

Supporting Information for

Estimating water balance components in irrigated agriculture using a combined approach of soil moisture and energy balance monitoring, and numerical modeling

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Table S1. Measured soil texture and bulk density.

	Sand [%]	Silt [%]	Clay [%]	Bulk density [g cm ⁻³]
Layer 1 (0-15 cm)	46.8	51.5	1.6	1.45
Layer 2 (15-60 cm)	54.9	39.5	5.6	1.61
Layer 3 (60-200 cm)	56.1	39.0	4.9	1.59

Table S2. First approximation of inflow estimates.

Date	First approximation of inflow [mm]					Range [mm]
	linear	makina	nearest	pchip	spline	
2018-08-16	149.34	146.26	138.47	145.65	148.31	10.87
2018-09-04	133.17	135.11	126.53	134.02	127.58	8.58
2018-09-11	83.39	83.79	81.02	83.50	83.60	2.77
2018-09-25	73.22	72.55	68.88	72.76	83.29	14.41
2018-09-28	31.11	30.91	31.85	30.85	33.16	2.31
2018-09-18	72.55	72.40	68.93	72.13	74.82	5.89
2019-01-14	73.93	73.71	71.86	73.85	72.22	2.06
2019-01-21	2.94	2.95	1.96	3.36	4.98	3.03
2019-01-31	7.30	6.58	5.11	7.13	1.43	5.87
2019-02-07	4.14	4.66	3.44	4.34	2.98	1.69
2019-02-19	45.55	45.74	44.77	45.50	48.67	3.90
2019-02-25	12.73	13.03	13.28	12.76	14.58	1.85
2019-03-02	3.64	3.20	2.04	3.67	2.97	1.64
2019-03-12	120.99	118.67	118.23	120.37	129.12	10.89
2019-03-19	73.50	72.55	71.51	74.52	73.48	3.02
2019-04-16	7.34	5.89	6.40	7.43	5.31	2.12
2019-04-17	8.07	6.79	6.62	7.09	4.04	4.04
2019-04-18	6.61	6.54	6.13	6.23	6.28	0.48

Table S3. Van Genuchten Parameter estimates with standard deviations (σ) derived by the Rosetta model using soil texture and bulk density information.

	θ_r [%]	σ [%]	θ_s [%]	σ [%]	α [cm ⁻¹]	σ [cm ⁻¹]	n [cm ⁻¹]	σ [cm ⁻¹]	Ks [cm d ⁻¹]	σ [cm d ⁻¹]
Layer 1 (0-15 cm)	5.2	1.3	36.3	1.9	0.009	0.14*	1.6	0.026*	51.7	0.23*
Layer 2 (15-60 cm)	5.5	1.2	33.9	1.4	0.013	0.11*	1.5	0.018*	24.9	0.14*
Layer 3 (60-200 cm)	5.5	1.2	34.1	1.4	0.014	0.11*	1.5	0.019*	28.6	0.14*

* log10-transformed

Table S4. Optimized van Genuchten Parameter using CMAES (Covariance Matrix Adaptation Evolution Strategy) and RMSE (root mean squared error) of simulated and observed volumetric water content.

		θ_r [%]	θ_s [%]	α [cm ⁻¹]	n [cm ⁻¹]	Ks [cm d ⁻¹]	RMSE [%]
Maximum	Layer 1 (0-15 cm)	2.6	40.6	0.0011	1.71	40.6	2.25
	Layer 2 (15-60 cm)	3.2	35.0	0.0017	1.49	19.5	
	Layer 3 (60-200 cm)	3.1	35.0	0.0021	1.60	22.4	
Mean	Layer 1 (0-15 cm)	2.6	40.6	0.0010	1.67	40.5	2.15
	Layer 2 (15-60 cm)	3.2	35.0	0.0016	1.46	19.5	
	Layer 3 (60-200 cm)	3.1	35.0	0.0020	1.60	22.4	
Minimum	Layer 1 (0-15 cm)	2.6	40.6	0.0010	1.65	35.2	2.17
	Layer 2 (15-60 cm)	3.2	35.0	0.0016	1.44	17.0	
	Layer 3 (60-200 cm)	3.1	35.0	0.0018	1.60	19.5	

Table S5. Daily sums of simulated water balance components inflow, actual evapotranspiration (ET_{act}) and downward flux at 2 m b.g.l. (Flux_{2m}).

