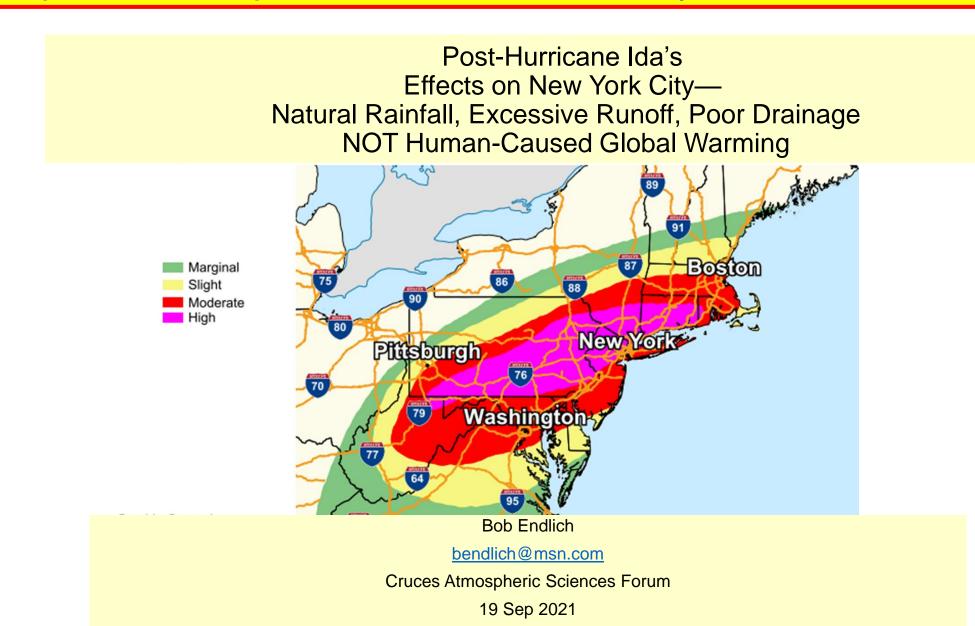
# Climate Change means New York City's flooding is 'new normal,' Governor says



**Bob Endlich** 

bendlich@msn.com

Cruces Atmospheric Sciences Forum 21 Oct 2023 Parts of this presentation draw from a similar post and presentation graphics from 2 years ago: https://casf.me/post-hurricane-idas-deadly-rain-event-in-new-york-city/



## Outline

Reuters story: "Climate Change means New York City's flooding is 'new normal,' Governor says"

Photos of NYC-Area flooding

Coastal Storms and the Geography of the NYC Area

The Urban Heat Island effect – a likely contributor to heavier rainfall

List of 22 tropical systems which affected NY or NYC with heavy rainfall

US Rainfall Records from NOAA's National Weather Service

Graphics, mostly from The Weather Channel, on this storm

Selected News Stories, some from NYC, some quite old 'news'...

We learn: it was UHI, geography, timing, and weather, not Human-Caused CO2-fueled Global Warming

Sept 30 (Reuters) - Torrential downpours that caused flash flooding in New York City on Friday reflect a "new normal" due to the effects of climate change, New York Governor Kathy Hochul warned on Saturday, as the city began drying out after one of its wettest days ever.

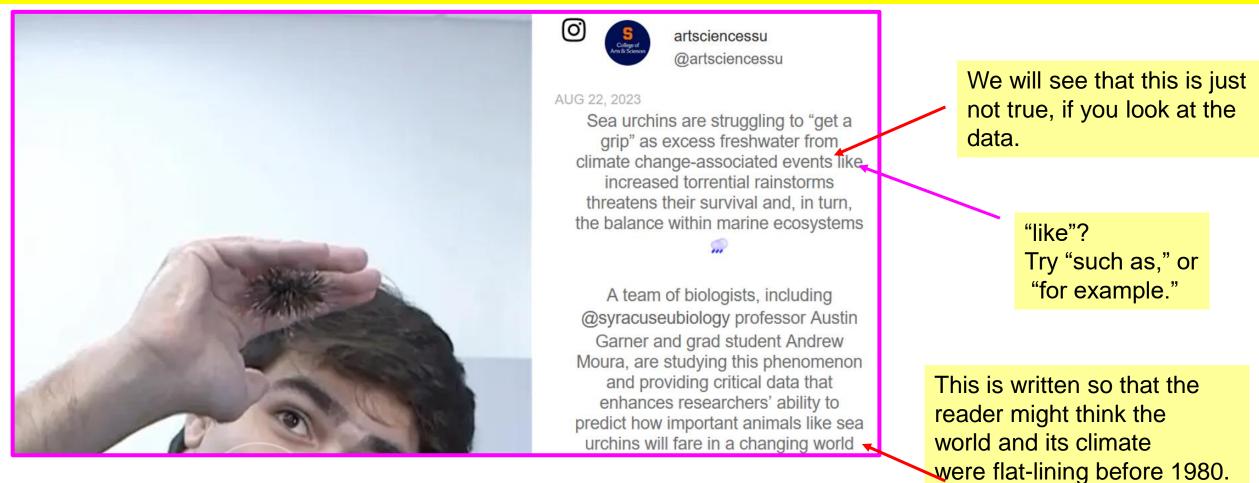
Almost eight inches of rain fell in some parts of the most populous U.S. city, enough to enable a sea lion at the Central Park Zoo to swim briefly out of the confines of her pool enclosure. Kathy Hochul received a Bachelor of Arts in Political Science from Syracuse University in 1980

"Kathy holds a bachelor's degree from Syracuse University and a JD from Catholic University. She is married to her husband, Bill, and they have two children, Will and Katie.<u>https://democraticgovernors.org/governor/kathy-hochul/</u>

I looked through the Syracuse University College of Arts and Sciences web pages....

https://artsandsciences.syracuse.edu/student-success/advising-services/liberal-arts-core/

But there was no straightforward way today I could determine the 1976-1980 science requirements Kathy took then. The following is an example what I did find, indicative perhaps, of the Science and English competence there...



https://www.reuters.com/world/us/new-york-citys-heavy-rain-is-new-normal-due-climate-change-governor-says-2023-09-30/

#### **Climate change means New York City's flooding is 'new normal,' Governor says**



Next two graphics accompanied the Reuters story

Special Operations Unit rescue personnel with the Westchester County Emergency Services paddle in rafts as they check buildings for victims trapped in heavy flooding in the New York City suburb of Mamaroneck, New York, U.S., September 29, 2023. REUTERS/

https://www.reuters.com/world/us/new-york-citys-heavy-rain-is-new-normal-due-climate-change-governor-says-2023-09-30/



A police officer from the NYPD Highway Patrol looks on as motorists drive through a flooded street after <u>heavy rains as the remnants of Tropical Storm Ophelia</u> bring flooding across the mid-Atlantic and Northeast, at the FDR Drive in Manhattan near the Williamsburg Bridge, in New York City, U.S. (underling added)

https://www.reuters.com/world/us/new-york-citys-heavy-rain-is-new-normal-due-climate-change-governor-says-2023-09-30/



A resident walks past the high floodwaters as the remnants of Tropical Storm Ophelia bring flooding across the mid-Atlantic and Northeast, in the Hamilton Beach neighborhood in the Queens borough of New York City, US.

More photos of the storm's NYC urban flooding.

### https://www.aljazeera.com/gallery/2023/9/30/flash-flooding-inundates-new-york-city-paralysing-subway



A passenger speaks with the driver of a vehicle stuck in contaminated floodwaters on Sapphire Street in The Hole, one of the lowest neighbourhoods in New York City, US on September 29, 2023

https://www.aljazeera.com/gallery/2023/9/30/flash-flooding-inundates-new-york-city-paralysing-subway



An empty stretch of the FDR highway in the Lower East Side of Manhattan is closed due to flash flooding on Friday September 29, 2023, in New York.

### https://www.aljazeera.com/gallery/2023/9/30/flash-flooding-inundates-new-york-city-paralysing-subway

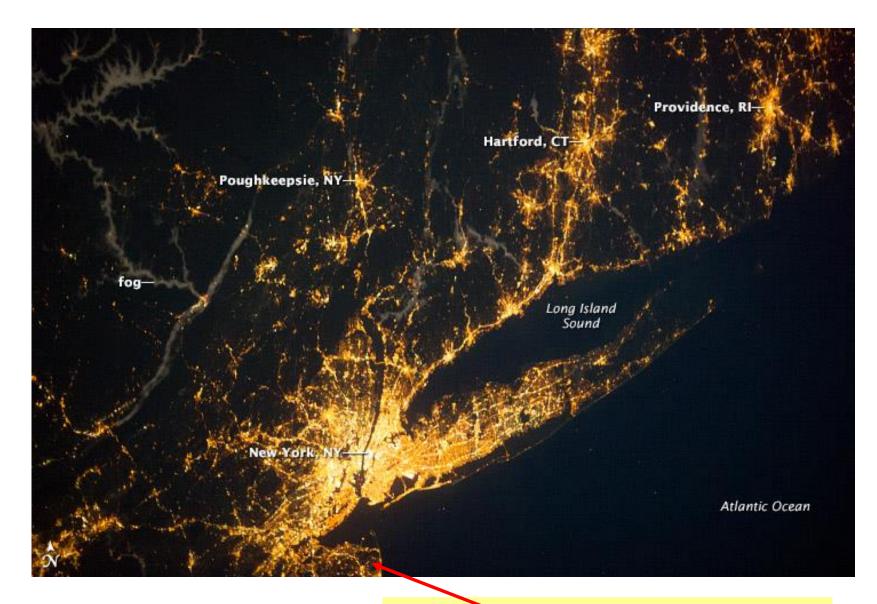


Comment: Nuisance high water...

Not quite the image of a flooding catastrophe....

Pedestrians walk along a flooded sidewalk on Friday, September 29, 2023, in the Brooklyn borough of New York.

