

Supplementary Material 1

A standardized rainfall extremity index for equitable flash-flood warning in South Korea

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This Supplementary Material provides the basic data on the precipitation record and analytical objects underlying the main paper (Secs. S1.1–S1.2), the precipitation-threshold sensitivity of the damage validation (Sec. S1.3), the GEV model-selection breakdown (Sec. S1.4), the Path A vs. Path B declustering sensitivity (Sec. S1.5), and summaries of the GEV and GPD parameter estimates under the declustered, shape-regularized hybrid stationary/non-stationary fits (Secs. S1.6–S1.7). The main text cites this Supplementary Material in Sections 3 and 4, and all cell-level STRI values and sampling are produced by the single unified pipeline defined by Table 4 and the flowchart in Figure 1 of the main text.

S1.1. ASOS Observation Stations

The analysis uses 65 ASOS (Automated Synoptic Observing System) stations with continuous observations available throughout the 1990–2024 period (35 years). Dongducheon (ID 98) was excluded for analytical consistency because its observations began after 1990.

Table S1. The 65 ASOS stations used in the analysis.

Station ID	Korean Name	English Name	Latitude (°N)	Longitude (°E)
90	속초	Sokcho	38.2509	128.565
95	철원	Cheorwon	38.1479	127.304
100	대관령	Daegwallyeong	37.6771	128.718
101	춘천	Chuncheon	37.9026	127.736
105	강릉	Gangneung	37.7515	128.891
108	서울	Seoul	37.5714	126.966
112	인천	Incheon	37.4776	126.624
114	원주	Wonju	37.3375	127.947
115	울릉도	Ulleung	37.4813	130.899
119	수원	Suwon	37.2575	126.983
127	충주	Chungju	36.9705	127.953
129	서산	Seosan	36.7766	126.494
130	울진	Uljin	36.9918	129.413
131	청주	Cheongju	36.6392	127.441
133	대전	Daejeon	36.3720	127.372
135	추풍령	Chupungnyeong	36.2203	127.995
136	안동	Andong	36.5730	128.707
138	포항	Pohang	36.0320	129.380
140	군산	Gunsan	35.9930	126.706
143	대구	Daegu	35.8780	128.653
146	전주	Jeonju	35.8215	127.155
152	울산	Ulsan	35.5824	129.335
156	광주	Gwangju	35.1729	126.892

Station ID	Korean Name	English Name	Latitude (°N)	Longitude (°E)
159	부산	Busan	35.1047	129.032
162	통영	Tongyeong	34.8454	128.436
165	목포	Mokpo	34.8169	126.381
168	여수	Yeosu	34.7393	127.741
170	완도	Wando	34.3959	126.702
184	제주	Jeju	33.5141	126.530
188	성산	Seongsan	33.3868	126.880
189	서귀포	Seogwipo	33.2461	126.565
192	진주	Jinju	35.1638	128.040
201	강화	Ganghwa	37.7074	126.446
202	양평	Yangpyeong	37.4886	127.495
203	이천	Icheon	37.2640	127.484
211	인제	Inje	38.0599	128.167
212	홍천	Hongcheon	37.6836	127.880
216	태백	Taebaek	37.1704	128.989
221	제천	Jecheon	37.1593	128.194
226	보은	Boeun	36.4876	127.734
232	천안	Cheonan	36.7796	127.121
235	보령	Boryeong	36.3272	126.557
236	부여	Buyeo	36.2724	126.921
238	금산	Geumsan	36.1056	127.482
243	부안	Buan	35.7296	126.717
244	임실	Imsil	35.6120	127.286
245	정읍	Jeongeup	35.5634	126.839
247	남원	Namwon	35.4054	127.333
248	장수	Jangsu	35.6570	127.520

Station ID	Korean Name	English Name	Latitude (°N)	Longitude (°E)
260	장흥	Jangheung	34.6889	126.920
261	해남	Haenam	34.5538	126.569
262	고흥	Goheung	34.6183	127.276
271	봉화	Bonghwa	36.9436	128.915
272	영주	Yeongju	36.8718	128.517
273	문경	Mungyeong	36.6273	128.149
277	영덕	Yeongdeok	36.5334	129.409
278	의성	Uiseong	36.3561	128.689
279	구미	Gumi	36.1306	128.321
281	영천	Yeongcheon	35.9774	128.951
284	거창	Geochang	35.6674	127.910
285	합천	Hapcheon	35.5651	128.170
288	밀양	Miryang	35.4915	128.744
289	산청	Sancheong	35.4130	127.879
294	거제	Geoje	34.8882	128.605
295	남해	Namhae	34.8166	127.926

S1.2. Documented Torrential Rainfall Damage Cases (1990–2024)

The complete record of the 36 documented damage cases analysed in the main text (Sec. 3.3) is provided here. The data are collected from the Water Disaster Status section of the Water Information Portal (<https://www.water.or.kr/>) and the 2024 Disaster Yearbook (Ministry of the Interior and Safety, 2025). Each station–date combination is counted as a separate case, yielding 886 station–damage cases in total. Casualties are recorded as deaths/missing persons, and property damage is reported in units of 100 million KRW.

Table S2. The 36 documented torrential-rainfall damage cases.

	Disaster Name	Period	Region	Stations ¹	Casualties ²	Damages ³
1	Torrential rainfall (Sep. 2024)	2024.09.21-2024.09.22	Southern Coast, Jeju	33	0 (0/0)	728
2	Torrential rainfall (Jul.2024)	2024.07.16-2024.07.20	Seoul, Gyeonggi	9	6 (6/0)	1,616
3	Typhoon Khanun (Aug. 2023)	2023.08.09-2023.08.11	Nationwide	24	1 (1/0)	668
4	Torrential rainfall (late Jun.–late Jul. 2023)	2023.06.27-2023.07.27	Nationwide	59	50 (47/3)	7,513
5	Typhoon Hinnamnor (Sep. 2022)	2022.08.28-2022.09.06	Nationwide	21	11 (11/0)	2,128
6	Torrential rainfall (Aug. 2022)	2022.08.08-2022.08.17	Seoul, Gyeonggi, Gangwon, Chungnam	22	19 (17/2)	3,155
7	Torrential rainfall (Jul. 2021)	2021.07.05-2021.07.08	Southern Coast of Jeonnam	14	3 (3/0)	355
8	Typhoon Haishen (Sep. 2020)	2020.09.01-2020.09.07	Nationwide	9	1 (1/0)	1,026
9	Typhoon Maysak (Sep. 2020)	2020.08.28-2020.09.03	Nationwide	8	1(1/0)	1,188
10	Torrential rainfall (late Jul.–early Aug. 2020)	2020.07.28-2020.08.11	Nationwide	43	39 (36/3)	10,371
11	Typhoon Mitag (Oct. 2019)	2019.09.28-2019.10.03	Nationwide (except: Seoul, Incheon,	24	14 (14/0)	1,677

	Disaster Name	Period	Region	Stations ¹	Casualties ²	Damages ³
			Daejeon, Sejong)			
12	Typhoon Kongrey (Oct. 2018)	2018.10.04-2018.10.07	Jeonnam, Gyeongbuk, Gyeongnam	17	2 (2/0)	549
13	Torrential rainfall (late Aug. –early Sep. 2018)	2018.08.26-2018.09.01	Gyeonggi	32	2 (2/0)	414
14	Typhoon Soulik (Sep. 2018)	2018.08.23-2018.08.24	Jeonnam, Gyeonggi, Gyeongnam	5	0 (0/0)	93
15	Typhoon Prapiroon (late Jun. – early Jul. 2018)	2018.06.26-2018.07.04	Jeonnam	23	1 (1/0)	64
16	Torrential rainfall (Jul. 2017)	2017.07.14-2017.07.16	Chungbuk, Chungnam	3	5 (5/0)	156
17	Typhoon Chaba (Oct. 2016)	2016.10.03-2016.10.06	Gyeongnam, Ulsan, Busan, Gyeongbuk, Jeju, Jeonnam, Jeonbuk, Incheon	9	9 (9/0)	1,859
18	Torrential rainfall (Aug. 2014)	2014.08.25	Busan, Gyeongnam	3	2 (2/0)	1,342
19	Torrential rainfall (Jul. 2013)	2013.07.22-2013.07.23	Gyeonggi	3	3 (3/0)	625
20	Torrential rainfall (Jul. 2013)	2013.07.11-2013.07.15	Gyeonggi, Gangwon	9	1 (1/0)	940
21	Typhoon Sanba (Sep. 2012)	2012.09.15-2012.09.17	Jeju, Jeonnam, Gyeongbuk, Gyeongnam, Gangwon	23	2 (2/0)	3,657
22	Typhoon Bolaven and Tembin (Aug. 2012)	2012.08.25-2012.08.30	Jeju, Jeonnam, Jeonbuk, Chungbuk, Chungnam	16	11 (11/0)	6,365
23	Torrential rainfall (Jul. 2011)	2011.07.26-2011.07.29	Seoul, Busan, Incheon, Gyeonggi, Gangwon	15	67 (67/0)	3,768

	Disaster Name	Period	Region	Stations ¹	Casualties ²	Damages ³
24	Typhoon Nari (Sep. 2007)	2007.09.13- 2007.09.17	Nationwide	12	16 (16/0)	1,591
25	Torrential rainfall and Typhoon Ewinia (Jul. 2006)	2006.07.09- 2006.07.29	Nationwide	84	62 (62/0)	18,344
26	Torrential rainfall (Aug. 2005)	2005.08.02- 2005.08.11	Gyeonggi, Chungbuk, Jeonbuk, Gyeongbuk, Gyeongnam	38	19 (19/0)	3,316
27	Typhoon Maemi (Sep. 2003)	2003.09.12- 2003.09.13	Nationwide (except: Seoul, Incheon)	29	131 (131/0)	42,224
28	Typhoon Rusa (late Aug. – early Sep. 2002)	2002.08.30- 2002.09.01	Nationwide	36	246 (246/0)	51,479
29	Torrential rainfall (Aug. 2002)	2002.08.04- 2002.08.11	Nationwide	53	23 (23/0)	9,181
30	Torrential rainfall (Aug. 2000)	2000.08.23- 2000.09.01	Nationwide	16	28 (28/0)	2,520
31	Typhoon Olga and Torrential rainfall (late Jul. –early Aug. 1999)	1999.07.23- 1999.08.04	Gyeonggi, Gangwon, Gyeongnam, Jeonnam, Jeju	52	67 (67/0)	10,490
32	Torrential rainfall (Aug. 1998)	1998.07.31- 1998.08.18	Seoul, Gyeonggi, Gangwon Chungbuk, Chungnam	36	324 (324/0)	12,478
33	Torrential rainfall (Jul. 1996)	1996.07.26- 1996.07.28	Gangwon, Gyeonggi	8	29 (29/0)	4,275
34	Typhoon Janis (Aug. 1995)	1995.08.19- 1995.08.30	Seoul, Gyeonggi, Gangwon, Chungnam, Chungbuk	49	65 (65/0)	4,562
35	Typhoon Gladys (Aug. 1991)	1991.08.22- 1991.08.26	Busan, Gangwon, Gyeongbuk, Gyeongnam	18	103 (74/29)	2,357
36	Torrential rainfall (Sep. 1990)	1990.09.09- 1990.09.12	Seoul, Gyeonggi, Gangwon,	31	163 (126/37)	5,203

	Disaster Name	Period	Region	Stations ¹	Casualties ²	Damages ³
			Chungbuk			

¹ Each station–date combination is counted as a separate case (886 cases in total). ² Casualties: deaths/missing persons. ³ Property damage in units of 100 million KRW. Sources: 2024 Disaster Yearbook (Ministry of the Interior and Safety, 2025); Water Disaster Status (<https://www.water.or.kr/>).

S1.3. Precipitation-Threshold Sensitivity Analysis

Section 3.3 of the main text adopts a daily-precipitation threshold of 110 mm to identify stations actually exposed to heavy rainfall within each broadly delineated damage zone. Here we assess the influence of that threshold choice on the damage-validation conclusions of Section 4.5. The analysis is repeated at daily-precipitation cutoffs of (i) no filter, (ii) 80 mm, (iii) 110 mm (the main-text default), and (iv) 150 mm. The 80 mm cutoff is non-binding—identical to no filter—because every retained damage-day record already exceeds 80 mm.

As the cutoff increases, both indices shift upward monotonically. The pooled median GEV-STRI rises from -0.26 at no filter to 0.16 at 150 mm, and the pooled median GPD-STRI from 0.28 to 0.56 . The fraction of events falling below the GPD threshold declines from 25.4% to 8.2%. The CV dependence and the relative GEV/GPD ordering are preserved, so the principal conclusions are insensitive to the choice of cutoff. Under the declustered, shape-regularized GPD, the damage-day GPD-STRI occupies a moderate range across cutoffs (pooled median 0.28 – 0.56), and only about 2% of station–CV combinations in the most catastrophic events attain the $z = 3.72$ cap. The 99.99-percentile saturation present in the pre-declustering analysis disappears.

Table S3. Damage-day STRI statistics by daily-precipitation cutoff (pooled across all nine CVs).

Cutoff	Retained events	Median GEV-STRI	Median GPD-STRI	GPD<u rate (%)	$z=3.72$ cap rate (%)
none (no filter)	1069	-0.26	0.28	25.4	≈ 2
80 mm	1069	-0.26	0.28	25.4	≈ 2
110 mm (default)	886	-0.04	0.35	21.3	≈ 2
150 mm	438	$+0.16$	0.56	8.2	≈ 2

Note: Event counts are 1069 under the no-filter and 80 mm cutoffs, 886 at 110 mm, and 438 at 150 mm. " ≈ 2 " is the approximate fraction of station–CV combinations reaching the $z = 3.72$ cap in the most catastrophic events.

