

# KEESLER AIR FORCE BASE & THE MISSISSIPPI GULF COAST:



## Partners in **ONE** Community



# KEESLER AIR FORCE BASE AND THE MISSISSIPPI GULF COAST: PARTNERS IN ONE COMMUNITY

“It's wonderful to see the strong bond of camaraderie that helps make the partnership here between the people of Mississippi and men and women who serve in our armed forces such a tremendous asset to our national security.”

- Former Secretary of the Air Force,  
Michael Donley\*



Sergeant Woolford delivers a welcome home mug to Edward Sullivan, one of the Armed Forces Retirement Home residents.

\*Susan Griggs, "SECAF, Community Honor Keesler at Salute to Military," U.S. Air Force, Keesler Air Force Base, quoting former Secretary of the Air Force Michael Donley, last modified October 24, 2012, <http://www.keesler.af.mil/news/story.asp?id=123323557>.

Keesler Air Force Base (AFB) has been an integral part of the Mississippi Gulf Coast community since it opened as an airfield in 1941. The base has enjoyed a long and mutually-supportive relationship with the surrounding community. Keesler AFB's primary role is to train and educate Airmen. The base also hosts other missions, including the 53rd Weather Reconnaissance Squadron which flies WC-130J aircraft, known as the "Hurricane Hunters."

Due to the fact that the installation is integrated with the Mississippi Gulf coast community, actions taken by Keesler AFB may impact the community, and community actions may impact the base. *Partners in One Community* was developed as part of a 2013 encroachment planning analysis that considered areas of shared interest between Keesler AFB and the surrounding community. This document highlights actions that the base and the community can take to ensure community sustainability while preserving the national security mission of Keesler AFB.

## COMMUNITY

The Mississippi Gulf Coast community provides support and airspace that help Keesler AFB carry out its missions. In return, Department of Defense (DOD) families support local businesses and have enrolled over 2,500 students in the area's public schools. In addition, active duty and retired Air Force personnel hold public service leadership positions on local boards and commissions. Several retired Airmen, including a Lieutenant General and a Senior Master Sergeant, have served as members of the Biloxi City Council.

## ECONOMY

Keesler AFB is one of the largest employers on the Mississippi Gulf Coast, employing over 8,000 military personnel and an additional 4,000 civilian personnel in 2012. That year, the base's total economic impact was almost \$1.2 billion including payroll, purchasing, construction projects, and job creation.

## ENVIRONMENT

Keesler AFB is located on a coastal peninsula bordered by the Back Bay of Biloxi to the north and the Mississippi Sound to the south. This unique setting provides important habitat for native species, beneficial ecosystem services for communities in the area, and a high quality of life for local residents. Ecosystems in the region provide storm protection, shoreline stabilization, flood prevention, water and air filtration, and temperature control, as well as a host of recreational activities.

The Back Bay of Biloxi is an 8.1 square mile estuary that lies to the north of Keesler AFB. As an estuary, the bay is fed by freshwater from the Biloxi and Tchoutacabouffa rivers, and the brackish water of the Mississippi Sound.

The Back Bay provides valuable habitat for native and endangered species. Several federally listed species of turtle, as well as protected birds such as the red-cockaded woodpecker and piping plover, forage for food or make their home in the Back Bay.



"Biloxi - Back Bay from Highway 90 Bridge." © 2012 jared422\_80 used under a Creative Commons Attribution license: <http://creativecommons.org/licenses/by/2.0/deed.en>

## MISSION

Keesler AFB is the "Electronics Training Center of Excellence" for the Air Force, training 28,000 students per year. This training includes electronic systems, computer systems, information management, air weapons control, and air traffic control. The base has specialized programs in cyber systems operations and cyber security. Keesler AFB is also home to the 53rd Weather Reconnaissance Squadron's "Hurricane Hunters" who collect valuable data about tropical storms before they hit land. Additionally, the base serves in a national emergency response role, as a Federal Coordinating Center for the National Disaster Medical System. For more information about Keesler AFB's mission, see pages 4 and 5.

# KEESLER AFB AND THE MISSISSIPPI GULF COAST

## COMMUNITY COLLABORATION

Keesler AFB and the surrounding community have enjoyed close collaboration and communication since the base was established in the 1940s. The 81st Training Wing (81 TRW) and the 403rd Wing both engage community leaders through Honorary Commanders Programs. Leaders tour the base and learn about the wings' many missions.

