

CSR TODAY

RNI NO. MAHENG/2013/48866 ■ VOLUME 09 ■ ISSUE 11 ■ JUNE 2022 ■ PRICE ₹100 ■ TOTAL PAGES: 52

INDIA'S COAL CRISIS EXPOSES PITFALLS IN POWER SECTOR

In less than a year, India has faced its second coal sector crisis that has led to nationwide power supply issues

CSR ISSUE

Why India's heatwave has turned out the lights

CSR SUSTAINABILITY

India's Choices & Challenges

CSR FUTURE

State of the climate: Start of 2022 is the fifth warmest on record





CSR TODAY

RATE CARD

ADVERTISEMENT SIZE	DIMENSIONS		1X RATE
	Non-Bleed	Bleed	
Inside Front Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹2,00,000
Inside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,50,000
Outside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹3,00,000
Full Page (Colour)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,00,000
Half Page - Vertical (Colour)	85 mm (w) x 250 mm(h)	-	₹50,000
Half Page - Horizontal (Colour)	180 mm (w) x 120 mm(h)	-	₹50,000
Quarter Page (Colour)	85 mm(w) x 120 mm(h)	-	₹35,000
Full Page (B/W)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹60,000
Half Page - Vertical (B/W)	85 mm (w) x 250 mm(h)	-	
Half Page - Horizontal (B/W)	180 mm (w) x 120 mm(h)	-	₹30,000
Quarter Page (B/w)	85 mm(w) x 120 mm(h)	-	₹20,000

Bleed Advertisement charges: 20% extra for all sizes.



**INDIAN CENTRE
FOR CSR**

For More Information:

INDIAN CENTRE FOR CSR

104, Nirman Kendra, Dr. E Moses Road,
Mahalaxmi Estate, Mumbai -400011.

Tel: +91 22 2490 30 78, +9122 2490 30 82,
+91 22 2495 52 60

Climate change has made India vulnerable



Rajesh Tiwari
Publisher
rt@iccsr.org

Severe impacts were recorded in both countries – with heat exposure warnings issued, schools closed, power grids destabilised and working hours lost to extreme conditions.

The heatwave – responsible for at least 90 deaths across India and Pakistan, as well as wheat crop failures, power outages and forest fires – was also made 1C hotter by human-driven warming, according to the findings.

The results, from an international team of climate scientists at the World Weather Attribution initiative, also show that such heat could become a further 2-20 times more likely if global temperatures reach 2C above pre-industrial levels, the upper limit of the Paris Agreement.

To examine the role of climate change in the heatwave, the researchers first looked at records of maximum daily temperatures in north-western India and south-eastern Pakistan to see how they have changed with global temperature rise. (Global temperatures have already risen by around 1.2C since the start of the industrial era.)

Climate change is not only raising temperatures and making India's heatwaves hotter, but is also changing weather patterns that further drive dangerous heat extremes, according to experts.

Among the effects are that the cooling Western Disturbance (WD) is being disrupted, making anticyclones more dominant, Arctic heatwave and weird persistence of El Niño/Southern Oscillation (ENSO) phases, according to details compiled by Climate Trends.

It may be mentioned, WDs drive the weather and govern the wind pattern over the region that includes both mountains and plains. In fact, they are very crucial in the summer season as they are known to suppress heat wave conditions in the Indo-Gangetic plains. WD infuses moisture laden winds over the landlocked northwest region. This further interacts with the humid easterly winds from Arabian Sea, triggering the formation of weather systems such as cyclonic circulations and trough, resulting in rain and thunder-shower activities.

However, climate change has led to dynamic changes in the pattern of WDs. Although the frequency of WDs has increased, those have not translated to the precipitation associated with them.

According to A P Dimri, Director, Indian Institute of Geomagnetism, Mumbai, "Global warming can be held responsible up to an extent. WDs are getting lighter by virtue of increasing heat, as it decreases the moisture content. Subsequently, these Western Disturbances are now moving across higher elevation due to heat and are reaching up to Karakoram range. Climate change has made some dynamic changes in the pattern of WD."

