

CHALLENGES OF LARGE-SCALE PLANNING REVEALED THROUGH COMMENTS TO  
THE NATIONAL OCEAN POLICY

by

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## **Abstract**

The National Ocean Policy represents recent efforts by the United States federal government to develop a comprehensive plan to manage uses in the federal exclusive economic zone of the ocean. Planning efforts encounter numerous challenges, including: planning long-term action in a system with short-term political cycles, incorporating the uncertainties science in the planning process, and having adequate capacity to manage the problem. Large planning initiatives have additional issues with multi-jurisdictional planning and the need for representative planning bodies. Additionally, the history of the environmental movement in the United States and the history of environmental policies effect the development of the National Ocean Policy.

The public comments represent the views of concerned stakeholders and reveal the challenges of this type of planning. A thematic analysis of recent public comments to the Strategic Action Plans for the National Ocean Policy shows that new or additional regulations and fear of negative economic impacts are the primary reasons given by stakeholders opposed to the policy. The reasons given for support of the policy include general environmental protection and the policy as a method to deal with the impacts of climate change.

The comments also reveal broader challenges to the planning efforts including the timescale mis-match between policy-making and elections, the integration of science and policy, contextual issues of planning in a changing climate, and the political landscape. The challenges that are revealed by this analysis are fundamental challenges to this and other planning processes and will need to be overcome for successful implementation of the Policy. Reasons for opposition or support of the policy can guide the National Ocean Council in areas of necessary public outreach to aid promotion and implementation of the National Ocean Policy.

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## Introduction

Developing broad environmental policies in the United States has many challenges. Some of these challenges include, gaining extensive general grass roots support, adopting a long-term perspective as opposed to seeking short-term benefits, overcoming deeply partisan politics, and working within a framework of complex and compounding environmental issues like global climate change (Andrews 2006). The National Ocean Policy is a newly proposed comprehensive environmental management regime for United States federal ocean management. The purpose of this paper is to explore some of the challenges associated with developing support for the policy, as reflected in public comments.

In the United States, planning occurs at many different scales and for various purposes. Federal, State, and municipal governments engage in the planning process for issues such as land use, resource use, and infrastructure management. There are competing ideas of how to implement planning, and if planning should be “bottom-up”, or “top-down” (Lane and McDonald 2005). Both types of planning frameworks have challenges. For small scale planning efforts that are community based, or highly local, there are often challenges with the capacity of the planners to deal with the complexity of the issues, the timeframes of the issues, or the scales of the environmental problems associated with the planning process (Measham and Lane 2010). Alternatively, regional planning is based on the concept of planning for a larger geographic area. Instead of planning for one city, or state, the entire region develops a plan. This concept began in the early 1900s and is most exemplified by the Tennessee Valley Authority (Meyers 2006). Regional planning recognizes the economic links between cities and towns, and attempts to avoid duplication of planning (Appiah-Opoku 2010). Larger regional

planning efforts also have many challenges. For large environmental issues there are problems of uneven impacts throughout the region, unresolved or uncertain science, and challenges from coordinating across several levels of government (Foster 2010). To make a comprehensive regional plan may require the planning bodies to have rulemaking authority, but that authority would have to be ceded from other bodies within the regional area. These bodies would likely have their own agendas and interests, and would likely be opposed to the loss of power. These regional planning bodies would also need to have approval from voters or elected bodies to have legitimacy, without that the likelihood of success is low. Finally, regional planning bodies may compete with other groups for funding if one organization, like the federal government, is attempting to support planning efforts in multiple regions at one time (Foster 2010). The National Ocean Policy has many of these challenges to planning, and through an analysis of the public comments, I hope to explore some of the planning issues, with this policy specifically, and ocean planning in general.

The National Ocean Policy was proposed by the Obama Administration in 2010, and it and its Strategic Action Plans have been available for public comment at various stages of development. Any citizen, interest group, or potentially affected organization is able to submit a comment for the public record to the National Ocean Council or the Council on Environmental Quality by mail, on the White House website, or at one of the public listening sessions hosted by representatives from the government that occurred in various cities around the country. Comments are one way for the government to obtain feedback for proposed policies, and are in some cases required by law. Comments can highlight areas of potential conflict or concerns from the public, and they can show where difficulties may lie for managers hoping to gain

support for and implement new policies. This paper will examine levels of support for or opposition to the National Ocean Policy as shown through the public comments on the Strategic Action Plans. Next, it will explore what the arguments behind their positions in support or opposition to the policy are, which will lead to recommendations regarding areas of interest or concern that outreach and communication efforts should address. Finally, this paper will focus on several areas that stand out in the public comments for the National Ocean Policy that are challenges for large scale environmental planning in many contemporary settings: public perceptions of climate change as a contextual issue, the role of science and policy integration, and mis-matches in the timescales associated with management decisions and environmental change. Specific to the National Ocean Policy, the differences in planning for oceans versus on land will also be explored.

This paper is structured as follows. Prior to examining the National Ocean Policy, the history of environmentalism in the U.S. is reviewed, to provide a context for considering the current efforts by the Obama government. Then an explanation of the methods is included. Next, the results of the analysis includes the support and opposition of the policy and selections of comments that pertain to the themes of challenges to planning efforts. This is followed by a discussion of the themes to planning challenges and finally with conclusions.

### **History of environmental movements and the National Ocean Policy**

The current development of the National Ocean Policy is more easily understood when it is viewed in the context of the history of the U.S. environmental movement, and the shifts in environmental policy. While discussions of environmental issues began in the late 1800s most of the debate was about environmental values and appropriate uses of the environment. The

debate was between “conservationists” who were interested in the utilitarian value of nature and “preservationists”, who sought protection of wilderness for aesthetic and recreational value. Concerns about environmental or human health were primarily a local concern for towns or cities (Smythe 1997). To understand the current National Ocean Policy it is most useful to consider it in light of the environmental movement in the last 50 years. The current suite of federal environmental policies, for example, the Endangered Species Act, Clean Water Act, and the National Environmental Policy Act are rooted in the “environmental era”, the 1970s, which was a time of widespread grass-roots support for environmental regulations (Andrews 2006). The public outcry arose from the 1960s with the publishing of Rachel Carson’s *Silent Spring* and the high profile environmental disasters like the Cuyahoga River fires (Rayner 2005), the Santa Barbara Channel Oil Spill, and the spread of radioisotopes from nuclear weapons testing (Smythe 1997). Initial environmental regulations featured centralized “command and control” style environmental performance standards, such as limits on wastewater discharge or technology based emissions standards. By the next decade however, this type of regulation was widely criticized as inefficient (Andrews 2006).

