Supplementary Data

(a) Automatic rain gauges at Wat Phraya Kaeo in Kon watershed

(b) Automatic water level gauges at Pua river outlet

Figure S1. Sample of installed automatic rain gauge and water level gauge

Table S1. Rainfall-runoff data of five watersheds in the study area

	Event No	Event Date	*P* mm	*Q* mm	*Iₐ* mm	*S* mm	*λ*	*CN*
N g a e n W a t e r s h e d	3	3-Aug-18	22	5.7	1.841	51.137	0.036	83.2
	4	5-Aug-18	12	2.0	1.330	28.914	0.046	89.8
	5	9-Aug-18	11	2.4	1.632	27.199	0.060	90.3
	8	17-Aug-18	104	41.7	5.961	132.458	0.045	65.7
	12	24-Aug-18	21	5.4	1.931	48.270	0.040	84.0
	13	26-Aug-18	16	3.8	1.730	39.318	0.044	86.6
	17	3-Sep-18	17	4.0	1.985	41.349	0.048	86.0
	18	4-Sep-18	33	9.2	3.202	66.714	0.048	79.2
	19	7-Sep-18	12	2.7	1.397	31.038	0.045	89.1
	20	8-Sep-18	71	23.9	5.664	113.276	0.050	69.2
	23	17-Sep-18	82	29.8	5.411	120.251	0.045	67.9
	24	18-Sep-18	25	6.5	2.791	53.674	0.052	82.6
	26	29-Sep-18	31	8.4	2.900	65.903	0.044	79.4
	27	2-Oct-18	24	6.3	2.451	52.157	0.047	83.0
	30	25-Oct-18	11	2.4	1.613	27.331	0.059	90.3
K o n W a t e r s h e d	2	3-Aug-18	10	2.1	1.520	25.763	0.059	90.8
	4	8-Aug-18	13	3.0	1.371	33.447	0.041	88.4
	6	10-Aug-18	14	3.4	1.753	31.869	0.055	88.9
	7	15-Aug-18	22	5.8	2.084	48.470	0.043	84.0
	8	16-Aug-18	19	4.9	1.879	42.702	0.044	85.6
	9	17-Aug-18	41	12.4	3.179	77.536	0.041	76.6
	10	18-Aug-18	53	16.7	3.582	96.817	0.037	72.4
	14	24-Aug-18	22	5.8	2.084	48.470	0.043	84.0
	15	25-Aug-18	24	6.4	1.761	55.037	0.032	82.2
	16	26-Aug-18	31	8.5	2.964	64.436	0.046	79.8
	18	3-Sep-18	34	9.7	2.829	68.998	0.041	78.6
	20	7-Sep-18	23	6.1	2.244	49.868	0.045	83.6
	21	8-Sep-18	26	6.9	2.796	54.828	0.051	82.2
	22	12-Sep-18	24	6.4	2.203	52.441	0.042	82.9
	23	14-Sep-18	30	8.1	2.714	64.628	0.042	79.7
	24	17-Sep-18	104	40.6	5.964	138.691	0.043	64.7
	29	22-Oct-18	61	20.5	4.876	97.528	0.050	72.3
	30	23-Oct-18	71	24.2	4.918	114.367	0.043	69.0
P u a W a t e r s h e d	3	7-Aug-18	98	34.2	7.458	149.161	0.050	63.0
	5	13-Aug-18	25	5.2	2.653	73.690	0.036	77.5
	6	14-Aug-18	30	6.7	3.637	77.373	0.047	76.7
	7	16-Aug-18	41	10.4	3.904	95.222	0.041	72.7
	13	3-Sep-18	11	1.5	2.017	44.816	0.045	85.0
	14	7-Sep-18	36	8.7	3.403	89.540	0.038	73.9
	15	8-Sep-18	14	2.2	2.137	52.110	0.041	83.0
	16	12-Sep-18	21	4.0	3.489	59.144	0.059	81.1
	17	17-Sep-18	30	6.7	4.455	71.851	0.062	77.9
	19	30-Sep-18	26	5.5	3.483	69.666	0.050	78.5

