

Extreme Rainfall Floods New York City

By Don Sutherland

On Friday, New York City saw intense rainfall and high rainfall amounts that brought extensive street and river flooding to the City and its nearby suburbs. At Central Park, 5.48” of rain fell, the 9th highest daily figure on record. JFK Airport registered an all-time daily record rainfall of 8.05”.

Central Park also saw two consecutive hourly rainfall amounts of 1” or above, including 1.96”. Such intense rainfall is a hallmark of a warming climate where the atmosphere holds more water vapor and, when conditions are right, releases it as heavy rainfall.

The hourly rainfall statistics for Central Park that go back to 1889 provide a good illustration of how the ongoing warming is leading to more frequent intense rainfalls. A disproportionate 39% of hourly rainfall amounts of 1” or more have occurred since 2000 while an even more disproportionate 28% of such rainfall amounts have occurred since 2010. In addition, three of New York City’s four cases of two consecutive hours with 1” or more rainfall have occurred since 2020.

This latest event was the second significant climate change-related event this year, with the thick wildfire smoke in June constituting the first such event. Yet, tempting as it might be for one to conclude that this is going to be a “new normal,” it isn’t. As long as greenhouse gas emissions continue to increase atmospheric CO₂, greenhouse gas forcing driving climate change will continue to grow. That means even more severe extremes likely lie ahead.



Aftermath of the flood at the New York Botanical Garden where the Bronx River crested at 4.99 feet