

Table 1: Multivariate long-range time series forecasting results on five real-world datasets. The input length is set as $I = 168$, and the prediction length O is set as 96, 168, 336, and 720 (For *ETTm1*, the prediction length is set as 96, 288, 672, and 720). IMP shows the improvement of MSHyper over the best baseline. The best results are **bolded** and the second best results are underlined.

Methods		Informer (AAAI 2021)		Autoformer (NeurIPS 2021)		Pyraformer (ICLR 2021)		FEDformer (ICML 2022)		Quatformer (KDD 2022)		Crossformer (ICLR 2023)		MSHyper (Ours)		IMP	
Metric		MSE	MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE	MAE	MSE	MAE
Weather	96	0.300	0.384	0.266	0.336	0.503*	0.518*	0.217	0.296	<u>0.211</u>	<u>0.279</u>	0.444*	0.473*	0.164	0.217	22.27%	22.22%
	168	0.608	0.567	0.574	0.548	0.519	0.521	0.564	0.541	<u>0.251</u> *	<u>0.295</u> *	0.473	0.494	0.197	0.246	21.51%	16.61%
	336	0.702	0.620	0.600	0.571	0.539	0.543	0.533	0.536	<u>0.310</u>	<u>0.344</u>	0.495	0.515	0.262	0.298	15.48%	13.37%
	720	0.831	0.731	0.587	0.570	0.547	0.553	0.562	0.557	<u>0.381</u>	<u>0.374</u>	0.526	0.542	0.309	0.325	18.90%	13.10%
Electricity	96	0.274	0.368	0.255	0.339	0.272*	0.371*	0.183	0.297	0.197	0.308	<u>0.185</u> *	<u>0.278</u> *	0.183	0.271	0%	2.52%
	168	0.368	0.424	0.299	0.387	0.452	0.455	0.263	0.361	<u>0.205</u> *	0.315*	0.231	<u>0.309</u>	0.193	0.298	5.85%	3.56%
	336	0.381	0.431	0.375	0.428	0.463	0.456	0.305	0.386	<u>0.220</u>	<u>0.329</u>	0.323	0.369	0.205	0.310	6.82%	5.78%
	720	0.406	0.443	0.377	0.434	0.480	0.461	0.372	0.434	<u>0.245</u>	<u>0.350</u>	0.404	0.423	0.230	0.329	6.12%	6.00%
ETTh1	96	0.865	0.713	0.449	0.459	0.701*	0.635*	<u>0.376</u>	0.419	0.422*	0.447*	0.396*	<u>0.412</u> *	0.375	0.398	0.27%	3.40%
	168	0.931	0.752	0.493	0.479	0.781	0.675	0.412	0.449	0.453	0.489	<u>0.410</u>	<u>0.441</u>	0.405	0.427	1.22%	3.17%
	336	1.128	0.873	0.509	0.492	0.912	0.747	0.456	0.474	0.491	0.495	<u>0.440</u>	<u>0.461</u>	0.428	0.439	2.73%	4.77%
	720	1.215	0.896	0.539	0.537	0.993	0.792	0.521	<u>0.515</u>	0.523	0.525	<u>0.519</u>	0.524	0.503	0.507	3.08%	1.55%
ETTm1	96	0.678	0.614	0.502	0.476	0.520	0.504	0.366	0.412	0.375	0.398	<u>0.320</u>	<u>0.373</u>	0.315	0.365	1.56%	2.14%
	288	1.056	0.786	0.604	0.522	0.729	0.657	<u>0.398</u>	0.433	0.408	<u>0.424</u>	0.404	0.427	0.394	0.419	1.01%	1.17%
	672	1.192	0.926	0.607	0.530	0.980	0.678	<u>0.455</u>	<u>0.464</u>	0.472*	0.468*	0.569	0.528	0.451	0.462	0.88%	0.43%
	720	1.166	0.823	0.671	0.561	0.912*	0.727*	0.543	<u>0.490</u>	<u>0.499</u>	0.502	0.751*	0.677*	0.493	0.471	1.20%	3.88%
Traffic	96	0.719	0.391	0.613	0.388	0.628*	<u>0.354</u> *	0.587	0.366	0.618	0.384	<u>0.450</u> *	0.477*	0.408	0.269	9.33%	24.01%
	168	0.660	0.391	0.649	0.407	0.635	<u>0.347</u>	0.607	0.385	0.621*	0.399*	<u>0.513</u>	<u>0.289</u>	0.418	0.271	18.52%	6.23%
	336	0.747	0.405	0.624	0.388	0.641	0.347	0.624	0.389	0.622	0.384	<u>0.530</u>	<u>0.300</u>	0.431	0.287	18.68%	4.33%
	720	0.792	0.430	0.674	0.417	0.670	0.364	0.623	0.378	0.629	0.383	<u>0.573</u>	<u>0.313</u>	0.463	0.298	19.20%	4.79%

* indicates that some methods do not have uniform prediction lengths with other methods. To ensure a fair comparison, we utilize their official code and adjust prediction lengths.