Remark: *P* is the depth of rainfall   *Iₐ* is the initail abstraction   *l* is the initial abstraction ratio
Q is the depth of runoff   *S* is potential maximum retention   *CN* is curve number

Table S1. Rainfall-runoff data of five watersheds in the study area (Con't)

	Event No	Event Date	P mm	Q mm	I_a mm	S mm	λ	CN
Khwang Watershed	3	4-Aug-18	19	4.9	1.706	43.743	0.039	85.3
	4	5-Aug-18	23	6.1	1.830	52.298	0.035	82.9
	5	7-Aug-18	14	3.4	1.398	34.105	0.041	88.2
	6	9-Aug-18	51	15.7	3.790	94.751	0.040	72.8
	8	14-Aug-18	12	2.8	1.501	28.868	0.052	89.8
	9	15-Aug-18	15	3.7	1.898	33.295	0.057	88.4
	10	16-Aug-18	26	7.0	2.625	54.682	0.048	82.3
	11	17-Aug-18	92	35.2	5.753	125.074	0.046	67.0
	15	23-Aug-18	17	4.3	1.592	39.802	0.040	86.5
	16	24-Aug-18	22	5.7	2.125	49.424	0.043	83.7
	17	26-Aug-18	13	3.1	1.375	31.970	0.043	88.8
	18	27-Aug-18	22	5.8	2.383	46.731	0.051	84.5
	19	31-Aug-18	17	4.3	1.838	38.298	0.048	86.9
	21	8-Sep-18	24	6.4	2.721	49.471	0.055	83.7
	22	9-Sep-18	19	4.9	2.044	41.718	0.049	85.9
	23	12-Sep-18	31	8.5	2.702	65.909	0.041	79.4
	24	14-Sep-18	62	21.0	4.330	100.702	0.043	71.6
	25	17-Sep-18	84	31.0	4.372	124.909	0.035	67.0
	26	20-Sep-18	22	5.8	2.084	48.470	0.043	84.0
	27	25-Sep-18	73	25.2	5.820	111.915	0.052	69.4
	28	29-Sep-18	24	6.4	2.286	51.957	0.044	83.0
	33	22-Oct-18	17	4.3	1.838	38.298	0.048	86.9
Sao Watershed	4	5-Aug-18	17	2.9	2.891	54.538	0.053	82.3
	5	9-Aug-18	11	1.4	1.832	50.875	0.036	83.3
	7	15-Aug-18	18	3.2	2.413	60.333	0.040	80.8
	8	16-Aug-18	50	13.2	5.571	105.112	0.053	70.7
	9	17-Aug-18	93	31.5	7.117	148.272	0.048	63.1
	13	25-Aug-18	17	2.9	2.537	57.665	0.044	81.5
	14	27-Aug-18	14	2.1	2.410	52.381	0.046	82.9
	15	1-Sep-18	12	1.7	1.967	49.178	0.040	83.8
	16	2-Sep-18	81	26.4	5.716	139.403	0.041	64.6
	17	3-Sep-18	27	5.7	2.822	78.381	0.036	76.4
	19	8-Sep-18	30	6.6	3.692	78.556	0.047	76.4
	20	12-Sep-18	36	8.5	4.763	83.558	0.057	75.2
	23	30-Sep-18	23	4.5	3.643	63.909	0.057	79.9
	24	3-Oct-18	11	1.4	2.947	38.271	0.077	86.9
	27	13-Oct-18	22	4.2	2.960	67.274	0.044	79.1
	Min		10	1.4	1.330	25.763	0.032	63.0
	Median		24	5.8	2.639	54.610	0.045	82.3
	Average		33	9.5	3.006	66.019	0.046	80.1
	Max		104	41.7	7.458	149.161	0.077	90.8
	SD		25	9.7	1.462	31.587	0.007	7.3

Remark: P is the depth of rainfall $\quad$ I_a is the initail abstraction $\quad$ l is the initial abstraction ratio
Q is the depth of runoff $\quad$ S is potential maximum retention $\quad$ CN is curve number