NASAfacts

Applied Research and Technology Project Office

At John C. Stennis Space Center

NASA's John C. Stennis Space Center Applied Sciences Program (ASP) works with other federal agencies and research organizations to extend NASA's Earth-sun science research into societal benefit.

NASA's Science Mission Directorate identified several priority applications that include such important issues as coastal management, disaster management, homeland security, public health, agricultural efficiency, and air quality. Each application area, managed directly by other federal agencies, can draw benefit from NASA's science and technology investment in Earth observation relating to weather, climate and natural hazards. ASP serves as a collaborative conduit with other federal agencies and with national and international research organizations.

ASP takes advantage of the other federal agencies located at SSC (e.g., NOAA and EPA) to research a variety of coastal issues, such as hypoxia and harmful algal blooms, to better plan for and mitigate the effects of sea-level change and other coastal hazards by examining the effects of natural and manmade changes on coastal ecosystems.

ASP is working with SSC center management to conduct hurricane risk assessments based on the topographical character of the site. This analysis is

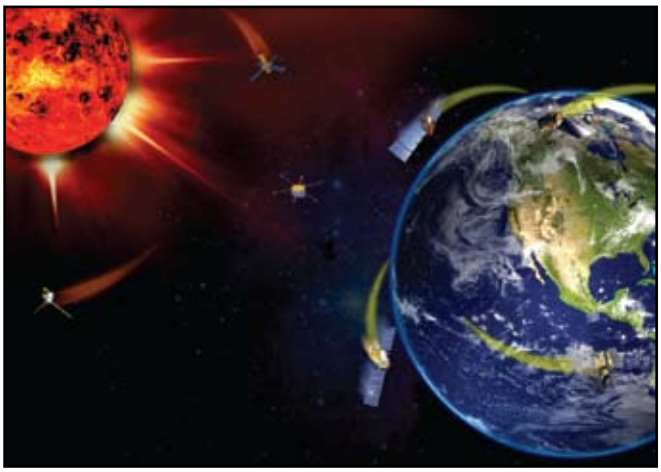
Scientists at SSC work to connect research results against operational requirements, such as using remote sensing data – like this image of Hurricane Katrina as it made landfall along the Mississippi Gulf Coast in August 2005 – to help forecasters make better predictions and community leaders make better decisions.

transportable to NASA's other hurricane-vulnerable centers. ASP will develop a prototype information package to demonstrate the utility of geospatial technologies to NASA's Space Operations Mission Directorate.

Working collaboratively with the Institute for Technology Development and with the USDA Forest Service, SSC is developing a Forest Health Early Warning System architecture.

SSC calibration and validation capabilities are being applied, in addition to U.S. commercial satellites, to international satellite systems that could serve as potential gap fillers for Landsat and other systems. This new role could be a significant U.S. contribution to GEOSS (Global Earth Observation Systems of Systems). SSC and NASA's Goddard Space Flight Center are collaborating on a coordinated calibration and validation plan for NASA and other Earth observing systems in support of these activities. This critical role calls upon SSC's unique technical expertise and on-site capabilities.

Scientists at SSC use information gathered by NASA satellites and sensors in research to help provide important predictive information on weather, climate and natural hazards.



NASA uses its array of Earth-observing satellites to provide observation, mission and computer climate modeling data for a number of Earth science applications.

Supporting America's Space Exploration Goals

Scientists at SSC will work with the Constellation Advanced Projects Office at Johnson Space Center in Texas to provide remote sensing, geographic information system, and lunar mapping support for lunar surface operations planning and analysis.

The mapping will help lay the groundwork for future lunar landings as NASA fulfills the nation's space exploration goals with plans to return humans to the Moon no later than 2020, to establish a lunar outpost there, and then to travel to Mars.

For more information on remote sensing applications research and development, contact the Stennis Space Center Applied Research & Technology Project Office at 228-688-2042, or access the ARTPO home page at www.artpo.ssc.nasa.gov.

National Aeronautics and Space Administration

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