Terrain Mapping of Lineaments, Faults and Landslides of the Island of Crete through GIS and Satellite Remote Sensing Techniques

Legend

ASTER RGB Composite

- **Red: Band3N**
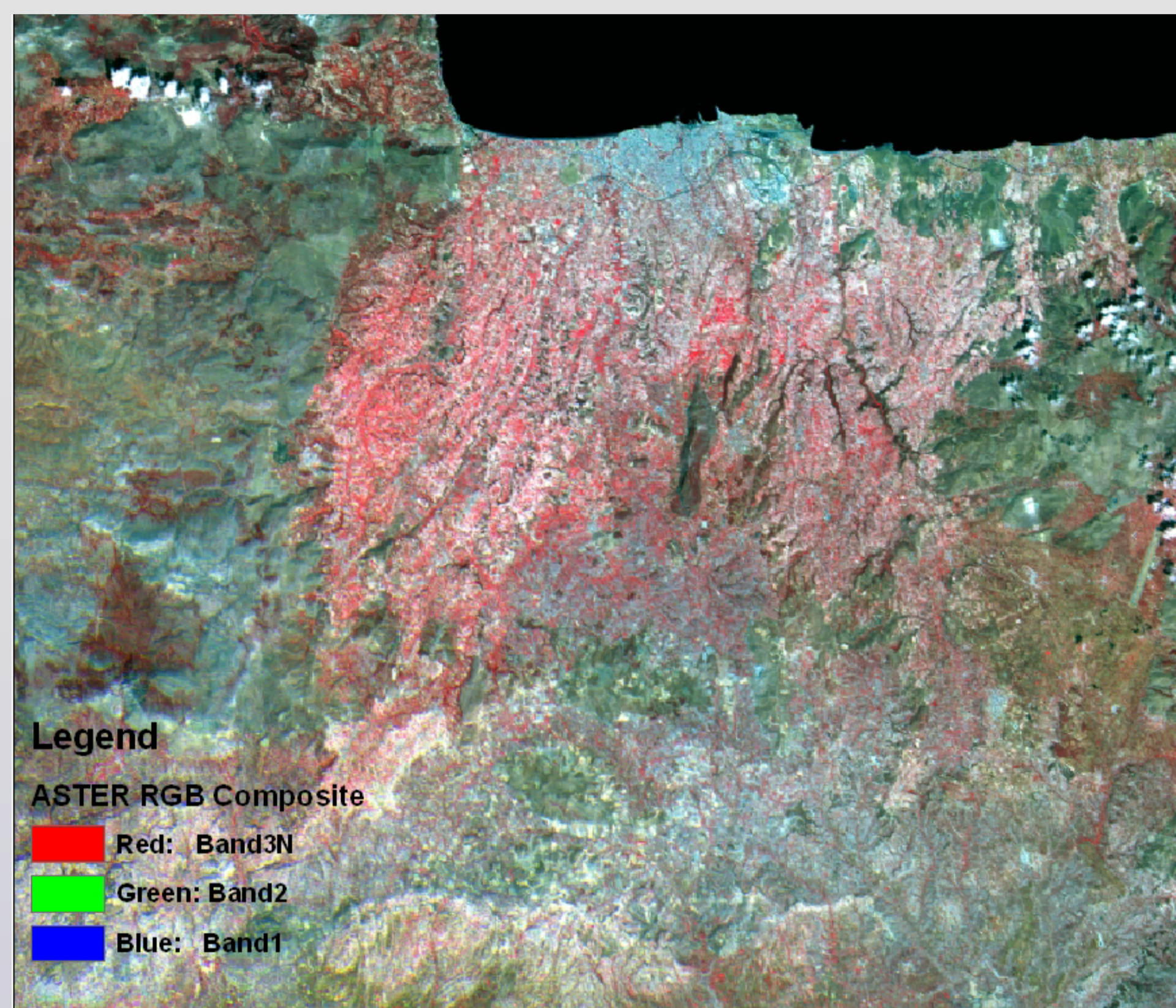- **Green: Band2**
- **Blue: Band1**

