

# **CLIMATE CHANGE ON THE NORTHWEST BORNEAN LAND, SARAWAK**

Aristarchus Ho Yii Yang & Benson Wong Baa Sing

According to the United Nations, climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. But since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels. The burning of fossil fuels generates greenhouse gas (GHG) emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. Examples of GHG emissions that are causing climate change include carbon dioxide and methane. Methane (CH<sub>4</sub>) is a strong greenhouse gas, it is mainly produced through agricultural activities such as rice production, in addition to leakages from oil and gas production which is called 'fugitive emissions'. On the other hand, carbon dioxide (CO<sub>2</sub>) is mainly produced by human activities such as the burning of oil, coal and gas, as well as deforestation.

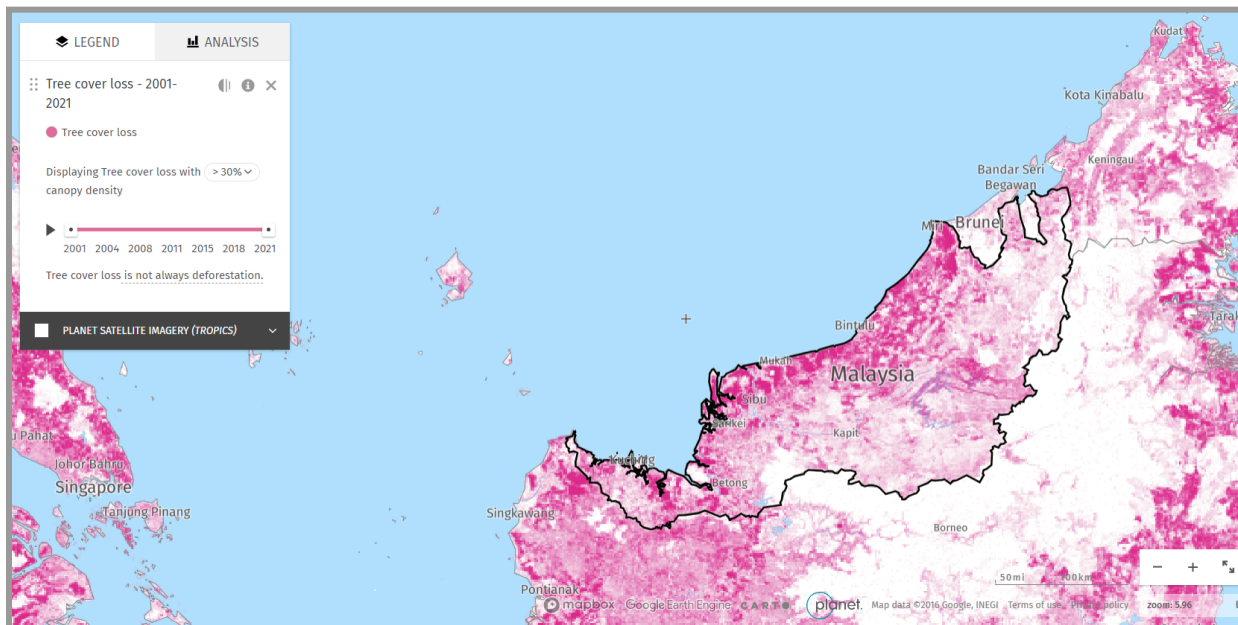


*The large-scale deforestation in Sarawak*

In this article, we will bring you deeper into the issue of climate change currently faced by our beloved motherland, the beautiful land. Sarawak, which is also known as the land of hornbills, is the second to Peninsular Malaysia in terms of landmass covering 12.4 million hectares and is located on the island of Borneo. The management of forest

land in Sarawak covers an area of the Permanent Forest Estate (Protected Forest, Forest Reserve and Communal Forest). About 62% of the State land mass area is under forest cover. Forest land in Sarawak is classified mainly into three categories which are 'Permanent Forest Estates', 'Totally Protected Areas' such as national parks, wildlife sanctuaries and nature reserves and 'Stateland Forest'. Sarawak's natural forests have high plant diversity due to the great variety of habitats. There are about 3,000 known tree species of which 40% of Sarawak's plant species are endemic to Borneo.

Report shows that in Sarawak from 2001 to 2021, an average of 2.04Gt of CO<sub>2</sub>e occurred in areas where the dominant drivers of loss resulted in deforestation. When forests are cleared or burnt, stored carbon is released into the atmosphere, mainly as carbon dioxide. As deforestation releases carbon dioxide, the loss of Sarawak's primitive forest has become a significant factor in the issue of climate change. Nowadays trees in Sarawak are being cut down in order to make place for the cities' urbanisation process. According to data, in 2010, Sarawak had 9.57Mha of natural forest, extending over 91% of its land area. But the latest investigation stated that in 2021, it lost 56.7kha of natural forest, equivalent to 40.2Mt of CO<sub>2</sub> emissions. Diagram below shows that there is a drastic decrease in the total tree cover in Sarawak from 2001 to 2021 due to the ongoing urbanisation process happening in the state.



*The pink colour indicates the tree cover loss in Sarawak from 2001-2021*

These are major problems that are bringing concerns to people throughout Sarawak. The logging industry has been rising to meet the demands of people, clearing up lands for the development of infrastructure. However, this alone doesn't paint the whole

picture. Even though development has been the main aim for the Sarawak government, they have never traded off the environment for the sake of development. This can be seen through their efforts of preserving 63% of Sarawak's land as a forest area, while reserving lands for permanent forests and Totally Protected Area (TPA) at a rate way higher than the other states in Malaysia.

On top of that, initiatives spearheaded by the Sarawak government are being put in line to curb the effects of climate change. Little steps with gradual change are being implemented to make big changes possible. With the 12th Malaysian Plan, 2021-2025 being centred around a prosperous, inclusive, sustainable Malaysia, Sarawak's leaders are also finding solutions to make our motherland Sarawak a greener land. They are aiming to cut down greenhouse gas emission by 45% in a span of 8 years and this will be part of Sarawak's effort in helping Malaysia achieve its Nationally Determined Contribution in the Paris Agreement. All of these won't be solely done just to impress international organisations or countries, but it will also be an effort of the government to give their best back to the people, concurrently urging Sarawakians for a change in their lifestyle for the better of their own future.

At the same time, the Sarawak government has been focusing more on these three renewable energy sources too, namely hydroelectricity, solar power and also hydrogen power. These energy sources, particularly hydroelectricity, has been the primary electrical energy source in Sarawak. Massive dams such as the Bakun Dam generates 2,400 Megawatt of electricity to power homes in Sarawak. Even though it might be common to see dams as our primary electricity generator now, things have never been the same in the past when cheap and abundant alternatives such as petroleum were available. Hydroelectricity was all introduced through the sheer determination of the people and the leaders for a more sustainable energy source. Other than that, Sarawak had also launched South East Asia's first integrated hydrogen production plant and refuelling station while unveiling its newest fleet of hydrogen buses, showing the state's hope in making Sarawak a greener place.



*The Bakun Dam, the world's second tallest concrete-faced rockfill dam*

Climate change is inevitable, but alleviating the harms of climate change is never impossible. It will be a testament towards the determination of the people in Sarawak to help save their own motherland. The effort is something that all should play their part in by doing whatever they can to reduce their own carbon footprint. This includes reducing the use of private vehicles, buying local foods to reduce the food miles of our food as well as reducing the waste produced daily. All of these actions require persistence and should be everyone's obligation, instead of just relying on the authorities or planting forests to reduce carbon in the atmosphere. Longer time is still needed for a significant effect to take place, but as for now, the best we should do is to make a move of our own first.





