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EVALUATION OF REMOTE SENSING TECHNOLOGY FOR NATURAL RESOURCES INVENTORIES IN CENTRAL AMERICA

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ABSTRACT. The International Development Agencies have for several decades recognized the need to inventory the natural resources of the developing countries. The concern of policy makers to arrive at a rational utilization and conservation of these resources has led to the utilization of modern remote sensing techniques in order to insure their sound management on a national or regional basis.

During the 1977-78 period, the Inter-American Development Bank financed in Central America a natural resource inventory program in which Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua participated. The project had two basic objectives; one was to train scientists from these countries in the applications of visual and digital analysis techniques for interpreting remotely sensed data, and the second one was to provide each country with a tangible natural resources inventory in a selected area of approximately 350,000 Ha.

Twenty scientists from these countries were trained in visual analysis techniques at the Earth Resources Observation System (EROS) Data Center, Sioux Falls, South Dakota, while ten were trained in digital analysis at the Laboratory for Applications of Remote Sensing (LARS), Purdue University, West Lafayette, Indiana. The main source of the data base came from Landsat.

A color composite mosaic using 31 Landsat images of Central America was made at 1:1,000,000 scale as part of the EROS training program. Furthermore, three thematic maps of geologic lineaments, hydrologic patterns and land cover characteristics of the entire region were also produced.

The LARS training program emphasized the use of digital processing techniques to generate detailed maps (1:50,000 scale) of

land cover types over selected areas in each one of the five countries. From the standpoint of the IDB philosophy strong emphasis on training is required to guarantee an effective transfer of remote sensing technology to support development programs in Latin American countries. IDB financed over 90% of the total cost of the project.

Copies of this paper in its entirety will be available for distribution at the symposium.