), David Coote (NASA), Son Le (NASA); Gilbrech; Arnold; (back row, l to r) Odie Ladner (Aerojet Rocketdyne), Jeff Henderson (NASA), Clyde Sellers (ASRC Research and Technology Solutions), Allen Forsman (Aerojet Rocketdyne), Graham Golden (Jacobs Technology FOSC Group), Vince Pachel (NASA), Paul Miller (Aerojet Rocketdyne) and John Giveans (Lockheed Martin IS&GS Civil Test Operations Contract). Not shown is award recipient Matthew Steed (Lockheed Martin IS&GS Civil Test Operations Contract).



Stennis Space Center Director Rick Gilbrech (right) and astronauts Dorothy Metcalf-Lindenburger (l) and Ricky Arnold stand with recipients of NASA Space Flight Awareness awards following a June 24 onsite ceremony. Eight Stennis employees received the award in recognition of contributions to flight safety. This year's recipients and ceremony participants were: (l to r)

Metcalf-Lindenburger, Mike Smith (Jacobs Technology Facility Operating Services Contract Group), Peggi Marshall (ASRC Research and Technology Solutions), Jeff Hansell (Aerojet Rocketdyne), Gary Benton (NASA), Rick Rauch (NASA), Michael Langford (A²Research), David Carver (NASA) and Roger Ladner (Lockheed Martin IS&GS Civil Test Operations Contract).

Early days at Stennis featured variety of challenges

The year 1963 was a busy time at the Mississippi Test Operations facility. Planning, construction and employee acclimation were all part of the initial process at the site that later became John C. Stennis Space Center.

That spring, NASA officials began arriving at the Rouchon House, where site headquarters was located. Civil servants, as well as contractors, faced many challenges and dangerous conditions.

- Huge wild pigs were dominant daytime creatures. They were offspring of those living at the time of the Spanish land grants some 200 years before NASA's arrival. With Mississippi's open-range tradition, the boars continued to roam the countryside.
- A tractor operator managed to jump to safety when he scooped up a bed of moccasins that crawled all over his machine. Eighty-five snakes killed in one day was the highest recorded count. Specimens collected from each of seven varieties of poisonous snakes included the cottonmouth moccasin, copperhead, diamondback rattlesnake, canebrake rattlesnake, two pygmy species of rattlesnakes and the coral snake. To help employees identify the types of snake bites, snakes were displayed in cages and posters were distributed at local hospitals.
- Workers on the fence project in the swampy areas were plagued by the common, pesky, salt marsh mosquito. About 99.9 percent of work was outside, and construction workers had to wear mosquito nets, along with keeping a can of spray handy. In some areas, mosquitoes would dive-bomb a worker at 80 attacks per minute. The average rate of mosquito bites ranged from 40 to 60 bites per person per minute. NASA made special arrangements with the U.S. Air Force; two C-123 airplanes from Langley Field, Va., were used to spray more than 100,000 acres twice a day for the monumental spraying operation. About a week later, the mosquito count had been reduced to less than 10 mosquitoes per person per minute. This was considered by experts to be a "livable" condition.



(Top photo) MTO Director Capt. William Fortune (l) and others review construction schedules in July 1963.

(Middle photo) An unidentified man holds a dead snake.

(Bottom photo) NASA was instrumental in organizing a mosquito control commission along the Mississippi and Louisiana coast.



Office of Diversity and Equal Opportunity

Promote team diversity and inclusion in workplace

This article was submitted by Deborah Norton, Deputy Chief Financial Officer (Resources), Stennis Office of the Chief Financial Officer

“Diversity and inclusion in the workplace are essential business tools today.”

When we draw on the wisdom of a workforce that reflects the population we serve, we are better able to understand and meet the needs of our customers – the American people.

When employees feel valued and respected, they are much more likely to be engaged and, thereby, put forth their best efforts on the team’s behalf. Leadership that inspires, rather than rules, motivates employees.

The following strategies are motivating tips when promoting team diversity and inclusion in the workplace:

Understand the nature of creative problem-solving

The process of innovation in a diverse team is not always pretty. In fact, it’s likely to be non-linear, irregular and at times, downright messy. Whenever possible, just step back and give your diverse team the time and space necessary to work things out in their own unique way. Inspire!

Push the team past the herd instinct

People tend to gravitate toward people who share their views, opinions and backgrounds. It’s human nature to seek validation in others who are similar to us. But in order to truly reap the benefits of workplace diversity and inclusion, it’s important to shake things up a bit. Create teams and relationships that cut across cliques, departments and social groups. This is the kind of environment

where truly meaningful innovation can take root. Diverse teams are more likely to understand the dynamics of change to effectively implement solutions.

