



## Hospital Equipped with Air Water System Post-Hurricane Milton

### Description

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Johns Hopkins All Children's Hospital was hit by Hurricane Milton earlier this week

Dirk Shadd/Tampa Bay Times/ZUMA Wire/Alamy

The impact of Hurricane Milton on a children's hospital that lost access to water has led to the deployment of a cutting-edge device that extracts drinking water directly from the atmosphere. This innovative solution, developed by Genesis Systems in Florida, utilizes metal organic frameworks to extract moisture from the air, providing a sustainable source of pure water.

Atmospheric water harvesting systems have garnered attention for their independence from traditional water sources, making them valuable for off-grid communities, areas with unreliable water supplies, and disaster response scenarios. The recent implementation of this technology at Johns Hopkins All Children's Hospital post-Hurricane Milton exemplifies its effectiveness in providing essential water resources during emergencies.

The successful deployment of the system underscores its versatility and rapid response capabilities, particularly in regions like Florida with high humidity levels. Despite its reliance on electricity, which could pose challenges during disasters, atmospheric water harvesting presents a vital solution for ensuring water security in crisis situations.

Topics:

## Vocabulary List:

1. **Atmospheric** /ˌætməˈsfɪrɪk/ (adjective): Relating to the atmosphere or air.
2. **Harvesting** /ˈhɑːrvɪstɪŋ/ (verb): The act of gathering in or obtaining a crop or resource.
3. **Sustainable** /səˈsteɪnəbl/ (adjective): Able to be maintained at a certain rate or level without depleting resources.
4. **Deployment** /dɪˈplɔɪmənt/ (noun): The action of bringing resources into effective action.
5. **Extract** /ɪkˈstrækt/ (verb): To remove or take out especially by effort or force.
6. **Versatility** /ˌvɜːrsəˈtɪləti/ (noun): The ability to adapt or be adapted to many different functions or activities.

## Comprehension Questions

### Multiple Choice

1. What is the main purpose of the cutting-edge device deployed at Johns Hopkins All Children's Hospital?



- Option: Extracting electricity from the atmosphere
- Option: Harvesting water from the atmosphere
- Option: Generating food from the atmosphere
- Option: Filtering air pollutants

2. Which company developed the innovative solution for extracting moisture from the air at the hospital?

- Option: Genesis Systems in Florida
- Option: Tesla Inc. in California
- Option: Amazon Technologies in Washington
- Option: Microsoft Corporation in Washington

3. What type of frameworks are utilized by the device to extract moisture from the air?

- Option: Steel frameworks
- Option: Plastic frameworks
- Option: Metal organic frameworks
- Option: Wooden frameworks

4. In which scenarios are atmospheric water harvesting systems particularly valuable?

- Option: Areas with excessive water supply
- Option: Regions with abundant natural springs
- Option: Off-grid communities and disaster response scenarios
- Option: Urban areas with advanced water infrastructure

5. What region faced the recent implementation of the technology post-Hurricane Milton?

- Option: New York City
- Option: Chicago
- Option: Florida
- Option: Los Angeles

6. What challenge is mentioned regarding the reliance on electricity for atmospheric water harvesting systems?

- Option: Over-harvesting water
- Option: Limited water extraction capabilities
- Option: High energy consumption
- Option: Inability to operate in high humidity levels

### **True-False**



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7. The cutting-edge device extracts drinking water directly from the soil.
  8. Atmospheric water harvesting systems are not independent from traditional water sources.
  9. The recent implementation of the technology at the hospital showcases its inefficiency in emergencies.
  10. Atmospheric water harvesting systems are mainly suitable for urban areas with reliable water supplies.
  11. The technology was implemented in Florida following Hurricane Miami.
  12. Despite challenges with electricity reliance, the system provides a vital solution for water security in crisis situations.

### Gap-Fill

13. The innovative device developed by Genesis Systems in Florida utilizes \_\_\_\_\_  
to extract moisture from the air.
14. Atmospheric water harvesting systems are valuable for off-grid communities, areas with unreliable water supplies, and \_\_\_\_\_ response scenarios.
15. Despite its reliance on electricity, atmospheric water harvesting presents a vital solution for ensuring water security in \_\_\_\_\_ situations.
16. The successful deployment of the system at Johns Hopkins All Children's Hospital exemplifies its effectiveness in providing essential water resources during \_\_\_\_\_.
17. The recent implementation of the technology post-Hurricane Milton underscores its \_\_\_\_\_ and rapid response capabilities.
18. Areas with high levels of \_\_\_\_\_ are particularly suitable for atmospheric water harvesting systems.