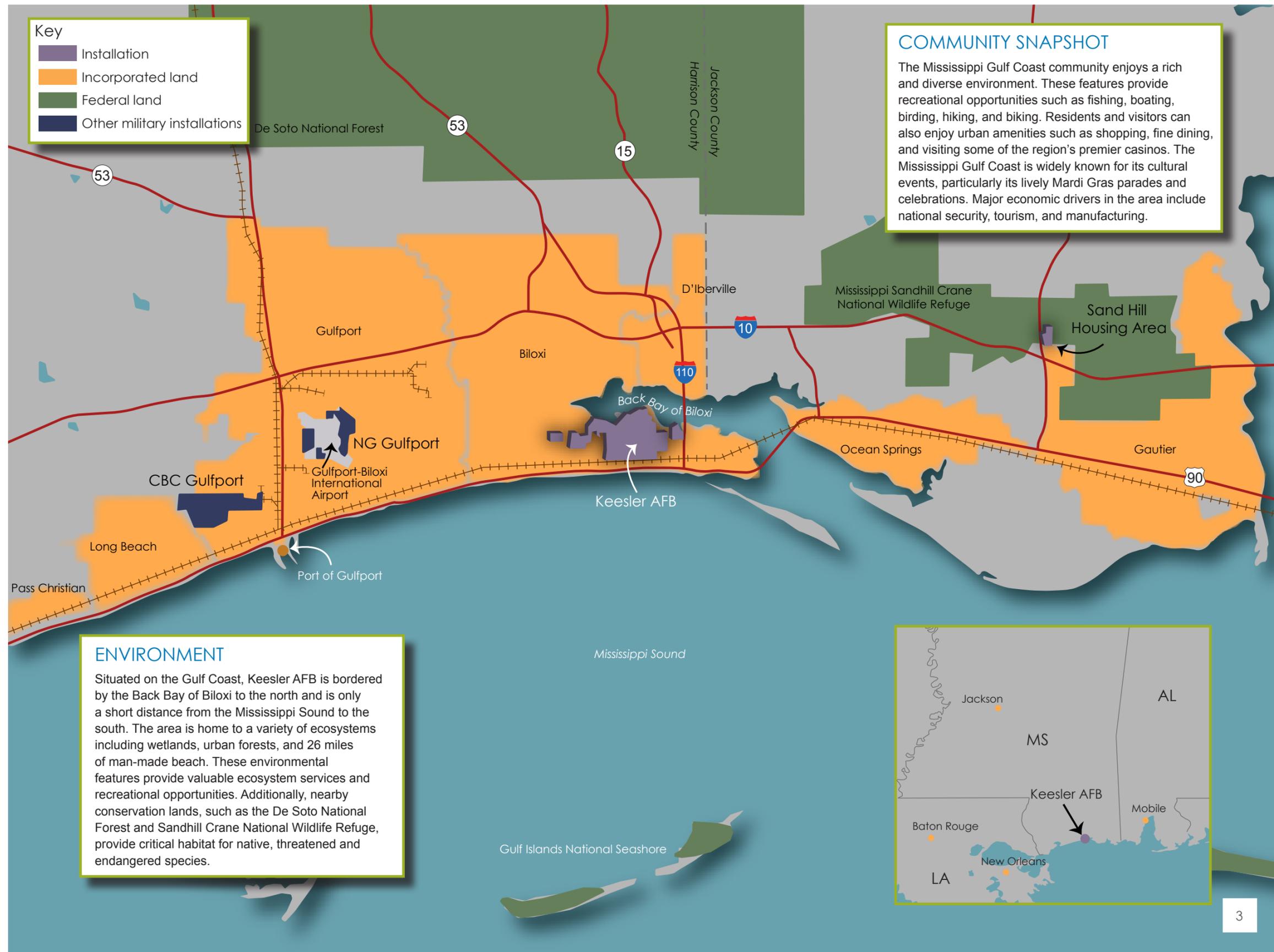
The base regularly interacts with the business community through Chamber of Commerce meetings and other events. Airmen from Keesler AFB can be found volunteering at events such as native beach grass plantings, holiday parades, and the Special Olympics. During 2012, volunteers from Keesler AFB dedicated over 173,500 hours to a variety of community service projects.

