

UTILIZATION OF GEOGRAPHIC INFORMATION SYSTEM IN LUNAR MAPPING; A. A. Mardon, Texas A & M University, College Station, Texas, USA.

Substantial digital remote sensing, Lunar orbital photography, Earth based remote sensing, and mapping of a variety of surficial Lunar phenomena has occurred since the advent of the 'Space Age.' This has led to a bewildering disparate variety of archival sources that this digital data and cartographic representation can be found within in many countries of the world:

The author proposes that the new cartographic techniques that have developed within Geographic Information System (GIS) could be applied in the archival storage, retrieval, and representation of the bewildering array of Lunar surficial phenomena data sources.¹ Geographic Information Systems cartographic technology allows the multiple overlaying of disparate digital and cartographic data to correlate and substantiate new patterns. A variety of nations contemporary and historical Lunar data could then be referenced for retrieval. These sources have in some cases been damaged with the passage of time.² Geographic Information System could be used to archive and allow new and novel utilization of this old unused data.

A robust Lunar planetary scale mapping program is a primary prerequisite to a well informed decision making process in the site selection of permanently Lunar facilities. The utilization of Geographic Information System's in support of this goal would be timely and has precedents in site selection procedures on Earth.³ Historically, mapping was the major tool in the exploration over the last five hundred years. The newest powerful tool to the modern cartographer can be cost effectively used to accelerate and correctly discern optimal Lunar sites for utilization.

References:

1. United States of America, General Accounting Office. Space Operations: NASA is not properly safeguarding valuable data from past missions. 1990.
2. Fisher, J. W. Old Lunar Photographs being updated using new digital computer technology Space News. 1, 9, 1990.
3. Mardon, A. A. Applications of Geographic Information System in the retrieval, preservation, and utilization of multi-nation archived underutilized historical antarctic aerial photographs. Bulletin of the Soviet Antarctic Expedition, In press.