

National Oceanic and Atmospheric Administration's Placement in U.S. Government and its Implications

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ABSTRACT

Government placement of the National Oceanic and Atmospheric Administration (NOAA), a marine and weather research agency, under the Department of Commerce (DOC) has long been a source of debate. Many argue that NOAA belongs under the Department of the Interior (DOI), an environmental executive department, rather than the DOC. Here, we attempt to describe the political and scientific implications of NOAA's placement. We start by outlining the roles of US executive departments and agencies in environmental policy. A review of NOAA's history and its placement in the DOC shows past political impact on the agency, as NOAA's mission shifts when a new administration takes office. The possible implications of moving NOAA into the DOI is analyzed as compared to the movement of the US Fish and Wildlife Service from the US Department of Agriculture to the DOI. Despite known issues with NOAA's placement in the DOC, placement in the DOI brings up issues that show the pros of NOAA being under the DOC. Political and industrial influence on NOAA under the DOC is further examined in an effort to identify a better placement for NOAA.

Introduction

The International Panel on Climate Change (IPCC)'s 2021 report emphasises the urgency of the climate crisis. A global temperature increases of 1.5°C will likely be reached by 2040, and if the world doesn't halve its emissions by 2050, the temperature increase will surpass 1.5°C (Yale Climate Connections, 2021). Although individual citizens can make their own positive impacts on the environment by living sustainable lifestyles and supporting green business, large-scale emissions reductions occur at the federal level.

Federal environmental agencies such as NOAA are crucial in carrying out said changes. NOAA is a member of the IPCC and is a key player in the U.S. government's climate change policy efforts. They formulate Climate Action Plans, develop climate models, and release an annual climate report (Rick Spinrad, 2021). However, NOAA is under the DOC, which has primarily economic, industrial, and commercial goals. Political and industrial goals may clash with climate change policy, which is a heavily political topic and often conflicts with industrial endeavours (i.e. the oil and coal industries, the expense of going green, etc.). Political and industrial influence may hold NOAA back from effecting necessary climate change policies. In this paper, we analyse how NOAA's placement under the DOC affects its scientific integrity and ability to carry out their agency mission. We discuss a past attempt to move NOAA from the DOC to the DOI, compare NOAA mission statement changes between presidential administrations, study the effects of another agency who was moved into the DOI to gauge the possible implications of moving NOAA into the DOI, and analyse studies regarding political influence on various environmental agencies to understand where NOAA fits best in the U.S. government.

The U.S. Government's Relationship to the Environment

The U.S. government's responsibility to the environment is shared amongst four of the fifteen executive departments as well as the Environmental Protection Agency (EPA), which does not fall under any executive department. The four departments are the Department of the Interior (DOI), the Department of Agriculture (USDA), the Department of Energy (DOE), and the Department of Commerce (DOC). Unlike the EPA, which is dedicated to dealing with the environment, the other four executive departments are only responsible for environment-related issues in the context of its broader mission. Their indirect involvement in the environment makes it difficult for citizens to appreciate their contribution to the environment and understand how that responsibility might be affected by economic and political forces. In the following section, we attempt to delineate the role of NOAA within the larger governmental structure.

The EPA is the largest and likely most well-known U.S. environmental organization. The EPA was established in 1970 by President Nixon in response to public and congressional concerns over the environmental wellbeing of the U.S. It is an independent agency, and manages 10 regions across the U.S. They employ 14,297 employees and received \$9,237,153,000 for FY2021. The majority of EPA resources are used to conduct environmental research and enforce national environmental legislation. The EPA has the broadest set of responsibilities of the high-ranking environmental organizations, managing a wide range of issues, including but not limited to radiation protection, water quality, air quality, and pesticide and chemical regulation.

The DOI handles land and resource management, wildlife conservation, and Native American affairs. It was founded in 1849 to handle internal and domestic affairs. It has 18 Bureaus and Offices and employs 70,000 employees; its notable agencies include the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Survey, and the U.S. Geological Survey. The DOI's niche among the environmental departments is non-agricultural land management in the form of national parks and refuges -- it manages $\frac{1}{5}$ of U.S. lands, 348 reservoirs, and 410 national parks. The Fish and Wildlife Service also protects 544 national wildlife refuges. Despite the large swathes of land the department manages, the DOI receives the second-to-lowest funding of all the environmental departments, with a budget of \$21.55 billion in Fiscal Year 2021.

