

A Detailed Liquefaction Susceptibility Map of Nestos River Delta, Thrace, Greece Based on Surficial Geology and Geomorphology

Maria Taftoglou ¹, Sotirios Valkaniotis ¹, George Papathanassiou ^{2,*}, Nikos Klimis ¹ and Ioannis Dokas ¹

¹ Department of Civil Engineering, Democritus University of Thrace, University Campus, 671 00 Xanthi, Greece

² Department of Geology, Aristotle University of Thessaloniki, 541 24 Thessaloniki, Greece

* Correspondence: gpatha@geo.auth.gr

Table S1. KH-4 Corona declassified imagery frames used.

Year	Source	ID	Date yyyy-mm-dd	Resolution (m)
1960	KH-4A	DS009009009DV081	1960-08-18	~3m
1968	KH-4B	DS1104-1058DF092	1968-08-11	~3m

Table S2. Ground control point coordinates (meters) and residuals after triangulation of KH-4A frame DS009009009DV081. Coordinates in Greek Geodetic Reference System 1987.

Point ID	X	Y	H	dX	dY
1	574299	4542017	12.0	-0.96	-0.49
2	546697	4535298	7.6	3.70	-0.60
3	569467	4531291	7.9	-5.86	1.36
4	558301	4524983	0.6	0.14	0.81
5	557280	4538201	18.2	-0.91	0.35
6	584090	4533551	0.0	5.09	0.84
7	575297	4536330	7.4	-1.23	-2.28

Total RMSE of 7 image points: RMSE_x=3.321, RMSE_y=1.143

Table S3. Ground control point coordinates (meters) and residuals after triangulation of KH-4B frame DS1104-1058DF092. Coordinates in Greek Geodetic Reference System 1987.

Point ID	X	Y	H	dX	dY
1	546682	4535293	7.4	-3.47	-4.60
2	582007	4531043	0.0	-5.61	4.86

3	571895	4527258	1.0	5.62	-0.85
4	565596	4539173	19.6	5.16	7.00
5	554720	4529023	4.5	4.58	-0.77
6	573342	4538157	34.4	-4.22	-10.38
7	581512	4539242	34.0	4.81	-3.97
8	561567	4536592	18.0	7.75	12.05
9	575818	4533478	2.4	-3.10	-3.66
10	566264	4534707	12.1	-8.40	4.73
11	549783	4537919	330.8	-3.09	-4.38
Total RMSE of 11 image points: RMSE _x =5.338, RMSE _y =6.170					

