

PHOTOINTERPRETATION OF LANDSAT IMAGES  
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## 1. Introduction

Some remarks on a simple optical photointerpretation of Landsat images are mentioned in this paper. The images include a broad area of Northern Greece.

The remarks mainly concern drainage (and relevant characteristics as lakes and estuaries), the study of which is of particular interest for Greece and especially for the area we studied. (This paper constitutes only a preliminary report).

## 2. Photointerpretation

Landsat images, taken during the winter (24 NOV. 1978 and 7 DEC. 1979, bands 4, 5, 6, 7) were studied.

The following came from photointerpretation of these images.

### Drainage

The degree under which drainage, is possible to be recognized with a simple optical observation, varies to broad limits depending on the area.

It generally appears as a system of thin, tonal linear elements, which are many times interrupted and difficult to discern, organized each time at various forms.

The drainage was thought useful to be studied in connection with a transparent paper which presented drainage as it is included in a topographical map in scale 1:500.000, Fig. c .

This transparent paper in many cases was a valuable guide for the location of drainage on Landsat images at the preliminary stages of the study, and helped in getting the experience to recognize drainage during the study on Landsat images.

Depending on the area, the appearance of drainage on Landsat images is much more detailed than this on the topographical map, in scale 1:500.000.

The tonal differences of the elements of drainage become characteristic at the same band but mainly among the various bands. The tone is generally lighter at

band 4, getting gradually dark to band 7, Fig. a,b:1,2.

### Estuaries

The study of the estuaries, and especially the appearance of the plume of the suspended solids into the sea, is of particular interest.

This appearance is characteristic mainly on band 4, Fig. a:3,4 . It is also continued on band 5 and vanished on bands 6, 7 , at which, and particular at band 7 , the appearance of the delta of the rivers becomes clear, Fig. b:5.

Meteorological parameters, sea currents and other factors are connected with this appearance, the study of which is of multiple interest.

### Lakes

We refer to lakes, which the topographical map, in scale 1:500.000 includes.

The lakes are distinguished in different degree because of the various tonal contrast with their surroundings.

This tonal contrast, increases gradually from band 4 to band 5 and especially on bands 6, 7 , where the lakes are much discernible and with the clearest outlines, Fig. a,b:6, 7, 8.

The observed significant tonal differences among various lakes on the same band, are remarkable, Fig. a:7, 8.

During photointerpretation the following remarks also arose :

Fig. d , shows areas of different altitude.

Texture is influenced by the traces of drainage in areas of significant altitude.

In areas of smaller altitudes (0-200 m), the texture presents a dotted appearance which becomes more intense from the band 4 to band 7 , Fig. a,b,d : 9,10,11.

During the study, it is possible to have a general idea for the relief, influenced by various factors (drainage, tone etc), each time at different degree depending on the band and the area.

### 3. D i s c u s s i o n

The photointerpretation of Landsat images can be done at various levels depending on the intension, the available equipment and the general researching program that concerns.

A simple optical photointerpretation is thought to be particularly useful for general information on the studing area, the location of particular subjects,

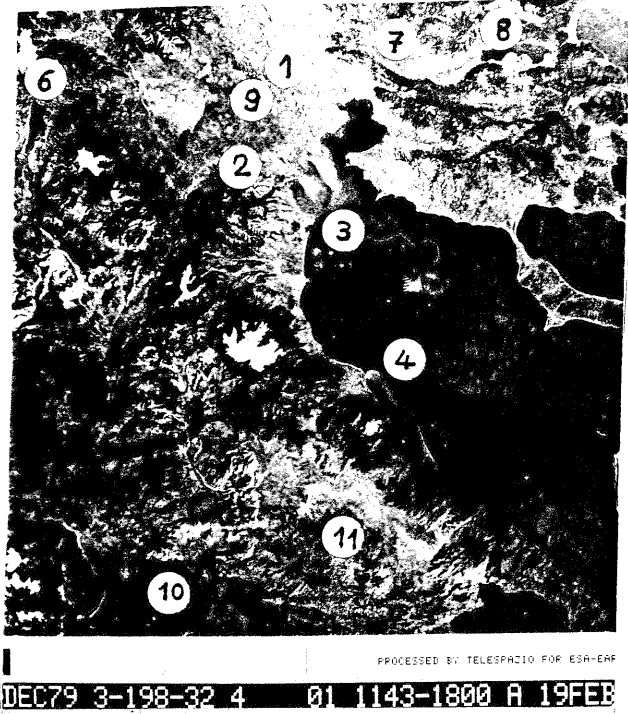


Fig. a. Landsat image 7DEC79 band 4 (reducement)