North-Western plains too saw mercury soaring, paving way for heatwave-like conditions. Hot weather conditions were also felt across the hilly states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand, where earlier we used to see snowfall during March as well. As per state run India Meteorological Department (IMD), heatwave in plains, coastal areas and hilly regions is declared when the maximum temperatures are above 40°C, 37°C and 30°C, respectively and are above the normal average by 4-5 degrees. It is termed as 'severe heatwave' if it is above 5-6 degrees, according to a note by Climate Trends.

"Absence of any weather system and presence of any anticyclone over Rajasthan and adjoining Pakistan had been pushing hit winds across North and Central India. March is going to end on a hotter note with no respite till the beginning of April. Light winds and dry weather will once again increase the temperatures over Northwest India leading to heat wave conditions. Gradually, the heat wave will engulf parts of north Madhya Maharashtra and Vidarbha as well. Pre monsoon activities will only commence around mid-April across Northwest India, which may give some relief from intense hot weather conditions," said Mahesh Palawat, AVP-Meteorology and Climate Change, Skymet Weather. 

Contents

CSR TODAY

JUNE 2022 | VOL. 09 | ISSUE 11

PRINTER AND PUBLISHER: Rajesh Tiwari

EDITORIAL

Consulting Editor: M Bose

Executive Editor: Neil Thakkar

INDIAN CENTRE FOR CSR

ADVISORY BOARD

Pankaj Pachauri, Ted McFarland, Mag. Martin Neureiter, Chandir Gidwani, Lou Altman, Kingshuk Nag, Toby Webb, Anil Bajpai, Rajesh Tiwari, Satish Jha, Amit Chatterjee, Jitendra Bhargava, Namita Vikas, Dinesh N. Awasthi, Kapil Dev, Dr. Kamal Kant Dwivedi, Sanjiv Kaura, Suhel Seth

PRODUCTION, CIRCULATION AND LOGISTICS

Hardik C

HEAD OFFICE

CSR Today

104, Nirman Kendra, Dr. E Moses Road Mahalaxmi Estate, Mumbai - 400011

Tel: +91 22 249 03078 / 03082 / 55260

Email: editor@csrtoday.net

Website: www.iccsr.org

REGIONAL OFFICES

NEW DELHI

Regional Director: V Chopra

MUMBAI

Executive Vice President: Neil Thakkar

Circulation: C.R. Tiwari

Printed, Published and Edited by Rajesh Tiwari on behalf of Indian Centre For Corporate Social Responsibility, Printed at The Pack-Age, 196-1, Katrak Compound, J.S.S. Road, Gaiwadi, Girgaon, Mumbai - 400 004 and Published from Indian Centre For Corporate Social Responsibility, 106/A, Nirman Kendra, Plot No.3, Dr. E. Moses Road, Mahalaxmi Estate, Mahalaxmi, Mumbai 400 011.

Editor: Rajesh Tiwari

Disclaimer

The publisher, authors and contributors reserve their rights in regards to copyright of their work. No part of this work covered by the copyright may be reproduced or copied in any form or by any means without the written consent. The publisher, contributors, editors and related parties are not responsible in any way for the actions or results taken by any person, organisation or any party on basis of reading information, stories or contributions in this publication, website or related product. Reasonable care is taken to ensure that CSR Today articles and other information on the web site are up-to-date and accurate as possible, as of the time of publication, but no responsibility can be taken by CSR Today for any errors or omissions contained herein.



28 | Cover Story

India's coal crisis exposes pitfalls in power sector

CSR SUSTAINABILITY

32 India's Choices & Challenges

CSR ISSUE

36 Why India's heatwave has turned out the lights

CSR CONCERN

38 Heatwave scorches Indian farmers' bumper wheat crop hopes

40 Climate change 'already' raising risk of virus spread between mammals

43 First of its kind project launches new tools to combat

wildlife trafficking in India's airports

CSR FUTURE

44 State of the climate: Start of 2022 is the fifth warmest on record

CSR INITIATIVE

50 Who made the cut for The Liveability Challenge 2022?

REGULARS:

