FY 2015 NASA Budget Comparison

Update 5

President's FY 2015 NASA Budget Request; FY 2015 Omnibus Appropriations bill (H.R. 83)

This document provides an overview of the President's FY 2015 NASA Budget request in comparison with FY 2015 Omnibus Appropriations bill. The first section provides a comparison of funding levels provided by each top-line item. The analysis then looks in detail at the differences between the proposals within Science, Exploration, Space Operations, and Space Technology.

NASA Budget Proposals Overview – FY 2015 Funding

Budget Authority, $ in millions	President's FY 2015 NASA Base Budget Request	President's FY 2015 NASA Opportunity, Growth, and Security Initiative	Omnibus Approps (H.R. 83)
Science	4,972.0	187.0	5,244.700
Aeronautics Research	551.1	44.0	651.000
Space Technology	705.5	100.0	596.000
Exploration	3,976.0	350.0	4,356.700
Space Operations	3,905.4	101.0	3,827.800
Education	88.9	10.0	119.000
Cross-Agency Support	2,778.6	0.0	2,758.900
Construction and Environmental Compliance and Restoration	446.1	94.0	419.100
Inspector General	37.0	0.0	37.0005
Total	**17,460.6***	**885.0**	**18,010.2005**

President Obama's FY 2015 budget request for NASA includes a base budget request and a supplemental budget request. NASA's FY 2015 base budget request is $17,461.0 million. In addition, President Obama's budget includes a supplemental request of $885.0 million for NASA in FY 2015, which would be funded through his

* The FY 2015 budget request for NASA is $17,460.00 million, but the Administration has included supplemental NASA funding within its Opportunity Growth and Security Initiative of $885 million, which would increase NASA's total funding to $18,400.00 million in FY 2015.

Opportunity, Growth and Security Initiative (OGSI) account. NASA's FY 2015 base budget request fits within the constructs of the $1.014 trillion discretionary FY 2015 budget cap set in the Bipartisan Budget Act of 2013 (P.L. 113-67). The additional $885 million is a part of the President's $56 billion Opportunity, Growth, and Security Initiative (OGSI), which is above the FY 2015 budget cap. President Obama has proposed to fully pay for the additional $56 initiative through a combination of changing the tax code and decreasing spending in other portions of the budget.

Science

Budget Authority, $ in millions	President's FY 2015 NASA Budget Request	President's FY 2015 NASA Opportunity, Growth, and Security Initiative	Omnibus Approps (H.R. 83)
Earth Science	1,770.3	--	1,772.500
Planetary Science	1,280.3	--	1,437.800
Astrophysics	607.3	--	684.800
James Webb Space Telescope	645.4	--	645.4
Heliophysics	668.9	--	662.200
Total	**4,972.0**	**187.0**	**5,202.7**

President's FY 2015 Budget Request for Overall Science Portfolio

In FY 2015 the President base budget requested $4,972 million for Science missions, $179 million below the funds appropriated for Science missions in FY 2014. However, the President requested an additional $187 million for Science missions in his Opportunity, Growth, and Security Initiative. The additional requested funds are as follows:

- $29.3 million for Orbiting Carbon Observatory (OCO)-3;
- $50 million for Pre-Aerosols, Carbon and Ecosystems (PACE);
- $35 million for Planetary Science – extended mission funding;
- $15 million for Radio Power Systems;
- $20 million for Research and Analysis;
- $20 million for Wide-Field Infrared Survey Telescope (WFIRST)/Astrophysics Focused Telescope Assets (AFTA);
- $18 million for Earth Science research and efforts related to the Big Earth Data Initiative and Climate Data Initiative;

FY 2015 Congressional Action

Earth Science

About

From space, NASA satellites can view Earth as a planet and enable the study of it as a complex, dynamic system with diverse components: the oceans, atmosphere, continents, ice sheets, and life. The Nation's scientific community can thereby observe and track global-scale changes, connecting causes to effects. Through partnerships with agencies that maintain forecasting and decision support systems, NASA improves national capabilities to predict climate, weather, and natural hazards, manage resources, and support the development of environmental policy.

