



**Study of Environmental Arctic Change (SEARCH)
Community Position Paper: Arctic Observing Network (AON)**

Responses to comments received on AON position paper

Comments and responses	Number of comments received for this topic
<i>Governance issues</i>	
<p>Comment: More information about the selection of the Steering Committee is needed as this group would have a critical role. Suggestions included that some members of the Steering Committee should come from outside the U.S. and include local Arctic residents.</p> <p>Response: The Steering Committee will play an important critical role in AON development. This document recommends the formation of such a group, but avoids prescribing its structure and function. The task of defining the steering group might fall to IARPC or some similar, broad-based entity, ideally with extensive discussion and input from the scientific community, and this is now briefly noted in the revised text.</p>	4
<p>Comment: The Steering Committee may benefit from small discipline-focused subgroups of experts rather than a single expert to represent an entire discipline</p> <p>Response: Please see response above.</p>	1
<p>Comment: There is an existing AON governance structure. The paper is unclear in describing what is wrong with the current AON governance structure</p> <p>Response: The governance structure of the existing AON is unclear. For the NSF-supported AON, limited authority rests with a single individual- the AON program manager. SEARCH has been tasked with distilling community input to provide guidance, but has no formal governance role within the AON. The broader, inter-agency AON (IAON) lacks a governance model, though IARPC could act to fill this need.</p>	1
<p>Comment: Right now, most agencies lack an “AON champion”. A key recommendation may be to call upon each agency to empower and endorse an AON champion from within their own ranks. This is much less precarious and much more empowered than a soft-money funded AON Coordinator. The AON Coordinator would have a very frustrating journey without each agency – or bureau within relevant agencies – assigning someone this role.</p>	1

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<p>Response: The idea of designated AON champions from within each agency has been included in the text. That said, the proposed AON coordinator would fill a role distinct from these ‘champions’, and has thus been retained in the paper.</p>	
<p>Comment: IARPC would be a much more effective target for this communication than NSF. A weakness of the letter as it currently stands is its narrow focus on what NSF can do to advance AON.</p> <p>Response: While the importance and potential benefits of targeting this position paper towards IARPC is acknowledged, community feedback was specifically sought to provide feedback to NSF. However, in light of this comment the paper was restructured to emphasize recommendations for NSF to play a more strategic leadership role in the development of an inter-agency AON through IARPC activities.</p>	1
<p>Comment: A focus on interagency funding models is key and must be developed through research community pressure directly at the IARPC level, and perhaps even at the IARPC staff level rather than IARPC Observing Team Level. Adding a non-NSF co-chair to lead the IARPC Observing Team may be a helpful recommendation.</p> <p>Response: These ideas have been added to the text.</p>	1
<p><i>Network integration and optimization</i></p>	
<p>Comment: The paper was unclear about what network integration means, and how to achieve it.</p> <p>Response: A definition is provided in item (ii) ‘Network Integration’. In this context, network integration means the coordinated design, implementation and operation of a system of observations meant to address a defined set of objectives. Ideally, the system would be considered as a whole, with trade-offs and optimizations made around a design specification focused on the priority science and operational objectives. Another point on the spectrum would be a collection of independent projects running in parallel, with minimal forethought as to how well they serve a collective objective. This might meet high-priority needs, or the collection might suffer from critical shortfalls that limit its ability to do so. An integrated network would also serve data and products in a consistent form and provide for dissemination and curation.</p>	1
<p>Comment: As an Arctic Observing Network there should be more of an international dimension described. Currently the focus of the paper is on the US Arctic only. For example, links to relevant international organizations (e.g. WMO) are important, as they may provide resources to support AON.</p>	2

