

[Single Shift Segmentation Improves Moderate Flood Estimates under Nonstationary Conditions across the United States][Rouzbeh Berton¹ and Vahid Rahmani²]¹ Rouzbeh Berton, Stantec Consulting Inc., 410 17th St #1500, Denver, CO 80202, USA (Rouzbeh.Berton@Stantec.com)² Vahid Rahmani, Kansas State University, 1016 Seaton Hall, 920 N. Martin Luther King, Jr. Drive, Manhattan, KS 66506, USA (VRahmani@ksu.edu)

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Table S1

Table S1. The description of 18 reference and 66 nonreference study sites with more than 100 years of peak flow data across the contiguous United States.

No.	Site ID	Name	Latitude	Longitude	Period of record	No. of observation	Drainage area (km ²)	Gauge datum (m)	Condition
1	01030500	Mattawamkeag River near Mattawamkeag, ME	45.50	-68.31	1903-2015	115	3673	66	Reference
2	01031500	Piscataquis River near Dover-Foxcroft, ME	45.18	-69.31	1903-2015	115	772	109	Reference
3	01350000	Schoharie Creek at Prattsville, NY	42.32	-74.44	1903-2017	109	614	345	Reference
4	01543000	Driftwood Br Sinnemahoning Cr at Sterling Run, PA	41.41	-78.20	1914-2017	104	704	273	Reference
5	01550000	Lyoming Creek near Trout Run, PA	41.42	-77.03	1914-2017	104	448	212	Reference
6	03015500	Brokenstraw Creek at Youngsville, PA	41.85	-79.32	1910-2017	108	831	362	Reference
7	03070500	Big Sandy Creek at Rockville, WV	39.62	-79.70	1888-2016	105	518	403	Reference
8	04254500	Moose River at McKeever, NY	43.61	-75.11	1869-2017	103	940	451	Reference
9	05362000	Jump River at Sheldon, WI	45.31	-90.96	1916-2016	102	1492	333	Reference
10	06191500	Yellowstone River at Corwin Springs, MT	45.11	-110.79	1890-2017	111	6775	1548	Reference
11	07068000	Current River at Doniphan, MO	36.62	-90.85	1904-2017	101	5278	98	Reference