President's FY 2015 Earth Science Missions:

- $329.2 million for Earth Science Research and Analysis;
- 120.7 million for Computing and Management;
- $18.7 million for Global Precipitation Measurement;
- $109.5 million for Ice, Cloud, and land Elevation Satellite;
- $79.9 million for Soil Moisture Active and Passive;
- $64.4 million GRACE Follow-On;
- $518.8 million for Other Missions and Data Analysis within Earth Systematic Missions;
- $21 million for OCO-2;
- $206.6 million for Venture Class Missions;

- $38.5 million for Other Missions and Data Analysis within Earth Systems Science Pathfinder Missions;
- $176.1 million for Earth Science Multi-Mission Operations;
- $55.6 million for Earth Science Technology;
- $36.3 million for Applied Sciences;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $1,772.50 million for Earth Science programs, $2.2 million above the President's FY 2015 base budget request.
- The Joint Explanatory Statement (JES) states that "NASA shall comply with funding direction from the Senate report on: Soil Moisture Active and Passive (SMAP) and Ice, Cloud and land Elevation Satellite-2 (ICESat-2). The agreement also includes $20,000,000 for the Pre-Aerosol, Clouds, Ecosystem (PACE) mission." The Senate report on these issues provides:
    - The Congress "Maintains the ongoing development of the Tier 1 Earth Science missions, and provides the full budget request for the Soil Moisture Active and Passive [SMAP] and the Ice, Cloud and land Elevation Satellite [IceSat-2] missions." In addition, "given the importance to water resource management, ice dynamics measurements, and earthquake and tsunami research," the agreement directs NASA "to provide sufficient funding to ensure that the dual L-band and S-band synthetic aperture radar mission can pass into formulation in mid-fiscal year 2015."
    - The Congress will "Provide an additional $25 million the Pre-Aerosol, Clouds, Ecosystem [PACE] mission to "begin technology risk reduction and formulation studies." By "starting this mission in fiscal year 2015, the gap in the essential Ocean Color time-series will be reduced by 2 to 3 years." In addition, "restoring this data stream will better equip the ocean ecology, ocean biology, aerosol and cloud science communities to address challenges highlighted in the National Academies' Earth Science Decadal Survey."
- The agreement rejects a Senate proposal "regarding the transfer of funding responsibility from NOAA to NASA for the Jason-3 and Deep Space Climate Observatory (DSCOVR) missions. Funding for these missions is included in this Act under the NOAA Procurement, Acquisition and Construction account. The agreement for this account only supports NASA's requested funding related to these two missions."
- "Within funding for Other Missions and Data Analysis, the agreement includes funding to proceed with studies in fiscal year 2015 related to the [Total Solar Irradiance Sensor 2] (TSIS-2)."
- The Joint Explanatory Statement states that the bill "supports Senate direction on Landsat Data Continuity, but provides the requested amount of $64,100,000 and clarifies Senate direction on development parameters."
    - Specifically, "instead of a firm cost cap boundary, the mission shall: cost substantially less than Landsat-8."
    - Additionally, the mission shall "provide the same data quality as Landsat-8 so as to not require an overhaul of associated ground systems."
    - Finally, the mission shall "provide no degradation or gap in data including the 8-day continuous terrestrial coverage."

Planetary Science

About

To answer questions about the solar system and the origins of life, NASA sends robotic space probes to the Moon, other planets and their moons, asteroids and comets, and the icy bodies beyond Neptune.