Date	Inflow [mm]			ET _{act} [mm]			Flux _{2m} [mm]		
	min	mean	max	min	mean	max	min	mean	max
2018-08-16	135.37	146.72	165.27	0.50	0.56	0.60	0.37	0.43	0.43
2018-08-17	-	-	-	3.39	3.43	3.43	0.96	1.10	1.11
2018-08-18	-	-	-	7.34	7.36	7.36	0.92	1.05	1.05
2018-08-19	-	-	-	7.50	7.52	7.51	0.88	1.00	1.03
2018-08-20	-	-	-	7.39	7.40	7.40	0.84	0.98	1.14
2018-08-21	-	-	-	7.01	7.03	7.03	0.82	1.02	1.52
2018-08-22	-	-	-	6.43	6.44	6.45	0.81	1.13	2.00
2018-08-23	-	-	-	7.06	7.08	7.09	0.83	1.26	2.36
2018-08-24	-	-	-	7.04	7.06	7.07	0.85	1.38	2.55
2018-08-25	-	-	-	6.89	6.91	6.93	0.88	1.45	2.59
2018-08-26	-	-	-	6.66	6.67	6.69	0.91	1.49	2.52
2018-08-27	-	-	-	6.50	6.52	6.54	0.92	1.49	2.41
2018-08-28	-	-	-	5.64	5.66	5.68	0.93	1.47	2.27
2018-08-29	-	-	-	4.84	4.87	4.89	0.93	1.42	2.13
2018-08-30	-	-	-	6.15	6.32	6.36	0.91	1.37	1.99
2018-08-31	-	-	-	5.29	5.66	5.79	0.90	1.31	1.85
2018-09-01	-	-	-	4.76	4.99	5.08	0.87	1.25	1.73
2018-09-02	-	-	-	4.16	4.31	4.38	0.85	1.19	1.61
2018-09-03	-	-	-	3.23	3.34	3.40	0.82	1.13	1.51
2018-09-04	123.73	133.88	149.26	7.02	7.07	7.06	0.79	1.07	1.41
2018-09-05	-	-	-	6.94	6.97	6.96	0.77	1.02	1.32
2018-09-06	-	-	-	6.50	6.51	6.51	0.74	0.97	1.25
2018-09-07	-	-	-	5.77	5.78	5.77	0.71	0.93	1.29
2018-09-08	-	-	-	6.52	6.53	6.53	0.68	0.93	1.60
2018-09-09	-	-	-	2.25	2.26	2.25	0.67	1.00	2.06
2018-09-10	-	-	-	6.44	6.46	6.46	0.68	1.12	2.44
2018-09-11	80.79	84.66	89.52	6.45	6.48	6.37	0.70	1.24	2.65
2018-09-12	-	-	-	7.67	7.69	7.67	0.73	1.34	2.71
2018-09-13	-	-	-	7.06	7.07	7.05	0.76	1.44	2.98
2018-09-14	-	-	-	7.59	7.60	7.59	0.82	1.77	4.35
2018-09-15	-	-	-	5.27	5.27	5.26	0.95	2.43	5.83
2018-09-16	-	-	-	6.54	6.55	6.54	1.20	3.03	6.04
2018-09-17	-	-	-	6.02	6.03	6.02	1.46	3.32	5.60
