

Supplementary Materials

for

PCA-MRM model to forecast TEC at middle latitudes

by

Anna L. Morozova ^{1,*}, Teresa Barata ² and Tatiana Barlyaeva ³

¹ Instituto de Astrofísica e Ciências do Espaço, Univ Coimbra, OGAUC, Coimbra, Portugal; annamorozovauc@gmail.com

² Instituto de Astrofísica e Ciências do Espaço, Univ Coimbra, OGAUC, Coimbra, Portugal; mtbarata@gmail.com

³ Instituto de Astrofísica e Ciências do Espaço, Univ Coimbra, OGAUC, Coimbra, Portugal; tvbarlyaeva@gmail.com

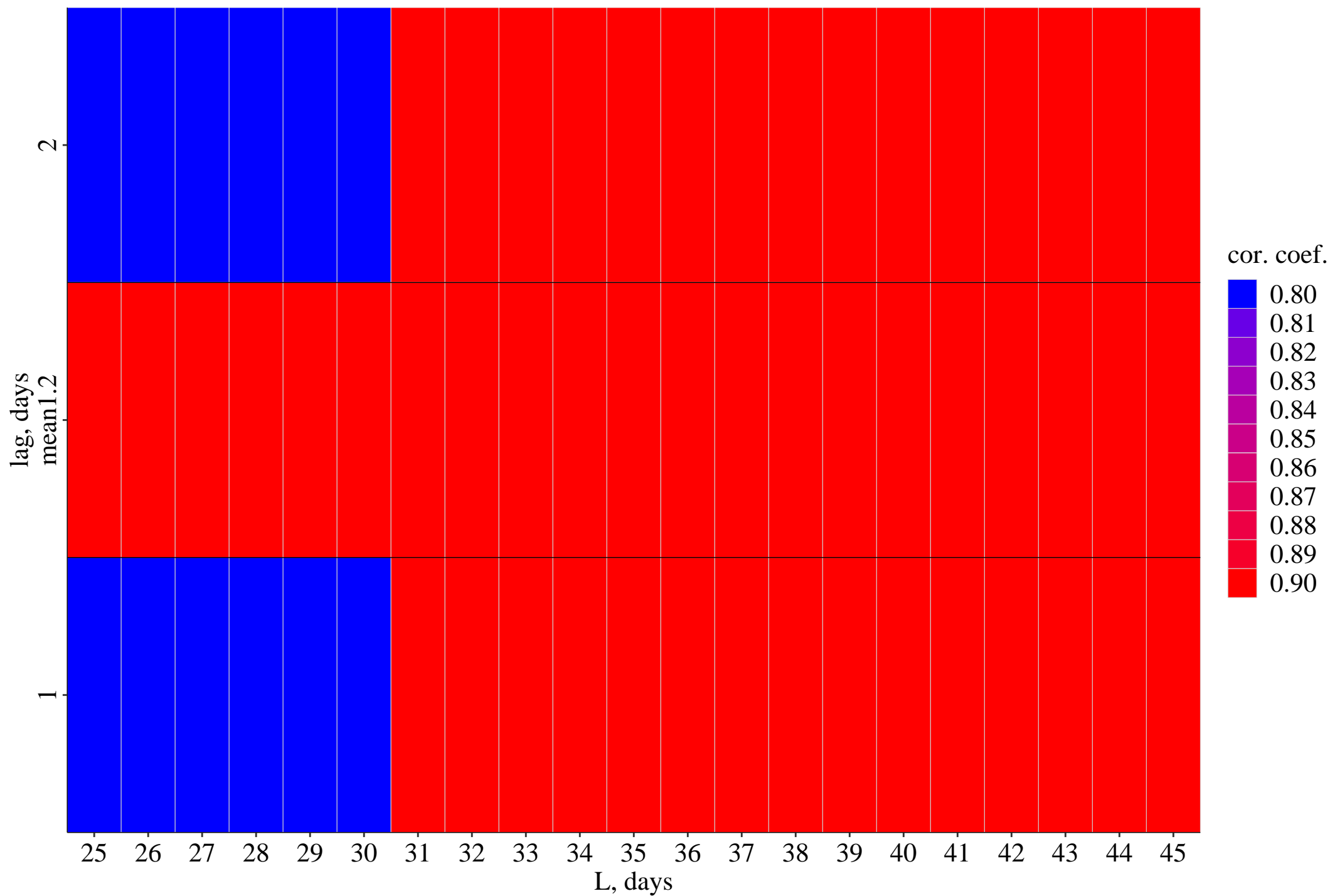
* Correspondence: annamorozovauc@gmail.com

