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NASA-CR-157280

8-10162 Part 5 III

FINAL PROGRESS REPORT

NASA-"27930", GEOLOGICAL AND ENVIRONMENTAL RESOURCES

INVESTIGATIONS IN EGYPT USING LANDSAT IMAGES

Principal Investigator: Dr. M. Abdel Hady  
Director, Remote Sensing Project  
Academy of Scientific Research  
and Technology, Cairo, Egypt.

1. Significant Geological and Resource Studies; and Structural  
Maps of Egypt:

All areas indicated on the enclosed map of Egypt have been mapped using LANDSAT images, with extensive ground truth data collection and field verification. All areas were investigated according to a priority arrangement for serving significant national and regional development projects in Egypt.

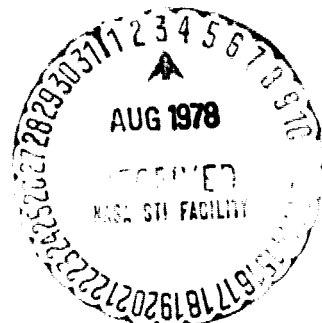
Maps prepared from LANDSAT data for all these areas include:

- a) Geological Maps.
- b) Structural Lineation Maps.
- c) Surface Drainage Maps.

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CSCL 08G G3/43  
(E78-10162) GEOLOGICAL AND ENVIRONMENTAL  
RESOURCES INVESTIGATIONS IN EGYPT USING  
LANDSAT IMAGES Final Progress Report  
(Academy of Scientific Research and  
Technology) 6 p HC A02/MF A01

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- d) Interpretive Maps for Potential Groundwater.
- e) Other interpretive maps for Potential mineralization and/or construction material, according to requirements for each area.
- f) Technical reports including significant results achieved by using LANDSAT data for mapping each area.

Results and maps for all areas investigated were published and copies of reports sent to you. (Please refer to Second Progress Report for list of maps and reports). Reports and maps for two of these areas are still now being prepared, with all interpretations and field work completed, and results will be forwarded to you around mid October. These two areas are designated on the enclosed map as numbers 5 and 8 (Tushka Depression Basin in the Western Desert of Egypt; and the Northern Area of the Eastern Desert of Egypt).

## II. Jonglei Canal Project Area:

The following preliminary interpretation maps for LANDSAT imagery were completed for the Jonglei Canal and surrounding swampy areas of the Upper Nile in Sudan (165,000 km<sup>2</sup>).

- a) Geological Map.

- b) Structural Map.
- c) Dry and Wet Seasons Surface Drainage Maps.
- d) Soils and Pedologic Map.
- e) Vegetation Cover Map.

Field teams, including geologists, hydrologists, agronomists, ecologists and agriculturists completed intensive field and ground truth data investigations in this area. Soils and geologic samples were collected, and complete laboratory analysis of samples are presently being conducted.

It is expected that final maps and technical report will be finished by the end of October 1977.

Under a separate cover, we are sending you copies of all LANDSAT preliminary interpretation maps completed for this area.

### III. Feasibility Study of a Proposed Transnational Project for Using LANDSAT images for the Survey and Management of the Major Regional Aquifers in North East Africa and the Arabian Peninsula.

