

# Monash Time-Series Forecasting Archive Replication

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## Abstract

The "Monash Time Series Forecasting Archive" significantly enhances research in time series forecasting, unveiling a meticulously selected assortment of 25 datasets across diverse sectors like energy, banking, and tourism.

This initiative tackles the pressing need for diverse, comprehensive datasets to benchmark a broad spectrum of forecasting models, spanning from conventional univariate to modern global and multivariate methodologies.

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Table 1: Datasets in the current time series forecasting archive

	Dataset	Domain	No: of Series	Min. Length	Max. Length	No: of Freq	Missing	Competition	Multivariate
0	M1	Multiple	1023	18	150	3	No	Yes	No
1	M3	Multiple	3003	20	144	4	No	Yes	No
2	M4	Multiple	100000	19	9933	6	No	Yes	No
3	Tourism	Tourism	1311	11	333	3	No	Yes	No
4	CIF 2016	Banking	72	28	120	1	No	Yes	No
5	London Smart Meters	Energy	5560	288	39648	1	Yes	No	No
6	Aus. Electricity Demand	Energy	5	230736	232272	1	No	No	No
7	Wind Farms	Energy	339	6345	527040	1	Yes	No	No
8	Dominick	Sales	115704	28	393	1	No	No	No
9	Bitcoin	Economic	18	4581	4581	1	Yes	No	No
10	Pedestrian Counts	Transport	66	576	96424	1	No	No	No
11	Vehicle Trips	Transport	329	70	243	1	Yes	No	No
12	KDD Cup 2018	Transport	270	9504	10920	1	Yes	Yes	No
13	Weather	Weather	3010	1332	65981	1	No	No	No
14	NN5	Banking	111	791	791	2	Yes	Yes	Yes
15	Web Traffic	Web	145063	803	803	1	Yes	Yes	Yes
16	Solar	Energy	137	52560	52560	2	No	No	Yes
17	Electricity	Energy	321	26304	26304	2	No	No	Yes
18	Car Parts	Sales	2674	51	51	1	Yes	No	Yes
19	FRED-MD	Economics	107	728	728	1	No	No	Yes
20	San Francisco Traffic	Transport	862	17544	17544	2	No	No	Yes
21	Rideshare	Transport	2304	541	541	1	Yes	No	Yes
22	Hospital	Health	767	84	84	1	No	No	Yes
23	COVID Deaths	Nature	266	212	212	1	No	No	Yes
24	Temperature Rain	Nature	32072	725	725	1	Yes	No	Yes
25	Sunspot	Nature	1	73924	73924	1	Yes	No	No
26	Saugeen River Flow	Nature	1	23741	23741	1	No	No	No
27	US Births	Nature	1	7305	7305	1	No	No	No
28	Solar Power	Energy	1	7397222	7397222	1	No	No	No
29	Wind Power	Energy	1	7397147	7397147	1	No	No	No

Table 2: Mean MASE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	4.938	4.191	3.771	-	4.588	4.333	4.479	<b>3.499</b>
1	M1 Quarterly	1.929	1.702	<b>1.658</b>	-	1.892	2.040	1.787	1.694
2	M1 Monthly	1.379	1.091	<b>1.074</b>	-	1.123	1.220	1.165	1.118
3	M3 Quarterly	1.417	<b>1.117</b>	1.170	-	1.248	1.449	1.240	1.256
4	M3 Monthly	1.091	0.864	0.865	-	1.010	1.076	0.873	<b>0.861</b>
5	M4 Yearly	-	-	-	-	-	-	-	<b>3.437</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>1.186</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>0.505</b>
8	Tourism Yearly	3.253	<b>3.015</b>	3.395	-	3.516	3.619	3.775	3.685
9	Tourism Quarterly	3.210	1.661	<b>1.592</b>	-	1.643	1.821	1.776	1.835
10	Tourism Monthly	3.306	1.649	<b>1.526</b>	-	1.678	1.712	1.587	1.751
11	Vehicle Trips	2.273	1.914	1.964	-	2.196	2.004	2.051	<b>1.856</b>
12	NN5 Daily	-	-	-	-	-	0.970	-	<b>0.858</b>
13	NN5 Weekly	0.903	0.885	0.911	0.887	<b>0.854</b>	0.854	-	0.872
14	Solar Weekly	1.215	1.224	1.134	<b>0.848</b>	1.053	1.477	-	0.916
15	Electricity Weekly	1.536	1.476	1.526	0.878	0.916	0.813	-	<b>0.792</b>
16	Traffic Weekly	<b>1.116</b>	1.121	1.125	1.191	1.122	1.122	-	1.148
17	Rideshare	<b>4.040</b>	4.872	-	-	-	-	-	4.384
18	Hospital	0.813	<b>0.761</b>	0.765	-	0.782	0.796	0.788	0.768
19	Sunspot	0.128	0.128	0.128	-	0.099	0.073	0.067	<b>0.064</b>
20	Bitcoin	5.289	5.223	<b>4.538</b>	-	4.616	5.653	5.498	4.602
21	CIF 2016	1.291	0.997	<b>0.841</b>	-	1.019	1.200	0.927	0.861
22	COVID Deaths	7.776	7.793	<b>5.326</b>	-	8.731	8.092	6.104	5.719
23	Car Parts	0.897	0.914	0.925	-	<b>0.755</b>	0.853	0.927	1.002
24	Fred Md	0.617	0.698	<b>0.468</b>	-	8.827	0.988	0.532	0.502
25	M3 Yearly	3.167	<b>2.774</b>	2.860	-	3.223	3.711	3.417	3.127
26	Saugeen River Flow	1.426	<b>1.425</b>	2.036	-	1.674	1.430	1.548	1.477
27	US Births	4.343	2.138	1.529	-	2.094	1.690	1.917	<b>1.453</b>