2018-09-18	-	-	-	6.50	6.51	6.51	1.68	3.34	4.94
2018-09-19	-	-	-	6.26	6.27	6.27	1.80	3.21	4.32
2018-09-20	-	-	-	6.18	6.18	6.19	1.85	3.02	3.88
2018-09-21	-	-	-	6.06	6.07	6.08	1.85	2.81	3.49
2018-09-22	-	-	-	6.01	6.02	6.02	1.80	2.59	3.15
2018-09-23	-	-	-	4.15	4.15	4.16	1.74	2.39	2.86
2018-09-24	-	-	-	5.83	5.84	5.85	1.66	2.20	2.60
2018-09-25	66.91	74.98	89.29	5.58	5.60	5.59	1.58	2.03	2.37
2018-09-26	-	-	-	5.85	5.89	5.91	1.49	1.88	2.17
2018-09-27	-	-	-	6.00	6.02	6.03	1.41	1.74	1.99
2018-09-28	32.18	36.68	43.06	6.81	6.87	6.86	1.33	1.62	1.85
2018-09-29	-	-	-	5.56	5.60	5.61	1.26	1.52	1.75
2018-09-30	-	-	-	5.32	5.35	5.36	1.19	1.44	1.73
2018-10-01	-	-	-	5.25	5.28	5.28	1.14	1.39	1.80
2018-10-02	-	-	-	5.17	5.19	5.19	1.10	1.38	2.02
2018-10-03	-	-	-	5.43	5.45	5.45	1.07	1.42	2.34
2018-10-04	-	-	-	6.35	6.37	6.37	1.06	1.48	2.61
2018-10-05	-	-	-	5.89	5.91	5.92	1.06	1.55	2.76
2018-10-06	-	-	-	4.98	5.00	5.01	1.06	1.59	2.78
2018-10-07	-	-	-	4.49	4.50	4.52	1.06	1.61	2.72
2018-10-08	-	-	-	5.18	5.20	5.21	1.06	1.60	2.60
2018-10-09	-	-	-	5.22	5.23	5.24	1.05	1.57	2.46
2018-10-10	-	-	-	4.32	4.33	4.34	1.04	1.52	2.31
2018-10-11	-	-	-	3.98	3.99	4.01	1.02	1.47	2.16
2018-10-12	-	-	-	3.36	3.38	3.39	0.99	1.40	2.02
2018-10-13	-	-	-	3.86	3.87	3.89	0.96	1.34	1.89
2018-10-14	-	-	-	3.42	3.44	3.45	0.93	1.28	1.76
2018-10-15	-	-	-	3.49	3.52	3.54	0.90	1.21	1.65
2018-10-16	-	-	-	2.99	3.45	3.47	0.87	1.15	1.54
2018-10-17	-	-	-	2.57	2.93	3.16	0.84	1.10	1.45
2018-10-18	-	-	-	2.63	2.90	3.07	0.81	1.04	1.36
2018-10-19	-	-	-	2.19	2.38	2.49	0.78	0.99	1.28
2018-10-20	-	-	-	2.09	2.22	2.32	0.75	0.95	1.21
2018-10-21	-	-	-	1.93	2.06	2.13	0.72	0.90	1.14
2018-10-22	-	-	-	1.60	1.70	1.76	0.69	0.86	1.08

