



Supplement of

Annual evapotranspiration retrieved solely from satellites' vegetation indices for the Eastern Mediterranean

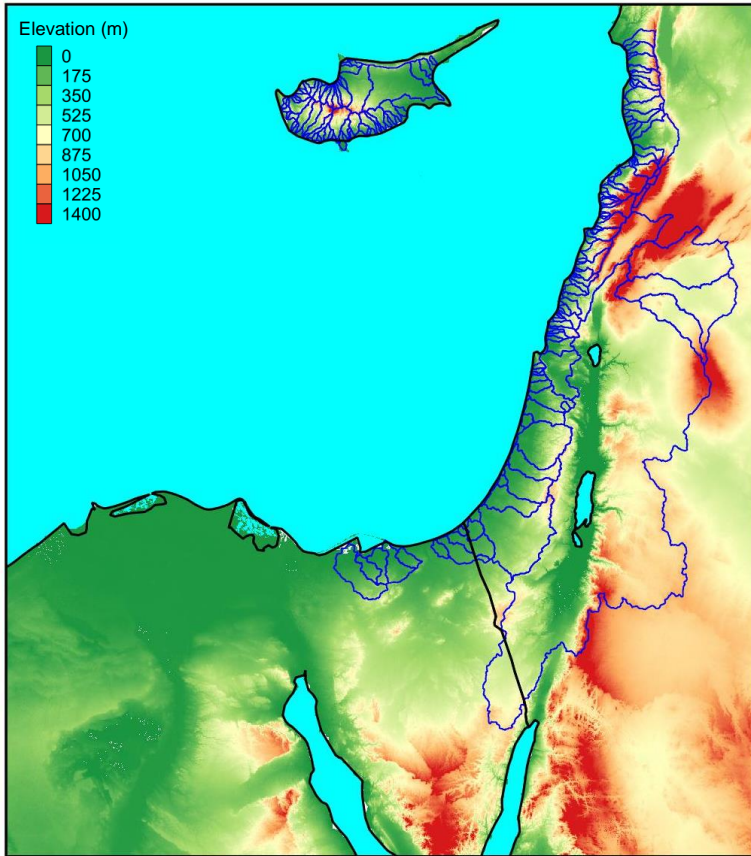
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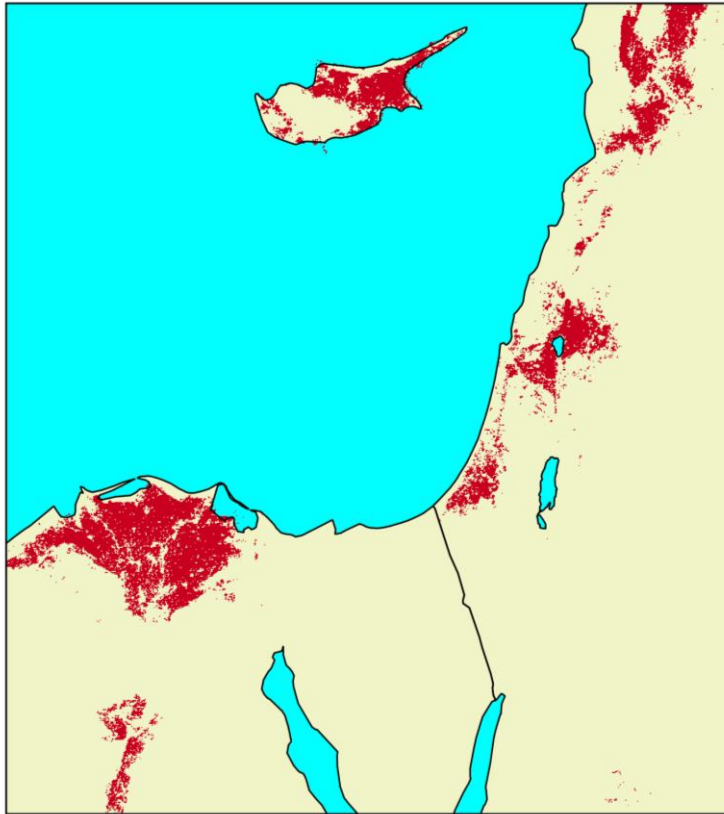
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1 **Figure S1.** Main basins (>10 km²) in the Eastern Mediterranean, used to compare annual ET
2 estimates from PaVI-E, MODIS (MOD16) and MSG (LSA-SAF MSG ETa) (see Fig. 5 in
3 main text).

