

NISAR & Sentinel News

(<http://nisar.jpl.nasa.gov/>) ASF To Distribute NISAR Satellite Imagery

Unprecedented, detailed synthetic aperture radar (SAR) views of Earth from the NISAR (<http://nisar.jpl.nasa.gov/>) satellite, to be launched in 2021, will be distributed by the ASF DAAC ([/about/asf-daac/](http://about/asf-daac/)). NISAR data will help scientists better understand our planet's processes and changing climate, and aid resource and hazard management. One example came in May in the aftermath of Cyclone Roanu, which claimed over 100 lives in Sri Lanka and Bangladesh and left tens of thousands in need of aid. Data from Sentinel-1A were used to generate flood maps. (http://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus/Sentinel-1/Sentinel-1_helping_Cyclone_Roanu_relief)



Feedback

ASF is pleased to be playing such a key role in this important mission," said ASF Director Nettie La Belle-Hamer. We look forward to adding NISAR data to the data holdings and support we provide for the science community."

The mission is a partnership between NASA and the Indian Space Research Organization (ISRO (<http://www.isro.gov.in/>)). The mission's name is an acronym for NASA-ISRO Synthetic Aperture Radar.

NASA selected the ASF DAAC to distribute NISAR data based on the facility's 25-year record of supporting and understanding the synthetic aperture radar (SAR) user community; knowledge of numerous instruments, data collections, missions, and radar modes; and ability to handle various stages of data processing and distribution.

Said Craig Dobson, NISAR program scientist for NASA, "The ASF DAAC provides the synthetic aperture radar (SAR) data needs of a very diverse constituency of science and applications needs including geology, hydrology, ecology, and natural hazards. This breadth reflects the science and applications reach of the NISAR mission. The selection of ASF to be the NISAR DAAC demonstrates NASA's expectation that ASF can successfully meet the archive and distribution challenges of this exciting mission."

Synthetic aperture radar (SAR) bounces a radar signal off the surface of Earth to detect physical properties including surface shape, surface roughness, and vegetation cover. Unlike optical sensor technology, such as Landsat, synthetic aperture radar (SAR) can see through darkness, clouds, and rain.

ASF Chief Scientist Franz Meyer, who has served on the mission's Science Definition Team, is particularly enthusiastic about plans for NISAR to feature full, global interferometric SAR (InSAR) capabilities, which he calls "a game changer." InSAR uses two or more radar images to measure changes on the Earth's surface such as deformation from earthquakes or volcanoes.

NASA started studying concepts for a synthetic aperture radar (SAR) mission to determine Earth change in ecosystems, solid earth, and cryospheric sciences after the 2007 National Academy of Science "Decadal Survey" report "Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond."

In the course of these studies, a partnership with ISRO developed that led to the joint NISAR mission, with L-band and S-band SAR systems on board.

In addition to the original NASA objectives, ISRO has identified a range of applications of particular relevance to India that the mission will address, including monitoring of agricultural biomass over India, snow and glacier studies in the Himalayas, Indian coastal and near-shore ocean studies, and disaster monitoring and assessment.

In a role related to that of the ASF DAAC's NISAR data distribution, the ASF Ground Station(/ground-station/) will support NISAR with downlink, uplink, and coherent tracking services. The full-service, satellite-tracking ground station is the only university-operated ground station in the Near Earth Network, an international array of ground stations. The network, managed by NASA, provides services to a range of customers.



The Alaska Satellite Facility downlinks, processes, archives, and distributes remote-sensing data to scientific users around the world. ASF's mission is to make remote-sensing data accessible.

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