

**OVERVIEW OF THE NATIONAL
RESEARCH COUNCIL'S SPACE
STUDIES BOARD
AND
SUMMARY OF THE 2009 CIVIL SPACE
POLICY STUDY
“America's Future in Space”**

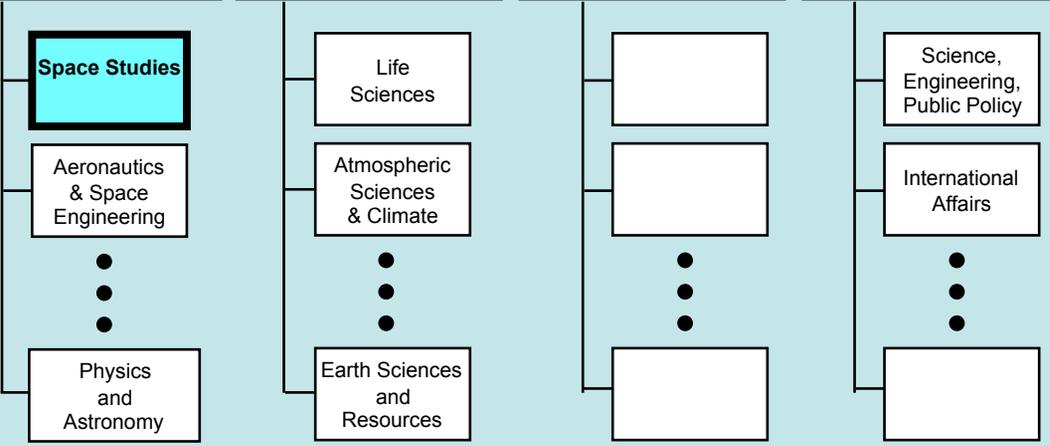
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Senior Program Officer
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DIVISIONS



BOARDS



The Space Studies Board provides an independent, authoritative forum for information and advice on all aspects of space science and applications. The Board

- conducts advisory studies and program assessments,
- facilitates international research coordination, and
- promotes communications on space science and science policy between the research community, the federal government, and the interested public.

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- **Decadal Survey on Biological & Physical Sciences in Space**
 - Lars Berglund (UCD), Vijay Dhir, (UCLA), Joel Dimsdale (UCSD), Gabor Somorjai (UCB), steering committee members
- **The Role & Scope of Mission-enabling Activities in NASA's Space & Earth Science Missions**
 - Bruce H. Margon (UCSC), vice chair
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- **NASA's Suborbital Research Capabilities**
 - Mark A. Brosmer (Aerospace Corp.) & Robert P. Lin (UCB), committee members
- **Review of Near Earth Object Surveys & Hazard Mitigation Strategies**
 - Lance A.M. Benner (JPL), Amanda Mainzer (JPL), John Rice (JPL), members of the Survey & Detection Panel
- **Assessments of Impediments to Interagency Cooperation on Space & Earth Science Missions**
 - Michael S. Witherell (UCSB) chair
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America's Future in Space: ***Aligning the Civil Space Program with National Needs***



**Report of the
Committee on the
Rationale and Goals of
the U.S. Civil Space
Program**

**National Research Council
Space Studies Board
&
Aeronautics and Space
Engineering Board**

Released July 7, 2009

Study Charge

- An ad hoc committee will prepare a report to advise the nation on key goals and critical issues in 21st century U.S. civil space policy.
- The committee will identify overarching goals that are important for our national interest.
- Issues that are critically important to achieving these goals and ensuring the future progress of the U.S. civil space program will be identified, and actions to address unresolved issues will be recommended.
- Using its best objective judgment and recognizing other national priorities, the committee will explore a possible long term future for U.S. civil space activities that is built upon lessons learned and past successes; is based on realistic expectations of future resources; and is credible scientifically, technically, and politically.

Committee Membership

- **LESTER L. LYLES**, Consultant (U.S. Air Force, retired), *Chair*
- **RAYMOND S. COLLADAY**, Lockheed Martin Corporation (retired), *Vice Chair*
- **LENNARD A. FISK**, University of Michigan, *Vice Chair*
- **JAY APT**, Carnegie Mellon University
- **JAMES B. ARMOR, JR.**, ATK Space Systems
- **WANDA M. AUSTIN**, The Aerospace Corporation
- **DAVID BALTIMORE**, California Institute of Technology
- **ROBERT BEDNAREK**, SES AMERICOM/NEW SKIES
- **JOSEPH A. BURNS**, Cornell University
- **PIERRE CHAO**, Center for Strategic and International Studies and Renaissance Strategic Advisors
- **KENNETH S. FLAMM**, University of Texas at Austin
- **JOAN JOHNSON-FREESE**, U.S. Naval War College
- **PAUL D. NIELSEN**, Carnegie Mellon University
- **MICHAEL S. TURNER**, University of Chicago
- **THOMAS H. VONDER HAAR**, Colorado State University

Bottom Line

- The committee's overall conclusion is that a preeminent U.S. civil space program with strengths and capabilities aligned for tackling widely acknowledged national challenges—environmental, economic, and strategic—will continue to make major contributions to the nation's welfare.
- ...the U.S. civil space program should be preeminent in the sense that it can influence, by example, nations' use of space. To be a strategic leader in a globalized world requires that the United States have a civil space program whose breadth, competence, and level of accomplishment ensures that U.S. leadership is demonstrated, accepted, and welcomed.

Civil Space Goals

- **Re-establish leadership for the protection of Earth and its inhabitants through the use of space research and technology.**
- **Sustain U.S. leadership in science by seeking knowledge of the universe and searching for life beyond Earth.**
- **Expand the frontiers of human activities in space.**
- **Provide technological, economic, and societal benefits that contribute solutions to the nation's most pressing problems.**
- **Inspire current and future generations.**
- **Enhance U.S. global strategic leadership through leadership in civil space activities.**

Foundational Elements

- **Coordinated national strategies**—implementing national space policy coherently across all civilian agencies in support of national needs and priorities and aligning attention to shared interests of civil and national security space activities;
- **A competent technical workforce**—sufficient in size, talent, and experience to address difficult and pressing challenges;
- **An effectively sized and structured infrastructure** — realizing synergy from the public and private sectors and from international partnerships; and
- **A priority investment in technology and innovation** —strengthening and sustaining the U.S. capacity to meet national needs through transformational advances.

Recommendations

1. Emphasis should be placed on aligning space program capabilities with current high-priority national imperatives, including those where space is not traditionally considered.
2. NASA and NOAA should lead the formation of an international satellite-observing architecture capable of monitoring global climate change and its consequences and support the research needed to interpret and understand the data in time for meaningful policy decisions.
3. NASA, in cooperation with other agencies and international partners, should continue to lead a program of scientific exploration and discovery.
4. NASA should revitalize its advanced technology development program by establishing a DARPA-like organization within NASA as a priority mission area to support preeminent civil, national security (if dual-use), and commercial space programs.

Recommendations (continued)

5. The government, under White House leadership, should pursue international cooperation in space proactively as a means to advance U.S. strategic leadership and meet national and mutual international goals.
6. NASA should be on the leading edge of actively pursuing human spaceflight to
 - extend the human experience into new frontiers,
 - challenge technology,
 - bring global prestige, and
 - excite the public's imagination.
7. The President of the United States should task senior executive-branch officials to
 - align agency and department strategies;
 - identify gaps or shortfalls in policy coverage, policy implementation, and in resource allocation; and
 - identify new opportunities for space-based endeavors that will help to address the goals of both the U.S. civil and national security space programs.