HEALTH IMPACTS OF HURRICANES

HOW TO PREPARE YOUR FAMILY

How do hurricanes affect our health?

The Atlantic hurricane season extends from June 1 to November 30. During an average season, 6 or 7 hurricanes form in the Atlantic Ocean, and approximately 2 hurricanes make landfall on US soil yearly.\(^1\)

Climate change is making hurricanes more intense and slower-moving, providing them added time to dump damaging rains.\(^2,3\) Estimates vary, but there may be up to a 42% increase in extremely dangerous Category 4 and 5 hurricanes by the late 21st century.\(^4,5\) Hurricanes can affect our health in numerous ways, both short- and long-term.

Direct impacts:

Hurricanes and tropical storms pose imminent danger to people and communities. Two key threats include:\(^6\)

**Storm surge:** the abnormal rise in seawater level caused by a storm, over and above the usual tide

**Freshwater flooding:** flooding caused by heavy rainfall, which can cause river levels to rise inland from the coast

Both can lead to drowning and injury. Historically, storm surge has been the leading cause of hurricane-related deaths.\(^7,8\) However, freshwater flooding accounted for about 65% of deaths related to hurricanes between 2017 and 2021, when there were 271 hurricane-related fatalities in the contiguous US. The toll would have been higher if the impact of Hurricane Maria in Puerto Rico were included.\(^9\)

As climate change accelerates sea-level rise and changes precipitation patterns, the threat of freshwater flooding and storm surge may increase in the coming years.\(^10\) High winds can also cause falling trees, downed power lines, and dangerous wind-swept debris.

Indirect impacts:

Hurricanes and tropical storms can also have serious indirect health impacts, many of which occur after a storm has passed.\(^11\)

- Power outages can contribute to hypothermia.
- Carbon monoxide poisoning can occur when portable generators or gas grills are used without proper ventilation.
- Cardiovascular events, including heart attacks, are known to increase after natural disasters.\(^12\)
- Storms can disrupt health care infrastructure, making it harder for people to access care and medications.
- Extreme weather events can cause mental health concerns, including anxiety and post-traumatic stress disorder.
- Injuries may occur as people evacuate their homes and rebuild during storm recovery.\(^13\)
- Downed power lines may cause electrocution or fires.
- Vehicle accidents are more likely due to unsafe driving conditions.
- After houses flood, residents face an added risk of mold exposure.
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Long-lasting effects

The indirect health impacts of hurricanes may even last years after a storm.

- A decade after Hurricane Katrina, researchers at Tulane University documented a threefold increase in heart attacks among those who lived through the storm.14
- Nearly 10% of children who directly experienced Hurricane Katrina showed significant emotional disturbance, and the prevalence of these challenges remained high for at least 18–27 months.15
- A study of children whose mothers had been pregnant during Hurricane Sandy found higher rates of depressive disorders, anxiety disorders, and behavioral disorders during their preschool years.16

Displacement

Hurricanes can damage homes and communities, leading to evacuations, displacement, and homelessness.

During the 2017 season, which included major hurricanes Harvey, Irma, and Maria, over 200,000 people in the US were displaced.17

People who are forced to leave their homes after a hurricane are more vulnerable to developing post-traumatic stress disorder, anxiety, and depression.18

Who is most vulnerable to hurricanes?

Low-income communities and communities of color are disproportionately harmed when strong storms hit. These communities may lack adequate hurricane-resilient infrastructure, have less capacity to evacuate or relocate, and be less able to afford flood insurance.20 During the recovery period after a storm, federal disaster aid is often unevenly allocated to wealthy, white communities.20

Gender and age also factor in: a recent analysis found that in the month of a hurricane, increases in injury-related deaths were higher for females (46.5%) than for males (27.6%).21 Children are particularly high risk because they are dependent on adults for care and protection, are more at risk of exposure to hazardous chemicals or other toxins, and may be especially frightened or traumatized by the disruption of storms.22 The elderly and disabled, unhoused individuals, and people with preexisting chronic conditions are also especially vulnerable during and after hurricanes.23

What can I do?

There’s a lot we can do to stay safe and reduce further climate warming.

Visit www.ready.gov/hurricanes to learn how to keep your loved ones protected and healthy during and after hurricanes.

And join Moms Clean Air Force in advocating for equitable policies that will cut climate pollution and help build our communities’ resilience in a changing climate.

For links and sources, please visit:
https://www.moms cleanairforce.org/sources-health-hurricanes

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