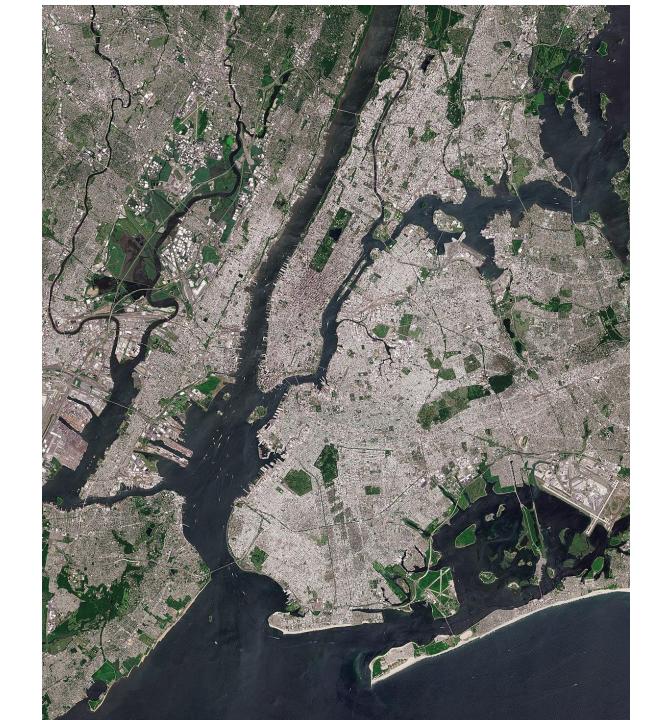
# Coastal Storms & Geography of the NYC Metro Area



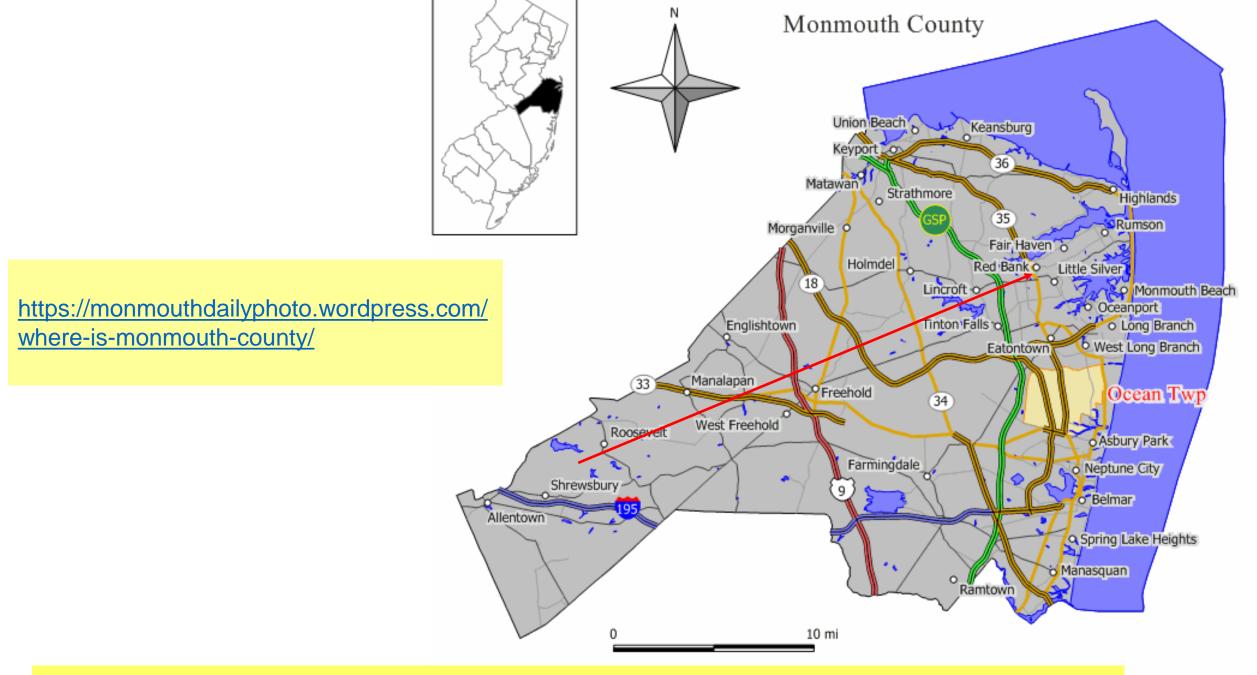
Where I grew up, Monmouth County, NJ

### https://en.wikipedia.org/wiki/Geography\_of \_New\_York\_City









I don't know how a resident of Monmouth County could have misplaced Shrewsbury so far... (arrow)

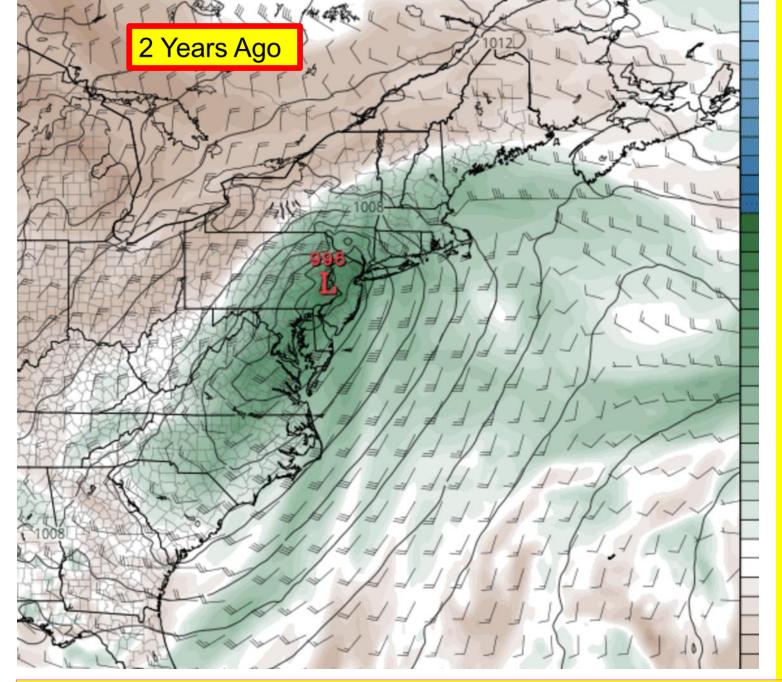
#### Average ocean temperature in °F

	Cape May	Atlantic City	Sandy Hook
January	37	37	37
February	37	35	36
March	42	42	40
April	50	48	46
Мау	59	56	55
June	68	63	62
July	73	70	69
August	74	73	72
September	72	70	68
October	61	61	59
November	52	53	51
December	42	44	43
Annual	55	54	53

#### Warm Ocean Temperatures in Sept, every year!

https://www.currentresults.com/Oceans/ Temperature/new-jersey-average-watertemperature.php

> September has nearly the warmest water temperature of the year!



Wind flow over the ocean is less affected by surface friction.

When the winds come onshore surface friction increases.

Surface friction is increased by NYC skyscrapers.

There is local low level convergence.

The lifting by the convergence is aided by the Urban Heat Island Effect.

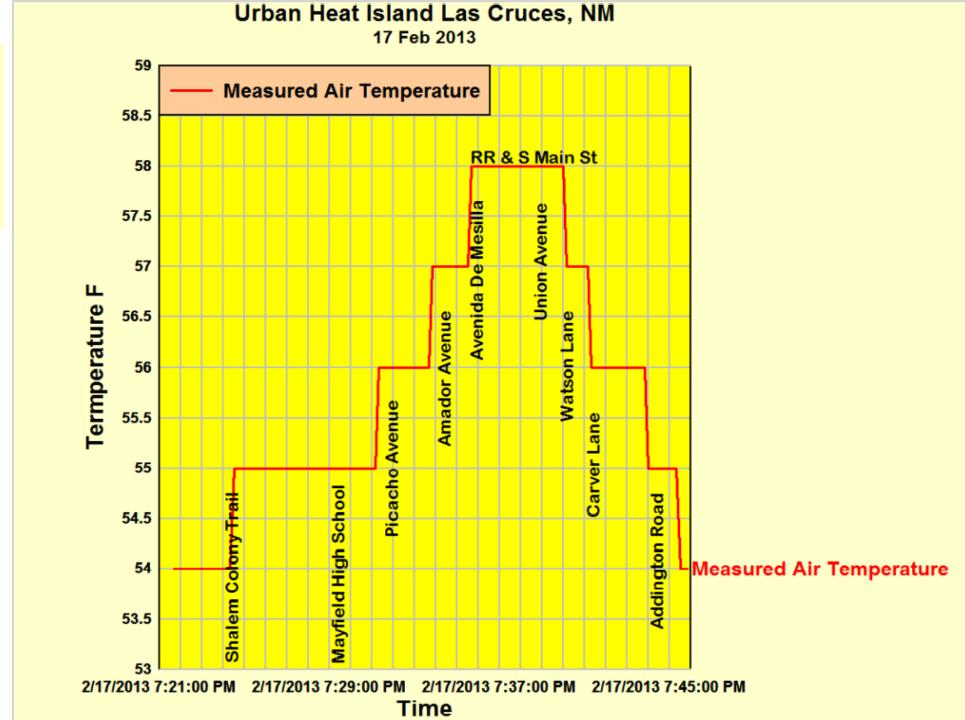
Lifting is aided by the front

The warm water vapor over the ocean fuels convection and thunderstorms



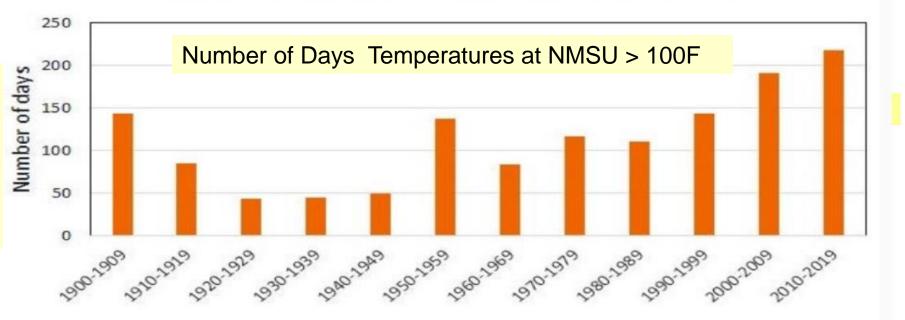
# The Urban Heat Island effect... A likely contributor to heavy rainfall

https://casf.me/wpcontent/uploads/2017/03/ PDF\_Measuring-the-Las-Cruces-Urban-Heat-Island\_1\_Apr\_2013.pdf

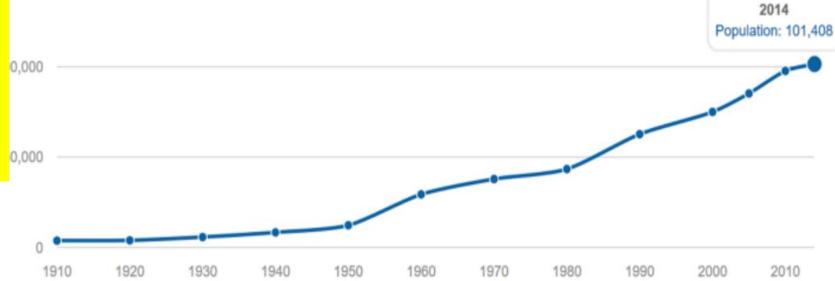


https://casf.me/wp-content/uploads/2019/11/Full\_\_\_Deconstructing-an-Alarmist-Article-in-the-Sun-News-Examining-Sources-Standards-and-Data\_19\_Oct\_2019-Updated-Nov\_2019.pdf

Chart right shows the number of days NMSU's surface temperatures exceed 100F, top, and Las Cruces' population since NM was a territory of the USA, bottom.



