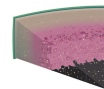


# NEWS IN FOCUS

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YASUYOSHI CHIBA/AFP/GETTY



Cattle farming, shown here in northern Brazil, is emission-intensive and often accompanies large-scale deforestation.

## CLIMATE CHANGE

# Eat less meat: UN climate-change panel tackles diets

*Report on climate change and land comes amid accelerating deforestation in the Amazon.*

BY QUIRIN SCHIERMEIER

Efforts to curb greenhouse-gas emissions and the impacts of global warming will fall significantly short without drastic changes in global land use, agriculture and human diets, researchers warn in a high-level report commissioned by the United Nations.

The special report by the Intergovernmental Panel on Climate Change (IPCC) describes plant-based diets as a major opportunity for mitigating and adapting to climate change — and includes a policy recommendation to reduce meat consumption.

On 8 August, the IPCC released a summary of the report, which is designed to inform upcoming climate negotiations amid the worsening global climate crisis. More than 100 experts, around half of whom hail from developing countries, worked on the report.

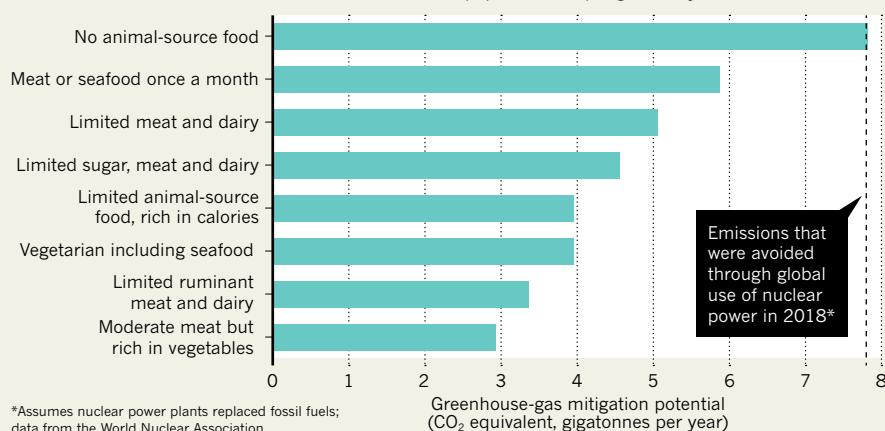
“We don’t want to tell people what to eat,” says Hans-Otto Pörtner, an ecologist who co-chairs the IPCC’s working group on impacts, adaptation and vulnerability. “But it would indeed be beneficial, for both climate and human health, if people in many rich countries consumed less meat, and if politics would create appropriate incentives to that effect.”

Researchers also note the relevance of the report to tropical rainforests. The Amazon rainforest is a huge carbon sink that acts to cool global temperature, but rates of deforestation are accelerating, in part because of the policies and actions of the government of Brazilian President Jair Bolsonaro.

Unless stopped, deforestation could turn much of the remaining Amazon forests into a degraded type of desert, and could release more than 50 billion tonnes of carbon into the atmosphere in 30 to 50 years, says Carlos Nobre, a climate scientist at the University of São Paulo in Brazil. “That’s very worrying.”

## WHAT IF PEOPLE ATE LESS MEAT?

The Intergovernmental Panel on Climate Change examined the estimated impact on greenhouse-gas emissions of the world's population adopting a variety of diets.



► “Unfortunately, some countries don’t seem to understand the dire need of stopping deforestation in the tropics,” says Pörtner. “We cannot force any government to interfere. But we hope that our report will sufficiently influence public opinion to that effect.”

Although the burning of fossil fuels garners the most attention, activities relating to land management produce almost one-quarter of heat-trapping gases resulting from human activities. The race to limit global warming to 1.5 °C above pre-industrial levels — the goal of the international Paris climate agreement made in 2015 — might be a lost cause unless land is used in a more climate-friendly way, the latest IPCC report says.

Cattle are often raised on pastures created by clearing woodland, and produce methane, a potent greenhouse gas, as they digest their food. The report states with high confidence

that balanced diets featuring plant-based and sustainably produced animal-sourced food “present major opportunities for adaptation and mitigation while generating significant co-benefits in terms of human health”.

By 2050, dietary changes could free up several million square kilometres of land, and reduce global carbon dioxide emissions by up to eight billion tonnes per year, relative to business as usual, the scientists estimate (see ‘What if people ate less meat?’).

“It’s really exciting that the IPCC is getting such a strong message across,” says Ruth Richardson in Toronto, Canada, who is the executive director at the Global Alliance for the Future of Food, a coalition of philanthropic foundations.

The report cautions that land must remain productive to feed a growing world population. Warming enhances plant growth in some regions, but in others — including

northern Eurasia, parts of North America, Central Asia and tropical Africa — increasing water stress seems to reduce vegetation. So the use of biofuel crops and the creation of new forests — measures that could mitigate global warming — must be carefully managed to avoid food shortages and biodiversity loss, the report says.

## FLOODS AND DROUGHTS

Farmers and communities around the world must also grapple with more-intense rainfall, floods and droughts resulting from climate change, warns the IPCC. Land degradation and expanding deserts threaten to affect food security, increase poverty and drive migration.

About one-quarter of Earth’s ice-free land area seems to be suffering from human-induced soil degradation already — and climate change is expected to make things worse.

The report might provide a much-needed, authoritative call to action, says André Laperrière, the executive director of Global Open Data for Agriculture and Nutrition in Wallingford, UK. Nobre hopes that the IPCC’s voice will give greater prominence to land-use issues in upcoming climate talks. “I think that the policy implications of the report will be positive in terms of pushing all tropical countries to aim at reducing deforestation rates,” he says.

Governments from around the world will consider the IPCC’s findings at a UN climate summit next month in New York City. The next round of climate talks of parties to the Paris agreement will take place in December in Santiago. “We need to mainstream climate-change risks across all decisions,” said António Guterres, the UN secretary-general. “That is why I am telling leaders don’t come to the summit with beautiful speeches.” ■

SOURCE: IPCC WORLD NUCLEAR ASSOCIATION

## ASTRONOMY

# What’s next for the embattled Thirty Meter Telescope?

*Protesters on Hawaii’s Big Island have prevented construction for a month.*

BY ALEXANDRA WITZE

A stand-off over plans to build a mega-telescope on Hawaii’s tallest mountain has entered its fifth week and shows no signs of stopping. Hundreds of protesters are blocking access to Mauna Kea, the mountain on Hawaii’s Big Island where construction of the Thirty Meter Telescope (TMT) was set to begin on 15 July.

The US\$1.4-billion telescope’s enormous light-gathering mirror — nine times the area of

those in today’s biggest telescopes — will allow it to peer at stars and galaxies with unprecedented sharpness. That will allow scientists to explore fundamental questions such as how galaxies arose in the early Universe and what planets around distant stars look like.

Here, *Nature* examines how the fight over the telescope could evolve.

## Who are the protesters, and what do they want?

The activists who oppose the TMT encompass a broad swathe of the Hawaiian community,

including university professors, local leaders and students. Most are Native Hawaiians. Their protests have garnered widespread support from people in and beyond Hawaii, including celebrities of Asian-Pacific ancestry such as actor Jason Momoa, who visited the encampment on 31 July.

The protesters do not want the TMT to be built on Mauna Kea. They say they are protecting the site, which is sacred to Native Hawaiians and already hosts 13 observatories (5 of which are supposed to be dismantled