

1 SCIENTISTS SAY THEY'VE FOUND A PLACE ON EARTH WHERE NO LIFE CAN THRIVE

Where there's water, there's life, the thinking loosely goes. New evidence suggests starkly otherwise – or at least identifies some harsh new parameters on where life and water may (or may not) be able to co-exist. To find these limits, scientists travelled to one of the most extreme and inhospitable environments on Earth: the Dallol geothermal springs in **ETHIOPIA'S DANAKIL DEPRESSION**. This hellish, salty waterworld is generally considered the hottest inhabited place on the planet. The Dallol landscape is punctuated by cratered lakes of hyperacidic, hypersaline water coloured in a vibrant palette of greens, yellows, oranges, and browns.

WHY SCIENTISTS ARE INTERESTED IN DANAKIL

The Danakil Depression, including the Dallol volcanic area, is one of the most remote, inhospitable areas in the world. They are found in the Afar Region of Ethiopia and are part of the East African Rift System – an active tectonic plate boundary that's splitting apart plates at a rate of 7 mm per year. It's an extreme place for research.

FEATURES

- It is also one of the lowest places on the planet (100 m below sea level), and without rain for most of the year.
- Here, the Awash river dries up in a chain of salt lakes such as Lake Afrera,

- never reaching the Indian Ocean.
- Mount Ayalu is the westernmost and older of the two volcanoes here.
- The other active volcano, Erta Ale, is one of several crater lakes of lava bubbling from the Earth's mantle. The area contains the Dallol sulphur springs.



Photo: Getty Images

IN THE NEWS FOR: In October 2019, scientists reported that terrestrial life forms, including extreme forms of archaea micro organisms, were not found to exist in the very hot, acidic and salty conditions present in parts of the Danakil Depression.

HOW WAS THIS HARSH ENVIRONMENT CREATED?

This harsh environment was created by the splitting apart of the old African Plate into two plates – the Somali and Nubian Plates. In millions of years, these two plates will be separated and a new ocean

Photo: Getty Images



basin will form, claim scientists. The Dallol volcano, in the northern part of the Danakil Depression, was formed in 1926 by a phreatic eruption. This is when groundwater is heated by magma – essentially, a steam eruption without the lava ejection.

WHAT RESEARCH HAPPENS HERE?

These wet environments at the Danakil Depression are being investigated to help understand how life might arise on other planets and moons. Many micro organisms supposedly living here are extremophilic microbes of major interest to astrobiologists.

You know the news, but did some terms puzzle you? On this page, we explain the terms used in news or by our newsmakers. Figure out why the names, places and terms became the actual newsmakers this week.



NAMES, PLACES & TERMS

2 WHY ARE CAMELS GIVING PUSHKAR A MISS?



A CAMEL'S FAIR: One of the world's largest camel fairs begins in November in Pushkar, Rajasthan, every year. While **PUSHKAR** has been attracting more tourists, it is slowly losing charm as a cattle fair as the number of animals brought to the Pushkar fair has declined drastically. The fair, among the 10 animal fairs organised in Rajasthan every year, is famous for camels, horses and cattle.

WHERE ARE THEY? There has been a decline in the overall camel population as the utility of the animals to humans has reduced. India, which

had the 7th largest camel population in the world in 1991 with more than 10 lakh animals, is now ranked outside the top 20 with just 2.5 lakh camels left.

FALL IN BUSINESS: Ironically, a reason for the decline in trade in camels is its status as Rajasthan's state animal. In 2014, that status came with protocols. For next year, the state passed a law banning unauthorised transportation of camels and brought in restrictions.



WHY IS PUSHKAR A HOT DESTINATION?

Epics say that Pushkar floated to the surface when Brahma dropped a lotus flower on Earth.

■ Pushkar is one of the five dhams or sacred places that are highly revered by Hindus. The four other dhams being Puri, Badrinath, Dwarka, and Rameswaram.

■ It is believed that in a war, Lord Brahma had slain Vajra Nabh, the demon, with a lotus

flower, whose petals drifted down to Earth and were spread in three areas in and around Pushkar where lakes were created. ■ Following the legends, it is said that the Pushkar Lake was bounded by 52 palaces and 500 temples. ■ Pushkar was mentioned in Mahabharata, the 2000-year-old epic of India, as the oldest religious hub in India.

