

Fig. 1 Location of the study area

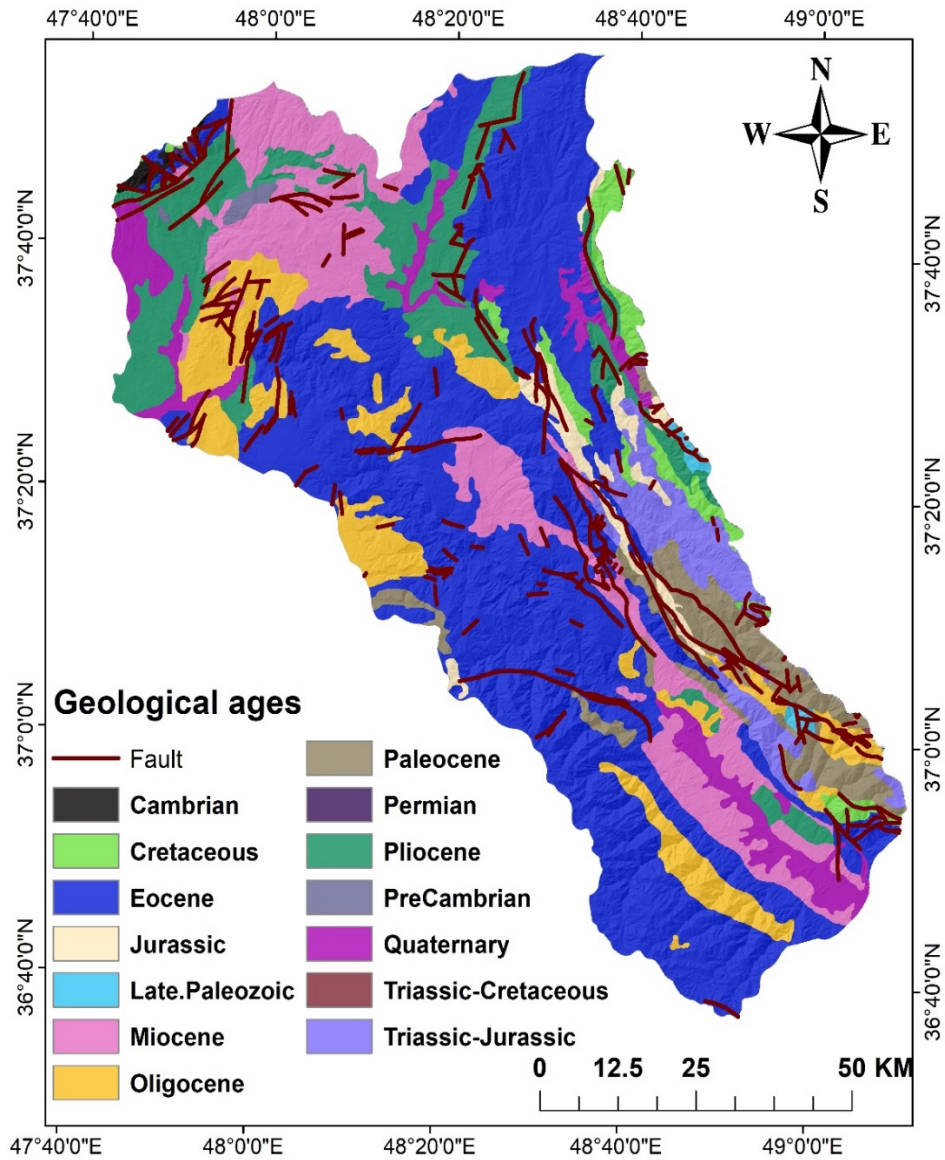


Fig. 2 Lithology map

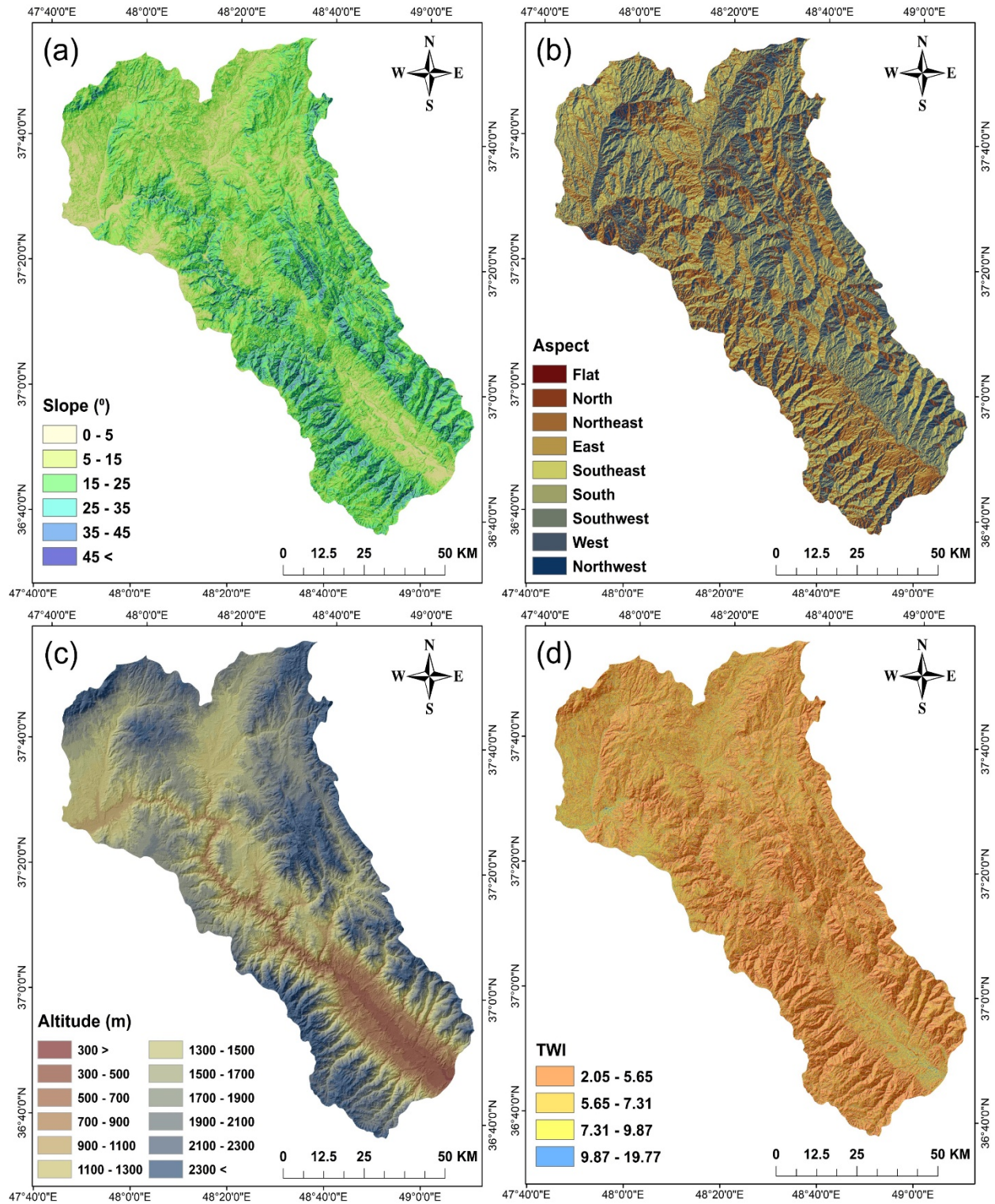


Fig. 3 Conditioning factors of the study; (a) slope angle; (b) slope aspect; (c) altitude; (d) TWI; (e) plan curvature; (f) profile curvature; (g) distance to roads; (h) distance to streams; (i) distance to faults; (j) lithology; (k) land use; (l) rainfall; (m) NDVI