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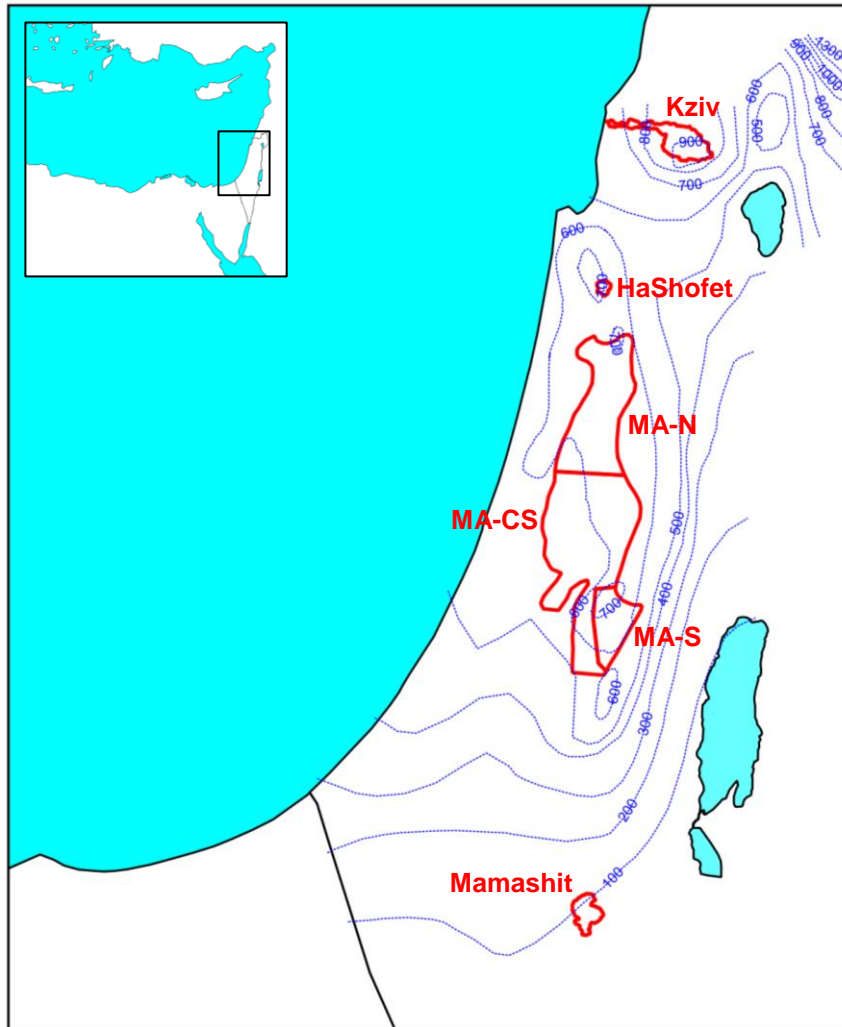
1 **Figure S2.** Mask map used to apply PaVI-E model for annual (AN) and annual + perennial
2 (PA) vegetation systems in the Eastern Mediterranean. Pixels identified as AN are shown in
3 red, while remaining land cover is classified as PA (see explanation in main text - Section
4 3.3). Water bodies are shown in cyan colour.
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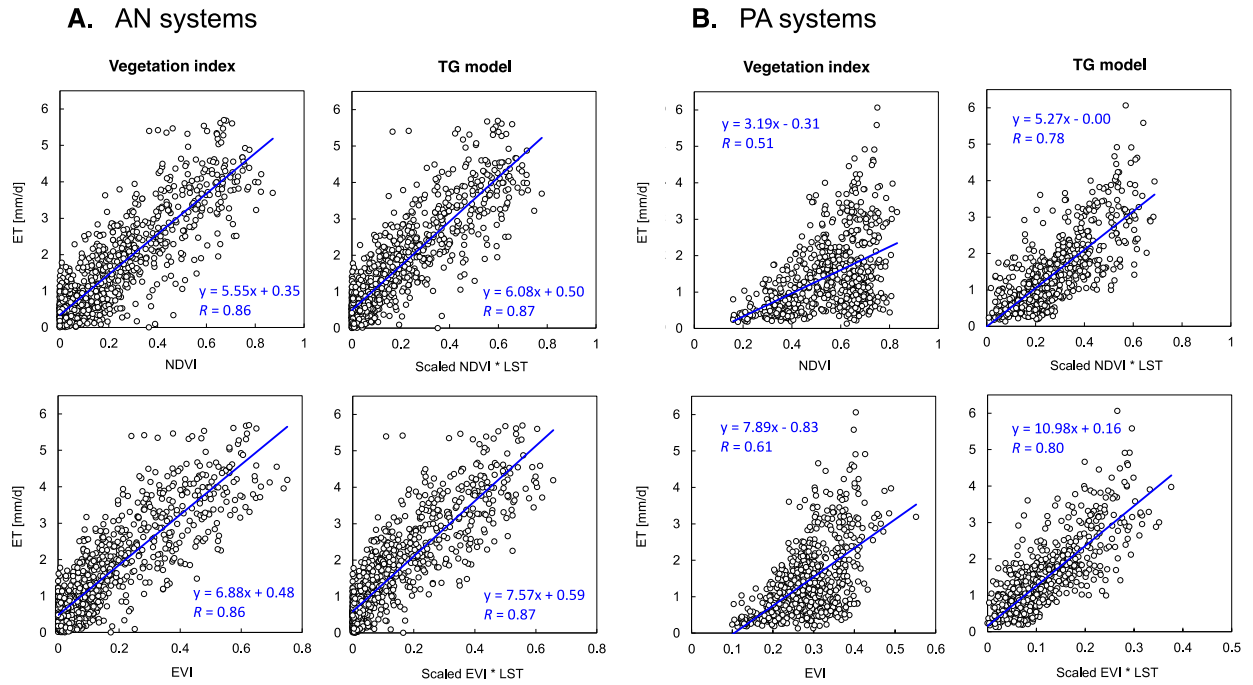
1 **Figure S3.** Location of six water catchments used to evaluate PaVI-E along the south-north
2 rainfall gradient in the Eastern Mediterranean. ET from water catchments balances were
3 calculated as $ET = P - Q$, for 2000-2013 (see in main text). MA-N, MA-CS, and MA-S are
4 for north, centre-south and southern mountain aquifers, respectively. Contours of mean
5 annual rainfall amount (isohyet) are also shown.