The Reagan Era of the 1980s brought about a new focus on free-market ideology and pressures to reduce or eliminate the costs of environmental regulatory compliance to industries (Gunningham 2009). In response, new styles of environmental regulations became popular; including market based approaches, such as the emissions trading program to reduce acid rain included in the 1990 Clean Air Act reauthorization (EPA). Additional programs included: voluntary programs and negotiated agreements, to varying degrees of success. Environmental protection policies, which initially held widespread bipartisan support in the 1970s, were

perceived as no longer a widely supported ideology, with Democrats viewed as more environmentally concerned than Republicans (Kuzmiak 1991). Environmental issues are much more partisan, with environmentalists battling with corporate interests in a general atmosphere of distrust for the government and governance (Andrews 2006). Since 1994 strong pro-business, anti-regulation, small government conservatives have been very powerful in congress and have worked to weaken environmental protection (Andrews 2006). As a result, developing ocean policy has been challenging. For example, in 2005, Senator Barbara Boxer of California and Senator Frank Lautenberg of New Jersey sponsored the National Ocean Protection Act of 2005 to coordinate management of ocean resources (2005), however that bill was referred to the Committee on Commerce, Science, and Transportation, but never voted on (govtrack.us 2005). One of the potential reasons this bill never succeeded is that it may have been viewed as a type of “command and control” legislation, which was no longer favored.

More complex environmental problems, like comprehensive ocean management, are not issues that are easily observed by the public (Rayner 2005) and according to Gunningham, the “more complex the environmental problem, the more obvious become the limitations (and the inefficiencies) of direct regulation in addressing it” (2009). Most of the environmental reforms have come about not due to foresight and planning, but in response to crisis situations (Andrews 2006). The need for implementing the National Ocean Policy is difficult to portray as a crisis. The complexities of ocean management are not always clear, and the long timeframe of impacts are not a primary concern for the average person. Markedly, President Obama signed the executive order for Stewardship of the Ocean, Our Coasts, and the Great Lakes following the Gulf of Mexico Deepwater Horizon well blowout and oil spill in July of 2010. This



may have been an attempt to capitalize on the then current crisis situation to enact environmental policy, however it is difficult to maintain a crisis attitude (Andrews 2006). In fact, a LexisNexis search of major US and World news of the terms “gulf oil spill” found 302 articles between July 1, and July 31, 2010, the month BP capped the blown-out well. One month later only 148 articles were published. The same periods one year later featured only 16 and 9 articles, respectively, illustrating how quickly the oil spill faded from the public eye.

In spite of a political climate hostile to federal environmental legislation, and the complexities of ocean governance, President Obama convened an Interagency Ocean Policy Task Force in 2009 (Quality 2012). Then, on July 19, 2010 he signed the executive order for the Stewardship of the Ocean, Our Coasts, and the Great Lakes. This enacted the Final Recommendations of the Interagency Ocean Policy Task Force, by establishing the National Ocean Council to design the National Ocean Policy (Obama 2010) . The National Ocean Policy consists of nine priority objectives, shown in table 1. The National Ocean Council developed nine Strategic Action Plans, one for each priority objective, and collected public comments for the scoping of the plans and the plans themselves.

The first of the objectives is Ecosystem-Based Management (EBM), which is a drastically different management technique than that of the current sector-by-sector management system. Ecosystem-based management is a shift from traditional sector-by-sector management to a more holistic, place based management of ocean activities within a framework of guiding ecological principles (Norse and Crowder 2008). The current policies of sector-by sector management can lead to fragmentation of knowledge and governance, which occurs at varying

spatial and temporal scales. A goal of EBM is to maintain the health of an ecosystem and ecosystem services for human use by considering issues at the ecosystem scale, not at political boundaries. The ecological goals for healthy ecosystems are maintaining native species and habitat diversity, maintaining key species, and maintaining connectivity (Foley, Halpern et al. 2010). A holistic place based planning mechanism also considers the human activities, which are growing in number and type in the oceans, and considers the economic, social, and cultural issues as well as the ecological issues.

Ecosystem-based management is the main objective of the policy and most of the other objectives support this primary objective. The second objective is Coastal and Marine Spatial Planning (CMSP), which is a tool to help make ecosystem-based decisions. The priority objective of CMSP is important because it is one of the more controversial objectives of the policy. Sometimes CMSP by itself is confused with the National Ocean Policy overall. The definition of coastal and marine spatial planning, from the executive order and the Interagency Ocean Policy Task Force, is

a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas. Coastal and marine spatial planning identifies areas most suitable for various types or classes of activities in order to reduce conflicts among uses, reduce environmental impacts, facilitate compatible uses, and preserve critical ecosystem services to meet economic, environmental, security, and social objectives. In practical terms, coastal and marine spatial planning provides a public policy process for society to better determine how the ocean, our coasts, and Great Lakes are sustainably used and protected -- now and for future generations.

The priority objectives of Ecosystem Based Management and Coastal and Marine Spatial Planning received the most comments and were the most controversial of the objectives. I am also personally interested in climate change and how it is incorporated into the National Ocean Policy. Objectives 5 and 8 are Resiliency and Adaptation to Climate Change and Ocean Acidification, and Changing Conditions in the Arctic, respectively. Both of these objectives deal with the effects of climate change but in different geographic areas or different types of impacts. Dividing climate change into two different areas is not an integrated approach, and may be an inefficient way to approach climate change.

**Table 1: List of the nine priority objectives of the National Ocean Policy and a brief description.**

<b>Number</b>	<b>Priority Objective</b>	<b>Description</b>
<b>1</b>	<b>Ecosystem-Based Management</b>	Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes
<b>2</b>	<b>Coastal and Marine Spatial Planning</b>	Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States
<b>3</b>	<b>Inform Decisions and Improve Understanding</b>	Increase knowledge to continually inform and improve management and policy decisions and the capacity to respond to change and challenges. Better educate the public through formal and informal programs about the ocean, our coasts, and the Great Lakes
<b>4</b>	<b>Coordinate and Support</b>	Better coordinate and support Federal, State, tribal, local, and regional management of the ocean, our coasts, and the Great Lakes. Improve coordination and integration across the Federal Government and, as appropriate, engage with the international community
<b>5</b>	<b>Resiliency and Adaptation to Climate Change and Ocean Acidification</b>	Strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification
<b>6</b>	<b>Regional Ecosystem Protection and Restoration</b>	Establish and implement an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the Federal, State, tribal, local, and regional levels
<b>7</b>	<b>Water Quality and Sustainable Practices on Land</b>	Enhance water quality in the ocean, along our coasts, and in the Great Lakes by promoting and implementing sustainable practices on land
<b>8</b>	<b>Changing Conditions in the Arctic</b>	Address environmental stewardship needs in the Arctic Ocean and adjacent coastal areas in the face of climate-induced and other environmental changes
<b>9</b>	<b>Ocean, Coastal, and Great Lakes Observations, Mapping, and Infrastructure</b>	Strengthen and integrate Federal and non-Federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system and integrate that system into international observation efforts