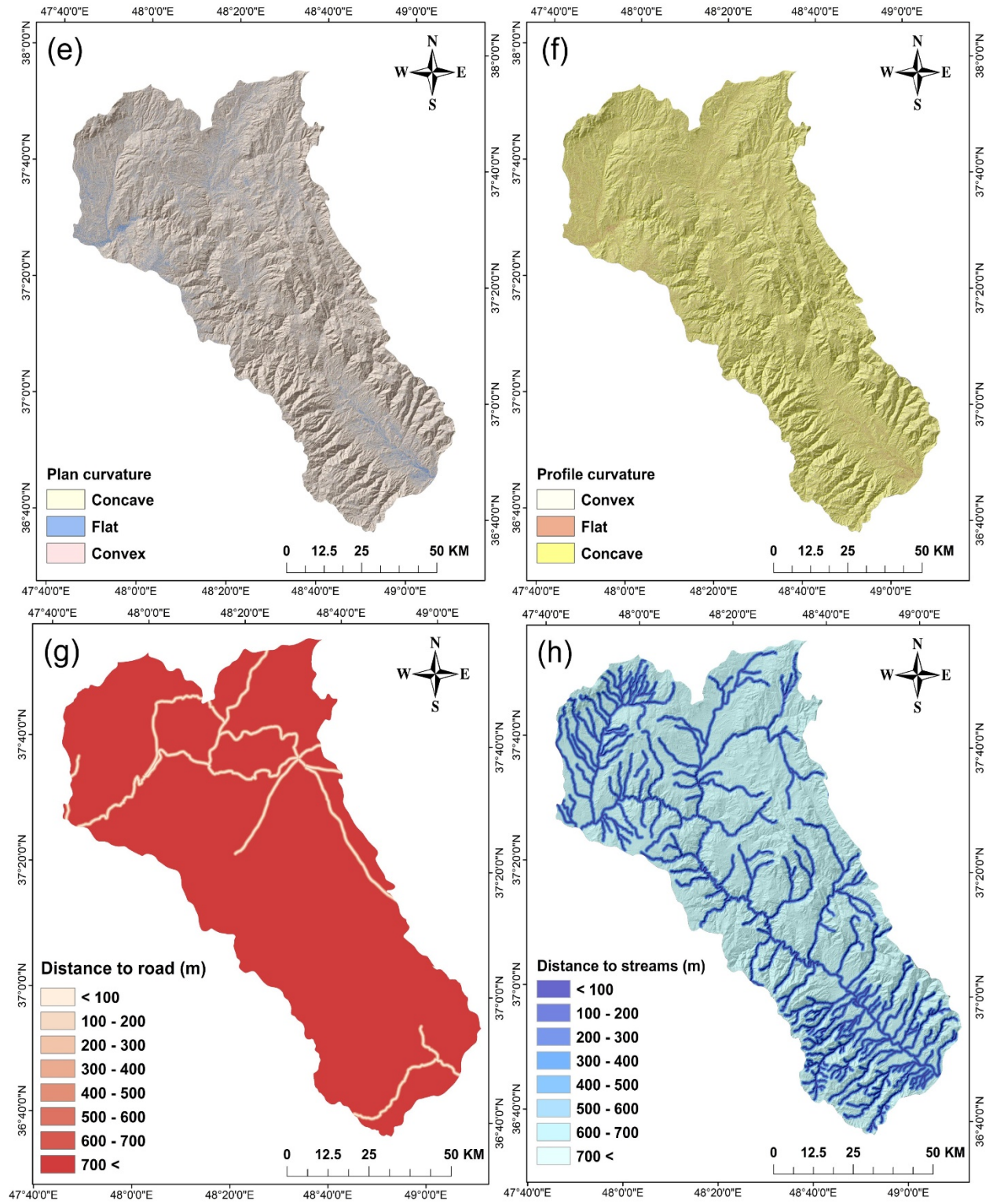


Fig. 3 (continued)

