

# NEOWISE

## Near-Earth Object Wide-field Infrared Survey Explorer

NEOWISE began as the Wide-field Infrared 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 twice and cataloged hundreds of millions of astronomical objects, including many asteroids, brown dwarf stars, and ultra-luminous infrared galaxies.

NASA’s Jet Propulsion Laboratory (JPL) placed WISE in hibernation in 2011 after its primary mission, then reactivated it in September 2013 under the name NEOWISE. Its new mission was to assist NASA’s efforts to identify and characterize the population of near-Earth objects (NEOs).

In December 2013, NEOWISE began characterizing NEOs and obtaining measurements of their diameters and albedos in the 3.4 and 4.6  $\mu\text{m}$  infrared bands. NEOWISE was equally sensitive to light-colored asteroids and the optically dark objects that are difficult for ground-based observers to discover and characterize. NEOWISE was decommissioned on August 8, 2024.

NEOWISE SURVEY	OBSERVATIONS	DISCOVERIES
Objects	>44,000	743
NEOs	>3,000	223
Potentially Hazardous Asteroids (PHAs)	>385	64
Comets	>261	25

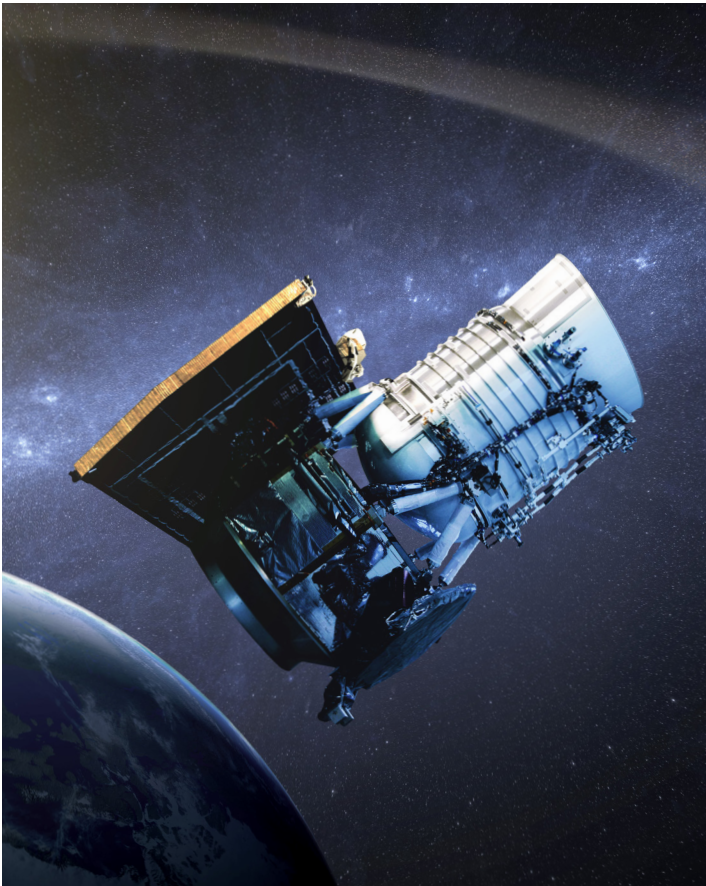
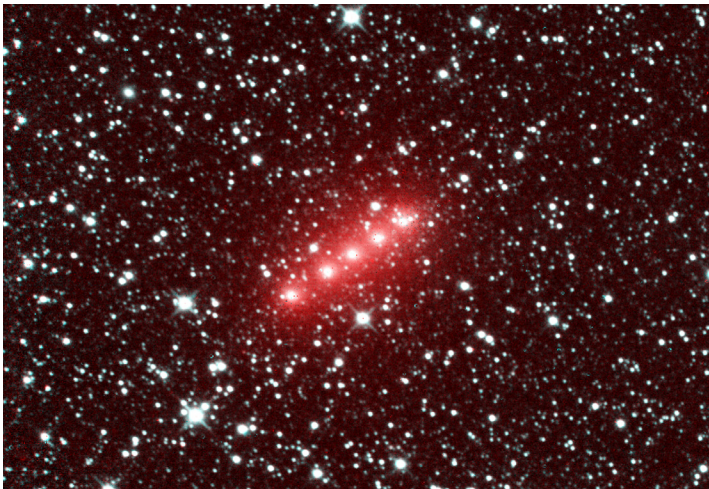


Image courtesy of NASA/JPL-Caltech.

JPL managed and operated the NEOWISE mission for NASA's Planetary Defense Coordination Office. 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 continued to provide mission operations support to JPL, including the following:

- 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 the JPL flight team about instrument behavior or operations plans



Comet C/2014 Q2, also known as Lovejoy, is one of the many comets imaged by NEOWISE. Image courtesy of NASA/JPL-Caltech.