

NEOWISE

NEAR EARTH OBJECT WIDE-FIELD INFRARED SURVEY EXPLORER

NEOWISE began as the Wide-field Survey Explorer (WISE), a highly sensitive astronomical telescope that surveyed the entire sky in four mid-infrared bands spanning from 2.6 to 26 microns. Launched in December 2009, WISE scanned the entire sky one and a half times and cataloged hundreds of millions of astronomical objects, including many asteroids, brown dwarf stars, and ultra-luminous infrared galaxies.

NASA's Jet Propulsion Laboratory placed WISE in hibernation in 2011 after its primary mission, but reactivated it in September 2013 under the name NEOWISE. Its new mission was to assist NASA's efforts to identify the population of potentially hazardous near-Earth objects (NEOs) and help characterize previously known asteroids and comets.

In December 2013, NEOWISE began characterizing NEOs and obtaining measurements of their diameters and albedos in the 3.4 and 4.6 μm IR bands. NEOWISE is equally sensitive to light-colored asteroids and the optically dark objects that are difficult for ground-based observers to discover and characterize.

NEOWISE SURVEY OBSERVATIONS AND DISCOVERIES

- >30,000 objects observed
 - >500 discovered
- >800 NEOs observed
 - >140 discovered
- >225 potentially hazardous asteroids (PHAs)
 - >35 PHA discoveries
- >130 comets observed
 - 10 discovered

The Jet Propulsion Laboratory (JPL) manages the NEOWISE mission



Comet C/2014 Q2, also known as Lovejoy, is one of the many comets imaged by NASA's NEOWISE mission. (Image courtesy of NASA.)

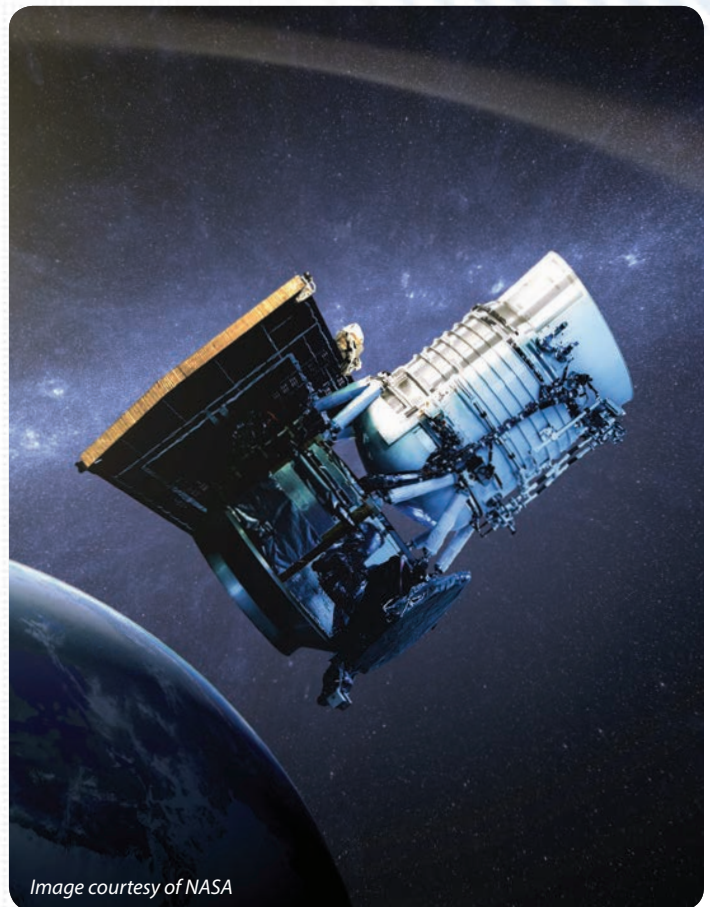


Image courtesy of NASA

for NASA's Science Mission Directorate.

Under contract to JPL, SDL built, tested, and calibrated the WISE science instrument. Following delivery of the payload, SDL provided support for instrument-spacecraft integration, pre-launch operations, and on-orbit operations throughout the mission. After the WISE reactivation as NEOWISE, SDL has continued to provide mission operations support to JPL, including:

- Review & approval of instrument command sequences
- Daily monitoring of instrument telemetry
- Long-term trending of instrument performance
- Presentation of performance trends, conclusions & recommendations at routine status meetings
- Response to inquiries from JPL flight team on instrument behavior or operations plans



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