## Methods

The National Ocean Council collected public comments on the Strategic Action Plans for the National Ocean Policy between January 24<sup>th</sup> and July 2<sup>nd</sup> of 2011, which are available for download from the National Ocean Council website at <http://www.whitehouse.gov/administration/eop/oceans/comments>. The National Ocean Council grouped the comments by the priority objective the comment was responding to and by the date received. I reviewed all of the comments submitted, excluding one set of form letters submitted by members or supporters of the National Resources Defense Council. In the review of these comments, I performed a thematic coding of the comments (Ayres 2008). First, I looked for the support or opposition of the individual comments to the National Ocean Policy, then I looked for the arguments behind their positions of support or opposition. Lastly, I reviewed the comments to determine if they revealed any broader challenges to large-scale planning or implementation that are issues for many planning efforts, not just the National Ocean Policy. I initially looked for general planning challenges such as the timescale mis-match of planning, and the issue of climate change as an external challenge to the process. From the analysis, additional themes emerged, namely issues with science and policy integration and planning in the context of the political landscape.

## Results

### General support for or opposition to the National Ocean Policy and rationale

From the 367 comments reviewed, 177 were clearly in favor of the National Ocean Policy and the priority objectives, while 45 were not in favor of the policy. Ninety-nine comments were not specific in support or opposition of the policy, but only contributed suggestions on preferred changes. The remaining comments were either duplicate comments submitted by the same person or not pertaining to the topic. An example of an off topic comment included one from a business advertizing a new technology for firefighting. Each of the comments was categorized for the rationale behind the support or opposition to the policy. Longer comments may have had more than one rationale behind their position, and the top two rationales were recorded. The categories ranged from protection of the ecosystem and climate change to government regulations and economic concerns. Some of the comments did not have a clear rationale behind their support or lack thereof. In total there were only a small number of individual comments analyzed. These comments cannot be extrapolated out to general public opinion. Because interested individuals self-select to provide comments, it is not a random sample of the population.

Of the comments that support the National Ocean Policy, overwhelmingly the arguments behind that support was general environmental protection with 70 comments, or 40% of the supportive comments. Climate change or the impacts of climate change were the second most frequent motivation with 25 comments, 14% of the supportive comments. The third most frequently mentioned reason was that the National Ocean Policy is a good management strategy with 22 comments, or 12%. Of the comments that oppose the National

Ocean Policy, the top three identified rationales were that the policy would alter or create new regulations, the policy would create a duplication of regulation or bureaucracy, or the concerns for economic impacts from the policy. There were 14, 13, and 13 comments that cited those concerns, respectively, which represent 31%, 29% and 29% of the comments in opposition to the policy.

### **Comments on timescale mis-match**

Several of the comments to the National Ocean Council raise the questions of short-term outlooks by elected official. The following comments indicate that the short-term interests are more powerful and major obstacles to this planning process.

[obstacles to adaptation to climate change include] Locally elected officials, development interests, property owners and other focused on short term gains versus perceived high costs of adaptation planning and implementation

Too often, powerful economic interests put pressure on government agencies (and the government as a whole) to pursue policy objectives which address narrower concerns and short-term interests. This effort to create a comprehensive National Ocean Policy is a rare opportunity to \*establish a direction\* [sic] that can gain momentum in positive and productive ways.

The comments to the National Ocean Council show the concerns with the potential turnover in administrations limiting the effectiveness of the Council and the Policy.

if all members of the NOC are political appointees it is unreasonable to expect the NOC to function as a long-term, consistent, and coordinated planning body, given the high likelihood of significant turnover in the upper echelons of the Executive Branch that usually comes with a change in Administration.

Some of the comments question the fact that it is unclear in the current plan what the timelines for planning will actually be.

There needs to be clarity with regard to the time period the NOC intends the CMS plans to cover, e.g. 5 years, 10 years, longer? AOGA recommends against plans that extend too far in the future because of the uncertainty predicting long-term coastal and ocean uses would add to an already complex process

Other comments are concerned that there are changing deadlines from the Final

Recommendations of the Interagency Ocean Policy Task Force to the Strategic Action Plans:

The original work deadlines noted in the Final Recommendations should be restored. For example, the CMSP SAP outline discusses the many benefits of CMSP and yet the initial CMS Plans are not slated to be developed until 2020 - five years beyond what was promised just under a year ago in the Final Recommendations.

Some of the comments on the other hand want timeline extension to allow for more studies and information gathering:

We support the proposed CMSP timeline extension for the development of CMS plans by 2020.

Some comments indicated the planning time horizon that the comment author felt would be most appropriate. The Sierra Club Marine Action Team wrote that:

We believe the scope of decision making should include possible actions at the national level that could be taken now to reduce the impacts of climate change and ocean acidification 15, 30, 60, and 100 years hence.

Whereas, the State of Alaska wrote that planning timelines should be much shorter, that:

planning should focus on near and mid-term outlooks rather than longer-term outlooks (those beyond 50 years). There is simply too much uncertainty to focus planning beyond 50 years. ... More effort needs to be focused on the nearer term (the next 15-25 years) as this is the decision frame for many state and local officials. It is critical to test assumptions of models used to forecast change and to improve the quantity and quality of data and information that serve as model

inputs. Model outputs are only as good as the data and assumptions used as inputs.

and another comment stated that:

The [climate change] forecasting focus should remain on short and mid-term predictive models (those less than 25 years), rather than on longer term predictive models which are more speculative, untested, and uncertain.

### **Comments on planning in the context of Climate Change**

A comment from the Western Urban Water Coalition on the inclusion of climate change states that the:

WUWC has repeatedly voiced support for the consideration of climate change and ocean acidification in resource management decisions. We urge that this be done based on sound science rather than on politically-motivated policies.

There were several that supported a general need for action with regards to climate change, but without a specific policy direction.

Please keep these waters safe from climate change and other damaging influences to the best of your ability

and that:

We need to increase awareness of global climate crisis and maintain mitigation and protection as a priority in the White House and Congress despite the many other pressing issues

Other comments offered general suggested actions to strengthen the section on climate change by:

Educating the public about the pressing issues facing our oceans is vital.  
...Continue delivery of the climate adaptation message

and:



Federal planning and investment need to incentivize local adaptation and reward robust planning and discourage the failure to plan for adaptation

Only one comment was specific about the use of CMSP as a tool to approach the issue of climate change. The comments from the Port of Long Beach stated that:

The development of Coastal and Marine Spatial Plans (CMS Plans) provide a key opportunity to prepare for climate change in a comprehensive, regional manner. In the instance of sea level rise, for example, the CMSP process could be the forum wherein agencies and stakeholders consider which shorelines must be protected (e.g., ports), and where opportunities exist to implement managed retreat and preserve vital ecosystem services.

