



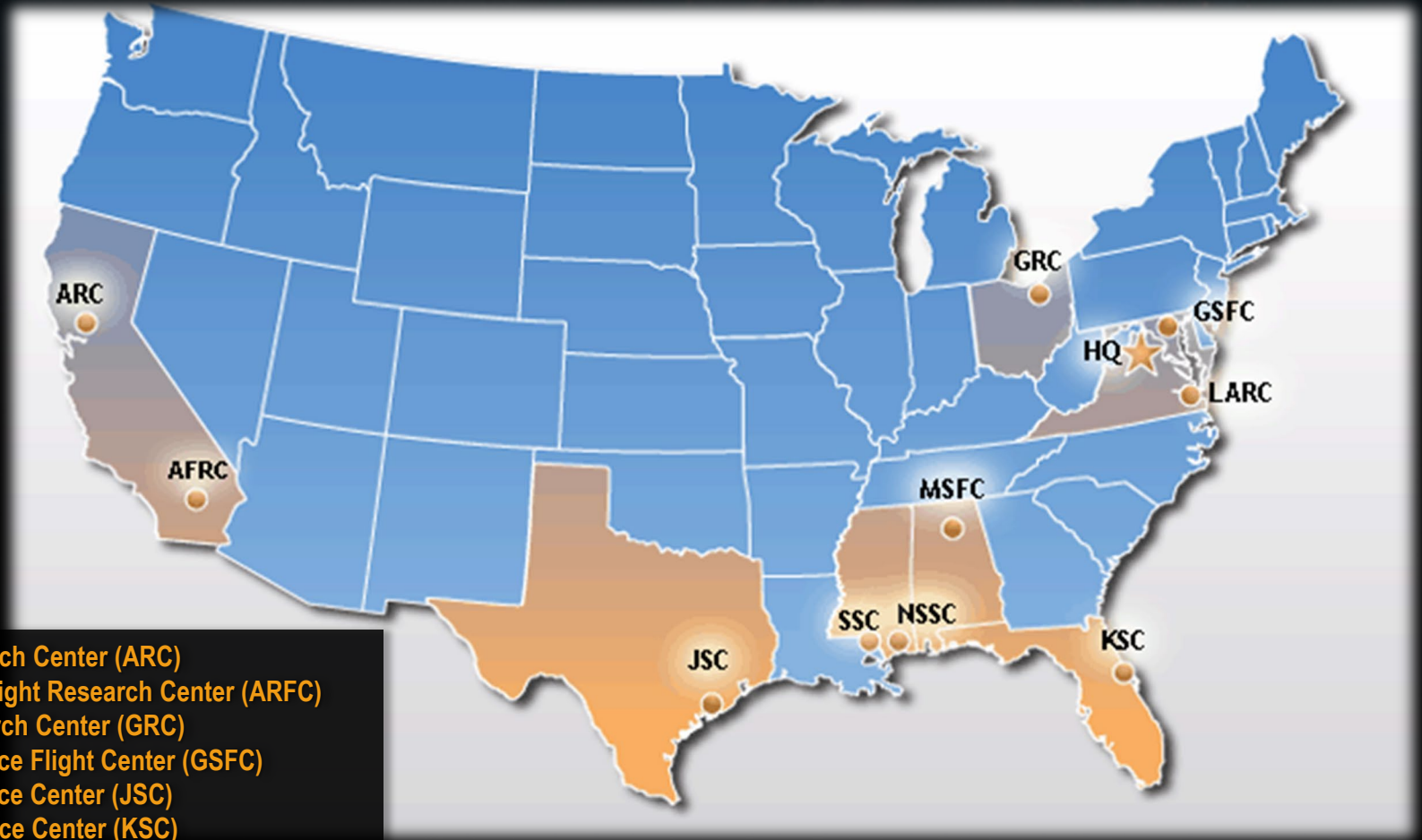
NASA John C. Stennis Space Center Overview

Dr. Mitch Krell

Deputy Project Manager, NASA EPSCoR

NASA John C. Stennis Space Center

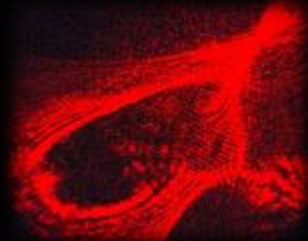
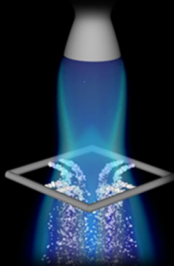
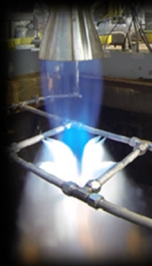
NASA Center Locations