Except for severe drought years of the 1950s, for the past century, the number of days hotter than 100F parallels the urban growth of Las Cruces, NM.



Climate Central blurts out this: New York City is up to 20F warmer than suburbs: <u>https://www.climatecentral.org/news/urban-heat-islands-threaten-us-health-17919</u>

SUMMER IN THE CITY New York





# SUMMER HEAT IN New York

UP TO 20.0° HOTTER IN THE CITY THAN IN NEARBY RURAL AREAS

### AVERAGE

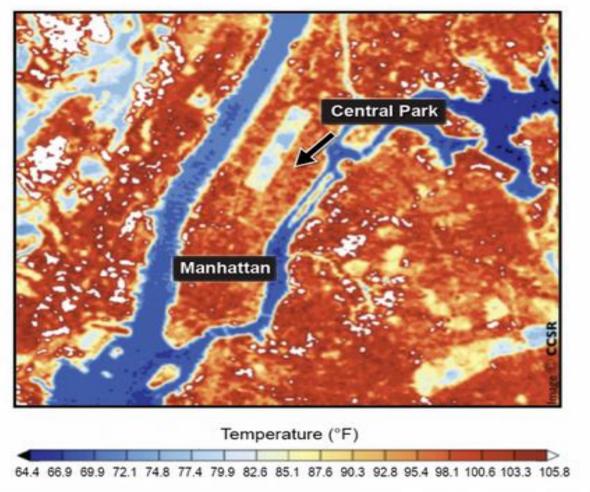
2.7° CITY SUMMERS ARE HOTTER THAN IN RURAL AREAS



2 Years Ago

Map from the US Government: Manhattan, Brooklyn, Queens, Bronx. <u>https://www.globalchange.gov/browse/multimedia/urban-heat-island</u>

#### Urban Heat Island



My interpretation of deep red-orange areas:

The scarcity of blue dots, lines or areas indicates paved-over, roofed-over or otherwise, areas of little or no grassy areas where excess rainfall can soak into the earth.

Heavy rainfall runs off.

Surface temperatures in New York City on a summer's day show the "urban heat island," with temperatures in populous urban areas being approximately 10°F higher than the forested parts of Central Park. Dark blue reflects the colder waters of the Hudson and East Rivers. (Figure source: Center for Climate Systems Research, Columbia University).

Map from a UHI study published by the AMS https://coolrooftoolkit.org/wpcontent/uploads/2012/05/NYC-2009\_Rosenzweig\_etal.pdf

Temperatures at sunrise



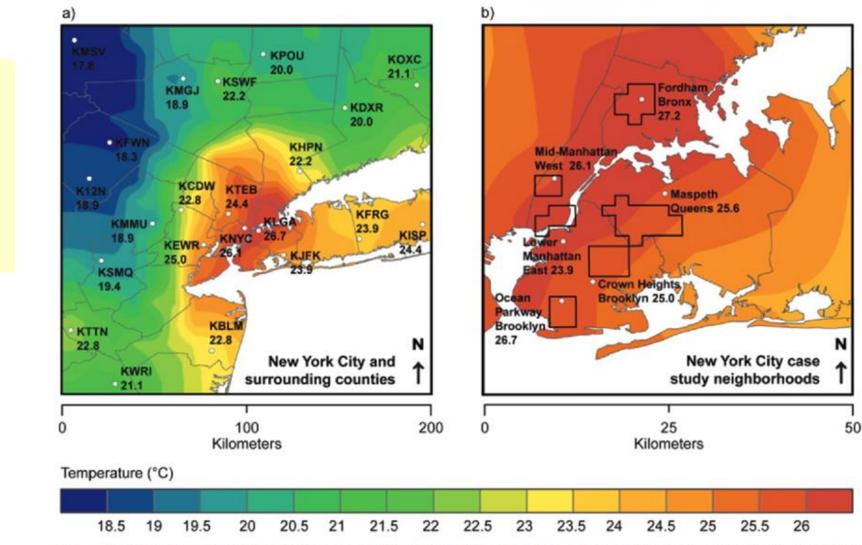


FIG. 1. New York City's urban heat island at 0600 EST 14 Aug 2002 based on surface air temperature readings taken at NWS and WeatherBug stations. (a) New York City and surrounding counties, with locations of NWS stations. (b) New York City case study neighborhoods, with locations of WeatherBug stations. Note: Inverse-weighted-distance interpolation with three neighbors, a power value of I, a variable search radius, and an output grid size of 0.1° were applied to meteorological data. All NWS and WeatherBug data shown were used in the interpolation, with the exception of the WeatherBug station representing Lower Manhattan East, which was excluded because of low confidence in data quality. Because multiple neighboring points contributed to the interpolation, contours may differ from individual station temperatures.

Heat island map from New York City Council: <u>https://council.nyc.gov/data/heat/</u>

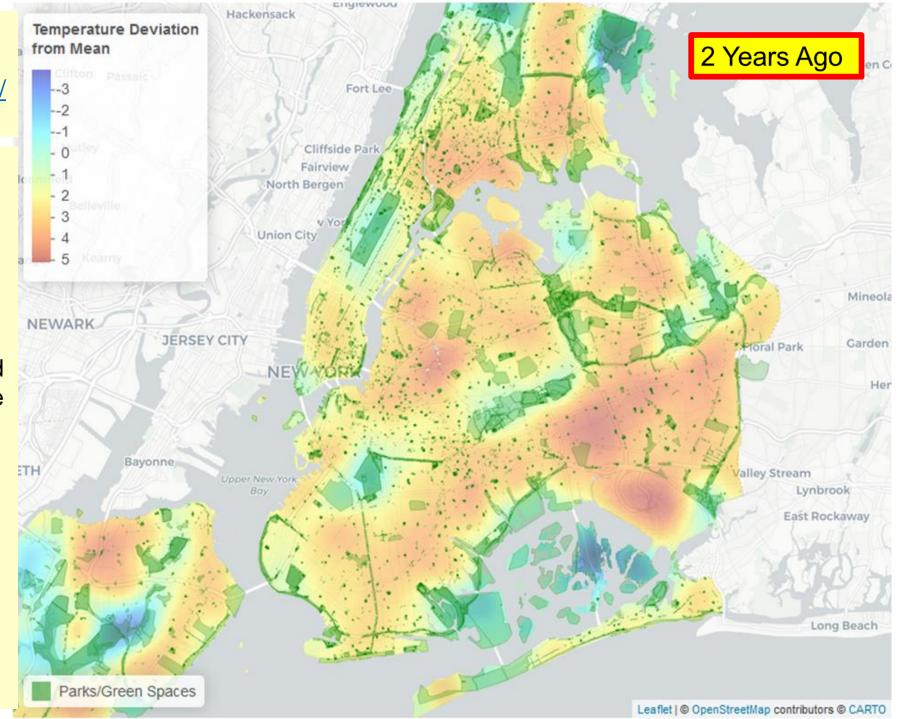
Natural Geographical features: Shape of New York Harbor.

Anthropogenic Geography shown by the map:

Warm Colors show impervious surfaces. They have the elevated temperature deviations over wide areas of Brooklyn, Queens, the Bronx.

Roofs, sidewalks, roads, parking lots, residential and industrial areas.

All contribute to rain runoff, not rain entering permeable soil surfaces.



5

### 1.1 Surface Urban Heat Islands

On a hot, sunny summer day, the sun can heat dry, exposed urban surfaces, like roofs and pavement, to temperatures 50 to 90°F (27 to 50°C) hotter than the air,<sup>5</sup> while shaded or moist surfaces—often in more rural surroundings—remain close to air temperatures. Surface urban heat islands are typically present day and night, but tend to be strongest during the day when the sun is shining.

Roofs and Pavement 50F to 90F hotter than the air

2 Years Ago

### How Weather Influences Urban Heat Islands

Summertime urban heat islands are most intense when the sky is clear and winds are calm. Heavy cloud cover blocks solar radiation, reducing daytime warming in cities. Strong winds increase atmospheric mixing, lowering the urban-rural temperature difference. This document, *Reducing* Urban Heat Islands: Compendium of Strategies, focuses on mitigating summertime heat islands through strategies that have maximum impact under clear, calm conditions.