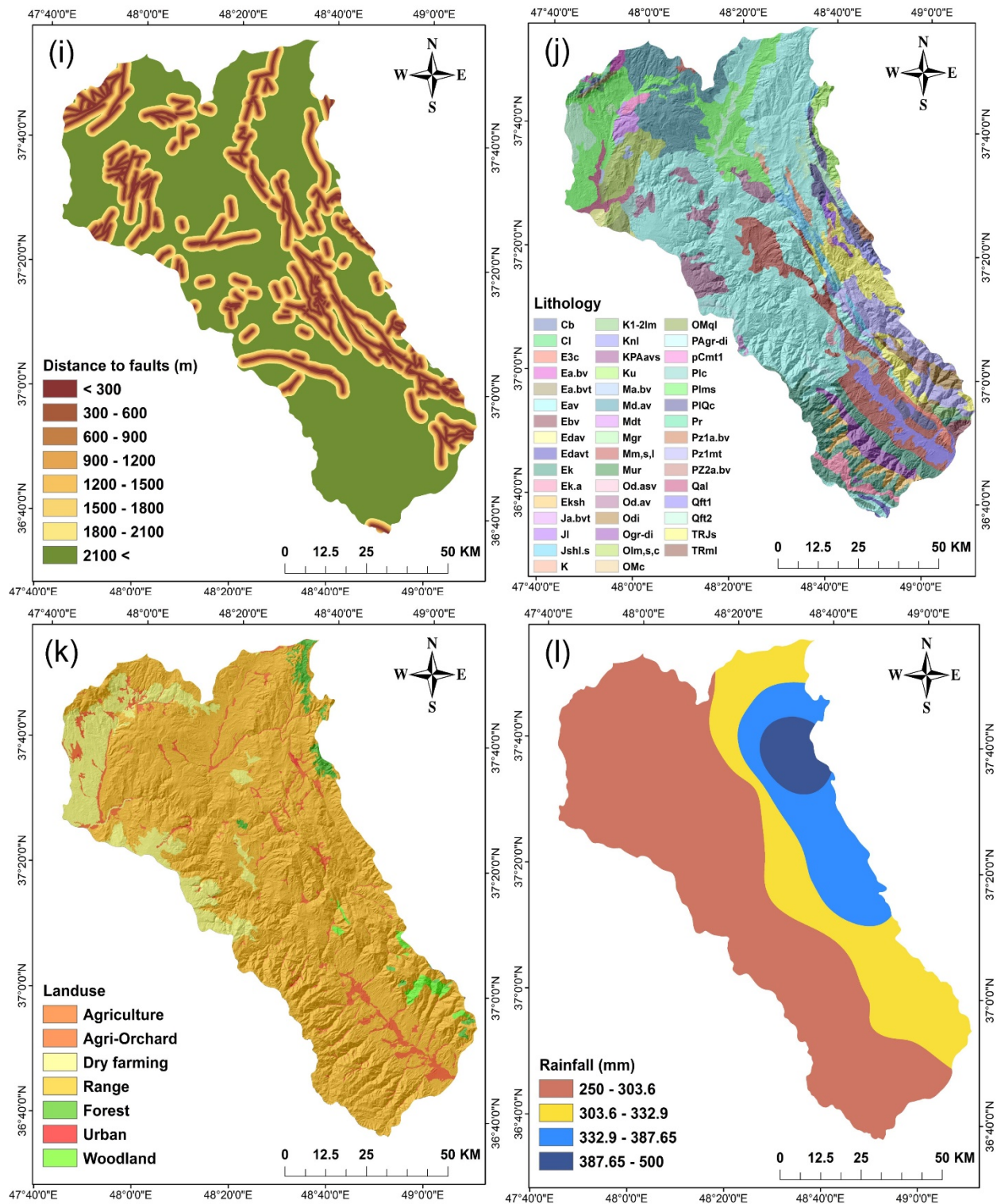


Fig. 3 (continued)

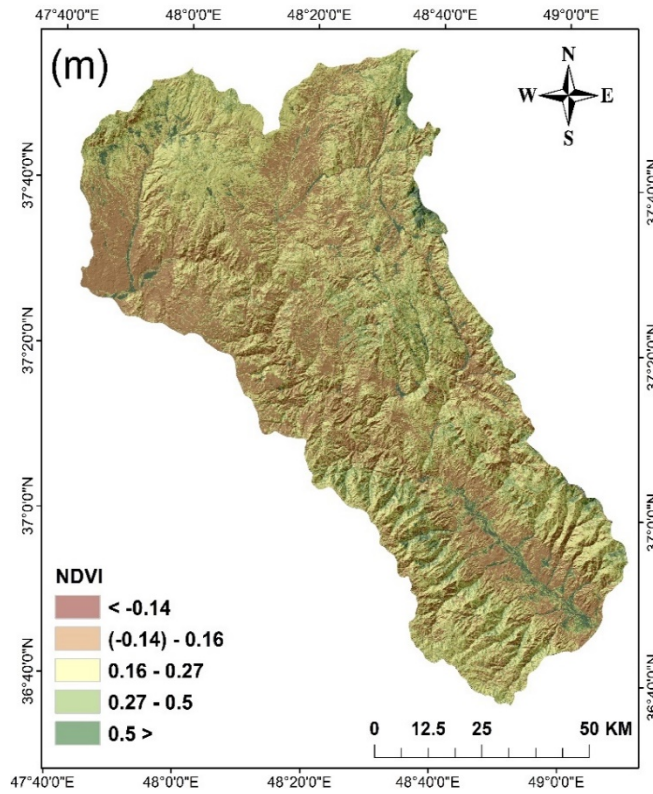


Fig. 3 (continued)