2018-10-23	-	-	-	1.70	1.79	1.84	0.67	0.82	1.03
2018-10-24	-	-	-	1.52	1.59	1.64	0.64	0.79	0.98
2018-10-25	-	-	-	1.24	1.31	1.35	0.62	0.75	0.93
2018-10-26	-	-	-	1.10	1.15	1.19	0.60	0.72	0.88
2018-10-27	-	-	-	1.00	1.05	1.08	0.58	0.69	0.84
2018-10-28	-	-	-	1.10	1.14	1.19	0.56	0.66	0.81
2018-10-29	-	-	-	0.76	0.81	0.84	0.54	0.64	0.77
2018-10-30	-	-	-	0.79	0.84	0.86	0.52	0.61	0.74
2018-10-31	-	-	-	0.48	0.50	0.52	0.50	0.59	0.71
2018-11-01	-	-	-	-	-	-	-	-	-
2018-11-02	-	-	-	-	-	-	-	-	-
2018-11-03	-	-	-	-	-	-	-	-	-
2018-11-04	-	-	-	-	-	-	-	-	-
2018-11-05	-	-	-	-	-	-	-	-	-
2018-11-06	-	-	-	-	-	-	-	-	-
2018-11-07	-	-	-	-	-	-	-	-	-
2018-11-08	-	-	-	-	-	-	-	-	-
2018-11-09	-	-	-	-	-	-	-	-	-
2018-11-10	-	-	-	-	-	-	-	-	-
2018-11-11	-	-	-	1.62	1.64	1.64	0.87	1.00	1.00
2018-11-12	-	-	-	1.37	1.38	1.38	0.87	1.01	1.01
2018-11-13	-	-	-	2.32	2.33	2.32	0.88	1.02	1.02
2018-11-14	-	-	-	2.07	2.08	2.07	0.89	1.02	1.02
2018-11-15	-	-	-	2.25	2.26	2.26	0.89	1.03	1.03
2018-11-16	-	-	-	2.37	2.38	2.37	0.90	1.04	1.04
2018-11-17	-	-	-	1.61	1.62	1.61	0.90	1.05	1.06
2018-11-18	-	-	-	1.70	1.70	1.70	0.91	1.05	1.07
2018-11-19	-	-	-	1.11	1.11	1.11	0.91	1.06	1.08
2018-11-20	-	-	-	2.17	2.18	2.18	0.91	1.06	1.09
2018-11-21	-	-	-	2.28	2.29	2.28	0.90	1.05	1.09
2018-11-22	-	-	-	1.33	1.33	1.33	0.90	1.04	1.08
2018-11-23	-	-	-	2.53	2.53	2.53	0.89	1.03	1.08
2018-11-24	-	-	-	2.82	2.83	2.83	0.88	1.01	1.07
2018-11-25	-	-	-	1.64	1.65	1.64	0.86	1.00	1.05
2018-11-26	-	-	-	1.43	1.43	1.43	0.85	0.97	1.03
2018-11-27	-	-	-	0.83	0.83	0.83	0.83	0.95	1.01
2018-11-28	-	-	-	1.22	1.22	1.22	0.82	0.93	0.99
2018-11-29	-	-	-	0.88	0.88	0.88	0.80	0.91	0.97
2018-11-30	-	-	-	1.57	1.57	1.57	0.78	0.88	0.94
2018-12-01	-	-	-	1.42	1.42	1.42	0.76	0.86	0.92
2018-12-02	-	-	-	1.51	1.52	1.52	0.74	0.83	0.89
2018-12-03	-	-	-	1.21	1.21	1.21	0.72	0.81	0.87
2018-12-04	-	-	-	1.06	1.06	1.05	0.71	0.79	0.85
2018-12-05	-	-	-	1.25	1.25	1.25	0.69	0.77	0.82
2018-12-06	-	-	-	0.89	0.89	0.89	0.67	0.74	0.80
2018-12-07	-	-	-	1.08	1.08	1.08	0.65	0.72	0.78
2018-12-08	-	-	-	1.01	1.01	1.01	0.64	0.70	0.75
2018-12-09	-	-	-	0.83	0.84	0.83	0.62	0.68	0.73
2018-12-10	-	-	-	0.64	0.64	0.64	0.60	0.66	0.71
2018-12-11	-	-	-	0.93	0.93	0.93	0.59	0.64	0.69
2018-12-12	-	-	-	0.82	0.82	0.82	0.57	0.62	0.67
2018-12-13	-	-	-	1.29	1.29	1.29	0.56	0.60	0.65
2018-12-14	-	-	-	1.45	1.46	1.45	0.54	0.59	0.63
2018-12-15	-	-	-	1.37	1.38	1.37	0.53	0.57	0.61
2018-12-16	-	-	-	1.35	1.35	1.35	0.51	0.55	0.60
2018-12-17	-	-	-	1.37	1.37	1.37	0.50	0.54	0.58
2018-12-18	68.49	73.39	79.04	2.09	2.12	2.12	0.49	0.52	0.56
2018-12-19	-	-	-	1.81	1.83	1.83	0.47	0.51	0.55
2018-12-20	-	-	-	1.29	1.31	1.30	0.46	0.49	0.53
2018-12-21	-	-	-	1.56	1.57	1.56	0.45	0.48	0.52
2018-12-22	-	-	-	1.50	1.51	1.51	0.44	0.47	0.50
2018-12-23	-	-	-	0.88	0.89	0.89	0.42	0.45	0.49
2018-12-24	-	-	-	1.03	1.04	1.04	0.41	0.44	0.47
2018-12-25	-	-	-	1.31	1.32	1.32	0.40	0.43	0.46
2018-12-26	-	-	-	1.02	1.02	1.02	0.39	0.42	0.45
2018-12-27	-	-	-	0.70	0.70	0.70	0.39	0.42	0.45
2018-12-28	-	-	-	1.21	1.22	1.21	0.38	0.41	0.45
2018-12-29	-	-	-	0.82	0.83	0.83	0.38	0.41	0.46
2018-12-30	-	-	-	1.07	1.07	1.07	0.37	0.42	0.47
2018-12-31	-	-	-	0.78	0.79	0.78	0.37	0.43	0.48
2019-01-01	-	-	-	0.42	0.43	0.43	0.38	0.44	0.50
2019-01-02	-	-	-	0.66	0.67	0.66	0.38	0.45	0.51
2019-01-03	-	-	-	1.31	1.32	1.31	0.38	0.46	0.53

