Did Cloud Seeding Cause the Floods in Dubai?

Last month, the UAE witnessed the heaviest rainfall since records began. On Tuesday 16th April, over 250mm of rain fell on Al Ain in a 24-hour period. In Dubai, by far the largest city in the country and home to one of the world's busiest airports, around one-and-a-half years' worth of precipitation fell in a single day.

The freak event caused social media platforms to buzz with conspiracy theories that it had been brought on by the artificial practice of cloud seeding. However, experts have poured cold water on such hypotheses, instead insisting the deluge was caused by normal weather patterns that had been exacerbated by the twin phenomena of global warming and climate change.

A deadly downpour

Prior to hitting the UAE, the storm had already dropped some 230mm of rain on Oman, where 20 people lost their lives as a result of the flooding and chaos which ensued. The UAE thankfully did not suffer any fatalities, but it did witness the heaviest rain since records began in 1949. That's before oil was discovered in the region and indeed before the UAE itself was formally created as a country.

In Dubai, flights were grounded, houses were inundated and roads were flooded as around 142mm dropped on the 1.3 million residents which call it home. For context, the city's airport experiences an average of 76mm per year, meaning almost 24 months' worth of rain fell in just 24 hours.

Cloud seeding conspiracy

In the immediate aftermath of the event, social media was aflame with rumours that it had been brought on by the government's cloud seeding efforts. Cloud seeding involves injecting particles into rainclouds in a bid to draw together moisture molecules and thus increase the amount of precipitation.

However, experts were quick to play down the likelihood of such a scenario. For starters, the National Centre for Meteorology (NCM) clarified that no cloud seeding operations had taken place during the deluge. What's more, the scientific community pointed out that if the Emirati authorities were capable of conjuring such a sizable amount of rain out of thin air, they would be doing it all the time. Instead, the UAE suffers from a largely arid and inhospitable climate.

Climate change a more likely culprit

On the other hand, experts believe the flooding was more likely caused by normal patterns of weather that had simply been exacerbated by environmental factors. The rise in global

temperatures has resulted in extraordinarily warm water and air in the immediate vicinity of the UAE. “This increases both potential evaporation rates and the capacity of the atmosphere to hold that water, allowing bigger dumps of rainfall such as what we have just seen in Dubai,” explained Mark Howden of the Australian National University.

In this particular instance, a slow-moving storm brought significant amounts of moisture from the equator, before depositing it over the Gulf Region. While rare, events like these are not unheard of in the region; a recent study uncovered almost 100 such incidents between 2000 and 2020. Of course, their frequency and intensity are only likely to increase in the coming years, as well.