03 Publisher's note

05 CSR News

24 News You Can Use

27 CSR India United

CSR NEWS

Lighthouse Learning partners with Maharashtra Government for Project Adarsh Anganwadi to upgrade Anganwadis in the state

Lighthouse Learning Group, (formerly known as EuroKids International), a leading early childhood & K-12 education organization, has signed a MoU with the Maharashtra Government - Women

Prajodh Rajan (Co-founder & Group CEO), Mr KVS Seshasai (CEO), Dr Anita Madan and Tushar Shrotri were present on this occasion. With over 20 years of experience in early childhood education

be taken to other major parts of Maharashtra. Lighthouse Learning will also help to ensure that each Anganwadi has hygienic and safe surroundings for children to play and learn in.

While signing the MOU, Thakur said: "We are happy to partner with Lighthouse Learning for the up-gradation of Smart Anganwadis to help support the education of young children. They will start with re-vamping a few existing Anganwadis in Mumbai immediately. We look forward to Lighthouse Learning taking this initiative to other parts of Maharashtra so that every child will soon have access to safe and hygienic centres to study and play in."

Prajodh Rajan, Co-founder & Group CEO - Lighthouse Learning said, "We are delighted to support the Maharashtra Government's mission to develop quality Anganwadis under the Project Adarsh Anganwadi. Our vision is to support and upgrade one Anganwadi for each Pre-School we have in the state. Research has conclusively proven that the first five years of a child's life is the most important as it sets the foundation for a strong growth and development journey. It is our privilege to partner with the ministry of WCD and look forward for deeper collaborations in the future."



and Child Development (WCD) Department to implement the Project Adarsh Anganwadi. The signing happened in the office of Yashomati Thakur, Minister for Women and Child Development and in presence of I A Kundan, Secretary - WCD and Rubal Aggarwal, Commissioner - ICDS and Vijay Kshirsagar Dy Commissioner - ICDS.

and care, Lighthouse Learning aims to transform some existing Anganwadis, expanding its infrastructure, bringing in high quality content and curriculum, teaching aids, as well as conducting several training sessions to enhance the skills of the staff.

This project would commence from Mumbai city and would

Narayana Nethralaya and Acer India Team up to build India's first PC & tablet-based software therapy for children suffering from Cortical Visual Impairment

Narayana Nethralaya in collaboration with Acer India has launched the PC + tablet based software, "VisioNova" designed for children suffering from Cortical Visual Impairment (CVI). This initiative by Narayana Nethralaya and Acer India aims at breaking down barriers and providing the patients with better access to treatment. Acer VisioNova, a path-breaking innovation was conceptualized as a mobile alternative to on-site therapy for CVI children that will offer them the standard of care. Narayana Nethralaya as a part of its 'Buds to Blossoms' initiative provides dedicated therapy programs to help children develop and improve motor, cognitive and visual abilities that significantly improve their quality of life.

Cortical Visual Impairment is a condition of bilateral visual loss caused due to injury of visual areas in the brain without significant eye or anterior visual pathway impairment. CVI is currently an emerging cause amongst children across India. With 161 children in every 100,000 born with CVI, India has declared it to be a high priority issue and classified it as one of 30 conditions that all babies must receive mandatory screenings. These children with CVI have great difficulty in performing visually guided activities and these therapies rely on machines that are bulky, expensive and require the child to be in the hospital for the entire duration of six-to-nine-month therapeutic process. In order to address this, Acer provided PC



Harish Kohli President & MD Acer India, Dr. K Bhujang Shetty Chairman & MD Narayana Nethralaya, Retd. Grp. Capt. S K Mittal VSM, CEO of Narayana Nethralaya.



Parents presented with Acer's tablet installed with VisioNova software



Patients trying the VisioNova software

and 100+ tablets under CSR to kick-off this noble cause. Acer has also further intent to supply around 2000 tablets for patients where patients can pay the hospital a small, refundable deposit and receive the tablet for use from the comforts of their home and still continue treatments even with COVID disruptions.

