

A.2.9 PLANETARY ATMOSPHERES

1. Scope of Program

The Planetary Atmospheres program supports scientific investigations that contribute to the understanding of the origins and evolution of the atmospheres of planets and their satellites and of comets. Its broad objectives include the determination of compositions, dynamics, and chemical behaviors of planetary atmospheres. Investigations that may be submitted to this program are those that seek to study the sources and mechanisms for deposition of energy; the characterization and understanding of dynamical processes and circulation, both global and local; relationships between currently observed properties and/or states of matter including clouds, particles, and ices; interaction of atmospheres with the solar wind and the effects of magnetic fields both permanent and induced on these processes; interactions of planetary atmospheres with planetary surfaces; and the chemical abundance, physical conditions, and processes that may have prevailed at the time the planets were formed.

The scope of the Planetary Atmospheres activity also includes laboratory investigations that supply basic physical measurements that are currently needed to interpret planetary data, including measurements and calculations of spectroscopic, optical, and thermodynamic properties of materials found in planetary atmospheres. Note that characterization of the atmospheres of extrasolar planets also is included within the scope of the Planetary Atmospheres activity, although searches for extrasolar planets are not. In addition, while comparative studies of various planet atmospheres (including the Earth) are appropriate, investigations that focus primarily on the Earth's atmosphere are not. Proposals for the analysis of data from NASA missions that return significant amounts of data and that are in the public domain (including data from the Galileo, Mars Pathfinder, and Mars Global Surveyor missions and available on PDS node) are encouraged.

In all cases, a Planetary Atmospheres investigation should propose to attack a specific problem of the highest intrinsic scientific value as well as of interest to NASA's objectives in its Solar System Exploration science theme. Proposals that serve as an umbrella for a variety of research tasks are not appropriate if the proposed tasks are without a clear focus.

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 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

RFA's 1(a), (b), (c), and (d), and RFA's 3 (a), (b), (c), and (d) 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. Programmatic Information

Proposals are sought for new projects that fall within the scope of the Planetary Atmospheres program. Presently, about \$8M is budgeted for this program in fiscal year 2003 for which this NRA solicits proposals, and approximately 100 investigations will be supported by these funds. Investigations may be proposed for up to a three year period of performance. Since proposals are generally written for a three year period of performance, approximately a third of the budgeted total for the program is competed each year. Thus, approximately 30–35 new proposals will be selected through this NRA.

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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