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~~DATA~~
STUDY OF TIME LAPSE PROCESSING
FOR DYNAMIC HYDROLOGIC CONDITIONS

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PROCESSING FOR DYNAMIC HYDROLOGIC
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TYPE I PROGRESS REPORT

A) Title: STUDY OF TIME-LAPSE DATA PROCESSING FOR DYNAMIC
HYDROLOGIC CONDITIONS

ERTS-A Proposal 342-B

B) GSFC ID PR154

C) Problems Impeding Progress - None

D) Accomplishments:

(I) During Reporting Period

(a) Equipment

No significant modification or additions to ESIAC have been completed during the period covered by this Progress Report.

(b) Data Measurements

• For Dr. C. C. Reeves

Per letter request from Dr. Reeves, the water and/or mud content of North Playa of the Double Lakes region was re-evaluated for dates of 29 July 1972 and 12 February 1973. These results were forwarded to Dr. Reeves on 29 November 1973. The final edited version of the film loops showing the Double Lakes area was delivered to Dr. Reeves at the NASA Conference, held November 1973. No further work was processed during the period covered.

• For Dr. Turner

Several recent cycles of ERTS were received during the period for entrance to ESIAC. No data processing was carried out during the period, however. In addition, four glossy prints of overlays to

cycles 2, 6, 9, 10, 12 and 14, and the base map of the N. Patagonia scene and 2 negatives of the half-tone map were forwarded to Dr. Turner as per letter request of 26 November 1973.

* For Dr. E. J. Pluhowski

No work was processed for Dr. Pluhowski during this period.

* For Dr. M. Meier

Work is progressing on the assessment of snow amounts on Mt. Rainier, using the contour-elevation technique. With this technique, the contour elevations are used as masks (made in 1000 ft or 500 ft increments) to fit over the snow limit. Since no one elevation, in general, will fit the snow field in all areas it was necessary to subdivide the Mt. Rainier region, match the snow line in each, evaluate the area and then total. This evaluation has been completed for cycles 0, 2, 4, 6, 7, 14, 15, 16, 17, and 18.

In addition, the basin areas and snow coverage (for cycles available between 29 July 1972 and September 16, 1973) is being evaluated for basins 1755, 1781, 1825, 1895, 4510, 1860, 1345, 1330, 4570, and 1414.

These evaluations are based on the "Best-Visual-Estimate" procedure by which the ESIAC operator matches the extent of snow within a given basin mask by slicing on band 5 and recording the pixel count. These values, in turn, are translated in areal amounts.

- For Dr. F. Ruggles

Dr. Ruggles personally completed data measurements and interpretations from static scenes, as well as time-lapses sequences, on 10 November 1973.

- For Mr. E. Hollyday

No work was processed for Mr. E. Hollyday during this period.

(II) Plans for Next Reporting Period

(a) Equipment

No significant additions or modifications to ESIAC are planned for the next reporting period.

(b) Data Measurements

- For Dr. C. C. Reeves

No additional work has been planned for the next period.

- For R. Turner

Dr. Turner is planning to visit SRI at the end of February 1974 to continue his evaluation of the N. Patagonia area.

- For Dr. E. Pluhowski

No additional work has been planned for the next period.

- For Dr. M. Meier

Work will continue on the evaluation of basin area and snow on Mt. Rainier plus the 10 basins previously identified. In addition the evaluation of spectral signature of ice and snow on its Olympic Peninsula is expected to be completed. Work on the evaluation

of glacial surges is expected to be underway.

• For Dr. F. Ruggles

No additional work is anticipated during the next period.

D) Conferences Attended

Mr. S. M. Serebreny presented a paper at the Third ERTS Symposium sponsored by NASA/Goddard Space Flight Center. The Symposium (December 10-14, 1973) was held in Washington at the Statler-Hilton Hotel. The Paper "ESIAC, A Data Products System for ERTS Images" was presented in the section on Interpretation Techniques. A short movie demonstrating some data processing capabilities of the ESIAC was included in the presentation.