One comment from Senator Daniel Inouye of Hawaii on the appropriate forum for addressing coastal and ocean issues including climate change stated that:

There are numerous pressing ocean and coastal management issues that might be better addressed through the creation of executive level agreements between States, Territories, and the Federal government, many of which have only tenuous links to questions of competing use. Adapting to the impacts of climate change and dealing with coastal pollution are just two that come to mind. Both of these issues have spatial components but you would be hard pressed to argue that their resolution would depend primarily on effective CMSP.

Comments also varied as to how much climate change should be a part of the planning process.

One comment specifically criticized the plan as “too timid” because it did not state that:

the science community knows that a significant portion of climate and virtually all of ocean acidification is occurring because of our anthropogenic CO<sub>2</sub> gas emissions. Therefore and obvious way to address and respond these threats posed to the marine environment is to have a strong statement supporting policies and strategies to stabilize if not reduce atmospheric CO<sub>2</sub>.... the document must be expanded to include support of actions that reduce CO<sub>2</sub> emissions and promote CO<sub>2</sub> removal from air

Other comments recognized the impacts of climate change, but also expressed a need to balance action on climate change with economic costs and benefits. The Transportation Institute stated that

The economic and energy needs of our Nation must be balanced with the desire to respond to legitimate climate change concerns.

The comments also varied on if the plans should include mitigation of climate change through greenhouse gas reductions. The Center for Biological Diversity argued that:

Action plans must provide...proactive and comprehensive approach to prevent climate change and ocean acidification, including the goals to rapidly reduce carbon dioxide pollution.

While groups such as the Resource Development Council were specifically opposed to any greenhouse gas emission regulations through ocean planning:

Greenhouse gas emissions/climate change and its potential impacts should not be regulated by ocean zoning. The potential impact to communities and projects if this were to be done could be devastating to Alaska's economy, with minimal or no added benefit to the environment.

There were only four comments, shown below, that questioned the science of climate change entirely:

the oceans have always had their own set of cycles that we don't fully understand or know

Climate change (global warming?) should not be the primary driver behind this effort. I am concerned that the basis [sic] assumption being used by the NOC is that climate change, i.e. global warming, is primarily caused by greenhouse gasses produced by man.

Prudent scientists should at least consider the possibility of global cooling and how we might respond to expanding ice caps, advancing glaciers, and other related outcomes.

We are having the greatest solar flares in the history of the keeping of data on the sun. We have new and old volcanoes erupting all over the world and earthquakes that are so big that they are moving the tilt of our planet. And you do not mention any of this data as a reason, but try to blame it on an invisible gas that plants need and other bad excuses --I am not happy with you experts, legislative bodies and politicians

### **Comments on Integration of science and policy**

Regarding the use of science to develop policy one commenter noted that:

The available science is clear: marine reserves are a valuable tool for protecting biodiversity and rebuilding fish stocks.

However, what constitutes a scientific consensus, or what is the most accurate information, is also a question:

A major obstacle to implementing the priority objective for improving understanding in the ocean environment is the use of questionable science and making ocean policy decisions based on poor or out-of-date information.

Some of the comments seek to allow broader access for what constitutes the scientific basis for decision-making:

Scientific baseline data needs to be gathered and local or traditional knowledge needs to be incorporated into those studies to allow policy makers to make informed decisions

and:

Regional stakeholders should lead planning efforts, not only by providing comments but also reviewing scientific information

One comment questioned the feasibility to actually accomplish ecosystem-based management because of the quantity of information required and the ability to understand complex systems:

An ocean management approach that attempts to consider everything ultimately considers nothing very well. To be effective, such a comprehensive and far-reaching approach would require a considerably greater understanding of the living and non-living factors in the environment than currently exists. ... We believe it is premature to attempt to embark on this fundamental shift in management given the general lack of scientific data to support this approach.

Some comments fully support the use of the precautionary approach:

the precautionary principle must underpin the entire NOP. This will help make decisions when a conflict between human use and environmental protections arises in our oceans and coastal waters.

However, there were also several comments that are in opposition to the precautionary approach as a shift away from the traditional “best available science”:

We also oppose mandating "precautionary approaches" or "precautionary principles" that dictate worst-case assumptions when faced with scientific uncertainty. These terms are misleading and should not be confused with the careful and conservative abundance-based management used in Alaska. We support approaches that deal with scientific uncertainty by adopting reasonably conservative assumptions.

and:

All actions of the NOC pursuant to the NOP must be based on sound science and policy and must not substitute a general risk avoidance-based approach for an approach based on science and risk management

Some comments identified the need for providing models and downscaling of modeling results to regions or states. For example:

Downscaling of current climate change models for the ocean ecosystem in the Beaufort, Chukchi and Bering Seas in order to incorporate climate change into future scenario planning

and:

We believe this SAP does not adequately address the need for downscaling climate models to provide regional information to states and nations.

However, there were specific comments that questioned the validity of using modeling results for decision-making. The American Petroleum Institute and the Alaska Oil and Gas Association respectively stated that:

[the] EPA should not base regulatory decisions on incomplete, insufficient, or non-site-specific data and modeling results.

and:

If decisions are based on modeling, those models should be reliable, transparent, validated and data-driven.

The office of the Science Advisor to the U.S. Fish and Wildlife Service recognizes the problem of having multiple models and commented to the National Ocean Policy about the need for consistency in climate projections.

There are currently approximately two dozen global circulation models available for projecting broad patterns of temperature and precipitation well into the future...This is one example of why we need something like a National Climate Service. Until we have one recognized and accepted authority that can define what climate scenarios each sector should include in their climate change adaptation planning we are unlikely to end up with sufficiently coordinated and integrated climate change adaptation plans across sectors ( e.g. agriculture, conservation , health, transport, etc)

## Comments on the political landscape

Some of the comments recognize the lack of a specific statute as a potential flaw in this policy. They recommended that:

Incorporate CMSP goals and objectives into federal programs through a "unifying" federal statute. Incorporating CMSP goals and objectives into the statutory authorities of participating federal agencies through a unifying "act" (such as the Coastal Zone Management Act or Outer Continental Shelf Lands Act) will provide a formal structure for CMSP implementation and ensure federal consistency with state CMS plans.

Another comment raises the question of the constitutionality of the National Ocean Policy:

The NOC may be unconstitutional because the powers of the NOC do not appear to conform with the Appointments Clause of the U.S. Constitution...[and] there is no statutory authority to create the NOC. The President established the NOC by Executive Order. There has been no act of Congress authorizing the President to achieve the actions he has listed in his EO. Moreover, some of these EO goals may conflict with existing law.