The USDA was founded in 1862 by President Abraham Lincoln, who called it "The People's Department." It is the largest environmental department with 29 agencies and 100,000 employees as of 2021. With 40% of U.S. lands used for agriculture, it's no surprise that the USDA is one of the best-funded executive departments, with a FY2021 budget of \$151 billion. The USDA also handles food and subsidies distribution, nutrition assistance, and food safety. 80% of the USDA's annual budget goes to the Food and Nutrition Service, which funds food stamps and other nutrition assistance services. Despite the department's focus being agriculture, its largest agency is the National Forest Service, which manages the 25% of federal lands that are covered with forests and grasslands. Therefore, the USDA is tasked with timber and wildfire management as well.

The DOE handles nuclear energy usage and research on energy sources and genomics. Founded in 1977, its origins trace back to the Manhattan Project and the newfound need to regulate nuclear and general energy policy. It is a small department of 14,000 employees and received \$35.36 billion in funding for FY2021. Although most of the DOE's funding currently goes to nuclear security, the DOE conducts renewable energy research and helps pass important legislation such as the Clean Energy Act of 2007, which set a Renewable Fuel Standard and aimed to increase fuel efficiency, security, and independence. The Offices of Environmental Management, Fossil Energy and Carbon Management, Electricity, and Nuclear Energy are all involved with American energy policies.

The final "environmental" Department, the DOC, is not a traditional environmental department. In fact, it has only one environmental agency: the National Oceanic and Atmospheric Administration (NOAA). The other agencies in the department deal with finance and economics. The DOC was founded in 1903, having split off from the Department of Labour. The NOAA receives the majority of the DOC's funding. The DOC receives the least funding of all executive departments, receiving \$7.89 billion in FY2021, but employs 46,608 employees -- a little under four times the number of DOE employees -- as of 2018.

NOAA was founded in 1970 by President Richard Nixon. Currently, NOAA's mission emphasises "measuring and predicting climate change impacts." NOAA manages the National Weather Service, the National Ocean Service, the National Environmental Satellite, Data, and Information Service, among other crucial weather and ocean research services. NOAA predicts the paths and strengths of hurricanes and tropical storms. The agency also conducts marine research and aids the Navy. In FY2022, NOAA has requested a \$6,983,329,000 budget -- the agency's largest budget request to date.

A History of NOAA and its Placement in the DOC

NOAA's roots reach back to the U.S. Coast and Geodetic Survey, which was formed in 1807 by President Jefferson. When the U.S. Coast and Geodetic survey merged with the Weather Bureau (1870) and U.S. Commission of Fish and Fisheries (1871) in 1970, NOAA was officially formed. The original plan was for NOAA to be placed under the DOI alongside most non-agricultural environmental agencies.

Although President Richard Nixon originally stated the agency's purpose as "better protection of life and property from natural hazards... for a better understanding of the total environment... [and] for exploration and development leading to the intelligent use of our marine resources," NOAA's mission statements and purposes have shifted over time. NOAA under the Bush administration aimed "to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs." -- the Bush administration put an emphasis on NOAA's economic potential. The Obama administration's NOAA focuses on a "triad" of values -- Science, Stewardship, and Service -- as well as mentioning researching Climate Change as part of their mission (NOAA Blue Book, 2012). Under the Trump Administration, NOAA lists a three-part mission: "1) to understand and predict changes in climate, weather, oceans, and coasts; 2) to share that knowledge and information with others; and 3) to conserve and manage coastal and marine ecosystems and resources" (NOAA Blue Book, 2018). The Biden Administration's NOAA puts their emphasis on climate change; "Measuring and predicting climate change impacts are core to NOAA's mission" (NOAA Blue Book, 2022). The difference between the Bush Administration's emphasis on NOAA's economic value to the Biden Administration's emphasis on climate change research demonstrates the shift in NOAA's mission and role in the U.S. government as climate change becomes more and more urgent.

NOAA's placement in the Department of Commerce has always been controversial. Most non-agricultural environmental agencies are under the DOI, but President Nixon had a feud with his Interior Secretary Wally Hickel when he founded NOAA. To irk Secretary Hickel, President Nixon stuck NOAA into the DOC, where it has remained since then. During the Obama administration, governmental reorganisation nearly resulted in NOAA being moved from the DOC to the DOI. Some argued that the DOI was "a more sensible place" (Obama, 2012) to put NOAA, as NOAA's work is similar to those of numerous DOI agencies. Others argued that moving NOAA to the DOI would "erode the capabilities and mute the voice of the government's primary agency for protecting our oceans and the ecosystems and economies that depend on them" (NDRC, 2012).