President's FY 2015 Planetary Science Missions:

- $165.4 million for Planetary Science Research and Analysis;
- $4.0 million for Directorate Management;
- $40.0 million for Near Earth Object Observations;

- $46.4 million for Other Missions and Data Analysis within Planetary Science Research;
- $170.0 million for InSight;
- $60.8 million for Other Missions and Data Analysis within Discovery;
- $224.8 million for Origins-Spectral Interpretation-Resource Identification-Security-Regolith Explorer;
- $56.6 million for Other Missions and Data Analysis within New Frontiers;
- $279.3 million for Mars Exploration;
- $95.7 million for Outer Planets;
- $137.2 million for Technology;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $1,437.80 million for Planetary Science programs, $157.5 million above the President's FY 2015 base budget request.
- The Joint Explanatory Statement provides the following break-down of $255,800,000 appropriated for Planetary Science Research:
    - "$165,400,000 for Research and Analysis"
    - "$40,000,000 for Near Earth Object Observations"
    - "$255,000,000 for Discovery, including not less than $25,000,000 for Future Discovery Missions"
    - "286,000,000 for New Frontiers, including not less than $5,000,000 for Future New Frontiers Missions $224,800,000 for OSIRIS-Rex"
    - "$305,000,000 for Mars Exploration, including not less than $100,000,000 for a Mars 2020 Rover that meets scientific objectives laid out in the most recent Planetary Science decadal survey"
    - "$181 ,000,000 for Outer Planets, including not less than $100,000,000 for a Jupiter Europa mission as described in the House report"
    - "$155,000,000 for Technology, including $18,000,000 for technologies for the study and characterization of the surface and subsurface of Europa as described in the House report."
        - Specifically, the House report stated that the $18 million is for "assessments and development of promising technologies and techniques for the study and characterization of the surface and subsurface of Europa, including such technologies as landers, rovers, penetrators, submersibles, seismometers and sample analyzers."
- The statement also directs that "NASA shall follow direction from the House and Senate reports regarding the Europa Mission and its potential launch vehicle. Funding is provided for the planning of a mission in line with the Planetary Science decadal survey, including an evaluation of SLS as the baseline launch vehicle." Specifically,
    - The House Committee report stated that the Europa Clipper mission would be required to "support the completion of science definition, the selection of a mission concept, the release of an instrument Announcement of Opportunity (AO) and other necessary pre-formulation and formulation activities for the Europa mission." In addition, the Committee Report goes on to state that "while NASA has dedicated some Fiscal Year 2014 Europa funding to studying the possibility of conducting this mission within a $1,000,000,000 cost cap, the Committee has not seen any credible evident that such a cost cap is feasible." Therefore, the Committee would direct "NASA not to use further project resources in pursuit of such an unlikely outcome." Finally, the Committee would direct "NASA to evaluate the potential benefit of using the SLS as the launch vehicle for this mission."
    - The Senate Committee Report stated that "a mission to Europa represents one of the highest large mission priorities of the Planetary Science Decadal Survey," and "presents NASA with an opportunity to capitalize on investments it has made in producing a heavy lift launch vehicle capability." Further, the Committee "believes that any planning for a Europa mission should seek to maximize the scientific return and utilize the capabilities of NASA's

own heavy lift launch vehicle." Therefore, the Committee would direct NASA, "in setting the baseline Europa mission highlighted in the decadal survey, to use the Space Launch System as the launch vehicle."

Astrophysics

About

Having measured the age of the universe, the scientific community now seeks to explore its ultimate extremes: its birth, the edges of space and time near black holes, and the mysterious dark energy filling the entire universe. Scientists have recently developed astronomical instrumentation sensitive enough to detect planets around other stars.

President's FY 2015 Astrophysics Missions:

- $66.0 million for Astrophysics Research and Analysis;
- $38.3 million for Balloon Project;
- $86.6 million for Other Missions and Data Analysis within Astrophysics Research;
- $75.3 million for Hubble Space Telescope;
- $12.3 million for Stratopheric Observatory for Infrared Astronomy;
- $32.7 million for Other Missions and Data Analysis within Cosmic Origins;
- $108.8 million for Physics of the Cosmos;
- $47.5 million Exoplanet Exploration;
- $98.8 million for Transiting Exoplanet Survey Satellite;
- $40.9 million for Other Missions and Data Analysis within Astrophysics Explorer;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $684.8 million for Astrophysics programs, $77.5 million above the President's FY 2015 base budget request.
- The Joint Explanatory Statement states that "within the amount provided for Astrophysics, NASA shall comply with direction from the Senate report regarding the Hubble Space Telescope and the Balloon Project." The Senate report on these issues provides:
    - "Within funds provided to advance scientific knowledge of the origins of the universe, the Committee provides $98,600,000 for the Hubble Space Telescope [HST]." The Senate report also allots "$38,000,000 for the Balloon Project."
- The bill also "includes $70,000,000 for the Stratospheric Observatory for Infrared Astronomy (SOFIA) to maintain core operations. NASA shall continue to seek partners to restore SOFIA to its full operational level, as described in the House report." The House report:
    - Rejects "NASA's request to terminate support for the Stratospheric Observatory for Infrared Astronomy (SOFIA), a project that is currently producing good science and has not been proposed for termination by NASA's internal or external scientific review boards," and recommends providing "$70 million for SOFIA, which should be sufficient to support the aircraft's fixed costs (flight crews, required maintenance, etc.) as well as a base level of scientific observations." Finally, it is suggested that NASA should "continue seeking third-party partners whose additional funding support would restore SOFIA's budget to its full operational level."
- The explanatory statement "reiterates direction in the Senate report that any science mission terminations should be made only after a senior review that evaluates the relative scientific benefit and return on investment."
- Additionally," within the amount for Cosmic Origins, the agreement includes $50,000,000 for the Wide-Field Infrared Survey Telescope (WFIRST) as described in the Senate report."

- The relevant part of the Senate report states that NASA should "proceed with further risk reduction and detailed formulation on a science mission that meets the exoplanet and dark energy science objectives of WFIRST." The Committee report notes that this recommendation would build upon NASA's "work with both the Hubble Space Telescope and the James Webb Space Telescope to ensure that the synergies and discoveries from those emissions enhance WFIRST's scientific objectives so that they can be achieved in a way that is both cost effective and advances the field of study in astrophysics to guarantee world class results."

James Webb Space Telescope

About

The James Webb Space Telescope (JWST) is a large, space-based astronomical observatory. The mission is a logical successor to the Hubble Space Telescope, extending beyond Hubble's discoveries by looking into the infrared spectrum, where the highly red-shifted early universe must be observed, where relatively cool objects like protostars and protoplanetary disks emit infrared light strongly, and where dust obscures shorter wavelengths.

President's FY 2015 James Webb Space Telescope:

- $645.4 million for James Webb Space Telescope;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $645.4 million for the James Webb Space Telescope to fully fund the President's FY 2015 base budget request.

Heliophysics

About

Using a fleet of sensors on various spacecraft in Earth orbit and throughout the solar system, NASA seeks to understand how and why the Sun varies, how Earth responds to the Sun, and how human activities are affected. The science of heliophysics enables the predictions necessary to safeguard life and society on Earth and outward journeys of human and robotic explorers.

President's FY 2015 Heliophysics Missions:

- $65.6 million for Sounding Rockets;
- $21.3 million for Research Range;
- $33.9 million for Heliophysics Research and Analysis;
- $96.7 million for Other Missions and Data Analysis within Heliophysics Research;
- $145.6 million for Solar Probe Plus;
- $76.5 million for Solar Orbiter Collaboration;
- $44.3 million for Other Missions and Data Analysis within Living with a Star;
- $39.5 million for Magnetospheric Multiscale;
- $21.9 million Other Missions and Data Analysis within Solar Terrestrial Probes;
- $78.2 million for ICON;
- $45.4 million for Other Missions and Data Analysis within Heliophysics Explorer Program;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $668.9 million for Heliophysics programs, $6.7 million below the President's FY 2015 base budget request.

The Joint Explanatory Statement directs NASA to "comply with direction from the Senate report regarding Solar Probe Plus."

- The Senate Committee Report notes that the Committee "strongly affirms its multiyear commitment to a 2018 launch for the solar probe plus mission as advanced technology development funds provided to NASA in prior years have retired substantial technical risk and made the funding profile for the mission manageable, points independently verified by outside reviews." Further, the Committee "fully expects that all future NASA budget submissions will adhere to a funding profile that guarantees a 2018 launch."