The tablet will offer CVI patients exercises that can benefit and help them develop and improve their deficient skills and visual abilities that significantly improve the quality of life. Also, since a number of specialised therapies that are deployed require expensive equipments that need the child to be present at the

CSR INDIA UNITED

Mankind Pharma donates 3 Lakhs to Padma Shri Mohammad Sharif Chacha

Mankind Pharma, a pharma company, believes in serving people, and acknowledging the efforts of those who have supported the society. The company's ethos is about appreciating the change-makers and real heroes of society.

This time the brand has donated Rs. 3 Lakh to Mohammad Sharif, who performed the last rites of more than 25,000 unclaimed bodies over three decades.

Mohammad Sharif who is popularly known as Sharif Chacha belongs to the Faizabad district of



Uttar Pradesh. Sharif Chacha lost his son 27 years ago and got to know about it a month later. Ever since, Sharif Chacha has taken it on himself to cremate unclaimed bodies. For such humanitarian efforts to serve society, Sharif Chacha has

been felicitated as Padma Shri by the President of India. Mankind Pharma salutes his spirit of humanity and thereby facilitates him with a small amount of token money. Being a responsible organization, Mankind Pharma with time-to-time has come forward to support such people. The organization believes in giving back to society through its CSR activities and thereby lending a helping hand to the ones in need.

Talking about the initiative, Rajeev Juneja, Managing Director and Vice-Chairman of Mankind Pharma, said, "In the last two years, not just India but the entire world has gone through a difficult time. People have lost their loved ones, and during those tough times, everyone has realized how unpredictable life can be. As we always believe in the philosophy of acknowledging the efforts of these heroes, I feel Sharif Chacha is a true hero. The initiative taken by him is commendable and for his bravery, we would like to reward him. This is a small initiative by Mankind Pharma to ease down his situation in any way. We are amazed by the sense of responsibility he has shown for society."

Schoolnet partners with Rajasthan Government to provide Geneo and ReadToMe® to 6,500 schools

Schoolnet, a unique and leading EdTech company that provides technology-based education services to schools, has announced a partnership with the Rajasthan Government to provide Geneo, ReadToMe®, and teacher training services in 6,500 government schools across all 33 districts of Rajasthan. Under this, over one million students from across the state can enjoy access to digital learning technologies and teachers will be trained in digital pedagogy, with the support of Google for Education. Geneo is a flexible and affordable online learning platform that is available for both in-school and after-school. It uses the digitized version of the school's textbook, mapped to which is provided a plethora of multi-sensory learning content to promote high engagement and application.

ReadToMe® is an AI-powered technology using a text-to-speech function that enables multisensory reading of curriculum prescribed in English.

With this, Schoolnet, and the Government of Rajasthan aim to provide quality learning solutions to students across societal strata.

Commenting on the partnership, RCM Reddy, MD & CEO, Schoolnet India Ltd. said, "At Schoolnet, we are committed to delivering technology driven learning experiences to students across the country. The partnership with the Government of Rajasthan is a step in that direction. We are hopeful that with this, we will be able to elevate the quality of education imparted to students and drive digital transformation across schools in the state."

INDIA'S COAL CRISIS EXPOSES PITFALLS IN POWER SECTOR

In less than a year, India has faced its second coal sector crisis that has led to nationwide power supply issues, writes **Manish Kumar**, [Mongabay.com](https://www.mongabay.com)



A labourer is seen working at a diesel-powered crusher in front of a wind turbine in Tamil Nadu.
Image: Land Rover Our Planet, CC BY-SA 3.0, via Flickr.



ashank Pathak owns a photocopy shop in one of the busiest markets of Ranchi, Jharkhand's capital city. His small-scale business needs regular power to run his machines. But since the onset of the heatwave in the region, erratic power supply has been troubling him and many other traders in his area. Tired of the power outages, Pathak and many others have shifted to diesel generators to fulfil their power needs.

Across the country, domestic and industrial power users have similar tales of alternative arrangements for electricity as they face load-shedding that is allegedly linked to the shortage of coal in the country.