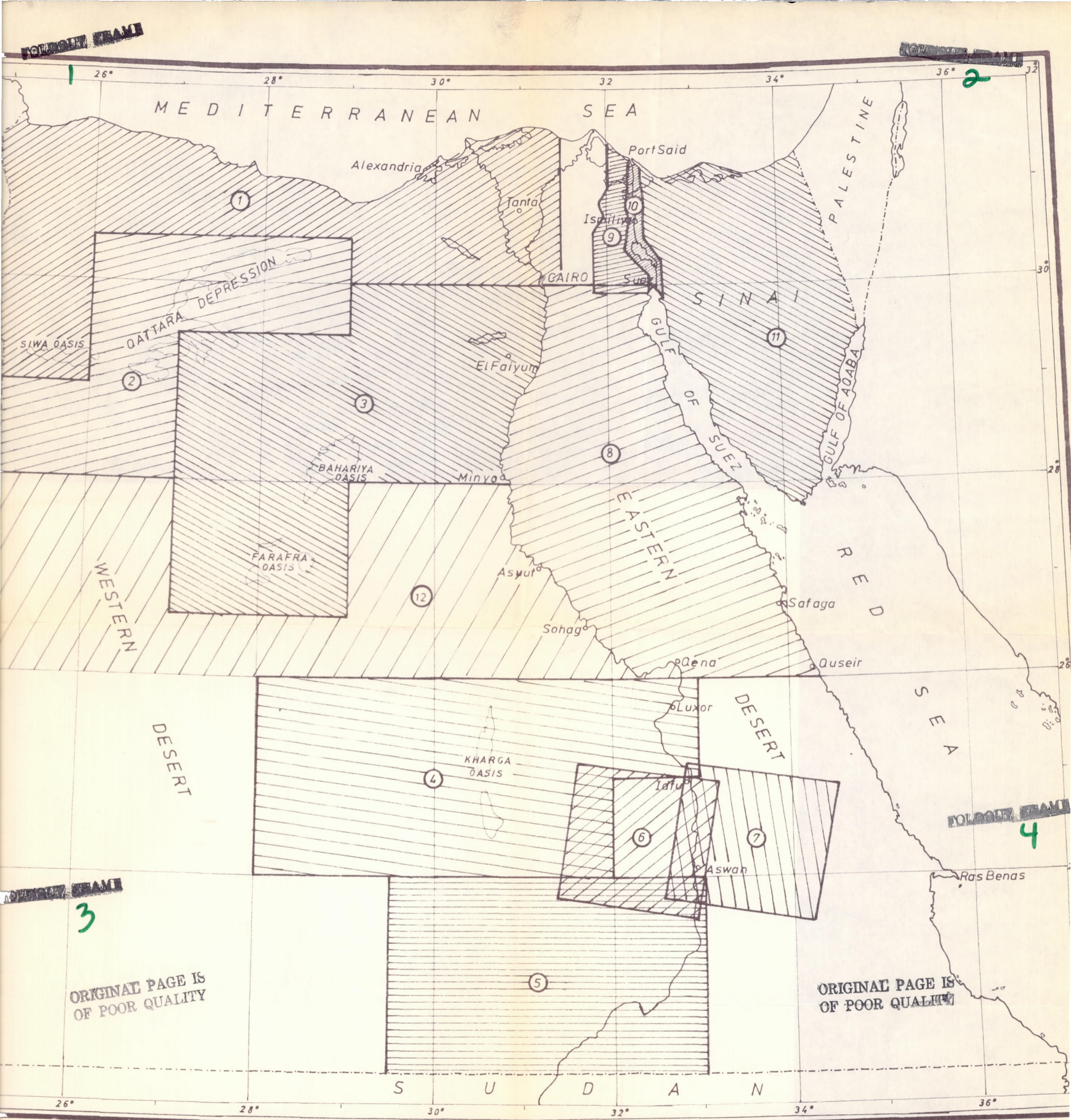
Report prepared for the United Nations Environment Program to be submitted as a document by the UN Secretariat to the

forthcoming UN International Desertification Conference  
in Nairobi, scheduled to be held on August 29th, 1977.

Report completed and five pilot project areas designated  
for actual survey in N. E. Africa and the Arabian Peninsula.  
The report is designated as a UN Document (Secretariat of  
the United Nations, Conference on Desertification "UNCOD/  
MISC/15, GE.77-83146"), copy sent to you under a separate  
cover.

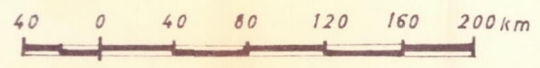
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KEY MAP SHOWING LOCATIONS OF THE CURRENTLY INVESTIGATED AREAS IN EGYPT

- 7) EAST ASWAN AREA
- 8) NORTH EASTERN DESERT
- 9) ISMAILIYA MASTER PLAN STUDY AREA
- 10) SUEZ CANAL AREA
- 11) SINAI PENINSULA
- 12) SOUTH PARAFRA OASIS AREA



- 1) WEST NILE DELTA AREA
- 2) QATTARA DEPRESSION AREA
- 3) EL FAIYUM-BAHARIYA OASIS AREA
- 4) KHARGA-DAKHLA OASIS AREA
- 5) TUSHKA BASIN AREA
- 6) WEST ASWAN AREA

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