S1.4. GEV Model-Selection Breakdown (cf. main-text Table 4, Sec. 4.4)

Table 4 of the main text reports the NS / S(LRT) / S(NS failed) / non-regular breakdown for the declustered GPD model. This section provides the parallel breakdown for the GEV branch. The GEV adoption sequence is structurally analogous to that of the GPD: non-stationary maximum-likelihood estimation (NS-MLE) is attempted only at cells whose inter-annual standard deviation of block minima exceeds 0.2 h, NS is adopted only when its shape passes the regularity filter $\xi(\text{NS}) \in (-1.2, 1)$ and the LRT rejects $H_0: \mu_1 = 0$ at the 5% level. The stationary branch uses L-moments and is not subject to a shape constraint. Cells in which the L-moments fit itself degenerates (fewer than five block minima or $\ell_2 \leq 0$) are flagged as non-regular (NR); GEV-STRI is reported as Not Available for those cells and the parallel GPD-STRI is used.

Table S4. GEV model-selection breakdown across 65 stations and 9 CVs.

CV (mm)	NS	S (LRT)	S (NS failed)	Non-regular (NR)	Total	NS rate (%)
10	0	0	65	0	65	0.0
20	2	7	56	0	65	3.1
30	2	23	40	0	65	3.1
40	4	22	39	0	65	6.2
50	2	21	42	0	65	3.1
60	3	13	49	0	65	4.6
70	3	14	48	0	65	4.6
80	1	10	54	0	65	1.5
90	1	4	60	0	65	1.5
Total	18	114	453	0	585	3.1

S1.5. Path A vs Path B Declustering Sensitivity

This section reports the sensitivity of the declustered GPD parameter estimates to the declustering scheme. Path A, adopted in the main text, applies the three-stage preprocessing of Section 2.2: rainy-day cluster identification, cluster-minimum extraction, and Ferro–Segers verification. Path B, the counterfactual, skips Stages 1–2 and applies Ferro–Segers declustering directly to the event-level daily M-IAT series. Both paths use the same threshold quantile $k = 0.92$.

Across all 585 station–CV combinations ($65 \text{ stations} \times 9 \text{ CVs}$), we report the absolute relative differences in the declustered sample size N_u and the L-moments scale $\hat{\sigma}$, and the absolute difference in the L-moments shape ξ . For $CV \leq 60 \text{ mm}$ the two paths produce differences within typical bootstrap standard error and are statistically indistinguishable. The divergence at $CV \geq 70 \text{ mm}$ reflects small-sample instability of the L-moments estimator under either declustering scheme at high thresholds, where Path A retains an additional advantage of CV-invariant cluster definition.

Table S5. Path A vs Path B parameter-estimate differences by CV (585 station–CV combinations).

CV (mm)	$ \Delta N_u /N_u$ median (%)	$ \Delta N_u /N_u$ Q75 (%)	$ \Delta N_u /N_u$ max (%)	$ \Delta \hat{\sigma} /\hat{\sigma}$ median (%)	$ \Delta \hat{\sigma} /\hat{\sigma}$ Q75 (%)	$ \Delta \hat{\sigma} /\hat{\sigma}$ max (%)	$ \Delta \xi $ median	$ \Delta \xi $ Q75	$ \Delta \xi $ max
10	1.89	3.07	6.02	1.9	3.43	6.7	0.022	0.036	0.079
20	1.52	3.27	5.76	2.05	3.57	11.09	0.034	0.068	0.207
30	1.49	2.58	6.74	1.64	2.67	6.77	0.03	0.044	0.119
40	1.5	2.39	8.15	1.49	2.43	7.94	0.026	0.046	0.168
50	1.39	2.27	5.92	1.76	2.82	6.2	0.033	0.056	0.141
60	1.03	2.11	7.23	1.84	2.99	32.59	0.044	0.074	0.848
70	1.31	3.41	19.09	2.84	5.3	80.82	0.073	0.138	1.536
80	4.24	10.4	27.12	8.31	34.01	59.42	0.27	0.827	1.437
90	11.61	17.36	28.09	30.14	45.09	87.53	0.675	0.968	1.931
All	1.78	3.55	28.09	2.42	4.82	87.53	0.043	0.108	1.931

S1.6. GEV Parameter Estimates Summary (per CV)

Summary of the per-CV distribution of the adopted GEV parameter estimates across the 65 stations under the declustered, shape-regularized hybrid stationary/non-stationary fits. Stationary fits are obtained by L-moments (Hosking, 1990; Hosking and Wallis, 1997) without any shape constraint on ξ . Non-stationary fits are estimated under the time-linear location $\mu(t) = \mu_0 + \mu_1 t$ of Eq. (8a) and adopted only at cells whose shape passes the regularity filter $\xi \in (-1.2, 1)$ and where the LRT rejects $H_0: \mu_1 = 0$ at the 5% level. The complete per-station parameter set is available in the CSV file `gev_unified_S_vs_NS_0521_A1.csv` listed in the Data Availability statement of the main paper.

Table S6. CV-wise summary of adopted GEV parameter estimates (median [Q25, Q75]) across the 65-station pool.

CV (mm)	Total	NS adopted	μ median	μ IQR	σ median	σ IQR	ξ median	ξ IQR
10	65	0	1999.702	(1999.652, 1999.718)	0.099	(0.087, 0.113)	-0.499	(-0.664, -0.433)
20	65	2	1999.410	(1999.306, 1999.435)	0.204	(0.176, 0.260)	-0.613	(-0.803, -0.463)
30	65	2	1999.035	(1998.816, 1999.135)	0.500	(0.373, 0.640)	-1.000	(-1.000, -0.735)
40	65	4	1998.425	(1997.924, 1998.648)	1.003	(0.754, 1.255)	-1.000	(-1.000, -0.821)
50	65	2	1997.514	(1996.996, 1998.005)	1.729	(1.298, 2.283)	-1.000	(-1.000, -0.872)
60	65	3	1996.332	(1995.534, 1996.889)	3.010	(2.170, 3.524)	-1.000	(-1.000, -0.909)
70	65	3	1994.453	(1993.206, 1995.583)	4.561	(3.521, 5.625)	-1.000	(-1.000, -0.952)

CV (mm)	Total	NS adopted	μ median	μ IQR	σ median	σ IQR	ξ median	ξ IQR
80	65	1	1992.173	(1990.724, 1993.943)	6.715	(4.991, 10.099)	-1.000	(-1.000, -1.000)
90	65	1	1989.558	(1987.547, 1992.076)	9.409	(7.213, 12.841)	-1.000	(-1.000, -1.000)

S1.7. Declustered GPD Parameter Estimates Summary (per CV)

Summary of the per-CV distribution of the adopted GPD parameter estimates across the 65 stations under the declustered, shape-regularized hybrid stationary/non-stationary fits. Stationary fits are obtained by L-moments on the rainy-cluster minimum series. Non-stationary fits are estimated under the time-linear log-scale $\log \sigma_u(t) = \beta_0 + \beta_1 t$ of Eq. (8b) and adopted only at cells whose shape passes the regularity filter and where the LRT rejects $H_0: \beta_1 = 0$ at the 5% level. The complete per-station parameter set is available in `gpd_unified_S_vs_NS_0521.csv`.

Table S7. CV-wise summary of adopted GPD parameter estimates (declustered stationary fits; 65-station pool).

CV (mm)	Cells	u median	N_u median	θ median	σ median	σ IQR	ξ median	ξ IQR
10	65	1999.43	160	0.947	0.293	(0.273, 0.342)	-0.745	(-0.838, -0.644)
20	65	1999.01	114	1.000	0.449	(0.420, 0.542)	-0.739	(-0.876, -0.602)
30	65	1998.21	79	1.000	1.118	(0.489, 1.355)	-0.811	(-0.946, -0.712)
40	65	1997.68	68	1.000	1.698	(1.301, 2.161)	-0.868	(-0.941, -0.764)
50	65	1996.80	54	1.000	2.138	(1.820, 2.578)	-0.788	(-0.935, -0.697)
60	65	1995.83	45	1.000	2.766	(2.311, 3.195)	-0.770	(-0.918, -0.670)
70	65	1994.96	39	1.000	3.109	(2.459, 3.917)	-0.803	(-0.890, -0.593)
80	65	1994.02	32	1.000	3.667	(2.915, 3.917)	-0.725	(-0.909, -0.541)

CV (mm)	Cells	u median	N_u median	θ median	$\hat{\sigma}$ median	$\hat{\sigma}$ IQR	ξ median	ξ IQR
						4.444)		0.578)
90	65	1992.85	28	1.000	4.195	(3.559, 5.723)	-0.715	(-0.893, - 0.561)

S1.8. Adopted GEV Parameter Estimates — All 65 Stations

Table S8 lists the adopted GEV parameter estimates for each of the 585 station–CV combinations (65 stations $\times$ 9 CVs). The adopted model is determined by the mixed-model framework (main text Secs. 2.4 and 4.4): non-stationary (MLE) when the LRT rejects $H_0: \mu_1=0$ at 5% and the shape is regular; stationary (L-moments) otherwise. Non-regular/excluded combinations (n=15) have no adopted parameters (—).

Table S8. Adopted GEV parameter estimates for all 65 stations and 9 CVs (585 combinations). S = stationary L-moments; NS = non-stationary MLE; excl. = non-regular/excluded.

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
90	10	stationary (L-moments)	1999.650		0.124	-0.450
90	20	stationary (L-moments)	1999.300		0.292	-0.639
90	30	non-stationary (MLE)	1998.853	0.0082	0.543	-0.735
90	40	non-stationary (MLE)	1998.268	0.0102	0.955	-0.810
90	50	stationary (L-moments)	1997.490		1.298	-0.617
90	60	stationary (L-moments)	1996.705		1.890	-0.743
90	70	stationary (L-moments)	1995.852		2.600	-0.815
90	80	stationary (L-moments)	1994.334		3.371	-0.740
90	90	stationary (L-moments)	1992.962		4.608	-0.806
95	10	stationary (L-	1999.716		0.091	-0.473

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
95	20	stationary (L- moments)	1999.433		0.182	-0.473
95	30	stationary (L- moments)	1999.131		0.435	-0.994
95	40	stationary (L- moments)	1998.654		0.754	-0.870
95	50	stationary (L- moments)	1998.014		1.293	-0.915
95	60	stationary (L- moments)	1997.281		1.994	-1.000
95	70	stationary (L- moments)	1995.777		3.869	-1.000
95	80	stationary (L- moments)	1994.120		5.599	-1.000
95	90	stationary (L- moments)	1990.799		10.059	-1.000
100	10	stationary (L- moments)	1999.608		0.138	-0.503
100	20	stationary (L- moments)	1999.214		0.334	-0.724
100	30	stationary (L- moments)	1998.651		0.672	-0.706

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
100	40	stationary (L-moments)	1997.849		1.117	-0.622
100	50	stationary (L-moments)	1996.760		1.662	-0.546
100	60	stationary (L-moments)	1995.613		2.504	-0.652
100	70	stationary (L-moments)	1993.988		3.341	-0.597
100	80	stationary (L-moments)	1992.637		3.960	-0.570
100	90	non-stationary (MLE)	1991.409	-0.1293	6.281	-1.000
101	10	stationary (L-moments)	1999.706		0.084	-0.796
101	20	stationary (L-moments)	1999.413		0.175	-0.870
101	30	stationary (L-moments)	1999.058		0.393	-1.000
101	40	stationary (L-moments)	1998.435		0.959	-1.000
101	50	stationary (L-moments)	1997.412		1.727	-1.000
101	60	stationary (L-	1996.360		2.527	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
101	70	stationary (L- moments)	1994.331		4.874	-1.000
101	80	stationary (L- moments)	1990.995		9.165	-1.000
101	90	stationary (L- moments)	1989.715		9.650	-1.000
105	10	stationary (L- moments)	1999.643		0.112	-0.219
105	20	stationary (L- moments)	1999.285		0.239	-0.277
105	30	stationary (L- moments)	1998.698		0.642	-0.488
105	40	stationary (L- moments)	1997.916		1.220	-0.561
105	50	stationary (L- moments)	1996.996		2.036	-0.691
105	60	stationary (L- moments)	1995.617		3.104	-0.678
105	70	stationary (L- moments)	1994.453		4.271	-0.806
105	80	non- stationary (MLE)	1992.928	-0.0184	7.269	-1.169

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
105	90	stationary (L-moments)	1990.055		9.753	-1.000
108	10	stationary (L-moments)	1999.742		0.089	-0.613
108	20	stationary (L-moments)	1999.485		0.177	-0.613
108	30	stationary (L-moments)	1999.216		0.373	-1.000
108	40	stationary (L-moments)	1998.817		0.698	-1.000
108	50	stationary (L-moments)	1998.055		1.625	-1.000
108	60	stationary (L-moments)	1996.913		3.094	-1.000
108	70	stationary (L-moments)	1995.583		4.386	-1.000
108	80	stationary (L-moments)	1993.725		6.250	-1.000
108	90	stationary (L-moments)	1992.019		8.314	-1.000
112	10	stationary (L-moments)	1999.713		0.104	-0.499
112	20	stationary (L-	1999.426		0.208	-0.499

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
112	30	stationary (L- moments)	1999.078		0.564	-1.000
112	40	stationary (L- moments)	1998.556		1.012	-1.000
112	50	stationary (L- moments)	1997.625		2.231	-1.000
112	60	stationary (L- moments)	1996.353		3.709	-1.000
112	70	stationary (L- moments)	1994.755		5.625	-1.000
112	80	stationary (L- moments)	1992.288		8.536	-1.000
112	90	stationary (L- moments)	1987.537		15.273	-1.000
114	10	stationary (L- moments)	1999.714		0.069	-0.341
114	20	stationary (L- moments)	1999.428		0.137	-0.341
114	30	stationary (L- moments)	1999.136		0.284	-0.682
114	40	stationary (L- moments)	1998.584		0.615	-0.627

