

# DEFORESTATION : How Tree Loss Affects Climate

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## Purpose

- To determine the extent of the effects of forest loss on regional climates
- To explore the polarity of these changes on climatic conditions.



Figure 1. Map of 25 countries from 10 studies (2013-2018) included in meta-analysis (N=185, n=10)

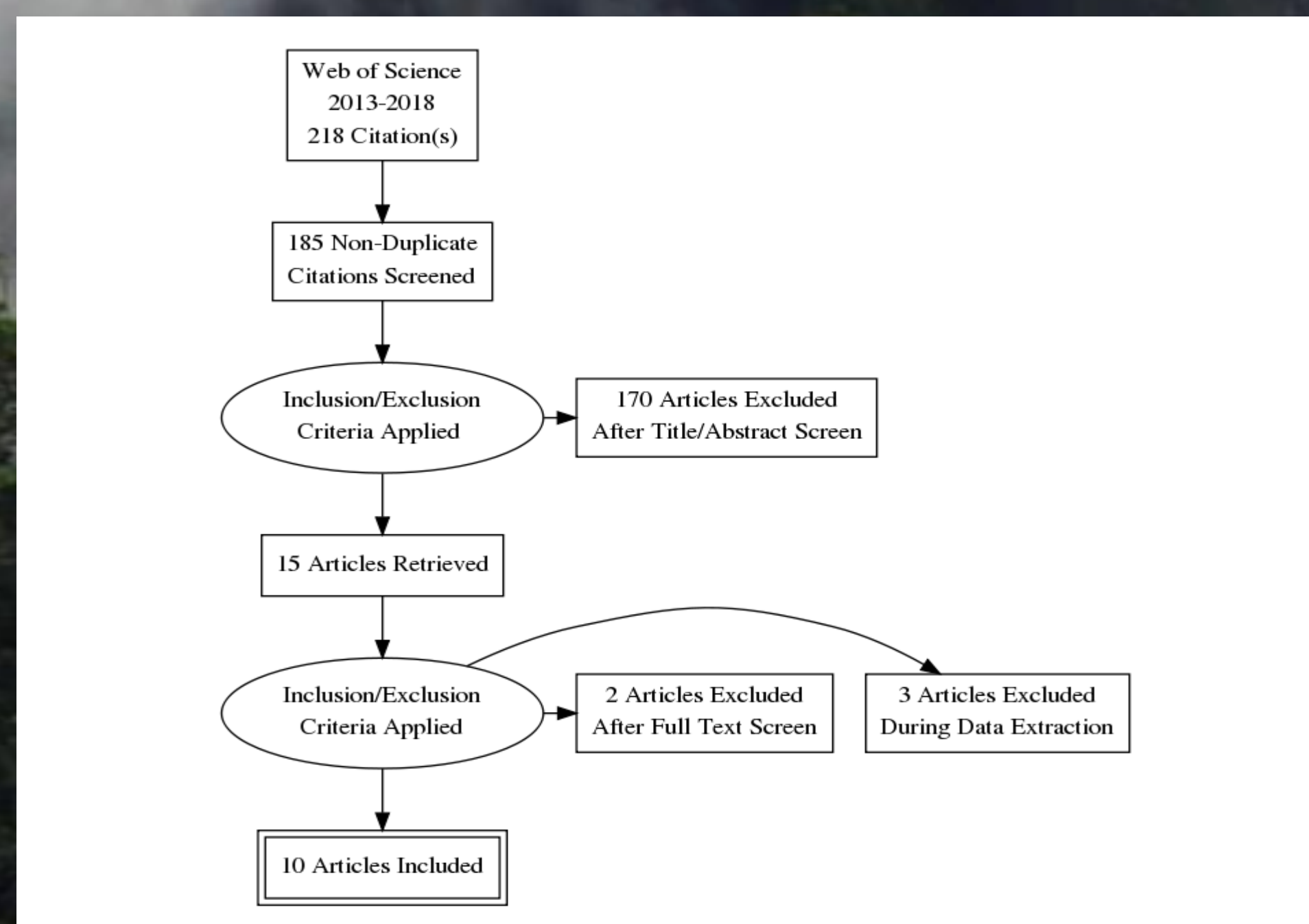