Table 3: Mean MAE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	171.4K	152.8K	146.1K	-	134.2K	249.4K	145.6K	<b>103.0K</b>
1	M1 Quarterly	2.2K	2.0K	2.1K	-	<b>1.6K</b>	1.9K	2.2K	2.3K
2	M1 Monthly	2.3K	2.2K	<b>1.9K</b>	-	2.1K	2.1K	2.1K	2.2K
3	M3 Quarterly	572	<b>486</b>	513	-	519	594	559	562
4	M3 Monthly	743	<b>624</b>	626	-	693	736	655	631
5	M4 Yearly	-	-	-	-	-	-	-	<b>960</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>570</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>297</b>
8	Tourism Yearly	95.6K	90.7K	94.8K	-	82.7K	<b>81.3K</b>	95.0K	94.1K
9	Tourism Quarterly	15.0K	<b>7.7K</b>	8.9K	-	9.1K	10.1K	10.4K	10.0K
10	Tourism Monthly	5.3K	2.1K	<b>2.0K</b>	-	2.2K	2.5K	2.5K	2.9K
11	Vehicle Trips	29.980	23.299	21.258	-	27.243	22.732	23.456	<b>21.045</b>
12	NN5 Daily	-	-	-	-	-	4.200	-	<b>3.701</b>
13	NN5 Weekly	15.665	15.305	15.698	15.383	<b>14.937</b>	15.359	-	14.985
14	Solar Weekly	1.2K	1.2K	1.1K	<b>840</b>	1.0K	1.5K	-	909
15	Electricity Weekly	74.1K	74.1K	67.7K	28.5K	44.9K	34.7K	-	<b>24.4K</b>
16	Traffic Weekly	<b>1.125</b>	1.131	1.144	1.222	1.125	1.181	-	1.166
17	Rideshare	<b>6.293</b>	7.620	-	-	-	-	-	6.877
18	Hospital	21.761	18.539	17.966	-	19.237	19.114	19.742	<b>17.429</b>
19	Sunspot	4.933	4.933	4.933	-	3.833	2.800	2.567	<b>2.467</b>
20	Bitcoin	1773.4Qi	1773.4Qi	1103.6Qi	-	<b>666.4Qa</b>	1921.1Qi	1047.2Qi	990.4Qa
21	CIF 2016	581.9K	714.8K	642.4K	-	563.2K	688.0K	<b>469.1K</b>	855.6K
22	COVID Deaths	354	321	<b>85.591</b>	-	348	486	85.768	96.288
23	Car Parts	0.548	0.530	0.564	-	<b>0.407</b>	0.531	0.561	0.583
24	Fred Md	2.8K	3.5K	2.0K	-	8.9K	2.6K	3.0K	<b>2.0K</b>
25	M3 Yearly	1.0K	<b>957</b>	1.0K	-	1.0K	1.1K	1.4K	1.2K
26	Saugeen River Flow	21.497	<b>21.486</b>	30.693	-	25.241	21.562	23.338	22.262
27	US Births	1.2K	587	420	-	575	464	526	<b>399</b>