Cultivate an organizational culture that is genuinely open to new ideas

Even the most diverse team won’t be able to inject innovation and creativity into your organization if it senses that new ideas aren’t welcome. If your company has a traditional, hierarchical structure and culture, it may take some time to get to the point where employees/teammates feel comfortable exercising their creative problem-solving skills. As a leader, you can facilitate

this process by lavishly praising and, more importantly, respecting your team’s input, feedback and suggestions.

Model the expected behaviors

Effective leaders demonstrate the behaviors they want from others. When they show respect for differences, develop trust in their teams and promote the valuing of differences, they set the standard for how others should behave. Leaders should clearly communicate that disrespect for others will not be tolerated. If they observe inappropriate actions or hear disparaging comments, leaders need to be quick to confront the behavior and to suggest or encourage more appropriate ways to handle the situation.

Applying these tips to use the essential business tools of diversity and inclusion can move teams to their highest level of performance.



Hail & Farewell

NASA welcomes the following:

Melissa Wagner

Management Support Assistant

Safety & Mission Assurance Directorate

Students participate in summer programs



Stennis is hosting eight DEVELOP Program interns this summer. Shown are: (front row, l to r) Stephanie McCracken (University of Southern Mississippi), Haley Feather (USM), Jamie Thompson (USM), Maria Arguelles (University of Miami) and Amber Jones (William Carey University); (back row, l to r) Timothy Sutherlin (USM), Ross Reahard (University of New Orleans) and Jason Jones (Science Systems and Applications Inc. assistant center lead). Not pictured is Shelby Barrett (William Carey University).



One student is participating as a Motivating Undergraduates in Science and Technology (MUST) intern at Stennis this summer – Aaron Bailey (North Carolina A&T State University).



A pair of students are serving as interns in the summer Achieving Competence in Computing, Engineering and Space Science (ACCESS) Program at Stennis Space Center. They are (l) Preven Harris (Capitol College) and Jonathan Bauer (Iowa State University).



Six students are serving as Undergraduate Student Research Program (USRP) interns at Stennis this summer. They are (l to r) Ben Wright (University of Tennessee at Martin), Jessica Felde (West Virginia University), Tyler Scogin (University of Arkansas), David Etim (North Carolina A&T State University), Jesus Trillo (University of Texas at El Paso) and Charles Pinckney (Georgia Institute of Technology).

Hurricane Guide

The 2013 hurricane season has arrived – and NASA’s John C. Stennis Space Center has prepared this four-page guide as a resource for Stennis employees. The guide offers invaluable information – a hurricane tracking map, storm-rating information and contact numbers for emergency situations. It also serves as an important reminder – for every Stennis employee to be prepared and alert for whatever the 2013 storm season may deliver.

Note the change:

Stennis Space Center

WILL NOT

serve as a shelter to any workers or families.

As part of their hurricane season preparation, individuals are urged to contact parish/county offices to identify available shelters in their areas.

In both Louisiana and Mississippi, persons are reminded they may call 2-1-1 to obtain information about health and human services available in their areas.

The number is staffed 24 hours a day in Louisiana and on weekdays, 7 a.m. to 6 p.m., in Mississippi. It offers information on various services, including food, clothing, shelters and transportation assistance.

Stennis employees are reminded to discuss their evacuation plans with supervisors so they can be contacted after a storm or to acquire their company/agency policy on contacts after a storm.

NOTE: If NASA employees cannot contact Stennis due to downed communications after a storm, they should call 877-776-4654 to report their status.

Emergency preparation checklist

- Gather a two-week inventory of emergency supplies, such as flashlights, batteries, a battery-operated radio, blankets and pillows, canned and dried food, non-electric can opener, eating/cooking utensils, emergency cooking facilities (grill or camp stove), fuel, cash and/or credit cards, clothes, toiletries, water (1 gallon per person a day), prescription medications, first-aid kit/handbook, fully-charged cell phone, towels, sleeping bags, etc.
- Back up computer files.
- Gather basic post-storm cleanup and repair supplies, such as axes, brooms, a camera to record damage, cleaning supplies, mosquito repellent, trash bags, hand tools, a chain saw, duct tape, plastic tarps, extension cords, a ladder, generator and fuel, etc.
- Collect valuable papers, such as social security cards, birth certificates, marriage and death records, insurance policies, savings and checking books, etc.
- Prepare an inventory of household goods.

