SOME ROLES FOR NASA IN DEVELOPING AND INSTITUTIONALIZING ECOLOGICAL KNOWLEDGE

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The ultimate value of ecological knowledge is the degree to which it is incorporated into society. Several examples will be presented of current and future NASA programs which will impact and enhance ecological knowledge. The first, using remote sensing, deals with identification of specific potential malaria outbreaks prior to the time that the Anopheles population has increased to levels that constitute a medical hazard. By utilizing these data preventive measures can be instituted. NASA has a program, the Controlled Ecological Life Support System(CELSS), whose goal is to develop the expertise and technology to maintain a closed ecological system for regenerating water and oxygen as well as provide food. A test bed has been in operation on Earth for several years. An initial program the CELSS Test Facility will be one component of Space Station Freedom (SSF). Since SSF will be in a 28.5 degree orbit above and below the equator it will provide the opportunity for intensive viewing of the tropics from low earth orbit. The potential exists to utilize attached payload sites on the station to provide data on various aspects of the atmosphere, and the earth in this important region of the world. On a broader scale NASA has a large ongoing program in earth observation related to ecological research.