- The Joint Explanatory Statement also directs NASA to comply with the direction "in the House and Senate reports on the Explorer program."
  - The House Committee Report states that the Committee "is concerned that the Heliophysics Explorer program is not receiving the same level of support from NASA as comparable Astrophysics program and will not achieve the mission cadence recommended for Heliophysics by the scientific community." Therefore, the Committee would urge NASA to "rectify this issue by accelerating funding for Heliophysics Explorer Future Missions from Fiscal Year 2017 into Fiscal Year 2016."
  - The Senate Committee report states that the Heliophysics Explorer Program "and other programs of opportunity are crucial to a robust space science program, and that each Explorer selection round should be adequately funded to guarantee one full mission for astrophysics and a corresponding one for heliophysics." The Committee Report notes that the Committee will "monitor this activity carefully since this program is one of NASA's longest running most successful programs, and more than 90 explorer missions have launched, including Explorer 1, which discovered the Earth's radiation belts, and the Nobel Prize-enabling Cosmic Background Explorer mission."
- The act additionally authorizes "$38,900,000 for Heliophysics Research and Analysis, including no less than $5,000,000 to implement the Diversity, Realize, Integrate, Venture and Education initiative."
- "The agreement also includes $39,500,000 for the Magnetospheric MultiScale mission."

Exploration

Budget Authority, $ in millions	President's FY 2015 NASA Budget Request	President's FY 2015 NASA Opportunity, Growth, and Security Initiative	Omnibus Approps (H.R. 83)
Exploration Research and Development	343.0	0.0	306.4
Commercial Crew	848.0	250.0	805.0
Orion Multipurpose Crew Vehicle(s)	1,052.8	100.0	1,194.0
Space Launch System	1,380.3		1,700.0
Exploration Ground Systems	351.3	0.0	351.3
Total	**3,976.0**	**350.0**	**4,356.7**

President's FY 2015 Budget Request for Overall Exploration Portfolio

In FY 2015 the President base budget requested $3,976 million for Exploration missions, $137 million below the funds appropriated for Exploration missions in FY 2014. However, the President requested an additional $35-million for Exploration missions in his Opportunity, Growth, and Security Initiative. The additional requested funds are as follows:

- $250.0 million for Commercial Crew;
- $100.0 million for Orion and Space Launch System;

Space Launch System

About

The NASA Authorization Act of 2010 directed NASA to develop an evolvable heavy-lift rocket that will allow human exploration beyond low Earth orbit. NASA FY 2014 budget justification documents note that "through its lifetime, SLS capability will evolve using a block upgrade approach, driven by mission requirements." The SLS will evolve through three stages:

- First, "SLS will achieve a 70-metric ton Block1 capability that will enable early system demonstrations such as test flights near the Moon."
- Second, the "follow-on Block 1A upgrade will use advanced boosters to improve vehicle performance to 105 metric tons, significant expanding deep space mission capability."
- Third, the Block 2 upgrade will add "an advanced upperstage, enabling performance up to 130 metric tons."

In addition, NASA's FY 2014 budget justification documents note that "SLS is also partnering with the US Air Force to pursue areas of common interest that may be applicable to future SLS block upgrades."

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $1,700 million to Space Launch System (SLS) Vehicle Development, $319.7 million above the President's FY 2015 base budget request.
- According to the bill, SLS "shall have a lift capacity not less than 130 metric tons" as well as "an upper state and other core elements developed simultaneously."
- Additionally, the bill requires NASA to provide the House and Senate Appropriations Committees "concurrent with the annual budget submission, a 5 year budget profile and funding projection that adheres to a 70 percent Joint Confidence Level (JCL) and is consistent with the Key Decision Point C

(KDP-C) for the Space Launch System and with the future KDP-C for the Orion Multi-Purpose Crew Vehicle."

- Further, "NASA shall include budget profiles and funding projections that conform to the KDP-C management agreement for development completion of the Space Launch System by December 2017, and the management agreement for the Orion Multi-Purpose Crew Vehicle upon completing KDP-C."