Pro-reorganisation voices argued that NOAA belonged in the DOI due to NOAA having a similar mission to many Interior agencies. For example, NOAA's work with hydrology and forecasting aligned with the Interior's U.S. Geological Survey's work with seismology and water resources. Lisa Brown, the executive director of the Government Reform Initiative at the Office of Management and Budget, said, "By consolidating NOAA into Interior, we will strengthen our stewardship and conservation efforts and enhance scientific resources" (Clark, 2012). Under the Obama administration, NOAA's mission was the Triad -- Science, Stewardship, and Service -- and Brown believed that NOAA's mission would be more achievable under the Interior. James Baker, former director of NOAA under the Clinton Administration, stated the plan "makes sense" with the synergies between NOAA and Interior departments such as the U.S. Geological Survey (Clark, 2012). An anonymous NOAA employee stated that "I think it paints a bad picture when we are supposed to be managing and conserving marine resources and we are under the Department of

COMMERCE” (Clark, 2012). According to Brown, the Obama administration believed that the Department of Commerce would benefit from being focused on only trade and business, while NOAA, whose mission and undertakings were rather unrelated, was handled by the Interior (The Washington Post, 2012).

However, anti-reorganisation voices argued that NOAA’s power would be diminished under the large, busy Interior. David Goldston of the Natural Resources Defense Council and Emily Woglom of the Ocean Conservancy both argued that “having an independent voice for the ocean and ocean science is most important” (The Washington Post, 2012). Goldston elaborates that “If NOAA and Interior disagree now, it’s a dispute between two cabinet departments that has to get elevated to the White House to get worked out by third parties. If NOAA is a division of Interior, the Interior Secretary can just shut NOAA up” (Goldston, 2012). Then-Alaskan Senator Mark Begich also stated that he was “not sure burying NOAA in an already overburdened Interior is a good idea” (Government Executive, 2012).

In the end, anti-reorganisation voices won, as NOAA remains in the DOC to this day. Numerous media outlets, environmentalists, and Congressmen were strongly anti-reorganisation, which appeared to have blocked the reorganisation initiative. NOAA under the DOC would provide more value to support the environment as its mission and voice will not be drowned out.

Implications of NOAA’s Placement

To further measure the possible impacts of NOAA’s movement from the DOC to the DOI, we can analyse the U.S. Fish and Wildlife Service (USFWS). The USFWS was moved from the USDA to the DOI in 1940, and by analysing the changes the agency underwent, we can predict possible changes to NOAA if it is moved to the DOI.

Under the DOI, the USFWS gradually shifted away from predator and rodent control, and toward wildlife and habitat restoration. This mission change shows how the executive department’s role has strong influence over its agencies; the USDA would be more focused on rodent control as rodents affect agriculture, while the DOI manages and restores lands. The USFWS was also able to partner with the National Park Service (NPS) to increase efforts on habitat restoration; many arguments for moving NOAA into the DOI include NOAA being able to partner with similar agencies like how the USFWS and NPS have cooperated. With the Secretary of the Interior being more active than the Secretary of Agriculture, the USFWS doubled in size and combined fisheries with other wildlife conservation (U.S. Fish and Wildlife Service Museum Archives, 2021). This shift shows a positive change in the USFWS’s role in the environment, as the USFWS was able to expand their agency and have greater access to resources they needed to carry out their mission.

Although the USFWS appears to be faring better in the DOI than the USDA, it is not immune to political influence. According to a 2018 study conducted by the Union of Concerned Scientists (UCS), the USFWS, NPS, and USGS (all Interior departments) were all more prone to workforce reductions due to staff departure, retirement, and/or hiring freezes than NOAA. The USFWS and NPS also reported that the greatest barriers to science-based decisions in their agencies were the influence of political appointees in their agencies and limited staff capacity. The USFWS also had low workplace morale. 47% of respondents who were NPS employees reported having been asked to omit the phrase “climate change” from their work, compared to 10% of NOAA employee respondents (UCS, 2018).

Interior agency budget allocations also differ from Commerce budget allocations. The USFWS has requested a budget of \$3.6 billion for FY2022 and received \$2.8 billion for FY2021 (Fish and Wildlife Service Budget Justifications, 2022). The USFWS and NPS were the most well-funded Interior agencies in 2021 and have requested the highest budget out of all Interior departments for FY2022. However, their budgets fall short of NOAA’s FY2021 enacted (\$5.65 billion) and NOAA’s FY2022 requested (\$6.98 billion). Since the DOI has more agencies (many of which are similar to NOAA and of similar importance to one another) to allocate their department budget to, Interior agencies receive less funding than NOAA. In this case, NOAA has an advantage being under the DOC, as it receives the majority of the DOC’s budget and has no competitors for its budget.