As a National Disaster Medical System Federal Coordinating Center, Keesler AFB plays a critical role in national and regional emergency management. The base has been instrumental in recovery efforts after natural disasters such as Hurricane Camille (1969) and Hurricane Katrina (2005). In response to Hurricane Katrina, Keesler AFB installed a shelter for hospital staff to ensure that medical service is not interrupted during the times of greatest need.

Keesler AFB has joint training and mutual aid partnerships with local emergency responders, and has also joined with the VA Gulf Coast Veterans Health Care system to provide healthcare for veterans in the region.



Steve Jones, a volunteer, watches Alonzo Gaddy play ring-a-saurus as Gaddy's sponsors, Airman Basic Brandon Jackson and Airman First Class Wendell Mutz, cheer him on during the Special Olympics at Keesler AFB.



**Key**

- Installation
- Incorporated land
- Federal land
- Other military installations

**COMMUNITY SNAPSHOT**

The Mississippi Gulf Coast community enjoys a rich and diverse environment. These features provide recreational opportunities such as fishing, boating, birding, hiking, and biking. Residents and visitors can also enjoy urban amenities such as shopping, fine dining, and visiting some of the region's premier casinos. The Mississippi Gulf Coast is widely known for its cultural events, particularly its lively Mardi Gras parades and celebrations. Major economic drivers in the area include national security, tourism, and manufacturing.

**ENVIRONMENT**

Situated on the Gulf Coast, Keesler AFB is bordered by the Back Bay of Biloxi to the north and is only a short distance from the Mississippi Sound to the south. The area is home to a variety of ecosystems including wetlands, urban forests, and 26 miles of man-made beach. These environmental features provide valuable ecosystem services and recreational opportunities. Additionally, nearby conservation lands, such as the De Soto National Forest and Sandhill Crane National Wildlife Refuge, provide critical habitat for native, threatened and endangered species.

# KEESLER AFB MISSION

## KEESLER AFB



The 81st Training Wing (81 TRW) serves as an electronics training center for the Air Force. Its mission is to "train Airmen across the spectrum of warfighting skills and deliver overwhelming combat power for the Air Force." The 81 TRW is one of the largest technical training wings in the Air Force, training more than 28,000 students per year in advanced technologies.