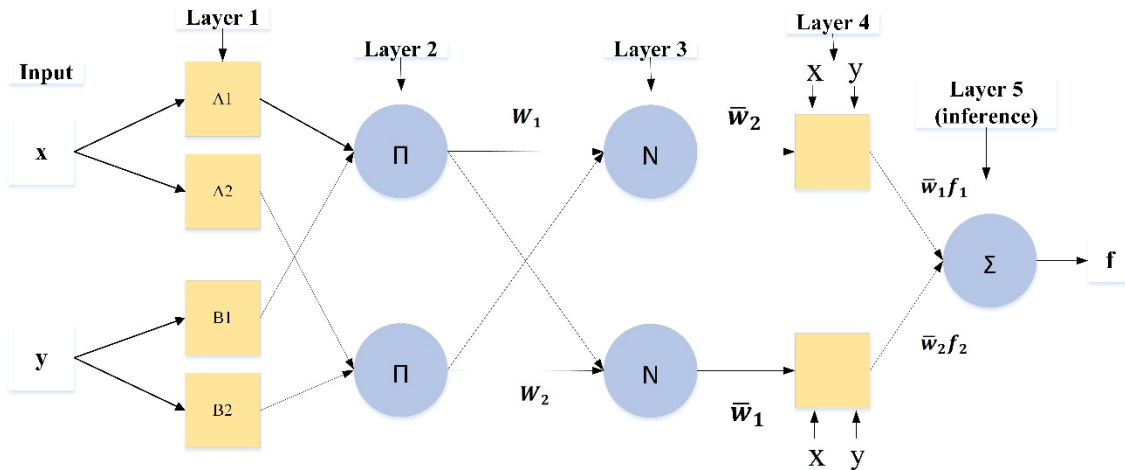


Fig. 4 The structure of ANFIS model

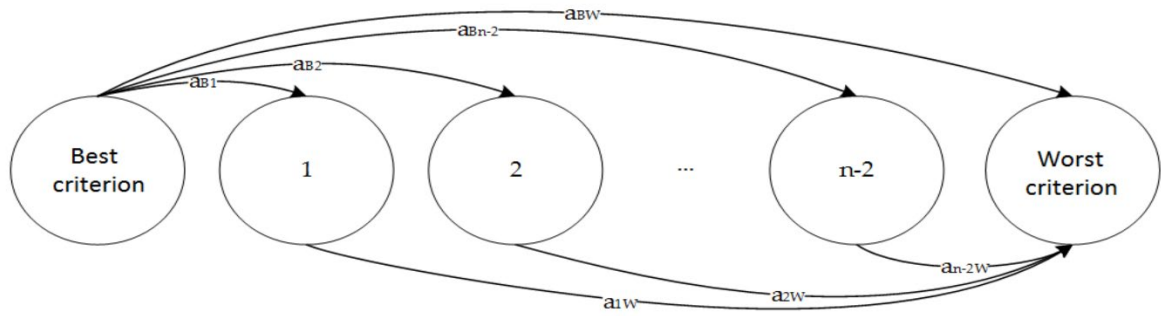


Fig. 5 Reference comparison for BWM model (Rezaei 2015)

