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PREPARING A SCHEMATIC SOILS MAP OF AN ARID AREA USING LANDSAT IMAGERY

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Between June 1977 and October 1979, a schematic soils map was made of an arid area 2,149,700 square kilometers in size using photointerpretive techniques on 120 Landsat scenes. The smallest mapping unit was about 5000 hectares. The mapping units were named for the soil subgroups that were present. Classification of the soils was based on Soil Taxonomy.

Visual interpretations were made on the images (black and white band 7) after determining the general landscape forms that were present in the scene. Topographic and Geologic maps were used for preliminary identification of similar areas. Delineations of each mapping unit were made on a frosted overlay and temporary symbols were assigned to each unit.

Field trips were conducted to verify and/or correct the names of the mapping units. Only a small portion of the mapping units were checked but they were found to be fairly uniform from one area to the next.

The final product was a series of irregular polygons superimposed on an enhanced Landsat image mosaic. Each unit was coded with a two-digit number and a legend describing each unit was made a part of the map. The map was divided into eight parts to facilitate handling. The final scale of the map was 1:1,000,000.

A great deal of work still has to be done on this map to verify more of the mapping units and quantify their composition. Eventually a general soils map can be made using the Landsat image mosaic as a base map. The present schematic map is useful for planning this developing area at a broad level.

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