National resource information

American Red Cross	800-REDCROSS (733-2767) www.redcross.org
Federal Emergency Management Agency (FEMA).....	800-621-FEMA (3362) www.fema.gov
National Oceanic and Atmospheric Administration (NOAA).....	www.noaa.gov
NOAA National Hurricane Center	www.nhc.noaa.gov
NOAA National Weather Service	www.weather.gov
NOAA National Weather Service Southern Region (www.srh.noaa.gov)	985-649-0357 or 504-522-7330
NOAAWatch - NOAA’s All-Hazard Monitor.....	www.noaawatch.gov
U.S. Department of Homeland Security	www.dhs.gov

Mississippi resource information

Mississippi Emergency Management Agency (www.msema.org)	601-933-MEMA (6362) (24 hrs) 800-222-MEMA (6362)
Mississippi Department of Transportation (www.mdot.ms.gov and www.mdottraffic.com)	601-359-7001 (activated only during a disaster) 866-521-MDOT (6368)
Mississippi Highway Safety Patrol (www.dps.state.ms.us)	601-987-1212 (*HP from any cell)
Mississippi Public Broadcasting (www.mpbonline.org)	(emergency information) 866-262-9643 or 601-432-6565
Governor’s Office (www.governorbryant.com)	601-359-3150
Mississippi Insurance Department (www.mid.ms.gov)	800-562-2957
U.S. Coast Guard (Sector Mobile)	251-441-6211
Mississippi Power (www.mississippipower.com)	800-532-1502
Coast Electric Power (www.coastepa.com)	877-769-2372

Louisiana resource information

Office of Homeland Security and Preparedness (www.gohsep.la.gov)	800-256-7036 or 225-925-7500
Louisiana Department of Transportation (www.dotd.louisiana.gov).....	877-4LA-DOTD (452-3683)
National Weather Service Forecast Office (New Orleans/Baton Rouge)	504-522-7330
Louisiana State Police (www.lsp.org)	225-925-6006 (*LSP from any cell phone)
Louisiana State Police Road Closure Hotline	800-469-4828
Louisiana Governor’s Office (www.gov.louisiana.gov)	866-366-1121
Louisiana Department of Insurance (www.ldi.louisiana.gov)	800-259-5300 or 225-342-5900
U.S. Coast Guard (Sector New Orleans)	504-365-2200
Cleco Corporation (www.cleco.com)	800-622-6537
Entergy (www.entergy-louisiana.com)	800-ENTERGY (368-3749) Power outages: 800-9OUTAGE (968-8243)
Washington-St. Tammany Electric Cooperative (www.wste.coop)	985-643-6612 Power outages: 866-672-9773

Louisiana-Mississippi interstate contraflow plan

In an effort to assist Louisiana in the event of a mandatory hurricane evacuation, the Mississippi Department of Transportation will implement contraflow (lane reversal) for I-59 and I-55 when requested by Louisiana and approved by the Mississippi governor.

- A contraflow decision is not automatic and will only be used when absolutely necessary. Citizens should not delay evacuation plans in anticipation of contraflow.

- I-59 contraflow will begin in Louisiana, extend into Mississippi and end near mile marker 55.