Orion Multi-Purpose Crew Vehicle

About

NASA's FY 2014 budget justification documents states that Orion MPCV will be capable of carrying "a crew of four astronauts beyond Earth orbit for 21 days, or longer if paired with a potential future deep-space habitat." The spacecraft has three components, which include a crew module, service module, and launch abort system, with a separate adapter to connect the crew and launch vehicles.

- The crew module is described as a "familiar capsule shape on the outside, but inside it contains advanced, state-of-the-art in crew systems." During a mission the Orion MPCV will house "the crew, providing a safe environment within which to live and work." In addition, "Its advanced heat shield protects the crew from the reentry heating of a high-speed return from beyond Earth orbit."
- The service module "is comprised of a crew module adapter and an ESA-developed service module that together provide in-space services to the crew module, including power, propulsion, and other life support systems."
- The launch abort system sits "a tower atop the crew module," which "in the event of an emergency during launch or climb to orbit, will activate within milliseconds to propel the crew module to safety." Further, the launch abort system "protects the crew module from dangerous atmospheric loads and heating, then is jettisoned once the Orion MPCV is out of the atmosphere and safely on its way to orbit."

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $1,194 million to the Orion Multi-Purpose Crew Vehicle, $141.2 million above the President's FY 2015 base budget request.
- As noted above, the Joint Explanatory statement "also includes bill language requiring NASA to submit budget requirements for SLS and Orion that conform to their current or upcoming Key Decision Point C agreements, and also budget profiles and funding requirements that relate to associated management agreements that assume earlier dates for completion."
- The agreement states that "in no case shall the JCL of the Space Launch System or the Orion Multi-Purpose Crew Vehicle be less than the guidance outlined in NASA Procedural Requirements 7120.5E [NASA Procedural Requirements (NPR) 7120.5E which instituted the joint cost and schedule confidence level (JCL) process]

Commercial Crew

About

With an eye to the future of human spaceflight, NASA is looking to the U.S. private sector to develop and operate safe, reliable, and affordable crew transportation to low Earth orbit, including to the International Space Station (ISS).

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $805 million to the Commercial Crew program, $43 million below the President's FY 2015 base budget request.

- The Joint Explanatory Statement notes that “the agreement does not include direction in the Senate report regarding transparency on cost and pricing data.”
- The Joint Explanatory Statement clarifies that “the CCP is developing a national capability to restore domestic access to the International Space Station (ISS) as quickly and safely as possible, which will allow NASA to fully utilize ISS capabilities.
- The Joint Explanatory Statement further mandates that “in order to provide adequate insight into this program, NASA shall provide quarterly reports to the Committees on Appropriations of the House and Senate that include the technical and financial quarterly reports required of each awardee, as well as any actions taken by NASA or the awardees to adjust schedule, change or alter milestones, or modify milestone payments.”
- Finally, “in the event that there are adjustments to the schedule in excess of 2 months, NASA shall immediately notify the Committees in writing and provide a detailed explanation and justification for the schedule alteration. Moreover, any accompanying alteration in milestones or milestone payments shall be reflected in the aforementioned notification.”

Space Operations

Budget Authority, $ in millions	President's FY 2015 NASA Budget Request	President's FY 2015 NASA Opportunity, Growth, and Security Initiative	Omnibus Approps (H.R. 83)
International Space Station	3,051.0	100.6	N/A
Space and Flight Support	854.6	0.0	N/A
Total	**3,904.6**	**100.6**	**3,827.8****

*An amendment would transfer $7 million from Space Operations to the Space Technology account, but it is unknown what program the $7 million would be transferred from.

** The ISS and Space and Flight Support sub-numbers are not broken out for this account.

President's FY 2015 Budget Request for Overall Science Portfolio

In FY 2015 the President base budget requested $3,904 million for Space Operations missions, $126 million above the funds appropriated for Space Operations missions in FY 2015. However, the President requested an additional $100 million for Space Operations missions in his Opportunity, Growth, and Security Initiative. The additional requested funds are as follows:

- $100.6 million for International Space Station – Cargo Flights;

International Space Station

About

As the world's only space-based multinational research and technology testbed, ISS is critical to the future of human space activities. The facility enables scientists to identify and quantify risks to human health and performance and to develop and test countermeasures and technologies to protect astronauts during extended human space exploration. In addition, ISS offers unique opportunities for research and development, allowing scientists to investigate biological and physical processes in an environment very different from that on Earth.