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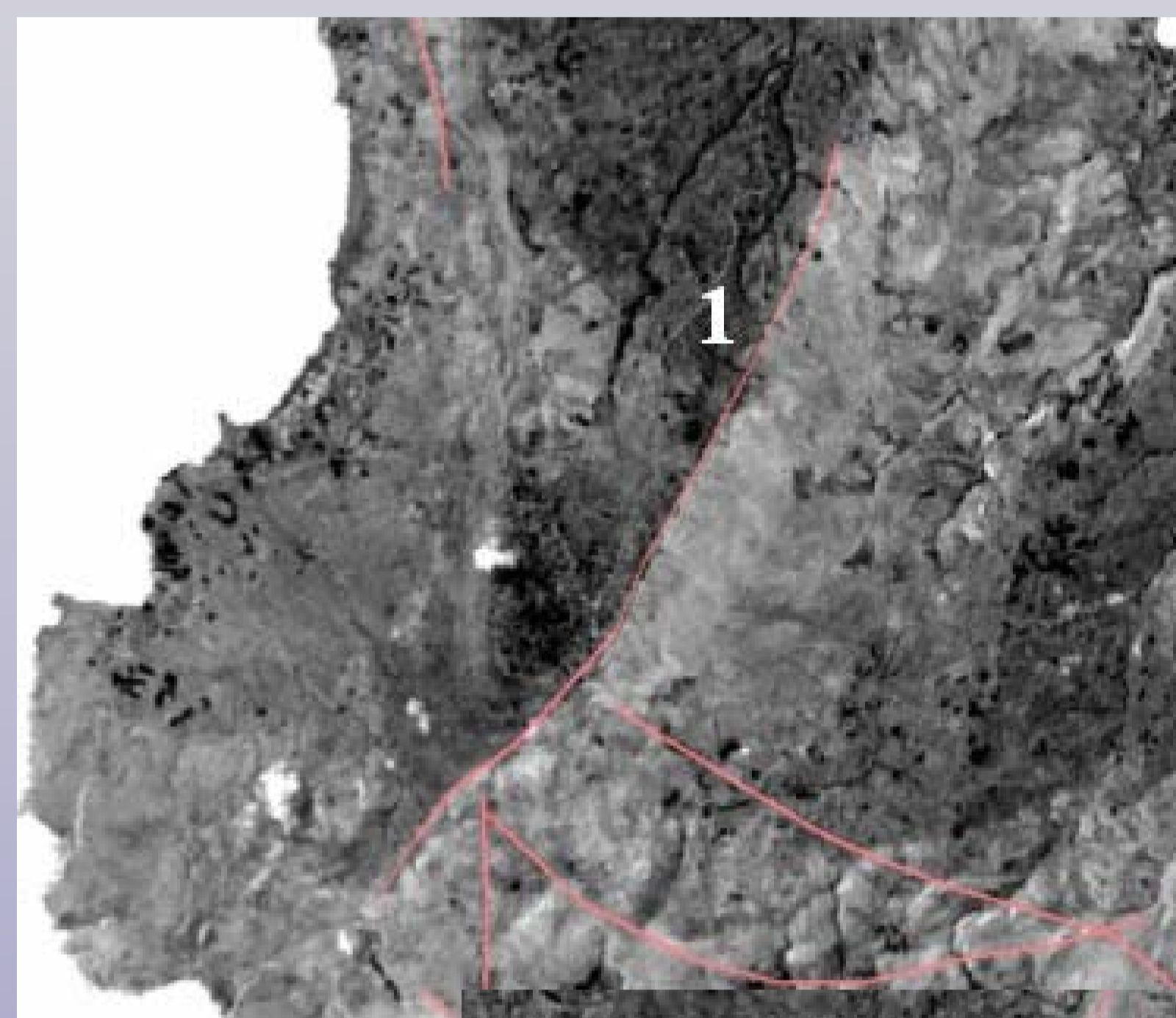K. Georgila
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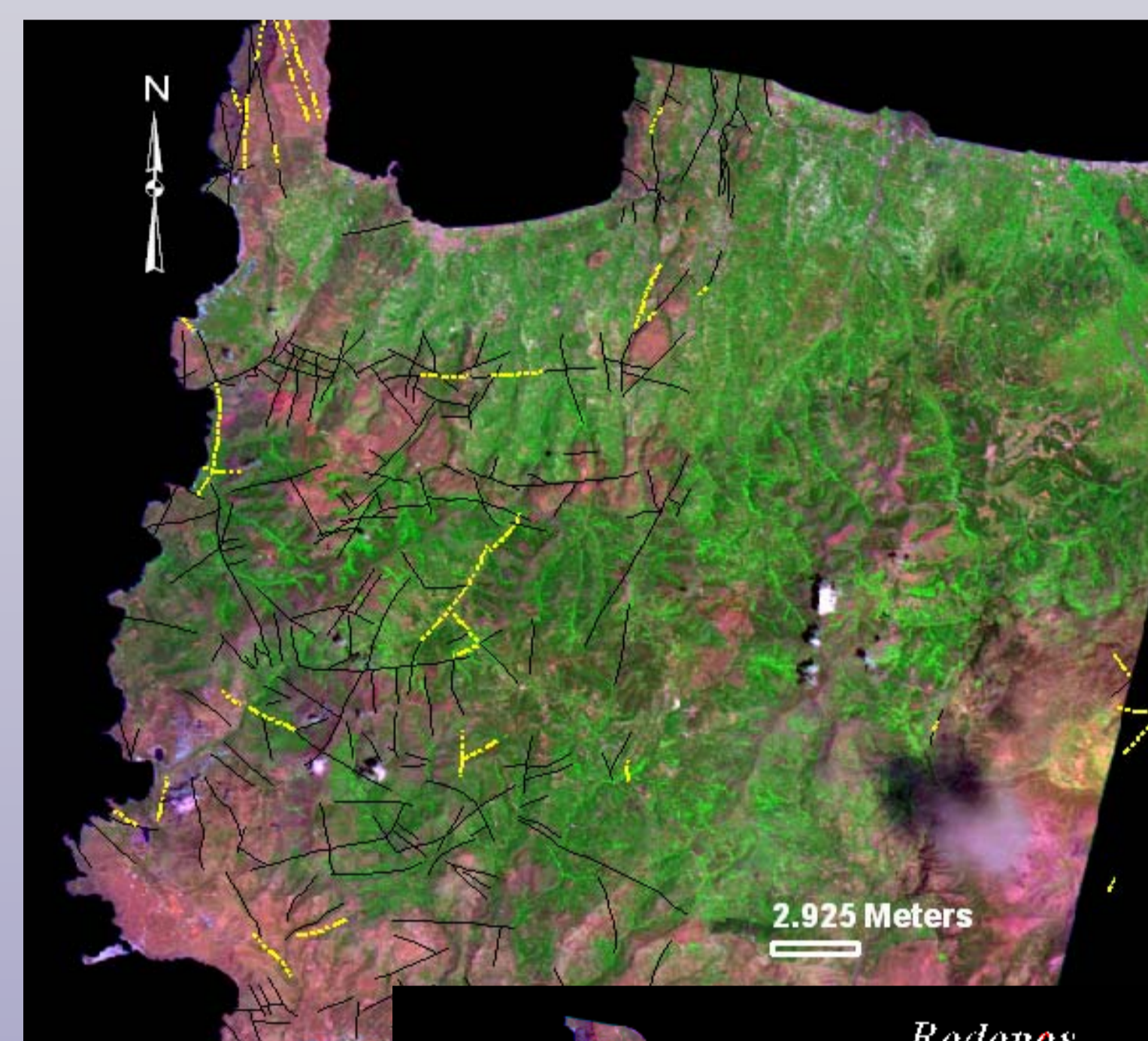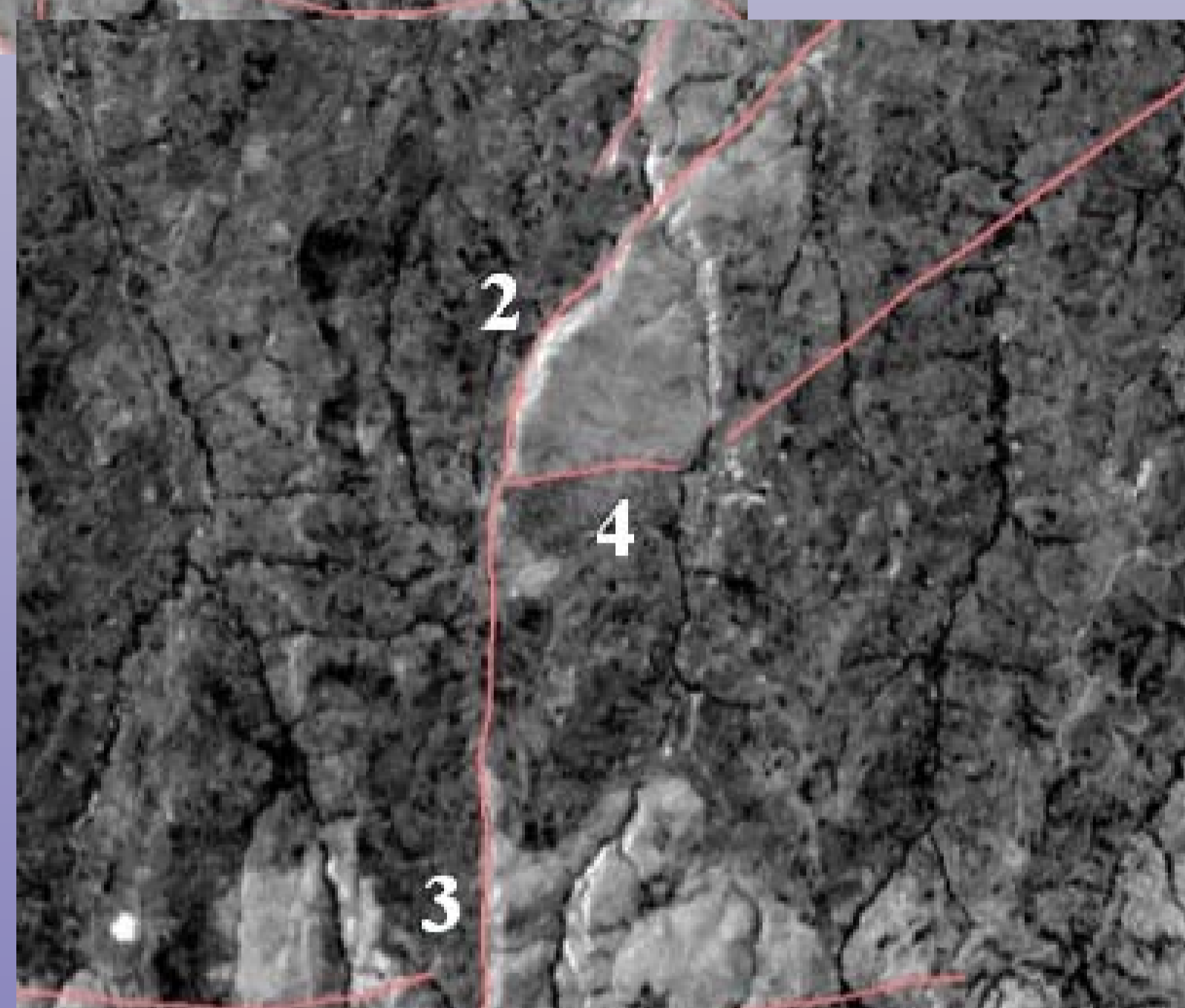Technical University of Crete
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ASTER images were used