

June 26, 1989

Senator Albert Gore  
c/o Rick Adcock  
U.S. Senate  
Washington, D.C. 20510

Dear Senator Gore:

Karen,  
This version of this letter (with handwritten insert at bottom) is what I gave to Senator Wirth + sent to Van Allen.

I believe that the single most important contribution which Congress could make regarding global change is initiation of a national program of college scholarships and post-doctoral fellowships for study of global environmental science. I wonder if you would consider the possibility of developing and sponsoring appropriate legislation. I hope to bring this topic up for discussion at the Sundance Summit in August.

Some of the rationale or initial thoughts I have had are as follows:

(1) The most limiting factor, and the long lead time item, for understanding global change is the development of scientific brainpower. Good policy cannot be made without knowledge of the global system, including an understanding of the impacts of alternative policies.

(2) A scholarship/fellowship program should not be tied to other legislation, which may be more controversial. All parties, from avid environmentalists to those who feel that the threats are greatly exaggerated, should agree on the need for improved knowledge of man's impact on the environment. (There may be bipartisan representation at Sundance: Senators Chafee and Heinz are invited, and Bradley and Wirth are "confirmed.")

(3) The magnitude of the program should be at least of the order of  $10^3$  graduate students and  $10^3$  post-doctoral fellows, and there probably should also be undergraduate scholarships. (A relevant example was the need of space science in the 1960's, when the national government sponsored in any year many hundreds of three-year graduate traineeships as well as a post-doctoral research program of comparable magnitude, thus fueling a successful United States space research program.) Perhaps the number of undergraduate scholarships could be allotted on a state by state basis (analogous to numbers of senators plus representatives) to assure broad political support.

(4) Post-doctoral awardees should be free to go where they can optimally carry out their education/research. Indeed they should be able to work with a combination of a university and government laboratory or more than one laboratory. This argues that the

- A. Global observations are essential - but what good are megabits/second of satellite data if we don't have the brainpower to analyze + use the data?
- B. Supercomputers are useful - but what use is it to run inaccurate climate models 10 times faster? - need understanding + manpower to improve models



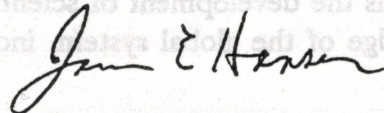
program administration should not be within an existing research agency. A flexible travel allowance should be included for graduate students, as well as post-doctoral researchers, to allow for research activity at a government lab, data center, or other university.

(5) The stipend should be sufficient to make the award attractive and competitive. There is a tendency now for the best students to go into law or medicine, as compared to the 1960's when many were attracted to space science by the research excitement and generous fellowships. Even within the sciences, the best students are not presently going into environmental studies.

(6) Support for such an educational initiative needs to be incremental to current funding. If it were taken out of current science funding it would be counterproductive.

(7) Education and research within other countries will be the key to the global cooperation needed to protect the environment. It will be particularly appropriate to bring up this subject with the Soviet delegation at Sundance.

Best regards,



James E. Hansen

cc: Robert Redford (c/o Terrell Minger)