### **EPA Characterizes the UHI**

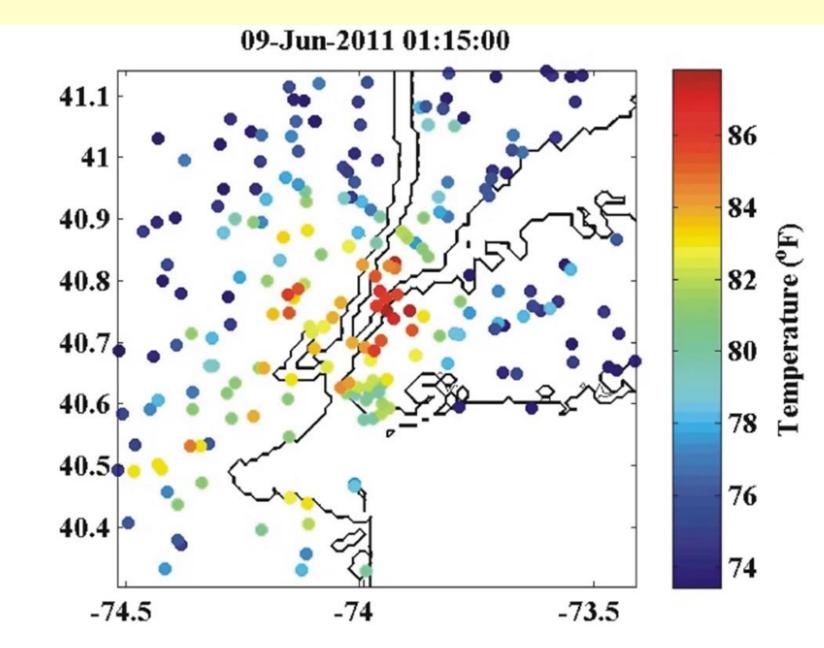
#### Table 1: Basic Characteristics of Surface and Atmospheric Urban Heat Islands (UHIs)<sup>4</sup>

Feature	Surface UHI	Atmospheric UHI
Temporal Development	<ul> <li>Present at all times of the day and night</li> <li>Most intense during the day and in the summer</li> </ul>	<ul> <li>May be small or non-existent during the day</li> <li>Most intense at night or predawn and in the winter</li> </ul>
Peak Intensity (Most intense UHI conditions)	<ul> <li>More spatial and temporal variation:</li> <li>Day: 18 to 27°F (10 to 15°C)</li> <li>Night: 9 to 18°F (5 to 10°C)</li> </ul>	<ul> <li>Less variation:</li> <li>Day: -1.8 to 5.4°F (-1 to 3°C)</li> <li>Night: 12.6 to 21.6°F (7 to 12°C)</li> </ul>
Typical Identification Method	<ul> <li>Indirect measurement:</li> <li>Remote sensing</li> </ul>	<ul> <li>Direct measurement:</li> <li>Fixed weather stations</li> <li>Mobile traverses</li> </ul>
Typical Depiction	Thermal image	<ul><li>Isotherm map</li><li>Temperature graph</li></ul>



CASF has Las Cruces UHI Traverse posted: https://casf.me/94-2/

Map of temperatures taken at 0115 Local showing 12F UHI thirteen years ago. Temperatures in Newark was nearly as hot as Queens: <a href="https://seaandskyny.com/2011/09/23/fall-colors-and-the-urban-heat-island/">https://seaandskyny.com/2011/09/23/fall-colors-and-the-urban-heat-island/</a>





### List of tropical systems which affected NY or NYC with heavy rainfall





The Free Encyclopedia

https://en.wikipedia.org/wiki/List\_of\_New\_York\_hurricanes

List of New York hurricanes

List shows only tropical NY systems with heavy rainfall

From Wikipedia, the free encyclopedia

August 9, 1817: A tropical storm produces heavy rainfall in New York City and Long Island.

September 17, 1903: The 1903 Vagabond Hurricane produces wind gusts in excess of 65 mph and 3 inches of rain in Central Park.

August 25, 1933: The 1933 Chesapeake–Potomac hurricane produces up to 6 inches of rain in Southeast New York State

September 10, 1954: Hurricane Edna tracks to the east of Long Island producing 9 inches (230 mm) of rain

August 13, 1955: Hurricane Connie produces 13.24 inches of rain in Southeast New York...

October 1, 1959: The remnants of Hurricane Gracie track into Central New York and drops up to 6 inches of rain

September 10, 1969: Rainfall up to 3 inches is reported on Long Island and in portions of Southeastern New York associated with Hurricane Gerda



WIKIPEDIA The Free Encyclopedia List of New York hurricanes

This list shows only tropical systems with heavy rainfall

From Wikipedia, the free encyclopedia

August 28, 1971: Tropical Storm **Doria produces up to 8 inches of rain in New York City** and Upstate New York causing **moderate to severe flooding and floods subways in New York City** 

June 22, 1972: Hurricane Agnes makes landfall near New York City and produces up to **12 inches of rain in Southeastern New York State** and much of Western New York, with locally higher amounts

August 11, 1976: Hurricane Belle makes landfall on Long Island as a Category 1 hurricane on the Saffir–Simpson hurricane scale, producing **up to 6 inches of rain** 

September 27, 1985: Hurricane Gloria makes landfall on Long Island as a Category 2 hurricane. Wind gusts of up to 100 mph (160 km/h) and 3.4 inches of rain

August 19, 1991: Hurricane Bob comes within a short distance of making landfall on the eastern tip of Long Island as a category 2 hurricane. **Heavy rainfall up to 7 inches ...** 

September 16, 1999: Hurricane Floyd produces rainfall up to 13 inches and wind gusts of up to 60 mph (95 km/h) affect Southeastern New York



The Free Encyclopedia

Article

Talk

List of New York hurricanes

This list shows only tropical systems with heavy rainfall

From Wikipedia, the free encyclopedia

June 17, 2001: The remnants of Tropical Storm Allison produce moderate rainfall up to 3 inches, although it fell in just a couple hours causing minor to moderate flash flooding.

August 4, 2004: Hurricane Alex drops 2.83 inches of rain on Long Island

August 13, 2004: Tropical **Storm Bonnie produces rainfall peaking at 4 inches** causing several rivers to swell to at or slightly above flood stage

September 9, 2004: The remnants of Hurricane Frances produces heavy rainfall up to 7 inches which causes extensive flooding in central New York

October 5, 2005: Tropical Storm Tammy's remnants contribute to a rainstorm which turns into the Northeast U.S. flooding of October 2005. **Up to 13 inches of rain cause severe flooding throughout the Hudson Valley** 

June 5, 2007: Tropical Storm Barry produces 3.91 inches of rain in New York City



The Free Encyclopedia

Article

Talk

https://en.wikipedia.org/wiki/List\_of\_New\_York\_hurricanes

List of New York hurricanes

This list shows only tropical systems with heavy rainfall

From Wikipedia, the free encyclopedia

June 7–8, 2013: Remnants of Tropical Storm Andrea impact New York with 4+ inches of rain...

August 4, 2020: Tropical Storm Isaias brought 3 to 6 inches of rain...

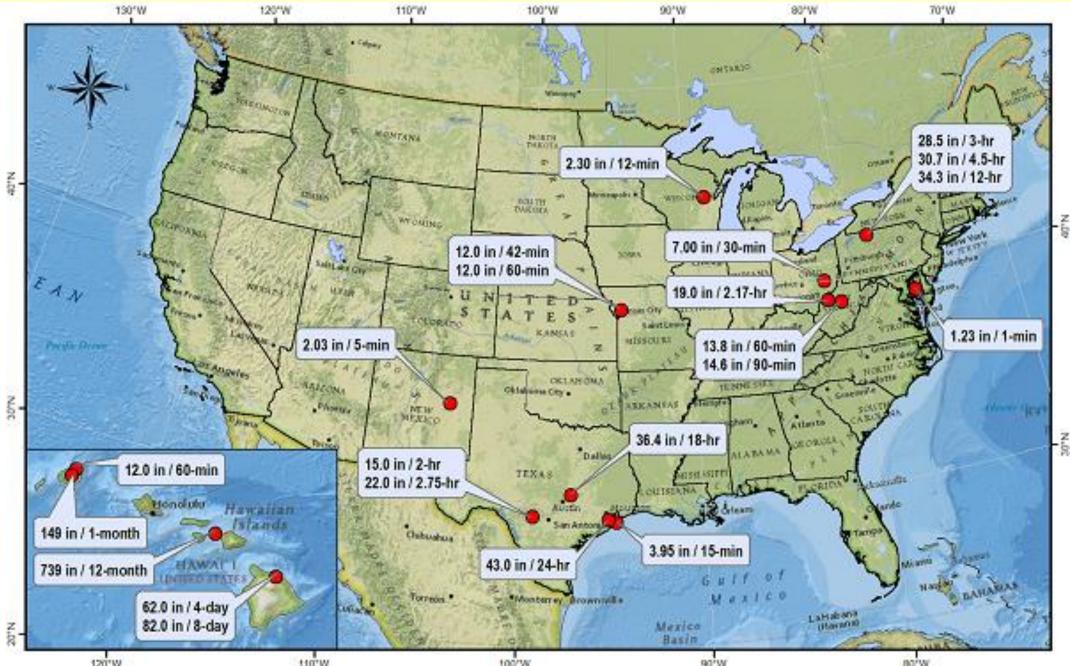
September 1, 2021: The remnants of Hurricane Ida reached the New Jersey and the New York City area, with heavy rainfall and flooding.

I count <u>**22 prior**</u> instances of rainfall exceeding 3 inches in New York City or close by. Gov Hochul's notion that heavy flooding rain is "the new normal" for New York is just **wrong**.

# US Rainfall Records from NOAA's National Weather Service



### https://www.nws.noaa.gov/ohd/hdsc/record\_precip/record\_precip\_us.html



Note the dates of occurrence.

The newest CONUS Rainfall record was 43 Inches in 24 hours, 1979, Alvin, Texas 44 years ago.

Next newest CONUS record was 1960, 61 years ago, 2 Inches in 5 minutes, in NM.

There is no modern rainfall record newer than 42 years ago.

Higher <CO2> is not setting modern rainfall accumulation records.