Around 1,300 kilometres away from Ranchi, in India's capital, Delhi, erratic power supply is common too. The Delhi government recently said that despite having no pending dues, the coal stock availability was only enough for a day.

On May 12, Delhi reported a peak electricity demand of 6,780 Megawatt (MW), which is the highest ever in the month of May. On the national level, India recorded its highest ever peak demand of 201.06 gigawatts (GW) in April, even as several coal-based power stations were reeling under the severe shortage of coal.

The Indian government said that with this record, India surpassed 2021's maximum demand of 200.539

GW (July 7, 2021) and that the demand is expected to reach about 215-220 GW in the May-June period. Government data as of April also indicates that 106 out of 173 coal-fired power stations fell short of coal stocks and were declared 'critical' as the stock fell below 25 per cent of the quantity these stations need for power production.

There is a mix of reasons that have led to the coal situation, according to power sector experts: the rising global price of coal, lack of management of stockpiles at thermal power stations, the poor financial health of power distribution companies (DISCOMs), the impact of the Russia-Ukraine war, and a sudden hike in power demand.

COAL TRANSPORTATION NEEDS ATTENTION

India is the world's second-largest producer and consumer of coal. The

Indian government recently claimed that there has been an increase in coal production over the past few years due to policy reforms and imports have decreased. But despite the increased domestic production, the country has witnessed a second coal shortage crisis in less than 10 months, with the last one being in October 2021.

The severity of the situation could be measured with the fact that despite the stockpiling norm of the Central Electricity Authority (CEA) mandating thermal power stations to ensure 15-30 days of coal stocks, based on their distance from the coal mines, several coal-fired coal stations were left with only a few days of coal supply for generating power.

Domestic coal in India is mainly transported from coal-rich states such as Jharkhand, Odisha and Chhattisgarh to different parts of



India's Choices & Challenges

India's Energy Security in
Shifting World Order

By Pooran Chandra Pandey

Indian Prime Minister, Narendra Modi, is currently on a three-day tour to Europe and has the Ukraine war and impending energy security issues on his agenda. During his visit, Modi will chair the 6th round of Indo-German Inter-governmental consultation in Berlin with the German chancellor as a co-chair to discuss bilateral, regional, and global issues arising in wake of Russia's war on Ukraine besides holding meetings with the Nordic Forum in Copenhagen. While on his way back home, he will arrive in Paris to meet with the French President to exchange perspectives on the ongoing war in Ukraine, reiterate India's position, and discuss energy security issues including free trade agreements that have mutually enforcing incentives embedded bilaterally to plan out future pathways of democratic values and visions and build in process 'a principles-based robust coalition of willing democracies' to repel aggressive behavior of autocratic and authoritarian regimes in the world. India is set to play a pivotal role in the current crisis as the country assumes the presidency of G-20 next year and the ground for decisive dialogue and diplomacy is being laid with the Indian Prime Minister's visit to major European capitals besides meeting with the US president in Japan in next month to discuss QUAD priorities with China firmly on agenda. India is also expected to attend the upcoming G-7 meeting in June in Bavaria.

Russia's War on Ukraine

Amid Russia's ongoing war in Ukraine, a flurry of dialogues and diplomatic activities have been doing the rounds with state visits undertaken by heads of state back and forth to amplify, articulate, and enunciate their positions on bilateral relations with Russia, position Ukraine and wider collaborations and partnerships with Europe and

EU as a block overvalues and visions for emerging world order. At the heart of it, all lie the energy security, food crisis, inflationary pressures, and reset in global energy security including emergent security architecture, potentially pivoted around energy flow from Russia and efforts of Europe to wean off its long-standing dependence on Russian energy and Moscow's efforts to diversify its energy supplies more towards south Asia and southeast Asia.

As a result of the ongoing Russia's war on Ukraine, India's long-standing bilateral relations with Moscow has been under pressure from all quarters including Germany and France in particular and the EU in general. US as India's relatively new partner and Japan as the country's long-standing

New Delhi has though abstained away from security council resolutions against openly criticizing Moscow for its act of war and stated that security council resolutions are a strong indication of the will of the international community which as not being binding and vetoed by Russia as a P5 member would have little ice to cut in being effective to the point of stopping the war.

