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## Update on Apollo Data Restoration by the NSSDC and the PDS Lunar Data Node

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The Lunar Data Node (LDN), under the auspices of the Geosciences Node of the Planetary Data System (PDS) and the National Space Science Data Center (NSSDC), is continuing its efforts to recover and restore Apollo science data. The data being restored are in large part archived with NSSDC on older media, but unarchived data are also being recovered from other sources. They are typically on 7- or 9-track magnetic tapes, often in obsolete formats, or held on microfilm, microfiche, or paper documents. The goal of the LDN is to restore these data from their current form, which is difficult for most researchers to access, into common digital formats with all necessary supporting data (metadata) and archive the data sets with PDS.

Restoration involves reading the data from the original media, deciphering the data formats to produce readable digital data and converting the data into usable tabular formats. Each set of values in the table must then be understood in terms of the quantity measured and the units used. Information on instrument properties, operational history, and calibrations is gathered and added to the data set, along with pertinent references, contacts, and other ancillary documentation. The data set then undergoes a peer review and the final validated product is archived with PDS.

Although much of this effort has concentrated on data archived at NSSDC in the 1970's, we have also recovered data and information that were never sent to NSSDC. These data, retrieved from various outside sources, include raw and reduced Gamma-Ray Spectrometer data from Apollos 15 and 16, information on the Apollo 17 Lunar Ejecta And Meteorites experiment, Dust Detector data from Apollos 11, 12, 14, and 15, raw telemetry tapes from the Apollo ALSEPs, and Weekly Status Reports for all the Apollo missions. These data are currently being read or organized, and supporting data is being gathered. We are still looking for the calibrated heat flow data from Apollos 15 and 17 for the period 1975-1977, any assistance or information on these data would be welcome.

NSSDC has recently been tasked to release its hard-copy archive, comprising photography, microfilm, and microfiche. The details are still being discussed, but we are concentrating on recovering the valuable lunar data from these materials while they are still readily accessible. We have identified the most critical of these data and written a LASER proposal to fund their restoration. Included in this effort are data from the Apollo 15 and 16 Mass Spectrometers and the Apollo 17 Far-UV Spectrometer and ancillary information on the Apollo 17 Surface Electrical Properties Experiment.