

WHEN IT RAINS IT POURS

HEAVIEST DOWNPOURS ARE ON THE RISE

METHODOLOGY

Climate Central's heavy downpours analysis is based on precipitation observations from 2,962 climate stations across the contiguous 48 states (accessed via the [Applied Climate Information System, ACIS](#)). At each station, a heavy downpour was defined as the top 1 percent daily precipitation amounts over the period 1950-2014 (excluding all non-precipitation days from consideration). City rankings are based on the percent increase in the number of these downpours in the last decade (2005-2014) compared to the 1950s (1950-1959).

The top 50 cities highlighted are drawn from a narrowed list of the 100 largest metropolitan areas in the U.S. (not from the full list of stations).

The state-level trends are represented as an index of the number of heavy downpours statewide. Station-level downpours (the top 1% defined at each station) were averaged over each of the [344 NCEI \(formerly NCDC\) Climate Divisions](#). These climate divisions were then spatially weighted and aggregated to give a state-level trend. State rankings are based on the percent change in the indexed number of heavy downpours in each state in the last decade (2005-2014) compared to the 1950s (1950-1959).

The timeline featured in the *When It Rains It Pours* interactive highlights the historical distribution of each of the current top 10 heaviest precipitation events at all 2,962 stations (whereas state level trends within the interactive highlight the analysis described above).

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State Rankings of Increases in Heavy Downpours

Rank	State	Percent Increase*	Rank	State	Percent Increase*
1	Rhode Island	104	25	Washington	13
2	Maine	61	26	Kansas	12
3	Wyoming	58	26	Illinois	12
4	New Hampshire	56	26	Nebraska	12
4	Connecticut	43	26	Ohio	12
6	Missouri	38	30	Montana	11
7	Vermont	35	30	Idaho	11
7	Alabama	35	32	New Jersey	9
9	New York	34	33	Florida	8
10	Iowa	28	33	Wisconsin	8
11	Massachusetts	27	33	Pennsylvania	8
12	Georgia	26	33	Mississippi	8
13	Maryland	25	33	Texas	8
14	North Dakota	24	38	Arizona	7
15	New Mexico	23	39	Indiana	5
16	South Dakota	21	40	West Virginia	4
17	Delaware	18	40	Michigan	4
18	North Carolina	16	42	Utah	2
18	Kentucky	16	43	Minnesota	-2
20	Louisiana	15	44	Oklahoma	-3
20	Nevada	15	44	Colorado	-3
20	Arkansas	15	46	South Carolina	-4
23	Tennessee	14	47	Oregon	-5
23	Virginia	14	48	California	-6

* between number of heavy downpours from 2005-2014 compared to 1950-1959