■ It is mentioned that "Maharaja (Yudhishtir) after entering the Jungles of Sind and crossing rivers on the way bathed in Pushkara".

3 A TALE OF THREE CITIES AND METHODS TO CURB POLLUTION



LONDON

1 Thick smog would frequently blanket London in the 19th and 20th centuries, when people burned coal to warm homes, and heavy industry in the city centre pumped chemicals into the air. Referred to as "pea-soupers", the most famous of these events was the so-called Great Smog of London in 1952. It was recently dramatised in the first series of the Netflix drama, *The Crown*.



BEIJING

2 China's rapid industrialisation brought a huge rise in air pollution. Coal-burning power stations and a boom in car ownership from the 1980s onwards filled Beijing's air with hazardous chemicals. In 2014, a report by the Shanghai Academy of Social Sciences said the city was nearly "uninhabitable for human beings" because of the pollution.



MEXICO CITY

3 Mexico's capital was infamous in the 1970s and 1980s for its poor air. Just breathing was the equivalent of smoking dozens of cigarettes a day. The city's position within a high-altitude valley means the poor air is often trapped by a ring of mountains. In 1992 the UN gave it the dubious honour of being "the most polluted city on the planet".

WHAT THE CITY DID

In 1956 the UK passed the Clean Air Act. It regulated smoke, imposing "smoke control areas" where only smokeless fuels could be burned. According to BBC, the act was extended in 1968, and air quality improved.

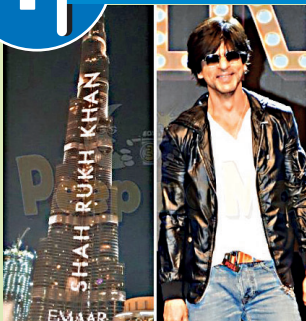
WHAT THE CITY DID

Beijing hasn't entirely fixed its problem. But China has been trying to cut vehicle emissions, govt incentives for private businesses, data transparency, and diversifying economy away from heavy industry to cut pollutants.

WHAT THE CITY DID

In 1989, the city became the first in the world to impose curbs on car usage. It cut the number of cars on city roads by 20% from Monday to Friday, depending on their number plates. It immediately helped lower pollutants.

4 BURJ KHALIFA LIT UP FOR SRK & INDIA!



Happy birthday to the king of Bollywood Shah Rukh Khan, a signage illuminated on Burj Khalifa, was followed by a spectacular fountain show as fans in Dubai captured the moment on their phones. Humbled by the grand gesture, Khan took to Twitter to express his gratitude. "Thanks for making me shine so bright. Your love and

kindness is unsurpassable. Wow! This is really the Tallest I have ever been," Khan tweeted.

FOR INDIA

FEB 2018: The Burj Khalifa was lit up in the colours of the Tricolour to mark Narendra Modi's second visit to the country. **OCT 2019:** On the occasion of the 150 birth anniversary of Mahatma Gandhi, the Burj Khalifa lit up in Indian colours with an image of 'Bapu' appearing on the walls of the world's tallest building.



5 IRFAN PATHAN, HARBHAJAN SINGH TO MAKE ACTING DEBUT

Two Indian cricketers, Irfan Pathan and Harbhajan Singh, are all set to make their acting debut in Tamil cinema. Pathan will be seen essaying a prominent role in the Tamil film, 'Vikram 68',

directed by Ajay Gnana-muthu. The seam bowler shared a video announcing his debut on Twitter.

On the other hand, Harbhajan will make his debut in a Tamil movie titled 'Dikkiloona', and it will be directed by Karthik Yogi.

INNINGS

Pathan has not played an international match since 2012. Pathan played 29 Test matches and managed to take 100 wickets. He also played 102 ODIs for the side in which he scalped 173 wickets. Harbhajan last played a match for India in 2016. The spinner has played 236 ODIs, 103 Tests and 28 T20Is.



SREESANTH TOO JOINS IN Cricketer S Sreesanth is set to star in a Tamil film opposite Hansika Motwani. The film is a horror comedy. The pacer had previously acted in movies like Aksar 2, Cabaret, Team 5 and Kempagowda 2.