Other comments raise concerns with the coastal and marine spatial planning aspect of the policy as a zoning activity stating:

The potential of CMSP to result in exclusionary zoning is a central component of the Coalitions's concerns with regard to economic and societal impacts. While the administration has at times stated that CMSP is not zoning, in other instances it has indicated precisely the opposite.

The most extreme sentiment expressed fear of government overreach and suppression of the rights of citizens:

This is nothing more than a ploy to gain more control over the American citizens and implement the United Nations policy - Agenda 21. In essence, denying the

American citizens their constitutional rights to own property and therefore removing our liberties.

### **Comments on differences between planning ocean versus land**

One of the comments argues that those who are most affected by the planning process should have a primary place in the planning process:

The local people who live and work on the ocean must have a significant place at the table and the new ocean uses must benefit - not disrupt or displace existing economic and recreational uses of our ocean

One of the comments raises concerns about ecosystems that go beyond federal jurisdiction:

Coastal and marine ecosystems are not limited to the spatial extent of federal jurisdiction and hence, the development of CMSP cannot proceed without active participation of coastal states as sovereigns with authorities in coastal and marine waters and relevant uplands, as well as resources and competencies of value to the planning process

Another comment specifically mentions coastal areas such as estuaries and bays, which are within state jurisdictions. The inclusion of these areas in the National Ocean Policy would bring in the complication of varying laws from state to state.

the need to go beyond the three nautical miles in identifying ecological resources and identifying the threats. The land sea connection is a priority from the estuaries and bays, as well as the ecological hotspots out past three miles. ... We need to ensure that the immediate land base is included in CMSP, cannot overlook estuaries and transition zones.

The comments include recognition of problems caused by non-coastal areas by requesting inclusion of stakeholders from non-coastal areas into the process.

We encourage inclusion of heartland states as stakeholders in the process. While they do not have jurisdiction over the coastlines, and would not be part of

the Regional Planning Bodies, their understanding and support of the National Ocean Policy is necessary for nationwide implementation. Also, support of heartland states is necessary to control land-based activities that ultimately can impact coastal and ocean waters

One of the comments encouraged prioritization of near-shore waters.

we encourage prioritization of state waters (0-3nm) as this is the geographic area most impacted by human use

One comment includes the need to account for the water column, benthos, and change over time:

[CMSP] transcends static planning for 2-dimensional areas, CMSP should take into account the water column, benthos and changes over time

## **Discussion**

### **Timescale mis-match**

Long term planning requires an investment over the course of the project; however, there are challenges to obtaining and sustaining support and funds for these projects. Government officials are elected for short terms, US Representatives for 2 years, the President for 4 years, and US Senators for 6 years. The constant election and re-election requires officials to show records of accomplishments. It is difficult for projects and plans for long-term issues to gain traction because they may not show immediate results. Additionally, budgets and funding for programs is generally shorter term and maintaining funding over the course of a long-term project is a challenge.

While overcoming pressures from short –term interests is challenging, more challenging is turnover in elected officials. When officials are voted out of office and are replaced, often



times there are significant changes in priorities. Programs that were previously strongly supported may potentially be up for elimination. At the federal level, the executive branch switches control between the Democratic and Republican parties approximately every 4 to 8 years. This raises significant questions for long term planning and the National Ocean Policy specifically. This policy could be completely eliminated in the next 1 to 5 years. Alternatively, the next administration could re-work policies or programs of the previous administrations. For example, the Interagency Ocean Policy Task Force and the National Ocean Council was a re-creation of the Committee on Ocean Policy established by President George W. Bush in Executive Order 13366 of December 17, 2004 (Bush 2004). President Obama's executive order repealed the order from the previous administration and established a new council.

While there are issues with the short time period of political and funding cycles, there are other issues with how far in the future the planning extends. In other ocean planning processes, the Massachusetts Ocean Plan for example, extends for 5 years and then the plan must be updated (EEA 2009). Five years may not be long enough to capture the longer-term effects and changes, but it does provide a defined time for review of the plan. Within the climate change and ocean acidification plan, the National Ocean Council proposes to develop storylines to project future conditions over 15, 30, 60, and 100 years. There was clear disagreement in the comments regarding how far in the future the plan should be prepared to consider. Comments that were concerned with issues like climate change want longer timescales, while comments more concerned with economic issues generally wanted shorter timescales. Most climate models make forecast predictions to 2100; however, most policy planning for climate change adaptation and mitigation is 20 to 30 years (Zwiers 2002).

Not only are there issues about how far into the future the plan would project, but when the plan will be completed. The Strategic Action Plans put forth actions with short-, mid-, and long-term timelines, within the plans the definitions of short-, mid-, and long-term is unclear. In the Coastal and Marine Spatial Planning objective, it specifies that by 2015 all of the data necessary for CMSP should be incorporated into a public data portal, and by 2020 all nine regional planning bodies will be established to undertake CMSP. Completing spatial plans by 2020 is an extension of the completion timeline from the Task Force document to the Strategic Action Plans. There are comments that feel the plans should be completed faster, while others felt that even expecting plans by 2020 is an unlikely prospect. The specifics of how planning for distant time horizons in general and climate change horizons specifically are incorporated into the plan are extremely important in the planning framework. The time horizon will indicate the types of data and information required and how the changing conditions may affect management decisions.

### **Planning within the context of Climate Change**

One of the priority objectives of the National Ocean Policy is to prepare for climate change through the Resiliency and Adaptation to Climate Change and Ocean Acidification Strategic Action Plan, and the Changing Conditions in the Arctic Strategic Action Plan (Council 2011). Some of the comments provided were directed specifically at the climate change objectives while others more generally mentioned climate change as a concern. There were examples of the generally climate inclusive comments. These comments do not specifically say how to consider climate change, but that it is an important part of the decision making process and should be included.

Some also clearly indicate the potential benefits the stakeholders see from using CMSP to combat climate change. However, the comment from Senator Daniel Inouye of Hawaii questioned whether the issue of managing competing ocean uses, through CMSP, needs to include the issues of climate change, or if another forum would be more appropriate.

The trend that of most of the comments accept climate change while only a small number deny the science corresponds with survey data that shows most of the population accept the science behind climate change, and only a small minority of the public actually questions the fact that climate change is occurring.

#### *Public Perceptions of Climate Change*

The public perceptions of climate change would affect any proposed climate specific laws or policies. Those perceptions of climate change would also influence the development of other types of environmental management. Congress passed all of the major environmental legislation between the years of 1969-1978, including the National Environmental Policy Act, The Endangered Species Act, the Coastal Zone Management Act, and amendments to the Outer Continental Shelf Lands Act (Orbach 2011). This was a “pre-climate change world”, at least 10 years before climate change became a well-known public issue. Perceptions of climate change will impact development of other types of non-climate specific environmental management, such as the National Ocean Policy. Existing resource management programs can adapt to a changing climate within their legal and regulatory framework, but developing an entirely new management program is a public issue requiring extensive input from stakeholders.

