



Methods for visualising Mars Data based on ArcGIS and ArcOBJECTS

P. Saiger(1,2), H. Asche(2), J. Oberst(1), R. Jaumann(1), G. Neukum(3) and the HRSC Co-Investigator Team

(1) Institute of Planetary Research, German Aerospace Center, Rutherfordstr. 2, D-12489 Berlin, (please direct all correspondence to P. Saiger, peter.saiger@dlr.de)

(2) University of Potsdam, Department of Geographie, Geomatics Section

(3) Institut fuer Geologische Wissenschaften, Freie Universitaet Berlin

Geographic Information Systems (GIS) are powerful tools for integration of different planetary datasets, e.g. images, spectral data and digital terrain models which are typically given in different formats like vector and raster. We are currently involved in a project to import large volumes of data from the recent Mars missions in a planetary GIS database.

Before working in GIS with such datasets, it is necessary to prepare them for import. Using ArcOBJECTS and Visual Basic, we create ESRI shape files according to a suitable specification. Regular shape files are not sufficient, because often large numbers of attributes are available to individual data points in the original ASCII dataset. Here, the MOLA (Mars Orbiting laser Altimeter) is a typical example. These have to be imported using a .dbf database file. Once this is accomplished, it is possible to combine all these different datasets with raster information, such as HRSC (High Resolution Stereo Camera), or MOC (Mars Orbiter Camera) images, or MDIM 2.1 maps for joint analysis.

We applied our GIS tools for various geologic mapping and interpretation tasks or for deriving 2d or 3d visualisations. On the poster we will demonstrate the possibilities to import and project large datasets in different formats with ESRI's object Model for ArcGIS 9.X. Examples will be presented at this conference.