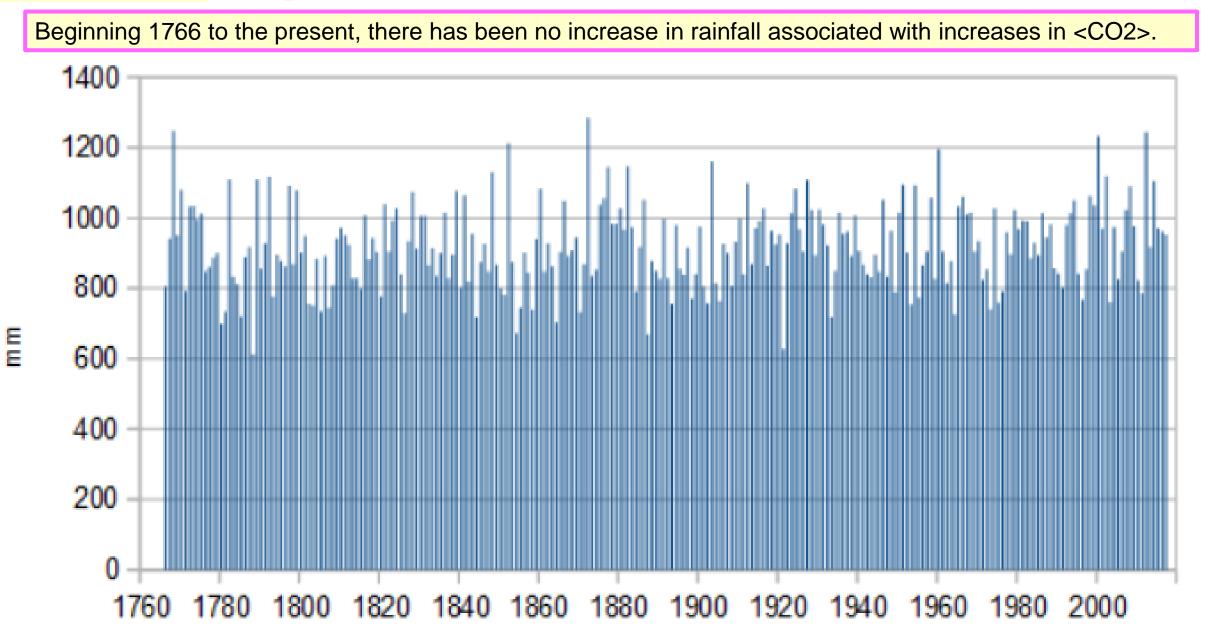
	U.S. Record Point Rainfalls		
Time	Rainfall	Location	Date
1 minute	1.23*	Unionville, MD	7/4/1956
5 minutes	2.03*	Alamogordo Creek, NM	6/5/1960
12 minutes	2.30*	Embarrass, WI	5/28/1881
15 minutes	3.95*	Galveston, TX	6/4/1871
30 minutes	7.00*	Cambridge, OH	7/16/1914
40 minutes	9.25"	Guinea, VA	8/24/1906
42 minutes	12.00"	Holt, MO	6/22/1947*
1 hour	13.80"	Central WV	5/4-5/1943
1 hour 30 minutes	14.60"	Central WV	5/4-5/1943
2 hours	15.00"	Woodward Ranch, (D'Hanis) TX	5/31/1935
2 hours 30 minutes	19.00*	Rockport, WV	7/18/1889
2 hours 45 minutes	22.00*	Woodward Ranch, (D'Hanis) TX	5/31/1935*
3 hours	28.50'est.	Smethport, PA	7/18/42*
4 hours 30 minutes	30.70*	Smethport, PA	7/18/42*
12 hours	34.30"	Smethport, PA	7/17-18/1942
18 hours	36.40*	Thrall, TX	9/9/1921
24 hours	43.00*	Alvin, TX	7/25-26/1979
4 days	62.00"	Kukaiau, Hamakua, HI	2/27-3/2/1902
8 days	82.00*	Kukaiau, Hamakua, HI	2/27-3/6/1902
1 month	148.83"	Mt. Waialeale, Kauai, Hl	3/1982
1 month (mainland)	71.54"	Helen Mine, CA	1/1909
1 year	704.83*	Kukui, Kauai, HI	1982
1 year	332.29*	MacLeeod Harbor, AK	1976
1 year (mainland)	204.12*	Laurel Mountain, OR	1996
*constitutes a world record			

and Dates Date fall

Duration	Amount (in)	Amount (mm)	Location	Lat (deg)	Long (deg)	Start date	
1-min	1.23	31.2	Unionville, MD	38.80	-76.13	4 Jul 1956	T
5-min	2.03	52	Alamogordo Creek, NM	34.66	-104.39	5 Jun 1960	T
12-min	2.30	58	Embarrass, WI	44.67	-88.71	28 May 1881	T
15-min	3.95	100	Galveston, TX	29.29	-94.79	4 Jun 1871	T
30-min	7.00	178	Cambridge, OH	40.00	-81.58	16 Jul 1914	T
42-min	12.0	305	Holt, MO	39.45	-94.33	22 Jun 1947	T
	13.8*	351*	Burnsville 6 WNW, WV	38.88	-80.77	4 Aug 1943	Ť
60-min	12.0	305	Holt, MO	39.45	-94.33	22 Jun 1947	Ť
	12.0	305	Kilauea Sugar Plantation, Kauai, Hl	22.21	-159.41	24 Jan 1956	Ť
90-min	14.6*	371*	Burnsville 6 WNW, WV	38.88	-80.77	4 Aug 1943	Ť
2-hr	15.0	381	Woodward Ranch (D'Hanis), TX	29.49	-99.38	31 May 1935	Ť
2.17-hr	19.0	483	Rockport, WV	39.07	-81.55	18 Jul 1889	Ť
2.75-hr	22.0	559	Woodward Ranch (D'Hanis), TX	29.49	-99.38	31 May 1935	Ť
3-hr	28.5	724	Smethport, PA	41.80	-78.45	18 Jul 1942	Ť
4.5-hr	30.7	780	Smethport, PA	41.80	-78.45	18 Jul 1942	Ť
12-hr	34.3	871	Smethport, PA	41.80	-78.45	17 Jul 1942	Ť
18-hr	36.4	925	Thrall, TX	30.59	-97.30	9 Sep 1921	Ť
24-hr	43.0	1092	Alvin, TX	29.42	-95.24	25 Jul 1979	Ť
4-day	62.0	1575	Kukaiau, Hamakua, Hl	20.02	-155.37	27 Feb 1902	Ť
8-day	82.0	2083	Kukaiau, Hamakua, Hl	20.02	-155.37	28 Feb 1902	Ť
1-month	149	3800	Mt. Waialeale, Kauai, Hl	22.07	-159.50	1 Mar 1982	Ť
12-month	739	18780	Kukui, Maui, HI	20.90	-156.60	1 Dec 1981	Ť

https://www.nws.noaa.gov/ ohd/hdsc/record\_precip/ record\_precip\_us.html https://notalotofpeopleknowthat.files.wordpress.com/2018/01/image28.png

### Not from the NWS... England & Wales Annual Rainfall 1766 - 2017



# Graphics, mostly from The Weather Channel on this storm

### https://weather.com/safety/floods/news/2023-09-29-new-york-city-flood-how-it-happened



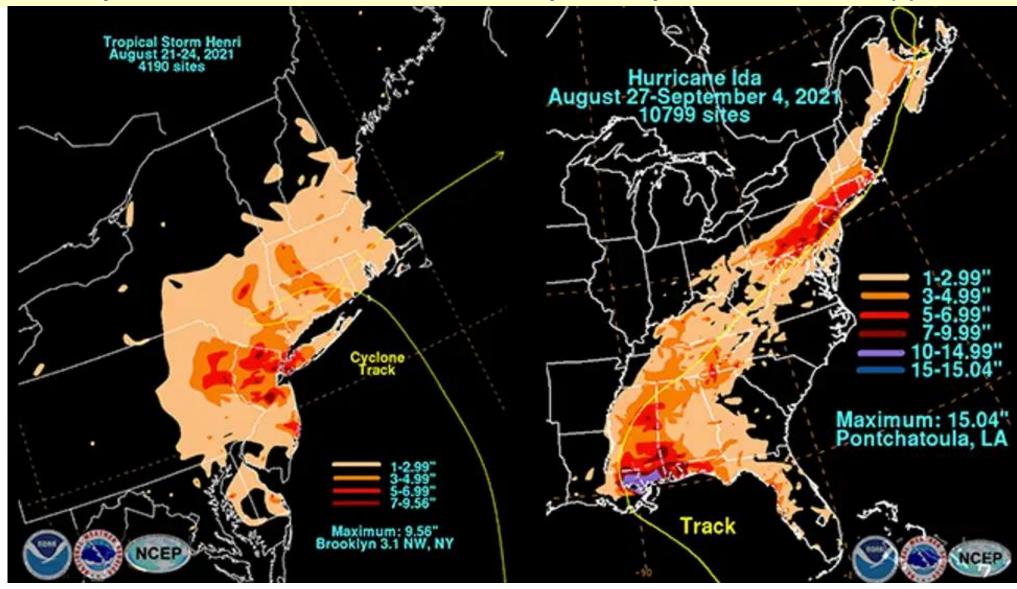
Why this happened: This was yet another case in which you don't need a tropical depression, storm or hurricane to produce flooding rain. You just needed some basic ingredients.

### At a Glance

- Torrential rain fell over the New York City tristate area.
- It was not caused by a storm, but rather a stagnant weather pattern typical of summer or early fall.
- Rainfall amounts in some areas rivaled some recent tropical systems.
- It's also one of the wettest months on record in New York City.

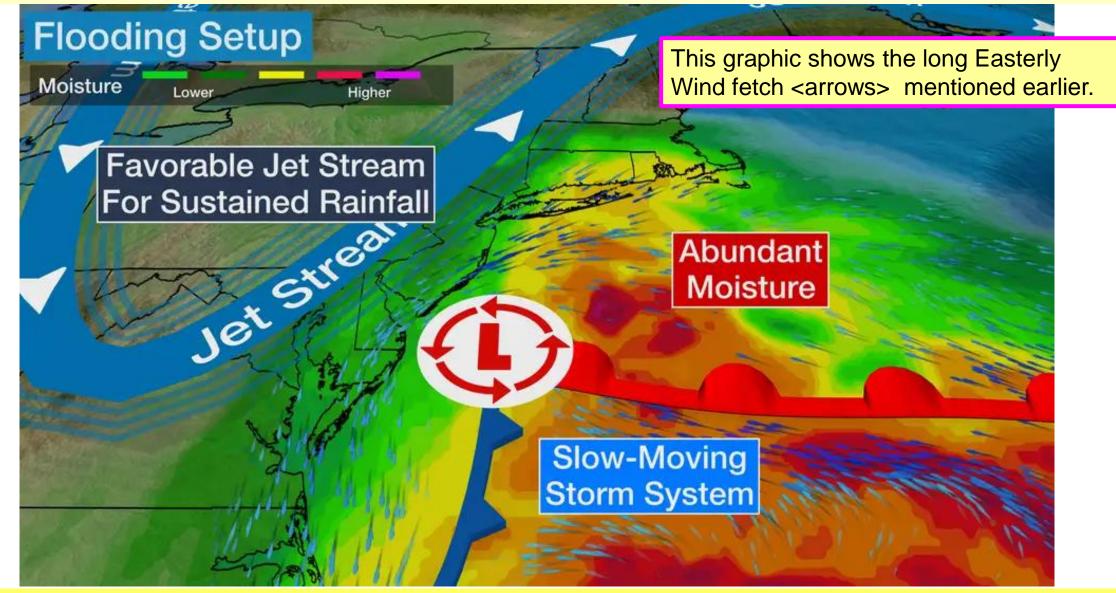
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https://weather.com/safety/floods/news/2023-09-29-new-york-city-flood-how-it-happened