Figure 2. PRISMA diagram of process used to select and compile studies

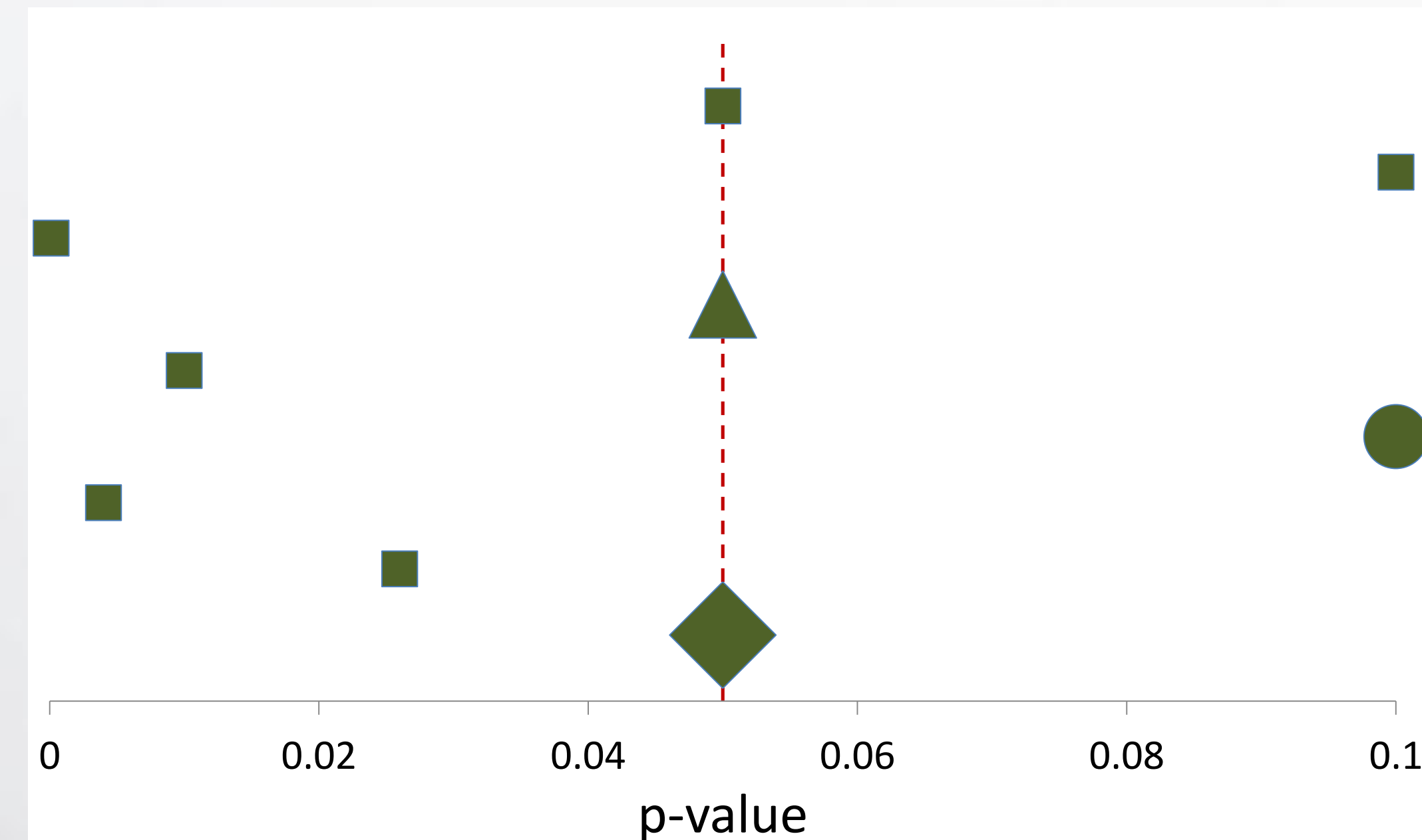


Figure 3. Forest plot of p-values from studies in meta-analysis. The dotted line represents statistically significant results threshold (p-value < 0.05). 2 studies reported p-values > 0.05 and were therefore not significant results. 8 studies reported p-values ≤ 0.05 and were therefore significant results.

