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News: NASA hands over NISAR satellite to ISRO

- The Indian Space Research Organisation (ISRO) has received the NASAISRO SAR (NISAR) satellite from the U.S. space agency.
- NISAR is a Low Earth Orbit (LEO) observatory jointly developed by NASA and ISRO.

NISAR

- **NASA and ISRO are jointly developing** a satellite called NISAR, which will **detect movements of the planet's surface as small as 0.4 inches** over areas about half the size of a tennis court.
- The mission is supposed to be **launched by January 2024** and is expected to **operate for 3 years at a Low Earth Orbit (LEO)**.
- It will **scan the globe every 12 days over the course of its three-year mission** of imaging the Earth's land, ice sheets, and sea ice to give an unprecedented view of the planet.
- NISAR will be **the first radar of its kind in space to systematically map Earth, using two different radar frequencies (L-band and S-band) to measure changes in our planet's surface less than a centimeter across.**

- It will be a 2,800 kilogram satellite consisting of both L-band and S-band Synthetic Aperture Radar (SAR) instruments, which makes it a dual-frequency imaging radar satellite.

Aim

- Tracking subtle changes in the Earth's surface.
- Spotting warning signs of imminent volcanic eruptions.
- Helping to monitor groundwater supplies.
- Tracking the rate at which ice sheets are melting.

Expected Benefits

- NISAR's data can help people worldwide better manage natural resources and hazards, as well as providing information for scientists to better understand the effects and pace of climate change.
- The data will allow for a better understanding of the causes and consequences of land surface changes.