Under the DOC, NOAA may be spared from the stronger political influence that the DOI is subject to and receives more funding. However, NOAA may also miss out on possible cooperation with Interior agencies such as the

USGS and access to Interior resources. NOAA being surrounded by similar agencies may also draw attention away from NOAA, or cause agency clashes for funding and attention rather than allowing better cooperation. The political influence on the DOI may also differ from the political and industrial influence on the DOC. In the next section, we will explore the political and industrial influence on NOAA specifically.

The Influence of Politics and Industry on NOAA

Due to NOAA's placement under an executive department -- specifically, the Department of Commerce -- its funding and therefore its scope of influence are strongly influenced by the political party in power and that party's view on business and industry. According to another study by the UCS, 38% of surveyed scientists at NOAA believed that business and industry interests hindered the agency's ability to make science-based decisions, and 29% of respondents stated that senior decision-makers with backgrounds in industry have an inappropriate level of influence over decisions.

Although these percentages may seem low and therefore not a large issue, the fact that there exist NOAA employees who have been asked to omit the phrase "climate change" and felt pressured by industry interests in the first place is problematic. When asked to elaborate on their response, an anonymous NOAA employee said that "Industry is given power to direct policy involving regulations or scientific conclusions (and opinions based on the science) that would affect them, thus providing outcomes that benefit them. This comes at the cost of our agencies ability to accomplish our mission for the American public and natural resources we are entrusted to manage and conserve." Another added that "NOAA's mission includes climate work. There is universal acceptance among the agency's non-political staff about the reality of climate change. We have to tiptoe around this issue, which is degrading." (UCS, 2018). These employees' experiences are clear examples of political and industrial influence on NOAA's research and service to the environment. With NOAA's role becoming increasingly crucial in the U.S.'s fight against climate change, a network of these instances could become large hindrances.

Although 64% of respondents at least agreed that NOAA adheres to its scientific integrity policy, the 2017 Hurricane Dorian controversy brought forth scepticism of NOAA's scientific integrity in the face of politics. When President Trump lied about NOAA's predicted path of Hurricane Dorian to the press, Secretary of Commerce Wilbur Ross had reportedly threatened to fire NOAA employees if they did not back up or at least turn a blind eye to the President's claims. The National Weather Service issued a follow-up statement partially agreeing with President Trump, which drew backlash from fellow scientists about the scientific integrity of NOAA's statement (Flavelle, Friedman, and Baker, 2019). The Hurricane Dorian controversy shed light on how politics had driven NOAA to break its scientific integrity policy; this concerning event raises the question of how many other times NOAA has broken or will break their scientific integrity policy in the past or future, as the agency has proven itself capable of doing so.

As NOAA plays an increasingly important and publicized role in the U.S.'s response to climate change, it is likely that its ability to act will become more entangled in politics. Aspects of this shift might be predicted by examining the EPA, which has traditionally been the brunt of political agendas. The same UCS study found that the EPA's "greatest [barrier] to science-based decisions" was "the influence of political appointees in [their] agency or department." The EPA also has the poorest workplace morale of all agencies surveyed and the lowest percentage of employee respondents who agreed that their agency adheres to its scientific integrity policy (UCS, 2018). The Trump administration also sought to "terminate the Environmental Protection Agency" (H. R. 861, 2017). The FDA, CDC, and other non-explicitly environmental agencies all fared better, with higher workplace morale and more adherence to scientific integrity. The EPA seems to be targeted due to having an explicit environmental branding; its name has the word "environmental" and it is an independent agency solely dedicated to the environment. This raises the question of whether NOAA will become a similar target if it is placed under a known environmental agency such as the DOI.

NOAA's annual budget is also influenced by politics. Figure 1 below shows NOAA's yearly requested and enacted budgets from FY2003-FY2022.