Table 4: Mean RMSE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	193.8K	171.5K	167.7K	-	152.0K	269.0K	175.3K	<b>116.9K</b>
1	M1 Quarterly	2.5K	2.3K	2.4K	-	<b>1.9K</b>	2.2K	2.5K	2.7K
2	M1 Monthly	2.7K	2.6K	<b>2.3K</b>	-	2.5K	2.5K	2.5K	2.6K
3	M3 Quarterly	671	<b>568</b>	599	-	606	698	651	654
4	M3 Monthly	894	<b>754</b>	755	-	830	879	791	765
5	M4 Yearly	-	-	-	-	-	-	-	<b>1.1K</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>673</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>358</b>
8	Tourism Yearly	106.7K	99.9K	104.7K	-	89.6K	<b>89.6K</b>	106.1K	105.8K
9	Tourism Quarterly	17.3K	<b>9.3K</b>	10.8K	-	11.7K	12.6K	12.5K	12.0K
10	Tourism Monthly	7.0K	2.7K	<b>2.5K</b>	-	2.7K	3.1K	3.1K	3.7K
11	Vehicle Trips	36.525	27.814	26.153	-	31.692	27.348	28.535	<b>25.503</b>
12	NN5 Daily	-	-	-	-	-	5.715	-	<b>5.204</b>
13	NN5 Weekly	18.825	18.647	18.816	18.550	18.615	18.711	-	<b>18.528</b>
14	Solar Weekly	1.3K	1.3K	1.3K	<b>968</b>	1.2K	1.7K	-	1.0K
15	Electricity Weekly	77.1K	76.9K	70.4K	32.6K	47.8K	37.6K	-	<b>28.0K</b>
16	Traffic Weekly	1.514	1.529	1.534	1.545	<b>1.503</b>	1.511	-	1.528
17	Rideshare	<b>7.174</b>	8.604	-	-	-	-	-	8.096
18	Hospital	26.551	22.592	22.023	-	23.479	23.287	23.837	<b>21.281</b>
19	Sunspot	4.946	4.946	4.946	-	3.954	3.141	2.938	<b>2.595</b>
20	Bitcoin	1963.7Qi	1963.7Qi	1223.5Qi	-	<b>829.2Qa</b>	2002.0Qi	1198.1Qi	1164.3Qi
21	CIF 2016	657.1K	804.7K	722.4K	-	648.9K	760.0K	<b>526.4K</b>	940.1K
22	COVID Deaths	403	370	102	-	394	617	<b>100</b>	113
23	Car Parts	0.784	0.782	0.802	-	<b>0.729</b>	0.794	0.811	0.837
24	Fred Md	3.1K	3.9K	2.3K	-	9.7K	2.8K	3.3K	<b>2.3K</b>
25	M3 Yearly	1.2K	<b>1.1K</b>	1.2K	-	1.2K	1.3K	1.7K	1.4K
26	Saugeen River Flow	39.794	39.787	50.392	-	47.703	<b>39.306</b>	45.536	42.576
27	US Births	1.4K	736	607	-	732	635	706	<b>607</b>