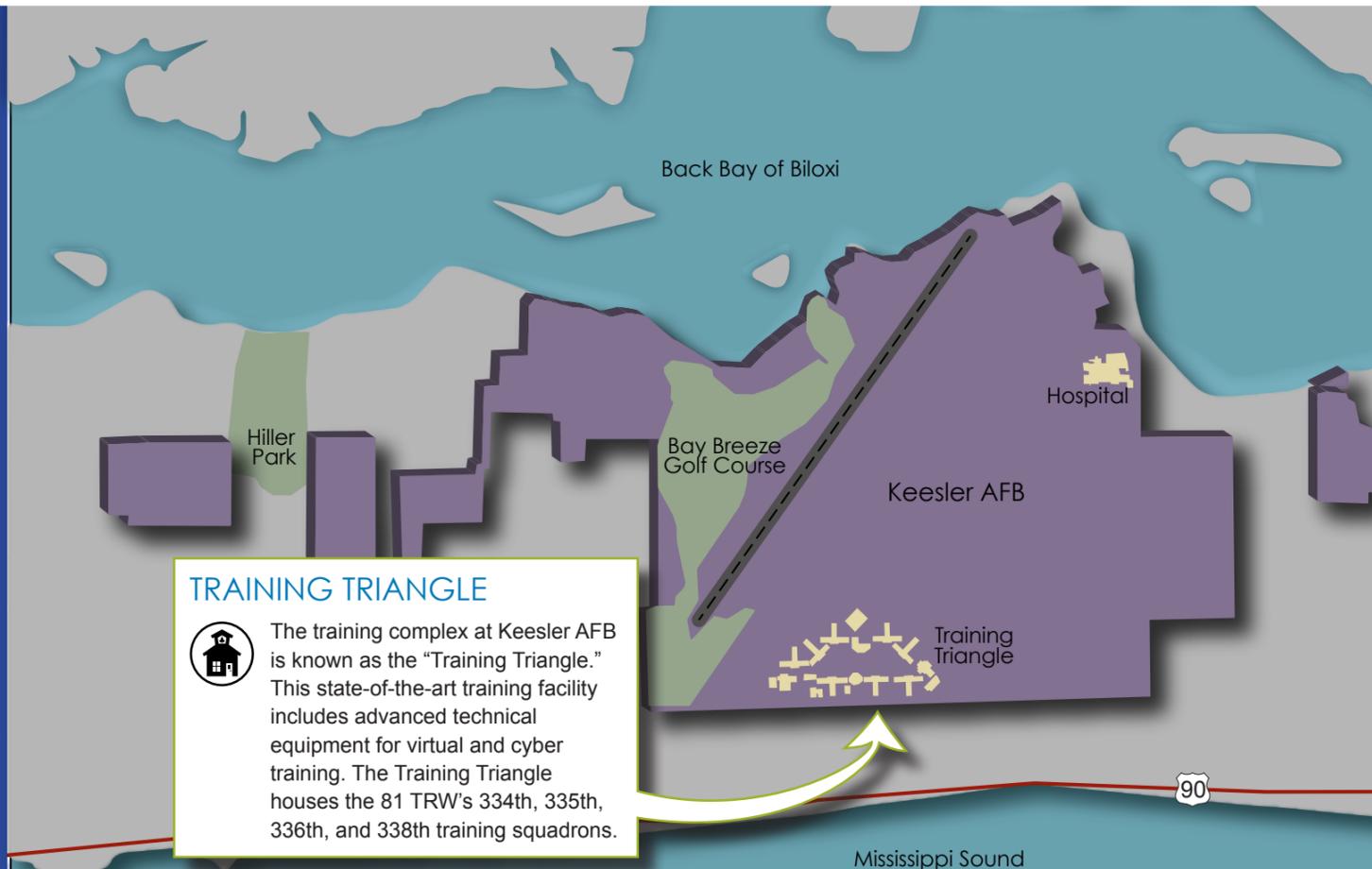
The 81st Medical Group operates one of the Air Force's largest medical facilities and provides comprehensive medical and dental care to over 30,000 individuals. It is the Air Force Medical Service's fourth-largest deployment platform. The Keesler Hospital is one of seven Air Force facilities with formal clinical investigation programs and has the only medical genetics center in the DOD. In addition to providing excellent medical service, the hospital is an educational facility that offers medical, surgical, and dental training.



The 403rd Wing, an Air Force Reserve Command unit, offers command and staff supervision for the airlift of personnel, equipment, and supplies. It is the only DOD unit responsible for organizing, equipping, training, and performing all weather reconnaissance in support of the Department of Commerce. (See "Hurricane Hunters" below.)



The mission of the Center for Naval Aviation Technical Training Unit Keesler is to develop skilled Sailors and Marines through technical training and personal growth in support of fleet readiness. Courses focus on meteorology and oceanography.



### TRAINING TRIANGLE



The training complex at Keesler AFB is known as the "Training Triangle." This state-of-the-art training facility includes advanced technical equipment for virtual and cyber training. The Training Triangle houses the 81 TRW's 334th, 335th, 336th, and 338th training squadrons.