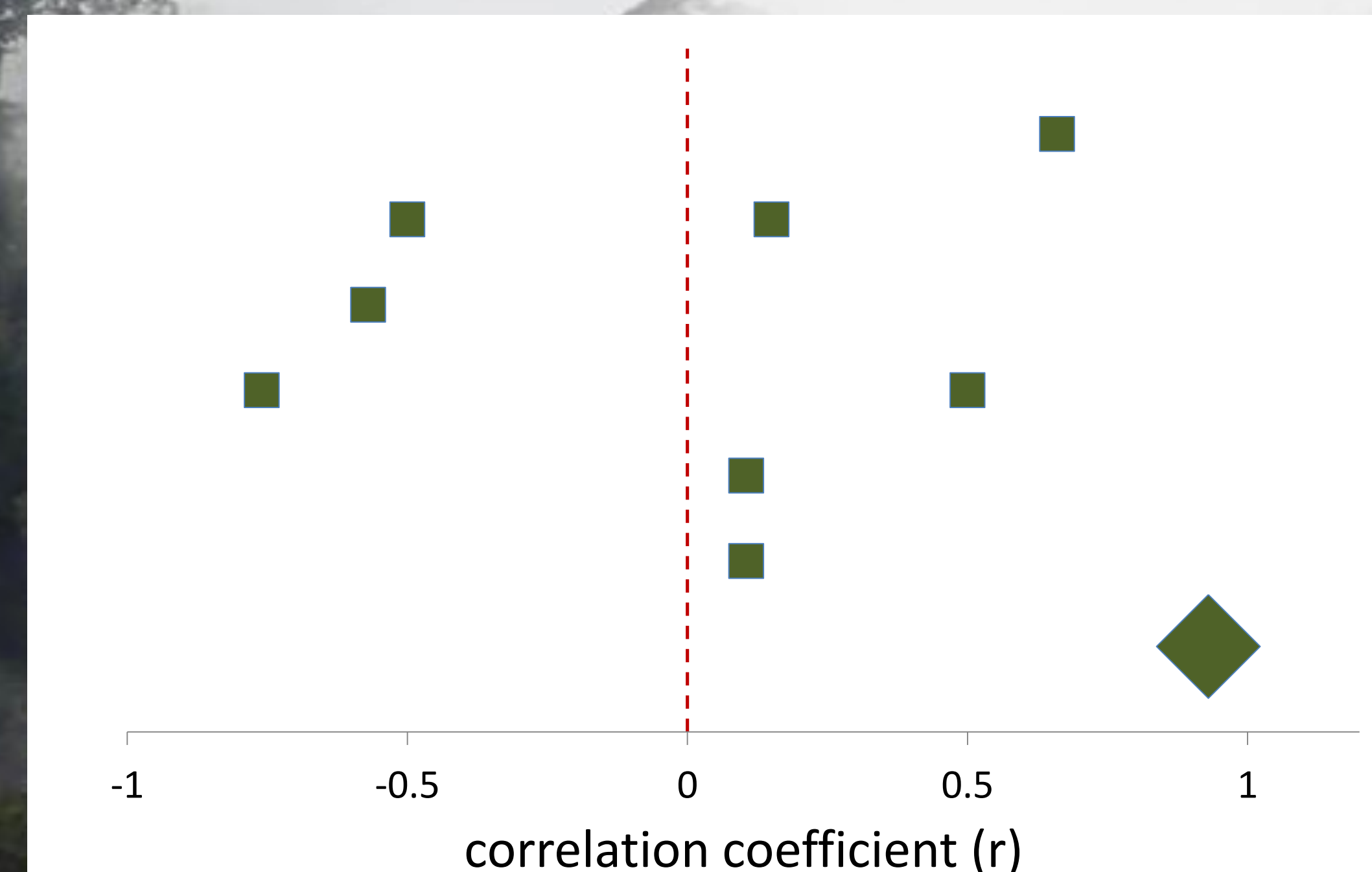


Figure 4. Forest plot of correlation coefficient values (r) values from studies in meta-analysis. The dotted line represents no association reported between study variables (r=0). 3 studies had strong negative correlations, 3 studies had positive weak correlations and 4 studies had strong positive correlations between study variables.



Figure 5. Aerial view of deforestation site in Brazil (Leonardo Dicaprio Foundation, 2018)

## Implications

- Increases in forest loss directly affects regional climate by altering surface temperatures
- Forest loss results in warmer and drier climates in most studies
- Some studies reported cooling and increases in precipitations
- Reductions in deforestation practices are necessary to minimize future climate change

Contributions:  
Charlie West – Data Research & Data Synthesis  
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