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1 **Figure S4.** Scatter plots of the 16-day eddy covariance ET vs. MODISs' vegetation indices
 2 (NDVI and EVI) and the modified TG model (Sims et al., 2008), for **(A)** annuals vegetation
 3 systems (AN), and **(B)** perennials + annuals vegetation systems (PA).

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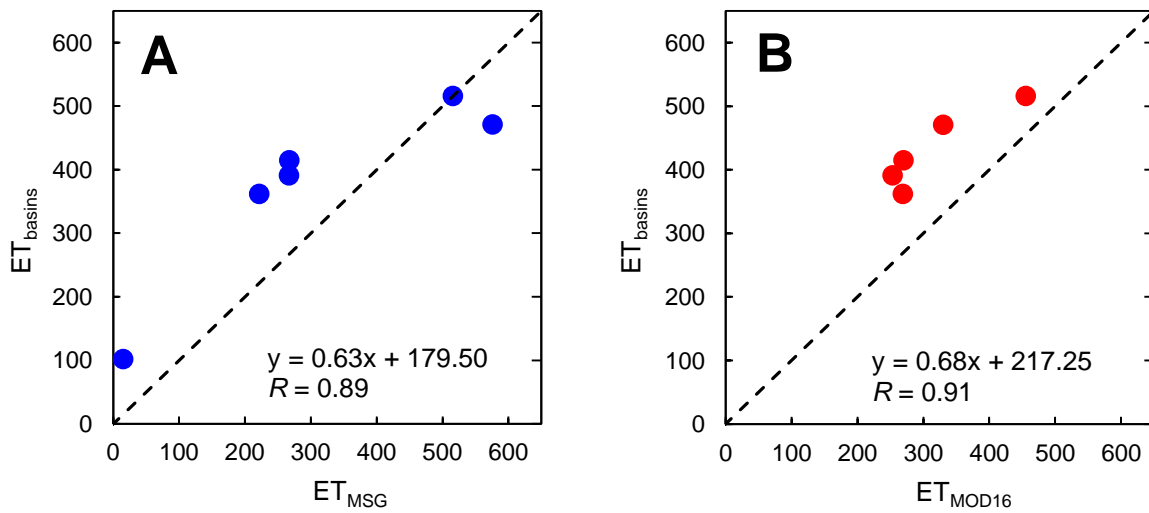
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1 **Figure S5.** Scatter plot of the mean annual ET calculated from water balances against ET
2 retrieved from (A) MSG and (B) MODIS ET products, at six water catchments along the EM
3 north – south rainfall gradient. There were no ET values from MODIS for the area of
4 Mamashit catchment.
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1 **Reference**

2 Sims, D. A., Rahman, A. F., Cordova, V. D., El-Masri, B. Z., Baldocchi, D. D., Bolstad, P.
3 V., Flanagan, L. B., Goldstein, A. H., Hollinger, D. Y., Misson, L., Monson, R. K., Oechel,
4 W. C., Schmid, H. P., Wofsy, S. C. and Xu, L.: A new model of gross primary productivity
5 for North American ecosystems based solely on the enhanced vegetation index and land
6 surface temperature from MODIS, *Remote Sensing of Environment*, 112(4), 1633–1646,
7 doi:10.1016/j.rse.2007.08.004, 2008.

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