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LAND USE STUDIES WITH SKYLAB S-192 DATA

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ABSTRACT

The work discussed in this paper uses
SKYLAB S-192 digital tapes for the SL/3
Mission over the Washington, D.C.-Baltimore,
Maryland urban areas and nearby rural areas
in Virginia and Maryland.

The questions addressed were as
follows:

*   To what degree does the increased
    spectral coverage of the SKYLAB S-192
    Multispectral Scanner (0.41 microns –
    12.5 microns) provide new and impor-
    tant information not currently avail-
    able with the LANDSAT I and II MSS?

*   What are the optimal spectral bands
    to be used in discriminating various
    land use categories? How do the
    optimal spectral bands vary from cate-
    gory to category?

*   What accuracy levels are achievable
    when performing multi-spectral class-
    ification using SKYLAB-S-192 data?
    Do these accuracy levels meet the
    needs of the land use planner?

*   How do the classes of data which are
    spectrally discriminable by the S-192
    Multispectral Scanner relate to the
    land use categories of value to the
    land use planner? It should be noted
    that this question was assessed through
    use of a clustering algorithm. Since
    such algorithms cluster the actual
    data, fully quantitative analysis
    would be misleading since the composi-
    tion within the clusters is influenced
    by the number of items in the sample
    as well as the clustering routine and
    thresholds employed. Consequently,
    the clustering is a general guide,
    not a fully quantitative assessment
    procedure.

*   What impact does this study have on
    future space systems with regard to:

(1) Spectral bands (number, widths,
     and location),

(2) Sensitivity,

(3) Spatial resolution,

(4) Temporal coverage

The significant results obtained in this
work will be presented.