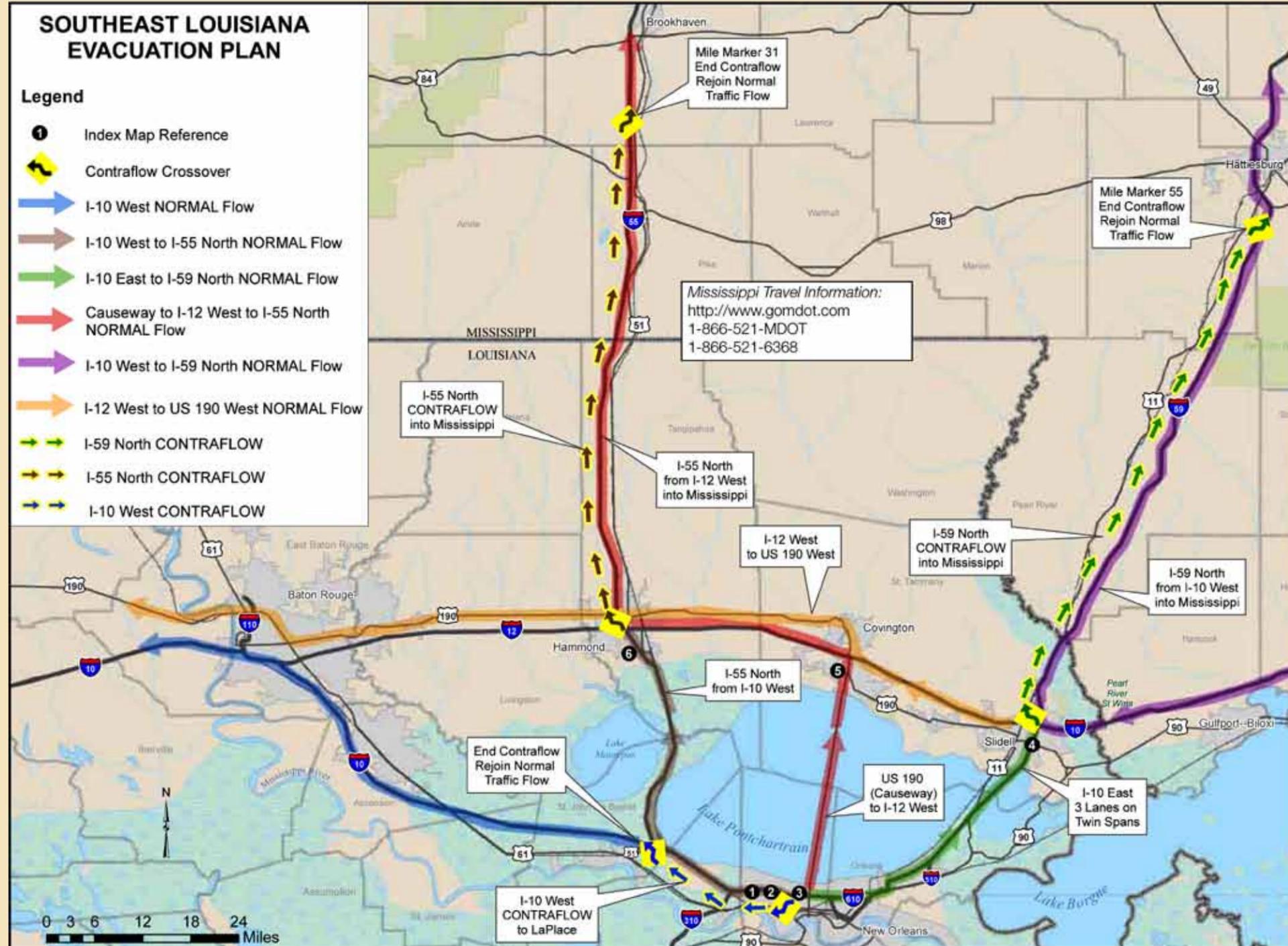
- I-55 contraflow will begin in Louisiana, extend into Mississippi and end near mile marker 34.

- Exits within the contraflow sections of the interstate highways will remain open as conditions allow. Law enforcement officers will assist with traffic control.

- Shoulders of both Interstates 59 and 55 should be kept clear for emergency vehicles. To stop, motorists should use the next available exit.

- I-10 East will be closed when contraflow begins. Individuals should evacuate to the north, not to the east.

- Tune in to public broadcasting radio stations for emergency information and road conditions.



Hurricane strength

Category One

Winds 74-95 mph. Storm surge 4-5 feet.

Category Two

Winds 96-110 mph. Storm surge 6-8 feet.

Category Three

Winds 111-130 mph. Storm surge 9-12 feet.

Category Four

Winds 131-155 mph. Storm surge 13-18 feet.

Category Five

Winds greater than 155 mph. Storm surge more than 18 feet.

Severe weather terms

Storm surge

An abnormal rise of sea/gulf water along a shore as the result, primarily, of winds from a storm.

Watch

Adverse conditions are *possible* in the specified watch area, usually within 36 hours. A watch may apply to thunderstorms, tornadoes, floods or hurricanes.

Warning

Adverse conditions are *expected* in the specified warning area, usually within 24 hours. A warning may apply to thunderstorms, tornadoes, floods or hurricanes.

Public shelter information

Shelters are operated by trained individuals and are designed to ensure the safety, security and basic needs of sheltering residents are met.

What to bring to a shelter

Residents seeking shelter should bring a change of clothing, a blanket and a pillow for each person in their family or group. Residents also should bring their disaster supply kit, including food, medications, comfort items and special items for infants or elderly persons.

What not to bring to a shelter

No weapons, drugs or alcohol are allowed.

Twitter evacuation updates

Evacuation route I-55
www.twitter.com.mdot_i55

Evacuation route I-59
www.twitter.com.mdot_i59

Evacuation route I-10
www.twitter.com.mdot_i10

Evacuation route I-20
www.twitter.com.mdot_i20

Evacuation route U.S. 49 / U.S. 98
www.twitter.com.mdot_us49 / www.twitter.com.mdot_us98