2019-01-04	-	-	-	1.28	1.28	1.28	0.39	0.47	0.55
2019-01-05	-	-	-	0.79	0.79	0.79	0.39	0.48	0.56
2019-01-06	-	-	-	1.90	1.91	1.90	0.40	0.49	0.58
2019-01-07	-	-	-	1.30	1.30	1.30	0.40	0.49	0.59
2019-01-08	-	-	-	1.60	1.60	1.60	0.41	0.50	0.60
2019-01-09	-	-	-	1.99	1.99	1.99	0.41	0.51	0.61
2019-01-10	-	-	-	1.15	1.15	1.15	0.41	0.51	0.61
2019-01-11	-	-	-	1.40	1.40	1.40	0.42	0.52	0.62
2019-01-12	-	-	-	0.54	0.55	0.54	0.42	0.52	0.62
2019-01-13	-	-	-	1.51	1.51	1.51	0.42	0.52	0.63
2019-01-14	71.10	78.56	91.78	1.84	1.86	1.81	0.42	0.53	0.63
2019-01-15	-	-	-	2.15	2.19	2.19	0.42	0.52	0.63
2019-01-16	-	-	-	0.79	0.81	0.81	0.42	0.52	0.62
2019-01-17	-	-	-	1.27	1.29	1.28	0.42	0.52	0.62
2019-01-18	-	-	-	1.56	1.57	1.57	0.42	0.52	0.61
2019-01-19	-	-	-	1.57	1.58	1.57	0.42	0.51	0.63
2019-01-20	-	-	-	0.14	0.15	0.15	0.42	0.52	0.68
2019-01-21	1.98	4.70	7.81	0.05	0.06	0.06	0.43	0.55	0.80
2019-01-22	-	-	-	1.71	1.74	1.74	0.44	0.60	0.97
2019-01-23	-	-	-	1.25	1.27	1.28	0.46	0.67	1.18
2019-01-24	-	-	-	1.91	1.93	1.93	0.49	0.75	1.38
2019-01-25	-	-	-	2.17	2.19	2.20	0.52	0.85	1.56
2019-01-26	-	-	-	2.08	2.09	2.09	0.57	0.94	1.71
2019-01-27	-	-	-	2.65	2.66	2.66	0.61	1.02	1.82
2019-01-28	-	-	-	2.82	2.83	2.83	0.66	1.09	1.90
2019-01-29	-	-	-	2.06	2.07	2.08	0.70	1.15	1.95
2019-01-30	-	-	-	0.40	0.40	0.41	0.74	1.20	1.96
2019-01-31	1.63	6.21	8.54	0.02	0.03	0.04	0.77	1.23	1.95
2019-02-01	-	-	-	1.67	1.70	1.71	0.80	1.25	1.92
2019-02-02	-	-	-	2.35	2.39	2.40	0.82	1.25	1.88
2019-02-03	-	-	-	2.22	2.25	2.26	0.84	1.25	1.83
2019-02-04	-	-	-	2.01	2.04	2.04	0.85	1.24	1.77
2019-02-05	-	-	-	2.59	2.61	2.62	0.85	1.22	1.71
2019-02-06	-	-	-	1.18	1.19	1.19	0.85	1.20	1.66
2019-02-07	2.60	4.12	6.02	1.56	1.58	1.60	0.85	1.18	1.60