## Answer

**Multiple Choice:** 1. Harvesting water from the atmosphere 2. Genesis Systems in Florida 3. Metal organic frameworks 4. Off-grid communities and disaster response scenarios 5. Florida 6. High energy consumption

**True-False:** 7. False 8. False 9. False 10. False 11. False 12. True

**Gap-Fill:** 13. metal organic frameworks 14. disaster 15. crisis 16. emergencies 17. versatility 18. humidity

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. Which term relates to the Earth's atmosphere?

- Option: Atmospheric
- Option: Sustainable
- Option: Quartz
- Option: Congestion

2. What term refers to the act of setting up or putting into use?

- Option: Extraction
- Option: Deployment
- Option: Regulators
- Option: Constraints

3. Which word conveys the ability to adapt to various tasks or functions?

- Option: Implications
- Option: Revolutionize
- Option: Versatility
- Option: Optimization

4. What term means to make less severe serious or painful?

- Option: Irreversible
- Option: Mitigate
- Option: Curb
- Option: Indicators

5. Which word describes something that cannot be undone or changed back?



- Option: Advertise
- Option: Indicators
- Option: Irreversible
- Option: Harvesting

6. Which term refers to permission for something to happen or agreement to do something?

- Option: Allocation
- Option: Consent
- Option: Clarification
- Option: Devastating

7. What word means causing great damage or destruction?

- Option: Escalation
- Option: Mitigate
- Option: Devastating
- Option: Optimization

8. What is a hard mineral often used in electronic devices?

- Option: Quartz
- Option: Crucible
- Option: Atmospheric
- Option: Mitigate

9. Which term is used to describe overcrowding and traffic blockages?

- Option: Constraints
- Option: Consequences
- Option: Escalation
- Option: Congestion

10. Which term refers to the action of making the best or most effective use of a situation or resource?

- Option: Mitigate
- Option: Allocation
- Option: Revolutionize
- Option: Optimization

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. \_\_\_\_\_ development focuses on meeting the needs of the present without

compromising the ability of future generations to meet their own needs.





12. The conflict showed signs of \_\_\_\_\_ as both sides increased their military presence.
13. She always adhered to her moral \_\_\_\_\_ even in challenging situations.
14. The \_\_\_\_\_ of resources should be done fairly and efficiently to ensure optimal use.
15. The damage caused by the earthquake proved to be \_\_\_\_\_ and could not be repaired.
16. Efforts to \_\_\_\_\_ the effects of climate change need to be implemented urgently.
17. Despite financial \_\_\_\_\_ the project was successfully completed on time.
18. The invention of the smartphone helped to \_\_\_\_\_ the way people communicate.
19. Having a \_\_\_\_\_ plan in place is essential for dealing with unexpected events.
20. The company focused on \_\_\_\_\_ its production processes to reduce waste.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. Government agencies that set and enforce rules and guidelines for industries and businesses are known as regulators.
22. The company invested heavily in advertising to promote its new product to a wider audience.
23. The decision to cut down the trees had severe consequences on the local ecosystem.
24. The manager provided further clarification on the new company policy during the meeting.
25. The melting pot acted as a crucible where different cultures mixed and blended together.
26. The artist's painting was filled with intricate details that required close observation.
27. The farmers were busy harvesting the ripe crops from the fields.
28. The conflict between the two countries showed signs of escalation as tensions rose.
29. The allocation of funds for the new project was carefully planned and monitored by the finance team.





30. The new technology has the potential to revolutionize the healthcare industry by improving patient care.

## Answer

**Multiple Choice:** 1. Atmospheric 2. Deployment 3. Versatility 4. Mitigate 5. Irreversible 6. Consent 7. Devastating 8. Quartz 9. Congestion 10. Optimization

**Gap-Fill:** 11. Sustainable 12. Escalation 13. Principles 14. Allocation 15. Irreversible 16. Mitigate 17. Constraints 18. Revolutionize 19. Contingency 20. Optimization

**Matching sentence:** 1. Regulators 2. Advertising 3. Consequences 4. Clarification 5. Crucible 6. Intricate 7. Harvesting 8. Escalation 9. Allocation 10. Revolutionize

## CATEGORY

1. Sci/Tech - LEVEL5

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