

Indonesian forests are burning, and Malaysia and Singapore are choking on the fumes

By [Jessie Yeung](#), CNN

Updated 0130 GMT (0930 HKT) September 12, 2019

(CNN)Malaysian authorities distributed half a million face masks to residents on Tuesday after large-scale forest fires in Indonesia spread smoke and thick smog to neighboring countries.

Intense forest fires have raged across the Indonesian regions of Sumatra and Kalimantan in recent weeks. More than 930,000 hectares (about 2.3 million acres) of land have been burned, hundreds of residents evacuated, and more than [9,000 personnel](#) have been deployed to battle the flames, according to [CNN Indonesia](#).

Nearby, Singapore and Malaysia have both choked in a dense haze all week, with air quality reaching unhealthy levels.

The fires were [allegedly](#) caused by farmers using slash and burn techniques to clear the ecologically rich land -- the same practice that led to uncontrollable fires in the Brazilian Amazon this summer.

On Tuesday Malaysia's National Disaster Management Agency distributed half a million face masks to Sarawak state, which saw a spike in the air pollution index (API), according to state media agency [Bernama](#). 409 schools in the state closed Tuesday before reopening today, [Bernama reported](#).

API measures a variety of pollutants to gauge air quality, which is typically defined by the concentration of fine particulate matter, or PM2.5, per cubic meter. The microscopic [particles](#) are considered particularly harmful because they are small enough to lodge deep into the lungs and can pass into other organs or the bloodstream.



The Kuala Lumpur skyline shrouded in haze on September 11, 2019.

In [the last 24 hours](#), 11 of Malaysia's 16 states and territories have recorded API levels in the "unhealthy" range of 101-200. Rompin district in Pahang recorded the highest level, tipping into "very unhealthy" at a peak of 232.

In Singapore, the API hit a peak of 151 on Tuesday, with levels largely in the "unhealthy" range all day.

To put that in perspective, on Wednesday the API was a healthy 7 in New York City and 24 in London. Even Beijing, a city notorious for its pollution, measured a "good" level of 50.

Images on Tuesday show the iconic Petronas Twin Towers in Malaysia's Kuala Lumpur shrouded in gray smog. Local media reported many residents wore face masks and stayed indoors.

The unusually high API levels has been linked to smoke drifting from fires in Indonesia, according to the [Asean Specialised Meteorological Centre \(ASMC\)](#). The ASMC site described "persistent hotspots with extensive moderate to dense smoke haze" in Indonesia's Sumatra and Kalimantan regions, which have been detected for several weeks now by satellite data. Winds are then carrying this dense, unhealthy smog to neighboring countries like Malaysia, Brunei, and Singapore, which are also experiencing high levels of air pollution, said the ASMC.

Singapore's [National Environment Agency \(NEA\)](#) issued a health advisory on Tuesday, also pointing to the Indonesian fires as the cause of the pollution and warning residents to stay indoors. According to the NEA, there were 1,286 hotspots detected in Sumatra and Kalimantan on Tuesday.

Malaysian authorities have also urged their Indonesian counterparts to take action and prevent the haze from spreading further, according to Bernama.



A forest fire in Sumatra, Indonesia, on September 9, 2019.

The issue is not new, but it's persistent. For years, fires in Sumatra have caused the rest of Indonesia, Singapore, and Malaysia to choke under the smog. At times, the API in Indonesia has reached as high as 1,000, with visibility falling below 100 meters.

It stems from the annual burning of land for the production of pulp, paper, and palm oil -- industries that have devastated the Indonesian forests for years.

The particles in the pollution caused by the burning can increase the risk of cardiovascular and respiratory diseases and cancer, according to the World Health Organization (WHO).

Authorities in Indonesia have tried to put a stop to the burning. It's an illegal practice, and those found guilty can be fined up to 10 billion rupiah (US\$700,000), and management faces up to 10 years in jail -- but burning has continued anyway.

Last month, Indonesian President Joko Widodo said he felt "embarrassed" by the fires, acknowledging the smoke's effects on Singapore and Malaysia, [according to Bernama](#).

The fires also raise Indonesia's contribution to climate change, as the land burned is extremely carbon rich. Environmental organizations like [Greenpeace](#) and the [World Wildlife Fund](#) have spoken out against the fires, calling for action to preserve the land.