## LOCATION & AIRSPACE

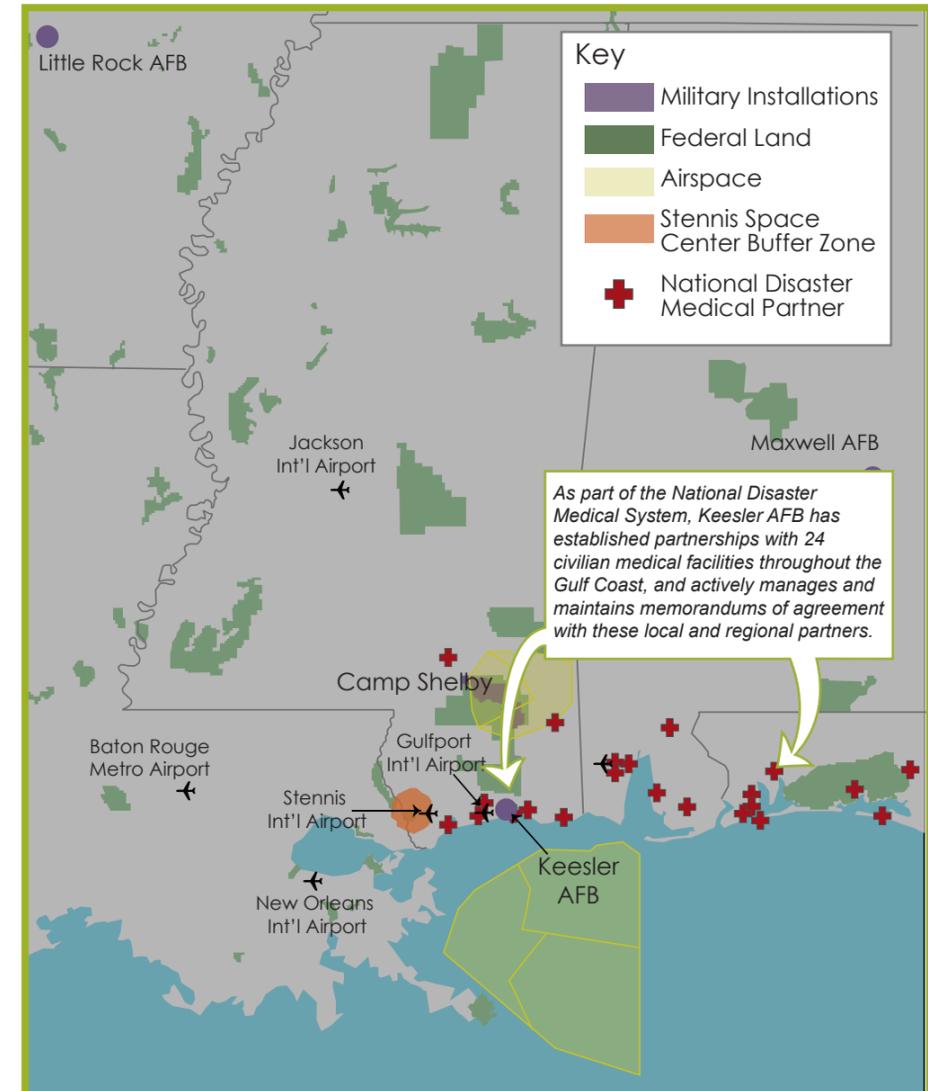
Keesler AFB units conduct their training missions in Mississippi and the Gulf Coast region.

Conserved lands north of the base, such as the De Soto National Forest, provide space for key tactical flight training. Additionally, the base's Low Altitude Tactical Navigation area (LATNA) covers much of Mississippi and affords Keesler AFB's flying units a large region for low-level flight operations.

Agreements with commercial airports across the southern United States permit Keesler AFB access to airports for its auxiliary landing and refueling needs. Additionally, the base's proximity to Camp Shelby Joint Forces Training Center (JFTC) and Stennis International Airport provides access to firing ranges, drop zones, and other valuable resources.

Camp Shelby JFTC is the largest state-owned training site in the nation, covering over 134,000 acres. The base has airfields, airspace, and firing ranges available for use by the United States Army, Navy, Marine Corps, and Air Force.

Stennis International Airport is located within Stennis Space Center's 20-mile noise and vibration restrictive buffer zone, making the airport an ideal place to conduct flight training operations.



## HURRICANE HUNTERS

The 53rd Weather Reconnaissance Squadron, known as the "Hurricane Hunters," is tasked with fulfilling the 403rd Wing's weather reconnaissance mission. The "Hurricane Hunters" provide valuable information for the National Hurricane Center by flying through tropical storm systems to gather data.

These findings can be used to save money and lives by predicting where storms will hit. The daring work conducted by this unique squadron inspired the Weather Channel's television show, "Hurricane Hunters."



Maj. Sean Cross, a pilot in the 53rd Weather Reconnaissance Squadron's Hurricane Hunters, served as the flight commander on a mission into Hurricane Irene.

# SHARED INTEREST, SHARED ACTION

Keesler AFB strives to be a good neighbor to the Mississippi Gulf Coast community by building and maintaining relationships with community stakeholders and collaborating on shared challenges. This strong relationship benefits both the base and the community. Through partnerships, Keesler AFB and the Mississippi Gulf Coast community can continue to

- identify mutual benefits,
- leverage resources,
- resolve common issues, and
- strengthen communication.

This section highlights areas of shared interest between Keesler AFB and the community.

We welcome your comments and questions -- please use the contact information listed on the back of this publication.

