

The Mars Report January 31, 2018

Opportunity Rover

NASA's longest running rover celebrated 14 years on Mars this month. Since 2004, it has traveled over 28 miles (45 km) and sent back more than 224,000 images. Now it's exploring Perseverance Valley, a channel likely carved by fluid.

Mars orbiters have observed channels from a distance since 1971. Opportunity is the first Mars mission to explore a channel up close.

Curiosity Rover

Curiosity continues trekking higher on Mt. Sharp, reaching "Vera Rubin Ridge." From the ridge Curiosity sent back this panoramic view. It spans more than 30 miles (48 km) and shows the route the rover has taken since 2012 and other features.

Mars Reconnaissance Orbiter

The orbiter's powerful HiRISE camera revealed thick ice sheets. Exposed in the faces of eroding slopes, the deposits extend hundreds of feet deep providing layers of recorded history and possible targets for future human exploration.

"Astronauts could essentially just go there with a bucket and a shovel and get all the water they need," said one researcher.

Coming soon: InSight

Launching in May 2018, InSight will be the first mission to study Mars' interior structure. InSight carries a seismometer and could detect Marsquakes for the first time.

InSight will also use a heat probe that will burrow up to 16 feet (5m) to measure Mars' interior temperature.

Lockheed Martin Space is completing tests on the spacecraft before it ships to Vandenberg AFB, Calif.

InSight will be the first interplanetary mission to launch from the West Coast.

For more information on all our Mars missions:

<https://mars.nasa.gov>