



THE PHYSICAL SCIENCES

Research and Development Funding in the President's 2004 Budget

Research in the physical sciences supports health science research; leads to a better understanding of the universe; and spurs progress in a host of other areas, including information technologies, defense technologies, energy, agriculture, and the environment.

The 2004 Budget strengthens the nation's investment in the physical sciences by making significant investments in a number of priority areas

National Science Foundation (NSF). The President's Budget increases the overall NSF budget by \$453 million, or about nine percent.

Of Note

- NSF physical science investments alone would increase by \$100 million, or 13 percent, in programs. This represents an increase of 35 percent, or \$219 million, over investments of just five years ago.
- Major Research Equipment and Facility Construction (MREFC) would receive a 60 percent, \$202 million, increase – which would greatly help fund MREFC Projects approved by the National Science Board.
- The MREFC investments also include \$60 million in funding for "Ice Cube", a unique neutrino observatory at the South Pole.

Department of Energy (DOE). The President's Budget provides \$5.2 billion for federal science and technology at the Department of Energy, a three percent increase from the 2003 request.

Of Note

- The FreedomFUEL initiative will provide a total of \$3.2 billion, including \$720 million in new funding over the next five years to develop the technologies and infrastructure needed to produce, store, and distribute hydrogen fuel for use in fuel cell vehicles and electricity generation.
- The DOE Office of Science would receive \$3.3 billion, an increase of about two percent. However, since construction funding for the Spallation Neutron Source will be reallocated, the available funds for Office of Science core research programs actually increases by \$117 million or 4.2 percent, with priority given to operating the Office's existing suite of large national scientific user facilities.
- The Office of Science at the Department of Energy almost triples its investment in unique nanoscale science research centers, with a proposed increase of \$63 million to begin construction, design, or equipment procurement for four new centers, bringing the total number of funded nano-centers to five.

National Aeronautics and Space Administration (NASA). The NASA budget provides nearly \$9.2 billion for federal science and technology programs at NASA, a 5-percent increase, with \$4 billion for space science.

Of Note

- A new \$31 million investment in optical communications technology would increase the scientific and educational outcomes of future planetary missions.
- Two new missions to undertake research at the intersection of physics and astronomy, LISA and CON-X, would commence with \$59 million. LISA is the laser interferometer space antenna (space-based gravity wave detector) and CON-X is a next-generation x-ray telescope for, among other things, imaging x-ray emission from black holes.
- A Jupiter Icy Moons Orbiter Mission, to search for life on Jupiter's moons and demonstrate breakthrough power propulsion technologies, would receive \$93 million.