## COMPATIBLE LAND USE

Urban growth and development can pose multiple challenges for the sustainment of military missions and the safety of the Mississippi Gulf Coast community. To minimize these risks, Keesler AFB works closely with the surrounding communities.

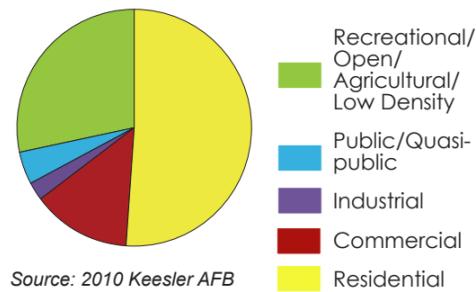
Keesler AFB promotes compatible land use by reviewing and updating its Air Installation Compatible Use Zone (AICUZ) study every two years. This study assesses the base's aircraft accident potential and noise impacts. Keesler AFB shares this information with local municipalities to guide planning and land use decisions.

In 1994, the City of Biloxi adopted an Airport Airspace Overlay District, which regulates building heights beneath landing zone airspace, thereby protecting neighboring communities and providing for safe landings on the base's runway. The accompanying Airport Noise Overlay District informs the public of areas in the city with higher noise levels due to base operations, and requires that new development be insulated against noise. These efforts protect Keesler AFB's flying mission and are beneficial for residents and developers who are deciding where to live and how to build. Keesler AFB is working with the City of D'Iberville to adopt similar policies.

These overlays help to address some development concerns in the base's safety zones, but do not resolve critical issues such as development density, land use type, and current incompatibilities. Existing incompatible land use in the AICUZ footprint is a mixture of residential, commercial, and public development. These kinds of development create safety hazards and liability concerns for the Mississippi Gulf Coast community and Keesler AFB.

In the future, the base will work with the cities to explore options that address density, bulk, use, and noise-attenuation requirements within safety zones in order to prevent new incompatible development. Pursuing these strategies will help to support the long-term sustainment of Keesler AFB and the greater Mississippi Gulf Coast community.

Generalized Existing Land Use Within the Keesler AFB Clear Zones and Accident Potential Zones



Source: 2010 Keesler AFB AICUZ Study

- **Recreational/Open/Agricultural/Low Density:** open spaces designated for recreational activity or low density development such as parks, wilderness areas, undeveloped lands, farms, and residential development with a density of one dwelling per acre or less
- **Public/Quasi-public:** lands that are publicly owned or provide public access including public buildings, schools, churches, and hospitals
- **Industrial:** industrial uses such as manufacturing and warehousing
- **Commercial:** commercial establishments such as offices, restaurants, and retail stores
- **Residential:** residential dwellings including single-family units, apartments, and mobile homes at density greater than one dwelling per acre

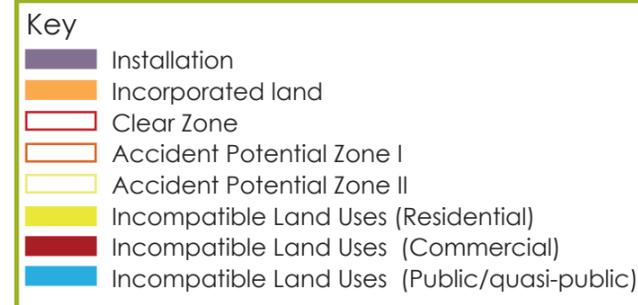
## WHAT IS AN AICUZ STUDY?

For the benefit of Air Force bases and their surrounding communities, the Air Force requires that bases conduct AICUZ studies. The study's objectives include the following:

- Assist local, regional, state, and federal officials in promoting the health, safety, and welfare of communities located near the base.
- Protect the Air Force's operational capabilities at the base and promote mission sustainment.

To meet these objectives, the AICUZ study considers the impacts of aircraft noise, accident potential, land use compatibility, and nearby development. By analyzing these factors, the AICUZ study offers recommendations for where and how development can safely occur around the base. The study designates safety zones in the surrounding area that include a Clear Zone and two Accident Potential Zones on either end of the runway. The Clear Zones are closest to the runway and generally have greater noise impacts and accident potential. Accident Potential Zone II is furthest from the runway and usually has fewer impacts from base activities.

The AICUZ study provides guidelines to protect the Mississippi Gulf coast community and Keesler AFB by promoting compatible development within the base's safety zones.