India has also been suffering due to oil and gas supplies and prices hitting the sky due to a sharp price hike in the international market continuing to benefit from highly discounted oil and gas prices supplied to it by Moscow without being in violation of sanctions imposed by Europe led by the USA. It is also worth mentioning that rising oil and gas prices have likely the potential

As a result of the ongoing Russia's war on Ukraine, India's long-standing bilateral relations with Moscow has been under pressure from all quarters including Germany and France in particular and the EU in general.

partner (also being QUAD partners) have also been ramping their efforts to impress upon New Delhi to move away from its dependence on Moscow in view of its unprovoked war against a sovereign and independent Ukraine, a value that democracies hold dear.

India has however made its position clear at multiple forums that it calls for an immediate cessation of Russia's war on Ukraine and dialogue and diplomacy should prevail in finding a solution to the crisis.

to upset the domestic politics of countries potentially serving as a template for anti-incumbency factors for those political parties that are in power. Therefore, Russia's war on Ukraine will likely play out in a number of areas and issues and pivoted by the energy dependence of Europe on Russian oil and gas including in South Asia and South-east Asia, the emerging world order is widely believed to be reshaping up and would likely redraw geopolitical boundaries much beyond

Locals in the town of Shoranur in Kerala, India bathe in the River Nila.
Image: Mike Finn, CC BY-SA 3.0, via Flickr



WHY INDIA'S HEATWAVE HAS TURNED OUT THE LIGHTS

As people across the country crank up the AC, the grid is struggling to cope: a peek into a future in which climate change drives more extreme weather, writes **Lou Del Bello**, thethirdpole.net

The heatwave currently bearing down on the Indian subcontinent has made headlines around the world for the threat it poses to the health and livelihoods of millions of people, with doctors reporting a rise in heatstroke symptoms and warning that prolonged exposure to such extreme conditions can be deadly.

But what is also being exposed is a lesser-known vulnerability: that of an energy system that quickly

gets strained beyond its maximum capacity when there is a dramatic rise in demand for power to keep ACs, fans and fridges going in homes and hospitals when it's too hot outside.

Temperatures touching the mid-to-high 40s (degrees Celsius) are not usually seen in north India and Pakistan before May, but this year they started in the second week of April, stretching the hot season by weeks. The unseasonal heat has alarmed scientists, who say it carries the

footprint of climate change. Mariam Zachariah, a climate scientist at the Grantham Institute at Imperial College London in the UK, says that the temperatures in South Asia at the moment are “uncanny.”

The footprint of climate change

With her team, she examined the heatwave spell that occurred from the first week of April, finding that such temperatures are now roughly a one-in-four year event in the current climate. They compared this with a computer-generated model planet, with lower greenhouse gas emissions in the atmosphere, and found that without climate change such events would have been very

The hot weather has not just burnt a hole in the Indian farmers' income, but is pinching consumers globally. India is the world's second-largest wheat producer.

Image: Jason Wallis/Flickr



HEATWAVE SCORCHES INDIAN FARMERS' BUMPER WHEAT CROP HOPES

Scorching weather is hurting the wheat crop in India, which is pinching a global supply already under strain from the Ukraine war. The heatwave is a warning for India's agricultural sector to adapt quickly to climate impacts, experts say.

Farmer Raghubir Singh was expecting to reap a rich crop of wheat in his 20-acre patch of land in the northern Indian state of Haryana's Karnal this year, but his hopes were dashed when summer arrived a month early in March and shrivelled the grains.

"I will have no savings this year from wheat. My yield is 15-20 per cent less than what I expected," says Singh. His plight is similar to thousands of farmers across India's breadbasket northern region, where an unprecedented heatwave has cut short the spring season during which the grains ripen. The temperature rise since March has shattered

a more than century-old record — a phenomenon that scientists attribute to global warming.