Table 5: Mean sMAPE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	0.231	0.202	0.186	-	0.188	0.200	0.195	<b>0.174</b>
1	M1 Quarterly	0.181	<b>0.163</b>	0.174	-	0.166	0.177	0.166	0.166
2	M1 Monthly	0.171	0.155	<b>0.146</b>	-	0.148	0.162	0.153	0.148
3	M3 Quarterly	0.109	<b>0.092</b>	0.097	-	0.098	0.112	0.102	0.102
4	M3 Monthly	0.162	0.139	0.141	-	0.152	0.165	0.143	<b>0.138</b>
5	M4 Yearly	-	-	-	-	-	-	-	<b>0.149</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>0.102</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>0.073</b>
8	Tourism Yearly	0.341	<b>0.319</b>	0.365	-	0.469	0.328	0.334	0.339
9	Tourism Quarterly	0.274	0.154	<b>0.151</b>	-	0.159	0.167	0.165	0.172
10	Tourism Monthly	0.364	0.199	<b>0.190</b>	-	0.211	0.213	0.196	0.212
11	Vehicle Trips	0.362	0.301	0.313	-	0.350	0.308	0.308	<b>0.291</b>
12	NN5 Daily	-	-	-	-	-	0.239	-	<b>0.211</b>
13	NN5 Weekly	0.122	0.120	0.123	0.118	<b>0.114</b>	0.117	-	0.116
14	Solar Weekly	0.246	0.248	0.229	<b>0.179</b>	0.217	0.285	-	0.191
15	Electricity Weekly	0.142	0.146	0.141	0.108	0.100	0.097	-	<b>0.085</b>
16	Traffic Weekly	<b>0.124</b>	0.125	0.126	0.134	0.125	0.130	-	0.128
17	Rideshare	1.413	1.540	-	-	-	-	-	<b>1.377</b>
18	Hospital	0.179	<b>0.173</b>	0.175	-	0.176	0.179	0.178	0.176
19	Sunspot	1.924	1.924	1.924	-	1.901	1.858	<b>1.730</b>	1.860
20	Bitcoin	0.208	0.302	<b>0.191</b>	-	0.215	0.306	0.269	0.200
21	CIF 2016	0.149	0.130	0.122	-	0.123	0.151	<b>0.114</b>	0.122
22	COVID Deaths	0.153	0.156	<b>0.086</b>	-	0.183	0.158	0.092	0.087
23	Car Parts	0.649	0.593	0.658	-	<b>0.432</b>	0.655	0.657	0.659
24	Fred Md	0.087	0.097	0.084	-	0.308	0.093	0.080	<b>0.080</b>
25	M3 Yearly	0.178	<b>0.168</b>	0.170	-	0.171	0.197	0.188	0.174
26	Saugeen River Flow	0.360	<b>0.360</b>	0.675	-	0.453	0.362	0.398	0.373
27	US Births	0.118	0.058	0.041	-	0.058	0.045	0.052	<b>0.038</b>

Table 6: Median MAE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	379	256	191	-	246	261	180	<b>173</b>
1	M1 Quarterly	22.296	19.554	19.588	-	19.195	19.804	<b>16.228</b>	18.871
2	M1 Monthly	45.333	38.230	38.508	-	37.365	39.924	40.538	<b>35.776</b>
3	M3 Quarterly	372	<b>294</b>	305	-	325	397	334	336
4	M3 Monthly	517	421	409	-	479	533	412	<b>407</b>
5	M4 Yearly	-	-	-	-	-	-	-	<b>430</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>256</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>164</b>
8	Tourism Yearly	4.3K	<b>4.1K</b>	4.3K	-	4.3K	5.0K	4.6K	4.8K
9	Tourism Quarterly	1.9K	1.1K	1.0K	-	<b>992</b>	1.0K	1.0K	1.2K
10	Tourism Monthly	968	478	<b>457</b>	-	475	473	463	492
11	Vehicle Trips	6.033	4.667	4.667	-	6.967	5.367	4.967	<b>4.433</b>
12	NN5 Daily	-	-	-	-	-	3.684	-	<b>3.458</b>
13	NN5 Weekly	14.183	13.904	14.273	14.824	<b>12.837</b>	13.129	-	13.727
14	Solar Weekly	1.1K	1.1K	1.1K	<b>761</b>	942	1.3K	-	780
15	Electricity Weekly	11.0K	10.4K	11.0K	6.8K	7.1K	<b>6.1K</b>	-	6.1K
16	Traffic Weekly	<b>0.918</b>	0.924	0.918	0.976	0.930	0.948	-	0.942
17	Rideshare	<b>1.652</b>	1.975	-	-	-	-	-	1.795
18	Hospital	<b>6.667</b>	6.667	6.667	-	6.667	6.917	6.833	6.833
19	Sunspot	4.933	4.933	4.933	-	3.833	2.800	2.567	<b>2.467</b>
20	Bitcoin	23.2K	20.3K	<b>19.4K</b>	-	25.1K	20.9K	29.9K	27.3K
21	CIF 2016	107	103	70.431	-	95.132	111	80.656	<b>67.118</b>
22	COVID Deaths	2.233	4.417	<b>1.650</b>	-	6.767	3.217	1.783	1.800
23	Car Parts	0.333	<b>0.250</b>	0.333	-	0.250	0.417	0.333	0.417
24	Fred Md	<b>1.894</b>	1.940	2.350	-	41.359	4.114	2.732	1.992
25	M3 Yearly	703	660	641	-	712	860	701	<b>638</b>
26	Saugeen River Flow	21.497	<b>21.486</b>	30.693	-	25.241	21.562	23.338	22.262
27	US Births	1.2K	587	420	-	575	464	526	<b>399</b>

