Earth Observations to Assess Impact of Hurricane Katrina on John C. Stennis Space Center

The peril from hurricanes to Space Operations Centers is real and is forecast to continue; Katrina, Rita, and Wilma of 2005 and Charley, Frances, Ivan, and Jeanne of 2004 are sufficient motivation for NASA to develop a multi-Center plan for preparedness and response. As was demonstrated at SSC (Stennis Space Center) in response to Hurricane Katrina, NASA Centers are efficiently activated as local command centers, playing host to Federal and State agencies and first responders to coordinate and provide evacuation, relocation, response, and recovery activities. Remote sensing decision support provides critical insight for managing NASA infrastructure and for assisting Center decision makers. Managers require geospatial information to manage the federal city. Immediately following Katrina, SSC s power and network connections were disabled, hardware was inoperative, technical staff was displaced and/or out of contact, and graphical decision support tools were non-existent or less than fully effective. Despite this circumstance, SSC EOC (Emergency Operations Center) implemented response operations to assess damage and to activate recovery plans. To assist Center Managers, the NASA ASP (Applied Sciences Program) made its archive of high-resolution data over the site available. In the weeks and months after the immediate crisis, NASA supplemented this data with high-resolution, post-Katrina imagery over SSC and much of the affected coastal areas. Much of the high-resolution imagery was made available through the Department of Defense Clear View contract and was distributed through U.S. Geological Survey Center for Earth Resources Observation and Science "Hurricane Katrina Disaster Response" Web site. By integrating multiple image data types with other information sources, ASP applied an all-source solutions approach to develop decision support tools that enabled managers to respond to critical issues, such as expedient access to infrastructure and deployment of resources, provision of temporary shelter, logistical control of critical supplies, and the mobilization and coordination of assets from ground crews to aircraft/airspace management. Furthermore, ASP developed information products that illustrate risks to SSC's infrastructure from surge, inundation, and flood. Current plans include developing wind-risk prototype products for refinement and adoption into EOC plans.

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