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
114	50	non-stationary (MLE)	1998.128	-0.0058	1.111	-1.043
114	60	stationary (L-moments)	1996.332		3.121	-1.000
114	70	stationary (L-moments)	1994.611		4.611	-1.000
114	80	stationary (L-moments)	1992.173		7.368	-1.000
114	90	stationary (L-moments)	1987.903		13.170	-1.000
115	10	stationary (L-moments)	1999.649		0.109	-0.498
115	20	stationary (L-moments)	1999.300		0.269	-0.763
115	30	stationary (L-moments)	1998.792		0.703	-1.000
115	40	stationary (L-moments)	1997.800		1.451	-0.936
115	50	stationary (L-moments)	1996.686		2.360	-1.000
115	60	stationary (L-moments)	1995.327		3.381	-1.000
115	70	stationary (L-	1993.608		4.553	-0.911

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
115	80	stationary (L- moments)	1991.037		7.324	-1.000
115	90	stationary (L- moments)	1985.844		12.903	-1.000
119	10	stationary (L- moments)	1999.728		0.081	-0.462
119	20	stationary (L- moments)	1999.456		0.161	-0.462
119	30	stationary (L- moments)	1999.180		0.285	-0.636
119	40	stationary (L- moments)	1998.670		0.646	-0.694
119	50	stationary (L- moments)	1998.058		0.937	-0.565
119	60	stationary (L- moments)	1997.265		1.441	-0.586
119	70	stationary (L- moments)	1995.793		3.400	-1.000
119	80	stationary (L- moments)	1993.943		5.311	-1.000
119	90	stationary (L- moments)	1991.614		8.077	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
127	10	stationary (L-moments)	1999.712		0.088	-0.790
127	20	stationary (L-moments)	1999.424		0.177	-0.803
127	30	stationary (L-moments)	1999.108		0.351	-1.000
127	40	stationary (L-moments)	1998.460		0.698	-0.688
127	50	stationary (L-moments)	1997.591		1.618	-1.000
127	60	stationary (L-moments)	1996.210		2.657	-1.000
127	70	stationary (L-moments)	1994.094		4.983	-1.000
127	80	stationary (L-moments)	1992.450		6.188	-1.000
127	90	stationary (L-moments)	1987.376		12.325	-1.000
129	10	stationary (L-moments)	1999.706		0.127	-0.532
129	20	non-stationary (MLE)	1999.435	0.0039	0.268	-0.782
129	30	stationary (L-	1999.072		0.595	-0.973

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
129	40	non-stationary (MLE)	1998.667	0.0080	0.890	-1.021
129	50	stationary (L-moments)	1997.666		2.282	-1.000
129	60	stationary (L-moments)	1996.680		3.452	-1.000
129	70	stationary (L-moments)	1996.289		2.546	-0.793
129	80	stationary (L-moments)	1994.812		4.674	-1.000
129	90	stationary (L-moments)	1992.348		7.952	-1.000
130	10	stationary (L-moments)	1999.568		0.140	-0.327
130	20	stationary (L-moments)	1999.110		0.409	-0.670
130	30	stationary (L-moments)	1998.478		0.927	-0.891
130	40	stationary (L-moments)	1997.641		1.573	-1.000
130	50	stationary (L-moments)	1996.562		2.326	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
130	60	stationary (L- moments)	1995.161		3.337	-1.000
130	70	stationary (L- moments)	1993.803		4.096	-1.000
130	80	stationary (L- moments)	1991.428		6.237	-1.000
130	90	stationary (L- moments)	1988.060		9.656	-1.000
131	10	stationary (L- moments)	1999.688		0.138	-0.796
131	20	stationary (L- moments)	1999.376		0.309	-0.945
131	30	stationary (L- moments)	1998.965		0.623	-1.000
131	40	stationary (L- moments)	1998.425		1.103	-1.000
131	50	stationary (L- moments)	1997.514		1.923	-1.000
131	60	stationary (L- moments)	1995.846		3.800	-1.000
131	70	stationary (L- moments)	1993.043		7.540	-1.000
131	80	stationary (L-	1990.912		10.300	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
131	90	stationary (L- moments)	1990.129		9.785	-1.000
133	10	stationary (L- moments)	1999.711		0.097	-0.572
133	20	stationary (L- moments)	1999.421		0.195	-0.573
133	30	stationary (L- moments)	1999.063		0.518	-1.000
133	40	stationary (L- moments)	1998.471		1.052	-1.000
133	50	stationary (L- moments)	1997.300		2.474	-1.000
133	60	stationary (L- moments)	1996.021		3.778	-1.000
133	70	stationary (L- moments)	1994.627		4.967	-1.000
133	80	stationary (L- moments)	1991.270		8.607	-0.986
133	90	stationary (L- moments)	1984.185		18.504	-1.000
135	10	stationary (L- moments)	1999.613		0.115	-0.542

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
135	20	stationary (L-moments)	1999.228		0.272	-0.757
135	30	stationary (L-moments)	1998.644		0.672	-0.857
135	40	stationary (L-moments)	1997.776		1.293	-0.917
135	50	stationary (L-moments)	1996.443		2.530	-1.000
135	60	stationary (L-moments)	1994.358		4.492	-1.000
135	70	stationary (L-moments)	1992.068		6.102	-0.923
135	80	stationary (L-moments)	1987.465		11.925	-1.000
135	90	stationary (L-moments)	1985.570		12.841	-1.000
136	10	stationary (L-moments)	1999.594		0.103	-0.258
136	20	stationary (L-moments)	1999.184		0.247	-0.432
136	30	stationary (L-moments)	1998.454		0.679	-0.527
136	40	stationary (L-	1997.548		1.500	-0.922

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
136	50	stationary (L- moments)	1996.419		2.387	-0.960
136	60	stationary (L- moments)	1994.564		3.117	-0.846
136	70	stationary (L- moments)	1991.245		5.832	-1.000
136	80	stationary (L- moments)	1985.674		11.581	-1.000
136	90	stationary (L- moments)	1981.796		15.470	-1.000
138	10	stationary (L- moments)	1999.577		0.170	-0.393
138	20	stationary (L- moments)	1999.137		0.449	-0.664
138	30	stationary (L- moments)	1998.573		0.827	-0.696
138	40	stationary (L- moments)	1997.774		1.353	-0.669
138	50	stationary (L- moments)	1996.655		2.241	-0.702
138	60	stationary (L- moments)	1995.534		3.339	-0.827

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
138	70	stationary (L-moments)	1992.943		6.784	-1.000
138	80	stationary (L-moments)	1988.346		13.338	-1.000
138	90	stationary (L-moments)	1983.924		18.315	-1.000
140	10	stationary (L-moments)	1999.707		0.096	-0.560
140	20	stationary (L-moments)	1999.414		0.194	-0.574
140	30	stationary (L-moments)	1999.100		0.395	-0.869
140	40	stationary (L-moments)	1998.477		0.942	-0.936
140	50	stationary (L-moments)	1997.738		1.472	-0.907
140	60	stationary (L-moments)	1996.062		3.626	-1.000
140	70	stationary (L-moments)	1992.339		9.227	-1.000
140	80	stationary (L-moments)	1989.269		13.183	-1.000
140	90	stationary (L-	1987.698		14.003	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
143	10	stationary (L- moments)	1999.640		0.100	-0.331
143	20	stationary (L- moments)	1999.280		0.204	-0.345
143	30	stationary (L- moments)	1998.785		0.728	-1.000
143	40	stationary (L- moments)	1997.735		1.863	-1.000
143	50	stationary (L- moments)	1996.796		2.031	-0.815
143	60	stationary (L- moments)	1994.656		3.663	-0.736
143	70	stationary (L- moments)	1992.285		6.365	-1.000
143	80	stationary (L- moments)	1988.822		10.099	-1.000
143	90	stationary (L- moments)	1984.166		14.837	-1.000
146	10	stationary (L- moments)	1999.701		0.086	-0.375
146	20	stationary (L- moments)	1999.402		0.171	-0.375

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
146	30	stationary (L-moments)	1999.030		0.545	-1.000
146	40	stationary (L-moments)	1998.132		1.580	-1.000
146	50	stationary (L-moments)	1997.151		2.376	-1.000
146	60	stationary (L-moments)	1994.670		5.892	-1.000
146	70	stationary (L-moments)	1993.941		5.660	-1.000
146	80	stationary (L-moments)	1989.930		10.948	-1.000
146	90	stationary (L-moments)	1986.041		15.003	-1.000
152	10	stationary (L-moments)	1999.652		0.127	-0.673
152	20	stationary (L-moments)	1999.305		0.311	-0.954
152	30	stationary (L-moments)	1998.840		0.654	-1.000
152	40	stationary (L-moments)	1998.149		1.018	-0.820
152	50	stationary (L-	1997.294		1.729	-0.887

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
152	60	stationary (L- moments)	1995.962		3.330	-1.000
152	70	stationary (L- moments)	1993.973		5.618	-1.000
152	80	stationary (L- moments)	1991.458		8.789	-1.000
152	90	stationary (L- moments)	1991.117		7.993	-1.000
156	10	stationary (L- moments)	1999.728		0.081	-0.433
156	20	stationary (L- moments)	1999.455		0.163	-0.433
156	30	stationary (L- moments)	1999.181		0.385	-1.000
156	40	stationary (L- moments)	1998.743		0.733	-1.000
156	50	stationary (L- moments)	1997.879		1.771	-1.000
156	60	stationary (L- moments)	1996.399		3.520	-1.000
156	70	stationary (L- moments)	1992.905		9.021	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
156	80	stationary (L- moments)	1990.922		10.937	-1.000
156	90	stationary (L- moments)	1991.641		7.558	-1.000
159	10	stationary (L- moments)	1999.746		0.105	-0.585
159	20	stationary (L- moments)	1999.492		0.211	-0.585
159	30	stationary (L- moments)	1999.179		0.540	-1.000
159	40	stationary (L- moments)	1998.788		0.874	-1.000
159	50	stationary (L- moments)	1998.308		1.297	-1.000
159	60	stationary (L- moments)	1997.613		1.774	-0.940
159	70	stationary (L- moments)	1996.500		2.872	-0.917
159	80	stationary (L- moments)	1995.387		3.844	-0.917
159	90	stationary (L- moments)	1993.012		7.195	-1.000
162	10	stationary (L-	1999.731		0.112	-0.711

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
162	20	stationary (L- moments)	1999.466		0.248	-0.875
162	30	stationary (L- moments)	1999.172		0.458	-1.000
162	40	non- stationary (MLE)	1998.607	-0.0040	0.994	-1.145
162	50	stationary (L- moments)	1998.012		1.288	-0.810
162	60	non- stationary (MLE)	1997.538	-0.0060	1.823	-1.089
162	70	non- stationary (MLE)	1996.845	-0.0092	2.455	-1.101
162	80	stationary (L- moments)	1995.735		2.969	-0.911
162	90	stationary (L- moments)	1994.749		3.905	-1.000
165	10	stationary (L- moments)	1999.677		0.080	-0.558
165	20	stationary (L- moments)	1999.355		0.166	-0.607
165	30	stationary (L- moments)	1998.947		0.459	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
165	40	stationary (L-moments)	1998.180		0.973	-0.911
165	50	stationary (L-moments)	1996.997		1.609	-0.720
165	60	stationary (L-moments)	1995.707		2.610	-0.824
165	70	stationary (L-moments)	1993.661		4.896	-1.000
165	80	stationary (L-moments)	1989.924		8.830	-1.000
165	90	stationary (L-moments)	1984.787		15.533	-1.000
168	10	stationary (L-moments)	1999.734		0.076	-0.633
168	20	stationary (L-moments)	1999.468		0.152	-0.633
168	30	stationary (L-moments)	1999.201		0.267	-0.835
168	40	stationary (L-moments)	1998.739		0.591	-0.843
168	50	non-stationary (MLE)	1998.239	0.0167	0.806	-0.847
168	60	stationary (L-	1997.441		1.107	-0.655

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
168	70	non-stationary (MLE)	1996.610	0.0398	1.516	-0.705
168	80	stationary (L-moments)	1995.547		1.862	-0.530
168	90	stationary (L-moments)	1994.461		3.193	-0.916
170	10	stationary (L-moments)	1999.729		0.073	-0.475
170	20	stationary (L-moments)	1999.458		0.145	-0.475
170	30	stationary (L-moments)	1999.186		0.259	-0.669
170	40	stationary (L-moments)	1998.711		0.721	-1.000
170	50	stationary (L-moments)	1998.065		0.969	-0.691
170	60	stationary (L-moments)	1997.240		1.607	-0.909
170	70	stationary (L-moments)	1996.281		2.497	-1.000
170	80	stationary (L-moments)	1995.258		3.319	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
170	90	stationary (L- moments)	1994.062		3.317	-0.779
184	10	stationary (L- moments)	1999.712		0.102	-0.463
184	20	stationary (L- moments)	1999.425		0.204	-0.463
184	30	stationary (L- moments)	1999.075		0.566	-1.000
184	40	stationary (L- moments)	1998.315		1.474	-1.000
184	50	stationary (L- moments)	1997.433		2.392	-1.000
184	60	stationary (L- moments)	1996.329		3.572	-1.000
184	70	stationary (L- moments)	1994.179		6.615	-1.000
184	80	stationary (L- moments)	1991.540		10.383	-1.000
184	90	stationary (L- moments)	1989.210		13.242	-1.000
188	10	stationary (L- moments)	1999.806		0.074	-0.714
188	20	stationary (L-	1999.612		0.148	-0.714

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
188	30	stationary (L- moments)	1999.424		0.259	-0.972
188	40	stationary (L- moments)	1999.210		0.395	-1.000
188	50	stationary (L- moments)	1998.887		0.688	-1.000
188	60	stationary (L- moments)	1998.474		1.070	-1.000
188	70	stationary (L- moments)	1997.954		1.533	-1.000
188	80	stationary (L- moments)	1997.131		2.277	-1.000
188	90	stationary (L- moments)	1994.706		6.356	-1.000
189	10	stationary (L- moments)	1999.763		0.067	-0.276
189	20	stationary (L- moments)	1999.526		0.134	-0.276
189	30	stationary (L- moments)	1999.288		0.200	-0.276
189	40	stationary (L- moments)	1998.952		0.604	-0.953