Table 7: Median MASE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	3.772	3.155	2.324	-	2.847	2.912	<b>2.127</b>	2.215
1	M1 Quarterly	1.417	1.264	1.196	-	1.376	1.411	<b>1.171</b>	1.200
2	M1 Monthly	1.167	0.885	<b>0.851</b>	-	0.947	1.016	0.896	0.902
3	M3 Quarterly	1.073	<b>0.831</b>	0.855	-	0.902	1.126	0.917	0.914
4	M3 Monthly	0.861	0.721	0.712	-	0.825	0.900	0.704	<b>0.699</b>
5	M4 Yearly	-	-	-	-	-	-	-	<b>2.402</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>0.915</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>0.365</b>
8	Tourism Yearly	2.442	2.360	2.373	-	<b>2.356</b>	3.000	2.719	2.518
9	Tourism Quarterly	2.309	1.348	<b>1.275</b>	-	1.361	1.368	1.388	1.478
10	Tourism Monthly	2.336	1.382	<b>1.276</b>	-	1.484	1.461	1.333	1.491
11	Vehicle Trips	1.402	0.999	0.964	-	1.429	1.129	1.020	<b>0.963</b>
12	NN5 Daily	-	-	-	-	-	0.902	-	<b>0.834</b>
13	NN5 Weekly	0.781	0.805	0.775	<b>0.769</b>	0.781	0.808	-	0.827
14	Solar Weekly	1.231	1.241	1.209	<b>0.861</b>	1.063	1.475	-	0.894
15	Electricity Weekly	1.341	1.303	1.337	0.798	0.842	0.732	-	<b>0.705</b>
16	Traffic Weekly	0.973	0.983	0.977	1.035	0.980	<b>0.946</b>	-	0.996
17	Rideshare	<b>4.054</b>	4.912	-	-	-	-	-	4.065
18	Hospital	0.745	<b>0.723</b>	0.731	-	0.740	0.754	0.736	0.734
19	Sunspot	0.128	0.128	0.128	-	0.099	0.073	0.067	<b>0.064</b>
20	Bitcoin	3.089	2.955	<b>2.686</b>	-	3.166	3.018	3.542	3.207
21	CIF 2016	0.862	0.662	<b>0.532</b>	-	0.746	0.861	0.559	0.537
22	COVID Deaths	1.554	2.192	0.614	-	5.313	2.052	0.982	<b>0.605</b>
23	Car Parts	0.562	0.482	0.562	-	<b>0.375</b>	0.562	0.600	0.596
24	Fred Md	0.430	0.407	0.385	-	8.458	0.618	<b>0.355</b>	0.370
25	M3 Yearly	2.261	1.985	1.907	-	2.267	2.726	2.003	<b>1.900</b>
26	Saugeen River Flow	1.426	<b>1.425</b>	2.036	-	1.674	1.430	1.548	1.477
27	US Births	4.343	2.138	1.529	-	2.094	1.690	1.917	<b>1.453</b>



Table 8: Median RMSE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	416	323	230	-	305	298	208	<b>204</b>
1	M1 Quarterly	24.459	22.811	21.858	-	22.529	22.572	<b>20.232</b>	22.320
2	M1 Monthly	54.669	46.396	44.392	-	45.346	47.584	47.105	<b>44.038</b>
3	M3 Quarterly	436	<b>356</b>	369	-	378	480	406	400
4	M3 Monthly	634	517	496	-	582	634	500	<b>493</b>
5	M4 Yearly	-	-	-	-	-	-	-	<b>495</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>302</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>200</b>
8	Tourism Yearly	4.7K	<b>4.6K</b>	4.6K	-	4.7K	5.5K	5.2K	5.2K
9	Tourism Quarterly	2.3K	1.4K	1.2K	-	<b>1.2K</b>	1.2K	1.2K	1.5K
10	Tourism Monthly	1.3K	675	599	-	<b>596</b>	620	606	671
11	Vehicle Trips	8.103	5.802	5.925	-	8.725	6.962	6.506	<b>5.580</b>
12	NN5 Daily	-	-	-	-	-	5.320	-	<b>4.749</b>
13	NN5 Weekly	17.524	16.816	17.523	17.487	16.263	<b>16.060</b>	-	16.990
14	Solar Weekly	1.2K	1.2K	1.2K	<b>878</b>	1.0K	1.4K	-	886
15	Electricity Weekly	12.5K	11.8K	12.5K	8.3K	8.2K	7.3K	-	<b>7.3K</b>
16	Traffic Weekly	1.201	1.215	1.210	1.211	1.195	<b>1.159</b>	-	1.214
17	Rideshare	<b>1.841</b>	2.190	-	-	-	-	-	2.021
18	Hospital	8.256	<b>8.196</b>	8.251	-	8.251	8.485	8.391	8.357
19	Sunspot	4.946	4.946	4.946	-	3.954	3.141	2.938	<b>2.595</b>
20	Bitcoin	30.3K	26.3K	<b>24.3K</b>	-	31.4K	28.3K	38.2K	33.0K
21	CIF 2016	129	118	85.771	-	109	131	103	<b>79.025</b>
22	COVID Deaths	3.087	5.290	2.205	-	8.283	3.941	2.164	<b>2.129</b>
23	Car Parts	0.707	0.645	0.707	-	<b>0.577</b>	0.707	0.707	0.707
24	Fred Md	<b>2.306</b>	2.362	2.702	-	45.182	4.512	3.490	2.515
25	M3 Yearly	804	<b>740</b>	759	-	825	969	815	753
26	Saugeen River Flow	39.794	39.787	50.392	-	47.703	<b>39.306</b>	45.536	42.576
27	US Births	1.4K	736	607	-	732	635	706	<b>607</b>