This file contains Supplementary Materials (SM) referenced in the main text:

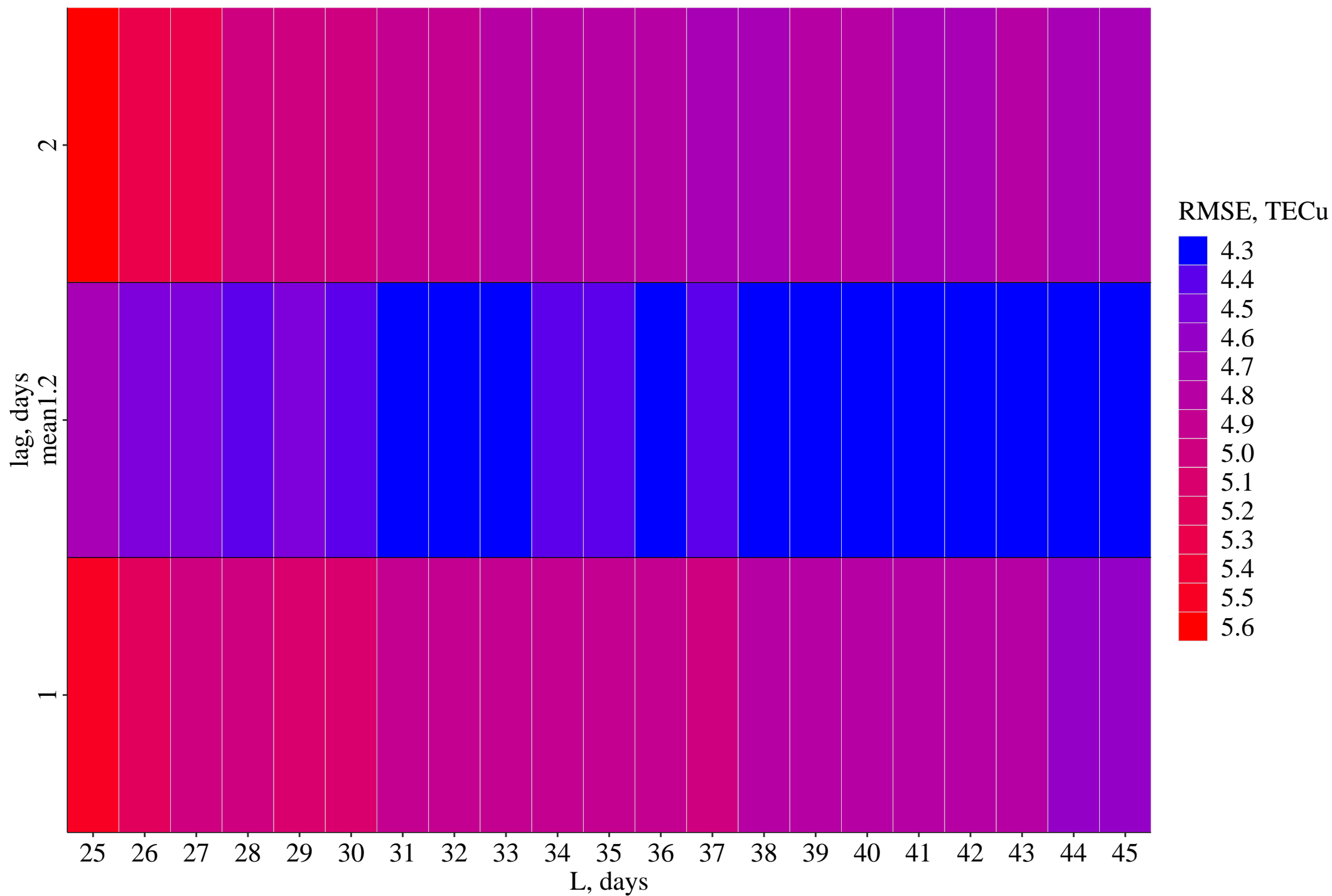
Figures S7-S8: Scores of PCA-MRM models with different L values for 1h TEC, 1d mean and 1d max TEC series, respectively.