Indonesia begins evacuation of infants from haze-affected regions

By Georgia McCafferty, for CNN

Updated 0842 GMT (1642 HKT) October 1, 2015



Photos: Haze blankets Indonesia, Singapore and Malaysia

Story highlights

- Indonesia has begun evacuating infants from haze affected parts of Riau province
- The air pollution index in Pekanbaru has exceeded hazardous levels for a week
- Officials from Singapore and Malaysia are becoming increasingly frustrated with Indonesia

(CNN) Indonesian officials have begun evacuating infants and their mothers from Riau province in Indonesia as levels of air pollution from peat and forest fires on Sumatra remain hazardous across the region.

The Mayor of Pekanbaru, the capital of Riau and one of the worst-affected areas of Sumatra, issued the order to evacuate all babies under six months of age on Tuesday afternoon. Thick smog has persisted for weeks and continues to cause illness and limit visibility in the area.

The air pollution index in the region has hovered above 1,000 for over a week, while visibility in Pekanbaru has fallen below 100 meters on some days. Any air pollution reading higher than 300 is deemed hazardous.

The mayor, named Firdaus, told local news agency [Antara News](#) that the children would be evacuated to a makeshift nursery in a town hall equipped with air conditioners, cribs and a health clinic.

"Poor families do not normally have good facilities for infants, thus the air pollution inside their homes is similar to that outside," he told local reporters.

"Therefore, we are trying to provide facilities, including good air conditioning, so that the infants, the country's next generation, can breathe clean air."

The Pekanbaru city government confirmed that evacuations had begun. "Some mothers and their babies have started to move into the room on the third floor of the Mayor's office in Pekanbaru," a September 30 statement on the government website said.

More than 35,000 people have fallen ill from the air pollution in the three months up to the end of September, according to the Riau province health agency. Most of those were suffering from respiratory ailments, although eye infections and skin irritation have also been reported.



Kristie Lu Stout reports on the air pollution covering Southeast Asia 03:53

A regional problem

The air pollution, or haze as it is called regionally, has been an annual problem for the past 18 years. It's caused by thick smoke created from the [burning of forest and peat fires on the islands of Sumatra and Borneo](#) to clear old crops and new land for the production of pulp, paper and palm oil.

The haze regularly extends across the region and air pollution has soared to levels deemed unhealthy in nearby Singapore and Malaysia.

[Singapore closed primary and secondary schools](#) due to the haze for the first time in 12 years in September. Neighboring Malaysia has resorted to cloud seeding to try and encourage rain to disperse the pollution after it was also forced to temporarily close some schools.

Indonesian President, Joko Widodo, has come under increasing pressure from frustrated government officials in Singapore and Malaysia to take definitive action to extinguish the fires.

Singapore's defense minister, Ng Eng Hen, again [offered Indonesia assistance from the Singapore Armed Forces](#) to help fight the fires on September 29, an offer which Indonesia has so far refused.



Indonesia's President Joko Widodo, in white, inspects a firefighting operation on burning peatland in Borneo.

Widodo, who recently toured some of the affected areas in Indonesia, has deployed thousands of fire fighters and police throughout affected areas in Sumatra to fight the fires. Over 1,000 Indonesian Defense Force personnel were deployed to Riau alone in September.

The burning has continued despite these efforts, and Widodo recently [told the BBC](#) that it would take three years before results from policies designed to curb the illegal practices causing the fires would be realized.

Indonesian haze: Why it's everyone's problem

By Georgia McCafferty, for CNN, [Tom Sater](#), CNN

Updated 0323 GMT (1123 HKT) September 18, 2015



Story highlights

Indonesia, Singapore and Malaysia are choking under the haze caused by Indonesian fires

It's a global problem with huge economic, health and climate costs

Indonesia was ranked the world's sixth worst emitter of green house gasses in 2014

(CNN)Indonesia, Singapore and Malaysia are choking under a thick haze of smog caused by the annual burning of land for the production of pulp, paper and palm oil on the island of Sumatra, in western Indonesia and Borneo.

The smog has become so bad the Indonesian government has declared a state of emergency in Riau province, one of the worst affected areas.

Seven executives from companies alleged to be behind the fires have been arrested, said Indonesian police chief, General Badrodin Haiti.

It's a persistent, annual problem that disrupts lives, costs the governments of Indonesia, Singapore and Malaysia billions of dollars, and leaves millions of people at risk of respiratory and other diseases. The land that burns is extremely carbon rich, raising Indonesia's contribution to climate change.



Photos: Annual smog blankets Southeast Asia

A crew member of a helicopter operated by Indonesia's Disaster Mitigation Agency checks a water-bombing operation in Pelalawan, Indonesia, on Thursday, September 17. [Choking smog](#) across Indonesia, Singapore and Malaysia can be linked to the burning of farmland that takes place every year for paper, pulp and palm oil production.

