Royal Geographical Society with IBG

Advancing geography and geographical learning

The Future Tropical Forest Ecosystem

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Objectives

To gain a greater appreciation of the level and rate of deforestation in tropical rainforest areas

To be able to produce a map of spatial data using a GIS package

To describe and explain the relationship between deforestation and other variables

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

768,935 km^2 of tropical rainforest has been lost from the Brazilian Amazon since 1970

How many countries the size of England could you fit in this area?

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

768,935 km^2 of tropical rainforest has been lost from the Brazilian Amazon since 1970

= 6 countries the size of England

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

7,989 km^2 of tropical rainforest was lost from the Brazilian Amazon in 2016

How many football pitches could you fit in this area?

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

7,989 km^2 of tropical rainforest was lost from the Brazilian Amazon in 2016

= 1,248,281 football pitches

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Assuming deforestation was happening at the same pace, 24 hours a day and on every day of the year, how many football pitches are we losing every hour in the Brazilian Amazon alone?

1,248,281 football pitches a year

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Assuming deforestation was happening at the same pace, 24 hours a day and on every day of the year, how many football pitches are we losing every hour in the Brazilian Amazon alone?

1,248,281 football pitches a year

= 142 football pitches an hour

Nuffield Foundation

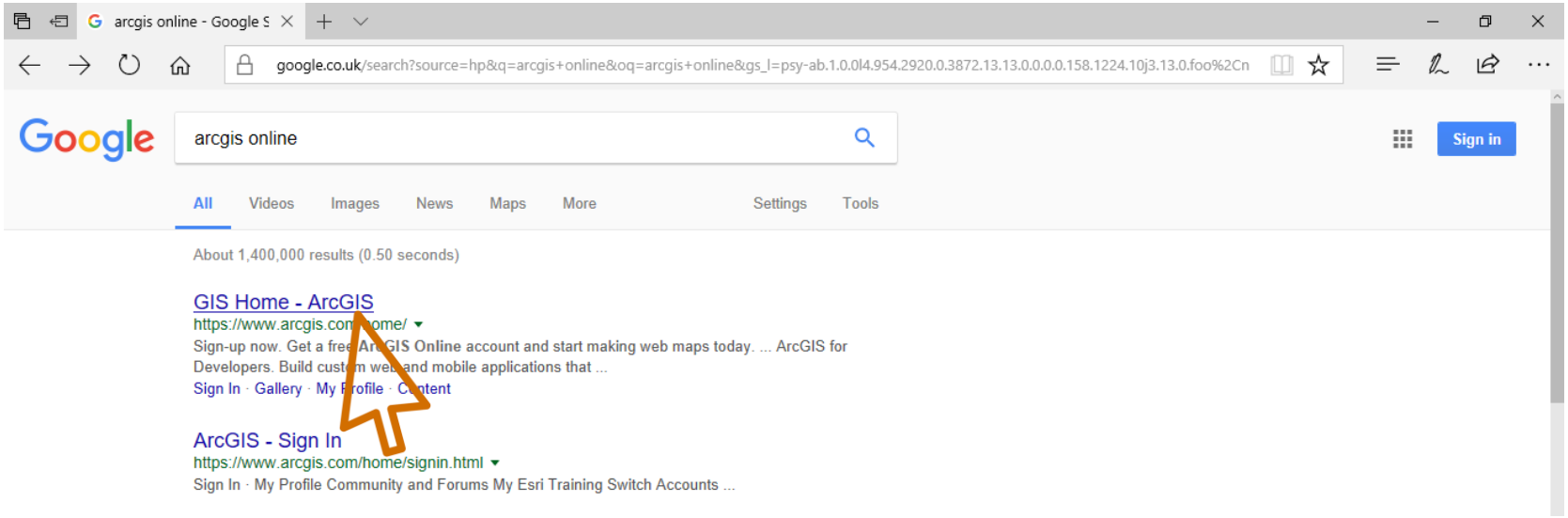
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Go onto ArcGIS Online:



