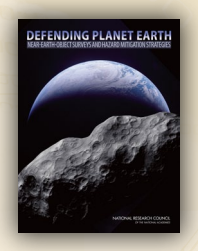
AERONAUTICS AND SPACE ENGINEERING BOARD (ASEB)

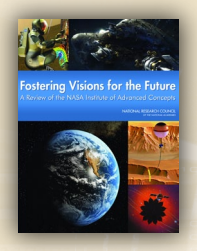
The ASEB was established in 1967 "to focus talents and energies of the engineering community on significant aerospace policies and programs." In undertaking its responsibilities, the ASEB oversees ad hoc committees that recommend priorities and procedures for achieving aerospace engineering objectives and offers a way to bring engineering and other related expertise to bear on aerospace issues of national importance. Among these issues are the research and development aspects of the Next Generation Air Transportation System (NextGen); NASA's aeronautics research program; national aeronautics R&D policy and its implementation; space policy and programs, with a focus on human spaceflight and space operations; commercial space activities; and other aerospace engineering topics.

Selected Recent Reports

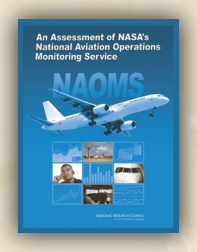
Advancing Aeronautical Safety: A Review of NASA's Aviation Safety-Related Research Programs (2010)
Advancing the state of aviation safety is a central mission of the National Aeronautics and Space Administration (NASA). Congress requested this review of NASA's aviation safety-related research programs, seeking an assessment of whether the programs have well-defined, prioritized, and appropriate research objectives; whether resources have been allocated appropriately among these objectives; whether the programs are well coordinated with the safety research programs of the Federal Aviation Administration; and whether suitable mechanisms are in place for transitioning the research results into operational technologies and procedures and certification activities in a timely manner. The findings in this report indicate that NASA's aeronautics research enterprise has made, and continues to make, valuable contributions to aviation system safety, but it is falling short and needs improvement in some key respects.



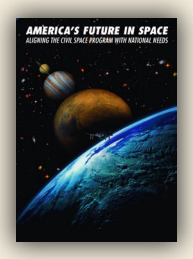
Defending Planet Earth: Near-Earth Object Surveys and Hazard Mitigation Strategies (2010)
The United States spends approximately $4 million each year searching for near-Earth objects (NEOs), in order to detect those that may collide with Earth. Most of this funding supports the operation of several observatories that scan the sky searching for NEOs, with a smaller amount of funding supporting ways to protect the Earth from a potential collision. The book explores four main types of collision mitigation including civil defense, "slow push" or "pull" methods, kinetic impactors and nuclear explosions. It also asserts that responding effectively to hazards posed by NEOs requires national and international cooperation.



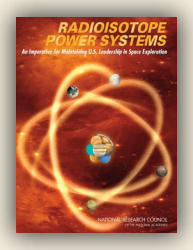
Fostering Visions for the Future: A Review of the NASA Institute for Advanced Concepts (2009)
The NASA Institute for Advanced Concepts (NIAC) was formed in 1998 to provide an independent source of advanced aeronautical and space concepts that could dramatically impact how NASA develops and conducts its missions. Until its termination in 2007, NIAC provided an independent open forum, a high-level point of entry to NASA for an external community of innovators, and an external capability for analysis and definition of advanced aeronautics and space concepts to complement NASA's advanced concept activities. As requested by Congress, this report reviews the effectiveness of NIAC and makes recommendations concerning the importance of such a program to NASA and to the nation as a whole.



An Assessment of NASA's National Aviation Operations Monitoring Service (2009)
The National Aeronautics and Space Administration (NASA) asked the National Research Council to perform an independent assessment of NASA's National Aviation Operations Monitoring Service (NAOMS) project, a survey administered to pilots from April 2001 through December 2004. This report presents the results of that review, including an examination of the survey methodology, and analyzes the publicly available survey data.



America's Future in Space: Aligning the Civil Space Program with National Needs (2009)
Although the U.S. space program was originally driven in large part by competition with the Soviet Union, the nation now finds itself in a post-Cold War world in which many nations have established, or are aspiring to develop, independent space capabilities. Discoveries from developments in the first 50 years of the space age have led to an explosion of scientific and engineering knowledge and practical applications of space technology. The private sector has also been developing, fielding, and expanding the commercial use of space-based technology and systems. Recognizing the new national and international context for space activities, America's Future in Space is meant to advise the nation on key goals and critical issues in 21st century U.S. civil space policy.



Radioisotope Power Systems: An Imperative for Maintaining U.S. Leadership in Space Exploration (2009)
Spacecraft require electrical energy from sources that can survive temperature extremes, high levels of radiation, and long periods of little or no sunlight. Radioisotope power systems (RPSs) are the only available power source that can operate unconstrained in these environments, and plutonium-238 is the only practical isotope for fueling them. This report provides an examination of planned uses for currently available plutonium-238, which does not occur in nature, and possibilities for its manufacture. It concludes that if the status quo persists, the United States will not be able to provide RPSs for any subsequent missions.

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