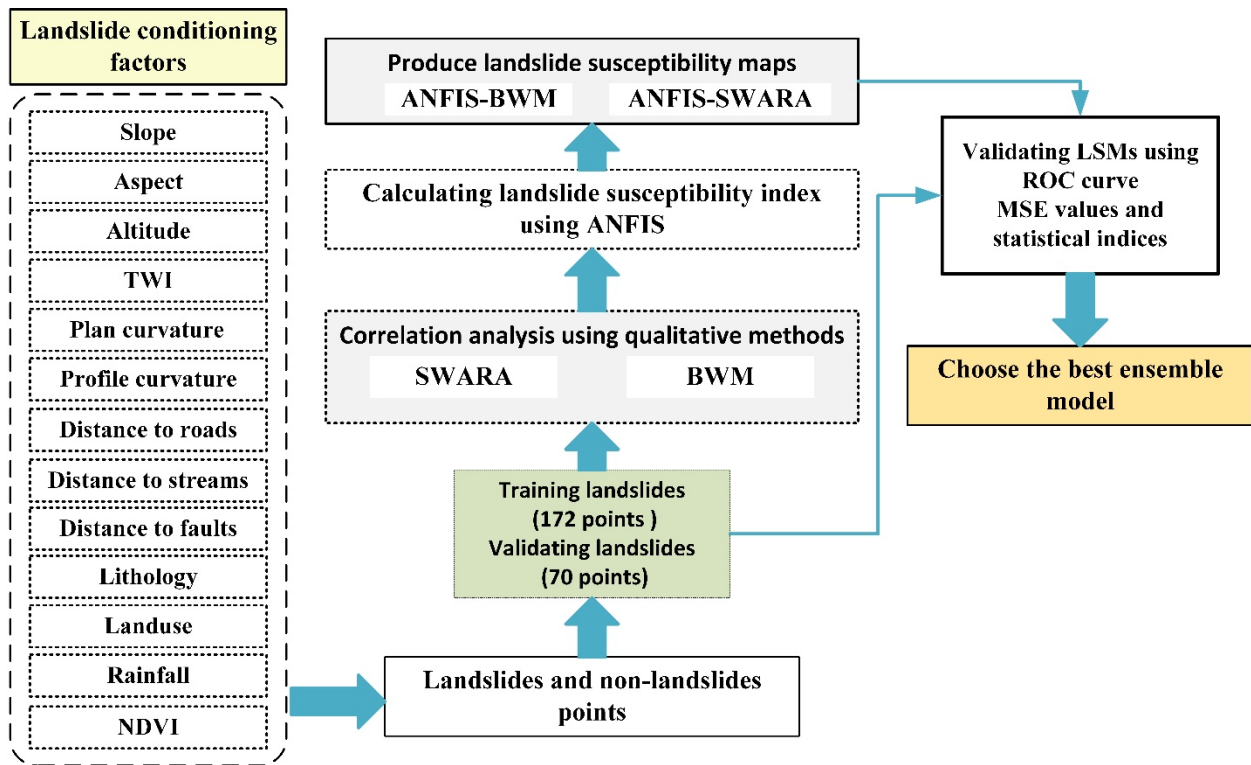


Fig. 6 Flowchart of the study area that showing all steps

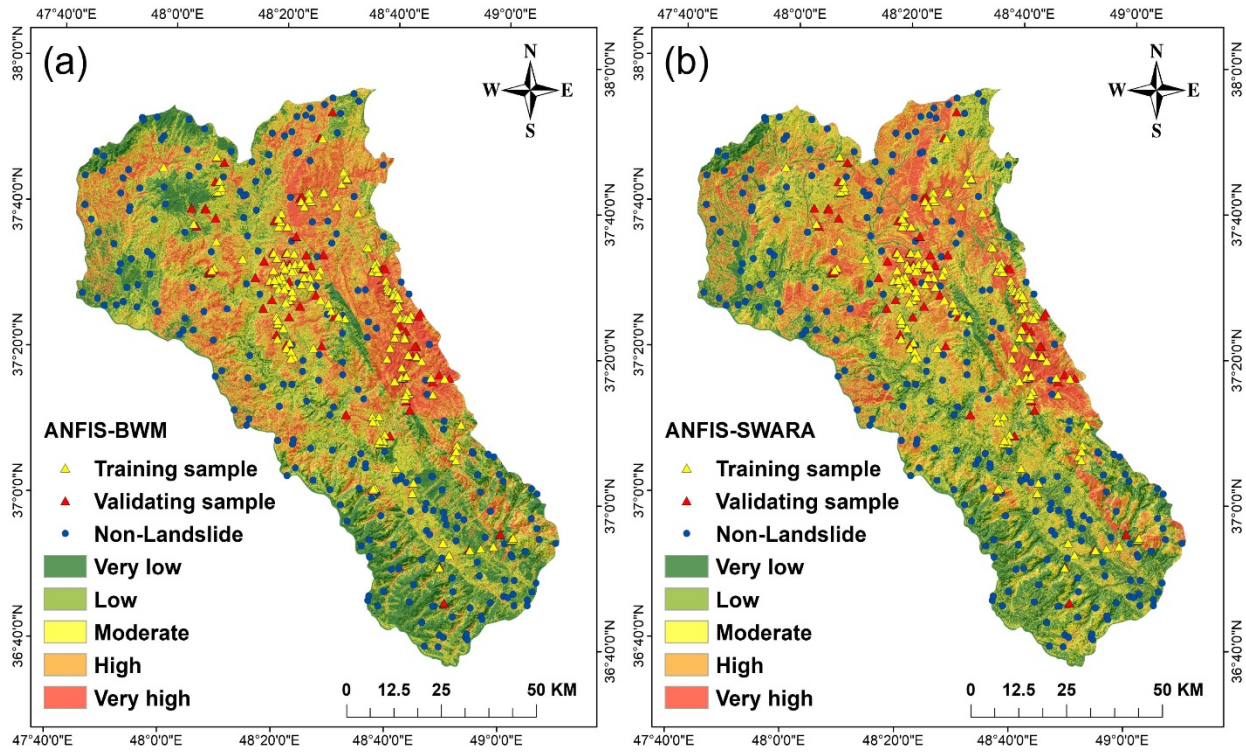


Fig. 7 Landslide susceptibility map produced by ANFIS-BWM (a) and ANFIS-SWARA (b) models