Review of similar situations from Two Years Ago

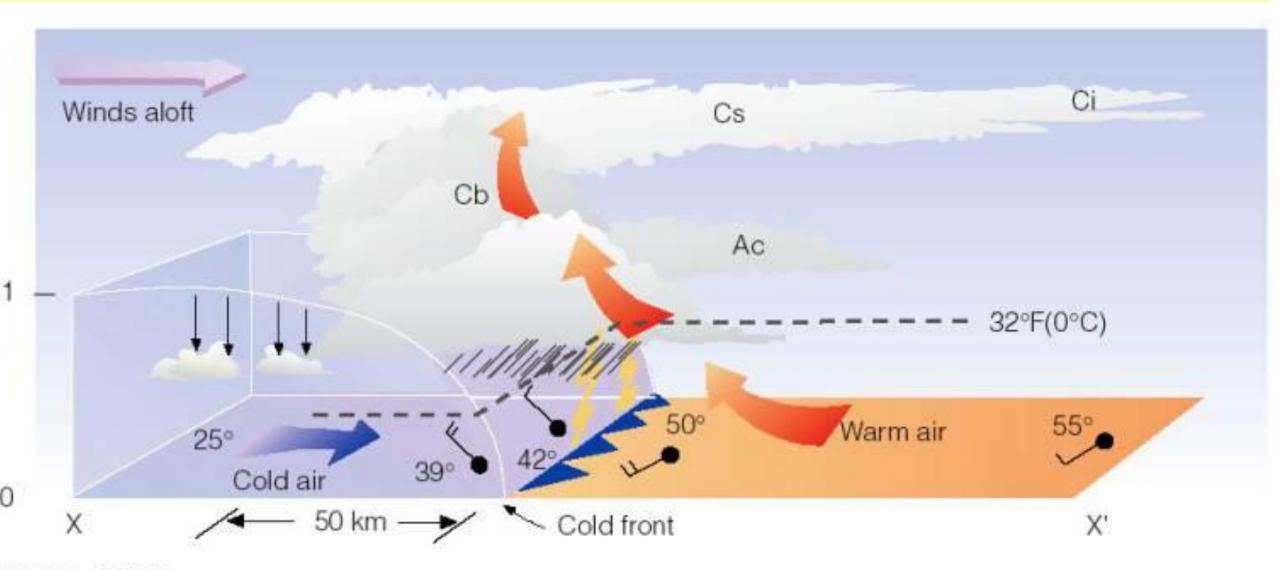
https://weather.com/safety/floods/news/2023-09-29-new-york-city-flood-how-it-happened



Why this happened: This was yet another case in which you don't need a tropical depression, storm or hurricane to produce flooding rain. You just needed some basic ingredients.

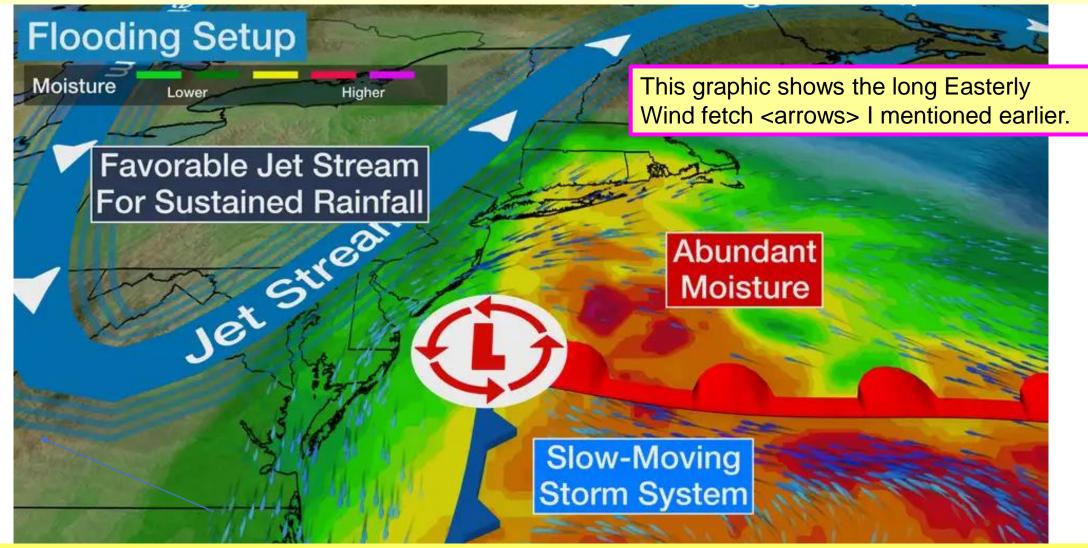
https://www.atmos.illinois.edu/~snodgrss/Fronts\_lab\_files/image004.jpg

Univ of Illinois graphic shows how cold front collision with warm moist air sets this situation up.



05 Thomson - Brooks/Cole

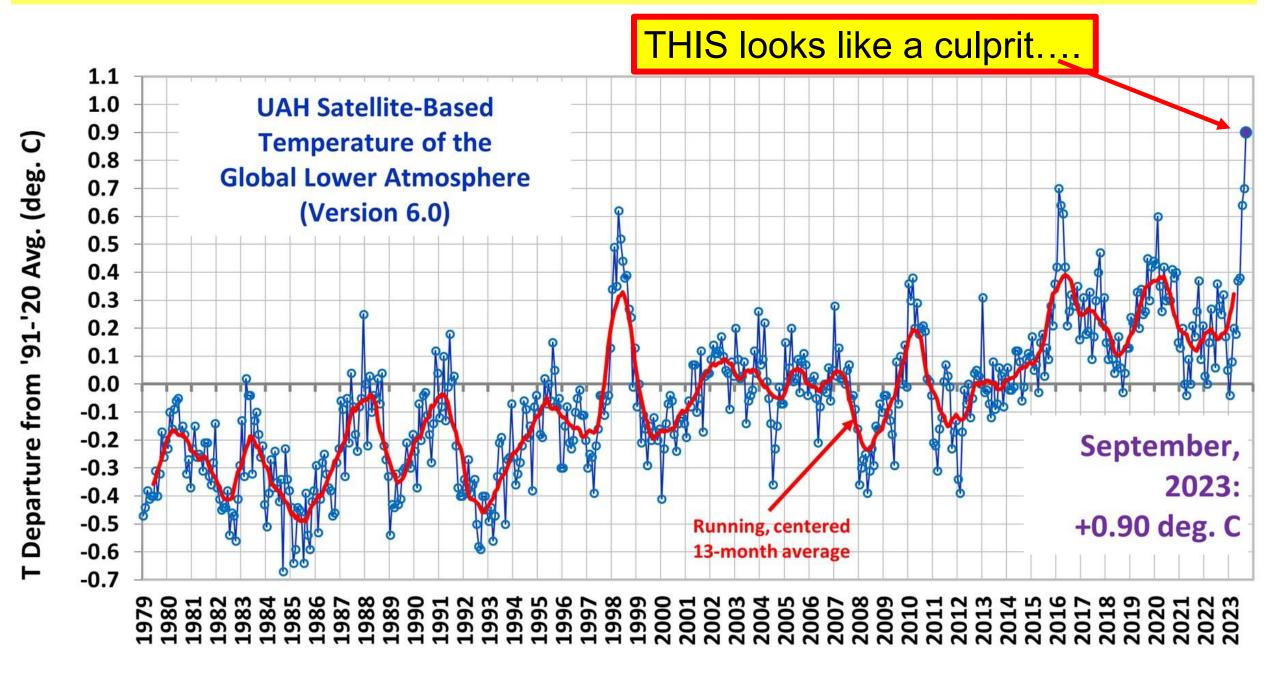
https://weather.com/safety/floods/news/2023-09-29-new-york-city-flood-how-it-happened



"Why this happened: This was yet another case in which you don't need a tropical depression, storm or hurricane to produce flooding rain. You just needed some basic ingredients." In other words...this is not a rare or Human-Caused, CO2-Fueled Event.

# What do other measures say?

https://www.drroyspencer.com/wp-content/uploads/UAH\_LT\_1979\_thru\_September\_2023\_v6\_20x9.jpg



SST Anomalies (°C)

04 OCT 2023

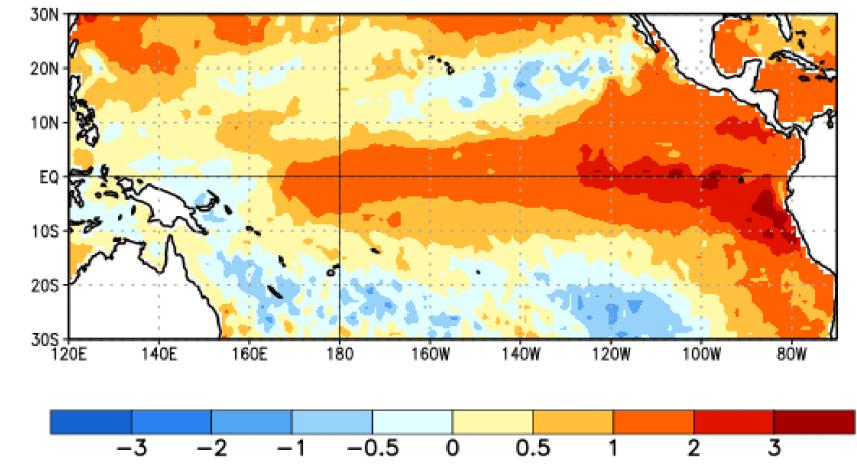
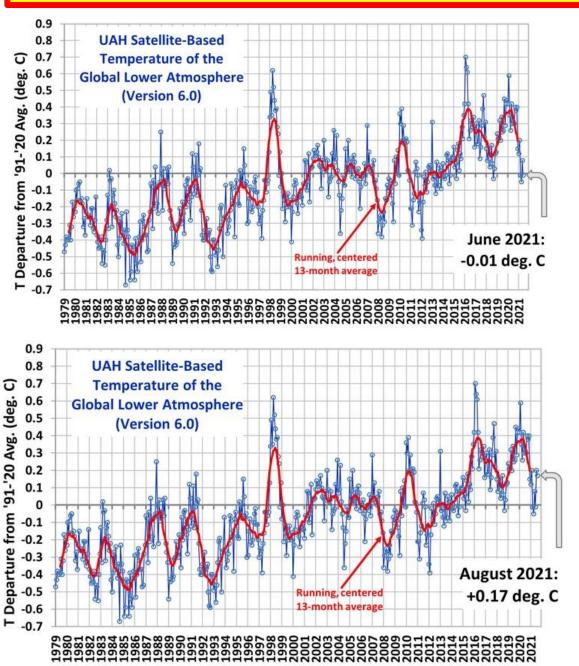


