

East Africa locust outbreak and climate change

- The current locust outbreak in East Africa is the worst in parts of the region for 70 years.
- Extreme and unusual weather - including a powerful cyclone season last year - created the wet conditions that fuelled the outbreak.
- Unusual circulation patterns in the Indian Ocean connected with climate change were a factor behind this extreme weather, linking the locust outbreak with Australia's fires.
- Climate scientists warn such conditions like these risk becoming increasingly common if emissions continue to rise.

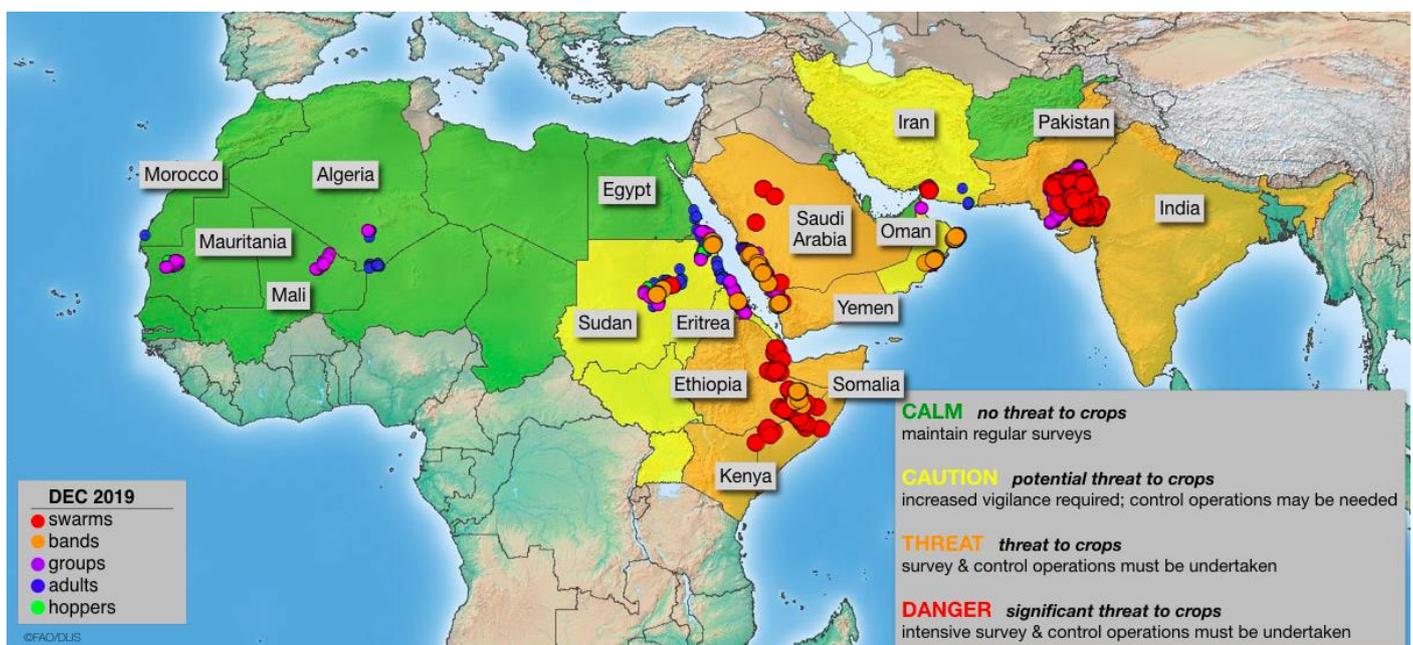
A serious locust outbreak, which the UN Food and Agriculture Organization (FAO) [describes](#) as 'extremely alarming', is threatening food security and livelihoods in the Horn of Africa. It is **the worst in 25 years for the Horn of Africa and in 70 years for Kenya**.

The outbreak is an '[unprecedented threat](#)' to food security and livelihoods according to the FAO, in a region that is already vulnerable to the impacts of climate change. Even before this outbreak, **at least 33 million people in east and south Africa were at emergency levels of food insecurity** as a result of floods, landslides, droughts and cyclones, according to [analysis](#) by Save the Children.

