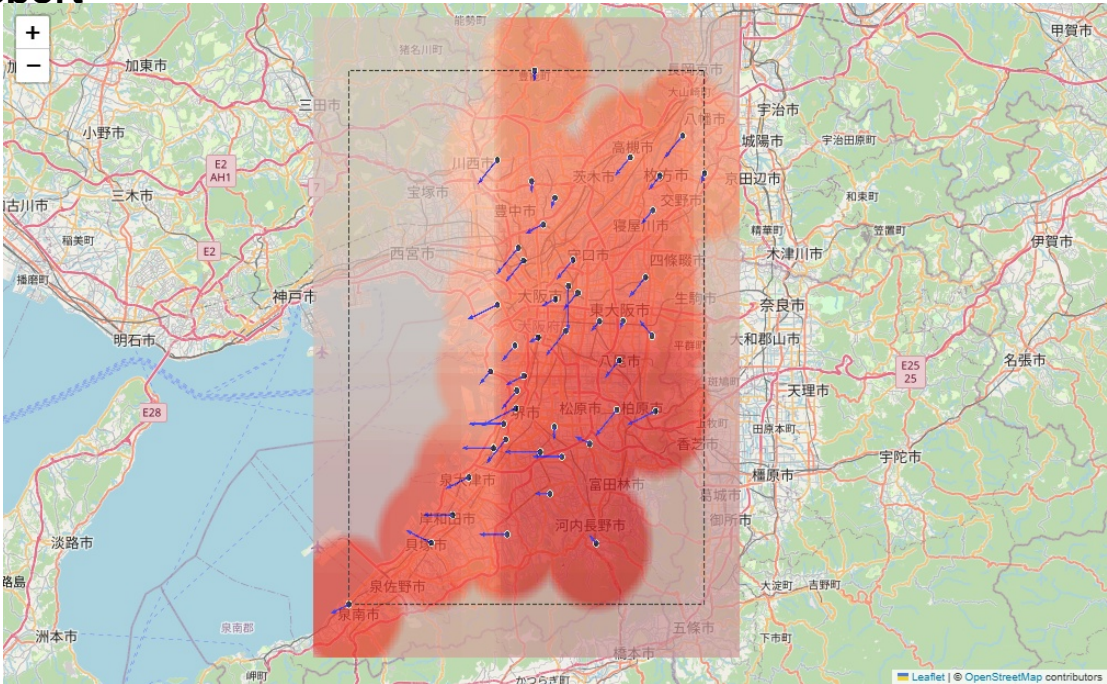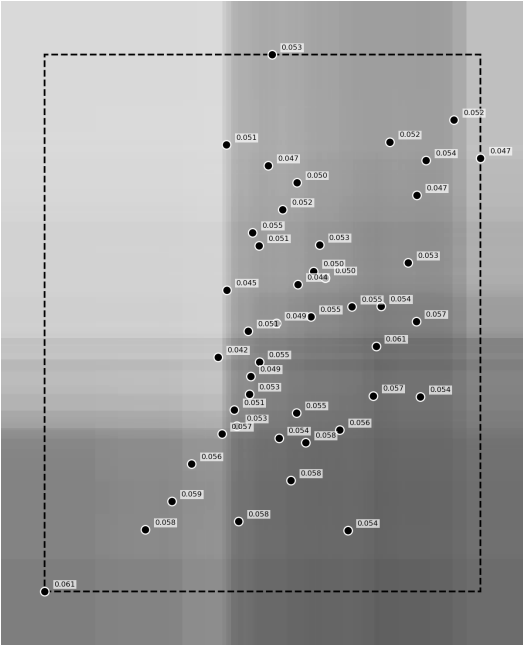# Random Forest Spatial Interpolation Report

$$\hat{y} = \frac{1}{T} \sum_{t=1}^{T} f_t(x)$$

$\hat{y}$: predicted value (e.g., Ox concentration)
T: total number of trees in the forest
$f_t(x)$: prediction of tree t for input x
x: input features (e.g., NO, NO$_2$, U, V, longitude, latitude)

Each tree is trained on a bootstrap sample
and uses a random subset of features at each split.
Final prediction is the average of all tree outputs.

RMSE	MAE	R²	Notes
0.00319	0.00236	0.434	All stations (2025/5/12 12H)

Random Forest LOOCV - True vs Predicted
RMSE=0.00319, MAE=0.00236, R²=0.434

True vs Predicted (Index order)