## AICUZ REQUIREMENTS

In accordance with Department of Defense and Air Force policy, Keesler AFB's AICUZ consists of standard flight safety zones and mission-specific noise zones. Keesler AFB safety and noise zones extend beyond the installation boundary into the cities of Biloxi and D'Iberville. The AICUZ study recommends the adoption of zoning standards, intensity of use and density maximums, and building height restrictions to ensure compatibility with the base's mission operations.

Keesler AFB and the surrounding communities have developed and thrived together since 1941. This growth has not only brought about positive aspects such as a strong support system, but has also resulted in extensive development beyond the base fenceline. The map on the right shows a generalized depiction of development beneath Keesler AFB's AICUZ footprint that is incompatible with AICUZ safety zone standards. These incompatible uses include various residential dwellings, commercial properties, and public use parcels. More information about these incompatibilities can be found in the Keesler AFB 2010 AICUZ Study, available on the base website.



Adhering to AICUZ recommendation protects community members and supports Keesler AFB's flying mission.



## RESILIENCE PLANNING

Resilience planning encompasses community planning and urban design strategies that enable localities to meet future challenges. These efforts will help communities address challenges such as urban growth, water scarcity, energy security, natural disasters, and climate change. Since Hurricane Katrina devastated the region in 2005, the Mississippi Gulf Coast community has become a leader in resilience planning. This section addresses catastrophic weather in the region, as well as the planning and emergency response strategies that Keesler AFB and the Mississippi Gulf coast community are using to remain resilient.



### CATASTROPHIC WEATHER

Keesler AFB and its neighboring communities experience catastrophic weather events as a result of their location along the Gulf of Mexico. Tropical storms that form over the Gulf frequently blow ashore, often times with disastrous consequences. As seen during hurricanes such as Camille (1969), Ivan (2004), and Katrina (2005), catastrophic weather events can pose serious threats to the health, infrastructure, and environment of Mississippi's coastal communities. As climate change progresses, scientists expect to see a greater frequency and intensity of tropical storms in the region. Keesler AFB and its neighboring communities have implemented a variety of new planning, zoning, and emergency response strategies to prepare for future catastrophic weather events.

### PLANNING AND ZONING

Localities in the Mississippi Gulf Coast community have embraced resilience planning in the wake of Hurricane Katrina.

Harrison County's Comprehensive Plan promotes resilient growth through updated storm-resistant building codes and future land use maps that discourage construction in flood-prone areas. The plan also considers the hazard-mitigating services provided by natural features, promoting wetland and forest preservation and improved stormwater management.

The City of Biloxi is taking strides to plan for future natural disasters and catastrophic weather events by focusing new development into Planned Development Infill Districts and trying to minimize construction in floodplains. The city is also trying to preserve open spaces by requiring set-asides for new development and by promoting setbacks and buffers along water bodies and wetlands. These open spaces and buffers will help to reduce flooding in the city.

The City of D'Iberville is planning for resilience by passing a new Flood Damage Prevention Ordinance that has stricter requirements for new commercial and residential development in order to reduce the risk of flood damage.

Like its neighbors in the Mississippi Gulf Coast community, Keesler AFB is taking measures to address future threats from natural disasters and catastrophic weather events. The base has adopted new floodplain maps, increased the minimum elevation at which new buildings must be constructed, and strengthened its building codes to require that structures have greater storm resistance.

The base also will explore opportunities to partner with Stennis Space Center and the Naval Construction Battalion Center Gulfport to address issues of climate change. Such a partnership would allow for resource sharing and would offer a more holistic approach to climate change modeling and climate adaptation planning in the region.

## EMERGENCY MANAGEMENT

A major component of resilience planning for natural disasters is emergency management. The Mississippi Gulf Coast community has a variety of emergency management policies, including local, regional, and national plans.

Since Hurricane Katrina, localities along the Mississippi Gulf Coast have made efforts to increase their emergency preparedness. Harrison County and the City of Biloxi have strengthened efforts to educate the public about hurricane preparedness and evacuation routes. These localities are also working to find better ways of communicating about evacuations during emergencies.

Keesler AFB has a long-standing partnership with emergency management departments in Biloxi and Harrison County. These

mutual aid agreements allow the three fire departments to train together, share resources, and provide support for one another during large-scale emergency events. This ensures greater efficiency and safety for the region.

