



Hospital in Hurricane Milton's Aftermath Utilizes Air-to-Water System

Description

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Johns Hopkins All Children's Hospital faced a water crisis after Hurricane Milton hit. To tackle this problem, they turned to a special device that can extract drinking water from the air. This innovative system promises hope for disaster relief efforts in the future.

The device, created by a Florida company called Genesis Systems, operates by using metal organic frameworks to draw moisture from the air. The collected moisture is then converted into clean drinking water through a heating process. This technology is gaining attention for its independence from traditional water sources.

These air water harvesting systems are not only useful in off-grid communities but also in disaster-stricken areas like the hospital in Florida. The system can produce up to 2000 gallons of water daily, providing a critical water source while the hospital's main supply is restored.

Efforts like these showcase how innovation can play a vital role in ensuring water security during emergencies. By exploring new solutions like atmospheric water harvesting, communities can better prepare for unforeseen challenges and provide essential resources when they are needed the most.

Overall, these systems offer a flexible and efficient way to secure water supply, especially in regions with high humidity levels. Despite some challenges with electricity supply during past disasters, the potential of air water harvesting for disaster response remains promising.

Topics:

Vocabulary List:

1. **Crisis** /'kraɪsɪs/ (noun): A time of intense difficulty or danger.
2. **Innovative** /'ɪnə'veɪtɪv/ (adjective): Relating to or characterized by the introduction of new ideas or methods.
3. **Extract** /ɪk'strækt/ (verb): To remove or take out especially by effort or force.
4. **Harvesting** /'hɑ:vɪstɪŋ/ (noun): The process of gathering a crop or extracting natural resources.
5. **Restored** /rɪ'stɔ:rd/ (verb): Returned something to a former condition or state.
6. **Moisture** /'mɔɪs.tʃər/ (noun): A small amount of water or other liquid that makes something wet.

Comprehension Questions

Multiple Choice

1. Who developed the device that can extract drinking water from the air for Johns Hopkins All Children's Hospital?



- Option: Genesis Systems
- Option: Johns Hopkins University
- Option: Florida Department of Environmental Protection
- Option: National Disaster Relief Agency

2. How does the device operate to extract moisture from the air?

- Option: Using metal organic frameworks
- Option: Solar power
- Option: Wind energy
- Option: Chemical reactions

3. What is the daily water production capacity of the air water harvesting system at the hospital?

- Option: 500 gallons
- Option: 1000 gallons
- Option: 1500 gallons
- Option: 2000 gallons

4. Which of the following statements is true regarding air water harvesting systems?

- Option: They are only useful in urban areas
- Option: They rely solely on traditional water sources
- Option: They offer flexibility and efficiency in securing water supply
- Option: They require large amounts of electricity to operate

5. What role does innovation play in ensuring water security during emergencies?

- Option: No role
- Option: A minimal role
- Option: A vital role
- Option: An insignificant role

6. What is one potential challenge mentioned in the text regarding air water harvesting systems for disaster response?

- Option: Low water production capacity
- Option: Dependency on fuel
- Option: Lack of availability in disaster areas
- Option: Challenges with electricity supply

True-False

7. The device used by Johns Hopkins All Children's Hospital can convert air moisture into clean drinking



water.

8. Air water harvesting systems are only useful in urban communities.
9. The text highlights that air water harvesting systems are independent from traditional water sources.
10. The main water supply at the hospital in Florida was unaffected by Hurricane Milton.
11. The system developed by Genesis Systems relies on chemical reactions to extract moisture from the air.
12. The potential of air water harvesting for disaster response is not promising due to high costs.

Gap-Fill

13. The air water harvesting system at the hospital can produce up to _____ gallons of water daily.
14. By exploring new solutions like atmospheric water harvesting, communities can better prepare for _____ challenges.
15. The device created by Genesis Systems operates by using metal organic frameworks to draw moisture from the _____.
16. Efforts like these in disaster-stricken areas showcase how innovation can play a _____ role in water security during emergencies.
17. Overall, air water harvesting systems offer a flexible and efficient way to secure water supply, especially in regions with high _____ levels.
18. The system can provide a critical water source for the hospital while its main supply is being _____.