The problem

For 18 years, large pulp and paper and palm oil plantations have farmed the rich peatlands that run along the Sumatran coast of Indonesia and Borneo Island.

Every year, existing farmland is dried out and burned for the next season's crop and to clear surrounding forests for expansion. The fires are large and hard to control and dry, CO₂-rich peatlands can burn for many weeks.

"Those big scale companies are also eager to expand their operations into the adjacent peatland," said Yuyun Indradi, from Greenpeace Indonesia.

"Whether they deliberately set the fire, or they can also ask people in the communities around their areas to burn the land, that's also a possibility. And then at the end, those burned areas are proposed as the expansion of their plantation."

CNN meteorologist Tom Sater said there are as many as 1,143 hot spots along the Sumatran coast at present where fires are burning. This year's strong [El Nino](#) has exacerbated the problem, creating extra dry conditions that fan the flames.

The economic cost

Severe fires in 1997 -- one of the worst years on record -- were estimated to have cost the Indonesian government \$20.1 billion, [according to a study](#) published in Ecological Economics. During the same episode, the [Singaporean government](#) estimated they lost \$9 billion through increased healthcare costs and disruptions to air travel and business.

This weekend's [Singaporean Grand Prix is at risk, and although organizers have insisted it will go ahead](#), that may change depending on the weather conditions.

Locally in Indonesia, more than 3,000 personnel, including military and police, are working to put out fires and investigate suspects involved in starting the burning. Indonesian aircraft are water bombing and "cloud seeding" by using chemicals to induce rain.

The human cost

The human costs from the problem are broader.

Thousands of people have fled Pekanbaru in Riau Province, Indonesia, to escape the record air pollution levels, according

to the [World Resources Institute](#).

In a blog post, Greepeace media campaigner [Zamzami](#), describes how he left his village with his daughter and pregnant wife to try to escape the haze. "But like a dark cloud over my head I've since discovered that wherever I go, smoke follows," he says.

The health implications of breathing in the thick air pollution are severe. The particles in the pollution can increase the risk of cardiovascular and respiratory diseases and cancer and more than three million people die prematurely each year from prolonged exposure to air pollution, according to a [new study from the World Health Organization \(WHO\)](#).

Air quality index readings have been as high as 983 in Pekanbaru, Sumatra -- anything over 200 is unhealthy -- while numbers are fluctuating between unhealthy and very unhealthy in Singapore and Malaysia, depending on the wind.

Residents in regions in all three affected countries have been recommended to stay indoors and more than 2,000 schools have closed across Indonesia and Malaysia, affecting 1.5 million students and their parents. Singapore has face masks ready for Grand Prix participants and spectators to purchase on the weekend.

Diplomatically, the annual fires cause friction, with the Singaporean and Malaysian governments pressuring Indonesia to do more to stop them. An Indonesian parliamentarian in charge of international relations and the environment, Hamdhani Mukhdar, apologized to both governments at a September ASEAN meeting in Kuala Lumpur, [local media reported](#).

The solution

Indonesia has strict [plantation laws](#) and a company found guilty of clearing land by burning can be fined up to 10 billion rupiah (US\$700,000), and management faces up to 10 years in jail.

This year, in a groundbreaking verdict, Indonesia's Supreme court upheld charges against palm oil producer PT Kallista Alam, after the company was accused of illegally burning a large area of protected forest in Aceh, Sumatra in 2012. They were [ordered to pay fines of RP 366 billion](#) (US\$25.3 million), according to the Jakarta Post.

However, despite these harsh measures, forest campaigners say that companies continue to flaunt the law. "We can see that there is a close relationship between the private sector and the government in terms of corruption and this is part of the issue that the government needs to seriously tackle," said Indradi.

Indradi welcomed news of the recent arrest of seven executives, but said the process to punish companies is too slow, often taking many years, and evidence collection was difficult.

"The announcement of the arrests is good, but it is a move from the government to show people they are doing things," he said.

Ivan Png, an economist from the [National University of Singapore](#) who has studied the fires, said financial incentives were needed to encourage whistleblowers to come forward so that people flouting the rules can be caught. He also called for a certification system to identify safe producers, so consumers can take direct action themselves.

"Just as in developed countries, fair trade coffee and clothing has gained traction, we need to have the same certification for palm oil products and paper products," Png said.

Ultimately, the global cost of the fires is something everyone bears.

Indonesia was ranked the world's sixth worst emitter of greenhouse gasses by the [WRI in 2014](#). Although the country has prepared a draft document outlining how it will deal with climate change for the global [climate change summit being held in Paris in November](#), there was no mention of peatland protection or fires.