- Ames Research Center (ARC)
- Armstrong Flight Research Center (ARFC)
- Glenn Research Center (GRC)
- Goddard Space Flight Center (GSFC)
- Johnson Space Center (JSC)
- Kennedy Space Center (KSC)
- Langley Research Center (LARC)
- Marshall Space Flight Center (MSFC)
- NASA Headquarters (HQ)
- NASA Shared Services Center (NSSC)
- Stennis Space Center (SSC)

John C. Stennis Space Center

America's Largest Rocket Engine Test Complex & Leader in Technology Development



To reach for new heights and reveal the unknown, so that what we do and learn will benefit all humankind.

SSC Overview Video

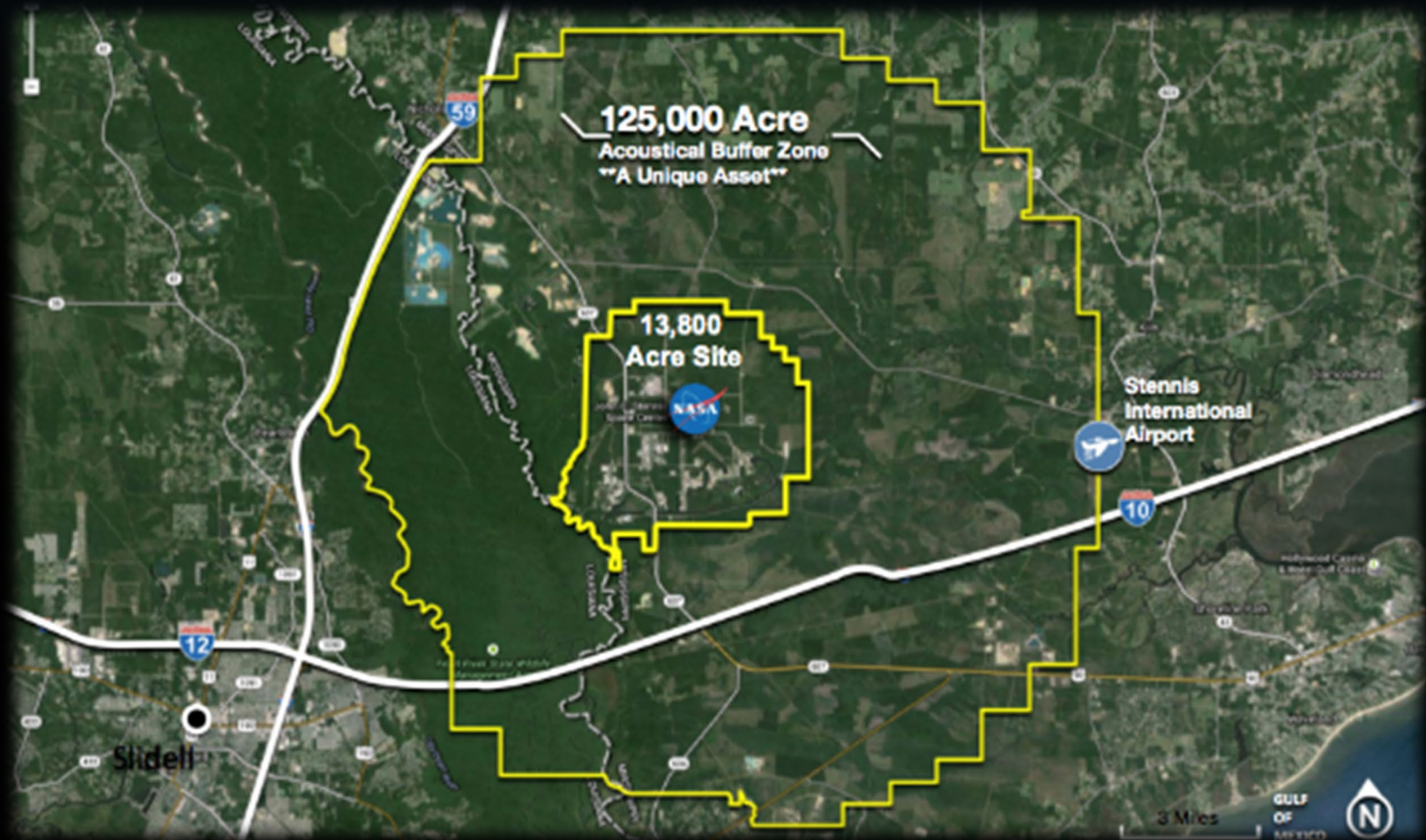


Stennis Space Center's Unique Resources



Acoustical Buffer Zone

The center's work is accomplished in a 13,800 acre area known as the "fee area," an area of land owned by NASA. The fee area is surrounded by a 125,000 acre acoustical buffer zone, which is considered a national asset.



History of Stennis Space Center



Stennis Space Center was established to test the engines which propelled the Apollo spacecraft to the moon.

- Site selection of Hancock County, Miss. provided access to:
 - Isolated test site with acoustical buffer zone
 - Water and road transportation capabilities
 - Supportive community
 - Climate conducive for year-round testing
- May 17, 1963 – Construction began
- April 23, 1966 – First Saturn V test
- March 1, 1971 – Space Shuttle Main Engine test role assigned
- May 20, 1988 – Renamed John C. Stennis Space Center
- Today – Stennis is America's largest rocket engine testing facility



“I don't know yet what method we will use to get to the moon, but I do know that we have to go through Mississippi to get there!”

Dr. Wernher Von Braun

Stennis Space Center – Federal City



Department of Commerce

- National Oceanic & Atmospheric Administration (NOAA)
- National Weather Service (NWS)
- National Data Buoy Center
- NOAA National Marine Fisheries Service
- NOAA National Center for Environmental Information (NCEI)

Department of Defense

- Army Corps of Engineers
- Commander, Naval Meteorology & Oceanography Command (CNMOC)
- Naval Oceanographic Office (NAVO)
- Naval Research Laboratory (NRL)
- Navy Small Craft Instruction and Technical Training School (NAVSCIATTS)
- Navy Special Boat Team 22 (SBT-22)
