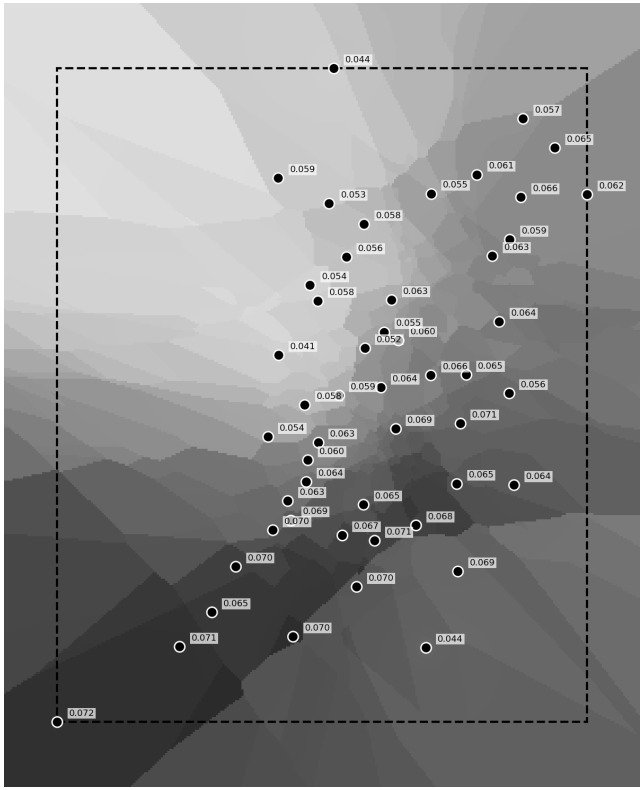
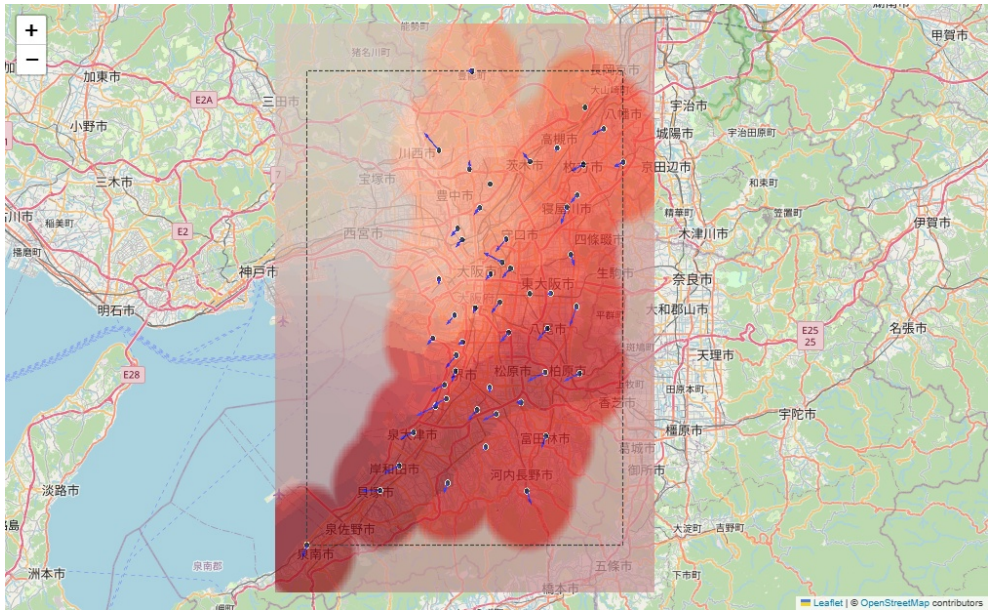
IDW - 大阪府 - 2025/5/12 19H

$$\hat{z}(x_0) = \frac{\sum_{i=1}^{k} \frac{z_i}{d_i^p}}{\sum_{i=1}^{k} d_i^{-p}}$$

$\hat{z}(x_0)$: predicted value at location x_0
z_i: observed value at station i
d_i: distance between x_0 and station i
p: distance weighting power
k: number of nearest neighbors

Behavior depending on p:
$p \to 0$: weights become almost uniform (very smooth surface)
$p = 1$: classical inverse-distance weighting
$p > 1$: strong emphasis on the nearest point (spiky surface)





k	power	RMSE	MAE	R^2
9	0.05	0.00582	0.00399	0.344
9	0.10	0.00582	0.00399	0.344
8	0.05	0.00582	0.00395	0.342
8	0.10	0.00582	0.00395	0.342
9	0.70	0.00583	0.00402	0.340
9	0.80	0.00584	0.00403	0.338
8	0.70	0.00584	0.00400	0.338
9	0.90	0.00585	0.00405	0.337
8	0.80	0.00585	0.00401	0.336
9	1.00	0.00585	0.00406	0.335
8	0.90	0.00585	0.00402	0.335
8	1.00	0.00586	0.00404	0.334
10	0.10	0.00587	0.00407	0.331
10	0.05	0.00587	0.00407	0.331
10	0.70	0.00588	0.00408	0.330
10	0.80	0.00588	0.00409	0.330
10	0.90	0.00588	0.00410	0.329
10	1.00	0.00589	0.00411	0.328