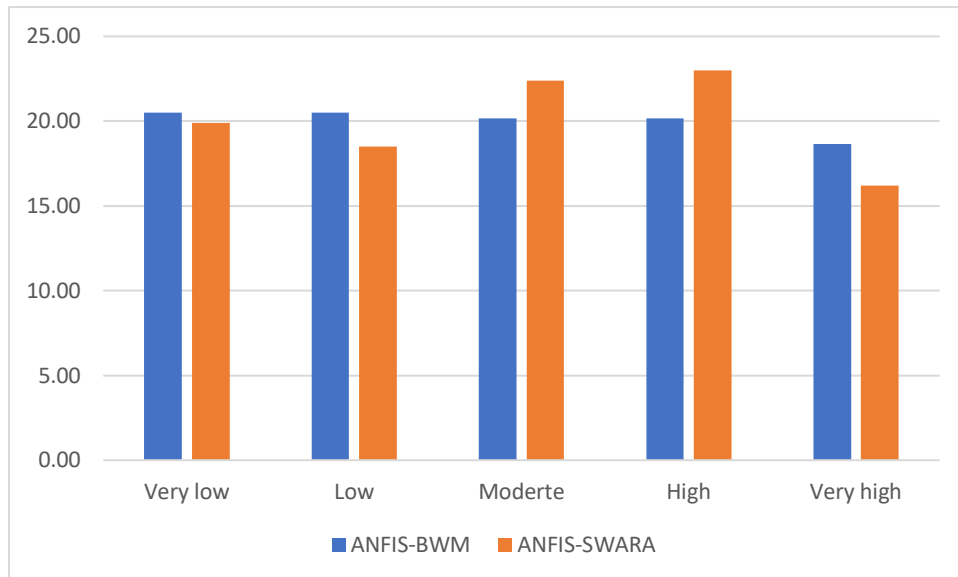


Fig. 8 Percentages of landslide susceptibility classes

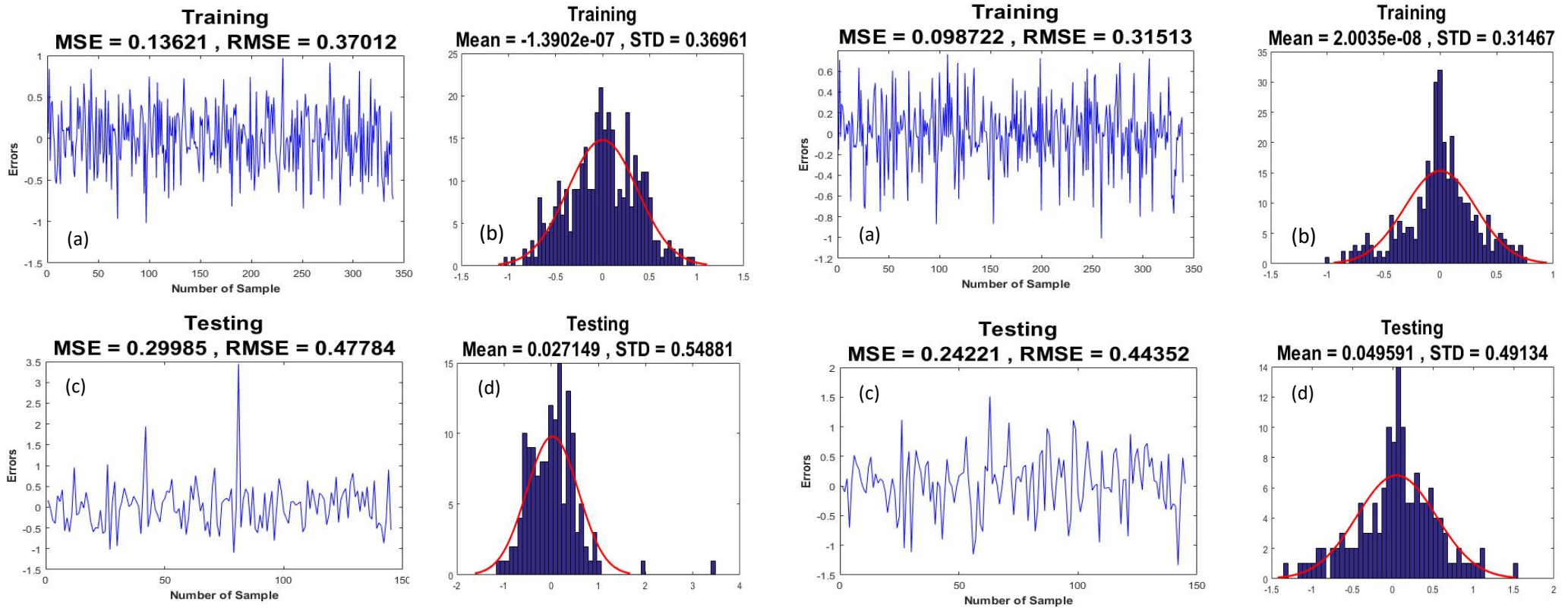
ANFIS-SWARA**ANFIS-BWM**

Fig. 9 ANFIS-SWARA and ANFIS-BWM training and testing datasets a) MSE and RMSE value in