2019-02-08	-	-	-	2.23	2.25	2.26	0.84	1.15	1.55
2019-02-09	-	-	-	2.81	2.84	2.85	0.84	1.13	1.50
2019-02-10	-	-	-	2.15	2.17	2.18	0.83	1.10	1.45
2019-02-11	-	-	-	2.41	2.42	2.43	0.81	1.07	1.40
2019-02-12	-	-	-	1.20	1.20	1.21	0.80	1.04	1.35
2019-02-13	-	-	-	-	-	-	-	-	-
2019-02-14	-	-	-	-	-	-	-	-	-
2019-02-15	-	-	-	-	-	-	-	-	-
2019-02-16	-	-	-	-	-	-	-	-	-
2019-02-17	-	-	-	-	-	-	-	-	-
2019-02-18	-	-	-	-	-	-	-	-	-
2019-02-19	-	-	-	-	-	-	-	-	-
2019-02-20	42.55	45.49	52.60	0.04	0.04	0.04	0.65	0.80	0.99
2019-02-21	-	-	-	1.87	1.90	1.92	0.63	0.77	0.96
2019-02-22	-	-	-	3.64	3.68	3.69	0.61	0.75	0.92
2019-02-23	-	-	-	3.91	3.95	3.97	0.59	0.72	0.88
2019-02-24	-	-	-	3.50	3.53	3.54	0.57	0.69	0.85
2019-02-25	10.19	13.03	19.67	2.21	2.25	2.30	0.55	0.67	0.81
2019-02-26	-	-	-	2.92	2.98	3.04	0.53	0.64	0.78
2019-02-27	-	-	-	3.36	3.40	3.45	0.52	0.62	0.75
2019-02-28	-	-	-	2.90	2.94	2.97	0.50	0.59	0.73
2019-03-01	-	-	-	1.57	1.59	1.61	0.48	0.57	0.70
2019-03-02	2.16	4.09	5.79	0.02	0.02	0.03	0.46	0.55	0.69
2019-03-03	-	-	-	0.06	0.07	0.08	0.45	0.54	0.67
2019-03-04	-	-	-	3.86	3.89	3.91	0.43	0.52	0.66
2019-03-05	-	-	-	4.27	4.30	4.33	0.42	0.51	0.66
2019-03-06	-	-	-	5.16	5.19	5.21	0.41	0.50	0.66
2019-03-07	-	-	-	3.41	3.43	3.44	0.40	0.49	0.67
2019-03-08	-	-	-	2.83	2.84	2.85	0.39	0.48	0.67
2019-03-09	-	-	-	4.43	4.45	4.46	0.37	0.47	0.67
2019-03-10	-	-	-	4.94	4.95	4.97	0.36	0.47	0.68
2019-03-11	-	-	-	3.74	3.76	3.76	0.35	0.46	0.68
2019-03-12	119.82	129.84	149.93	4.38	4.38	4.39	0.34	0.45	0.68
2019-03-13	-	-	-	3.62	3.65	3.62	0.34	0.44	0.67
2019-03-14	-	-	-	4.07	4.08	4.07	0.33	0.43	0.67
2019-03-15	-	-	-	4.91	4.92	4.91	0.32	0.43	1.05
2019-03-16	-	-	-	4.68	4.69	4.68	0.31	0.45	3.35
2019-03-17	-	-	-	5.40	5.41	5.40	0.30	0.62	5.63