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
189	50	stationary (L-moments)	1998.538		0.971	-1.000
189	60	stationary (L-moments)	1997.898		1.661	-1.000
189	70	stationary (L-moments)	1995.821		5.225	-1.000
189	80	stationary (L-moments)	1994.877		5.895	-1.000
189	90	stationary (L-moments)	1995.645		3.612	-1.000
192	10	stationary (L-moments)	1999.718		0.095	-0.722
192	20	stationary (L-moments)	1999.435		0.190	-0.722
192	30	stationary (L-moments)	1999.058		0.499	-1.000
192	40	stationary (L-moments)	1998.514		1.013	-1.000
192	50	stationary (L-moments)	1997.834		1.532	-1.000
192	60	stationary (L-moments)	1996.889		2.029	-0.941
192	70	stationary (L-	1995.566		2.869	-0.811

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
192	80	stationary (L- moments)	1991.863		8.656	-1.000
192	90	stationary (L- moments)	1992.076		6.907	-1.000
201	10	stationary (L- moments)	1999.734		0.088	-0.450
201	20	stationary (L- moments)	1999.468		0.176	-0.450
201	30	stationary (L- moments)	1999.196		0.338	-0.712
201	40	stationary (L- moments)	1998.653		1.003	-1.000
201	50	stationary (L- moments)	1998.152		1.449	-1.000
201	60	stationary (L- moments)	1996.714		3.341	-1.000
201	70	stationary (L- moments)	1995.445		4.933	-1.000
201	80	stationary (L- moments)	1993.994		6.491	-1.000
201	90	stationary (L- moments)	1992.102		8.783	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
202	10	stationary (L-moments)	1999.708		0.106	-0.565
202	20	stationary (L-moments)	1999.416		0.218	-0.598
202	30	stationary (L-moments)	1999.108		0.470	-1.000
202	40	stationary (L-moments)	1998.613		0.898	-1.000
202	50	stationary (L-moments)	1997.979		1.495	-1.000
202	60	stationary (L-moments)	1997.084		2.356	-1.000
202	70	stationary (L-moments)	1995.814		3.719	-1.000
202	80	stationary (L-moments)	1993.932		6.121	-1.000
202	90	stationary (L-moments)	1993.266		6.362	-1.000
203	10	stationary (L-moments)	1999.724		0.101	-0.801
203	20	stationary (L-moments)	1999.450		0.213	-0.892
203	30	stationary (L-	1999.168		0.357	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
203	40	stationary (L- moments)	1998.726		0.690	-1.000
203	50	stationary (L- moments)	1998.070		1.200	-1.000
203	60	stationary (L- moments)	1996.835		2.544	-1.000
203	70	stationary (L- moments)	1995.063		4.707	-1.000
203	80	stationary (L- moments)	1993.601		6.053	-1.000
203	90	stationary (L- moments)	1991.302		8.179	-1.000
211	10	stationary (L- moments)	1999.642		0.115	-0.408
211	20	stationary (L- moments)	1999.285		0.269	-0.592
211	30	stationary (L- moments)	1998.746		0.804	-1.000
211	40	stationary (L- moments)	1997.881		1.334	-0.876
211	50	stationary (L- moments)	1997.066		2.089	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
211	60	stationary (L- moments)	1995.890		2.947	-1.000
211	70	stationary (L- moments)	1994.039		5.143	-1.000
211	80	stationary (L- moments)	1991.100		8.596	-1.000
211	90	stationary (L- moments)	1989.487		10.730	-1.000
212	10	stationary (L- moments)	1999.692		0.083	-0.251
212	20	stationary (L- moments)	1999.383		0.166	-0.251
212	30	stationary (L- moments)	1999.051		0.488	-0.965
212	40	stationary (L- moments)	1998.401		1.012	-0.898
212	50	stationary (L- moments)	1997.647		1.599	-0.947
212	60	stationary (L- moments)	1996.427		2.754	-1.000
212	70	stationary (L- moments)	1994.997		3.966	-1.000
212	80	stationary (L-	1992.586		6.905	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
212	90	stationary (L- moments)	1989.558		10.563	-1.000
216	10	stationary (L- moments)	1999.637		0.115	-0.492
216	20	stationary (L- moments)	1999.272		0.258	-0.625
216	30	stationary (L- moments)	1998.766		0.538	-0.637
216	40	stationary (L- moments)	1997.659		1.340	-0.659
216	50	stationary (L- moments)	1996.623		2.284	-0.858
216	60	stationary (L- moments)	1995.210		3.190	-0.876
216	70	stationary (L- moments)	1993.504		4.050	-0.785
216	80	stationary (L- moments)	1991.315		5.766	-0.806
216	90	stationary (L- moments)	1989.184		7.213	-0.773
221	10	stationary (L- moments)	1999.701		0.087	-0.663

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
221	20	stationary (L-moments)	1999.407		0.202	-0.891
221	30	stationary (L-moments)	1999.016		0.500	-1.000
221	40	stationary (L-moments)	1998.381		1.082	-1.000
221	50	stationary (L-moments)	1997.726		1.539	-1.000
221	60	stationary (L-moments)	1996.357		3.051	-1.000
221	70	stationary (L-moments)	1994.908		4.473	-1.000
221	80	stationary (L-moments)	1993.518		5.747	-1.000
221	90	stationary (L-moments)	1991.045		8.843	-1.000
226	10	stationary (L-moments)	1999.708		0.094	-0.566
226	20	stationary (L-moments)	1999.416		0.188	-0.566
226	30	stationary (L-moments)	1999.066		0.493	-1.000
226	40	stationary (L-	1998.425		1.103	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
226	50	stationary (L- moments)	1997.004		2.525	-1.000
226	60	stationary (L- moments)	1994.389		5.454	-1.000
226	70	stationary (L- moments)	1991.263		8.875	-1.000
226	80	stationary (L- moments)	1985.475		16.138	-1.000
226	90	stationary (L- moments)	1983.917		16.384	-1.000
232	10	stationary (L- moments)	1999.694		0.070	-0.195
232	20	stationary (L- moments)	1999.388		0.139	-0.195
232	30	stationary (L- moments)	1999.069		0.347	-0.687
232	40	stationary (L- moments)	1998.475		0.750	-0.704
232	50	stationary (L- moments)	1997.336		2.326	-1.000
232	60	stationary (L- moments)	1996.478		2.884	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
232	70	stationary (L- moments)	1995.501		3.597	-1.000
232	80	stationary (L- moments)	1994.510		4.222	-1.000
232	90	stationary (L- moments)	1993.123		5.160	-1.000
235	10	stationary (L- moments)	1999.721		0.113	-0.628
235	20	stationary (L- moments)	1999.445		0.260	-0.833
235	30	stationary (L- moments)	1999.135		0.490	-1.000
235	40	stationary (L- moments)	1998.648		0.911	-1.000
235	50	stationary (L- moments)	1996.828		3.894	-1.000
235	60	stationary (L- moments)	1994.349		7.433	-1.000
235	70	stationary (L- moments)	1995.130		4.561	-1.000
235	80	stationary (L- moments)	1992.344		7.818	-1.000
235	90	stationary (L-	1988.406		12.843	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
236	10	stationary (L- moments)	1999.716		0.096	-0.393
236	20	stationary (L- moments)	1999.433		0.192	-0.393
236	30	stationary (L- moments)	1999.132		0.399	-0.712
236	40	stationary (L- moments)	1998.621		0.854	-0.860
236	50	stationary (L- moments)	1997.851		1.803	-1.000
236	60	stationary (L- moments)	1996.587		3.375	-1.000
236	70	stationary (L- moments)	1995.573		4.338	-1.000
236	80	stationary (L- moments)	1993.085		7.444	-1.000
236	90	stationary (L- moments)	1991.271		9.088	-1.000
238	10	stationary (L- moments)	1999.677		0.087	-0.319
238	20	stationary (L- moments)	1999.354		0.173	-0.319

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
238	30	stationary (L-moments)	1998.961		0.424	-0.645
238	40	stationary (L-moments)	1998.308		0.794	-0.575
238	50	stationary (L-moments)	1997.481		1.446	-0.685
238	60	stationary (L-moments)	1996.307		2.830	-1.000
238	70	stationary (L-moments)	1994.541		4.678	-1.000
238	80	stationary (L-moments)	1990.433		10.522	-1.000
238	90	stationary (L-moments)	1986.273		15.603	-1.000
243	10	stationary (L-moments)	1999.677		0.087	-0.316
243	20	stationary (L-moments)	1999.354		0.175	-0.316
243	30	non-stationary (MLE)	1998.986	0.0114	0.330	-0.526
243	40	stationary (L-moments)	1998.368		0.814	-0.676
243	50	stationary (L-	1997.590		1.671	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
243	60	stationary (L- moments)	1996.522		2.673	-1.000
243	70	stationary (L- moments)	1994.396		5.102	-1.000
243	80	stationary (L- moments)	1993.225		4.682	-0.708
243	90	stationary (L- moments)	1988.170		12.468	-1.000
244	10	stationary (L- moments)	1999.702		0.099	-0.673
244	20	stationary (L- moments)	1999.410		0.240	-0.977
244	30	stationary (L- moments)	1998.971		0.621	-1.000
244	40	stationary (L- moments)	1998.393		1.149	-1.000
244	50	stationary (L- moments)	1997.361		1.964	-1.000
244	60	stationary (L- moments)	1996.019		3.162	-1.000
244	70	stationary (L- moments)	1994.371		4.704	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
244	80	stationary (L- moments)	1989.861		10.670	-1.000
244	90	stationary (L- moments)	1989.392		9.329	-1.000
245	10	stationary (L- moments)	1999.703		0.102	-0.448
245	20	stationary (L- moments)	1999.407		0.219	-0.527
245	30	stationary (L- moments)	1999.031		0.512	-0.815
245	40	stationary (L- moments)	1998.455		1.138	-1.000
245	50	stationary (L- moments)	1997.719		1.754	-1.000
245	60	stationary (L- moments)	1996.462		2.579	-0.854
245	70	stationary (L- moments)	1993.206		7.942	-1.000
245	80	stationary (L- moments)	1989.970		12.040	-1.000
245	90	stationary (L- moments)	1988.897		12.127	-1.000
247	10	stationary (L-	1999.712		0.124	-0.799

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
247	20	stationary (L- moments)	1999.422		0.290	-1.000
247	30	stationary (L- moments)	1998.978		0.713	-1.000
247	40	stationary (L- moments)	1998.409		1.255	-1.000
247	50	stationary (L- moments)	1997.471		2.249	-1.000
247	60	stationary (L- moments)	1996.000		3.881	-1.000
247	70	stationary (L- moments)	1991.773		10.417	-1.000
247	80	stationary (L- moments)	1991.003		10.225	-1.000
247	90	stationary (L- moments)	1987.547		14.574	-1.000
248	10	stationary (L- moments)	1999.698		0.103	-0.813
248	20	stationary (L- moments)	1999.398		0.218	-0.912
248	30	stationary (L- moments)	1999.023		0.470	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
248	40	stationary (L-moments)	1998.467		0.920	-1.000
248	50	stationary (L-moments)	1997.647		1.512	-1.000
248	60	stationary (L-moments)	1996.565		2.170	-0.996
248	70	stationary (L-moments)	1995.176		3.142	-0.952
248	80	stationary (L-moments)	1993.588		3.846	-0.792
248	90	stationary (L-moments)	1991.485		5.840	-1.000
260	10	stationary (L-moments)	1999.733		0.075	-0.436
260	20	stationary (L-moments)	1999.465		0.151	-0.436
260	30	stationary (L-moments)	1999.196		0.256	-0.570
260	40	stationary (L-moments)	1998.770		0.539	-0.668
260	50	stationary (L-moments)	1998.207		0.973	-0.785
260	60	stationary (L-	1997.491		1.724	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
260	70	stationary (L- moments)	1996.436		2.253	-0.869
260	80	stationary (L- moments)	1995.332		2.921	-0.815
260	90	stationary (L- moments)	1993.636		5.131	-1.000
261	10	stationary (L- moments)	1999.705		0.075	-0.293
261	20	stationary (L- moments)	1999.410		0.151	-0.293
261	30	stationary (L- moments)	1999.104		0.327	-0.656
261	40	stationary (L- moments)	1998.568		0.681	-0.676
261	50	stationary (L- moments)	1997.981		0.954	-0.626
261	60	stationary (L- moments)	1997.226		1.444	-0.735
261	70	stationary (L- moments)	1996.217		1.958	-0.683
261	80	stationary (L- moments)	1994.168		4.681	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
261	90	stationary (L-moments)	1990.638		9.901	-1.000
262	10	stationary (L-moments)	1999.747		0.088	-0.475
262	20	stationary (L-moments)	1999.494		0.176	-0.475
262	30	stationary (L-moments)	1999.231		0.350	-0.776
262	40	stationary (L-moments)	1998.902		0.638	-0.972
262	50	stationary (L-moments)	1998.338		1.152	-0.968
262	60	non-stationary (MLE)	1997.739	0.0136	1.643	-1.028
262	70	stationary (L-moments)	1996.818		2.508	-0.978
262	80	stationary (L-moments)	1995.134		4.991	-1.000
262	90	stationary (L-moments)	1993.325		7.404	-1.000
271	10	stationary (L-moments)	1999.659		0.098	-0.493
271	20	stationary (L-	1999.317		0.199	-0.513

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
271	30	stationary (L- moments)	1998.782		0.750	-1.000
271	40	stationary (L- moments)	1995.625		5.920	-1.000
271	50	stationary (L- moments)	1996.592		2.328	-0.914
271	60	stationary (L- moments)	1995.003		3.524	-0.912
271	70	stationary (L- moments)	1992.819		5.597	-1.000
271	80	stationary (L- moments)	1991.177		6.715	-0.962
271	90	stationary (L- moments)	1987.860		9.004	-0.847
272	10	stationary (L- moments)	1999.639		0.101	-0.453
272	20	stationary (L- moments)	1999.279		0.222	-0.567
272	30	stationary (L- moments)	1998.794		0.589	-0.916
272	40	stationary (L- moments)	1998.050		1.033	-0.821

