

Table 1. Region-based training scores (K = 1 to 25).

nFold	Number of K-Neighbors																									Mean (nFold)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	1.000	0.868	0.801	0.780	0.738	0.735	0.729	0.719	0.687	0.668	0.649	0.650	0.659	0.646	0.646	0.640	0.633	0.617	0.597	0.578	0.568	0.551	0.538	0.534	0.522	0.670
2	1.000	0.848	0.820	0.762	0.745	0.740	0.726	0.715	0.727	0.721	0.696	0.698	0.666	0.641	0.627	0.614	0.590	0.574	0.555	0.540	0.526	0.513	0.494	0.480	0.468	0.659
3	1.000	0.857	0.795	0.753	0.759	0.736	0.698	0.682	0.669	0.647	0.653	0.652	0.625	0.609	0.587	0.568	0.551	0.530	0.517	0.495	0.476	0.463	0.454	0.446	0.437	0.626
4	1.000	0.829	0.794	0.740	0.726	0.708	0.725	0.684	0.674	0.655	0.628	0.607	0.602	0.588	0.571	0.549	0.534	0.531	0.515	0.500	0.482	0.469	0.462	0.454	0.436	0.619
5	1.000	0.858	0.820	0.787	0.757	0.757	0.746	0.732	0.703	0.680	0.662	0.669	0.675	0.675	0.658	0.651	0.644	0.631	0.611	0.594	0.585	0.569	0.558	0.550	0.539	0.684
6	1.000	0.879	0.820	0.791	0.764	0.750	0.742	0.726	0.697	0.688	0.667	0.662	0.671	0.666	0.659	0.651	0.643	0.625	0.610	0.593	0.577	0.565	0.560	0.550	0.536	0.684
Mean (KNN)	1.000	0.856	0.808	0.769	0.748	0.738	0.728	0.710	0.693	0.676	0.659	0.657	0.650	0.638	0.625	0.612	0.599	0.585	0.567	0.550	0.536	0.522	0.511	0.502	0.490	0.657

Table 2. Region-based validation scores (K = 1 to 25).

nFold	Number of K-Neighbors																									Mean (nFold)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	-6.268	-2.508	-1.400	-0.903	-0.777	-1.392	-1.543	-1.588	-1.627	-1.508	-1.798	-1.808	-1.940	-1.937	-2.024	-2.113	-2.483	-2.526	-2.447	-2.753	-2.838	-2.910	-2.982	-3.085	-2.959	-2.245
2	-0.078	0.331	0.493	0.487	0.454	0.396	0.483	0.446	0.515	0.474	0.441	0.409	0.362	0.384	0.360	0.351	0.337	0.379	0.365	0.356	0.353	0.323	0.288	0.284	0.278	0.371
3	0.144	0.274	0.698	0.730	0.815	0.801	0.843	0.819	0.814	0.823	0.835	0.826	0.804	0.789	0.763	0.742	0.732	0.716	0.694	0.671	0.671	0.658	0.637	0.633	0.623	0.702
4	0.188	-0.027	0.025	0.071	-0.019	-0.081	-0.037	-0.038	-0.064	-0.081	-0.068	-0.104	-0.143	-0.176	-0.199	-0.242	-0.232	-0.266	-0.301	-0.331	-0.345	-0.354	-0.362	-0.366	-0.373	-0.157
5	-0.754	-0.354	-0.234	-0.262	-0.183	0.123	0.120	0.128	0.100	0.157	0.108	0.121	0.069	0.051	0.071	-0.058	-0.090	-0.084	-0.093	-0.079	-0.069	-0.079	-0.132	-0.186	-0.167	-0.071
6	-19.897	-7.655	-8.196	-6.186	-5.459	-5.094	-4.754	-4.461	-5.536	-5.504	-5.199	-5.511	-5.690	-5.796	-5.744	-5.737	-6.148	-6.175	-6.263	-6.414	-6.760	-6.923	-7.085	-7.104	-7.002	-6.652
Mean (KNN)	-4.444	-1.656	-1.436	-1.010	-0.862	-0.875	-0.815	-0.782	-0.966	-0.940	-0.947	-1.011	-1.090	-1.114	-1.129	-1.176	-1.314	-1.326	-1.341	-1.425	-1.498	-1.547	-1.606	-1.637	-1.600	-1.342

Table 3. Region-based root mean squared error (RMSE) (K = 1 to 25).

nFold	Number of K-Neighbors																									Mean (nFold)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	33.258	22.802	19.005	16.828	16.248	18.737	19.484	19.603	19.670	19.162	20.356	20.213	20.754	20.868	21.086	21.299	22.686	22.726	22.635	23.435	23.909	24.057	24.219	24.669	24.062	21.671
2	35.200	27.768	24.178	24.428	25.180	26.443	24.560	25.349	23.674	24.715	25.458	26.269	27.274	26.776	27.233	27.417	27.828	26.819	27.190	27.353	27.309	28.103	28.755	28.771	28.925	26.919
3	30.147	27.695	17.799	16.797	13.970	14.411	12.703	13.763	13.983	13.650	13.234	13.610	14.473	15.082	15.872	16.574	16.839	17.427	18.127	18.815	18.834	19.078	19.721	19.931	20.211	17.310
4	44.300	49.948	48.821	47.639	49.856	51.436	50.425	50.348	51.031	51.393	51.194	51.920	52.960	53.567	54.135	55.097	54.959	55.661	56.508	57.107	57.434	57.513	57.816	57.772	58.032	53.075
5	42.426	37.108	35.478	35.716	34.651	29.738	29.900	29.490	30.161	29.445	29.922	30.028	30.583	31.332	30.621	33.040	33.196	33.272	33.211	33.347	33.086	33.111	33.675	34.694	34.694	32.877
6	34.413	21.918	22.579	19.922	18.852	18.156	17.756	17.228	18.796	18.831	18.358	18.808	19.063	19.237	19.101	19.124	19.734	19.642	19.868	20.063	20.559	20.761	21.012	21.006	20.819	20.224
Mean (KNN)	36.624	31.206	27.977	26.888	26.460	26.487	25.805	25.964	26.219	26.199	26.420	26.808	27.518	27.810	28.008	28.759	29.207	29.258	29.590	30.020	30.189	30.437	30.866	31.140	31.124	28.679

Table 4. Time-based training/validation scores and RMSE.

Metric	Number of K-Neighbors																									Mean
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Train	1.000	0.784	0.684	0.645	0.588	0.604	0.542	0.467	0.423	0.436	0.435	0.436	0.409	0.454	0.435	0.416	0.384	0.371	0.359	0.343	0.320	0.289	0.272	0.245	0.191	0.461
Test	-2.842	-2.110	-1.974	-1.907	-1.997	-2.128	-2.174	-2.211	-2.225	-2.306	-2.314	-2.400	-2.487	-2.532	-2.591	-2.690	-2.804	-2.832	-2.831	-2.881	-2.974	-3.211	-3.402	-3.675	-4.026	-2.621
RMSE	38.871	34.977	34.203	33.816	34.331	35.077	35.333	35.536	35.613	36.059	36.102	36.569	37.036	37.274	37.582	38.094	38.681	38.825	38.819	39.071	39.535	40.697	41.611	42.883	44.461	37.642