



# UPLIFTED AND TILTED YOTVATA SABKHA, ARAVA VALLEY ISRAEL

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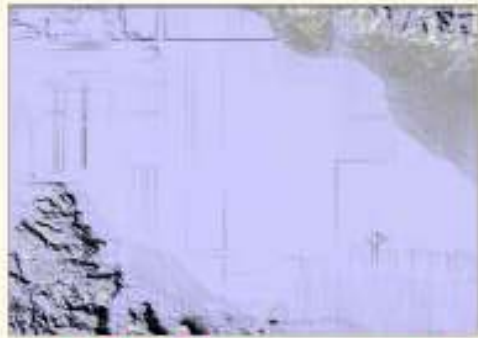
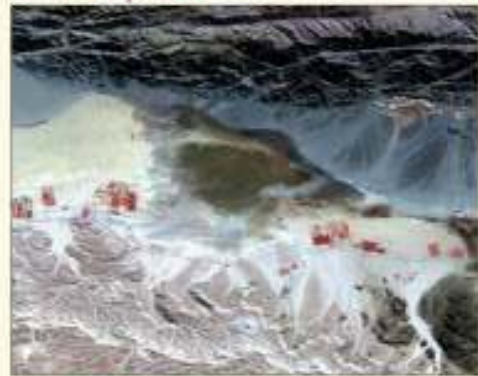
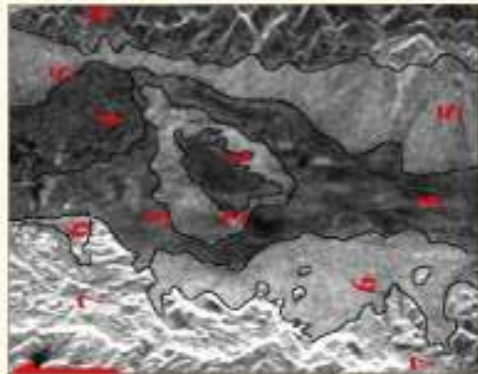
1. Geological Survey, Israel; 2. Ben Gurion University, Israel; 3. Pierre & Marie University, Paris; 4. CNES, France, February 2000

The Yotvata Sabkha is one of four located in the Southern Arava, zone of silty, sandy clay with gypsum concretions. The water table subsurface show both morphological and tectonic influences on in the Dead Sea-Red Sea segment of the Syrian-African Rift is close to the surface, within 2.5m, and the salinity is up to 350,000 sabkha development. Topography, drainage network, and System. Three of these are continental sabkhas (El Soyal, Yotvata ng) TDS. The surface is characterised by a dendritic flow pattern structure indicate water flow from north to south both in the and Evrona) and the fourth (Eilat) is a lagoonal sabkha. The and occasional mudholes: 2. An enveloping transition zone of silt, surface flow and the separate underlying fresh water body. This Yotvata Sabkha is the largest, covering some 45 km<sup>2</sup>. It extends sand and clay with some gravel and gypsum. Sparse phreatophytic flow was influenced by anticlinal and synclinal structures to the across the width of the relatively flat and arid Arava Valley. It is vegetation and occasional tamarisks cover the area. The salinity north of the sabkha and by an *en echelon* fault pattern within triangular in shape with the apex pointing southwards and a ranges from 30,000 to 280,000 mg/l TDS; 3. An outer zone of sand, which the sabkhas were developed. The present study of surface base width of about 7.5km. It is bounded by sand dune fields in silt and gravel covered by low halophytic shrubs and tamarisks configuration of the Yotvata Sabkha, uses radar, interferometry the north and south and by large alluvial fans in the east and typical of many areas of the Arava. Previous studies (Garfunkel, and thematic images as well as ground truth that indicate it has west. The highest elevations are 70-80 m asl, and the lowest are 1970; Amiel and Friedman, 1978; Krotora, 1978; Finkel and Friedland, 1978; Ron, 1979; Gerson, 1982; Goltz, 1991; Frieslander, to Recent Times. 50-60 m asl. The sabkha is made up of three distinct zones that Finkel, 1979; Ron, 1979; Gerson, 1982; Goltz, 1991; Frieslander, to Recent Times. are clearly seen on the imagery. These are: - 1. A central sterile

ELEVATION DIFFERENCE BETWEEN BASE STATION AND END OF TRAVERSE.



1. Mudflat
2. Mudflat with vegetation.
3. Sand, silt & vegetation.
4. Sand dunes
5. Alluvial fans from a Pre-Cambrian source.
6. Alluvial fans from a Mesozoic source.
7. Mesozoic sediments.
8. Pre-Cambrian rocks.



## Yotvata Sabkha Traverse location

## DTM

## ERS SAR Images