the training phase; b) frequency errors in the training phase; c) MSE and RMSE value in the testing phase d) frequency errors in the testing phase

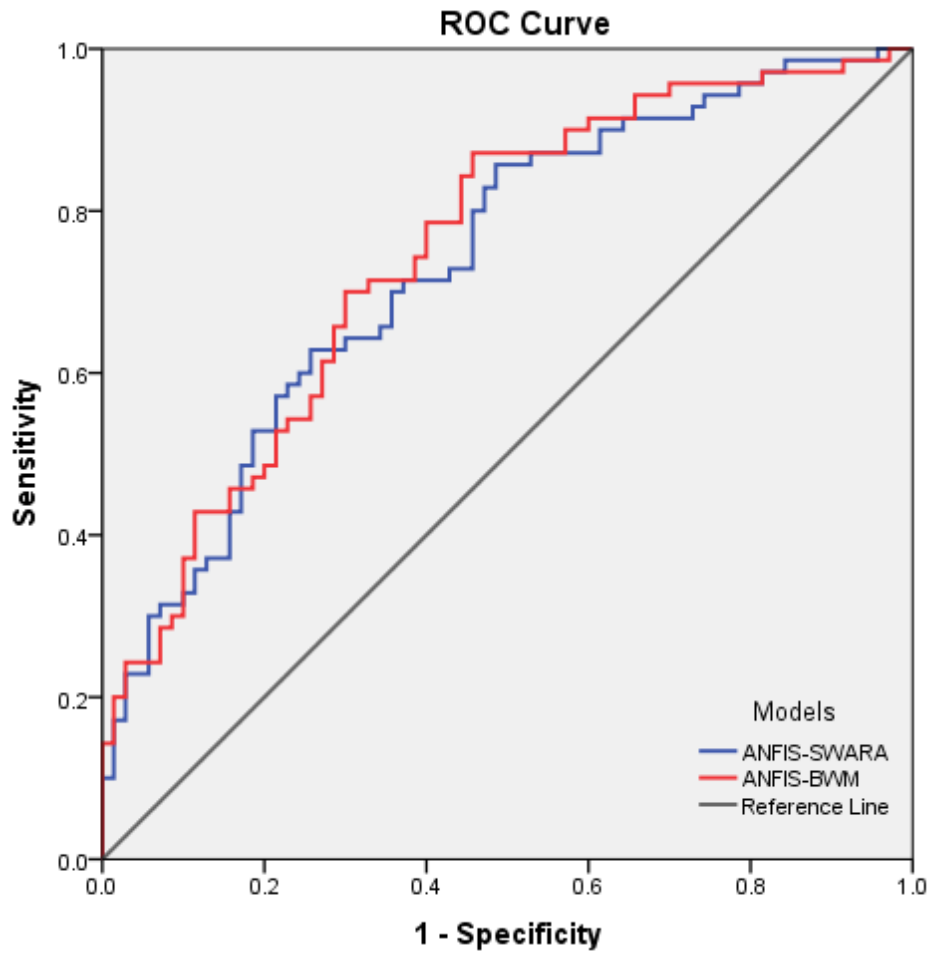


Fig. 10 receiver operating characteristic curve for validation