Additionally, the impression that climate change is a “controversial” topic could encourage more political activism around emerging issues that incorporate climate change.

The history of climate awareness can affect the current planning process. Climate change became a popular issue in the United States in 1988, following a summer of record high temperatures. In testimony before Congress scientists from NASA stated that “the greenhouse effect has been detected and it is changing our climate now” (Leiserowitz 2005).

Initially, there was a great deal of public confusion with the cause of the greenhouse effect and global warming being air pollution or ozone depletion. In a poll in 1992, 29% and 27% of respondents indicated that pollution or ozone, respectively, was the primary cause of global warming. While only 12% responded that fossil fuel use was the primary cause (Dunlap 1998). In 2003, another study showed that 11% of the population still attribute the cause of climate change to ozone depletion (Leiserowitz 2005).

Recent surveys show that general awareness of climate change is high, with 98% of respondents indicating that they know “a great deal or something about” global warming or climate change (Ray and Pugliese 2011). However, there are still questions about the causes of climate change and the status of scientific knowledge. In 2003, only 7% of the sample believed that climate change was not an issue or not actually occurring, but in 2008, 62% of respondents believed that there is “a lot of disagreement among scientists about how much of a threat global warming poses” (Leiserowitz 2005; 2009). The small numbers of people that do not believe global climate change is occurring are influencing the larger population into believing that there is a scientific controversy about the causes of climate change (Semenza, Hall et al. 2008).

In 2000, the environment ranked 16<sup>th</sup> among Americans' list of most important problems facing the country, and among environmental issues it was 12<sup>th</sup> out of 13 (Leiserowitz 2005). More recently, a Gallup poll again showed that global warming was not a pressing concern, table 2 shows that in 2000, 2004, and 2009 global warming ranked 8<sup>th</sup> out of 8 for environmental issues that worry respondents a great deal (Saad 2009).

**Table 2: Results from a Gallup poll showing the percentage of people worried a great deal about various environmental issues**

*Percentage Worried "a Great Deal" About Each Environmental Issue*

Selected years\*

	<b>April 2000</b>	<b>March 2004</b>	<b>March 2009</b>
	%	%	%
Pollution of rivers, lakes, and reservoirs	66	48	52
Air pollution	59	39	45
The loss of tropical rain forests	51	35	42
The "greenhouse effect" or global warming	40	26	34
Contamination of soil and water by toxic waste	64	48	52
Pollution of drinking water	72	53	59
Extinction of plant and animal species	45	36	37
Supply of fresh water for household needs	42	47	49

GALLUP POLL

A possible reason for lack of worry about climate change could be from the idea that the impacts of climate change will primarily affect someone else. The perceived risk from climate change is low when asked about direct impacts. Leiserowitz found only 13% of respondents felt that impacts from climate change would affect themselves, their families, or their local communities. Table 3 shows that half of all respondents felt that climate change would impact people over the world generally, and almost 20% thought it would most impact non-human nature (2005).

**Table 3: Results of a survey indicating levels of concern from impacts of climate change. Source: Leiserowitz, 2005)**

<b>Which of the following are you most concerned about? The impacts of climate change on...</b>	
You and your family	12 %
Your local community	1 %
The United States as a whole	9 %
People all over the world	50 %
Nonhuman nature	18 %
Not at all concerned	10 %

There was recognition of climate change in the support for the National Ocean Policy. It was the second most common rationale for support of the policy. The public confusion or controversy surrounding the issue may make that support less useful to the National Ocean Council.

### *Discourses of Global Climate Change*

How people view and discuss an issue is often based on shared mental models and shared meanings and information. Adger (2001) analyzes how the discourse of global issues influences the policy-making on those issues. He defines discourses as the knowledge regimes or a shared meaning of a phenomenon. Regarding global climate change, he identifies two dominant discourses: the managerial discourse and the profligacy discourse.

The managerial discourse is the dominant narrative in the climate change debate. The main arguments of this discourse hold that institutional failures to properly price carbon and fossil fuels is the main cause of climate change. This discourse also includes aspects of neo-

Malthusian arguments considering global population, population growth in developing countries, and increasing consumption. The profligacy discourse argues that the cause of climate change is the industrialized world and the wasteful consumption patterns encouraged by capitalism and historic land use change. There is a third and smaller discourse in climate change, the denial discourse claims “global warming is not scientifically provable or that it is not a serious issue”. This discourse, while in the minority, is influential in the politics of the climate change issue.

The managerial discourse holds that creating global institutions and new markets for carbon to combat climate change. The profligacy discourse argues from a moral and justice perspective stating that industrialized countries should bear the burden of carbon reductions. Both of these discourses view the problem as global in nature, and therefore the solutions must also be global. Adger argues that this homogenizes the impacts of climate change as a “monolithic non-differentiated phenomenon”; where in fact, there will be differential impacts of climate change at various scales. These discourses make it difficult to approach the problem of climate change from multiple directions. The managerial discourse promotes the use of international multi-lateral agencies and frameworks to manage “top-down, interventionist and technocentrist” solutions to the problem. Adger argues that constraining the conversation to these discourses limits the potential solutions for these problems.

Both of the dominant discourses portray the people affected by climate change as powerless, either from the market failures of the managerial discourse or the global economic system in the profligacy discourse. According to these discourses, the only solutions will come

from global international agreements and agencies. Local groups do not have the authority to take action and local actions to adapt to changing climates are not a part of either discourse. If individuals accept these global discourses climate change becomes too big an issue for them to attempt to solve on their own (Pidgeon and Fischhoff 2011). Incorporating local changes in vulnerability, resource use, and adaptive capacity into is necessary to deal with the diverse impacts from climate change that will occur around the world. Working to develop a counter narrative would remove local groups from the role of victim and give them power to control their actions with regards to impacts from climate change.

Another aspect of climate change as a global discourse is the imagery associated with climate change. Climate change becomes an issue that will impact somewhere globally remote. A simple Google Image search of the words “climate change” produces an assortment of images related to climate change. Several of the images are shown in figure 1. One of the dominant themes of the images is broad global images, the earth from a distance, or a map of the entire globe. Another theme is images of the arctic, specifically ice floes or polar bears on ice. Other images showed places or people remote from the United States. Very few pictures showed any people or impacts that could be construed as occurring in the United States.





Figure 1: A collection of images from a Google Image search for “climate change” retrieved 12 November 2011.

