



**Under Embargo until 00.01 12 December 2023**

## **Top scientists issue rebuttal to West et al paper**

Calls to retract paper claiming forest carbon credits are worthless

### ***Prof Ed Mitchard and colleagues find major flaws in research that claims up to 94% of REDD+ projects are worthless***

An international group of senior scientists has submitted a rebuttal to the West et al paper to Science for peer review, and urged the retraction or major revision of the study which discredited avoided deforestation projects.

As efforts to recognise the global trade in voluntary carbon credits make headlines at COP28, an international group of scientists including Professor Ed Mitchard, Professor Eric Nowak, Dr Sassan Saatchi, Dr Jason Funk and others released a study stating that the methodology used by the authors to discredit carbon credits contains serious errors.

“The flawed analysis of 24 projects both understates the impact of the projects in the sample, and unfairly condemned all REDD projects, of which there are over 100. It risks cutting off finance for protecting vulnerable tropical forests from destruction when funding needs to grow rapidly,” said lead author Professor Ed Mitchard.

Mitchard, a respected carbon specialist and Chief Scientist of nature data company Space Intelligence that counts Apple and The Nature Conservancy among its clients, was joined by a similarly respected group of co-authors that include satellite data and forest experts at NASA, scientists at the University of Edinburgh and UCLA; and economists at the University of Lugano (USI).

The group analysed the paper published by West et al, published in the journal *Science* in August 2023, that claimed too many carbon credits had been awarded to the forest carbon projects.

### **Key Findings of Study**

Key flaws found in this group’s review include issues with the comparison sites chosen, the global deforestation datasets used, and the incorrect calculation of carbon benefits from projects.

### **Inappropriate Comparison Sites**

The comparison sites West et al used to estimate what would have happened in the REDD project sites if no intervention was made to prevent deforestation were found to be completely inappropriate. For example, Peru and Colombia project areas were compared to sites on the other side of the Andes mountain range. They were therefore incomparable in universally recognised key factors that influence deforestation such as the biome, crop species grown, and whether there was access to international markets.

### **Inappropriate Dataset Usage**

The global deforestation dataset used was also found to be inappropriate as it inevitably contains random errors and its sensitivity changed through time as available satellites changed. This meant that projects that successfully reduced deforestation were less likely to be detected as such. The authors refer to a large study in sub-Saharan Africa that assessed the deforestation dataset used and found using it would result in a project that was 100% effective only being credited with being 10% effective.

### **Errors in Calculation of Carbon Benefits**

West and colleagues made numerical errors when calculating the carbon benefits of projects their analysis found were effective at stopping deforestation. There were two different calculation errors that together meant the proportion of credits they found that delivered real carbon benefits should be increased by 62%.

Mitchard concluded that the results claimed by the West paper were highly uncertain.

"As such, we believe their paper should be retracted or heavily revised," he said.

"We call for future studies on the effectiveness of REDD projects to use locally tuned forest change data with known accuracies or point-based sampling approaches to quantify deforestation. Furthermore, analytical approaches must always lead to meaningful comparisons between forests of the same ecological type and legal status, and should consistently pass rigorous validation checks before conclusions are drawn from them."

### / ENDS

### **For more information:**

Kim McAllister, Communications Lead, Space Intelligence  
+44 7740 336 991  
[kim@space-intelligence.com](mailto:kim@space-intelligence.com)

### **About Space Intelligence**

Space Intelligence is the leading provider of nature data and digital monitoring systems for nature-based solutions (NbS). They work with project developers and NGOs to identify and develop new NbS projects, and monitor them over time. They also work with large corporates and asset managers to offer due diligence and digital Monitoring, Reporting and Verification (MRV) for portfolios of NbS projects designed to achieve Net Zero/ESG commitments. Their technologies are created using advanced multi-sensor satellite data fusion and analytics in a machine learning framework, and informed by deep expertise in tropical ecology within their 50+ person team. Learn more at <https://www.space-intelligence.com/>.

### **Notes for editors:**

Further detail on comparison sites:

Among sites chosen within the same broad region, a lack of using key variables such as 'distance to roads', accepted as the most important variable in predicting the rate of deforestation in most cases, means that sites that were poor matches to the REDD project areas were used. The analysis showed this, with the vast majority of project sites (24 of 30) failing normal validation tests used in such analyses, suggesting a poor match between the selected control sites and the project areas.

A separate analysis, slightly changing the parameters used to select the control sites, demonstrated the same problem. The results changed dramatically with a small adjustment with 7 of 30 projects changing sign (i.e. conclusions changing from whether a project successfully stopped deforestation or had the reverse effect). This is a normal test of such methods, with a good analysis showing stable results even when parameters are varied slightly. This instability suggests the results of the analysis should not be trusted.



[Download Link](#)

***Caption: Prof Ed Mitchard, Co-founder and Chief Scientist of Space Intelligence***