

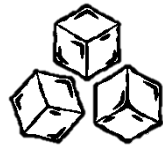


RARITAN RIVER AND BAY COMMUNITIES RISING SEA LEVEL EXPERIMENT

What You Will Need:



3 Glasses



Ice Cubes



Water

What's Next:

- Fill one glass with water and a few ice cubes, fill another glass with only water and fill the final glass with ice. Leave an inch unfilled in each cup to watch water level.
- Let the ice melt (or safely use a heat source to help speed up the process).
- Finally, take the glass of melted ice and pour it into the full glass of water.

Background:

As the planet warms, glaciers and ice sheets are melting. As the ice melts, it flows into the oceans causing the sea level to rise. Sea ice is also melting because of the warming that's occurring, but that does not contribute to rising sea level.

What Happened:

The glass with the water *and* ice simulated melting sea ice. The melting ice in the glass didn't cause the water to spill out. Adding melted ice to the full glass of water will cause the water to spill out of the glass, which simulates the melting glaciers and ice sheets.

For More Information:

Take your phone, open the camera app and point at the QR code on the below to learn more about Resilient New Jersey RRBC.



RARITAN RIVER AND BAY COMMUNITIES FLASH FLOODING EXPERIMENT

What You Will Need:



3 Glasses



Dirt



Water

What's Next:

- Fill two glasses to the top with dirt and fill the third glass with water.
- Gradually pour half the water over one of the glasses filled with dirt.
- Quickly dump the remaining water on top of the other glass filled with dirt.

Background:

As the atmosphere warms, it holds more moisture. For every degree of warming, the atmosphere holds 4% more moisture. We see the impacts of these warming through flash flooding. Flash flooding is a high intensity, short duration rainfall.

What Happened:

When you gradually poured the water over the first glass filled with dirt, the dirt absorbed most of the water. In the second scenario, the dirt didn't have the opportunity to absorb the water and some or most of the water spilled out of the glass. Aging infrastructure was never designed to handle the high intensity rainfalls that are becoming common with climate change. Urban areas also have a lot of impervious surfaces (the inability to absorb water), which forces the water to "runoff" and collect, which can make flooding worse.

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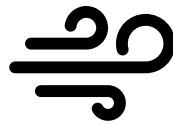


RARITAN RIVER AND BAY COMMUNITIES STORM SURGE EXPERIMENT

What You Will Need:



1 Glass



Deep Breath



Water

What's Next:

- Fill the glass of water to the top of the rim.
- Aim your mouth at the top of the glass and lightly use your breath to blow.
- Increase the intensity of your breath until the water spills out of the glass.

Background:

Storm surge is flooding typically associated with coastal storms, particularly hurricanes. As sea level rises, more communities face the risk of storm surge flooding. As the wind from the coastal storms pushes across the water, the water is pushed towards the shoreline. When the water reaches the shore, it pushes inland and causes flooding.

What Happened:

Your breath simulated the winds associated with a coastal storm. The more you increased the “wind” created by your breath, the more the water was displaced. The highest storm surge ever recorded was during Hurricane Katrina in 2005. The surge reached 27.8 feet! Keep in mind - one foot of moving water is enough to wash a vehicle off the roadway!

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