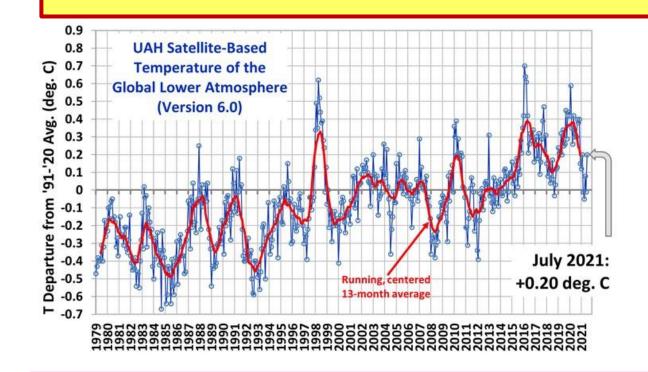
Figure 1. Average sea surface temperature (SST) anomalies (°C) for the week centered on 4 October 2023. Anomalies are computed with respect to the 1991-2020 base period weekly means.

#### but from two years ago, when the remains of Hurricane Ida pounded NYC with flooding rains...



And the Greenhouse Temperatures, in the Troposphere?

UAH measures the temperatures IN THE GREENHOUSE



June, July, and August 2021 were nowhere close to the hottest in the satellite record.

https://www.npr.org/2023/09/30/1202824340/new-york-swamped-by-record-breakingrainfall-as-more-downpours-expected-saturday



Why so much rain? The remnants of Tropical Storm Ophelia over the Atlantic Ocean combined with a mid-latitude system arriving from the west, at a time of year when conditions coming off the ocean are particularly juicy for storms, National Weather Service meteorologist Ross Dickman said. This combination storm parked itself over New York for 12 hours.

The weather service had warned of 3 to 5 inches of rain and told emergency managers to expect more than 6 inches in some places, Dickman said.

https://www.npr.org/2023/09/30/1202824340/new-york-swamped-by-record-breakingrainfall-as-more-downpours-expected-saturday

The expected NPR Alarmist line....



"As the planet warms, storms are forming in a hotter atmosphere that can hold more moisture, making extreme rainfall more frequent, according to atmospheric scientists."

But, in this case, an unexpected bit of candor...

# "In the case of Friday's storm, nearby ocean temperatures were below normal and air temperatures weren't too hot."

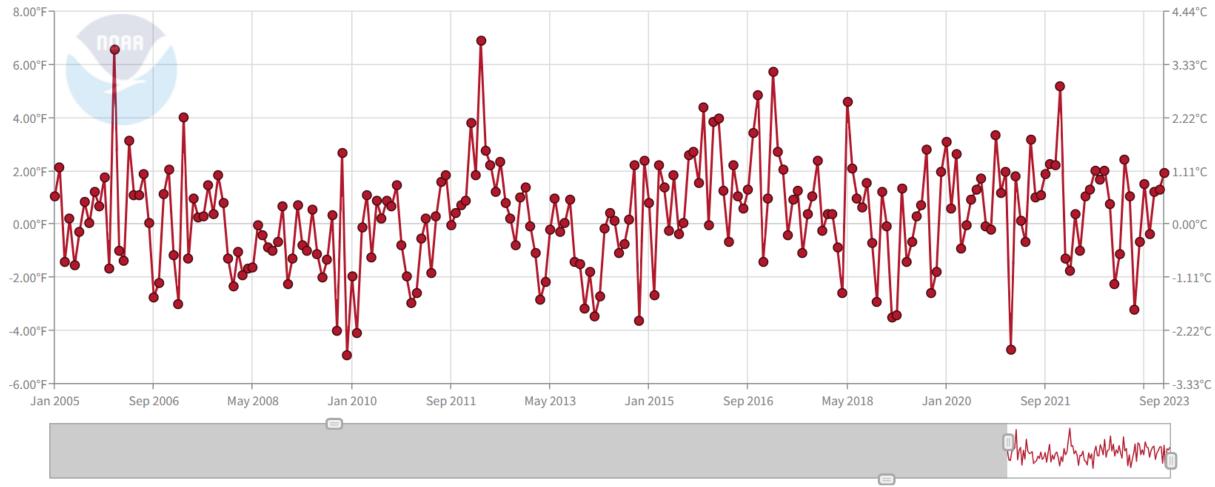
the candor could not continue...

"...Still, it became the third time in two years that rain fell at rates near 2 inches per hour in Central Park, which is unusual, Columbia University climate scientist Adam Sobel said."

The USCRN does not show any recent surface warming as the source...

#### **Average Temperature Anomaly**

ClimDiv OUSCRN



Powered by ZingChart

# Selected News Stories, some from NYC, some quite old... 'news'...

https://www.theguardian.com/us-news/2023/sep/30/new-york-city-flash-flooding-aftermath



"This changing weather pattern is the result of climate change, and the sad reality is our climate is changing faster than our infrastructure can respond," Rohit Aggarwala, commissioner of the New York City department of environmental protection, told the New York Times. The extreme weather came a mere three months after fatal flooding overwhelmed New York state's Hudson Valley region.

Two slides ahead...The Guardian asking for money from US donors.)

#### https://www.sipa.columbia.edu/communities-connections/faculty/rohit-aggarwala



# Rohit Aggarwala

Adjunct Associate Professor; Adjunct Research Scholar in the Faculty of International and Public Affairs

#### Education

- PhD in American History, Columbia University
- MBA in Finance, Columbia University
- MPhil in US History, Columbia University
- MA in Canadian History, Queen's University
- BA in History, Columbia University

Rohit T. "Rit" Aggarwala is an experienced executive and thought leader in sustainability, environmental, and urban issues. A member of the team building Sidewalk Labs, an urban innovation firm founded by Dan Doctoroff & Google, he's also the co-chair of the Regional Plan Association's Fourth Regional Plan for the New York Metro area and an adjunct professor at Columbia University's School of International and Public Affairs.

From 2010 to 2015, Rit played several roles in creating and implementing Michael R. Bloomberg's philanthropic efforts promoting the environment and urban sustainability. His work included advising city governments around the world on sustainability policies; transforming the C40 Cities Climate Leadership Group into an organization of global stature; developing a \$145 million environmental grantmaking program focused on clean energy, cities, and sustainable fishing; assisting the Government of India's 100 Smart Cities program; and coordinating former Mayor Bloomberg's appointment UN Special Envoy on Cities and Climate Change.

https://www.theguardian.com/us-news/2023/sep/30/new-york-city-flash-flooding-aftermath

# **Guardian**

"...we avoid the trap that befalls much US media – the tendency, born of a desire to please all sides, to engage in false equivalence in the name of neutrality. While fairness guides everything we do, we know there is a right and a wrong position in the fight against racism and for reproductive justice. When we report on issues like the climate crisis, we're not afraid to name who is responsible. And as a global news organization, we're able to provide a fresh, outsider perspective on US politics – one so often missing from the insular American media bubble.(underlining added) (The Guardian is wrong)

#### https://realclimatescience.com/wettest-day-on-record/

The delusion is not confined to Governor Kathy Hochul....

Posted by "Climate Power"

The fine print says:

"The largest city in the US is currently underwater. Make no mistake, this is climate change"



Climate Power @ClimatePower

The largest city in the US is currently underwater. Make no mistake, this is climate change.



From NYScanner 🤣

8:31 AM · Sep 29, 2023 · 225.9K Views

### http://climatlas.com/tropical/global\_major\_freq.png not a story but should be... Global Major Hurricane Frequency -- 12 month running sums @RyanMaue Updated August 31, 2023 70 All Hurricanes > 64 knots 60 50 48 40 30 20 Major Hurricanes 10 > 96 knots 0

80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12 14 16 18 20 22

#### https://realclimatescience.com/wettest-day-on-record/





It's official. Friday Sept 29, 2023 was the 9th wettest day in NYC history (at Central Park) with 5.48" recorded from (nearly unprecedented) climate-fueled deluges.