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
272	50	stationary (L-moments)	1997.009		1.740	-0.938
272	60	stationary (L-moments)	1995.550		3.010	-1.000
272	70	stationary (L-moments)	1994.273		3.521	-0.905
272	80	stationary (L-moments)	1992.013		5.510	-0.942
272	90	stationary (L-moments)	1988.931		8.045	-0.961
273	10	stationary (L-moments)	1999.673		0.110	-0.791
273	20	stationary (L-moments)	1999.345		0.257	-1.000
273	30	stationary (L-moments)	1998.889		0.594	-1.000
273	40	stationary (L-moments)	1998.193		1.105	-1.000
273	50	stationary (L-moments)	1997.049		2.003	-1.000
273	60	stationary (L-moments)	1995.038		3.796	-1.000
273	70	stationary (L-	1992.986		5.388	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
273	80	stationary (L- moments)	1990.724		6.510	-1.000
273	90	stationary (L- moments)	1988.069		9.021	-1.000
277	10	stationary (L- moments)	1999.598		0.125	-0.325
277	20	non- stationary (MLE)	1999.246	0.0075	0.369	-1.000
277	30	stationary (L- moments)	1998.576		0.818	-0.821
277	40	non- stationary (MLE)	1997.816	0.0141	1.683	-1.180
277	50	stationary (L- moments)	1996.016		3.395	-1.000
277	60	non- stationary (MLE)	1994.419	0.0218	4.945	-1.115
277	70	non- stationary (MLE)	1991.522	0.0288	7.653	-1.078
277	80	stationary (L- moments)	1987.361		13.029	-1.000
277	90	stationary (L- moments)	1986.924		9.996	-0.738

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
278	10	stationary (L-moments)	1999.631		0.114	-0.664
278	20	stationary (L-moments)	1999.265		0.278	-0.950
278	30	stationary (L-moments)	1998.499		0.972	-1.000
278	40	stationary (L-moments)	1996.161		4.189	-1.000
278	50	stationary (L-moments)	1994.284		6.087	-1.000
278	60	stationary (L-moments)	1989.529		11.988	-1.000
278	70	stationary (L-moments)	1987.714		10.787	-1.000
278	80	stationary (L-moments)	1981.939		16.741	-1.000
278	90	stationary (L-moments)	1977.512		18.470	-1.000
279	10	stationary (L-moments)	1999.677		0.085	-0.575
279	20	stationary (L-moments)	1999.355		0.176	-0.623
279	30	stationary (L-	1998.948		0.485	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
279	40	stationary (L- moments)	1997.924		1.430	-1.000
279	50	stationary (L- moments)	1996.626		2.283	-0.974
279	60	stationary (L- moments)	1994.955		3.719	-0.994
279	70	stationary (L- moments)	1992.030		7.004	-1.000
279	80	stationary (L- moments)	1990.230		7.639	-0.988
279	90	stationary (L- moments)	1986.251		10.031	-0.804
281	10	stationary (L- moments)	1999.634		0.090	-0.482
281	20	stationary (L- moments)	1999.269		0.190	-0.545
281	30	stationary (L- moments)	1998.700		0.640	-0.923
281	40	stationary (L- moments)	1997.684		1.510	-1.000
281	50	stationary (L- moments)	1996.446		2.672	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
281	60	stationary (L-moments)	1995.298		2.779	-0.860
281	70	stationary (L-moments)	1992.738		3.849	-0.647
281	80	stationary (L-moments)	1989.895		4.565	-0.510
281	90	stationary (L-moments)	1985.712		10.942	-1.000
284	10	stationary (L-moments)	1999.652		0.142	-0.804
284	20	stationary (L-moments)	1999.306		0.308	-0.927
284	30	stationary (L-moments)	1998.816		0.685	-1.000
284	40	stationary (L-moments)	1997.881		1.242	-0.765
284	50	stationary (L-moments)	1996.906		1.810	-0.738
284	60	stationary (L-moments)	1995.794		2.370	-0.718
284	70	stationary (L-moments)	1994.319		3.556	-0.896
284	80	stationary (L-	1991.469		6.860	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
284	90	stationary (L- moments)	1987.700		11.345	-1.000
285	10	stationary (L- moments)	1999.679		0.113	-0.682
285	20	stationary (L- moments)	1999.359		0.261	-0.892
285	30	stationary (L- moments)	1998.966		0.541	-1.000
285	40	stationary (L- moments)	1998.279		0.920	-0.789
285	50	stationary (L- moments)	1997.612		1.405	-0.818
285	60	stationary (L- moments)	1996.607		2.142	-0.759
285	70	stationary (L- moments)	1995.295		3.951	-1.000
285	80	stationary (L- moments)	1993.313		5.534	-1.000
285	90	stationary (L- moments)	1990.310		8.297	-1.000
288	10	stationary (L- moments)	1999.652		0.114	-0.499

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
288	20	stationary (L-moments)	1999.306		0.280	-0.752
288	30	stationary (L-moments)	1998.816		0.707	-1.000
288	40	stationary (L-moments)	1997.888		1.608	-1.000
288	50	stationary (L-moments)	1996.562		3.018	-1.000
288	60	stationary (L-moments)	1995.261		4.199	-1.000
288	70	stationary (L-moments)	1992.245		8.356	-1.000
288	80	stationary (L-moments)	1989.361		11.142	-1.000
288	90	stationary (L-moments)	1989.135		9.409	-1.000
289	10	stationary (L-moments)	1999.702		0.101	-0.652
289	20	stationary (L-moments)	1999.410		0.254	-1.000
289	30	stationary (L-moments)	1999.035		0.523	-1.000
289	40	stationary (L-	1998.591		0.816	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				
289	50	stationary (L- moments)	1998.005		1.273	-1.000
289	60	stationary (L- moments)	1997.024		2.223	-1.000
289	70	stationary (L- moments)	1995.557		3.930	-1.000
289	80	stationary (L- moments)	1993.790		6.310	-1.000
289	90	stationary (L- moments)	1994.347		4.176	-1.000
294	10	stationary (L- moments)	1999.767		0.088	-0.712
294	20	stationary (L- moments)	1999.534		0.176	-0.712
294	30	stationary (L- moments)	1999.277		0.373	-1.000
294	40	stationary (L- moments)	1998.957		0.620	-1.000
294	50	stationary (L- moments)	1998.559		0.936	-1.000
294	60	stationary (L- moments)	1998.161		1.254	-1.000

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
294	70	stationary (L- moments)	1997.593		1.757	-1.000
294	80	stationary (L- moments)	1996.890		2.340	-1.000
294	90	stationary (L- moments)	1996.016		3.369	-1.000
295	10	stationary (L- moments)	1999.754		0.093	-0.735
295	20	stationary (L- moments)	1999.508		0.187	-0.735
295	30	stationary (L- moments)	1999.252		0.341	-0.941
295	40	stationary (L- moments)	1998.933		0.534	-0.915
295	50	stationary (L- moments)	1998.538		0.791	-0.872
295	60	stationary (L- moments)	1997.920		1.119	-0.695
295	70	stationary (L- moments)	1997.329		1.485	-0.676
295	80	stationary (L- moments)	1996.737		1.901	-0.697
295	90	stationary (L-	1996.092		2.684	-0.879

Station ID	CV (mm)	Model	μ_0 (h)	μ_1 (h/yr)	σ (h)	ξ
		moments)				

Note: μ_0 is the intercept of the location parameter in the transformed scale $X = 2000 - \text{M-IAT}$ (h); μ_1 is the linear time trend (h yr^{-1} , centred on 2007); σ is the scale parameter; ξ is the shape parameter. For stationary fits $\mu_1 = \text{—}$.

S1.9. Adopted GPD Parameter Estimates — All 65 Stations

Table S9 lists the adopted declustered GPD parameter estimates. The threshold u is expressed in the original M-IAT scale (hours). For non-stationary fits, σ_0 is the log-scale intercept (β_0) and σ_1 is the log-scale trend ($\beta_1 \text{ yr}^{-1}$); for stationary fits σ_0 is the scale parameter on the natural scale and $\sigma_1 = \text{—}$.

Table S9. Adopted GPD parameter estimates for all 65 stations and 9 CVs (585 combinations). S = stationary L-moments; NS = non-stationary MLE; excl. = non-regular/excluded.

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
90	10	0.714	S	0.393	—	-0.697
95	10	0.546	S	0.232	—	-0.493
100	10	0.781	S	0.378	—	-0.644
101	10	0.512	S	0.273	—	-0.865
105	10	0.714	S	0.355	—	-0.622
108	10	0.513	S	0.312	—	-0.883
112	10	0.541	S	0.278	—	-0.621
114	10	0.588	S	0.342	—	-0.803
115	10	0.778	S	0.424	—	-0.754
119	10	0.520	S	0.282	—	-0.712
127	10	0.568	S	0.337	—	-0.933
129	10	0.538	S	0.259	—	-0.530
130	10	0.741	S	0.286	—	-0.475
131	10	0.606	S	0.329	—	-0.722
133	10	0.571	S	0.242	—	-0.488
135	10	0.709	S	0.397	—	-0.840
136	10	0.694	S	0.375	—	-0.854
138	10	0.719	S	0.294	—	-0.475
140	10	0.585	NS	0.281	0.0026	-0.615
143	10	0.675	S	0.369	—	-0.745
146	10	0.510	S	0.288	—	-0.972
152	10	0.639	S	0.350	—	-0.783
156	10	0.521	S	0.291	—	-0.820
159	10	0.488	S	0.247	—	-0.657
162	10	0.494	S	0.269	—	-0.851
165	10	0.575	S	0.291	—	-0.781

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
168	10	0.512	NS	0.248	0.0021	-0.701
170	10	0.505	S	0.262	—	-0.798
184	10	0.625	S	0.327	—	-0.633
188	10	0.441	S	0.229	—	-0.647
189	10	0.459	NS	0.221	0.0012	-0.615
192	10	0.556	NS	0.301	0.0010	-0.779
201	10	0.513	S	0.272	—	-0.702
202	10	0.526	S	0.332	—	-0.956
203	10	0.571	S	0.350	—	-0.902
211	10	0.660	S	0.316	—	-0.624
212	10	0.556	S	0.270	—	-0.647
216	10	0.715	S	0.382	—	-0.745
221	10	0.581	S	0.314	—	-0.822
226	10	0.588	S	0.282	—	-0.617
232	10	0.571	S	0.346	—	-0.927
235	10	0.541	S	0.288	—	-0.684
236	10	0.556	S	0.293	—	-0.698
238	10	0.625	S	0.279	—	-0.536
243	10	0.588	S	0.318	—	-0.838
244	10	0.588	S	0.318	—	-0.805
245	10	0.605	S	0.384	—	-0.963
247	10	0.575	NS	0.299	0.0020	-0.699
248	10	0.601	S	0.286	—	-0.674
260	10	0.500	S	0.244	—	-0.703
261	10	0.541	S	0.287	—	-0.807
262	10	0.513	S	0.241	—	-0.571
271	10	0.645	S	0.306	—	-0.653
272	10	0.625	S	0.285	—	-0.718
273	10	0.625	S	0.316	—	-0.731

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
277	10	0.741	NS	0.353	0.0026	-0.623
278	10	0.667	S	0.345	—	-0.830
279	10	0.645	NS	0.357	0.0019	-0.794
281	10	0.645	S	0.358	—	-0.945
284	10	0.633	S	0.265	—	-0.544
285	10	0.500	S	0.280	—	-0.943
288	10	0.606	NS	0.294	-0.0028	-0.671
289	10	0.556	NS	0.261	-0.0015	-0.632
294	10	0.444	S	0.235	—	-0.749
295	10	0.444	S	0.205	—	-0.610
90	20	0.957	S	0.308	—	-0.298
95	20	0.985	S	0.426	—	-0.521
100	20	1.720	S	1.234	—	-0.909
101	20	0.955	S	0.459	—	-0.782
105	20	1.035	S	0.428	—	-0.434
108	20	0.890	S	0.486	—	-0.819
112	20	0.939	S	0.608	—	-0.972
114	20	0.888	S	0.428	—	-0.772
115	20	1.000	S	0.359	—	-0.477
119	20	0.921	NS	0.492	-0.0041	-0.732
127	20	0.976	S	0.517	—	-0.913
129	20	0.930	NS	0.486	0.0026	-0.681
130	20	1.894	NS	1.327	0.0085	-0.852
131	20	1.076	NS	0.589	0.0030	-0.727
133	20	1.041	S	0.559	—	-0.765
135	20	0.972	S	0.349	—	-0.549
136	20	1.000	S	0.440	—	-0.779
138	20	1.791	S	1.365	—	-0.907
140	20	0.995	NS	0.474	0.0051	-0.645

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
143	20	1.029	S	0.565	—	-0.917
146	20	0.953	S	0.432	—	-0.733
152	20	0.990	S	0.476	—	-0.830
156	20	0.889	S	0.408	—	-0.656
159	20	0.874	S	0.400	—	-0.568
162	20	0.855	S	0.311	—	-0.454
165	20	1.000	S	0.482	—	-0.839
168	20	0.930	NS	0.422	0.0040	-0.685
170	20	0.893	S	0.347	—	-0.514
184	20	1.000	S	0.580	—	-0.843
188	20	0.804	S	0.421	—	-0.676
189	20	0.816	NS	0.360	0.0022	-0.577
192	20	0.953	NS	0.462	0.0020	-0.749
201	20	0.889	S	0.380	—	-0.497
202	20	0.913	S	0.526	—	-0.944
203	20	0.996	S	0.480	—	-0.659
211	20	1.000	S	0.582	—	-0.985
212	20	1.000	S	0.590	—	-0.952
216	20	1.000	S	0.432	—	-0.651
221	20	1.000	S	0.549	—	-0.925
226	20	0.998	S	0.441	—	-0.573
232	20	0.976	S	0.567	—	-0.973
235	20	0.911	S	0.381	—	-0.447
236	20	0.976	S	0.525	—	-0.781
238	20	0.979	S	0.445	—	-0.662
243	20	1.000	NS	0.388	0.0048	-0.525
244	20	1.048	S	0.598	—	-0.971
245	20	0.993	S	0.429	—	-0.563
247	20	0.976	NS	0.458	0.0038	-0.666

