

EARTH OBSERVATION SYMPOSIUM (B1)  
Earth Observation Sensors and Technology (3)

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UTILISING THE INTERNATIONAL SPACE STATION AS AN ALTERNATIVE TO SUPPORT THE  
REGIONAL VISUALISATION AND MONITORING SYSTEM**Abstract**

Primarily supported by the National Aeronautics and Space Administration (NASA) and the US Agency for International Development (USAID), the Regional Visualization and Monitoring System (SERVIR) uses data from earth-observing satellites to monitor, understand, and forecast environmental changes worldwide. SERVIR is headquartered at NASA Marshall Space Flight Center (MSFC) in Huntsville, Alabama and currently has regional facilities located in Mesoamerica, East Africa, and the Himalayan regions. SERVIR aids governments and decision makers in these areas and others by providing information that is crucial for natural disaster detection and response as well as data enabling efficient management of ecological resources and response to harmful ecological trends.

Currently, SERVIR relies heavily on data collected by satellites, such as the Landsat 7 and Terra satellites, that have exceeded their design life and, in some cases, are no longer fully functional. Relying on such satellites introduces risk and uncertainty into the SERVIR mission. To mitigate this risk, the SERVIR team at NASA MSFC has begun the design of a new earth-observing sensor that will be permanently attached to the International Space Station (ISS). This sensor will be merged with another sensor to provide visible-infrared earth-observation capabilities. The presence of these state of the art sensors in space will create a more secure and dependable source of environmental data that will be available for international access and use. The data obtained from these sensors will allow SERVIR to continue initiatives such as evaluation and monitoring of forest fires in Guatemala and the Caribbean, risk mapping for the spread of Rift Valley fever in Kenya, and forest cover and deforestation analysis worldwide. These sensors will also facilitate effective and educated natural disaster response to events like the earthquake in Haiti and flooding in Pakistan in 2010 by providing pre and post event satellite imagery. This paper explores and further emphasizes the need for new earth-observing technology in space and projects the global impact of the new sensor being developed at MSFC.