

## NASA launches robotic explorer to Mars and GRACE-FO Earth-monitoring satellites

May 22, 2018

On May 5, the National Aeronautics and Space Administration (NASA) successfully launched its first robotic explorer to conduct an in-depth study of the interior of Mars. InSight – short for “Interior Exploration using Seismic Investigations, Geodesy and Heat Transport” – is a stationary lander that will study the interior of Mars to better understand its formation approximately 4.5 billion years ago, as well as the planet’s evolution over time and present-day activity. Although previous missions to Mars have investigated the Red Planet’s surface features like canyons, volcanoes, rocks, and soil, InSight will use cutting-edge instruments to measure seismic activity, heat flow, and rotational characteristics precision tracking far below the surface.

Along with InSight, NASA launched two paired CubeSats – lower-cost, miniaturized satellites – which will be able to quickly transmit status information about InSight as it lands on Mars. This is the first test of the viability of CubeSat technology far away from Earth. If successful, the two mini-spacecraft, called Mars Cube One or MarCO, could offer a new kind of communication capability to Earth for future missions.

On May 22, NASA also launched an extension of the Gravity Recovery and Climate Experiment (GRACE) satellite mission. The GRACE Follow On (GRACE-FO) satellites will pick up where the original GRACE mission left off when it ended in 2017, providing an additional five years of data on water across the planet. The GRACE-FO mission will monitor changes in surface and underground water on Earth, including tracking changes in sea-level rise and ice sheets and glaciers.

*Sources: National Aeronautics and Space Administration; New York Times; Space Policy Online.*

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