for creating the hyperspectral mosaic of Crete. The resulting mosaics were processed intensively in order to detect lineaments related to faults. The particular data were compared to those coming either from surface observations or digitization techniques of geological maps.
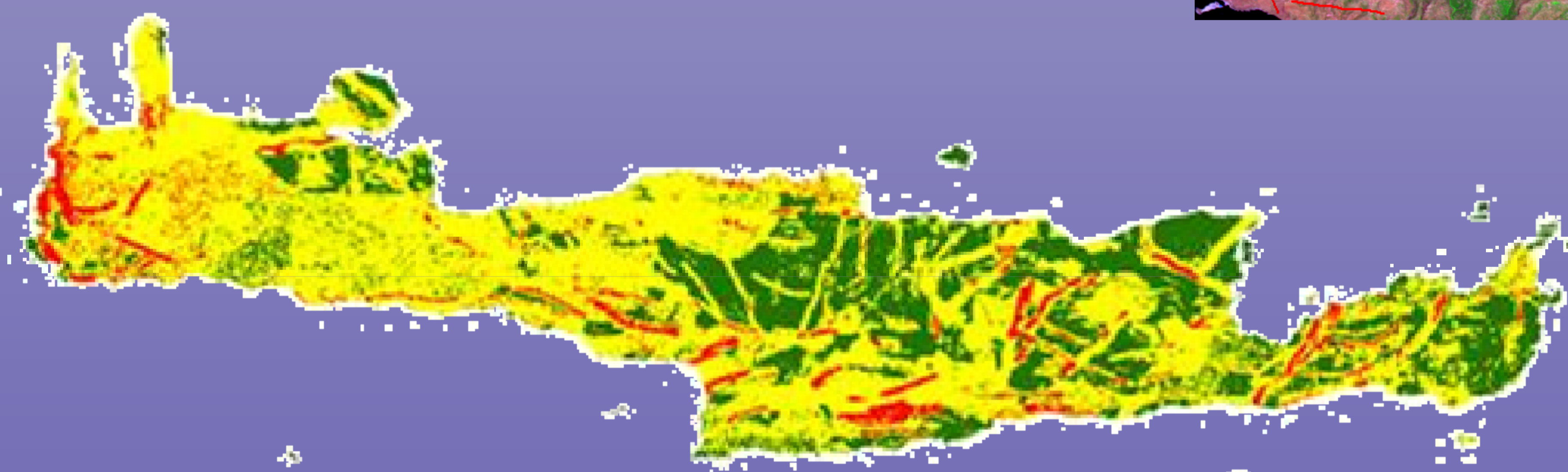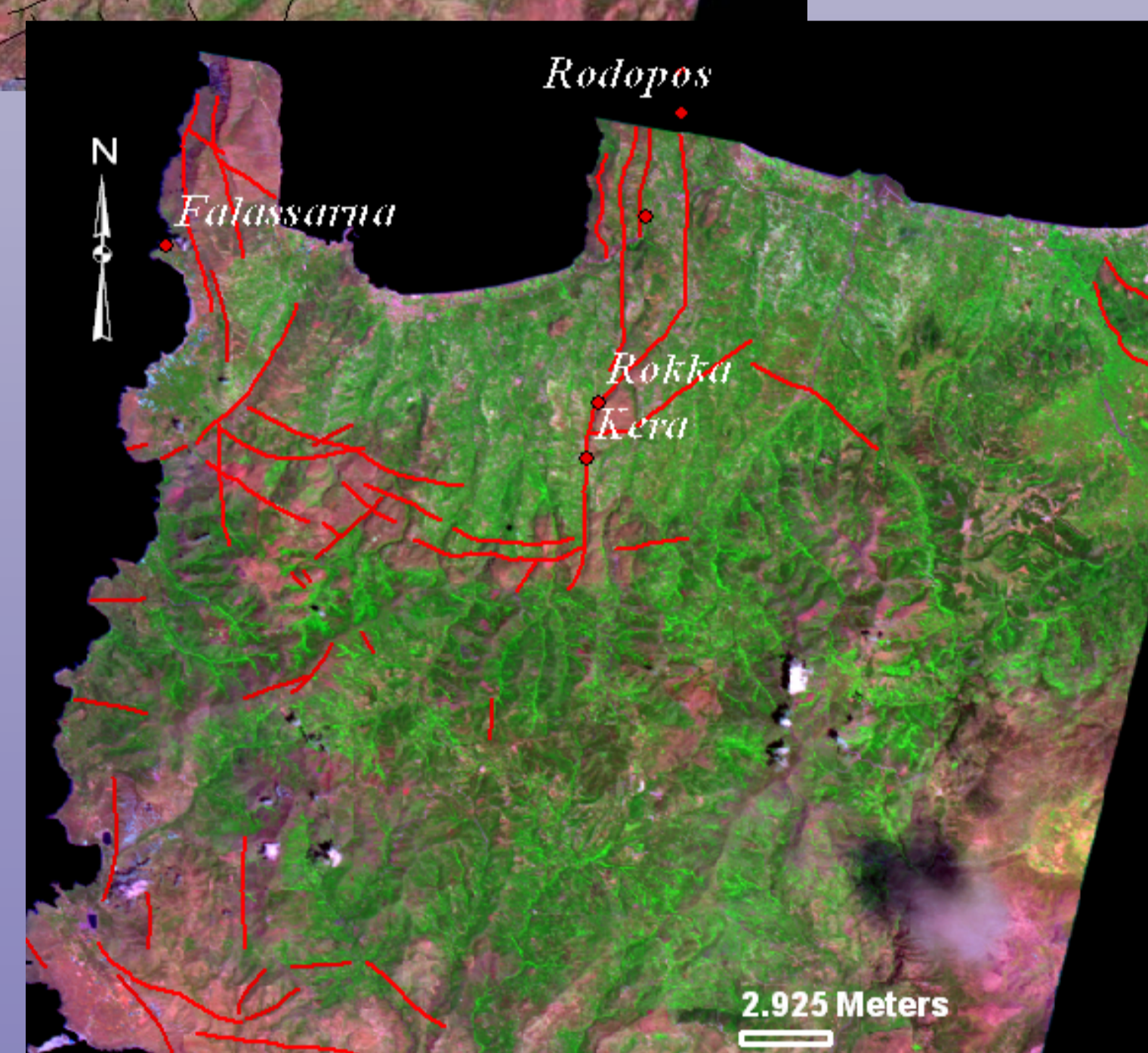
In addition to the above, a 20m SPOT derived DEM was employed along with other information layers (geology, climatic, landuse, etc) to classify areas with potential landslide risk. The model was based on weighted variables through statistical analysis of inter-related parameters.

Details from the PC2 image for case-1. The images reveal the geology of the area. Lineaments 1-4 correspond to tectonic contacts between geological formations.

2.925 Meters

Rodopos

Falassarna

Rokka

Kera

2.925 Meters

Top: The FCC image overlain by previous mapped faults (IGME). Black solid lines, normal faults; yellow dashed lines, extensions of normal faults. Bottom: The FCC image overlain by the lineaments enhanced in this study (red solid lines).

Five main parameters that influence the landslides incidence were considered: generalized geological structure, hydrolithology, slope, average yearly rainfall precipitation and the presence or absence of geological faults.

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