

NASA Policy on Curation of Extraterrestrial Materials

NASA policy (NPD7100.10E in the Program Library) states that "natural materials from extraterrestrial environments represent a unique and limited resource and an important legacy for future generations." To derive maximum benefit from these resources now and into the indefinite future they should be actively studied, but used under special curation and allocation procedures to preserve them for future study. The NPD assigns the responsibility for selection and funding of research projects, funding of curation, and approval of sample allocations to SMD and the responsibility for physical curation of all extraterrestrial materials under NASA control to JSC.

NASA has created the Astromaterials Curatorial Facility at JSC to house these extraterrestrial samples and put it under the direction of the Astromaterials Curator. The staff of the facility has considerable expertise in handling a wide variety of samples from large rocks to tiny particles. At present the collections include rocks and soil from the Moon collected during Apollo missions, meteorites collected in Antarctica, cosmic dust collected in the stratosphere, Comet Wild 2 particles collected by Stardust, and solar wind ions collected by Genesis. Each of these collections is housed in a dedicated curatorial clean room in which the environmental controls and procedures are designed for the specific types of samples. Here the samples are described, analyzed, subdivided and prepared for distribution to investigators using written procedures. There are strict controls for materials that can touch samples, for security and inventory control.

A new mission to collect and return samples of extraterrestrial materials must deliver them to the Astromaterials Curatorial Facility. The mission proposal must include a curation plan that is appropriate for the preservation of the type of sample returned. This preservation begins with sample acquisition when contamination or degradation may occur during the mission. The plan must include a description of environmental controls in the clean room and general curatorial procedures. It must include a plan for preliminary examination of the samples and preparation of a catalog within 6 months of return that is sufficient for other investigators to request samples. The plan shall also preserve at least 75% of the material for future investigators to study when instruments and techniques may be quite different than the present. The mission must include a budget for all aspects of curation, including staffing and laboratory modifications, from 2 years before to 2 years after sample return. The staff of the Astromaterials Curatorial Facility is available to assist mission planners in developing a Curation Plan appropriate to mission requirements. Contact the Astromaterials Curator for assistance.