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $3,827.8 million for Space Operations, $76.8 million below the President's FY 2015 base budget request.
- The Joint Explanatory Statement notes that "any reduction below the request for the International Space Station should be taken from the operations budget and not from research, or crew and cargo transportation."
- Also noted in the Joint Explanatory Statement: "The agreement does not include direction in the Senate report regarding certified cost and price data for the second round of cargo supply contracts."

Space and Flight Support

About

Space and Flight Support consists of multiple programs providing Agency-level capabilities critical to the success of NASA missions and goals.

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $3,827.8 million for Space Operations, $76.8 million below the President's FY 2015 base budget request.
- The Joint Explanatory Statement notes that "any reduction below the request for the International Space Station should be taken from the operations budget and not from research, or crew and cargo transportation."

- Also noted in the Joint Explanatory Statement: “The agreement does not include direction in the Senate report regarding certified cost and price data for the second round of cargo supply contracts.”

Space Technology

Budget Authority, $ in millions	President's FY 2015 NASA Budget Request	President's FY 2015 NASA Opportunity, Growth, and Security Initiative	Omnibus Approps (H.R. 83)
Crosscutting Space Technology	256.6	--	-
Exploration Technology Development	224.5	--	-
Small Business Innovation Research	190.7	--	-
Partnership Development & Strategic Integration	33.8	--	-
Total	**706.0**	**100.0**	**596.0**

President's FY 2015 Budget Request for Overall Space Technology Portfolio

In FY 2015 the President base budget requested $706 million for Space Technology missions, $130 million above the funds appropriated for Space Technology missions in FY 2015. However, the President requested an additional $100 million for Space Technology missions in his Opportunity, Growth, and Security Initiative. The additional requested funds are as follows:

- $21.0 million for Closed Loop Life Support Systems: ISS Utilization;
- $18.0 million for Composite Structural Technologies;
- $10.0 million for Robotics Challenge;
- $7.0 million for Advanced Manufacturing;
- $10.0 million for Small Spacecraft Technology Demonstrations;
- $6.0 million for In-Space Assembled and Manufactured Structures;
- $6.0 million for NASA Innovative Advanced Technologies;
- $18.0 HIAD-Commercial Cargo Vehicles;
- $4.0 million for Lander and Ascent Vehicle Composites;

FY 2015 Congressional Action

FY 2015 Omnibus Appropriations Bill (H.R. 83)

- The FY 2015 Omnibus Appropriations bill appropriates $596 million for Space Technology, $110 million below the President's FY 2015 base budget request.

About the Space Foundation

The foremost advocate for all sectors of the space industry and an expert in all aspects of space, the Space Foundation is a global, nonprofit leader in space awareness activities, educational programs that bring space into the classroom and major industry events, including the *Space Symposium*, all in support of its mission "to advance space-related endeavors to inspire, enable and propel humanity." The Space Foundation publishes *The Space Report: The Authoritative Guide to Global Space Activity* and provides three indexes that track daily U.S. stock market performance of the space industry. Through its Space Certification™ and Space Technology Hall of Fame® programs, the Space Foundation recognizes space-based technologies and innovations that have been adapted to improve life on Earth. The Space Foundation was founded in 1983 and is based in Colorado Springs, Colo. Its world headquarters features a public Visitors Center with two main areas - the El Pomar Space Gallery and the Northrop Grumman Science Center featuring Science On a Sphere®. The Space Foundation also conducts research and analysis and government affairs activities from its Washington, D.C., office and has a field office in Houston, Texas. For more information, visit www.SpaceFoundation.org. Follow us on Facebook, LinkedIn and Twitter, and read about the latest space news and Space Foundation activities in *Space Watch*.

Space Foundation research products can be found at www.SpaceFoundation.org/research