The locust swarms have attacked vast areas of the region. For example in Kenya, a single swarm covered an area 40km by 60km, able to consume as much food in a single day as 85 million people, while in Ethiopia swarms have covered more than 429 km², according to the [FAO](#).

The locust outbreak is [likely to](#) continue to develop to South Sudan, Uganda, Oman, Pakistan, India, Saudi Arabia and Southern Iran, among other countries, threatening livelihoods as it expands. The swarms are [expected to](#) worsen over the coming months as the locusts feed on the new season's crops.

FAO situation [summary](#), 20 January 2020



Extreme weather has driven the locust outbreak

Unusual weather conditions last year contributed to the swarm, especially the widespread heavy rains across the Horn of Africa since October 2019. Across the region the October to mid-November rainfall was up to [300%](#) above average; in Kenya, the rainfall was up to [400%](#) higher than average.

Locusts thrive in [wet conditions](#), and outbreaks [often follow](#) floods and cyclones. Heavy rain leads to growth of vegetation in arid areas, providing locusts with the conditions needed to develop and reproduce, according to the [World Meteorological Organization](#) (WMO).

These widespread rains came in a year of extremes in East Africa. Last year started with a drought, putting more than [45 million](#) people at risk from food insecurity, and ended with [abnormally](#) wet conditions. The Horn of Africa was hit by [eight cyclones](#) in 2019, the largest number in any year since 1976. In Mozambique, [two cyclones](#) hit within 6 weeks of each other (Cyclones Idai and Kenneth), affecting about 1.85 million people.

Link with climate change

The unusual cyclone season in East Africa in 2019 is linked to an ocean circulation pattern known as the [Indian Ocean Dipole](#) (IOD), which measures the difference in water temperature between opposite sides of the Indian Ocean. The IOD is a primary [driver of climate conditions](#) stretching from Africa to Australia.

The positive phase of the IOD in 2019 was the strongest for [six decades](#). These conditions led to severe rainfall and flooding in East Africa, as well as contributing to the unusually dry conditions in Australia that drove the current bushfires.

The positive phases of the IOD are becoming more common, and scientists believe climate change is responsible. Academic studies have found that strongly positive phases of the IOD have happened [more often](#) in recent decades, and that climate change is [behind the increase](#).

As greenhouse gases continue to heat the ocean and the atmosphere, **extreme events caused by the IOD are predicted to become increasingly common.** Unusually positive IOD events could happen nearly three times more often this century if emissions continue to rise, according to a [2014 study](#). A separate [study](#) also found they would be twice as likely to happen even with only 1.5°C of warming - little more than has already been seen.

Increased extremely positive IOD years would likely bring flooding and cyclones like those seen in 2019 to already vulnerable and food insecure regions. Wet conditions could also lead to worse locust outbreaks - in a worst-case scenario they could damage the livelihoods of one tenth of the world's population, [according to](#) the FAO (p2).

Keith Cressman, Senior Locust Forecasting Officer, FAO

“As Desert Locust are fully integrated with nature, weather and environmental conditions have dramatic impacts on locust numbers and migration. Historically, heavy rains associated with cyclones that form in the Indian Ocean and make landfall in the Arabian Peninsula and the Horn of Africa have led to Desert Locust plagues.

“In the past few years, there has been a significant increase in the frequency of such cyclones at the beginning and end of the summer period. For example, there were 8 cyclones in 2019 when in most years there are only one or two. Three cyclones in 2018 and two in 2019 have contributed to the current Desert Locust upsurge in the Horn of Africa where large and numerous swarms are present in Ethiopia, Somalia and Kenya.

“If this trend continues, whether it is specifically attributed to climate change or not, is likely to lead to more Desert Locust outbreaks and upsurges in the Horn of Africa.”

This briefing was compiled by researchers in Europe and the US. For more information or questions, please contact info@mission2020.global, or visit mission2020.global.

Updated in January 2020.