

ASTR 4800 - Space Science: Practice & Policy

Today: *NASA's Authorization & Appropriations Processes*

- Next Class:** Visit with former NASA Administrator Jim Bridenstine - *The NASA Budget Process*.
- Reading:** review Senate Subcommittee website linked on class website for Oct. 19; read Chap. 4 in *Beyond Sputnik*.

ASTR4800 - Space Science Practice & Policy

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Space In the News: Oct 18: Astronomers Discover Ancient, Very Distant Gamma Ray Burst

Keiana Quitaqua

- GRB210905A: Appears as it did when the universe was still young (the light took 12.8 billion years to reach Earth)
 - Appeared as an orange-red dot
- Gamma radiation
 - Astronomers think the bursts come from powerful electromagnetic rays which only flash 1x a day in the darkness

CLASS QUESTION: Since these gamma ray bursts are further away from us, where do you believe the blasts of light come from?

- Researchers believe that GRB received its luminous punch from material being pulled in by the gargantuan gravity of a ...

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Appropriation and Authorization

Or: How to Make Sausage

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The Process of Making Sausage

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The Executive Branch

President: Sets priorities, which influence federal budget proposal (SAP)

- [Kennedy's declaration](#) to land on the moon
- [Reagan's declaration](#) to create the ISS
- [George W. Bush's](#) intention to return to lunar surface by 2020
- [Obama's direction](#) to "start by [going] to an asteroid"
- [Trump's announcement](#) of the Artemis Program

Image Credit: whitehouse.gov

Image Credit: nasa.gov

Image Credit: spacecenter.org

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Executive Agencies

Each Agency: Builds budget requests in line with Presidential directives

Has a great degree of flexibility to create their own internal and external operating procedures and policies

First step in the budgeting process

- NASA
- DOE
- DOD
- NIH
- NSF

Image Credit: nasa.gov

Image Credit: nih.gov

Image Credit: nsf.gov

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Office of Management and Budget (OMB)

Reviews budget request from agencies, requires cutbacks from each

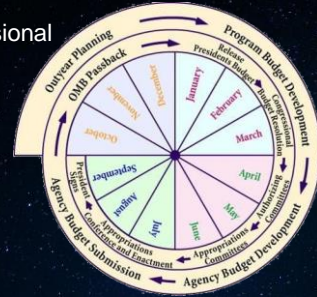
Can use other methods of influencing budget/policy:

- Can provide executive guidance such as memos, letters, and reports
- Circulars - provide specific instructions to federal agencies about government policies on budget, financial management, procurement etc.



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Congressional Branch

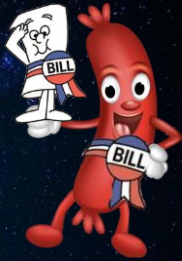


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Process of making a bill a law: Step 1, introduction

Schoolhouse Rock

- "Dear Colleague" letters looking for cosponsors
- President cannot introduce legislation
- Administration can present legislative package to Congress for consideration, introduced on administration's behalf (Infrastructure Bill)
- Four types of legislation:
 - Bills
 - Concurrent Resolutions
 - Joint Resolutions
 - Simple Resolutions



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Legislation Types

- Bill
 - Proposed legislation, has to be reviewed by house, senate, and president to be approved
- Joint Resolution
 - Legislation that has been passed by both the house and the senate, only has power when signed by the president
- Concurrent
 - Not laws, present opinions and guidelines that the House and Senate agree on
 - Not sent to president for signature
 - Congressional Budget Resolution, sets the congressional spending and revenue levels
- Simple resolution
 - Passed only by one chamber, used to create a new House or Senate committee



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Step 2: Review

- House:
 - Speaker assigns the legislation to a committee for review
 - Delegates to parliamentarian
- Senate:
 - Rules Committee
- Can be assigned to a subcommittee
 - Determines action taken on bill, "mark ups", debate on language
- Public floor debate
 - Possibility of filibuster, cloture, amendments



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Step 3: Congressional Oversight and Review

- DoD, annual defense authorization bill
- NSF/NIH/NASA, reauthorized every 3-5 years
- Oversight hearings
 - Government monitoring, input, ensures compliance
- Funding reports
 - Can request studies be conducted to examine operations of an agency,
 - If the agency admin is not responsive, they risk being sanctioned by the appropriations committee and losing funding



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Authorization

- The establishment, continuation, or adjustment of funding for a specific program
- Bills that start here are effective over several years and do not need to be approved annually
- Recommend funding levels for these agencies



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NASA's Current Reauthorization Bill

- In July, Congress passed the first NASA Reauthorization Bill in 5 years!
- Bill formally creates the Moon-to-Mars program including Artemis missions.
- Extends ISS until 2030.
- The Bill also requires NASA to
 - Continue its program to search for life beyond Earth
 - Utilize a "near-Earth object survey to detect, track, catalogue and characterize objects near Earth"
 - Create a research and development project to reduce greenhouse gas and noise emissions from aircrafts;
 - Continue to develop nuclear propulsion technology for humans and robots to use for Mars missions.



