Table 1: Performance of the evaluated algorithms. As a prediction algorithm an LSTM was used (the MC-Dropout LSTM was trained on training and calibration data; for the CP methods only the training data was used). Bold numbers correspond to the best CP method for the respective metric in the experiment (PI-Width and Winkler score). The error term represents the standard deviation over repeated runs with different seeds.

Data	α	UC	HopCPT	CopulaCPTS	CF-RNN	SPCI	EnbPI	NexCP	MC-Dropout
Solar 3Y	0.05	Δ Cov	$-0.003^{\pm 0.005}$	0.002	0.001	$0.004^{\pm 0.000}$	−0.018	−0.001	$-0.058^{\pm 0.004}$
		PI-Width	$\mathbf{22.7}^{\pm 0.8}$	54.1	54.7	$47.7^{\pm 0.1}$	41.0	47.3	$17.5^{\pm 0.1}$
		Winkler	$\mathbf{0.38}^{\pm 0.01}$	0.96	0.97	$0.87^{\pm 0.00}$	0.90	0.87	$0.75^{\pm 0.01}$
	0.10	Δ Cov	$0.001^{\pm 0.006}$	0.007	0.007	$0.014^{\pm 0.000}$	−0.018	−0.001	$-0.030^{\pm 0.006}$
		PI-Width	$\mathbf{17.9}^{\pm 0.6}$	31.9	33.0	$27.7^{\pm 0.0}$	24.6	28.2	$14.8^{\pm 0.1}$
		Winkler	$\mathbf{0.30}^{\pm 0.01}$	0.68	0.70	$0.62^{\pm 0.00}$	0.64	0.63	$0.49^{\pm 0.00}$
	0.15	Δ Cov	$0.002^{\pm 0.007}$	0.010	0.009	$0.024^{\pm 0.000}$	−0.017	−0.001	$0.001^{\pm 0.007}$
		PI-Width	$\mathbf{15.0}^{\pm 0.4}$	20.5	21.3	$18.1^{\pm 0.0}$	16.2	18.6	$12.9^{\pm 0.1}$
		Winkler	$\mathbf{0.26}^{\pm 0.00}$	0.54	0.55	$0.48^{\pm 0.00}$	0.50	0.50	$0.38^{\pm 0.00}$
Solar 1Y	0.05	Δ Cov	$0.019^{\pm 0.003}$	0.010	0.013	$0.006^{\pm 0.000}$	−0.018	−0.001	$-0.041^{\pm 0.004}$
		PI-Width	$\mathbf{21.4}^{\pm 0.7}$	39.4	42.2	$37.0^{\pm 0.1}$	29.5	33.6	$20.5^{\pm 0.3}$
		Winkler	$\mathbf{0.27}^{\pm 0.01}$	0.59	0.61	$0.58^{\pm 0.00}$	0.60	0.57	$0.58^{\pm 0.01}$
	0.10	Δ Cov	$0.028^{\pm 0.010}$	0.018	0.025	$0.018^{\pm 0.000}$	−0.018	−0.001	$-0.011^{\pm 0.005}$
		PI-Width	$\mathbf{16.0}^{\pm 0.6}$	23.1	25.0	$22.5^{\pm 0.0}$	17.4	19.5	$17.3^{\pm 0.2}$
		Winkler	$\mathbf{0.22}^{\pm 0.01}$	0.43	0.43	$0.41^{\pm 0.00}$	0.42	0.41	$0.40^{\pm 0.01}$
	0.15	Δ Cov	$0.029^{\pm 0.017}$	0.030	0.040	$0.032^{\pm 0.000}$	−0.014	0.001	$0.022^{\pm 0.006}$
		PI-Width	$13.1^{\pm 0.5}$	15.2	16.9	$15.3^{\pm 0.0}$	**11.1**	12.6	$15.2^{\pm 0.2}$
		Winkler	$\mathbf{0.19}^{\pm 0.00}$	0.33	0.34	$0.32^{\pm 0.00}$	0.33	0.33	$0.32^{\pm 0.00}$
Air 10 PM	0.05	Δ Cov	$-0.001^{\pm 0.001}$	−0.002	−0.001	$0.003^{\pm 0.000}$	−0.021	−0.002	$-0.202^{\pm 0.008}$
		PI-Width	$90.7^{\pm 1.9}$	86.8	88.1	$86.1^{\pm 0.0}$	**80.8**	88.8	$42.3^{\pm 0.8}$
		Winkler	$1.83^{\pm 0.03}$	1.86	1.86	$\mathbf{1.63}^{\pm 0.00}$	1.81	1.77	$2.36^{\pm 0.03}$
	0.10	Δ Cov	$-0.002^{\pm 0.005}$	0.001	0.004	$0.010^{\pm 0.000}$	−0.025	−0.002	$-0.201^{\pm 0.009}$
		PI-Width	$62.7^{\pm 1.5}$	61.8	63.0	$62.3^{\pm 0.1}$	**58.1**	62.4	$35.7^{\pm 0.7}$
		Winkler	$1.33^{\pm 0.01}$	1.34	1.34	$\mathbf{1.21}^{\pm 0.00}$	1.32	1.29	$1.49^{\pm 0.01}$
	0.15	Δ Cov	$-0.002^{\pm 0.010}$	0.005	0.009	$0.017^{\pm 0.000}$	−0.028	−0.002	$-0.192^{\pm 0.009}$