Nuffield Foundation

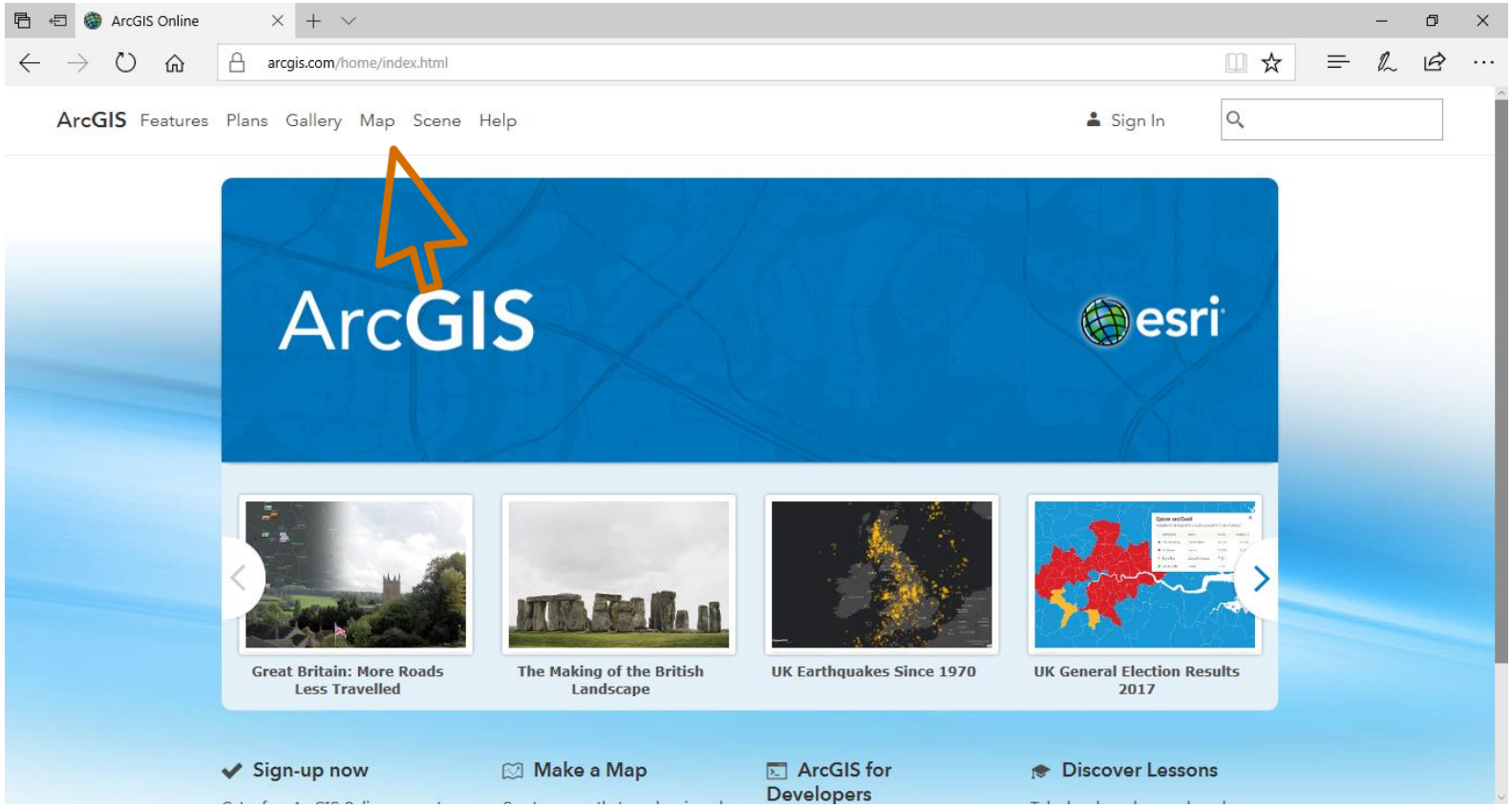
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Select ‘Map’ :