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Class Exercise

How should NASA's administration utilize the available funding to keep the Human Landing System (HLS) program on track for '2025'?

FINAL FY2021 NASA FUNDING PROVIDES ONLY 25 PERCENT OF HLS REQUEST

By NASA's Science Team | Posted December 21, 2020 5:24 pm ET | Last Updated: January 20, 2021 10:28 pm ET

Congress finalized FY2021 appropriations today. Overall, NASA will receive \$23.271 billion, almost 62 billion less than requested, importantly for the Trump Administration's Artemis program to return astronauts to the Moon by 2024. It provides only \$558 million instead of \$3.4 billion for Human Landing Systems. The bill restores funding for Earth and space science programs as well as STEM education programs, congressional priorities the Trump Administration wanted to kill, and administers funds for saving them out of the request. The "Consolidated Appropriations Act, 2021" combines all 12 regular appropriations bills into one, including the Commerce Justice Science (CJS) bill that funds NASA.

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Congressional appropriations committees relating to science policy:

House

- Commerce, Justice, Science, and Related Defense
- Energy and Water Development, and Related
- Agriculture, Rural Development, Food and Drug Administration, and Related
- Interior, Environment, and Related

Senate

- Commerce, Justice, Science, and Related Defense
- Energy and Water Development, and Related
- Agriculture, Rural Development, Food and Drug Administration, and Related
- Interior, Environment, and Related

Other Committees

- Financial Services and General Government
- Homeland Security
- Labor, Health and Human Services, Education, and Related
- Legislative Branch
- Military Construction, Veterans Affairs, and Related Agencies
- State, Foreign Operations, and Related Programs
- Transportation, Housing and Urban Development, and Related Agencies

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Appropriation

- Produce legislation that approves the expenditure of money for federal agencies and programs
- Bills must be passed annually
- **Supposed to be signed into law before Oct 1 (beginning of federal FY)**

NSF's Congressional Players		
	House	Senate
Authorization	Committee on Science, Space & Technology Subcommittee on Research and Science Education	Health, Education, Labor and Pensions Commerce, Science and Transportation Comm. Subcommittee on Science and Space
Appropriations	Subcommittee on Commerce, Justice, Science, and Related Agencies	Subcommittee on Commerce, Justice, Science, and Related Agencies

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Continuing Resolution

When (not if) Congress fails to approve a spending bill by October 1st, federal agencies may receive a continuing resolution which allows them to spend as they did last year, but does not allow the financing of any new programs.

- Between FY 1977 and FY 2015 only 4 years' budgets did not need a continuing resolution
- Mad rush to get budget passed
- Often results in an omnibus bill (~2000 pages)
 - Delivered to congress the night before the bill is voted on
 - Usually tons of addendums of people sneaking things on

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Summary of Funding Cycle for Executive Agencies

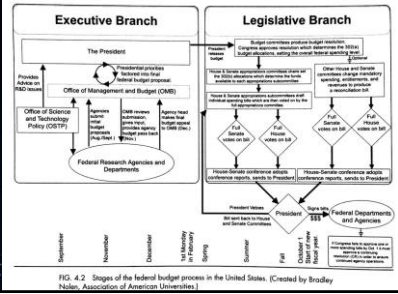


Figure 4.2 in Beyond Space

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Issues With the Process

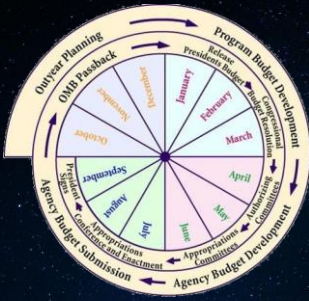


- The process repeats yearly, two-year process for one-year funding
- Shifting politics causes delays in funding
 - Shutdowns, administration changes
- NASA missions last 5+ years, short turnarounds, cause issues
- Peer Review
- Earmarking
 - Add-ons and carve-outs appropriated by legislators
- Presidential Directives and Executive Orders

"Democracy is the worst form of government - except for all the others that have been tried" - *Winston Churchill*

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Summary



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