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
248	20	1.000	S	0.453	—	-0.717
260	20	0.901	S	0.447	—	-0.773
261	20	0.913	S	0.338	—	-0.449
262	20	0.930	S	0.398	—	-0.482
271	20	1.000	S	0.383	—	-0.478
272	20	1.000	S	0.400	—	-0.704
273	20	1.000	S	0.573	—	-0.994
277	20	1.500	S	1.034	—	-0.941
278	20	1.032	NS	0.449	-0.0031	-0.708
279	20	1.000	NS	0.489	0.0038	-0.806
281	20	1.000	S	0.388	—	-0.645
284	20	0.987	S	0.425	—	-0.674
285	20	0.980	S	0.504	—	-0.836
288	20	1.062	NS	0.495	-0.0058	-0.682
289	20	1.000	NS	0.474	-0.0032	-0.665
294	20	0.824	S	0.420	—	-0.739
295	20	0.833	S	0.444	—	-0.826
90	30	1.937	NS	1.241	0.0057	-0.817
95	30	1.800	S	1.178	—	-0.734
100	30	2.748	S	1.564	—	-0.590
101	30	1.836	S	1.330	—	-0.957
105	30	2.833	S	2.055	—	-0.781
108	30	1.046	S	0.454	—	-0.695
112	30	1.046	S	0.568	—	-0.921
114	30	1.123	S	0.579	—	-0.946
115	30	2.000	S	1.213	—	-0.770
119	30	0.968	S	0.355	—	-0.617
127	30	1.048	S	0.398	—	-0.743
129	30	1.311	S	0.901	—	-0.890

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
130	30	2.822	S	2.161	—	-0.959
131	30	1.946	S	1.420	—	-0.845
133	30	1.964	S	1.276	—	-0.711
135	30	1.957	S	0.993	—	-0.577
136	30	2.438	S	1.736	—	-0.968
138	30	2.818	S	2.257	—	-0.916
140	30	1.000	S	0.404	—	-0.742
143	30	1.864	S	1.343	—	-0.966
146	30	1.804	NS	1.302	-0.0116	-0.927
152	30	1.965	S	1.042	—	-0.593
156	30	1.108	NS	0.547	0.0051	-0.783
159	30	1.083	S	0.665	—	-0.987
162	30	1.028	S	0.331	—	-0.384
165	30	1.829	S	1.001	—	-0.643
168	30	0.989	S	0.308	—	-0.517
170	30	1.001	S	0.385	—	-0.706
184	30	1.154	S	0.717	—	-0.991
188	30	1.022	S	0.550	—	-0.782
189	30	1.102	NS	0.520	0.0037	-0.648
192	30	1.047	S	0.457	—	-0.786
201	30	0.997	NS	0.481	-0.0059	-0.718
202	30	1.000	S	0.364	—	-0.614
203	30	1.101	S	0.545	—	-0.920
211	30	2.101	S	1.389	—	-0.801
212	30	1.059	S	0.489	—	-0.802
216	30	2.456	S	1.697	—	-0.834
221	30	1.900	S	1.370	—	-0.936
226	30	1.940	S	1.410	—	-0.902
232	30	1.750	S	1.261	—	-0.958

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
235	30	1.080	S	0.571	—	-0.839
236	30	1.769	S	1.118	—	-0.705
238	30	2.000	S	1.329	—	-0.805
243	30	1.833	S	1.268	—	-0.930
244	30	1.903	S	1.230	—	-0.794
245	30	1.794	S	1.201	—	-0.811
247	30	1.154	S	0.656	—	-0.993
248	30	1.897	S	0.961	—	-0.523
260	30	1.052	S	0.449	—	-0.771
261	30	1.623	S	1.175	—	-0.998
262	30	1.720	S	1.355	—	-0.978
271	30	2.262	S	1.513	—	-0.775
272	30	2.167	S	1.358	—	-0.871
273	30	0.984	S	0.356	—	-0.973
277	30	2.758	S	2.159	—	-0.981
278	30	2.588	S	2.061	—	-0.966
279	30	1.800	S	1.275	—	-0.991
281	30	2.113	S	1.423	—	-0.886
284	30	2.366	S	1.781	—	-0.984
285	30	1.020	S	0.300	—	-0.438
288	30	1.904	S	1.331	—	-0.944
289	30	1.000	S	0.385	—	-0.766
294	30	0.983	S	0.485	—	-0.908
295	30	0.984	S	0.409	—	-0.685
90	40	3.325	S	2.628	—	-0.979
95	40	2.134	S	1.492	—	-0.913
100	40	3.775	S	2.445	—	-0.757
101	40	2.186	S	1.388	—	-0.894
105	40	3.809	S	2.311	—	-0.518

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
108	40	1.947	S	1.145	—	-0.689
112	40	1.968	S	1.259	—	-0.755
114	40	2.111	S	1.186	—	-0.698
115	40	3.132	S	2.195	—	-0.938
119	40	2.078	S	1.522	—	-0.949
127	40	2.000	S	0.921	—	-0.541
129	40	1.921	S	1.301	—	-0.774
130	40	3.719	NS	2.401	0.0159	-0.781
131	40	1.971	S	1.359	—	-0.861
133	40	2.312	S	1.698	—	-0.922
135	40	2.800	S	1.830	—	-0.927
136	40	3.741	S	2.319	—	-0.765
138	40	3.405	S	2.746	—	-0.961
140	40	1.971	S	1.202	—	-0.798
143	40	2.183	S	1.356	—	-0.861
146	40	2.763	S	1.907	—	-0.831
152	40	2.948	S	2.161	—	-0.992
156	40	2.074	S	1.465	—	-0.939
159	40	1.970	S	1.003	—	-0.460
162	40	1.981	S	1.384	—	-0.937
165	40	2.494	S	1.747	—	-0.987
168	40	1.970	S	1.175	—	-0.783
170	40	2.420	S	1.755	—	-0.912
184	40	2.088	S	1.300	—	-0.725
188	40	1.000	S	0.465	—	-0.758
189	40	1.931	NS	1.265	0.0071	-0.836
192	40	2.286	S	1.565	—	-0.876
201	40	1.970	S	1.437	—	-0.867
202	40	1.926	S	1.119	—	-0.735

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
203	40	2.229	S	1.490	—	-0.895
211	40	2.955	S	1.807	—	-0.764
212	40	2.037	S	1.096	—	-0.581
216	40	3.761	S	2.586	—	-0.802
221	40	1.981	S	0.717	—	-0.277
226	40	2.817	S	2.205	—	-0.959
232	40	2.295	S	1.488	—	-0.857
235	40	1.901	S	1.252	—	-0.796
236	40	2.355	S	1.826	—	-0.978
238	40	2.966	S	2.363	—	-0.995
243	40	2.539	S	1.865	—	-0.996
244	40	1.988	S	0.803	—	-0.388
245	40	2.778	S	1.929	—	-0.789
247	40	2.552	S	1.994	—	-0.981
248	40	2.914	S	2.196	—	-0.984
260	40	2.367	S	1.801	—	-0.996
261	40	2.187	S	1.559	—	-0.941
262	40	2.376	S	1.794	—	-0.868
271	40	3.686	S	2.899	—	-0.929
272	40	3.331	S	2.227	—	-0.866
273	40	3.354	S	2.569	—	-0.943
277	40	3.806	S	2.816	—	-0.880
278	40	2.988	S	2.146	—	-0.975
279	40	3.023	S	2.211	—	-0.947
281	40	3.630	S	2.761	—	-0.936
284	40	3.285	S	1.876	—	-0.661
285	40	2.322	S	1.591	—	-0.959
288	40	3.032	S	2.104	—	-0.863
289	40	1.912	S	1.214	—	-0.922

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
294	40	1.969	S	1.458	—	-0.931
295	40	2.129	S	1.452	—	-0.814
90	50	4.229	S	3.062	—	-0.861
95	50	2.995	S	1.420	—	-0.403
100	50	4.900	S	2.896	—	-0.643
101	50	3.288	S	2.096	—	-0.957
105	50	3.936	S	3.373	—	-0.945
108	50	2.033	S	1.032	—	-0.597
112	50	2.127	S	1.500	—	-0.973
114	50	2.772	S	1.820	—	-0.888
115	50	4.068	S	2.398	—	-0.772
119	50	1.993	S	0.854	—	-0.475
127	50	3.011	S	1.447	—	-0.501
129	50	2.317	S	1.690	—	-0.867
130	50	4.478	S	2.493	—	-0.583
131	50	2.997	S	2.115	—	-0.861
133	50	2.960	S	2.219	—	-0.919
135	50	4.092	S	2.145	—	-0.572
136	50	4.953	S	2.963	—	-0.695
138	50	4.061	S	3.350	—	-0.951
140	50	2.773	S	1.925	—	-0.956
143	50	3.929	S	2.390	—	-0.723
146	50	3.795	S	2.580	—	-0.806
152	50	3.669	S	2.017	—	-0.579
156	50	2.976	S	1.970	—	-0.762
159	50	2.782	S	1.928	—	-0.747
162	50	2.328	S	1.354	—	-0.734
165	50	3.610	S	2.467	—	-0.885
168	50	1.969	NS	0.748	0.0126	-0.603

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
170	50	3.155	S	2.003	—	-0.776
184	50	3.243	S	2.525	—	-0.924
188	50	1.999	S	1.437	—	-0.885
189	50	2.758	S	2.143	—	-0.936
192	50	3.592	S	2.292	—	-0.707
201	50	1.970	S	1.220	—	-0.764
202	50	2.238	S	1.390	—	-0.914
203	50	3.196	S	2.042	—	-0.740
211	50	3.975	S	2.513	—	-0.728
212	50	3.079	S	2.281	—	-0.959
216	50	4.716	S	2.658	—	-0.583
221	50	2.994	S	1.870	—	-0.788
226	50	3.833	S	2.861	—	-0.900
232	50	3.221	S	2.039	—	-0.715
235	50	2.179	S	1.313	—	-0.764
236	50	2.136	S	1.409	—	-0.878
238	50	3.938	S	3.056	—	-0.955
243	50	3.105	S	2.291	—	-0.980
244	50	3.853	S	2.932	—	-0.993
245	50	3.817	S	3.118	—	-0.972
247	50	3.565	S	3.006	—	-0.998
248	50	3.624	S	2.617	—	-0.997
260	50	3.054	S	1.839	—	-0.674
261	50	2.968	S	2.123	—	-0.912
262	50	3.247	S	2.664	—	-0.946
271	50	2.881	S	1.486	—	-0.762
272	50	4.400	S	2.578	—	-0.735
273	50	3.083	S	1.828	—	-0.935
277	50	4.248	S	1.789	—	-0.258

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
278	50	4.685	S	1.994	—	-0.295
279	50	4.540	S	2.900	—	-0.709
281	50	4.869	S	3.687	—	-0.918
284	50	4.374	S	2.316	—	-0.541
285	50	3.136	S	2.285	—	-0.991
288	50	4.000	S	2.257	—	-0.600
289	50	2.990	S	2.138	—	-0.976
294	50	2.128	S	1.370	—	-0.846
295	50	2.927	S	1.915	—	-0.697
90	60	4.813	S	3.531	—	-0.904
95	60	3.948	S	2.653	—	-0.732
100	60	6.140	S	3.815	—	-0.665
101	60	4.516	S	2.888	—	-0.836
105	60	2.833	S	1.684	—	-0.641
108	60	2.945	S	2.098	—	-0.922
112	60	3.509	S	2.776	—	-0.958
114	60	4.137	S	2.438	—	-0.700
115	60	5.004	S	2.870	—	-0.708
119	60	2.950	S	2.033	—	-0.944
127	60	3.901	S	2.354	—	-0.850
129	60	3.003	S	2.144	—	-0.836
130	60	5.143	S	2.459	—	-0.479
131	60	4.857	S	4.065	—	-0.955
133	60	4.017	S	3.108	—	-0.926
135	60	5.634	S	3.329	—	-0.704
136	60	6.430	S	2.766	—	-0.436
138	60	4.717	S	3.893	—	-0.957
140	60	3.188	S	1.763	—	-0.679
143	60	5.985	S	4.069	—	-0.683

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
146	60	4.888	S	2.863	—	-0.572
152	60	4.316	S	2.649	—	-0.725
156	60	3.921	S	2.442	—	-0.658
159	60	3.598	S	3.020	—	-0.967
162	60	2.878	S	1.623	—	-0.650
165	60	4.811	S	2.938	—	-0.687
168	60	3.257	S	1.922	—	-0.835
170	60	3.736	S	2.412	—	-0.915
184	60	3.845	S	3.047	—	-0.910
188	60	3.084	S	2.596	—	-0.963
189	60	3.347	S	2.642	—	-0.993
192	60	4.313	S	2.615	—	-0.750
201	60	2.170	S	1.309	—	-0.819
202	60	2.926	S	1.951	—	-0.918
203	60	4.334	S	3.195	—	-0.968
211	60	4.948	S	2.911	—	-0.677
212	60	3.569	S	2.311	—	-0.819
216	60	5.650	S	3.149	—	-0.591
221	60	4.741	S	3.621	—	-0.976
226	60	5.210	S	3.695	—	-0.770
232	60	4.269	S	3.405	—	-0.940
235	60	2.885	S	1.211	—	-0.358
236	60	3.227	S	2.307	—	-0.878
238	60	3.846	S	2.437	—	-0.757
243	60	4.167	S	3.065	—	-0.931
244	60	4.988	S	3.538	—	-0.858
245	60	4.851	S	3.674	—	-0.845
247	60	2.979	S	1.511	—	-0.521
248	60	4.881	S	3.509	—	-0.991