- Navy Office of Civilian Human Resources - SSC Center
- Navy Facilities Southeast
- Navy Detachment Stennis

Department of Energy

- Strategic Petroleum Reserve

Department of Homeland Security (DHS)

- DHS Data Center 1
- Immigration & Customs Enforcement (ICE)
- United States Citizenship & Immigration Services (USCIS)

Department of Interior

- U.S. Geological Survey (USGS), Hydrologic Instrumentation Facility

Department of Transportation

- Information Systems at NCCIPS

Center for Higher Learning

- Mississippi State University
- Pearl River Community College
- University of Mississippi
- University of New Orleans
- University of Southern Mississippi

Mississippi State University

- Northern Gulf Institute
- Alliance for System Safety of UAS through Research Excellence (ASSURE)

State of Mississippi

- Enterprise for Innovative Geospatial Solutions
- Mississippi Enterprise for Technology (MSET)
- Marine Industries Science & Technology (MIST) Cluster
- National Oceans & Applications Research Center (NOARC)

University of Southern Mississippi

- Dept. of Marine Science

State of Louisiana

- Louisiana Technology Transfer Office
- Louisiana Business & Technology Center - LSU



NASA Stennis Space Center

- Applied Science eect Office (ASTPO)
- ASSURE 2014 - Intelligent Systems Division
- FAA Restricted Airspace Expansion
- NASA Rocket Propulsion Test Program
- NASA Shared Services Center (NSSC)
- National Center for Critical Information Processing & Storage (NCCIPS)

Government Publishing Office

- Passport Production Facility

Government Services Agency

- Information Systems at NCCIPS

Contractors

- A2 Research
- SAITECH
- Booz Allen Hamilton
- CRSA
- Deltha Corporation
- General Dynamics Information Technology (GDIT)
- RiverTech
- Northrop Grumman
- Pacific Architects and Engineers (PAE)
- Pinnacle Solutions
- Science Applications International Corporation
- Science Systems and Applications Inc.
- Syncom Space Services (S3)
- Vencore Services & Solutions
- NAVAR

Commercial Companies

- Aerojet Rocketdyne
- Lockheed Martin IS & GS Defense Systems
- Power Dynamics
- Rolls Royce North America

Rocket Propulsion Test Heritage



Apollo

**First Saturn V rocket
engine test firing**

April 23, 1966



Space Shuttle

**First Space Shuttle
Main Engine test firing**

(to achieve ignition)

