Results

The systematic mapping process

Details of the number of records retained through each stage of the review process are provided in Figure 1. A total of 38,325 potentially relevant records were identified across all of the resources searched. A total of 25,683 unique records was screened for eligibility, with 347 eligible records following full text screening. The final systematic map database contains 536 studies from 357 articles.

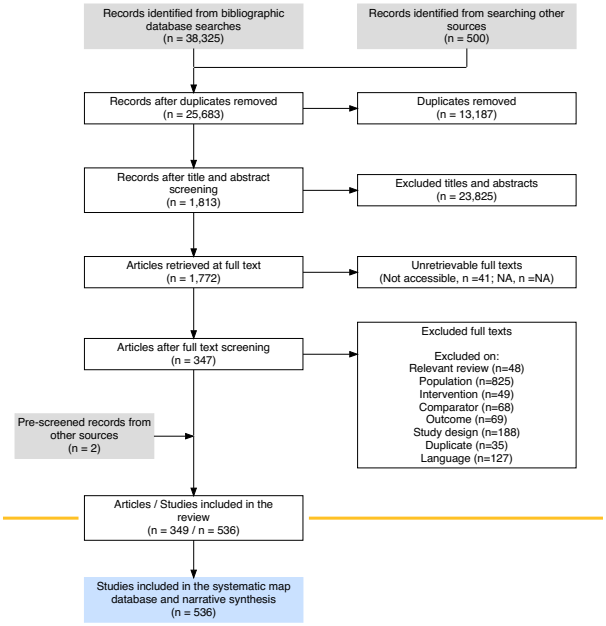

Figure 1: ROSES flow chart for the systematic map, showing the number of records retained at each stage of the review process. Produced using the R package 'ROSES_flowchart' (Haddaway 2020).

The systematic map database and visualisations

Descriptive information

Publication year: As expected, there has been a significant increase in the number of published articles on the topic over the last 20 years (Figure 2). Interestingly, there may be evidence of a reduction in publication rate over the most recent 5 years from 2014 to 2018. The earliest record in our database is from 1981. Since searches were performed in 2019, representation from this year is incomplete.