These types of images used in the discussion about climate change mean that “Americans [lack] vivid, concrete, and personally-relevant” images of climate change, which

“helps explain why climate change remains a relatively low priority national or environmental issue.” Additionally, “climate change is unlikely to become a high-priority national issue until Americans consider themselves personally at risk.” (Leiserowitz 2006)

These discourses affect the development of the National Ocean Policy. The Policy could be viewed as a technocratic, governance approach. This would be consistent with the managerial discourse. The National Ocean Policy is a program of large scale planning efforts. The some of the comments considered it a “top-down” implementation of policy. Several comments reject this concept and do not want the policy to be used as a mechanism to limit carbon emissions, something the policy does not propose to undertake at this time. Using a more inclusive planning process and gaining stakeholder input from other sources than comments would be a method to make the process less “top-down”.

### **Integration of science and policy**

One of the aims of the National Ocean Policy is to be “science-based,” and each of the Strategic Action Plans contains a section on current gaps in the science that currently limit achieving that objective. Scientific information is vitally important to making management decisions. Many of the details about how science is incorporated are over looked, including who defines what science is acceptable, or what types of traditional knowledge are included. Evidence of scientific consensus is often the rational for supporting specific policies. Additionally, who can contribute information to the process is also an issue. What constitutes acceptable information, and who has access to submit information. The comments varied, both stating that the science clearly indicates a specific path to take, and that there needs to be much more information gathered before making a decision.

Some comments want to open the process to allow stakeholder involvement of providing scientific information at all levels, from the very basic provision of information to how that information is used in the decision-making process. The federal government often requires the “best available science” for environmental management decisions. The Endangered Species Act, the Magnuson-Stevens Act, and the Clean Water Act all require the use of the “best available science” for parts of their decision-making process (Sullivan, Acheson et al. 2006). The National Ocean Policy seeks to implement ecosystem-based management with a key feature being that EBM “is based on sound natural and social science, is information-driven, and is adaptable to changing environmental, social, economic conditions” (Council 2012).

Several of the comments raised questions or concerns about how science would be used to make decisions in the process of implementing the National Ocean Policy. There were questions about the use of the “precautionary principle” or “precautionary approaches” based on part of the Rio Declaration of 1992, which states that “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (Development 1992). Several comments bring up the difference between using the “best available science” approach and the precautionary approach. They implied that the two approaches are incompatible. These comments raise questions of how to decide what types of risks are acceptable. These are not questions of scientific information quality, but of what to do with scientific information.

Many of the comments indicated a specific need for local predictions of future conditions. This is useful for education and planning about potential hazards in local areas, risks that the public does not fully understand, as shown by the survey data regarding primary concerns of climate change. Computer models and decision support tools are becoming more ever-present, but with some concern. Saunders-Newton and Scott question the role and legitimacy of reliance on computer modeling (2001). They argue that there are credible uses of computer modeling, but that reliance on the models could lead to an abdication of responsibility by the decisionmaker. Additionally, the public generally distrusts non-elected decisionmakers, and the use, or overuse of models could weaken the public trust in decisionmakers. Other studies showed that the level of trust of model results depends on who designed the model, and if that source was also trustworthy. Using models for making contentious decisions is also possible with a clear and transparent modeling process (Cockerill, Tidwell et al. 2004). Models can be used to build a consensus around environmental issues across science and policy (Costanza and Ruth 1998). The types of models discussed in the previous studies were scenario planning models, showing the effects of various different management actions. These types of models or decision support tools may be extremely useful in the planning stages of the National Ocean Policy; however, they do not include the climate change projection models. Scientists develop these projections in a less transparent and easily understood manner to the general public. Climate modeling uses complex General Circulation Models (GCMs) that often require super computers to run complex programming. Groups around the world have built various models and work to have results that are comparable

between models, but the public are not involved in development of these models (Edwards 2011). Thus, several of the comments question the legitimacy of these models.

### **Political Landscape**

Current proposals from the National Ocean Council for the National Ocean Policy do not rely on statutory legal authority, but on the Obama Executive Order. Following the 2010 mid-term elections, the Republican Party gained control of the US House of Representatives. The Republican led committees held hearings and strongly criticized the National Ocean Policy as unilateral presidential over-reach. The Obama Administration and Representatives from the the 112<sup>th</sup> session of Congress have differing opinions regarding the necessity for specific authorizing legislation for the National Ocean Policy. In two hearings of the US House of Representatives Natural Resources Committee, on 4 October 2011 and 26 October 2011, the representatives questioned the authority of the Obama Administration to undertake the National Ocean Policy. The committee issued statements (Feldman, Pederson et al. 2011) arguing that:

The Obama Administration has failed to cite any specific statutory authority for the Coastal and Marine Spatial Planning initiative. Instead, it throws up a smokescreen list of all statutes that impact the oceans and claims that is their authority.

The Administration responded by arguing that the National Ocean Policy does not create or alter any regulations, therefore it does not require any specific new legislation. They add (Tuss 2011) that:

The National Ocean Policy does not alter any government authorities and does not require new legislation to be implemented. It uses existing authority to help

Federal agencies foster communication and improve coordination on the nearly 100 different laws, policies and regulations affecting the oceans.

The National Ocean Council published a comprehensive document containing the existing legal authorities of the administration to undertake planning, permitting, resource management, and research. They cite over 40 statutes that the Administration is using to develop coastal and marine spatial plans for the National Ocean Policy through various federal agencies and departments, see table 4. The various agencies would use the marine spatial plans as a framework for decision-making as part of the National Ocean Policy. Each agency will use the plans as they apply to their existing authorities, the plans will not supersede current authorities.

**Table 4: Legal statutes cited by the Obama Administration that provide legal authority for CMSP. Source: National Ocean Council**

Statute Laws	Program Area					
	Planning	Permitting	Resource Management and Energy	Security and transport	Mapping and Research	Education
National Environmental Policy Act	X					
Coastal Zone Management Act	X					
Outer Continental Shelf Lands Act	X		X			
National Aquaculture Act	X					
National Historic Preservation Act	X					
Clean Water Act	X	X	X			
Rivers and Harbors Act		X		X		
Endangered Species		X	X			
Marine Mammal Protection Act		X				
National Invasive Species		X				
Migratory Bird Treaty Act		X				
Federal Power Act		X				
Clean Air Act		X	X			
Deepwater Port Act		X				
Magnuson Stevens Act			X		X	
Fish and Wildlife Coordination Act			X			
National Marine Sanctuaries Act			X			