The deluge on September 23, 1882 remains by far the highest calendar day total at 8.28"

#### Maximum 1-Day Total Precipitation for New York-Central Park Area, NY (ThreadEx)

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date
1	8.28	1882-09-23
2	7.57	2007-04-15
3	7.40	1977-11-08
4	7.33	1903-10-09
5	7.13	2021-09-01
6	5.81	2011-08-14
7	5.60	1972-11-08
8	5.54	1966-09-21
9	5.48	2023-09-29
10	5.02	1999-09-16
11	4.98	1913-10-01
12	4.97	2014-04-30
13	4.86	1934-09-08
14	4.80	1909-08-16
-	4.80	1873-08-20
16	4.64	1990-08-10
17	4.45	2021-08-21
18	4.35	1996-10-19
19	4.31	1983-04-10
20	4.30	1903-10-08
Last val	ue also occurred in on	e or more previous years.
P	eriod of record: 1869-0	1-01 to 2023-09-29

#### The words of Ryan Maue:

**Its official.** Friday Sept 29, 2023 was the 9<sup>th</sup> wettest day in NYC (at Central Park) with 5.48" recorded from (nearly unprecedented) **climate-fueled deluges.** 

Chart magnified next graphic

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17	4.45	2021-08-21
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#### "No Longer Subject To Debate"

Posted on September 15, 2021 by tonyheller

Fox News

@FoxNews

### It's Been Nearly 5 Years Since the Last EF5 Tornado Struck the U.S.

By Homeland Security Today March 29, 2018

Biden says climate change causing severe weather is 'no longer subject to debate'

https://realclimatescience.com/2021/09/no-longer-subject-to-debate/



2 Years Ago

## https://gothamist.com/news/why-nyc-was-so-unprepared-for-idas-flashflooding

News

Arts & Entertainment | Food | Governor Hochul | COVID Updates

**ulli gotham**ist

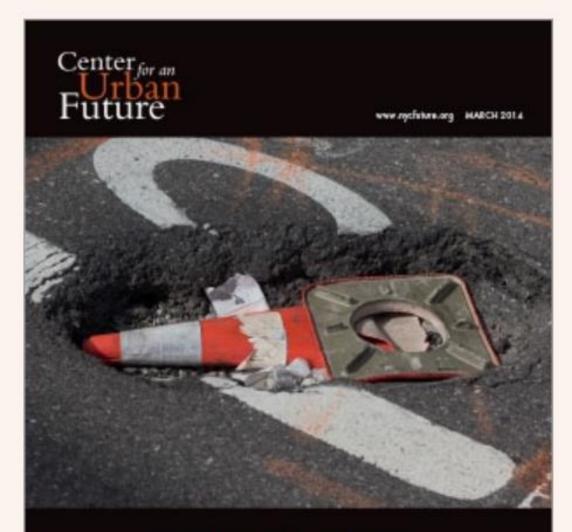
2 Years Ago In some ways, everyone saw Ida coming, and no one saw Ida coming. On Thursday, Mayor Bill de Blasio blamed weather projections for being inaccurate. Emergency declarations weren't made until well after the storm hit the area with tornadoes and a deluge. But in truth, atmospheric scientists and weather forecasts had predicted between 10-14 inches of rain across much of the mid-Atlantic as early as Monday.

"Monday" was 30 August 2021. The storm hit the evening of Wednesday, 1 Sep 2021

Despite all of the whining about "Human-caused CO2-Fueled Global Warming" there was little real work done to make New York City and the Metro Area more resilient and more prepared to heed storm and hurricane warnings.

2 Years Ago

These stories tell the tale.



### CAUTION AHEAD

Overdue Investments for New York's Aging Infrastructure

While Supervisorm Sundy focused much-meeded attention on key pieces of New York City's infrastructure, the city faces a number of other infrastructure vulnerabilities that have little to do with storm-preparedness —from aging water mains and detectorating roads to crumbling public schools. If left unchecked, they could wreak havor on the city's economy and quality of life.

#### REPORT - MARCH 2014



# CAUTION AHEAD: OVERDUE INVESTMENTS FOR NEW YORK'S AGING INFRASTRUCTURE

While Superstorm Sandy focused much-needed attention on key pieces of New York City's infrastructure, the city faces a number of other infrastructure vulnerabilities that have little to do with stormpreparedness—from aging water mains and deteriorating roads to crumbling public schools. If left unchecked, they could wreak havoc on the city's economy and quality of life.

by Adam Forman

2 Years Ago

https://www.nytimes.com/2017/11/18/nyregion/new-york-subway-system-failure-delays.html

The New Hork Times

SYSTEM FAILURE

# How Politics and Bad Decisions Starved New York's Subways

Disruptions and delays have roiled the system this year. But the crisis was long in the making, fueled by a litany of errors, a Times investigation shows.



PLAY THE CROSSWORD

investigation shows.

2017(!) New York Times (!) story on errors, and not spending on infrastructure, "starved" NYC Subways

Account ~

https://www.nytimes.com/2017/11/18/nyregion/new-york-subway-system-failure-delays.html

While many politicians have contributed to the decline of the subway over the years, the problems reached a fever pitch under Mr. Cuomo, who as governor appoints the M.T.A. chairman and effectively controls the authority.

Mr. Cuomo, a Democrat who is expected to seek a third term next year and is also seen as a potential presidential candidate in 2020, tried to stave off the emergency by committing additional funding to capital construction and getting involved in decisions about how to spend it.

But several transit leaders said that the interference backfired, and that the governor would have helped more if he had introduced any legislation to boost funding for core maintenance.

# New York Times Investigation Exposes Cuomo's "Summer of Hell" Complicity

MTA's "Summer of Hell" was a terror for New York commuters and Governor Andrew Cuomo's poll numbers. This weekend, a New York Times investigation has exposed the large degree to which Governor Cuomo's years-long mismanagement of MTA contributed to this summer's crisis. As the New York Times laid bare, the problems with the New York [...]



November 20, 2017

#### JOIN THE CITY



TUESDAY, SEPTEMBER 7, 2021 | REPORTING FOR NEW YORKERS

ABOUT US 🗸 BOROUGHS 🗸 TOPICS 🖌 CAMPAIGN 2021 🗸 CORONAVIRUS TRACKER NEWSLETTERS 🖌 HELP US REPORT 🚽 🗲 🙆 🔊

# What Are Officials Doing?

Disaster preparation isn't strictly an individual undertaking. Mayor Bill de Blasio has made multiple calls in recent weeks for investment into infrastructure and the subway to prevent future floods.

### 2 Years Ago

"When you looked at that horrible flooding, that was a symptom of something that's gone unaddressed for decades," de Blasio told reporters on July 15. "I'm calling upon the state, the MTA: Own the problem, take the steps needed, get this revenue, help us fix this problem." https://www.thecity.nyc/2021/9/3/22656414/ida-deluged-nyc-drainage-system-neglected-climate

2 Years Ago

Planning had already been underway for years.

De Blasio's OneNYC climate and infrastructure strategies are evolutions of former Mayor Mike Bloomberg's 2007 PlaNYC, which identified what the city would need to address flash floods and upgrade the drainage system.

2007 was Sixteen years ago!

We will see this is plainly NOT TRUE

2 Years Ago

The unprecedented rainfall that remnants of Hurricane Ida dumped made New York City's climate vulnerabilities starkly visible, less than two weeks after Tropical Storm Henri broke previous rain records.

Recent deluges highlight how heavy rains have been largely left out of the equation, experts told THE CITY.

Flooding from Ida occurred because an overloaded, century-old drainage system was not built to accommodate that much water, city officials acknowledge.

Ida's downpour — more than 7 inches in all in many parts of the city — overwhelmed a sewer system already hard-pressed to handle run-of-the-mill heavy rain.

https://www.thecity.nyc/2021/9/3/22656414/ida-deluged-nyc-drainage-system-neglected-climate

### THE CITY STWITTER **f** FACEBOOK

2 Years Ago

## **Faster Action**

"This kind of <u>radical change in weather</u> is beyond the understanding, beyond the reach of our typical measuring tools," de Blasio said. "Things are happening that our projections can't track with accuracy or consistency, which means we have to assume the worst in a way we never had before."

Bob Comments:

The list of at least 22 New York Hurricanes containing heavy rain and their flooding events is telling.

Political Leaders obviously have NOT had their staffs, or they themselves, have NOT conducted a "<u>Maximum Credible Hazard Analysis</u>" for New York City hurricane strikes.

At least 22 hurricanes have struck New York City or nearby with the rainfall amounts and rates comparable to the event of 30 Sep 2022 described here.

Mayor de Blasio's statement this storm and its effects were "radical" and "beyond the understanding" are wimperings of an official who has not taken severe weather history and weather warnings seriously.

2 Years Ago

"This kind of <u>radical change in weather</u> is beyond the understanding, beyond the reach of our typical measuring tools," de Blasio said. "Things are happening that our projections can't track with accuracy or consistency, which means we have to assume the worst in a way we never had before."

**Bob Comments:** 

In the USA, the 24-hour rainfall record is 43.0 inches set in 1979 at Alvin TX.

The 1979 Alvin TX 24-hour rainfall record was over SEVEN times higher than the 5.48 inches reported In Central Park, NYC, on 30 Sep 2023.

Governor Hochul's cry that 5.48 inches of rainfall at Central Park is a "new normal due to the effects of (human-caused CO2 fueled) climate change " is a statement of her clear ignorance of known weather events.

Benjamin Franklin wrote, "some are weatherwise, some are otherwise." Yep.

Natural phenomena brought extremely heavy rain, excessive runoff to NYC on 1 Sep 2021

Water temperatures hottest of the year brought warm water vapor to fuel thunderstorms

Warm Frontal surface lifted the air as it reached NYC

Strong vertical motion as remnants of Ida became an "Extratropical Storm"



Center of low and warm front reached NYC at time of maximum temperature for the day.

EPA report says add 18F to 27F Urban Heat Island effect (10C to 15C hotter)

Forecast Thunderstorms brought extreme vertical motion, heavy rainfall, even tornadoes.

Anthropogenic Effects

Exaggerated Heat Island Effect. Over 8 million live in NYC. Friction of skyscrapers.

Areas of Bronx, Brooklyn, Queens, Manhattan, Richmond (Staten Island) and Newark have over 90% impermeable surface. Rainfall runs off.

"Flooding from Ida occurred because an overloaded, century-old drainage system was not built to accommodate that much water," city officials acknowledged

#### What have we learned?

Remnants of post-tropical storm Ophelia brought a heavy rain event to NYC on 30 Sep 2023.

This event was only the NINTH heaviest 24-hour rainfall total for Central Park, NYC.

NYC rain event was only ONE SEVENTH the 1979 rainfall at Alvin, Texas, the US 24-hour rainfall record.

The Urban Terrain of NYC cannot handle ordinary heavy rain events; immediate runoff occurs.

Little improvement in drainage in NYC the last century.

Offshore water climatologicaly nearly the warmest of the year, brings more water vapor for rain shower activity.

Geography, buildings and skyscrapers, Urban Heat Island, Seasonal Timing, all contributed

Political Leaders claim climate crisis yet offer little in maintenance of subway and drainage systems.

They blame "Human-Caused CO2-fueled Global Warming" for a routine heavy rain event and the runoff which is sure to occur.

The Media and Deep State operatives gladly jump on the Climate Narrative.

Careful examination of the facts disproves The Narrative. Critical Thought, despite "university education" is rare.



