

ADAPTED VERSION

# Snow on the Sahara in a week of weird weather

What is causing the world's bizarre weather? This week snow fell on the Sahara, alligators froze in US swamps, and Australian bats boiled in record heat. Some say climate change is to blame.



**Blowing hot and cold:** This region of the Sahara has seen record winter lows of  $-10.2^{\circ}\text{C}$ . © Getty

It is one of the hottest places on the planet, where blistering temperatures can reach up to  $50^{\circ}\text{C}$ . But this week parts of the Sahara desert were covered with a thick blanket of snow.

In Ain Sefra, an Algerian town known as the "Gateway to the Sahara", the rolling dunes suddenly looked more like ski slopes with 40cm of snow falling in some places.

Although this may have confused a camel or two, the phenomenon is not unheard of. Last year snow fell in the same area, and in 1979 a blizzard brought roads in the region to a standstill.

But a snowy Sahara is just one instance in a freakish pattern of weird weather sweeping the globe.

The USA has been hit by a freezing "bomb-cyclone" with several states suffering glacial temperatures of  $-35^{\circ}\text{C}$ . It was so cold in North Carolina that alligators were frozen solid in their swamps.

Unseasonably cold weather in Florida also took its toll on resident reptiles, with locals reporting it was "raining iguanas". The cold

had paralysed the animals which fell from the trees, shocking unsuspecting passers by.

Meanwhile, on the other side of the world, things heated up. Sydney in Australia recorded searing temperatures of  $47^{\circ}\text{C}$  — the hottest in the city since 1939. This sent thousands of bats tumbling from the trees as the sun "boiled" their brains.

In recent years, commentators have connected extreme weather to global warming. And this week has been no different.

The *New Scientist* claimed that the Australian heatwave conforms to what is "expected in a rapidly warming world". It also blamed America's deep freeze on a warming Arctic "spilling" cold air to the south.

Yet at the same time, the **Intergovernmental Panel on Climate Change** advises that extreme weather is caused by both "anthropogenic climate change [and] natural climate variability".

So should we blame extreme weather events on global warming?

## Weather warning

It is a gross oversimplification, some say. Climate varies naturally, and blaming isolated incidents on climate change implies a causation that cannot be proved. Furthermore, this impression of increasingly wild weather is exaggerated by our culture of 24/7 news and social media, which sensationalises natural events that would have passed unrecorded in a pre-digital age.

Not so fast, others respond. Known as "extreme event attribution", an area of science is nearing the ability to link extreme weather directly to climate change. But even in spite of this science, there is a bigger picture. From warming oceans to melting polar ice — there is overwhelming evidence that man is driving global warming. Extreme weather events remind us what is in store for humanity if climate change is not seriously addressed.



## Q: What do we know?

A: There have been three recorded snowfalls in the Sahara desert in the last 40 years. In America, a weather station on Mount

Washington recorded the joint lowest temperature in the world for that day:  $-38^{\circ}\text{C}$  with a wind chill equivalent of  $-69^{\circ}\text{C}$ .

## Q: What do we not know?

A: It cannot be said with certainty that any of the weather events described were directly

caused by man-made global warming. However, according to NASA average global temperatures have risen by  $0.8^{\circ}\text{C}$  since 1880. Furthermore, 16 of the 17 warmest years on record have all occurred since 2001.

## YOU DECIDE

1. Can we blame global warming for the Saharan snowfall?
2. Why are humans so fascinated by the weather?

## ACTIVITIES

1. Think of as many varieties of extreme weather as you can like floods or hurricanes. Using your imagination, or what you might already know about global warming, discuss with your classmates how climate change might contribute to some of these events.
2. Read the final two links in Become An Expert. The articles explore the possibility of linking extreme weather to climate change from different perspectives. Once you have read the pieces give yourself 15 minutes to write a response to this question: "Extreme weather gives us no concrete proof of global warming. Discuss."

## SOME PEOPLE SAY...

*"Climate change is the biggest thing that's going on every single day."*  
Bill McKibben

WHAT DO YOU THINK?

## WORD WATCH

**Swamps** – The animals survived the freezing temperature by poking their snouts up through the ice and going into a state similar to hibernation.

**Expected** – The 2017 paper *Australia's Unprecedented Future Temperature Extreme* predicts that temperatures in Melbourne and Sydney will routinely reach 50°C if the current rate of global warming continues.

**Spilling** – Cold air is normally contained in the Arctic by winds circling around the pole known as the the polar vortex.

### **Intergovernmental Panel on Climate Change**

The IPCC is a scientific group set up in 1988 by the United Nations. The goal was to form a body that would provide policymakers with trusted, cutting-edge information about climate change.

**Advises** – According to the 2012 report:

*Managing the risks of extreme events and disasters to advance climate change adaptation.*

**Anthropogenic** – Principally referring to pollutants and emissions that result from human activity.

**Extreme event attribution** – For more details follow the *Scientific American* link in Become An Expert.

## BECOME AN EXPERT

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 Notes