Figure S7. Scores of PCA-MRM models with different L values for 1h TEC: correlation coefficients between the observed and forecasted series (a), R^2 (b), RMSE (c) and MAE (d). Metrics for the models with lags of 1 and 2 days and for the models constructed as the arithmetic mean of the forecasts with lags of 1 and 2 days (“mean1.2”) are shown.

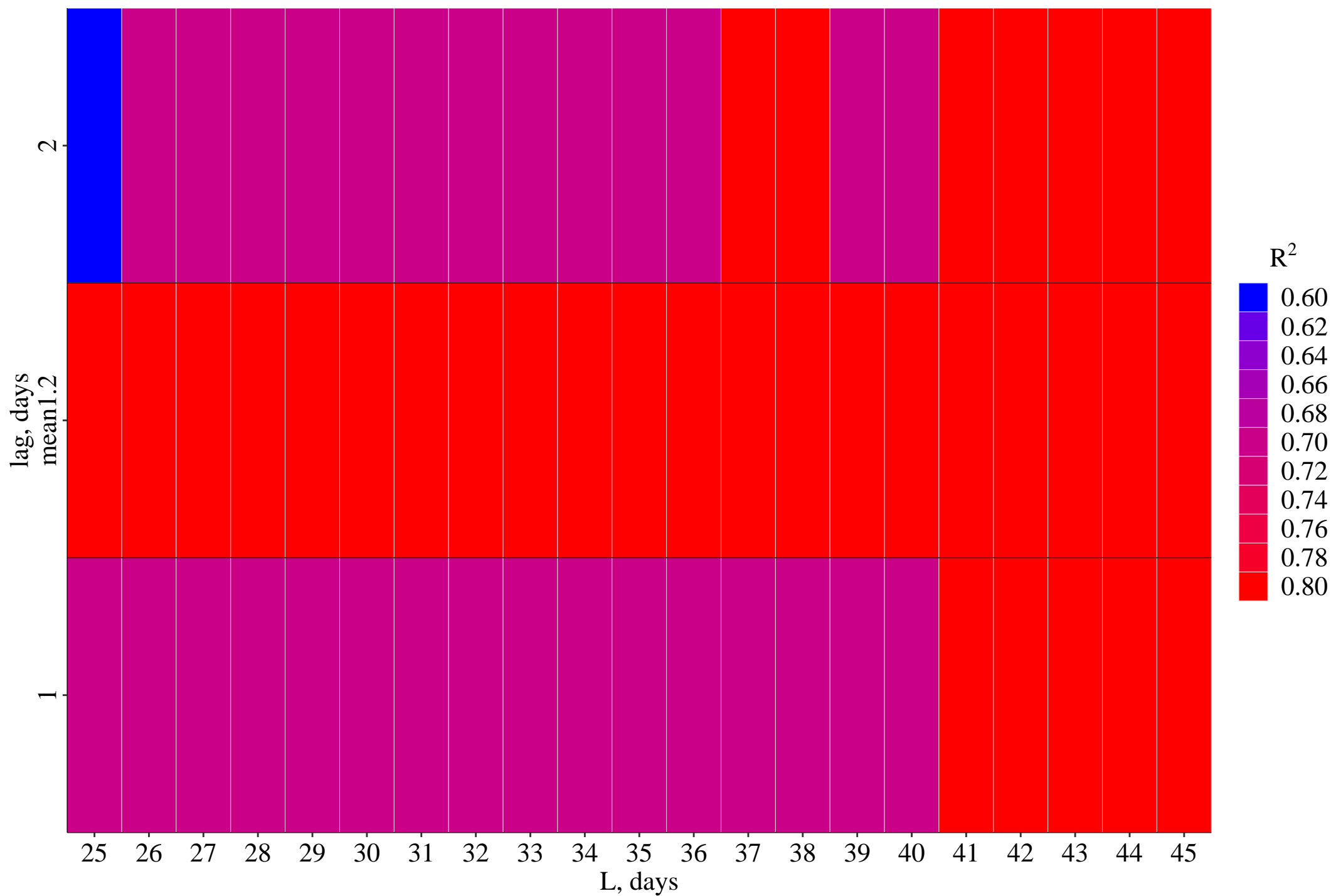
a)



b)



c)



d)

