Forest monitoring gets a boost from Japanese space agency data

24 January 2020

ROME (Thomson Reuters Foundation) - Powerful data from a Japanese radar system, available for the first time, will allow governments to monitor threats to their forests and peatlands more closely, helping them tap funding to protect those ecosystems, the United Nations said on Thursday.

The U.N. Food and Agriculture Organization (FAO) signed an agreement to include data from the Japan Aerospace Exploration Agency (JAXA) in FAO's forest monitoring platforms, and plans to train states on how to use it.

Julian Fox, FAO team leader for national forest monitoring, said the radar can track forests 24 hours a day, and can be used as an early warning system to detect deforestation.

Scientists say protecting existing forests and restoring damaged ones can prevent flooding, store planet-warming carbon, limit climate change and safeguard biodiversity.

Felling trees exacerbates climate change as forests absorb a third of emissions produced globally but when cut down, the carbon is released back into the air through burning or rotting.

In 2018, the world lost 12 million hectares (30 million acres) of tropical tree cover, the fourth-highest annual loss since records began in 2001, according to forest monitoring service Global Forest Watch.

The FAO said JAXA's L-band Synthetic Aperture Radar (SAR) technology is unique because it can observe the Earth's surface regardless of time and weather.

"This is particularly useful for tropical forested countries with persistent cloud cover," said Fox, adding the technology is also effective at detecting soil moisture in mangroves and peat.

"You can get an idea of whether the peatland is drying out because when it dries out, there's a higher possibility of it igniting and burning," he told the Thomson Reuters Foundation.

Peat soils contain huge quantities of carbon in the form of organic matter, which accumulates over thousands of years and provides nutrients for plant growth.

But when peatlands are drained or cleared by fire, the carbon is released into the atmosphere, where it traps heat.

The FAO will assist countries including Indonesia, with the world's third-largest tropical forest, and Democratic Republic of Congo, home to the second-largest rainforest, to benefit from the latest agreement, Fox said.

By improving monitoring in both countries and supporting faster action to curb deforestation and protect peatlands, the radar data could help them qualify for forest-related financing from institutions like the World Bank, he added.

Fred Stolle, deputy director of the U.S.-based World Resources Institute's Forests Program, said radar had the added value of being able to "see" through clouds and the night sky, but interpreting its data was more complicated than that from optical satellites.

As a result, countries had been slow to use radar as they lacked the capacity and technical knowledge, he said by email.

The JAXA-FAO partnership was a "great step" toward making radar technology more accessible, added Stolle, whose organization runs Global Forest Watch.

That service is working with the Netherlands' Wageningen University and palm oil companies on a public radar-based monitoring system using the European Space Agency's satellites.

Source: https://www.reuters.com/article/us-global-forests-data-trfn/forest-monitoring-gets-a-boost-from-japanese-space-agency-data-idUSKBN1ZM2WN