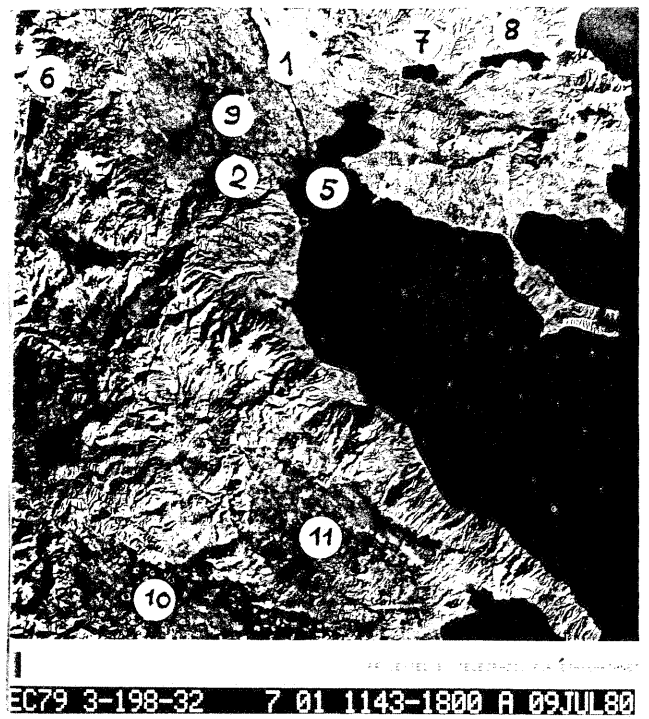


Fig. b. Landsat image 7DEC79 band 7 (reducement)

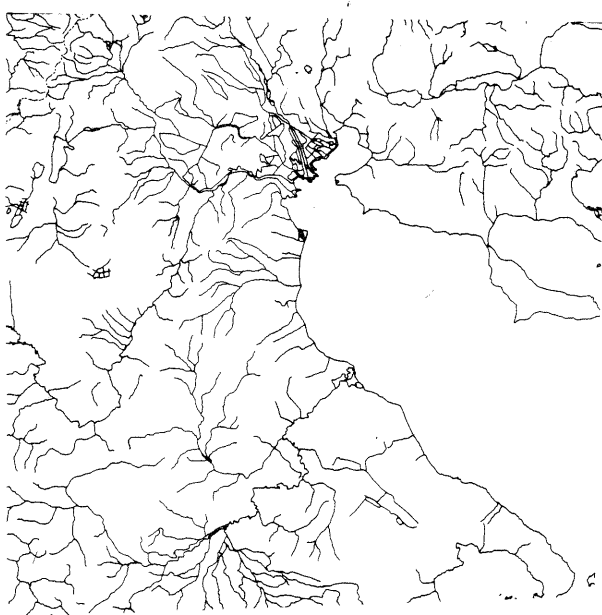


Fig. c. Drainage from topographical map in scale 1:500,000 (reducement)

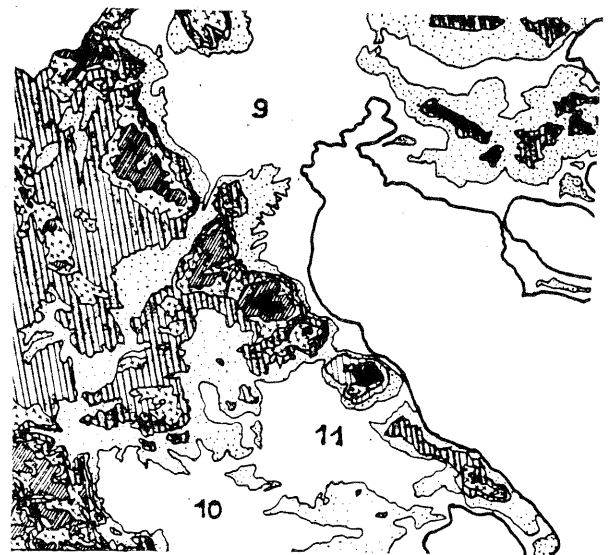
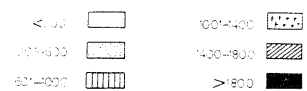


Fig. d. Altitudes (m) (3)



which we are interested in, for further study and the programming of this study (as the case of this study).

From this aspect the study of the estuaries is of great from the point of the hydraulic of coasts and bays which becomes more intense, when civil centres and especially great ones, as in the studied area, established in the area of estuaries.

We should also notice that the area of lakes, Fig. a,b:7,8 , has a seismic activity, the study of which interests a lot.

Getting other documents, as those relevant to vegetation, rocks, climatic parameters, roads and cities, etc, would be a great help.

These documents are useful at preliminary optical photointerpretation of Landsat images in connection with transparent paper in the same scale, including this additional information, as well as at advanced stages in combination with airphotographs and control in the field.

#### 4. R e f e r e n c e

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