

## National Aeronautics and Space Administration

Agency: National Aeronautics  
and Space Administration

Functional  
Code: 250

Budget Reform  
Criterion: 6

### *Funding*

	(\$ in millions)					
	1981	1982	1983	1984	1985	1986
<b>CARTER BUDGET:</b>						
<i>Budget Authority</i>	5,534	6,722	7,273	6,788	6,240	5,799
<i>Outlays</i>	5,283	6,360	6,961	6,814	6,364	6,000
<b>REESTIMATES &amp; ADJUSTMENTS:</b>						
<i>Budget Authority</i>	--	--	-46	-120	-142	-200
<i>Outlays</i>	--	--	-46	-120	-142	-200
<b>PROGRAM CHANGES:</b>						
<i>Budget Authority</i>	-15	-604	-739	-813	-523	-239
<i>Outlays</i>	-12	-469	-660	-695	-682	-482
<b>REAGAN BUDGET:</b>						
<i>Budget Authority</i>	5,519	6,118	6,488	5,855	5,575	5,360
<i>Outlays</i>	5,271	5,891	6,255	5,999	5,540	5,318

### *Program Description*

Programs of NASA consist primarily of R&D activities in the area of space transportation, space science, space and terrestrial applications, aeronautics R&D, and general agency-wide supporting activities.

- *Space transportation* programs provide for procurement and operation of a fleet of space shuttle orbiters and other space and ground hardware to meet the launch needs of civil, military, and foreign users.
- *Space science* programs investigate the Earth's space environment, the Sun, the planets and distant objects in the Universe — primarily through the use of unmanned satellites supported by ground based research.
- *Space and terrestrial applications* activities support R&D to apply space technology to practical uses on Earth. Included are activities to improve understanding of Earth resources, climate, weather and pollution; to develop agricultural forecasting techniques based on satellite data; to extend the range of satellite communications; and to assess future prospects of materials processing in space.
- *Aeronautics R&D* supports fundamental research in the aeronautical disciplines (e.g., aerodynamics, propulsion) and selected component technology development and demonstration efforts.
- *General agency-wide support activities* include primarily satellite tracking and data acquisition support, personnel costs and administrative activities; maintenance and upgrade of the agency's physical plant, and R&D addressing fundamental space technology problems and opportunities common to a broad spectrum of space programs.

The following table summarizes the Reagan budget adjustment:

	(BUDGET AUTHORITY IN MILLIONS OF DOLLARS)					
	January Budget		Change		Amended Budget	
	1981	1982	1981	1982	1981	1982
Space Transportation	2,627	3,273	+52	-168	2,679	3,105
Space Science	562	727	-24	-173	538	584
Space and Terrestrial Applications	354	473	-22	-100	332	373
Aeronautics	276	324	-4	-59	272	265
Other	<u>1,715</u>	<u>1,895</u>	<u>-17</u>	<u>-104</u>	<u>1,698</u>	<u>1,791</u>
Total NASA	5,534	6,722	-15	-604	5,519	6,118

## Proposed Change

The revised budget proposes to eliminate or defer all 1981 and 1982 new program initiatives in space transportation, space science, space and terrestrial applications and aeronautics R&D, and makes reductions to ongoing programs as follows:

- For *space transportation*, the revised budget: delays readiness of the spacelab to be carried as a shuttle payload; eliminates funding for the solar electric propulsion system for which no applications have been approved; makes adjustments in operating funds associated primarily with rescheduled shuttle flights for space science missions and other reductions in the early operational flight rate; and, defers relatively lower priority shuttle-related hardware procurements. In 1981, an additional \$52 million in budget authority is allocated to the shuttle program, within the total NASA appropriation. This increase will provide added schedule confidence in shuttle development, test and production activities.
- For *space science*, the revised budget: defers major efforts on several projects including the Venus Orbiting Imaging Radar, the Gamma Ray Observatory, and spacelab experiments; and reduces U.S. participation in the International Solar Polar Mission to be carried out cooperatively with the Europeans.
- For *space and terrestrial applications*, the revised budget: cancels several new projects including the NOAA/Defense/NASA demonstration of a National Oceanic Satellite System, a geological applications program related to mineral exploration, and the follow-on operational demonstration of a joint international search and rescue satellite mission; delays or reduces work on instruments for a future Upper Atmospheric Research Satellite, agricultural applications of remote sensing data, and materials processing in space experiments on the shuttle; terminates the separately identified program for remote sensing technology transfer activities and phases down the technology utilization program.
- For *aeronautics R&D*, the revised budget: eliminates funding in 1982 for a new numerical aerodynamic simulator and a program to develop new materials for use in primary aircraft structures; reduces generally ongoing aeronautics technology development and demonstration efforts.
- For *general agency-wide activities*, the revised budget proposes broad general reductions including such activities as facility improvements; specific funding for NASA energy technology work; the development of generic space technology, and reductions in administrative expenses.

## Rationale

- For *space transportation*, the revised budget maintains progress in the space shuttle program to achieve the operational readiness dates and capabilities needed for civil and critical national security missions starting in July 1983.
- For *space science*, deferral of some new and recently initiated flight projects and a restructuring or reduction of some ongoing programs are necessary because of increased costs for ongoing programs, the urgent need for fiscal restraint, and the high costs and technological risks inherent in large new projects. The new or recently initiated projects proposed for deferral have relatively small past investments, resulting in relatively small cost penalties for delays. The revised budget: maintains on schedule the two highest priority space science projects, the space telescope and the Galileo mission to Jupiter; maintains all other planned major projects on a deferred or reduced basis; and includes funds to utilize fully satellites launched in prior years.
- For *space and terrestrial applications*, the sharp rate of growth proposed for this program in the January 1982 Budget is inconsistent with the need for fiscal restraint. Several projects that are less urgent need to be reduced or cancelled. However, the revised budget would continue to maintain strong core programs in all major areas of activity, including research on space remote sensing techniques related to managing Earth resources; research related to understanding weather and climate; space communications R&D; and longer term research related to materials processing in space.
- For *aeronautics R&D*, the reductions are focused primarily on new projects having relatively small accumulated past investments and on ongoing technology development and demonstration activities which are more appropriately the responsibility of the private sector. The revised budget preserves the fundamental research activities having broad civil and military applicability.

- For *agency-wide supporting activities*, cuts are focused on deferrable projects (e.g., facility construction and improvement) and activities not related to the primary mission of NASA (e.g., energy technology R&D). The revised budget preserves a strong institutional base capable of supporting the full range of future activities to maintain U.S. leadership in space and aeronautics.

### ***Key Facts About the Program***

- Although the proposed 1982 revised budget for NASA, \$6,118 million in budget authority, represents a *decrease* of \$604 million (or 9%) from the January budget, it provides an *increase* of \$584 million (or 11%) over the funding level already appropriated for NASA in 1981.
- The shuttle accounts for over 70% of the increase now proposed from 1981 to 1982. Funding for shuttle and related programs are proposed to increase 18% above the level appropriated in 1981.
- Funding for NASA programs other than shuttle will increase an average of about 4% in 1982 over the previously appropriated level. An increase of \$41 million in 1982 is proposed for the key nonshuttle programs of space science and space applications to permit the highest priority activities to continue as planned.