Answer

Multiple Choice: 1. Genesis Systems 2. Using metal organic frameworks 3. 2000 gallons 4. They offer flexibility and efficiency in securing water supply 5. A vital role 6. Challenges with electricity supply

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

Gap-Fill: 13. 2000 14. unforeseen 15. air 16. vital 17. humidity 18. restored

Vocabulary quizzes

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

1. What term refers to the process of sending data from one place to another?

- Option: Bandwidth
- Option: Congestion
- Option: Transmission
- Option: Harvesting

2. Which word means to bring about a significant change or improvement?

- Option: Revolutionize
- Option: Setback
- Option: Anticipated
- Option: Restored

3. What term is used to describe the influence or effect of one thing on another?

- Option: Extract
- Option: Moisture
- Option: Impact
- Option: Drama

4. Which term refers to a time of intense difficulty or danger?

- Option: Innovative
- Option: Crisis
- Option: Accuracy
- Option: Acknowledge

5. What is an original or model on which something is based or formed?



- Option: Discreet
- Option: Prototype
- Option: Expectancy
- Option: Advancements

6. Which term describes something that is thorough and complete?

- Option: Harvesting
- Option: Revolutionize
- Option: Radical
- Option: Acknowledged

7. What term means to decrease or diminish?

- Option: Decline
- Option: Projections
- Option: Influencing
- Option: Extract

8. Which term refers to the state of thinking or hoping that something especially something pleasant will happen?

- Option: Discreet
- Option: Expectancy
- Option: Innovative
- Option: Setback

9. What term describes the process of gathering a crop or natural resource?

- Option: Harvesting
- Option: Revolutionize
- Option: Projections
- Option: Influencing

10. Which term refers to progress or improvement?

- Option: Radical
- Option: Advancements
- Option: Setback
- Option: Discreet

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

11. _____ occurs when the network or a system reaches its maximum capacity.

12. It is important to _____ the contributions of others in a team.



13. The scientist will _____ DNA from the samples for analysis.
14. Experiencing a _____ can be disheartening but provides an opportunity to learn.
15. The old building was carefully renovated and _____ to its former glory.
16. Plants need a certain level of _____ to grow healthily.
17. The long-_____ product launch finally took place to much excitement.
18. You should _____ your ability to adapt to different situations during the interview.
19. It is advisable to be _____ when handling sensitive information.
20. His charismatic personality was _____ in shaping the opinions of others.

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

21. The company was known for its cutting-edge and approach to product development.
22. Effective communication is to building strong relationships within a team.
23. When conducting experiments it is crucial to ensure the of the measurements.
24. The invention of the internet has the way we communicate and access information.
25. The farmers were busy the ripe crops from the fields.
26. He handled the delicate situation with great care and stayed in his actions.
27. The new government proposed a change in policies to address social issues.
28. The financial analyst presented optimistic for the company's growth in the next quarter.
29. The party was filled with an air of joy and as guests awaited the big announcement.
30. The sudden turn of events added an element of to the otherwise routine meeting.

Answer

Multiple Choice: 1. Transmission 2. Revolutionize 3. Impact 4. Crisis 5. Prototype 6. Radical 7. Decline
8. Expectancy



9. Harvesting 10. Advancements

Gap-Fill: 11. Congestion 12. Acknowledge 13. Extract 14. Setback 15. Restored 16. Moisture 17. Anticipated
18. Demonstrate 19. Discreet 20. Influencing

Matching sentence: 1. Innovative 2. Integral 3. Accuracy 4. Revolutionize 5. Harvesting 6. Discreet 7. Radical
8. Projections 9. Expectancy 10. Drama

CATEGORY

1. Sci/Tech - LEVEL3

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