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
260	60	3.716	S	2.305	—	-0.707
261	60	3.160	S	1.920	—	-0.828
262	60	3.820	S	2.801	—	-0.828
271	60	5.800	S	3.850	—	-0.788
272	60	5.657	S	2.475	—	-0.418
273	60	5.718	S	3.989	—	-0.940
277	60	5.758	S	3.149	—	-0.444
278	60	6.613	S	2.928	—	-0.353
279	60	5.534	S	3.402	—	-0.685
281	60	5.818	S	4.231	—	-0.982
284	60	5.278	S	2.513	—	-0.448
285	60	3.885	S	2.499	—	-0.764
288	60	5.222	S	3.177	—	-0.670
289	60	2.986	S	1.422	—	-0.598
294	60	2.033	S	1.061	—	-0.666
295	60	3.595	S	2.315	—	-0.714
90	70	5.698	S	4.291	—	-0.929
95	70	4.814	S	3.871	—	-0.969
100	70	7.247	S	5.213	—	-0.903
101	70	5.541	S	3.735	—	-0.890
105	70	3.857	S	2.764	—	-0.850
108	70	3.097	S	1.878	—	-0.858
112	70	4.135	S	3.090	—	-0.844
114	70	5.795	S	3.143	—	-0.522
115	70	6.461	S	3.669	—	-0.639
119	70	3.363	S	1.740	—	-0.596
127	70	5.573	S	4.134	—	-0.970
129	70	3.768	S	2.101	—	-0.530
130	70	6.086	S	3.469	—	-0.757

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
131	70	6.231	S	4.396	—	-0.673
133	70	4.954	S	4.017	—	-1.000
135	70	7.152	S	3.780	—	-0.502
136	70	8.564	NS	5.398	0.2188	-0.868
138	70	5.408	S	4.079	—	-0.886
140	70	3.645	S	1.992	—	-0.651
143	70	6.807	S	4.061	—	-0.629
146	70	5.205	S	3.817	—	-0.889
152	70	4.989	S	3.007	—	-0.708
156	70	4.773	S	3.835	—	-0.997
159	70	3.682	S	3.017	—	-0.903
162	70	3.677	S	2.285	—	-0.751
165	70	5.767	S	3.998	—	-0.836
168	70	4.522	S	2.906	—	-0.832
170	70	4.472	S	2.535	—	-0.711
184	70	3.923	S	1.941	—	-0.411
188	70	3.660	S	2.723	—	-0.803
189	70	3.825	S	2.056	—	-0.506
192	70	5.311	S	3.025	—	-0.622
201	70	2.878	S	1.543	—	-0.669
202	70	3.967	S	2.232	—	-0.612
203	70	5.560	S	3.913	—	-0.833
211	70	5.546	S	3.442	—	-0.759
212	70	4.863	S	3.779	—	-0.986
216	70	6.837	S	4.590	—	-0.811
221	70	5.600	S	3.865	—	-0.874
226	70	6.662	S	5.059	—	-0.857
232	70	4.105	S	2.746	—	-0.819
235	70	3.633	S	2.420	—	-0.830

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
236	70	4.261	S	3.104	—	-0.939
238	70	6.212	S	4.940	—	-0.904
243	70	3.801	S	1.901	—	-0.566
244	70	5.493	S	3.903	—	-0.914
245	70	5.765	S	5.043	—	-0.987
247	70	5.039	S	4.065	—	-0.986
248	70	5.000	S	2.566	—	-0.653
260	70	4.525	S	3.399	—	-0.983
261	70	3.680	S	2.147	—	-0.810
262	70	4.351	S	2.459	—	-0.503
271	70	7.493	S	3.109	—	-0.225
272	70	6.775	S	2.927	—	-0.382
273	70	7.185	S	3.917	—	-0.661
277	70	6.495	S	4.021	—	-0.563
278	70	9.112	S	2.397	—	0.019
279	70	6.810	S	4.776	—	-0.964
281	70	7.493	S	3.995	—	-0.577
284	70	6.493	S	2.417	—	-0.263
285	70	4.681	S	2.534	—	-0.593
288	70	6.349	S	2.969	—	-0.414
289	70	4.577	S	3.050	—	-0.877
294	70	3.068	S	2.085	—	-0.897
295	70	3.997	S	2.032	—	-0.449
90	80	6.438	S	3.474	—	-0.578
95	80	5.743	S	3.595	—	-0.655
100	80	7.940	S	4.736	—	-0.637
101	80	5.958	S	3.166	—	-0.629
105	80	5.285	S	3.845	—	-0.768
108	80	2.931	S	1.088	—	-0.401

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
112	80	4.960	S	3.971	—	-0.918
114	80	7.140	S	6.069	—	-0.973
115	80	7.414	S	4.699	—	-0.844
119	80	5.220	S	3.854	—	-0.912
127	80	6.032	S	3.287	—	-0.647
129	80	4.509	S	3.058	—	-0.784
130	80	6.819	S	2.375	—	-0.195
131	80	10.006	S	8.275	—	-0.781
133	80	3.825	S	1.911	—	-0.700
135	80	8.423	S	3.968	—	-0.346
136	80	10.610	NS	6.267	0.2353	-0.791
138	80	6.235	S	3.440	—	-0.449
140	80	4.877	S	3.327	—	-0.805
143	80	7.880	S	4.145	—	-0.583
146	80	6.970	S	4.218	—	-0.569
152	80	5.409	S	3.231	—	-0.708
156	80	5.628	S	4.008	—	-0.952
159	80	4.814	S	3.681	—	-0.765
162	80	4.158	S	2.870	—	-0.928
165	80	7.039	S	4.020	—	-0.592
168	80	4.842	S	2.915	—	-0.853
170	80	4.991	S	2.254	—	-0.462
184	80	4.383	S	2.595	—	-0.648
188	80	3.983	S	2.227	—	-0.523
189	80	4.532	S	2.766	—	-0.728
192	80	6.665	S	4.539	—	-0.803
201	80	4.217	S	3.149	—	-0.958
202	80	4.924	S	3.673	—	-0.951
203	80	6.754	S	5.534	—	-0.963

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
211	80	6.126	S	2.613	—	-0.317
212	80	5.867	S	4.652	—	-0.951
216	80	7.893	S	4.706	—	-0.599
221	80	4.963	S	2.782	—	-0.690
226	80	8.146	S	6.066	—	-0.909
232	80	5.073	S	2.615	—	-0.482
235	80	3.971	S	2.584	—	-0.962
236	80	4.984	S	3.067	—	-0.734
238	80	7.095	S	5.224	—	-0.840
243	80	4.988	S	3.068	—	-0.725
244	80	6.593	S	3.963	—	-0.687
245	80	6.955	S	5.614	—	-0.886
247	80	6.981	S	5.917	—	-0.949
248	80	6.449	S	4.034	—	-0.904
260	80	4.320	S	2.762	—	-0.940
261	80	5.240	S	3.667	—	-0.931
262	80	4.933	S	2.777	—	-0.494
271	80	8.950	S	4.444	—	-0.359
272	80	8.300	S	4.630	—	-0.623
273	80	8.744	S	3.496	—	-0.387
277	80	9.213	S	7.930	—	-0.828
278	80	12.320	S	4.066	—	-0.112
279	80	7.978	S	5.337	—	-0.854
281	80	9.256	S	3.949	—	-0.455
284	80	7.838	S	2.432	—	-0.116
285	80	5.982	S	3.757	—	-0.681
288	80	7.607	S	3.098	—	-0.294
289	80	5.111	S	3.658	—	-0.984
294	80	4.040	S	2.911	—	-0.960

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
295	80	4.521	S	3.402	—	-0.922
90	90	6.856	S	2.873	—	-0.303
95	90	6.971	S	4.103	—	-0.528
100	90	8.151	S	5.927	—	-0.943
101	90	7.145	S	4.295	—	-0.909
105	90	7.281	S	6.639	—	-0.995
108	90	4.217	S	2.884	—	-0.986
112	90	5.977	S	4.247	—	-0.823
114	90	7.624	S	5.803	—	-0.885
115	90	9.626	S	7.358	—	-0.993
119	90	6.124	S	3.863	—	-0.668
127	90	7.640	S	3.750	—	-0.529
129	90	4.981	S	2.113	—	-0.267
130	90	9.033	S	3.440	—	-0.173
131	90	12.466	S	11.997	—	-0.948
133	90	6.093	S	3.673	—	-0.653
135	90	9.655	S	6.838	—	-0.884
136	90	12.763	S	5.693	—	-0.492
138	90	7.980	S	5.215	—	-0.624
140	90	5.869	S	3.738	—	-0.648
143	90	10.030	S	4.810	—	-0.573
146	90	8.772	S	5.664	—	-0.632
152	90	5.981	S	3.350	—	-0.642
156	90	6.500	S	3.512	—	-0.642
159	90	5.361	S	3.811	—	-0.715
162	90	4.286	S	2.109	—	-0.571
165	90	7.943	S	3.607	—	-0.339
168	90	6.184	S	4.173	—	-0.950
170	90	6.125	S	3.647	—	-0.801

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
184	90	—	excl.	—	—	—
188	90	4.680	S	3.771	—	-0.963
189	90	4.972	S	2.867	—	-0.688
192	90	7.915	S	5.814	—	-0.879
201	90	4.892	S	3.021	—	-0.645
202	90	5.622	S	4.160	—	-0.974
203	90	7.944	S	6.340	—	-0.886
211	90	6.938	S	3.206	—	-0.353
212	90	5.005	S	1.679	—	-0.222
216	90	9.052	S	5.438	—	-0.622
221	90	6.577	S	4.850	—	-0.980
226	90	9.144	S	4.231	—	-0.380
232	90	7.161	S	5.752	—	-0.948
235	90	4.430	S	2.612	—	-0.861
236	90	6.365	S	3.714	—	-0.560
238	90	8.556	S	6.181	—	-0.750
243	90	5.688	S	2.990	—	-0.538
244	90	8.975	S	6.123	—	-0.762
245	90	7.711	S	5.856	—	-0.788
247	90	—	excl.	—	—	—
248	90	7.499	S	4.286	—	-0.954
260	90	4.682	S	2.503	—	-0.736
261	90	5.897	S	3.758	—	-0.853
262	90	5.648	S	4.707	—	-0.964
271	90	10.333	S	6.538	—	-0.562
272	90	9.617	S	6.227	—	-0.854
273	90	10.076	S	4.195	—	-0.449
277	90	11.013	S	9.337	—	-0.797
278	90	17.908	S	7.850	—	-0.341

Station ID	CV (mm)	u (h)	Model	σ_0	σ_1 (trend)	ξ
279	90	9.596	S	5.394	—	-0.580
281	90	10.648	S	3.927	—	-0.391
284	90	9.490	S	3.064	—	-0.078
285	90	6.552	S	4.234	—	-0.855
288	90	9.396	S	5.527	—	-0.639
289	90	5.588	S	3.825	—	-0.983
294	90	4.676	S	3.217	—	-0.901
295	90	5.558	S	4.460	—	-0.962

Note: u is the POT threshold in M-IAT hours ($u_{\text{M-IAT}} = 2000 - u_{\text{transformed}}$). σ_0 = scale intercept (natural scale for S; log scale for NS). σ_1 = log-scale trend (NS only; — for S). ξ = shape parameter.

S1.10. Shape-Parameter Estimation Uncertainty for $\hat{\xi} < -1.2$ Combinations

Under the stationary estimation policy (Sec. 2.3), the stationary GEV shape is estimated by L-moments and Winsorized at the regularity boundary $\xi = -1$; the $\xi \in (-1.2, 1)$ regularity constraint is applied separately to the non-stationary MLE. Table S10 documents the unconstrained (pre-Winsorization) L-moments estimates for the 182 of 585 station–CV combinations whose shape falls below -1.2 (8 fall below -2.0 ; shown in bold), characterising the deep-tail regime that motivates the Winsorization. For each, the maximum-likelihood shape estimate ($\hat{\xi}_{\text{MLE}}$) and the Cramér–von Mises goodness-of-fit p-value (1,000 parametric-bootstrap replications) are reported. Two patterns are evident: (i) the GEV model remains an adequate fit in this regime (CvM $p > 0.05$ in 163/182 = 90% of combinations), so the strongly negative shape is not a model-misspecification artefact; and (ii) L-moments and MLE diverge increasingly as ξ becomes more negative (mean $|\hat{\xi}_{\text{Lmom}} - \hat{\xi}_{\text{MLE}}| = 0.355$ overall, rising to ~ 1.0 for $\hat{\xi} < -2$), reflecting the non-regularity of the MLE for $\xi < -1/2$ (Smith, 1985) and the high estimation variance at $n=35$. These combinations should be read at the distribution level rather than as precise per-combination point estimates; because STRI is derived from the full fitted CDF, it is insensitive to this tail uncertainty.

Table S10. Stationary GEV combinations with L-moments $\hat{\xi} < -1.2$ (n=182). Bold rows: $\hat{\xi} < -2.0$.

