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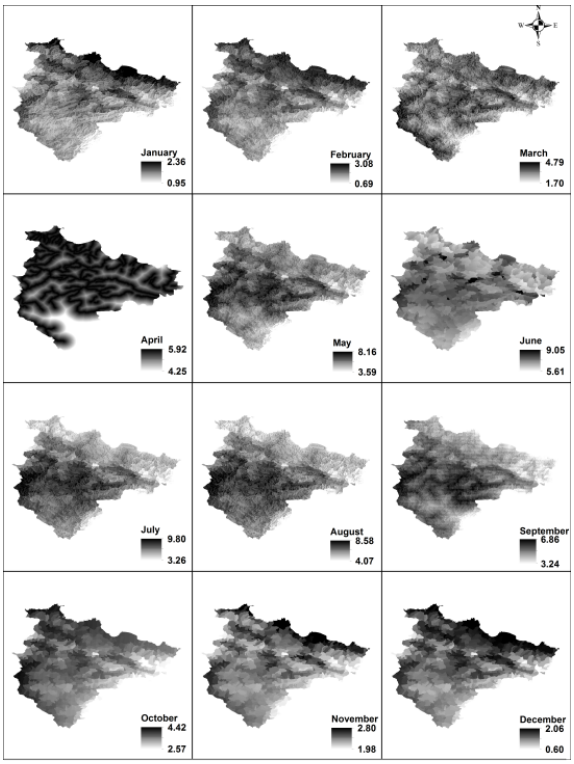
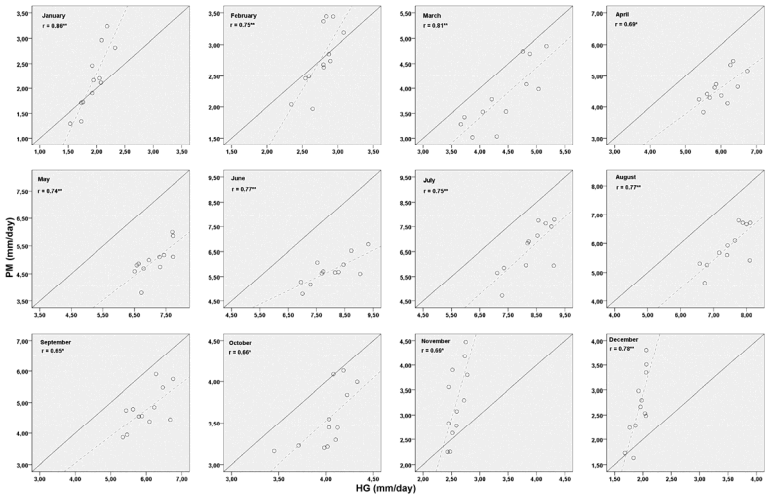
↓ Fig. 1.
Monthly ET0-HG maps produced using the LR methods. All units are mm day–1 and the spatial resolution is 0.5 × 0.5 km.





↑ Fig. 2.
Scatter plot of monthly ET0 estimates of Hargreaves (HG) and Penman-Monteith (FAO-PM). The regression line ($y = \beta 0 + \beta 1x$) is also displayed as the dashed line. The 1:1 line (thick solid line) is also displayed.

- Eight different interpolation methods were comparatively analyzed to determine the spatial distribution of monthly reference evapotranspiration (ET0) values calculated using the Hargreaves method (ET0-HG).
- LR model was found to give the optimum results. The highest correlation coefficient was observed with the LR model for all months except March, April, June, and September.
- UK showed lower correlation coefficients than the LR model for all months except June and September and was found to be the second-best method.
- Elevation and slope used in LR models as secondary data were considered insignificant to identify ET0-PM. Therefore, these secondary data were not proposed to use in similar studies.
- A remarkable comparison was found between the performance of HG and FAO-PM methods in terms of monthly ET0 calculations. The minimal data requirements of HG are a major advantage for areas such as the current study region, where data is scarce.
- Although FAO-PM remains the most desirable method for computing ET0, in developing countries where accurate data is difficult to acquire, the use of HG is preferable in general. In addition, LR has yielded successful results in producing ET0-HG spatial maps.