

2026 Update on the NASA Planetary Data System Geosciences Node

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The Planetary Data System (PDS) Geosciences Node is the primary archive of NASA geoscience (e.g., spectral, seismic) data acquired primarily from Mercury, Venus, the Moon, and Mars. These data are free to access and download by all interested scientists, educators, and members of the public. The datasets archived at the Geosciences Node are developed alongside teams of scientists from international planetary missions as well as individual researchers to ensure they are high quality, sufficiently vetted through peer review, and include thorough documentation. Along with curating and archiving these mission and laboratory data, the Geosciences Node also develops and maintains a suite of software tools to search for, view, and analyze the datasets. The Geosciences Node offers user support via forums and email to answer users' questions and help them find, access, and use data of interest.

In 2025, the Geosciences Node released numerous datasets to the public, including mission data from the Mars 2020 rover *Perseverance*, the Mars Science Laboratory (MSL) rover *Curiosity*, the Mars Odyssey orbiter, the Mars Reconnaissance Orbiter (MRO), the Lunar Reconnaissance Orbiter (LRO), and the European Space Agency's Mars Express orbiter, as well as data from various individual data providers (IDPs), such as the Mars 2020 Mastcam-Z Photometry bundle. In 2025, the Geosciences Node was named the lead node for the upcoming Artemis II, III, and IV missions. Other missions that the Geosciences Node will be archiving data for include various Commercial Lunar Payload Services missions, Dragonfly (DraMS, DrACO, DraGNS, and DraGMet), and Europa Clipper. The Node continues to support IDPs with archiving data on the

PDS, from providing letters of support at the proposal stage to assisting with drafting well-documented datasets.

The Geosciences Node made substantial progress on the migration of data from the legacy PDS3 standard to the improved PDS4 standard in the last year. The migrated data include datasets from the Apollo, Magellan, LRO, and MRO missions. In 2026, the Geosciences Node will prioritize migration of the remaining Magellan, LRO, and MRO datasets, as well as completion of the Mars Odyssey and Phoenix migrations. Work will continue on migration of data from the Mars Global Surveyor MOLA and TES instruments.

The PDS Geosciences Node is also part of the ongoing PDS cloud migration effort; the Geosciences Node is expanding the availability of its archives and services to the NASA Planetary Data Cloud to provide access and computing capabilities to all users, independent of the systems to which they have access. The Geosciences Node continues to make updates to the Analyst's Notebook and Orbital Data Explorer, which are data search and access tools created and maintained by the Node, to tailor these services to support end users' goals. The Geosciences Node always welcomes user feedback on its data holdings, tools, and services and encourages users to contact the Node with their input.