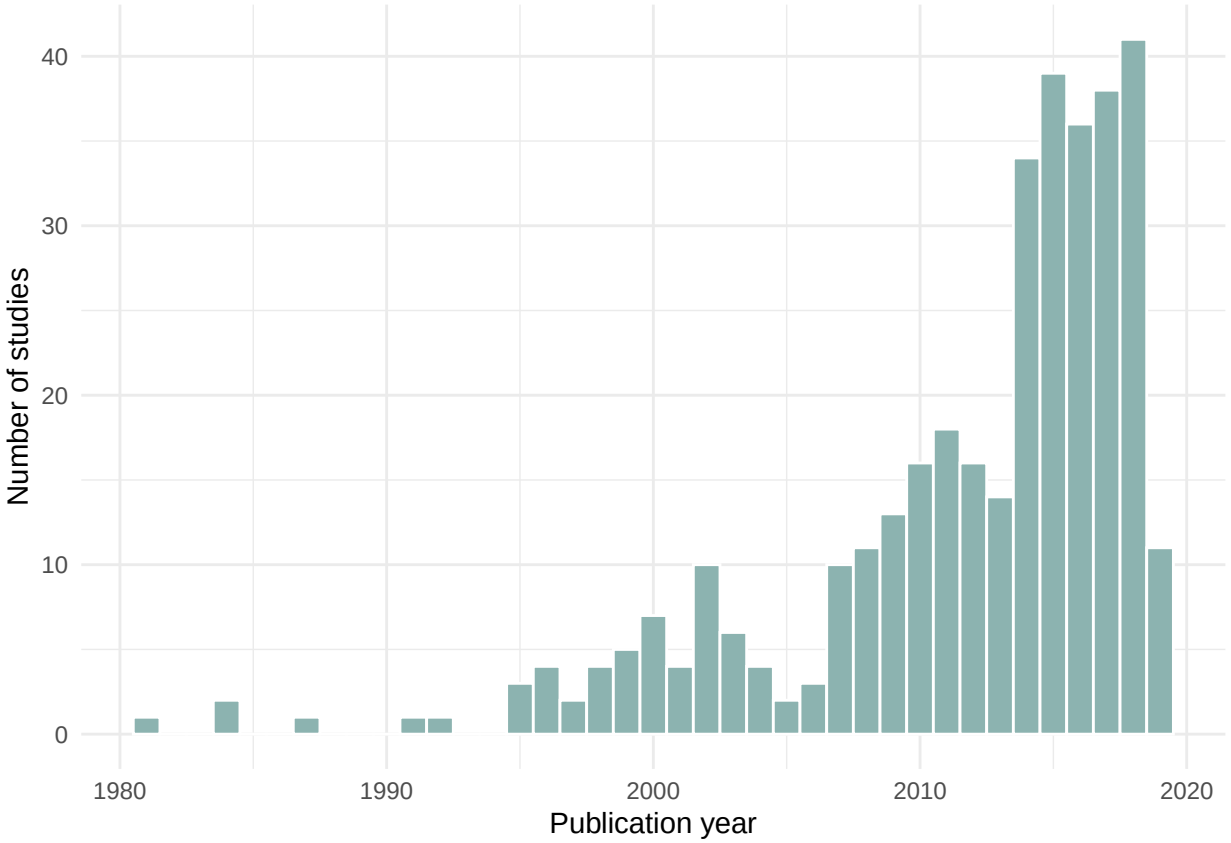

Figure 2: Plot showing the final number of articles included in the systematic map by publication year.

Publication type: Some 96% of articles in the map database are traditional research papers, with only 8 theses, 7 conference papers, and 1 report. This may in some degree reflect the ease with which traditional research articles can be discovered, but may also be the result of the complex and expensive GHG measurement equipment needed for this type of research: it may be unlikely that unpublished reports would be conducted on a local or organisation scale.

Country: The choropleth in Figure 3 displays the number of studies per country in the map. Some 3 countries each represented more than 10% of the total studies in the evidence base: United Kingdom (75), Australia (73), and United States of America (73). Much of the evidence came from Europe (a total of 227 studies).

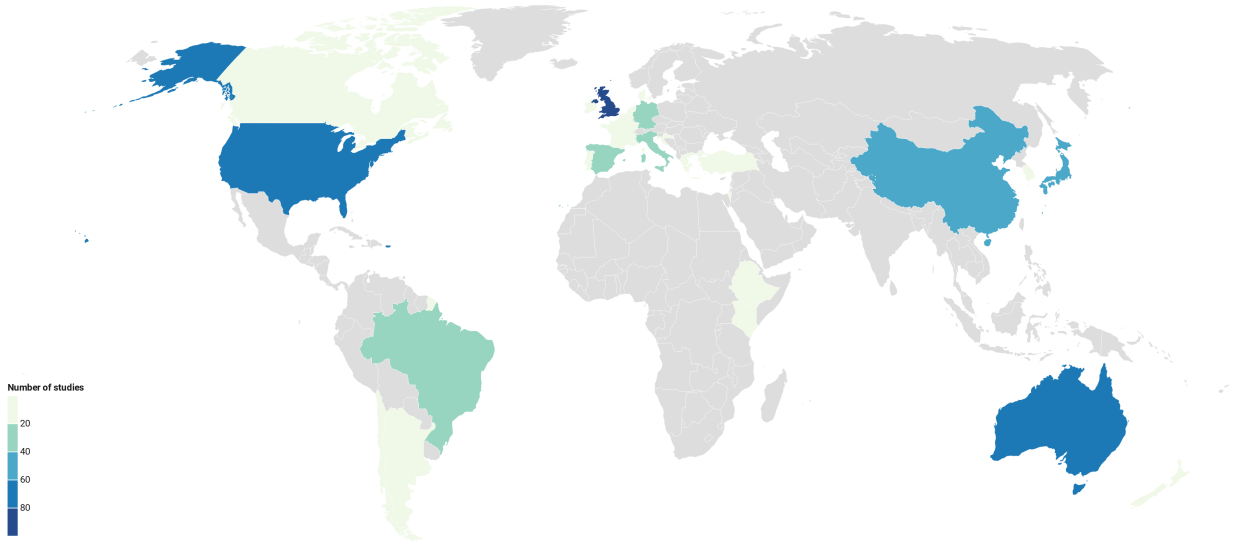

Figure 3: Choropleth showing the number of studies per country in the systematic map database.

