



An illegal mining area on the banks of the Cauca river in Colombia. The country has declared war on the gangs

LUIS ROBAYO/GETTY IMAGES

UK Space Agency to help detect illegal jungle gold miners

[Oliver Moody](#), Science Correspondent

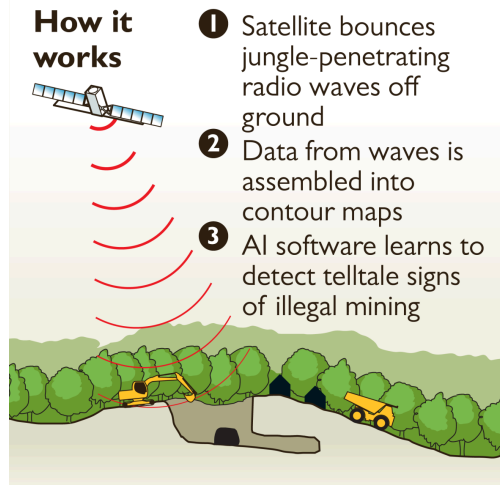
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You could call it yellow cocaine. As smuggling drugs into the US has become ever riskier, Colombian criminal gangs have turned to an even more lucrative commodity: gold.

Crude mining operations are stripping the country’s rainforests, poisoning rivers and people with mercury, and funnelling perhaps £2 billion a year into the pockets of its former drug lords.

The gold thieves may soon meet their match, however, in a British-led artificial intelligence scheme that should be able to detect their machinations from orbit.



Today the UK Space Agency will announce that it is ploughing more than £3 million of aid money into the project as part of a £150 million effort to turn Britain’s satellite capabilities into instruments of governance for developing countries.

Three years ago President Santos of Colombia declared war on the gangs, who he said were doing more damage to his country than any other enemy and generating more profit than the drug trade.

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Colombia is riddled with deposits of gold that are hidden in a labyrinth of dense jungle but lie beneath a shallow layer of earth, allowing them to be cracked open with diggers and explosives.

The miners are thought to have torn up about 65 square miles of tropical forest and polluted at least 19 large rivers with mercury or cyanide, which they use to separate out the gold. People in the surrounding towns and villages have been found to have levels of mercury in their urine that are four or five times above what is deemed to be safe.

Because the work takes place in remote areas and under the cover of dense vegetation it can take months for the Colombian armed forces to discover the mines. This is why the British government thinks that space technology is the answer.

Circling over opposite ends of the Earth, the European Union's pair of Sentinel-1 satellites continuously probe the ground 430 miles beneath their instruments with radar. Between them they image the entire face of the planet every six days with a resolution fine enough to capture objects 10m across.

The Satellite Applications Catapult, a non-profit research company based at Harwell in Oxfordshire, will feed this data into a computer algorithm that can automatically spot the characteristic patterns of deforestation that are linked to illegal gold mining.

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“There’s a lot of gold resources quite close to the surface but deep in the jungle,” Stuart Martin, the chief executive, said. “The fact is a large proportion of it, something like 80 per cent, is currently being extracted illegally, and it’s causing a lot of damage to the forest.”

The company will train its machine learning program on satellite images of gold-mining operations that have already been halted by the Colombian authorities. The software will work out for itself how to find similar patterns in the radar readings that it receives from the Sentinel-1 satellites.

The other nine British space aid initiatives that will share £38 million in the latest funding round of the UK Space Agency’s International Partnership Programme include an app that will advise Kenyan and Rwandan coffee growers how to run their farms based on satellite data about yields, weather and crop diseases.

Another will feed information from space to the Mongolian government so that it can help nomadic herders to avoid the worst effects of the country’s extreme weather events, known as *dzuds*.

“The UK’s space sector is going from strength to strength,” Sam Gyimah, the science minister, will say today. “I can announce that the space sector’s capabilities are being put to use to tackle some of the world’s biggest challenges.”

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One would be right in thinking this technology should be used in detecting and halting illegal mining operations in Africa as well - the DRC, Ghana, Ivory Coast, Mali, Burkina Faso, and on it goes. The thing is, the authorities know exactly where the illegal sites are already - they are invariably ...**See more**

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can we use this technology in the fight against poaching please?

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GoldBandAid



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It is heartening that UK supports the prevention of anyone making money out of anything unless they are the right people. Attacking the poor but enterprising is normal and they should be prevented from making a living.

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