# Article information:

Frontiers | New Biological Insights Into How Deforestation in Amazonia Affects Soil Microbial Communities Using Metagenomics and Metagenome-Assembled Genomes  
<https://www.frontiersin.org/articles/10.3389/fmicb.2018.01635/full>

# Article summary:

1. Deforestation in the Amazon Basin is a major threat to its plant and animal biodiversity, and has adverse effects on macro-organismal biodiversity.

2. Metagenomics and metagenome-assembled genomes (MAGs) have been used to characterize the genomic content of microbial populations in soil from the Amazon basin.

3. This study analyzed ten extensive tropical soil metagenomes to understand how deforestation affects these communities, and characterized 28 MAGs from the rare soil biosphere for their functional potential in these tropical rainforest soils.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides an overview of how deforestation in Amazonia affects soil microbial communities using metagenomics and metagenome-assembled genomes (MAGs). The authors provide a detailed description of their methods, including site description, sampling, nucleic acid extraction and sequencing, bioinformatic and statistical analysis of metagenomes, metagenomic assembly, genome reconstruction and annotation, pangenome analysis, phylogenetic analysis, geochemical data statistics, and data availability. The authors also provide a comprehensive discussion of their results which includes shifts in the soil chemistry as well as shifts in the soil microbial functional potential due to deforestation.

The article is generally reliable and trustworthy; however there are some points that could be improved upon. For example, while the authors do discuss possible risks associated with deforestation such as changes in soil chemistry or shifts in microbial functional potential due to land use change, they do not explore any counterarguments or present both sides equally. Additionally, while they provide a detailed description of their methods section they do not provide any evidence for the claims made throughout the article or explore any unexplored counterarguments. Furthermore, there is no mention of promotional content or partiality within the article which could be addressed by providing more balanced coverage of both sides of this issue.

In conclusion, this article provides an overview of how deforestation affects soil microbial communities using metagenomics and MAGs; however it could benefit from providing more balanced coverage by exploring counterarguments or presenting both sides equally as well as providing evidence for claims made throughout the article.

# Topics for further research:

* Deforestation impacts on soil microbial communities
* Soil chemistry changes due to deforestation
* Microbial functional potential shifts due to land use change
* Metagenomic assembly and genome reconstruction
* Pangenome analysis of soil microbial communities
* Phylogenetic analysis of soil microbial communities

# Report location:

<https://www.fullpicture.app/item/b169edd5029c900054799301205f68ff>