Soil texture: The most frequently reported soil texture information was from the USDA Natural resources conservation service soil texture classification system. Figure 4 shows the distribution of soil texture classifications across the evidence base. A large number of studies (133 of 536) did not report the soil texture classification.

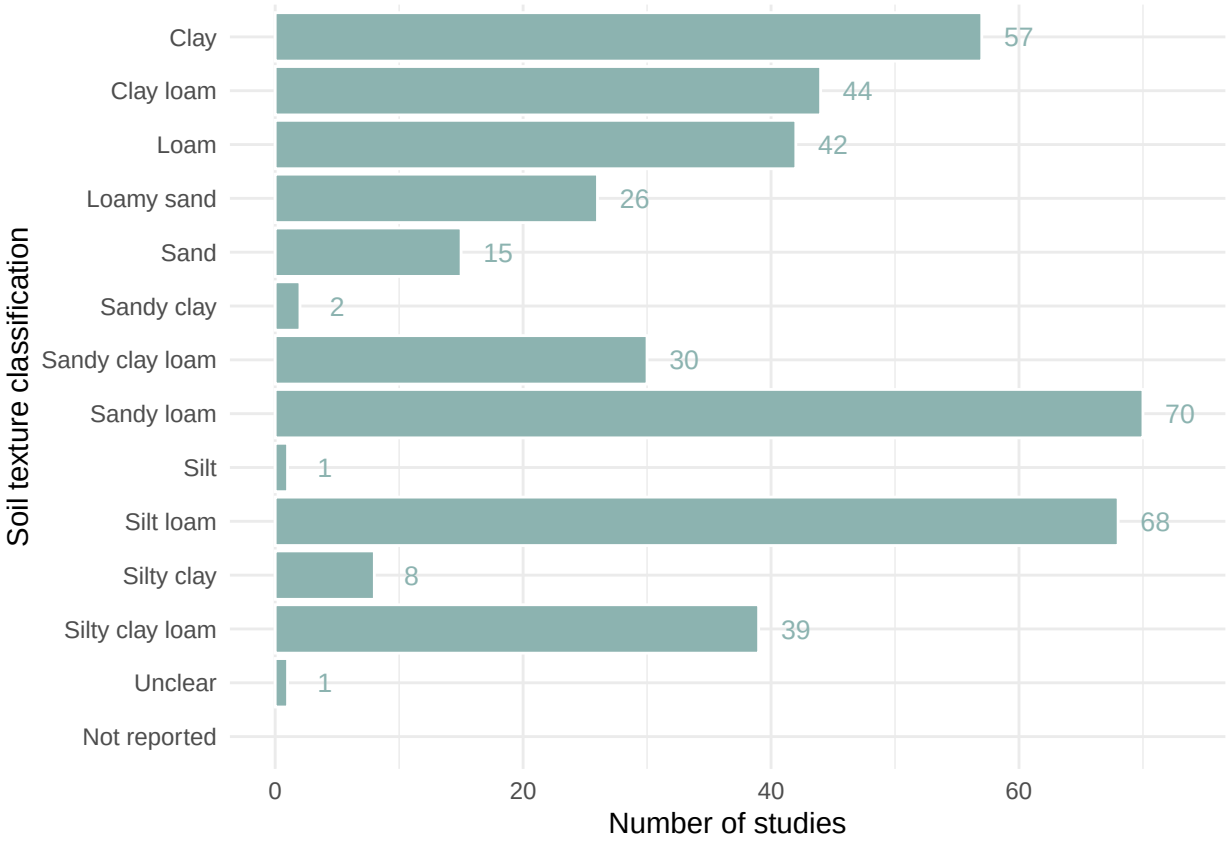

Figure 4: Soil texture classifications of studies in the systematic map