The blazing weather has not just burnt a hole in the Indian farmers' income, but is pinching consumers globally. Stung by the heat spell, the world's second-largest wheat producer, India, suddenly imposed an export ban last weekend, days after fresh estimates showed that the wheat output will drop by 5.7 per cent below initial estimates to 105 million tonnes this year.

Global wheat prices have shot up to a record US\$453 per tonne following India's export curb as nearly a dozen nations were hoping for supplies from the South Asian

country to compensate for shipments disrupted by the war between top producers Russia and Ukraine.

Climate scientists say that this year's bitter experience with the wheat crop is a loud and clear warning for India's agriculture to adapt quickly to climate change. The stakes are especially high for the country as nearly half of its workforce is employed in agriculture.

"Over the last three decades, we have seen an incremental increase in average temperature every decade. We have to adapt to the situation," says D.S. Pai, director at the Institute for Climate Change Studies, who is based out in the southern Indian state of Kerala.

Looming threat of more heatwaves

The indications are that the heat waves will only increase in the future. The number of heatwave days in India, which is defined as



Flying FoxA Flying Fox native to Malaysia, Indonesia, and Southeast Asia hangs out in an enclosure at the Oakland Zoo.
Image: kqedquest, CC BY-SA 3.0, via Flickr.

Climate change ‘already’ raising risk of virus spread between mammals

Mammals forced to move to cooler climates amid global warming are “already” spreading their viruses further – with “undoubtable” impacts for human health, a new study says, according to **Daisy Dunne**, Carbon Brief

The research, published in *Nature*, uses modeling to map how climate change could shift the geographic ranges of 3,100 mammal species and the viruses they carry by 2070.

It finds that climate change is increasingly driving new encounters between mammal species, raising the risk of novel disease spread. The world’s “biodiversity hotspots” and

densely populated parts of Asia and Africa are most likely to be affected.

The findings suggest that climate change could “easily become the dominant [human] driver” of cross-species virus transmission by 2070, the authors say.

The research comes in the third year of the Covid-19 pandemic, a disease passed from animals to humans that has so far killed more than six million people across the world.

In their study, the scientists “caution against overinterpreting our results as explanatory of the current pandemic”, but add the “ecological transition” they have identified will “undoubtedly have a downstream impact on human health and pandemic risk”.

Reshuffling nature

Climate change is shifting where species live. As temperatures increase and rainfall changes, some species are being forced to seek out new areas with climate conditions they are able to tolerate. (Species that are not able to move could face extinction.)

STATE OF THE CLIMATE: START OF 2022 IS THE FIFTH WARMEST ON RECORD

After a slightly cooler 2021 on the Earth's surface, the world is on track for 2022 to be somewhere between the fourth and eighth warmest year since records began in the mid-1850s, according to **By Zeke Hausfather, Carbon Brief**



Three women make use of their time stuck in traffic on an open-air bus in the heat and humidity of Manila, Philippines. Image: Wayne S. Grazio, CC BY-SA 3.0, via Flickr.

It is very unlikely to be a record warm year due to moderately strong La Niña conditions in the early part of the year that are projected to continue for at least the next six months.

Not every year is expected to set a new record for the surface – and 2022 annual temperatures will likely end up well in-line with the long-term warming trend that the world has experienced over the past five decades. The first four months of 2022 were the fifth warmest start to a year on record so far. March 2022 saw record warmth over China and

large parts of southern Asia, as well as exceptionally high temperatures in the Arctic. In Antarctica, a March heatwave saw temperatures nearly 40C above normal in the eastern part of the continent.

Arctic sea ice currently is on the low end of its historical range, while Antarctic sea ice saw the lowest sea ice extent on record in late February.

Fifth warmest year on record so far

Global surface temperatures are recorded and reported by a number

of different international groups, including NASA, NOAA, Met Office Hadley Centre/UEA and Berkeley Earth. Copernicus/ECMWF also produces a surface temperature estimate based on a combination of measurements and a weather model – an approach known as “reanalysis”. The temperatures in the first three months of 2022 were the seventh warmest first quarter of the year on record, behind all of the past six years – but warmer than every year on record prior to 2015. The figure below shows how temperatures to-date compare to