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Results From the InSight Mission After a Year and a Half on Mars

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The InSight mission landed on Mars in November of 2018 and completed installation of a seismometer (SEIS) on the surface about two months later. In addition to SEIS, InSight carries a diverse geophysical observatory including a heat flow and sub-surface physical properties experiment (HP3), a geodesy (planetary rotation dynamics) experiment (RISE), and a suite of environmental sensors measuring the magnetic field and atmospheric temperature, pressure and wind (APSS). For more than a year, SEIS has been providing near-continuous seismic monitoring of Mars, with background noise levels orders of magnitude lower than that achievable on the Earth. Since installation was completed, the SEIS team has identified more than 400 events that we have not attributed to the local environment or spacecraft activity, and dozens that appear to be marsquakes of tectonic origin. We present an overview of observations by the SEIS instrument as well as a summary of other geophysical observations made by InSight during the past year and a half.