Monthly Report

to

National Aeronautics and Space

Administration

Contract No. NAS 9-13337

Period Ending July 1, 1973

Remote Sensing Institute
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3.0 Report of work as identified in Ex. A (SOW)---Contract NAS 9-13337

3.1 Progress Reports

a. Overall status ----

Ground-based data collection was accomplished for a 24-hour period prior to and after the SKYLAB overpass. Due to the short notice of the actual data collection time, not all the anticipated sensors and replications could be established. However, most of the data as listed in Table 2 (May progress report) were collected. Aerial data collection with the RSI aircraft was accomplished at 0010 hours and 1000 hours on June 10. These data were collected at 8000 feet AGL for the 18-mile line and at 2000 feet AGL for the two one-mile lines. Cloud cover at the time of SKYLAB overpass was ≈ 0.7 altocumulus. The C-130 aircraft overflight was reported to have been accomplished; however, no ground-based data were collected because no prior notification of flight was received at the RSI.

Additional ground-truth data were collected for the RSI-aircraft coverage which included crop type and a qualitative vigor status. Albedo of approximately 20 fallow fields were determined and their surface characteristics noted. These data are being summarized and catalogued for future analyses.

A boundary detection algorithm is being developed for future analysis of SKYLAB data. The unsupervised boundary detection algorithm uses as a criterion the point of maximum contrast change between film densities. Initial testing of this algorithm is being accomplished using ERTS data for assessing the boundaries of water and land masses.

b. Recommendations ----

Recommendations at this time for the SL-3 mission are to reestablish the original orbit and to collect SKYLAB data for both day and night coverage. The success of ground-based sensor installation depends upon adequate notification of the SKYLAB data take. Therefore, the originally planned time notification is needed to assure success in acquiring the proposed ground data.

Recommendations for SL-3 SKYLAB data take include timing near the end of August and scheduling the day and

night passes as near in time to each other as possible.

We anticipate both C-130 and RB-57 coverage as underflights to the SL-3 SKYLAB mission.

c. Expected accomplishments ----

Summarization and initial data reduction for future analyses are to be accomplished during July. In addition, recalibration and preparation of sensors for the SL-3 mission will be completed.

d. A readily.....results.....

None at this time.

e. Summary outlook ----

At this time, the summary outlook appears to follow, in general, that which is stated in the "SOW" of the contract. However, those data to be analyzed will be selected after knowledge of which data are available.

f. Travel summary ----

Travel in June included the on-site data collection by four RSI personnel. No travel is anticipated during July.