The rationale behind the study...
• Nature-based climate solutions can unlock ~2 billion tons carbon credits per year across the global tropics
• Remote sensing technology can increase transparency in aboveground biomass (AGB) carbon estimation
• However, little consensus on remote sensing datatypes and modelling algorithms used to accurately estimate AGB

We conducted the study by...
• Search terms: ‘aboveground biomass carbon’, ‘tropical forest’, ‘remote sensing’
• Criteria: (i) developed models to predict forest AGB carbon
(ii) area of study within tropical/subtropical forests
(iii) prediction model used remote sensing data
• Recorded accuracy of models (goodness-of-fit statistic, $R^2$)

Our main findings were...
• Total of 95 studies (501 field sites) across tropical and subtropical forests globally (Fig. 1)
• Model $R^2$: 78 studies (448 field sites) (Fig. 2)
  ✓ Highest model $R^2$ → ML algorithms with Optical+LIDAR, Optical+SAR, Optical datatypes
• Validation $R^2$: 36 studies (151 field sites)
  ✓ Regression and ML algorithms had same $R^2$ values
  ✓ Optical $R^2$ > SAR $R^2$, but Optical $R^2$ similar to LIDAR $R^2$
• Model performance (model $R^2$ and validation $R^2$) tended to improve with increase in plot size, but not statistically significant (Fig. 3)

The key takeaway...
Our findings provide insights for transparent, robust, and informed assessments of nature-based carbon projects for effective climate change mitigation, with genuine partnerships developed among all stakeholders.