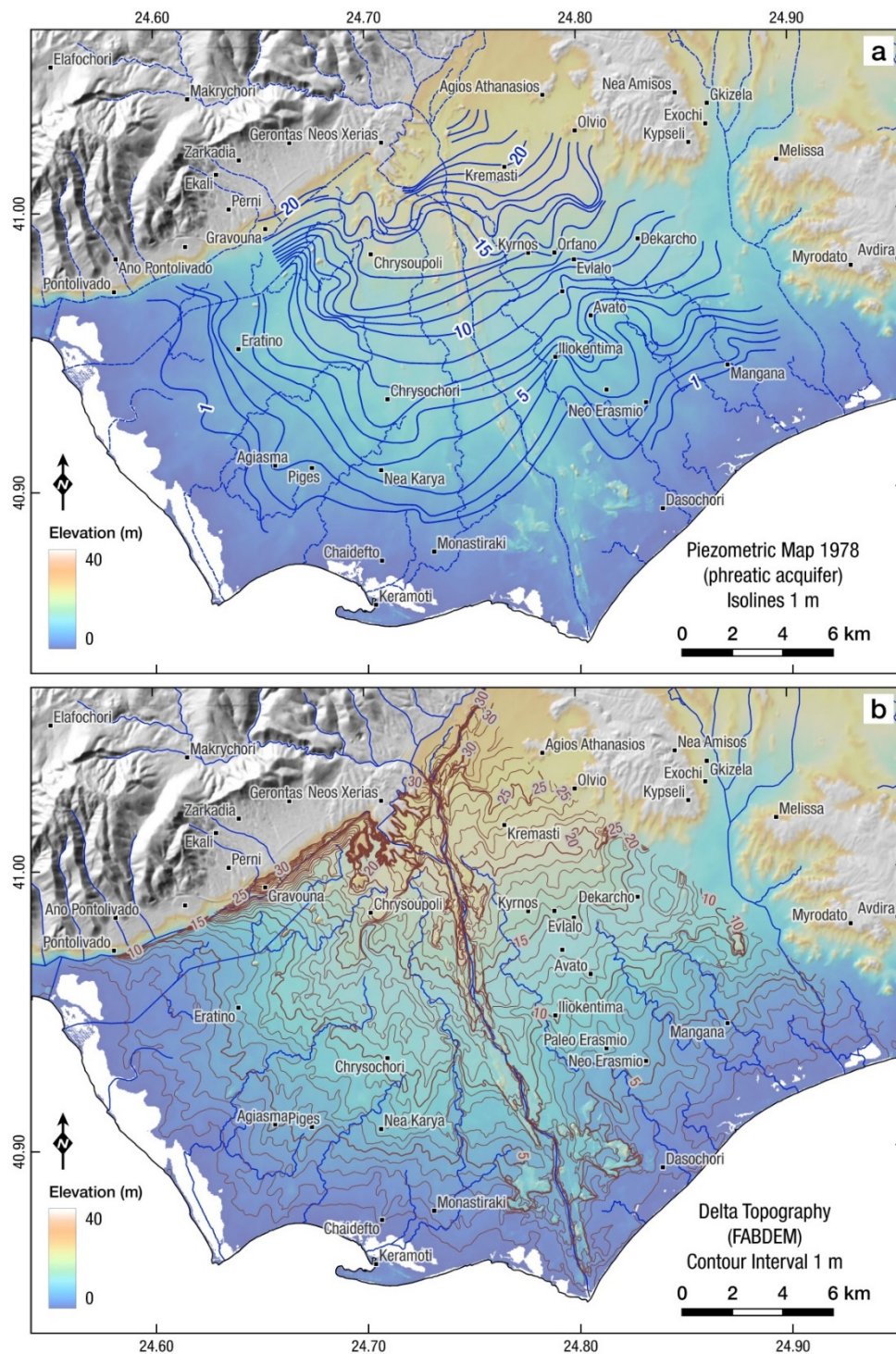


Figure S1. a) Piezometric map of the phreatic/unconfined aquifer in October 1978. Piezometric isolines with thick blue lines (1m interval). b) Topographic map of Nestos delta area, with 1 meter contours. Contours extracted and simplified from FABDEM digital terrain model [1,2]

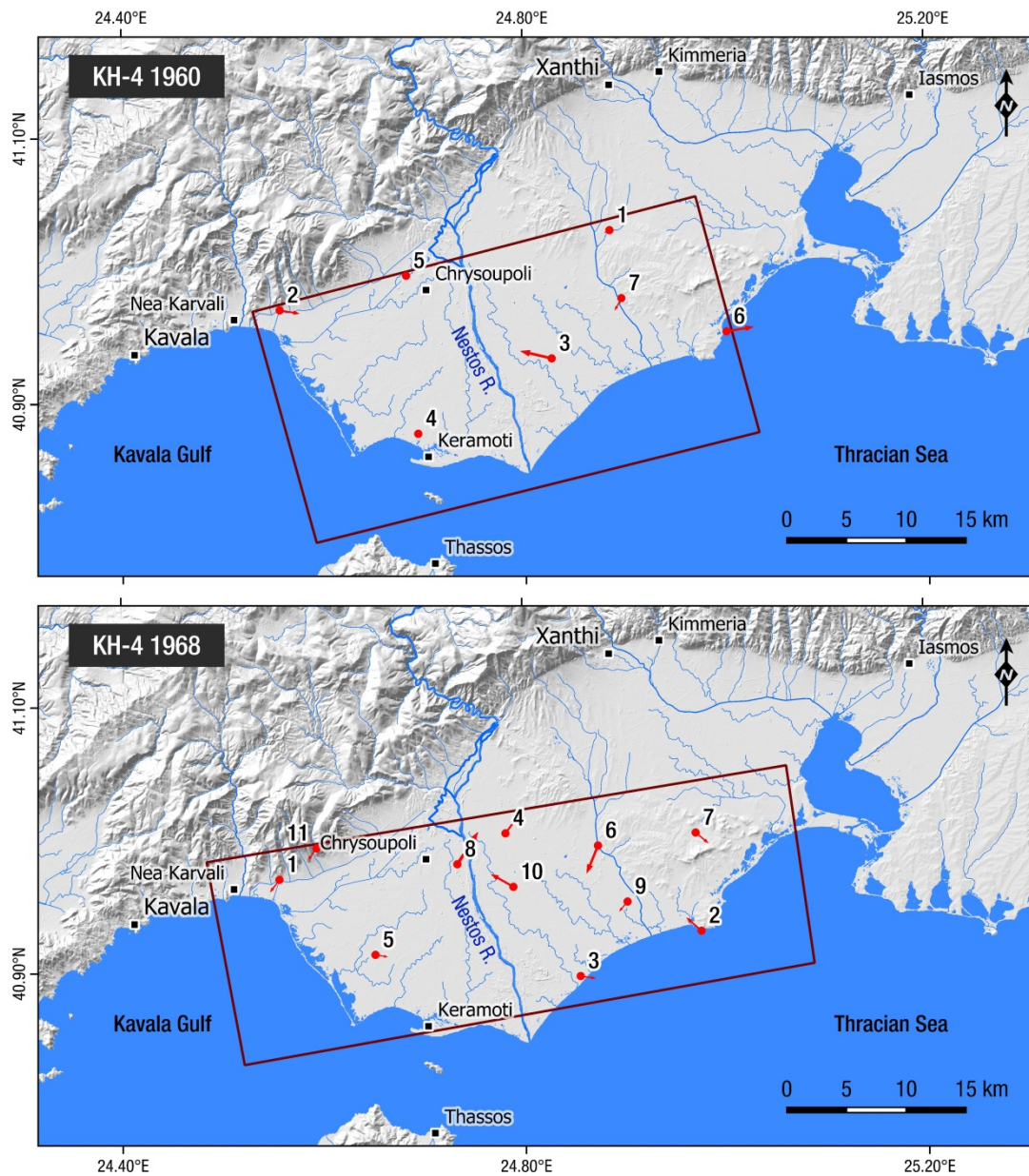


Figure S2. Outline of KH-4 Corona frames and ground control points used for orthorectification. Red arrows show GCP residuals from tables S2 and S3.

1. Stournaras, G. Evolution et Comportement d un Systeme Aquifer Heterogene. Geologie et Hydrogeology du Delta Nestos (Greece) et de ses Bordures, Doctoral Thesis, Univ. Grenoble, Grenoble, France, 1984.
2. Hawker, L.; Uhe, P.; Paulo, L.; Sosa, J.; Savage, J.; Sampson, C.; Neal, J. A 30 m global map of elevation with forests and buildings removed. *Environ. Res. Lett.* 2022, 17, 024016.