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Dr. Watkins,

This statement is being transmitted by COSPAR to
the President of National Academy of Sciences, Washington D.C.

J. Moore

COSPAR

COMMITTEE ON SPACE RESEARCH, ESTABLISHED BY THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS

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ON SAVING THE LANDSAT DATA : 1972 - 1976

- . We understand that, because of severe budget constraints at present, the various responsible agencies concerned with Landsat Operation and Data have come to a decision that will have serious scientific implications : it may not be possible to conserve images acquired by Landsat in the period 1972-76. At best, it may be possible to preserve only a fraction of the cloud-free images. This serious situation arises because of the following factors :

The older Landsat Data must be reformatted onto modern computer compatible tape since they are now stored in obsolete video format. This video format can only be read directly by one obsolescent system now in operation at Goddard Space Flight Center. Budget constraints may force the imminent decommissioning of this computer, following which all un-reformatted Landsat Data will be irretrievable. If it proves possible to keep the computer system in operation for a time, it would be feasible to preserve a useful portion of that data.

- . At the recent twenty-fourth meeting of COSPAR, Ottawa, Canada, the scientists concerned with the study of land and climate processes expressed their serious concern over the loss of these unique and irreplaceable observations of the recent past state of the atmosphere and the earth's surface.
- . There is growing scientific and public interest concerning the physical changes which are taking place on the earth's surface on the time scale of years and decades in, for example, the extent of the global desert, the tropical and temperate forest, the polar ice caps and the turbidity of the coastal waters and river systems. It is imperative that these relatively slow changes be documented over the longest possible time span in order to understand their causes and comprehend their potential impact on the habitability of the planet. The Landsat series is the only one of its kind that offers consistent data of these variables on a global scale for as long as ten years, the time interval during which these kinds of changes are beginning to be just discernable. If the data from four of these ten years is completely lost, except for the few scenes which have thus

far been analyzed for research studies, our ability to document such changes will be drastically curtailed. The loss of these specific years is particularly significant since this was a period of global climatic anomalies, affecting large regions of Africa, South America, and Eurasia.

- The COSPAR scientists did accept the fact that severe budget constraints may necessitate that only a selected number of images are digitized and preserved. It is therefore likely that a carefully selected subset of the ~~extensive~~ Landsat scenes will contain a large proportion of the needed information. What is to be assured is :
 - that the existing computer system can be kept operative for the time needed for a critical subset of the 1972-76 Landsat Scenes be read and reformatted and,
 - that a careful selection process be established to assure that the information content of the preserved scenes is adequate for study of long-term climate and habitability changes.
- The scientific bodies of the international council of scientific unions (in particular COSPAR, SCOPE and IAMAP) are willing and ready to organize and sponsor an activity of experts to devote time to the question of optimum selection of available Landsat scenes for preservation. We would do our best to assure that initial input could be available by the end of this calendar year (1982).