

National Aeronautics and  
Space Administration

**Office of the Administrator**  
Washington, DC 20546-0001



SEP 11 2000

Dr. Bradford W. Parkinson  
Chair  
NASA Advisory Council  
Washington, DC 20546

Dear Dr. Parkinson:

Thank you for your report on the NASA Advisory Council (NAC) meeting held June 6-7, 2000, at NASA Langley Research Center. I am pleased the Council had a comprehensive and productive meeting. I regret that I was unable to attend the meeting, but I plan to see you and the Council at your December 2000 meeting.

I am glad that the Council was finally able to hear the presentation by Tom Young on the Mars Program Independent Assessment Team (MPIAT). This report, along with the other three reports, are critical and extremely useful as we move ahead with our Mars Exploration program. The recently announced Mars 2003 robotic rover mission will benefit from the knowledge and lessons learned from these review reports as they plan their mission. Tom Young and his team did an excellent job in providing the Agency with the data we need to make the 2003 rover mission a success. The Council's thoughts on the MPIAT report will be conveyed to mission planners.

It is my understanding that the Council will hear NASA's response to addressing these reports from the NASA Integrated Assessment Team (NIAT) at your upcoming meeting. I would urge the Council to continue to monitor our progress at achieving the objective and proposals outlined in the NIAT team's report. Brian Keegan, Chief Engineer, will address the Council's concerns outlined in your letter.

As far as other items from your June meeting, I am interested in seeing the Council's support for establishing a Planetary Protection Advisory Committee of the NAC. Planetary protection is an issue NASA needs to continue to aggressively address. It is my understanding that the Space Science Advisory Committee, along with our Planetary Protection Officer, will present a charter for such a committee at your next meeting.

As the Council requested, a meeting was held between the chairs of the Technology and Commercialization Advisory Committee (TCAC), the Aero-Space Technology Advisory Committee, and Sam Venneri, Associate Administrator for Aerospace Technology, to clarify the roles and scope of each committee. The conclusion of all the parties was that TCAC's current charter is still appropriate now and is consistent with Mr. Venneri's responsibilities. It was decided that TCAC will continue its ongoing efforts, including the evaluation of the technical core competencies at all NASA Centers. In the longer term, TCAC will provide oversight with respect to the Agency's technology investments at all NASA Centers.

NASA has always recognized that we cannot achieve our long-term Intelligent Synthesis Environment (ISE) goals by ourselves. Leveraging external investments and forming partnerships with other organizations has always been an integral part of the Agencies implementation strategy. Recently, the ISE program signed an MOU with the Army. We expect to sign agreements with the Air Force and Boeing this quarter and detailed discussions are under way with the Navy and National Institute of Science and Technology. In addition, since the last NAC meeting, the ISE program has completed a follow-up Non-Advocate Review (NAR) resulting from an initial NAR several months ago. One of the key issues the initial NAR raised was the scope of the program and the level of detailed planning that had been done to support that scope. In response to the NAR finding, the ISE program engaged in an extensive re-assessment and detailed planning activity. The results were presented to the NAR team, which recently reported their finding to the NASA Program Management Council. We believe that issues raised by the NAC were valid however, they have since been resolved.

Finally, I have enclosed our formal response to the Council's recommendation on the availability of long-term scientific measurements for the study of global change. I will work with the Office of Earth Science to better address this issue. The Office of Policy and Plans assures me that your comments on the FY 2000 NASA Strategic Plan will be carefully considered and incorporated where appropriate. As always, I appreciate the time and dedication you and the Council members give to our programs and policies. I hope you have a productive meeting this month, and I look forward to seeing you in December.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel S. Goldin". The signature is fluid and cursive, with a large initial "D" and "G".

Daniel S. Goldin  
Administrator

Enclosure

## **NAC Recommendations from June 6-7, 2000 Meeting**

Earth System Science and Applications Advisory Committee (ESSAAC) recommends that NASA take the initiative to ensure the availability of long-term data sets for the study of global change. Specifically, we recommend that NASA identify and implement processes to accomplish the following:

1. Identify and rank, carefully and rigorously, the most important long-term data sets needed for global change science, together with their required measurement properties, including accuracy, sampling, and spatial and temporal scales.
2. Allocate sufficient resources to providing these data sets, through a sustained effort including:
  - Design and fly some dedicated missions to obtain these long-term data.
  - Develop programs to improve operational missions to meet the long-term data needs. These include improved calibration and the effort needed to reprocess and revalidate old data.
  - Utilize NASA's advanced technology capabilities to develop cheaper and lighter instruments and platforms to measure the needed variables at resolutions and accuracies that are currently feasible, but with expensive technologies.

### **NASA Office of Earth Science Response to NAC Recommendation Process 1**

The Office of Earth Science has been working with ESSAAC, the National Academy of Sciences, and Office of Management and Budget on its Research Strategy for the next decade. The review of this document by the Academy was recently completed, and we plan to complete and publish the plan this Fall. Observing requirements, which consist of both exploratory and long-term systematic measurements, will be derived from the scientific imperatives advocated in the Research Strategy. This document also contains the prioritization criteria that will be employed to rank order data sets and the observing missions to acquire them.

### **NASA Office of Earth Science Response to NAC Recommendation Process 2**

As part of its FY 2002 budget formulation process, the Office of Earth Science has initiated a process to identify candidate systematic measurement missions to continue long-term data sets begun in the Earth Observing System (EOS) era. These will be identified, based on the criteria in the Research Strategy. We will review this set of candidate missions with ESSAAC at their next meeting. The Earth Science Enterprise is working with the NOAA/DOD/NASA Integrated Program Office (IPO) for the converged civilian/military weather satellite program to secure climate-quality data sets from its future operational satellites. NASA and the IPO collaborated on requirements for NASA's Total Solar Irradiance Monitor (now part of the Solar Radiation and Climate Experiment – SORCE), and are jointly funding the Bridge Mission [NPOESS Preparatory Project] that will continue selected measurements from EOS-Terra and Aqua while demonstrating instruments for the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

The Enterprise also works with international partners in Asia, Europe, and the Americas to secure continuity of some key data sets (e.g., ocean surface topography and winds, ocean color, atmospheric ozone concentrations). The Enterprise is working closely with other U.S. Government agencies, (especially NOAA and the United States Geological Survey) to ensure archive, preservation, and availability of long-term data sets. The Enterprise is prepared to lead the development of cooperative and partnership plans to ensure their effective implementation. These efforts, together with our commitment to a robust and healthy scientific research program, will allow not only the acquisition of long-term data sets, but use of them to answer key Earth System Science questions.

The Enterprise has also established an advanced technology program to enhance the capability and reduce the cost of future missions. The Earth Observer-1 (EO-1) mission, scheduled for launch in November 2000, will demonstrate the capability to acquire Landsat-type data with an instrument one-fourth the size of the Enhanced Systematic Mapper + on Landsat 7, requiring only one-fifth the power and a four-fold improvement in signal to noise ratio. The Instrument Incubator program is currently funding 27 research projects to advance the technology readiness of instrument concepts that will be lighter and lower in cost than those flying today and enabling new measurement capabilities.