No.	Site ID	Name	Latitude	Longitude	Period of record	No. of observation	Drainage area (km ²)	Gauge datum (m)	Condition
12	10109001	Com F Logan R AB ST D and Cache HL Can NR Logan, UT	41.74	-111.78	1896-2017	122	554	1426	Reference
13	10234500	Beaver River near Beaver, UT	38.28	-112.57	1914-2017	104	236	1890	Reference
14	11264500	Merced R A Happy Isles Bridge NR Yosemite, CA	37.73	-119.56	1916-2017	102	469	1228	Reference
15	11266500	Merced R A Pohono Bridge NR Yosemite, CA	37.72	-119.67	1917-2017	101	831	1177	Reference
16	11383500	Deer C NR Vina, CA	40.01	-121.95	1912-2017	101	539	146	Reference
17	13185000	Boise River NR Twin Springs, ID	43.66	-115.73	1871-2015	109	2155	1018	Reference
18	14137000	Sandy River near Marmot, OR	45.40	-122.14	1912-2015	106	684	0.0	Reference
19	01034500	Penobscot River at West Enfield, ME	45.24	-68.65	1902-2017	116	16633	38	Nonreference
20	01042500	Kennebec River at The Forks, ME	45.34	-69.96	1901-2017	116	4118	173	Nonreference
21	01053500	Androscoggin River at Errol, NH	44.78	-71.13	1906-2017	112	2709	374	Nonreference
22	01054500	Androscoggin River at Rumford, ME	44.55	-70.54	1893-2017	125	5356	128	Nonreference
23	01076500	Pemigewasset River at Plymouth, NH	43.76	-71.69	1904-2017	114	1611	139	Nonreference
24	01170500	Connecticut River at Montague City, MA	42.58	-72.57	1904-2017	114	20357	30	Nonreference
25	01315500	Hudson River at North Creek, NY	43.70	-73.98	1908-2017	110	2051	301	Nonreference
26	01325000	Sacandaga River at Stewarts Bridge NR Hadley, NY	43.31	-73.87	1908-2017	110	2732	177	Nonreference
27	01381000	Rockaway River below Reservoir at Boonton, NJ	40.90	-74.39	1903-2017	106	308	60	Nonreference
28	01389500	Passaic River at Little Falls, NJ	40.88	-74.23	1810-2017	125	1974	37	Nonreference
29	01434000	Delaware River at Port Jervis, NY	41.37	-74.70	1903-2017	114	7951	126	Nonreference
30	01453000	Lehigh River at Bethlehem, PA	40.62	-75.38	1902-2017	112	3313	64	Nonreference
31	01536500	Susquehanna River at Wilkes-Barre, PA	41.25	-75.88	1786-2017	132	25796	156	Nonreference
32	01551500	WB Susquehanna River at Williamsport, PA	41.24	-77.00	1889-2017	124	14716	151	Nonreference
33	01638500	Potomac River at Point of Rocks, MD	39.27	-77.54	1889-2017	124	24996	61	Nonreference
34	01668000	Rappahannock River NR Fredericksburg, VA	38.31	-77.53	1908-2017	110	4131	21	Nonreference
35	02055000	Roanoke River at Roanoke, VA	37.26	-79.94	1889-2017	120	995	276	Nonreference
36	02223000	Oconee River at Milledgeville, GA	33.09	-83.22	1904-2017	115	7640	70	Nonreference
37	02223500	Oconee River at Dublin, GA	32.54	-82.89	1894-2017	124	11396	45	Nonreference
38	02339500	Chattahoochee River at West Point, GA	32.89	-85.18	1897-2017	122	9194	168	Nonreference
39	02387500	Oostanaula River at Resaca, GA	34.58	-84.94	1886-2017	127	4149	184	Nonreference

No.	Site ID	Name	Latitude	Longitude	Period of record	No. of observation	Drainage area (km ²)	Gauge datum (m)	Condition
40	03011020	Allegheny River at Salamanca, NY	42.16	-78.72	1904-2017	114	4165	414	Nonreference
41	03051000	Tygart Valley River at Belington, WV	39.03	-79.94	1908-2017	111	1052	512	Nonreference
42	03082500	Youghiogheny River at Connellsville, PA	40.02	-79.59	1860-2017	128	3434	262	Nonreference
43	03183500	Greenbrier River at Alderson, WV	37.72	-80.64	1896-2017	122	3533	466	Nonreference
44	03193000	Kanawha River at Kanawha Falls, WV	38.14	-81.21	1878-2017	140	21681	189	Nonreference
45	03284000	Kentucky River at Lock 10 NR Winchester, KY	37.89	-84.26	1908-2017	109	10243	170	Nonreference
46	03548500	Hiwassee River above Murphy, NC	35.08	-84.00	1897-2017	107	1052	469	Nonreference
47	04024000	St. Louis River at Scanlon, MN	46.70	-92.42	1908-2017	110	8884	336	Nonreference
48	04073500	Fox River at Berlin, WI	43.95	-88.95	1898-2017	118	3471	227	Nonreference
49	04223000	Genesee River at Portageville, NY	42.57	-78.04	1902-2017	109	2549	329	Nonreference
50	04266500	Raquette River at Piercefield, NY	44.23	-74.57	1900-2017	110	1867	458	Nonreference
51	05079000	Red Lake River at Crookston, MN	47.78	-96.61	1897-2017	117	13649	254	Nonreference
52	05211000	Mississippi River at Grand Rapids, MN	47.23	-93.53	1884-2017	134	8728	379	Nonreference
53	05454500	Iowa River at Iowa City, IA	41.66	-91.54	1881-2017	117	8472	188	Nonreference
54	05464500	Cedar River at Cedar Rapids, IA	41.97	-91.67	1903-2016	116	16861	214	Nonreference
55	06754000	South Platte River Near Kersey, CO	40.41	-104.56	1902-2007	104	25022	1395	Nonreference
56	07096000	Arkansas River at Canon City, CO	38.43	-105.26	1889-2017	129	8073	1628	Nonreference
57	08033500	Neches River NR Rockland, TX	31.03	-94.40	1904-2017	113	9417	27	Nonreference
58	08126380	Colorado River NR Ballinger, TX	31.72	-100.03	1908-2017	110	42367	490	Nonreference
59	08220000	Rio Grande NR Del Norte, CO	37.69	-106.46	1890-2017	128	3419	2432	Nonreference
60	08279500	Rio Grande at Embudo, NM	36.21	-105.96	1889-2017	120	26936	1765	Nonreference
61	08313000	Rio Grande at Otowi Bridge, NM	35.87	-106.14	1895-2017	116	37037	1673	Nonreference
62	09085000	Roaring Fork River at Glenwood Springs, CO	39.54	-107.33	1906-2017	110	3763	1744	Nonreference
63	09239500	Yampa River at Steamboat Springs, CO	40.48	-106.83	1904-2017	111	1469	2041	Nonreference
64	09304500	White River NR Meeker, CO	40.03	-107.86	1901-2017	109	1968	1920	Nonreference
65	10128500	Weber River NR Oakley, UT	40.74	-111.25	1905-2017	113	420	2024	Nonreference
66	10141000	Weber River NR Plain City, UT	41.28	-112.09	1905-2017	113	5390	1282	Nonreference
67	10322500	Humboldt River at Palisade, NV	40.61	-116.20	1903-2017	111	13087	1472	Nonreference