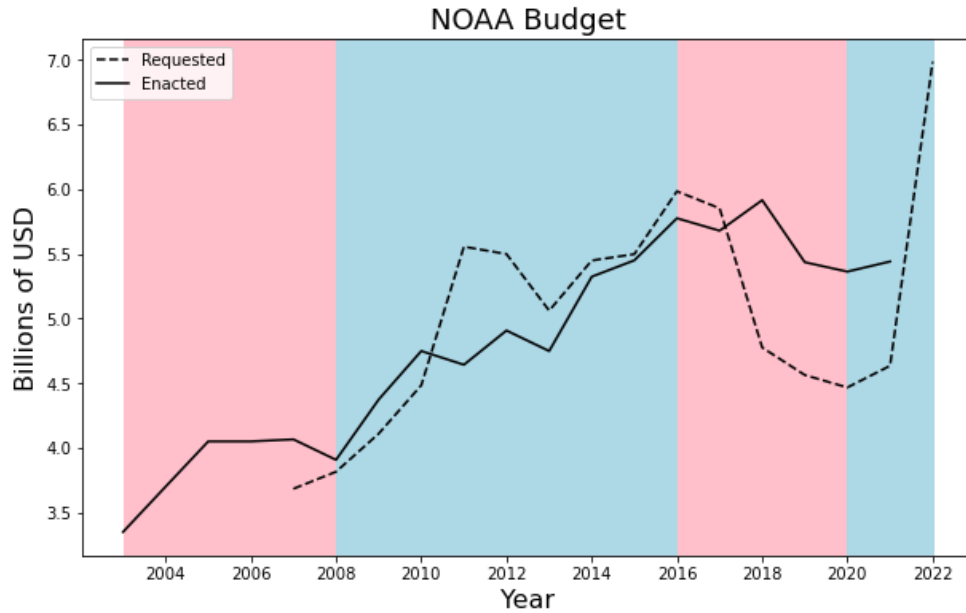


Figure 1: NOAA Requested and Enacted Annual Budgets From FY2003-FY2022. Red regions show periods of Republican administration and blue regions show periods of Democratic administration. There is no publicly available data for requested budgets from 2003-2006.

NOAA requests more funding during Democratic presidencies and less during Republican presidencies, as Republican presidents are less likely to support environmental initiatives. The sudden drop in requested budget after 2017 appears to be influenced by the Trump administration’s efforts to roll back regulations and even get rid of the EPA -- a clear red flag that they wouldn’t support environmental agencies such as NOAA. NOAA’s budget is also reviewed by the Secretary of Commerce before being sent to the President, and the Secretary of Commerce’s response to the Hurricane Dorian controversy implied that he would not be supportive of pro-environmental endeavours. NOAA’s mission statement in their budget proposals was the most specific during the Trump administration as well; NOAA seemed to specify their mission to show the Secretary of Commerce, President Trump, and Congress the important tasks they were allocating the budget to. This works in their favour, as the enacted budget exceeds the requested budget throughout the Trump administration.

NOAA’s enacted budget drops below their requested after 2011, despite 2008-2012 being a Democratic administration. This is likely due to the Republicans winning the majority in the House of Representatives in 2011; since the budget has to go through Congress, they could have cut NOAA’s budget, as Republicans are less inclined to support climate change policies. From 2011-2017, at least one Chamber of Congress is held by the Republicans, and NOAA’s enacted budget remains below their requested until 2018. In 2018, the Democrats regained the majority in the House of Representatives, and NOAA’s enacted budget increases above their requested budget. NOAA also decreased their budget requests dramatically in 2018; the Trump Administration's response to Hurricane Dorian and their attempted termination of the EPA sent a clear anti-environmentalism message.

Limitations

A limitation of this study is the fact that these analyses and explanations are done by humans with opinions. Although we approached this study as objectively as we could, human bias is inevitable and could have affected our study. We also had to make speculations behind the fluctuations of NOAA’s budget between 2003 and 2022. The main factor we considered was the political party in power, but other unknown factors may have had an influence that we did not

include. Overall, with the complexity and ambiguity of politics, we are unable to be certain that we were able to take all factors that affect NOAA's placement in the U.S. government into account.

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Conclusion

NOAA plays a unique and important role in the federal effort to protect the environment. Not only does NOAA forecast hurricanes and conduct critical marine research, but it is a crucial player in the U.S.'s response to climate change, which is both a political and commercial topic. Thus, the mission of NOAA is heavily influenced by politics and commerce, which in turn impacts NOAA's ability to effect change with their research. Interior agencies are more susceptible to political influence and receive less funding than NOAA, but the DOC has more commercial motives that can conflict with NOAA's mission. After measuring the impact of said influences on NOAA versus USFWS, NPS, and other Interior agencies, we conclude that NOAA will receive less influence and pressure under the DOC than the DOI. NOAA will also be better funded and have a stronger voice than it would have if it were under the DOI. There will still be political and commercial pressures on NOAA under the DOC, but less than if it were under the DOI. There is no "perfect solution" to political pressure with an environmental agency in the U.S. government but being under the DOC gives NOAA the best funding paired with the lowest political and commercial influence.

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