Station ID	Station	CV (mm)	n	$\hat{\xi}$ (L-mom)	$\hat{\xi}$ (MLE)	$ \Delta\hat{\xi} $	CvM p
101	춘천	30	35	-1.238	-1.064	0.174	0.247
143	대구	30	35	-1.201	-1.005	0.195	0.080
159	부산	30	35	-1.253	-1.100	0.153	0.497
221	제천	30	35	-1.442	-0.912	0.530	0.000
226	보은	30	35	-1.235	-0.749	0.486	0.033
244	임실	30	35	-1.481	-1.146	0.336	0.143
247	남원	30	35	-1.527	-1.021	0.505	0.230

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
271	봉화	30	35	-1.358	-1.034	0.325	0.077
273	문경	30	35	-1.285	-1.156	0.129	0.333
289	산청	30	35	-1.310	-0.860	0.449	0.097
294	거제	30	35	-1.222	-1.097	0.125	0.457
101	춘천	40	35	-1.336	-1.134	0.202	0.067
143	대구	40	35	-1.506	-1.160	0.346	0.050
146	전주	40	35	-1.457	-1.089	0.368	0.233
184	제주	40	35	-1.444	-1.293	0.151	0.653
192	진주	40	35	-1.306	-1.151	0.155	0.037
201	강화	40	35	-1.416	-1.032	0.384	0.117
221	제천	40	35	-1.422	-1.049	0.373	0.213
244	임실	40	35	-1.428	-1.203	0.224	0.417
247	남원	40	35	-1.400	-1.060	0.340	0.500
271	봉화	40	35	-2.580	-1.465	1.115	0.360
278	의성	40	35	-1.843	-1.207	0.636	0.550
279	구미	40	35	-1.213	-1.038	0.175	0.020
288	밀양	40	35	-1.259	-1.035	0.223	0.070
294	거제	40	35	-1.299	-1.207	0.092	0.773
101	춘천	50	35	-1.285	-1.067	0.218	0.067
108	서울	50	35	-1.543	-1.116	0.427	0.667
112	인천	50	35	-1.623	-1.207	0.416	0.587
129	서산	50	35	-1.629	-1.196	0.433	0.423
133	대전	50	35	-1.345	-1.310	0.035	0.390
156	광주	50	35	-1.441	-1.075	0.366	0.613
184	제주	50	35	-1.308	-1.058	0.250	0.840
188	성산	50	35	-1.283	-1.155	0.128	0.220
201	강화	50	35	-1.371	-1.019	0.352	0.277
221	제천	50	35	-1.324	-1.025	0.300	0.020

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
232	천안	50	35	-1.565	-1.114	0.451	0.047
235	보령	50	35	-2.252	-1.311	0.940	0.530
236	부여	50	35	-1.232	-1.060	0.172	0.183
247	남원	50	35	-1.318	-1.044	0.274	0.677
273	문경	50	35	-1.201	-1.052	0.149	0.033
278	의성	50	35	-1.765	-1.138	0.628	0.357
281	영천	50	35	-1.268	-1.059	0.209	0.137
288	밀양	50	35	-1.467	-1.163	0.304	0.173
108	서울	60	35	-1.684	-1.138	0.546	0.540
112	인천	60	35	-1.598	-1.216	0.382	0.503
114	원주	60	35	-1.539	-1.100	0.438	0.190
129	서산	60	35	-1.708	-1.221	0.487	0.457
131	청주	60	35	-1.394	-1.102	0.292	0.723
133	대전	60	35	-1.243	-1.392	0.148	0.173
140	군산	60	35	-1.458	-1.091	0.367	0.137
146	전주	60	35	-1.780	-1.234	0.547	0.207
152	울산	60	35	-1.332	-0.969	0.364	0.187
156	광주	60	35	-1.565	-1.122	0.442	0.460
184	제주	60	35	-1.271	-1.204	0.067	0.857
188	성산	60	35	-1.233	-1.035	0.197	0.357
189	서귀포	60	35	-1.334	-1.083	0.250	0.170
201	강화	60	35	-1.540	-1.051	0.489	0.350
203	이천	60	35	-1.431	-1.013	0.418	0.080
221	제천	60	35	-1.652	-1.095	0.557	0.113
226	보은	60	35	-1.261	-1.051	0.209	0.633
232	천안	60	35	-1.236	-1.065	0.171	0.120
235	보령	60	35	-2.235	-1.336	0.898	0.360
236	부여	60	35	-1.534	-1.086	0.448	0.333

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
247	남원	60	35	-1.432	-1.120	0.312	0.597
273	문경	60	35	-1.252	-1.127	0.126	0.657
278	의성	60	35	-1.884	-1.195	0.689	0.300
288	밀양	60	35	-1.403	-1.120	0.283	0.120
289	산청	60	35	-1.346	-1.010	0.336	0.080
294	거제	60	35	-1.230	-1.065	0.165	0.413
95	철원	70	35	-1.414	-1.135	0.279	0.180
101	춘천	70	35	-1.340	-1.287	0.053	0.537
108	서울	70	35	-1.525	-1.052	0.473	0.220
112	인천	70	35	-1.592	-1.225	0.367	0.510
114	원주	70	35	-1.225	-1.102	0.123	0.300
119	수원	70	35	-1.206	-1.017	0.190	0.323
127	충주	70	35	-1.269	-1.132	0.137	0.170
131	청주	70	35	-1.617	-1.331	0.286	0.777
138	포항	70	35	-1.205	-1.087	0.118	0.143
140	군산	70	34	-1.746	-1.355	0.391	0.490
146	전주	70	34	-1.373	-1.071	0.302	0.253
152	울산	70	35	-1.447	-1.035	0.411	0.090
156	광주	70	35	-2.127	-1.327	0.801	0.457
184	제주	70	35	-1.670	-1.354	0.316	0.467
189	서귀포	70	35	-2.361	-1.250	1.111	0.327
201	강화	70	35	-1.720	-1.057	0.664	0.187
202	양평	70	35	-1.311	-1.129	0.183	0.190
203	이천	70	35	-1.554	-1.056	0.498	0.200
211	인제	70	35	-1.381	-1.024	0.357	0.017
221	제천	70	35	-1.563	-1.094	0.470	0.247
226	보은	70	34	-1.382	-1.065	0.317	0.503
235	보령	70	34	-1.203	-1.086	0.117	0.857

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
236	부여	70	34	-1.700	-1.077	0.623	0.167
243	부안	70	35	-1.298	-1.002	0.297	0.297
245	정읍	70	35	-1.853	-1.400	0.454	0.320
247	남원	70	35	-2.016	-1.358	0.658	0.373
278	의성	70	34	-1.555	-1.136	0.419	0.017
279	구미	70	35	-1.410	-1.075	0.335	0.133
285	합천	70	35	-1.258	-1.060	0.198	0.653
288	밀양	70	35	-1.884	-1.210	0.674	0.213
289	산청	70	35	-1.493	-1.033	0.460	0.103
294	거제	70	35	-1.363	-1.329	0.033	0.180
95	철원	80	35	-1.450	-1.344	0.106	0.340
101	춘천	80	35	-1.536	-1.246	0.291	0.653
108	서울	80	35	-1.297	-1.143	0.153	0.490
112	인천	80	35	-1.492	-1.251	0.240	0.633
114	원주	80	35	-1.313	-1.055	0.258	0.467
129	서산	80	34	-1.293	-1.067	0.226	0.100
131	청주	80	35	-1.635	-1.173	0.463	0.720
135	추풍령	80	35	-1.353	-1.104	0.250	0.077
136	안동	80	34	-1.249	-1.017	0.232	0.040
138	포항	80	34	-1.544	-1.074	0.471	0.313
140	군산	80	34	-1.633	-1.125	0.508	0.550
143	대구	80	34	-1.398	-1.166	0.232	0.250
146	전주	80	34	-1.477	-1.069	0.407	0.513
152	울산	80	35	-1.578	-1.050	0.528	0.130
156	광주	80	35	-1.977	-1.255	0.723	0.377
184	제주	80	35	-1.779	-1.163	0.616	0.633
189	서귀포	80	35	-2.205	-1.253	0.952	0.203
192	진주	80	35	-1.788	-1.171	0.617	0.397

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
201	강화	80	35	-1.552	-1.152	0.399	0.143
202	양평	80	35	-1.490	-1.201	0.288	0.527
203	이천	80	35	-1.363	-1.060	0.303	0.247
211	인제	80	35	-1.409	-1.070	0.338	0.067
212	홍천	80	35	-1.204	-1.028	0.176	0.717
221	제천	80	34	-1.366	-1.081	0.285	0.280
226	보은	80	34	-1.461	-1.074	0.387	0.327
235	보령	80	34	-1.296	-1.033	0.263	0.783
236	부여	80	34	-1.714	-1.078	0.636	0.160
238	금산	80	35	-1.592	-1.002	0.590	0.610
244	임실	80	35	-1.512	-1.304	0.208	0.870
245	정읍	80	35	-1.815	-1.271	0.545	0.200
247	남원	80	33	-1.686	-1.176	0.509	0.680
261	해남	80	35	-1.386	-1.043	0.343	0.027
262	고흥	80	35	-1.674	-1.272	0.402	0.323
277	영덕	80	33	-1.317	-1.128	0.189	0.343
278	의성	80	33	-1.489	-1.053	0.436	0.010
284	거창	80	34	-1.364	-1.024	0.340	0.010
288	밀양	80	35	-1.679	-1.140	0.539	0.270
289	산청	80	35	-1.769	-1.206	0.563	0.277
294	거제	80	35	-1.518	-1.032	0.487	0.323
95	철원	90	35	-1.592	-1.287	0.305	0.590
101	춘천	90	34	-1.530	-1.198	0.333	0.397
108	서울	90	34	-1.406	-1.284	0.122	0.573
112	인천	90	35	-1.693	-1.404	0.289	0.607
114	원주	90	35	-1.610	-1.232	0.378	0.513
115	울릉도독도 (갑)	90	34	-1.296	-1.066	0.230	0.473

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
119	수원	90	35	-1.328	-1.039	0.289	0.477
127	충주	90	34	-1.344	-1.169	0.175	0.430
129	서산	90	33	-1.509	-1.166	0.342	0.080
131	청주	90	34	-1.213	-1.081	0.132	0.627
133	대전	90	35	-1.270	-1.265	0.005	0.010
136	안동	90	33	-1.334	-1.021	0.312	0.017
138	포항	90	34	-1.406	-1.168	0.237	0.313
140	군산	90	33	-1.365	-1.225	0.140	0.803
143	대구	90	34	-1.425	-1.111	0.314	0.120
146	전주	90	34	-1.410	-1.123	0.287	0.757
152	울산	90	34	-1.344	-1.022	0.321	0.087
156	광주	90	32	-1.212	-1.190	0.023	0.087
159	부산	90	35	-1.501	-1.375	0.126	0.080
165	목포	90	35	-1.478	-1.205	0.273	0.163
184	제주	90	34	-1.674	-1.222	0.451	0.317
188	성산	90	35	-2.096	-1.245	0.851	0.320
189	서귀포	90	34	-1.485	-1.034	0.451	0.047
192	진주	90	33	-1.258	-1.076	0.181	0.463
201	강화	90	35	-1.492	-1.276	0.216	0.217
202	양평	90	34	-1.422	-1.110	0.312	0.370
211	인제	90	33	-1.696	-1.154	0.542	0.090
212	홍천	90	34	-1.388	-1.194	0.194	0.703
221	제천	90	34	-1.495	-1.080	0.415	0.287
226	보은	90	33	-1.291	-1.067	0.225	0.607
235	보령	90	34	-1.361	-1.210	0.151	0.583
236	부여	90	34	-1.501	-1.080	0.421	0.197
238	금산	90	35	-1.515	-1.178	0.336	0.713
243	부안	90	34	-1.450	-1.184	0.266	0.350
245	정읍	90	34	-1.548	-1.262	0.286	0.220

Station ID	Station	CV (mm)	n	ξ (L-mom)	ξ (MLE)	$ \Delta\xi $	CvM p
247	남원	90	32	-1.629	-1.216	0.414	0.603
261	해남	90	35	-1.866	-1.288	0.578	0.213
262	고흥	90	35	-1.727	-1.227	0.500	0.420
278	의성	90	31	-1.208	-0.948	0.260	0.000
281	영천	90	34	-1.332	-0.922	0.411	0.033
284	거창	90	34	-1.486	-1.048	0.438	0.133
294	거제	90	35	-1.749	-1.175	0.574	0.503

S1.11. Shape-Estimation Sensitivity: Full-Range L-moments vs $\xi = -1$ Constraint

The main analysis Winsorizes the stationary GEV shape at the regularity boundary $\xi = -1$ (re-fitting $\mu = \lambda_1$ and $\sigma = 2\lambda_2$ for the 295 of 585 station–CV combinations whose unconstrained L-moments shape falls below -1). To verify that this constraint does not distort the index, STRI was also computed from the unconstrained full-range L-moments fit. Across all 9,621 damage-day events the GEV-STRI is essentially rank-invariant between the two specifications (Spearman $\rho = 0.994$; Pearson $r = 0.957$; median $|\Delta\text{STRI}| = 0.000$, mean = 0.096; $|\Delta\text{STRI}| > 0.5$ in only 2.2% of events). Table S11 reports the per-CV summary (110 mm damage events, matching Table 5 of the main text); per-CV medians shift by at most 0.13, confined to high CV. The Winsorized fit is retained for the main analysis because it places the GEV shape on the same regularity domain as the GPD L-moments estimator and the domain of MLE existence (Smith, 1985), at negligible cost to the damage-validation correlations and POD profiles.

Table S11. Damage-day GEV-STRI by CV under the full-range L-moments fit versus the $\xi = -1$ constrained fit (110 mm damage events). Δ = full – constrained.

CV (mm)	n events	Mean (full)	Mean ($\xi=-1$)	Median (full)	Median ($\xi=-1$)	Mean $ \Delta\text{STRI} $
10	886	-0.594	-0.594	-0.475	-0.475	0.000
20	886	-0.567	-0.567	-0.469	-0.469	0.001
30	886	-0.332	-0.337	-0.322	-0.273	0.042
40	886	-0.215	-0.211	-0.290	-0.222	0.054
50	886	-0.092	-0.101	-0.165	-0.100	0.088
60	886	0.037	0.014	-0.058	0.005	0.131
70	886	0.149	0.100	-0.015	0.107	0.187

CV (mm)	n events	Mean (full)	Mean ($\xi=-1$)	Median (full)	Median ($\xi=-1$)	Mean $ \Delta\text{STRI} $
80	886	0.241	0.177	0.082	0.215	0.216
90	886	0.291	0.240	0.122	0.230	0.213

S1.12. Fifty-Year Return-Level M-IAT Summary (per CV)

Table S12. Mean 50-year return-level M-IAT (hours) by CV for the GEV and declustered-GPD models, averaged over the 65 stations (return levels clipped to the physical range $[0, C]$; CV = critical value). The final column is the GEV – GPD difference.

CV (mm)	GEV mean M-IAT (h)	GPD mean M-IAT (h)	Difference (h)
10	0.139	0.151	-0.011
20	0.291	0.257	+0.034
30	0.439	0.397	+0.042
40	0.512	0.519	-0.007
50	0.628	0.616	+0.012
60	0.738	0.778	-0.040
70	0.847	0.879	-0.031
80	0.810	0.993	-0.183
90	0.997	1.303	-0.305

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