A.2.5 MARS DATA ANALYSIS

1. Scope of Program

The objective of the Mars Data Analysis (MDA) program is to enhance the scientific return from the Mars Pathfinder (MPF), Mars Global Surveyor (MGS), and Mars Odyssey (MO) missions by broadening scientific participation in the analysis of their respective data sets and to fund high priority areas of research that support planning for future Mars missions. The MDA program supports scientific investigations using publicly available (released) data obtained during and after the aerobraking phase of MO and MGS, and data obtained by MPF in its primary and extended mission phases on the surface of Mars. Where justified to support planning for future Mars missions, investigations that use data collected by other spacecraft (e.g., Viking and Mariner 9) or derived from other sources (e.g., ground-based radar) will also be considered.

An investigator may propose a study (scientific, landing site science, cartographic, topographic, geodetic research) based on analysis of Mars data collected by the MO, MPF, and/or MGS. Additional information about these missions, as well as references containing preliminary science results can be found on the Mars Program homepage at URL http://mpfwww.jpl.nasa.gov). In addition, correlative studies that use Mars data from another source in addition to flight mission data to further the understanding of some aspect of Mars science are also included in this category. Funds awarded for correlative studies may be used to cover data analysis and expenses involved in collaboration with other Mars investigators but may not be used for taking new observations (whether astronomical, field, or laboratory studies) or for support of observing or laboratory facilities. Because selected investigations may result in by-products (e.g., mineral, topographic, cartographic, and geologic maps, and/or calibration data) that are of broad use to the science community, a plan for archiving and making such by-products readily available must be included in the proposal.

An investigator may also propose in the following high priority areas of Mars characterization research that support planning for future Mars missions:

(i) improvement of atmospheric models that further the understanding and forecasting of atmospheric conditions that affect aerobraking and aerocapture;
(ii) characterization of potential landing sites for future Mars Surveyor missions (e.g., distribution and size of rocks, pits, sand dunes, regional and local slopes, surface composition and texture variability);
(iii) improved models for the gravity field, global topography, and global planetary figure;
(iv) improvement of the geodetic network of Mars for precision landing demonstration; and
(v) analysis and comparison of the Mars orbital and surface data to increase the predictive accuracy of surface characteristics of Mars from orbit.

Proposals for topical conferences, workshops, consortia, symposia, or other new initiatives related to MDAP objectives and the analysis of spacecraft data may also be

proposed through this NRA, preferably as one of the tasks within a "parent" research proposal based on the objectives given above. For more information about the type of research supported by this program, abstracts for currently funded investigations are available online at http://spacescience.nasa.gov/, link through "Research Solicitations" to "Past/Archive solicitations & Selections."

Finally, note that to enable the NASA Office of Space Science to properly evaluate the relevance of proposals submitted to its programs, as well as to track its progress towards achieving its goals as mandated by the Government Performance Review Act (GPRA), all research supported by NASA's programs must now demonstrate its relationship to NASA Goals and Research Focus Area's (RFA's) as stated in the latest version of its Strategic Plan (follow links from the Web site http://spacescience.nasa.gov/); see also the discussion in Section 1 of the *Summary of Solicitation* of this NRA. Therefore, all proposers to this program element are asked to state their perception of this relevance in terms of the Goals, Science Objectives, and RFA's given in Table 3 found in the *Summary of Solicitation*. In particular, this program element is designed to help fulfill all of RFA's for Science Objectives 4, 5, and 6 of Goal II of Solar System Exploration science theme. The appropriate place for this statement of relevancy is in the introduction to the proposal's "Scientific/Technical/Management" section (see Section 2.3.5 in the *Guidebook for Proposers*). The index numbers in this table may be used to identify a specific RFA, for example, "Goal I, Sun-Earth Connection Theme, RFA 1(c)" or "Goal II, Astronomical Search for Origins, RFA 3(b)."

2. Sources of Information and Data

The MDAP supports investigations that use only publicly available and released data. Spacecraft data that has not been placed in the public domain may not be proposed for use in MDAP investigations. It is the responsibility of the investigator to acquire any necessary data, therefore, before submitting a proposal, each proposer should determine that the necessary data are or will be available. MPF, MGS, and MO data, as well as data from previous Mars missions, are available from the Planetary Data System (PDS) that can be accessed at the Web site http://pds.jpl.nasa.gov/pds.home.html. Proposers who wish to use photographic and cartographic materials may access such data through the nearest Regional Planetary Image Facility (RPIF), whose locations are listed on the RPIF home page at http://cass.jsc.nasa.gov/library/RPIF/RPIF.html .

3. Programmatic Information

It is anticipated that approximately $2.8M will be available for new investigations supported by the MDA program in Fiscal Year 2003, split between investigations for data analysis and investigations for advanced planning for Mars missions. These funds are expected to be sufficient to support 50 to 60 new investigations, which may be proposed for up to a three year period of performance.

As a change from past practices for this program, and in anticipation of a new master data base for OSS research awards that is being implemented on an evolving basis, *Annual Progress Reports* (called "Progress" or "Status" Reports in previous research solicitations) for ongoing multiple-year awards are no longer required at the time that new proposals are due. Instead, a single *Annual Progress Report* will be due no later than 60 days in advance of the anniversary date of the award and is to be submitted as an attachment to an E-mail message to the Program Officer for this program. Note that as an additional change from past practice, a revised budget for any remaining years of an approved award is neither necessary nor expected; the multiple year budget approved at the time of the original award is considered binding barring the development of unforeseen, extreme issues (see Section D.4 of Appendix D of the *Guidebook for Proposers* for further details).

IMPORTANT INFORMATION

- As discussed in the *Summary of Solicitation* of this NRA, the Office of Space Science (OSS) now uses a unified set of instructions for the preparation and submission of proposals given in the document entitled *NASA Guidebook for Proposers Responding to NASA Research Announcement - 2003* (or *NASA Guidebook for Proposers* for short) that may be accessed by opening http://research.hq.nasa.gov/ and linking through "Helpful References," or by direct access at http://www.hq.nasa.gov/office/procurement/nraguidebook/ (note that the updated 2003-edition of the *Guidebook* is used for this solicitation).
- Section 6 of this NRA's *Summary of Solicitation* contains the Web address relevant to the electronic submission of a Notice of Intent (NOI) to propose and a proposal's *Cover Page/Proposal Summary/Budget Summary*, as well as the mailing address for the submission of the hard copies of a proposal.

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