June 12, 1975



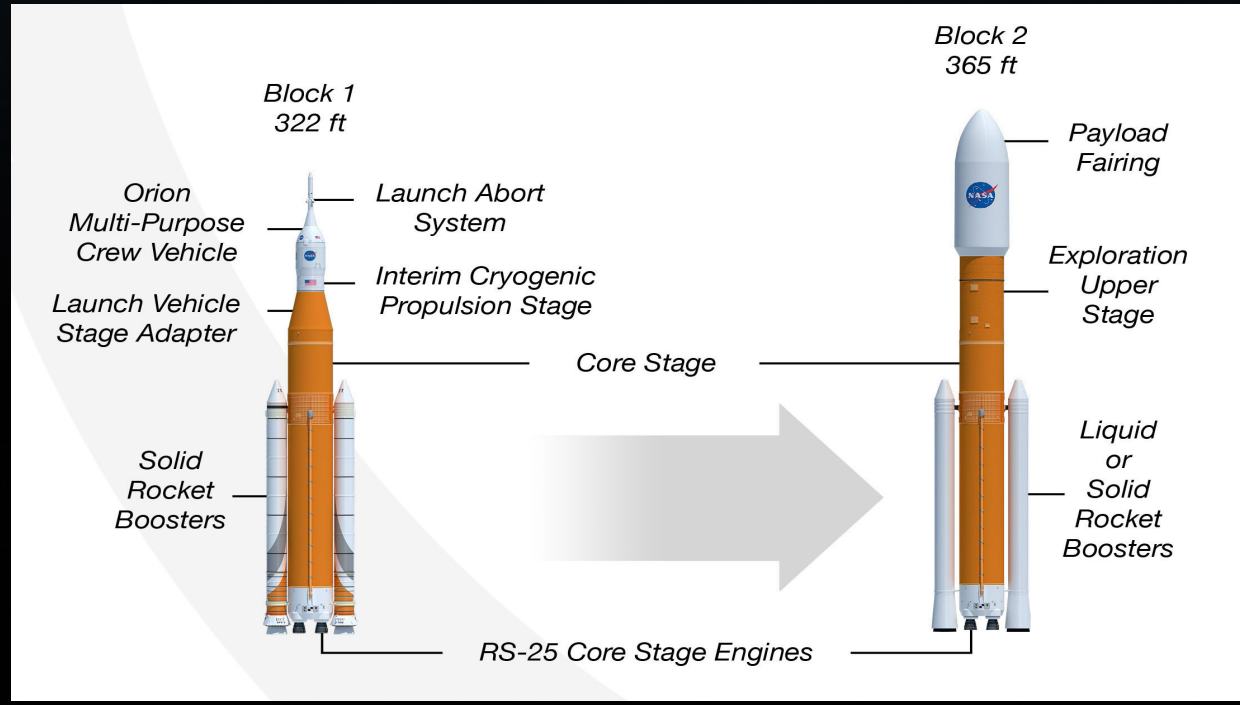
Space Launch System

**First RS-25
flight engine test firing**

March 10, 2016



Space Launch System Overview



Support of Space Launch System



B-2 Test Stand modifications for SLS Core Stage Testing



First RS-25 Flight Engine Test - March 10, 2016



RS-25 Engine/Testing

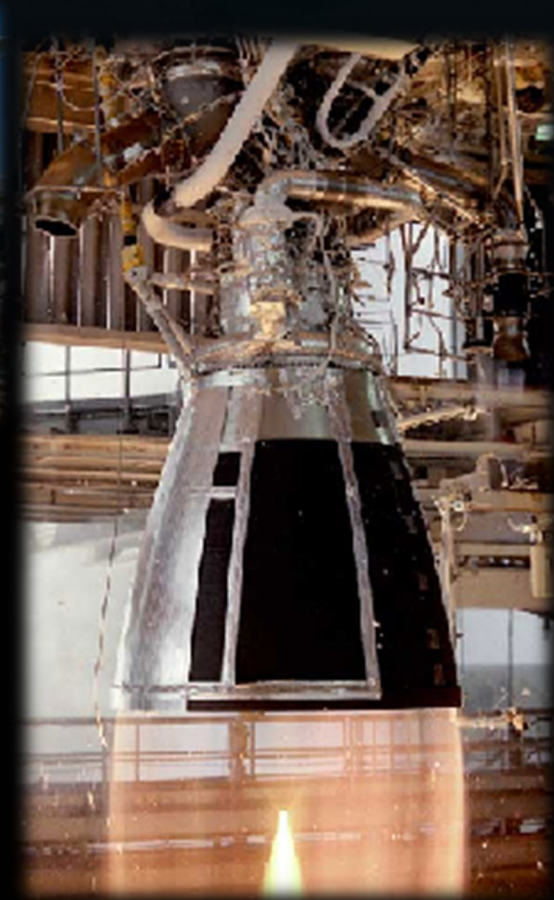
Current/Recent Commercial Rocket Propulsion Testing—Engines & Components