No.	Site ID	Name	Latitude	Longitude	Period of record	No. of observation	Drainage area (km²)	Gauge datum (m)	Condition
68	11152000	Arroyo Seco NR Soledad, CA	36.28	-121.32	1906-2017	112	632	103	Nonreference
69	11179000	Alameda Creek NR Niles, CA	37.59	-121.96	1892-2017	126	1639	26	Nonreference
70	11323500	Mokelumne River BL Camanche Dam, CA	38.23	-121.02	1905-2017	114	1608	25	Nonreference
71	11377100	Sacramento River Ab Bend Bridge NR Red Bluff, CA	40.29	-122.19	1879-2017	136	23051	87	Nonreference
72	12117500	Cedar River NR Landsburg, WA	47.39	-121.95	1896-2017	118	313	172	Nonreference
73	12372000	Flathead River NR Polson, MT	47.68	-114.25	1908-2017	111	18335	821	Nonreference
74	12422500	Spokane River at Spokane, WA	47.66	-117.45	1891-2017	127	11111	517	Nonreference
75	12452500	Chelan River at Chelan, WA	47.83	-120.01	1904-2015	110	2393	327	Nonreference
76	13077000	Snake River at Neeley, ID	42.77	-112.88	1906-2017	112	35224	1293	Nonreference
77	13247500	Payette River NR Horseshoe Bend, ID	43.94	-116.20	1906-2017	109	5750	800	Nonreference
78	14033500	Umatilla River NR Umatilla, OR	45.90	-119.33	1904-2017	114	5931	101	Nonreference
79	14048000	John Day River at Mcdonald Ferry, OR	45.59	-120.41	1905-2017	112	19632	120	Nonreference
80	14140000	Bull Run River NR Bull Run (River Only), OR	45.44	-122.18	1908-2017	102	277	173	Nonreference
81	14174000	Willamette River at Albany, OR	44.64	-123.11	1861-2017	133	12536	51	Nonreference
82	14210000	Clackamas River at Estacada, OR	45.30	-122.35	1909-2017	109	1738	87	Nonreference
83	14321000	Umpqua River NR Elkton, OR	43.59	-123.56	1906-2016	111	9539	28	Nonreference
84	14359000	Rogue River at Raygold NR Central Point, OR	42.44	-122.99	1906-2016	112	5317	342	Nonreference