

Model Validation Results

Metric	Value	Interpretation
% Correctness	86.86%	The model correctly predicted nearly 87% of the settlement changes.
Kappa (Overall)	0.698	Substantial agreement between observed and predicted growth (Landis & Koch scale).
Kappa (Histogram)	0.985	Excellent agreement in terms of quantity of predicted changes.
Kappa (Location)	0.709	Good agreement in terms of spatial allocation of growth.

The model achieved high predictive accuracy (86.86%) with strong Kappa statistics, particularly in quantity agreement (0.985) and location agreement (0.709). These results suggest the ANN-based simulation is reliable for forecasting settlement growth in Durban.