

# Widefield ASKAP L-band Legacy All-sky Blind survey (WALLABY)

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**In news**— WALLABY is helping astronomers build a three-dimensional map of the night sky.

## What is WALLABY?

- It is a radio telescope in Western Australia that is helping astronomers build a three-dimensional map of the night sky, mapping galaxies as far as a billion light years away.
- It is hosted by the Australian Square Kilometer Array Pathfinder (ASKAP) telescope,
- **Hundreds of galaxies have been surveyed in Phase 1 of WALLABY**, covering the equivalent area of over 700 full moons.
- When the survey ends, a quarter of a million galaxies are expected to be catalogued, helping researchers measure the dark-matter distribution, internal motion of galaxies, and how these systems evolve and interact.
- **Radio astronomy involves tracking the signals from radio waves** and helps detect and trace stellar objects that cannot be traced by light.
- Therefore, barriers posed by cosmic dust are removed and the **scale and size of WALLABY means that it will be possible to investigate the universe at a scale impossible with optical telescopes.**
- **The WALLABY project will provide pictures on where galaxies are actually located** in relation to one another in three-dimensional space.
- It will be able to tell apart galaxies that appear clustered together but are actually millions of light years apart.
- So far, over 30 terabytes of data collected each eight-

hour day from the radio telescope and over 600 galaxies measured, with several not previously catalogued at any other waveband.

- **The observatory is located at one of the most radio-quiet locations in the world,** allowing projects like WALLABY to find narrow and faint astronomical signals without being swamped by radio interference.