Antiquities Act			X			
National Park Service Organic Act			X			
National Wildlife Refuge System Administrative Act			X			
Coastal Barrier Resources Act			X			
Natural Gas Act			X			
Ocean Thermal Energy Conversion Act			X			
Energy Independence and Security Act				X		
Port Development Authority Act				X		
Marine Security Act				X		
Ports and Waterways Safety Act				X		
Submerged Lands Act			X			
Comprehensive Environmental Response, Compensation, and Liability Act			X			
National Weather Service Organic Act					X	
Coral Reef Conservation Act					X	
National Methane Hydrate Research and Development Act					X	
Ocean Thermal Energy Research and Development Act					X	
Marine Plastic Pollution Research and Control Act					X	
Ocean and Coastal Mapping Integration Act					X	
Integrated Coastal and Ocean Observing System Act					X	
Hydrographic Service Improvement Act					X	
Coast & Geodetic Survey Act					X	
Federal Ocean Acidification Research and Monitoring Act					X	
Ocean Exploration and NOAA Undersea Research Program Act					X	
National Environmental Education Act						X
Sea Grant Authorizing Legislation						X

The problem of not having a federal statute also limits the National Ocean Policy effort because it is fully dependent upon the will of the executive branch. Establishing any new major environmental statutes, especially for a program like the National Ocean Policy will likely be extremely challenging in the current atmosphere of strongly partisan politics.

Several of the comments also raised issues of the legal framework for the National Ocean Policy including questioning the constitutionality of the Policy. Other comments recognized that there is not one specific existing legal authority for this policy, but encourage

the use of one law as the primary framework to build the policy around. Comments from coastal states encouraged the use of the Coastal Zone Management Act, while comments from the oil and gas industry support using the Outer Continental Shelf Lands act, and comments from the fishing industry support the Magnuson-Stevens Fisheries Management Act as the basis for the policy. Each of the industries or organizations that already have a primary law and regulations support the use of that laws for the basis for the National Ocean Policy. These organizations do not want a new law replacing or complicating their current regulatory framework.

### **Fundamental Differences Planning Ocean versus Land**

All large, long-term planning efforts come up against challenges to the planning efforts that were shown in the previous sections. Planning in the ocean not only has logistical and political challenges, but there are further challenges due to the nature of the ocean space and use. First, the area the National Ocean Council proposes to plan is the federal jurisdiction of the United States Exclusive Economic Zone (EEZ), which consists of the area from 3 nautical miles offshore to as far as 200 nautical miles. The US EEZ is the largest individual EEZ in the world and encompasses an area of over 11.4 million square kilometers (NOAA). The United States land area for comparison is 9.8 million square kilometers (CIA 2012). The proposed planning process is hoping to develop management plans for an area greater than the total US land area in the next 4-7 years, which is an extremely ambitious goal.

Not only is the size of the area for proposed planning a daunting problem, but there are still species and ecosystems that range beyond the boundaries of proposed planning.



Additionally, with such a large area to consider it is possible that some areas will be prioritized over other areas. Some of the comments want to plan the areas close to shore first, while others want to include consideration of areas beyond the jurisdiction of the current proposed planning process and areas outside of the federal jurisdiction. The varying types of prioritization show contradictory concerns for which areas should be planned first. The inclusion or exclusion of areas outside of the federal ocean jurisdiction will change the results of the planning process. Additionally, prioritization of areas within the planning process is a decision that will affect the results of the process.

Perennial issues in planning include the determination of who is involved, as a stakeholder, in the process. One difference between ocean planning and land based planning is that while there are ocean users and communities around the oceans that may rely upon those resources, there are no actual property owners in the ocean space. The planning process does not deal with landowners like it would have to if this were a land-based planning process. That being said, the coastal residents and users of the oceans are very important to the process.

Half of the US population lives in coastal counties, the other half live inland yet still can impact the ocean and coast through indirect means (USCOP 2004). For example, approximately 40% of the lower 48 states is in the Mississippi River Watershed and almost none of that is a coastal area (Service 2012). This watershed does however have major impacts on coastal and ocean health. In the summers since at least 1985, there has been a hypoxic “dead zone” at the mouth of the Mississippi River caused by nutrient pollution in the water. The source of the nutrients are from runoff in the inland areas of the watershed. In 2011, this dead

zone covered 17,521 square kilometers of ocean, and the area has a five year average of about 5,000 square kilometers (Force 2011). This raises one case where the causes of ocean issues come from an area far removed from the ocean. The people in non-coastal areas may not be aware of their potential impacts to the ocean, or realize that they are stakeholders to the National Ocean Policy, so this is a group that should be approached through outreach and education. Including non-coastal areas also can help to build a national consensus or more support for this action.

Finally, ocean planning brings additional physical dimensions of the ocean surface, water column, and the benthos to an already complex planning process. Those are not the only added dimensions, but the species that migrate through the planning area, the resources far below the ocean floor, and the ability to have multiple uses at the same location are additional components that also complicate the process.

## **Conclusions**

Using the comments on the National Ocean Policy, this study showed the general support or opposition to the Policy by the commenters, the rationales for those positions, and considered the challenges to large, long-term planning efforts revealed by the comments. The first question showed that of the comments submitted, there was more support for the policy than opposition. However, there were also a large number of comments that made recommendations without clearly identifying their current position. If the recommendations of those comments that do not have a specific position are accepted or rejected, it may influence their future support of the policy moving forward. Furthermore, self-selected individuals and

groups submit all the comments to the National Ocean Council. This results in potentially large numbers or types of stakeholders, like inland stakeholders, who may not be involved in the planning process.

As shown by the comments, the rationale for support of the Policy includes, the desire for general environmental protection, the potential impacts from climate change, and the need for good ocean management. These are areas that already have a group of supporters. The National Ocean Council can use these rationales as the basis to gain additional supporters of the National Ocean Policy. The Council can use rationale for those opposing the Policy as the focus of an education and outreach campaign to allay fears of those in opposition. Both those in support and in opposition of the Policy were concerned with providing effective and efficient management. Those in favor felt that the National Ocean Policy is a good management strategy for the oceans; while those in opposition felt that there are already enough regulations, and they are sufficient. Hopefully, this is an area where some compromises or understandings can be reached. The Council can work to explain the gaps in current ocean policy and why there is a need for the National Ocean Policy.

Using the comments to determine themes of challenges to any planning program show the complexity of any large planning process. Issues like funding timelines, election cycles, and the political landscape are separate from the process, but closely linked, and may seriously affect the implementation of a planning process. The National Ocean Council faces several fundamental challenges that it will need to overcome to successfully implement the National Ocean Policy. Engaging the public and responding to public comments may not be sufficient to overcome some of these large challenges. Several of the issues are structural challenges within

the government and how they are funded. Overcoming the political barriers to implementing this program will need a major outreach effort to counteract partisan bias. Bringing more stakeholders to the table to be an integral part of the planning process may be necessary to gain real support for the National Ocean Policy.

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