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<p>Response: The paper does not specify that the network under consideration sits solely in the US Arctic, and, in fact, the NSF-AON includes components that sit outside the US EEZ (e.g. Greenland, Baffin Bay, the Canadian Arctic). That said, although Arctic observing is clearly an international activity, something that transcends national boundaries, national efforts, such as those supported by the US federal government, require governance and support at a national level. This paper thus targets US activities and makes recommendations for governance and funding of the US national effort. The Arctic Observing Summit may also serve as mechanism to address international Arctic coordination.</p>	
<p>Comment: The ARM program could be one model to develop long-term sustained observations.</p> <p>Response: ARM is certainly a possible model for future AON development. However, the paper avoids suggesting specific models, as this is better left for a much broader conversation that involves representation from many sectors, including IARPC and the science community.</p>	1
<p>Comment: The NSF review model may not be ideal for a review of a long-term AON.</p> <p>Response: This statement is reflected in the text of the original draft of the paper and retained in the revised text.</p>	1
<p>Comment: IARPC should help distill the focus for an inter-agency supported AON.</p> <p>Response: IARPC should play an important role in defining the focus for the interagency AON. This was mentioned in the original paper, but has been moved to the front of the discussion to emphasize this expectation, and to use it to frame the remainder of the discussion.</p>	2
<p>Comment: The paper and AON may have a lack of clear focus. Without a clear understanding of focal questions it is difficult to make progress. A historical perspective of SEARCH may help illuminate the importance of focus.</p> <p>Response: Information on the historical SEARCH perspective for AON was added to the text and highlights the importance of having a clear focus for AON in the context of the breadth of multi-disciplinary observing needs.</p>	2
<p>Comment: It is important to ensure AON is relevant to non-NSF agencies to obtain interagency support for AON. The best avenue to obtain interagency support is arguably through shared science</p>	1

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<p>objectives.</p> <p>Response: Shared science objectives will be important for AON to maintain relevance to other agencies and to obtain interagency support. This has been noted in the revised text.</p>	
<p>Comment: Optimization of the AON is a very important issue which may benefit from certain expenditures on scientifically based approaches to evaluate existing and optimize the future observational programs in the Arctic.</p> <p>Response: AON optimization is acknowledged in the original text, which also includes a reference to the 2012 ADI Report that provides additional information on SEARCH efforts that considered this issue in greater depth.</p>	1
<i>Data and communication</i>	
<p>Comment: Interagency-SEARCH-AON should have its own publication similar to the CLIVAR bulletin that would address scientific developments in the study Arctic change and keep us tied to others interested in the same scientific questions.</p> <p>Response: The suggestion for the use of publications or other communication tools to provide information on AON development and focal scientific questions is noted. However the paper focuses on providing community input to NSF on broader key issues. More detailed implementation of communication strategies could be addressed in the future.</p>	1
<p>Comment: The community position paper lacks any comment on one key component coming from AON and that is data management. The long term stewardship and access to these data seems pretty critical to achieving any network integration and understanding of key scientific questions stated or implied by your position paper.</p> <p>Response: Data management is one of the key issues considered by SEARCH for AON. The position paper addresses the broader issue of AON governance that could ultimately help in the implementation of data management recommendations from the broader research community. Data and product delivery is also described in the text as one of the important roles for an AON coordinator.</p>	1
<i>Discipline-focused issues</i>	
<p>Comment: Specimen-based observations were not mentioned, but are important for understanding Arctic biodiversity. Specific suggestions to rectify this problem were given.</p>	3

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<p>Response: Discipline-focused issues including shortcomings in AON to support understanding of Arctic biodiversity are difficult to resolve without addressing overarching issues of AON governance, and maintaining a scientific focus. The paper refrains from addressing specific discipline-focused issues which would require broader community input and a defined governance structure that could help implement future discipline-specific recommendations.</p>	
<p><i>Sustainable funding</i></p>	
<p>Comment: The paper did not describe the inherent problems with obtaining sustainable funding for AON.</p> <p>Response: The revised text includes a brief discussion on the challenges of obtaining sustainable funding from NSF and other US agencies.</p>	1
<p>Comment: Long-term observations are difficult to fund via short-term NSF grants. However long-term funding plays a critical role for sustained observations.</p> <p>Response: This text is reflected in the original draft of the paper.</p>	2
<p>Comment: It would be useful to review at what level within NSF these concepts of long term funding models were championed. It seems like the GEO level at a minimum.</p> <p>Response: A review of how long term funding models were championed within NSF in the past could be informative, but may not be easily applied given present circumstances, or easily implemented. The paper instead emphasizes recommendations for continued communication between NSF and the research community, and the need for greater guidance from NSF on other potentially applicable funding models.</p>	1
<p>Comment: It is not clear which AON investments are being referred to.</p> <p>Response: This was clarified in the text to emphasize NSF AON investments, as well as contributions from other U.S. agencies.</p>	1