		PI-Width	$49.4^{\pm 1.7}$	49.6	50.8	$50.2^{\pm 0.0}$	**46.5**	49.6	$31.4^{\pm 0.6}$
		Winkler	$1.09^{\pm 0.01}$	1.10	1.10	$\mathbf{1.01}^{\pm 0.00}$	1.08	1.07	$1.16^{\pm 0.01}$
Air 25 PM	0.05	Δ Cov	$0.005^{\pm 0.005}$	−0.015	−0.021	$-0.015^{\pm 0.000}$	−0.023	−0.003	$-0.100^{\pm 0.022}$
		PI-Width	$57.1^{\pm 5.6}$	48.4	46.1	$\mathbf{45.0}^{\pm 0.0}$	50.8	56.0	$31.7^{\pm 3.5}$
		Winkler	$\mathbf{1.19}^{\pm 0.08}$	1.39	1.40	$1.29^{\pm 0.00}$	1.33	1.27	$1.41^{\pm 0.05}$
	0.10	Δ Cov	$0.007^{\pm 0.008}$	−0.019	−0.025	$-0.017^{\pm 0.000}$	−0.028	−0.003	$-0.095^{\pm 0.027}$
		PI-Width	$40.7^{\pm 4.3}$	34.0	32.8	$\mathbf{32.4}^{\pm 0.0}$	35.9	38.6	$26.6^{\pm 3.0}$
		Winkler	$\mathbf{0.88}^{\pm 0.05}$	0.99	0.99	$0.93^{\pm 0.00}$	0.97	0.94	$0.95^{\pm 0.03}$
	0.15	Δ Cov	$0.005^{\pm 0.011}$	−0.019	−0.025	$-0.016^{\pm 0.000}$	−0.029	−0.003	$-0.086^{\pm 0.030}$
		PI-Width	$32.5^{\pm 3.7}$	26.8	26.1	$\mathbf{26.1}^{\pm 0.0}$	28.4	30.2	$23.2^{\pm 2.6}$
		Winkler	$\mathbf{0.74}^{\pm 0.04}$	0.80	0.81	$0.76^{\pm 0.00}$	0.79	0.77	$0.76^{\pm 0.02}$
Sap flow	0.05	Δ Cov	$0.001^{\pm 0.002}$	−0.012	−0.024	$0.000^{\pm 0.000}$	−0.018	−0.001	$-0.150^{\pm 0.007}$
		PI-Width	$\mathbf{783.5}^{\pm 9.2}$	1300.1	1194.5	$898.3^{\pm 0.8}$	1020.5	1338.9	$421.6^{\pm 5.2}$
		Winkler	$\mathbf{0.25}^{\pm 0.01}$	0.45	0.47	$0.33^{\pm 0.00}$	0.36	0.40	$0.49^{\pm 0.01}$
	0.10	Δ Cov	$0.004^{\pm 0.004}$	−0.022	−0.042	$0.004^{\pm 0.000}$	−0.019	−0.000	$-0.139^{\pm 0.007}$
		PI-Width	$\mathbf{594.3}^{\pm 7.7}$	903.9	817.2	$628.6^{\pm 0.8}$	768.0	990.0	$355.2^{\pm 4.3}$
		Winkler	$\mathbf{0.19}^{\pm 0.01}$	0.35	0.36	$0.24^{\pm 0.00}$	0.28	0.32	$0.30^{\pm 0.01}$
	0.15	Δ Cov	$0.005^{\pm 0.005}$	−0.026	−0.048	$0.007^{\pm 0.000}$	−0.019	0.002	$-0.122^{\pm 0.007}$
		PI-Width	$\mathbf{489.9}^{\pm 7.0}$	681.5	620.4	$493.4^{\pm 0.5}$	618.2	780.6	$311.4^{\pm 3.8}$
		Winkler	$\mathbf{0.17}^{\pm 0.01}$	0.29	0.30	$0.20^{\pm 0.00}$	0.24	0.27	$0.23^{\pm 0.01}$
Streamflow	0.05	Δ Cov	$-0.002^{\pm 0.022}$	0.003	0.006	$0.013^{\pm 0.000}$	−0.042	−0.001	$-0.124^{\pm 0.012}$
		PI-Width	$\mathbf{1.91}^{\pm 0.20}$	3.44	3.63	$2.57^{\pm 0.00}$	2.53	3.23	$1.37^{\pm 0.07}$
		Winkler	$\mathbf{1.05}^{\pm 0.03}$	1.925	1.94	$1.38^{\pm 0.00}$	1.91	1.80	$6.29^{\pm 0.12}$
	0.10	Δ Cov	$0.001^{\pm 0.041}$	0.005	0.009	$0.027^{\pm 0.000}$	−0.054	−0.000	$-0.120^{\pm 0.016}$
		PI-Width	$\mathbf{1.39}^{\pm 0.17}$	1.99	2.08	$1.58^{\pm 0.00}$	1.55	1.94	$1.16^{\pm 0.06}$
		Winkler	$\mathbf{0.79}^{\pm 0.03}$	1.28	1.29	$0.91^{\pm 0.00}$	1.27	1.21	$4.14^{\pm 0.09}$
	0.15	Δ Cov	$0.003^{\pm 0.056}$	0.005	0.009	$0.038^{\pm 0.000}$	−0.061	0.001	$-0.109^{\pm 0.020}$
		PI-Width	$\mathbf{1.11}^{\pm 0.15}$	1.39	1.45	$1.17^{\pm 0.00}$	1.12	1.39	$1.02^{\pm 0.05}$
		Winkler	$\mathbf{0.66}^{\pm 0.03}$	0.99	1.00	$0.71^{\pm 0.00}$	0.98	0.95	$3.28^{\pm 0.08}$