RESPONSE TO THE COMMISSION'S QUESTION

BY THE

UNITED STATES ARCTIC RESEARCH COMMISSION

"Why does Arctic Ocean research need more money?"

The Arctic is undergoing climate change now! Model studies indicate that the Arctic can expect the earliest effects of global climate change and that global change phenomena are likely to be up to five time larger in the Arctic than elsewhere due, in part, to the enormous change in heat balance caused by the differences in albedo between snow covered sea ice or land and open sea or bare tundra. In order to study these phenomena the Interagency Arctic Research Policy Committee has formed an interagency research program entitled the Study of Arctic Environmental Change (SEARCH). SEARCH encompasses all aspects of the study of environmental change from basic physical variables and environmental measurements to the effects of change on the inhabitants of the region. The problem of supporting a cooperative program with a regional focus through all the Agency, OMB and Congressional structures (all oriented by topic rather than region) is severe. Consequently, SEARCH is not yet funded at a satisfactory level. In addition, recent increases in the Arctic research budgets at NSF and NOAA have been offset by the demise of the ONR High Latitude Program which has gone from roughly $30 million per year a decade ago to zero. The program has been eliminated by ONR. As a result, Arctic Ocean research has been level funded for the last several years. One the bright side, the Coast Guard has brought HEALY into service but for several years in the future, HEALY will be required to support Operation Deep Freeze as the POLAR Class icebreakers require massive upgrades (costing on the order of $400 million) to remain in service. This will restrict US Arctic Ocean research to occasional use of HEALY and the need to seek ship support elsewhere. The Arctic Ocean needs to participate in the Global Observing System but the task of observing and ice covered ocean is substantially more difficult and there has been little consideration of the Arctic Ocean in GOS planning efforts. An Arctic Ocean GOOS effort will require a substantial investment in new technologies for instruments capable of withstanding sea ice stresses and in observations (particularly on sea ice) not normally included in GOS planning. Finally, a note about the Bering Sea, the nation's most abundant fishery. The Bering Sea is the only major US fishery where the presence of sea ice is common and places limits on our ability to monitor and examine the state of the ecosystem in Winter. The fishery appears to be well managed but this management is based on an entirely inadequate foundation of research and monitoring activities. As NEPA, habitat based and ecosystem based management of fisheries become more common we need a much strengthened research monitoring and ecosystem prediction system for the Bering Sea.