Additionally, as a National Disaster Medical System Federal Coordinating Center (FCC), Keesler AFB plays a key role in national-scale emergency management. During emergencies, Keesler AFB and other FCCs assist state and local authorities in receiving, staging, tracking, and transporting patients.

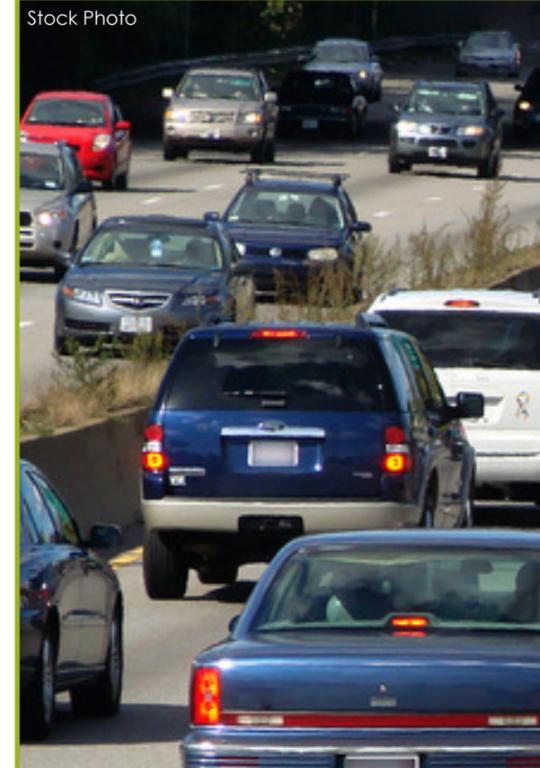
By taking a multifaceted approach to planning that encompasses land use, public education, emergency management, and natural resource conservation, coastal Mississippi is planning for a resilient future.

## TRAFFIC CONGESTION

Due to its location in the heart of Biloxi, Keesler AFB and the city share many of the same traffic concerns. Traffic congestion at Keesler AFB's White Avenue Gate impacts traffic flow both on and off the base. During periods of moderate congestion, twenty car queues are common on the base. With elevated congestion, these back-ups spill out onto Irish Hill Drive, a highly used east-west corridor through the City of Biloxi.

Gulf Regional Planning Commission traffic studies have indicated reduced levels of service on White Avenue between the base and Highway 90. Most recently, the level of service for this road section was rated "D," indicating that drivers are experiencing "decreased traffic speeds, reduced ability to maneuver on the road, and greater physical and psychological discomfort."

To address this challenge, Keesler AFB is working with local planners from the City of Biloxi and the Gulf Regional Planning Commission to explore options for a new gate location on the east side of the base. This location will prevent base personnel traffic from backing up onto Highway 90 and will allow for a better flow of east-west traffic through the City of Biloxi and onto Keesler AFB.



## NEXT STEPS

Keesler AFB values the positive support it receives from the Mississippi Gulf Coast community and is committed to maintaining this relationship. Regional engagement is necessary to address challenges surrounding urban growth, catastrophic weather, and natural resources. Keesler AFB has an opportunity to continue engaging the surrounding communities in order to ensure compatible land use in safety zones, address traffic concerns, and promote resilience planning and emergency management.

By working together to address the region's critical challenges, Keesler AFB and the Mississippi Gulf Coast community can find solutions that are mutually beneficial.

Please use the contact information on the back of this publication to contact Keesler AFB with any questions or inquiries.



## AIR FORCE ENCROACHMENT MANAGEMENT PROGRAM

*Partners in One Community* highlights several areas of mutual cooperation, collaboration, and coordination between Keesler AFB and the community. It was developed as part of a 2013 encroachment planning analysis conducted at Keesler AFB that considered 13 different topics, ranging from airspace to security/safety. The focus of the analysis process is managing encroachment, described as both the impact of a stakeholder's actions on current and future military activities and the impact of the military's actions on stakeholders. Encroachment impacts from natural factors and climate effects are also considered in the analysis.

Bases around the country are completing encroachment planning analyses as part of the Air Force Encroachment Management Program. The Air Force is committed to ongoing engagement with its many community stakeholders in order to preserve mission capability, conserve environmental resources, and maintain quality of life for community residents and military personnel.

For more information, please contact:  
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