

## Discussion Points on AISS (not necessarily in order of importance)

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The following points reflect my own views as well as those of at least some of the “Antarctic” oceanographic community, both US and European.

1. I have not yet seen what I consider a workable definition of “system science” nor do I understand how it might differ from the many highly integrated/coordinated efforts that characterize a large proportion of recent Antarctic research. I’m not sure how one might differentiate a “system science” proposal from an “integrated” proposal of the sort commonly seen.
2. Community perception is that NSF program management staff are at present stretched very thin. One might question the wisdom of adding, at this time, an additional program that will require significant additional management? A requirement for AISS will clearly be provision of a *full-time, long-term, dedicated manager*, as well as significant additional funds. By way of comparison, support for ARCSS reflected concerns about the impact of Arctic climate change on surrounding communities and on northern hemisphere climate in general. The Antarctic plays an equally significant climate role, absent however the more obvious immediate societal concerns. These societal concerns contributed to political pressure for ARCSS funding, but there is no equivalent pressure in the case of the Antarctic. Is it reasonable to expect an influx of significant new funds for AISS?
3. There is widespread community concern that any program that purports to foster project integration/coordination from a high level can evolve into a “top down” management structure of the sort that may work for goal-driven agencies like NOAA or NASA but is strongly perceived as inappropriate for the sort of basic research that is typically funded through NSF. AISS, if it is to gain acceptance from the science community, needs to ensure that any drift towards this sort of top-down control is minimized.
4. A real need exists for a program that can reasonably deal with “cross-disciplinary”, as opposed to “interdisciplinary” projects. Examples of the former include the Southern Ocean CO<sub>2</sub> flux problem, links between sea ice variability and biological productivity, paleohistory and future of West Antarctic ice shelves and sheets, and interactions at the ice shelf-ocean-atmosphere interface. Virtually all disciplines have “grey areas” where they merge into other disciplines. Cross-disciplinary proposals often, necessarily, include such grey areas. These proposals have often been difficult to evaluate, within the traditional NSF topically-oriented program structure, and have fared accordingly in terms of funding.
5. AISS should exist to support community-generated, cross-disciplinary proposals that are evaluated and funded under the peer-review system in the way that we’re used to with single-discipline or interdisciplinary program managers. It should limit preselection of fundable topics (those specified in Announcements of Opportunity (AOs) on specific themes) to only the largest programs, and needs to ensure that participation in such programs remains open to the entire research community. The alternative scenario wherein a few dominant personalities are able to hijack the new resources for a few large programs, crowding out smaller cross-disciplinary ideas that really need a home like AISS, is particularly undesirable.
6. Experience with European Union projects has shown that the bigger the project, the greater the effort to get it organized, the higher the internal friction which reduces project efficiency, and the smaller the flexibility which is a must for doing polar research. AISS should be structured so as to avoid this pitfall, which seems a particular concern for very large projects that are proposed in response to AOs.
7. The general feeling seems to be that AISS has the potential to be an appropriate legacy for IPY, that it should be pursued, but that great care should be taken in how it is structured and focused in view of the foregoing concerns. It seems likely that experience with the ARCSS program will be invaluable in guiding a structure for AISS. Allotment of substantial new resources, both in terms of funds and of management personnel, will be essential.