




*How hurricanes cause destruction through wind, rain, flooding, and storm surge*

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### **Heavy Rain — Where All That Water Comes From**

Hurricanes are powered by **warm ocean water**. As the storm moves, it pulls in moisture from the sea and releases it as **intense rain**.

- A hurricane can dump **up to 10–20 inches of rain** in just one day.
- This much water **overwhelms storm drains, rivers, and creeks**, leading to flash floods.
- In mountainous or hilly areas, water-soaked soil can **trigger landslides**, which are dangerous flows of mud, rocks, and debris.

 **Science Tip:** Warm air holds more moisture. When the hurricane cools and releases that moisture, it comes down as *torrential rain*.

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### **Flooding — More Than Just a Puddle**

Flooding happens when water covers land that's usually dry. In hurricanes, flooding can come from:

- **Rainwater that can't drain fast enough**, backing up into streets and homes.
- **Rivers and lakes overflowing** from the extra water.
- **Blocked storm drains**, which trap water in neighborhoods.

Flooding can:

- Damage buildings by soaking wood, carpet, and drywall.
- Carry **germs, oil, sewage, and chemicals** that make people sick.
- Disrupt transportation and rescue efforts.


 **Science Tip:** Water expands as it heats up, and during hurricanes, rising temperatures and pressure changes increase water volume and flow speed.

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### **Storm Surge — The Most Dangerous Part of a Hurricane**

Storm surge is caused when **strong winds push seawater onto land** ahead of a hurricane. It's like a high tide on steroids.

- Storm surge can raise water levels by **10 to 20 feet or more** in coastal areas.
- It's not just flooding—it's **fast, forceful, and loaded with waves**, which **smash buildings and roads**.
- Combined with high tide, it can flood areas far inland.

 **Science Tip:** Storm surge is made worse by the **low air pressure** in the center of the hurricane, which lifts sea levels like a giant vacuum.

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