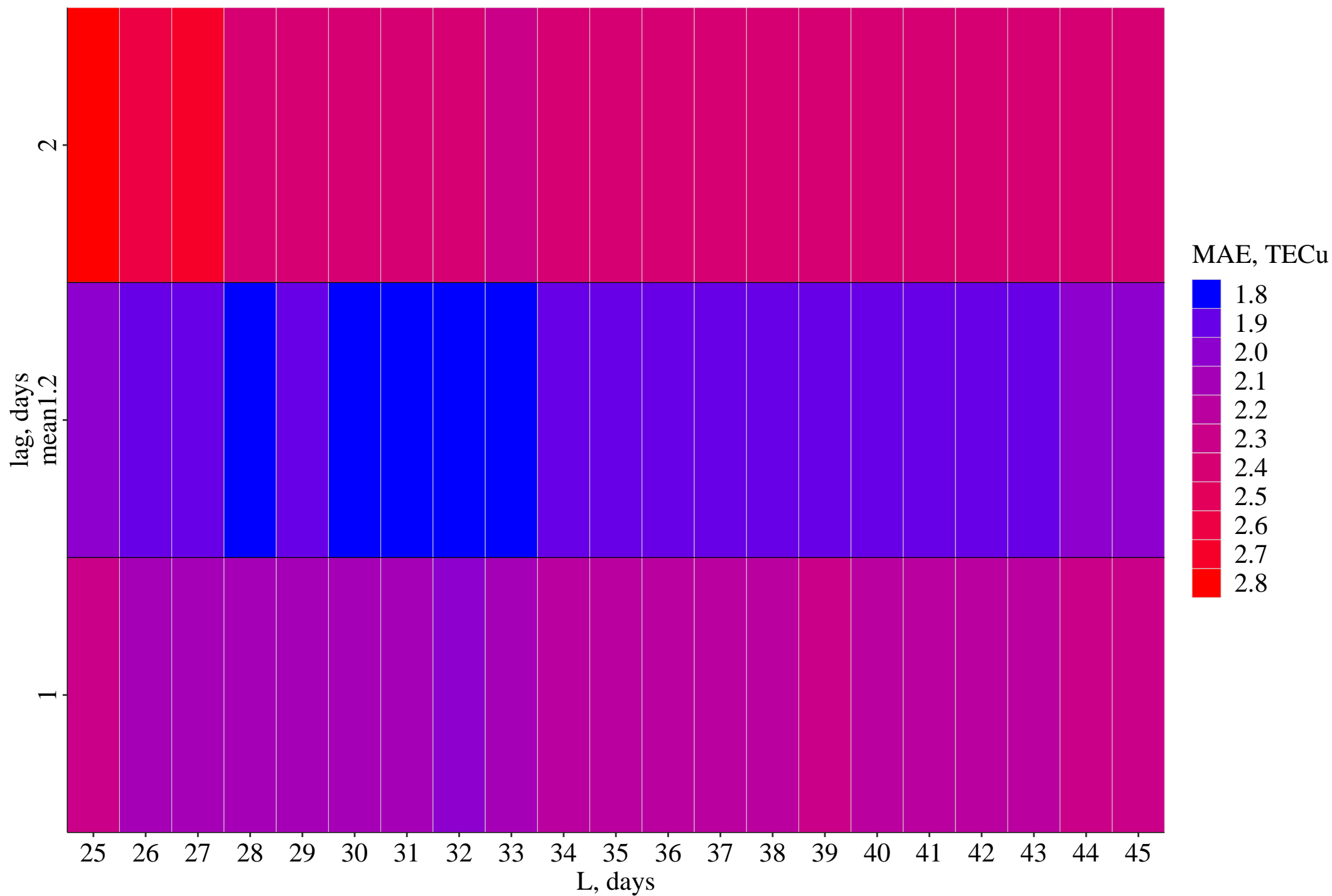
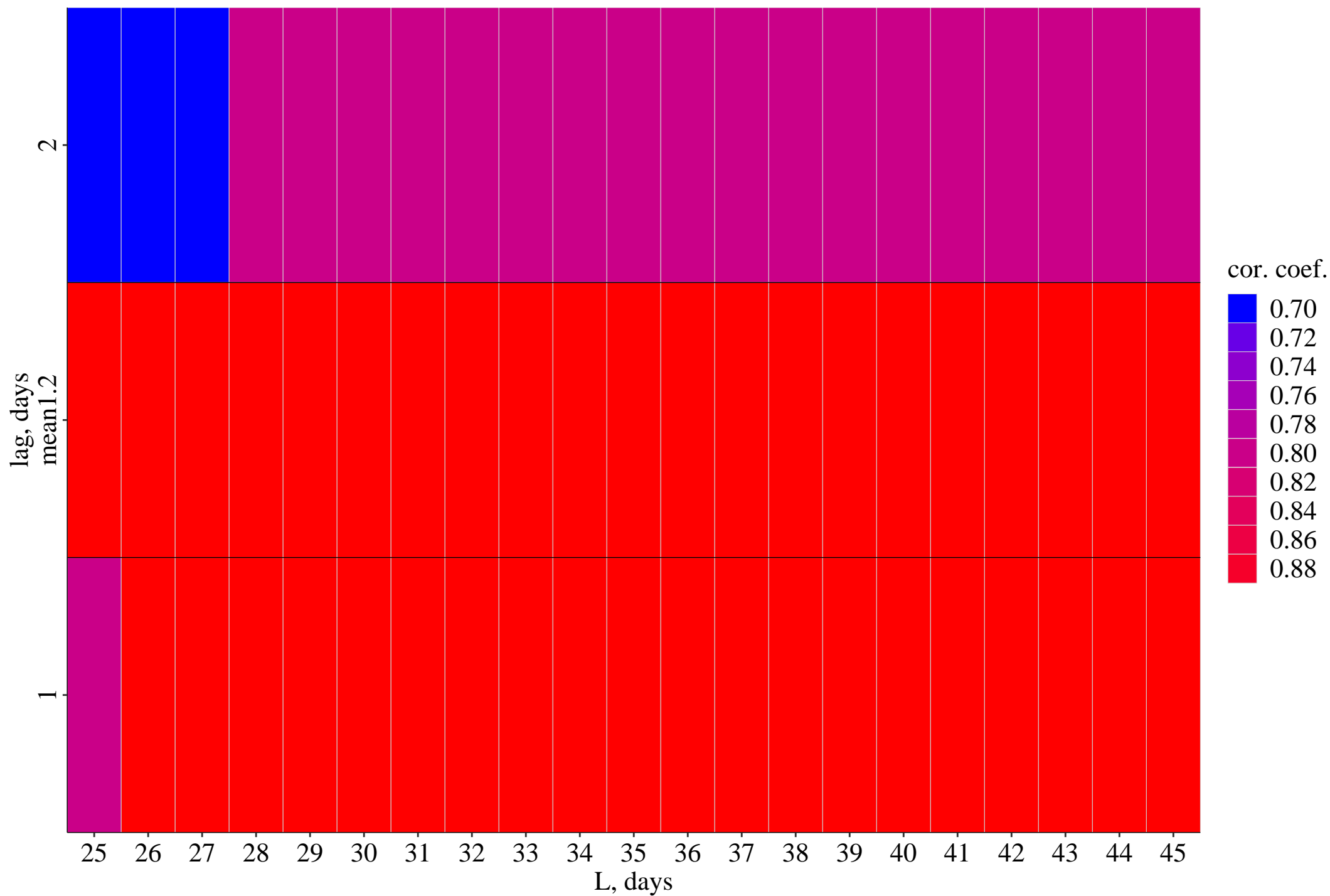
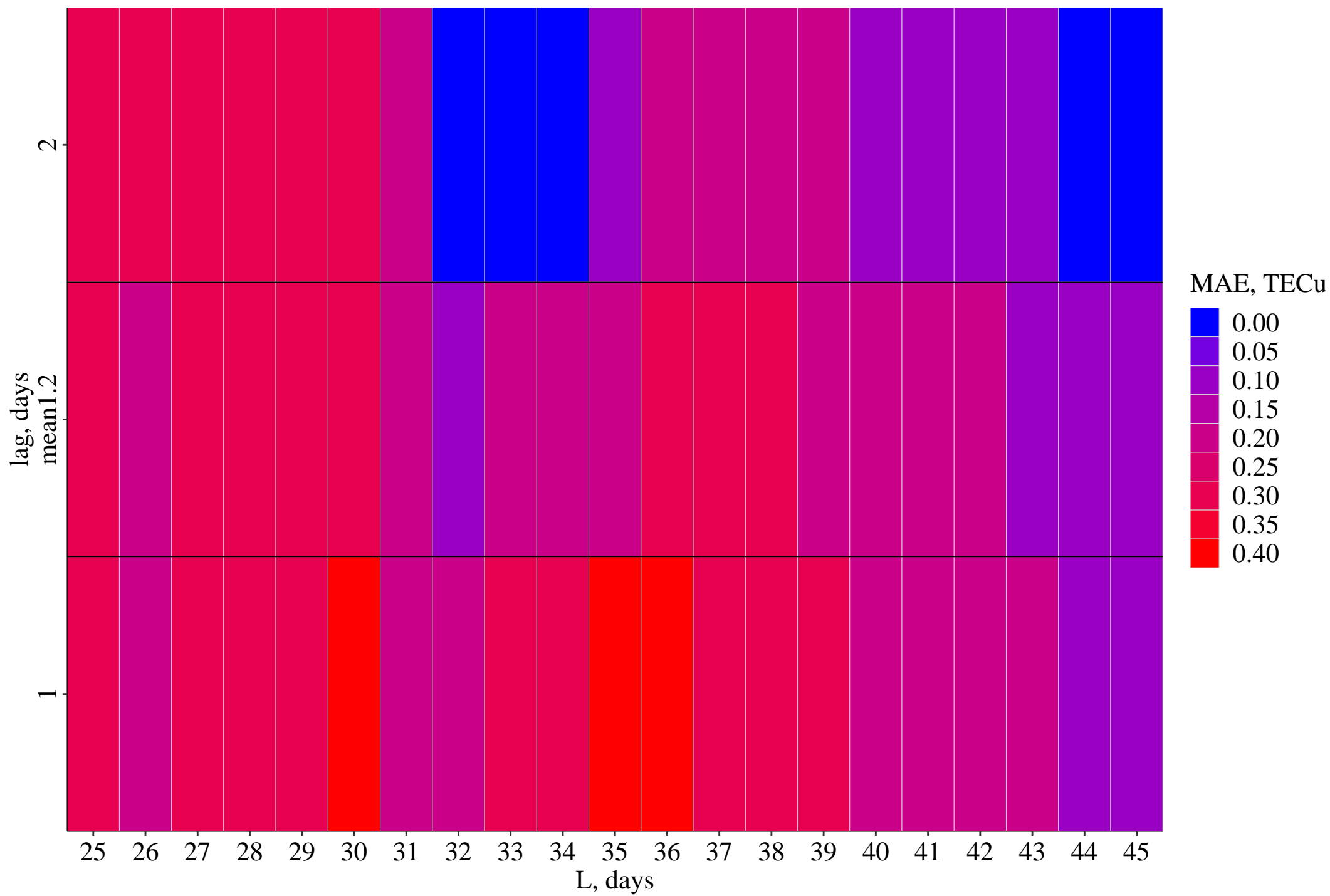


Figure S8. Scores of PCA-MRM models with different L values for 1d mean (a-b) and 1d max TEC (c): correlation coefficients between the observed and forecasted series (a) and MAE (b-c). Metrics for the models with lags of 1 and 2 days and for the models constructed as the arithmetic mean of the forecasts with lags of 1 and 2 days (“mean1.2”) are shown.

a)



b)



c)