Table 9: Median RMSE results. The best model across each dataset is highlighted in boldface.

	Dataset	SES	Theta	ETS	(DHR-) ARIMA	PR	Cat Boost	ARIMA	TBATS
0	M1 Yearly	0.173	0.147	0.130	-	0.135	0.134	<b>0.120</b>	0.127
1	M1 Quarterly	0.112	0.086	<b>0.084</b>	-	0.101	0.116	0.097	0.086
2	M1 Monthly	0.143	0.112	<b>0.108</b>	-	0.119	0.125	0.115	0.113
3	M3 Quarterly	0.067	<b>0.052</b>	0.055	-	0.057	0.076	0.064	0.062
4	M3 Monthly	0.107	0.093	0.091	-	0.104	0.110	<b>0.090</b>	0.090
5	M4 Yearly	-	-	-	-	-	-	-	<b>0.088</b>
6	M4 Quarterly	-	-	-	-	-	-	-	<b>0.058</b>
7	M4 Weekly	-	-	-	-	-	-	-	<b>0.048</b>
8	Tourism Yearly	0.188	<b>0.168</b>	0.192	-	0.169	0.236	0.227	0.206
9	Tourism Quarterly	0.225	0.132	<b>0.129</b>	-	0.133	0.135	0.131	0.148
10	Tourism Monthly	0.302	0.174	<b>0.172</b>	-	0.185	0.189	0.180	0.190
11	Vehicle Trips	0.342	0.235	0.232	-	0.327	0.271	0.236	<b>0.228</b>
12	NN5 Daily	-	-	-	-	-	0.229	-	<b>0.196</b>
13	NN5 Weekly	0.109	0.110	0.108	0.111	0.105	<b>0.104</b>	-	0.110
14	Solar Weekly	0.248	0.249	0.244	<b>0.176</b>	0.218	0.282	-	0.184
15	Electricity Weekly	-	0.117	-	0.070	-	<b>0.061</b>	-	-
16	Traffic Weekly	<b>0.097</b>	0.098	0.098	0.105	0.098	0.102	-	0.101
17	Rideshare	2.000	2.000	-	-	-	-	-	<b>1.976</b>
18	Hospital	0.166	<b>0.159</b>	0.161	-	0.161	0.168	0.168	0.163
19	Sunspot	1.962	1.962	1.962	-	1.956	<b>1.933</b>	1.943	1.947
20	Bitcoin	0.182	0.187	0.188	-	<b>0.172</b>	0.187	0.192	0.175
21	CIF 2016	0.114	0.080	<b>0.066</b>	-	0.084	0.108	0.077	0.070
22	COVID Deaths	-	-	-	-	-	-	-	-
23	Car Parts	-	-	-	-	-	-	-	-
24	Fred Md	0.016	0.015	0.015	-	0.291	0.033	0.016	<b>0.013</b>
25	M3 Yearly	0.124	0.115	<b>0.115</b>	-	0.129	0.146	0.124	0.115
26	Saugeen River Flow	0.360	<b>0.360</b>	0.676	-	0.454	0.363	0.398	0.374
27	US Births	0.118	0.058	0.041	-	0.058	0.045	0.052	<b>0.038</b>