2019-03-18	-	-	-	3.47	3.47	3.47	0.31	0.99	6.10
2019-03-19	78.84	87.66	98.01	5.80	5.81	5.80	0.35	1.46	5.93
2019-03-20	-	-	-	5.11	5.16	5.09	0.41	1.85	5.53
2019-03-21	-	-	-	5.95	5.97	5.95	0.50	2.25	7.35
2019-03-22	-	-	-	6.54	6.55	6.53	0.65	4.23	12.08
2019-03-23	-	-	-	3.42	3.42	3.41	1.08	6.69	12.04
2019-03-24	-	-	-	3.81	3.81	3.80	1.88	7.17	10.58
2019-03-25	-	-	-	5.73	5.73	5.72	2.65	6.84	8.85
2019-03-26	-	-	-	6.07	6.07	6.06	3.10	6.20	7.24
2019-03-27	-	-	-	4.82	4.82	4.81	3.26	5.44	6.31
2019-03-28	-	-	-	4.60	4.60	4.59	3.23	4.68	5.61
2019-03-29	-	-	-	5.53	5.53	5.52	3.10	4.14	4.92
2019-03-30	-	-	-	6.44	6.44	6.44	2.94	3.74	4.27
2019-03-31	-	-	-	7.73	7.75	7.74	2.76	3.39	3.70
2019-04-01	-	-	-	7.02	7.01	7.02	2.58	3.07	3.31
2019-04-02	-	-	-	6.25	6.25	6.24	2.40	2.81	3.01
2019-04-03	-	-	-	6.44	6.45	6.44	2.24	2.57	2.75
2019-04-04	-	-	-	5.58	5.58	5.59	2.08	2.36	2.52
2019-04-05	-	-	-	5.21	5.23	5.22	1.94	2.17	2.31
2019-04-06	-	-	-	5.15	5.16	5.16	1.81	2.01	2.13
2019-04-07	-	-	-	5.30	5.33	5.02	1.69	1.86	1.97
2019-04-08	-	-	-	5.45	5.48	5.25	1.59	1.73	1.83
2019-04-09	-	-	-	4.78	4.78	4.65	1.49	1.61	1.70
2019-04-10	-	-	-	4.63	4.65	4.56	1.40	1.50	1.59
2019-04-11	-	-	-	3.42	3.43	3.39	1.32	1.41	1.49
2019-04-12	-	-	-	4.02	4.03	4.00	1.25	1.32	1.40
2019-04-13	-	-	-	3.42	3.44	3.42	1.18	1.25	1.32
2019-04-14	-	-	-	4.15	4.18	4.17	1.11	1.17	1.24
2019-04-15	-	-	-	4.74	4.78	4.77	1.05	1.11	1.17
2019-04-16	1.49	3.01	6.97	1.25	1.49	1.50	1.00	1.05	1.10
2019-04-17	3.91	6.41	8.09	1.65	1.93	1.92	0.95	0.99	1.04
2019-04-18	5.81	6.06	6.55	3.36	4.09	4.12	0.90	0.93	0.99
2019-04-19	-	-	-	0.94	1.51	3.16	0.85	0.89	0.93
2019-04-20	-	-	-	0.50	0.84	1.60	0.81	0.84	0.89
2019-04-21	-	-	-	0.36	0.60	1.04	0.77	0.80	0.84
2019-04-22	-	-	-	0.29	0.47	0.75	0.74	0.76	0.80
2019-04-23	-	-	-	0.27	0.42	0.63	0.70	0.72	0.76
2019-04-24	-	-	-	0.21	0.32	0.48	0.67	0.69	0.73
2019-04-25	-	-	-	0.19	0.30	0.42	0.64	0.66	0.70
2019-04-26	-	-	-	0.19	0.28	0.39	0.62	0.63	0.67
2019-04-27	-	-	-	0.18	0.26	0.35	0.59	0.61	0.64
2019-04-28	-	-	-	0.18	0.25	0.32	0.57	0.59	0.62
2019-04-29	-	-	-	0.17	0.24	0.30	0.55	0.56	0.60
2019-04-30	-	-	-	0.17	0.24	0.30	0.53	0.54	0.57
2019-05-01	-	-	-	0.18	0.24	0.28	0.52	0.53	0.56
2019-05-02	-	-	-	0.18	0.23	0.28	0.50	0.51	0.54
2019-05-03	-	-	-	0.19	0.24	0.27	0.48	0.49	0.52
2019-05-04	-	-	-	0.19	0.24	0.26	0.47	0.48	0.50