Aerojet Rocketdyne/
Orbital Sciences—AJ26



SpaceX subscale component
for Raptor methane-fueled engine



Aerojet Rocketdyne
RS-68



Aerojet Rocketdyne subscale testing of the AR1 engine

NASA Rocket Propulsion Test Program



- Manage NASA's rocket propulsion test assets, activities and resources
- Reduce test costs via efficient utilization of test facilities in support of NASA, Dept. of Defense and commercial partners/customers
- Develop test technologies to improve safety and operational efficiency



***Stennis Space Center
Mississippi***



***Marshall Space Flight Center
Alabama***



***Glenn Research Center –
Plum Brook
Ohio***



***White Sands
Test Facility
New Mexico***

Advanced Science & Technology



NASA engineers

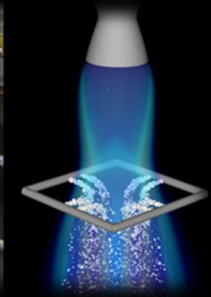
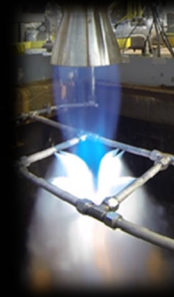
- Design devices to harvest energy and power sensors in harsh environments
- Invent sensors to detect resources and monitor critical infrastructure
- Construct computational models to optimize performance
- Create intelligent systems to operate autonomously and reduce costs and risks
- Use data from satellites, aircraft and ground-based instruments to detect problems and respond to issues
- Build apps that enable you to use NASA data in your daily life
- Partner with universities, businesses and other government agencies to solve problems on Earth and in space
- Inspire students to push boundaries and understand our universe



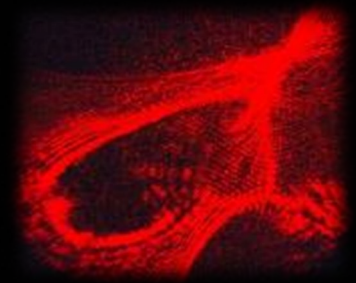
Advanced sensors and intelligent systems to help improve life on Earth and explore the solar system.



High performance computing and computational modeling of complex systems



"Big data" processing and analysis tools for satellite and aircraft sensors.



(Above) Land use monitoring app to support conservation efforts by the Mobile Bay National Estuarine Program and management by Mobile and Baldwin counties.

INFINITY Science Center



Speakers Bureau



The NASA Speakers Bureau is composed of engineers, scientists, and other professionals who represent the agency as speakers at civic, professional, educational and other public venues.

The Speaker's Bureau is a free service as a part of our public communication and outreach programs.

Exciting topics and dynamic presentations will inspire and educate your group. Topics include:

Overview of Stennis Space Center

Aerospace Engineering

Technology Transfer

Doing Business with NASA

SSC Economic Impact

Rocket Engine Testing

Propulsion Systems Technology

Space Benefits/spinoffs

NASA Education Programs

We will work with you to attempt to identify the topic and speaker that will best meet the needs of your audience. Flexibility in your topic and program date helps immensely in securing a NASA speaker.

It is important to note that NASA speakers are comprised of NASA volunteers and requests are filled based on availability of the speakers.

Tours and Other Opportunities



We can assist with scheduling and setting up unique tours of the site including the test stands which most visitors do not get to experience.

These tours are on an as-available basis as our engineers have day jobs making sure our engine tests don't launch anything.

It is also possible to meet and maybe even consult with our engineers again based on availability.

Connect With SSC



Contact Me



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NASA's Strategic Vision



REACH
— NEW —
HEIGHTS



REVEAL
— THE —
UNKNOWN



BENEFIT
— ALL —
HUMANKIND

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Questions?