Nuffield Foundation

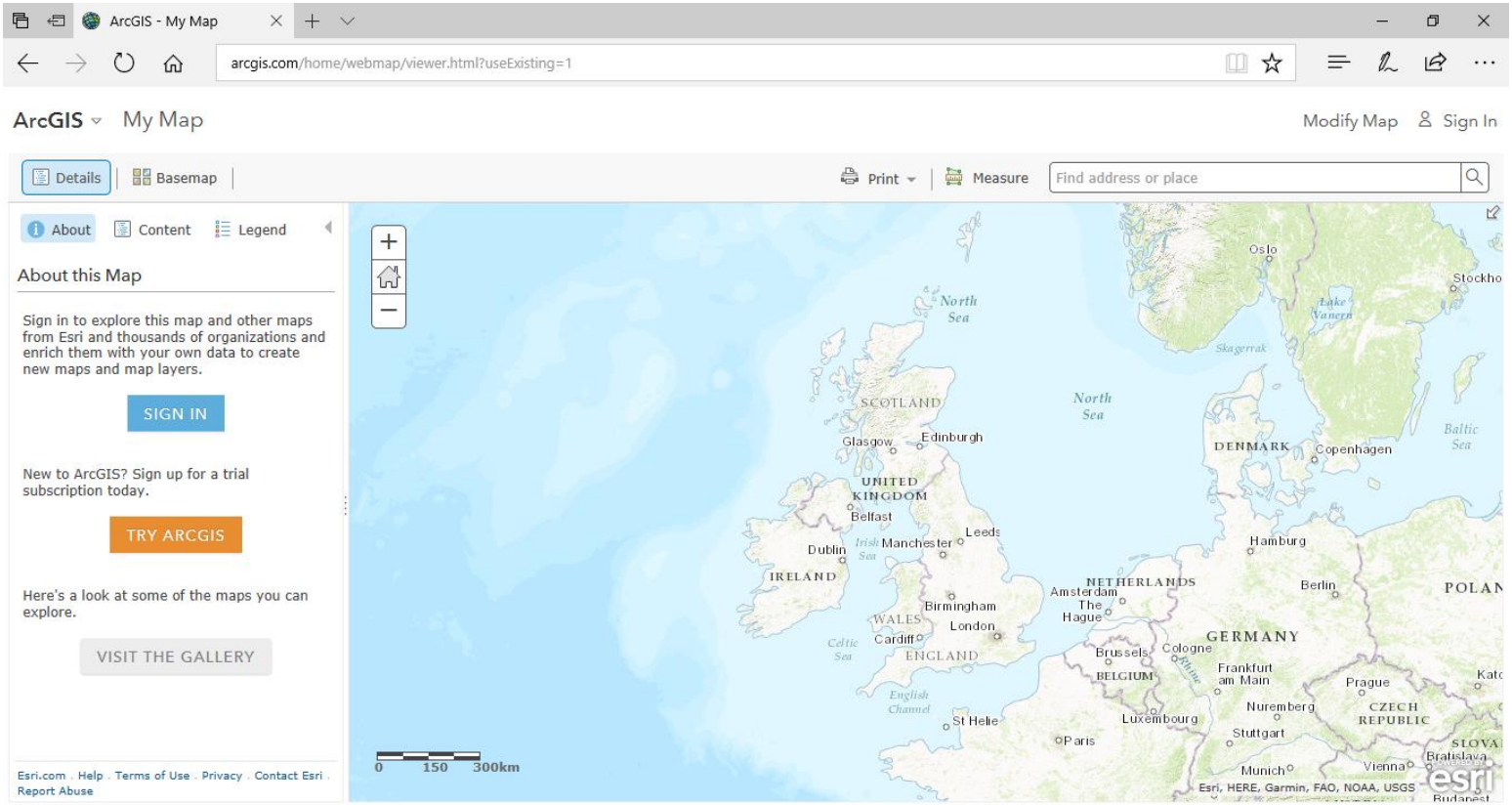
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Drag the CSV data file onto the map:



Nuffield Foundation

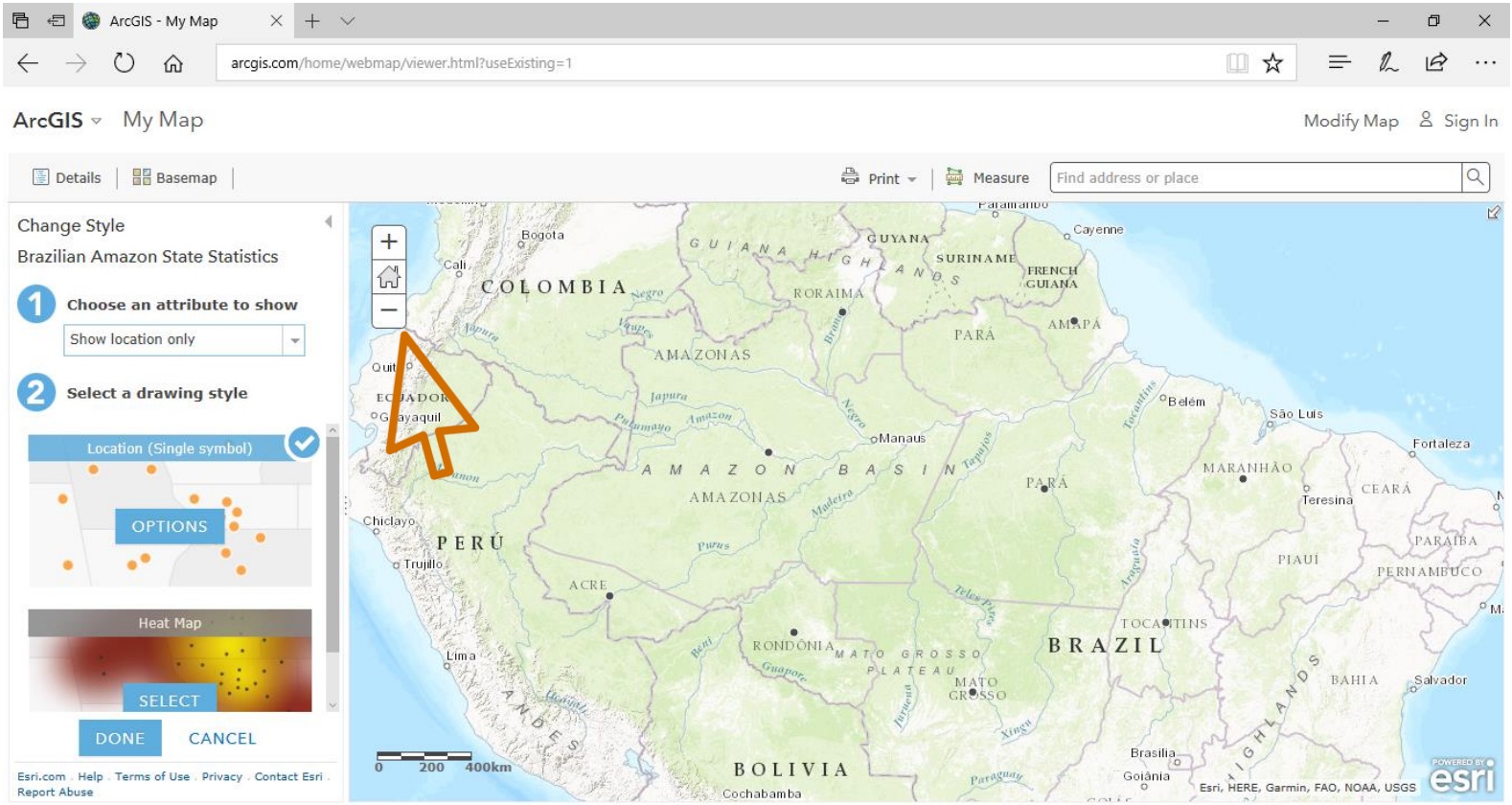
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Zoom out to a level where you can see Brazil most clearly:



Nuffield Foundation

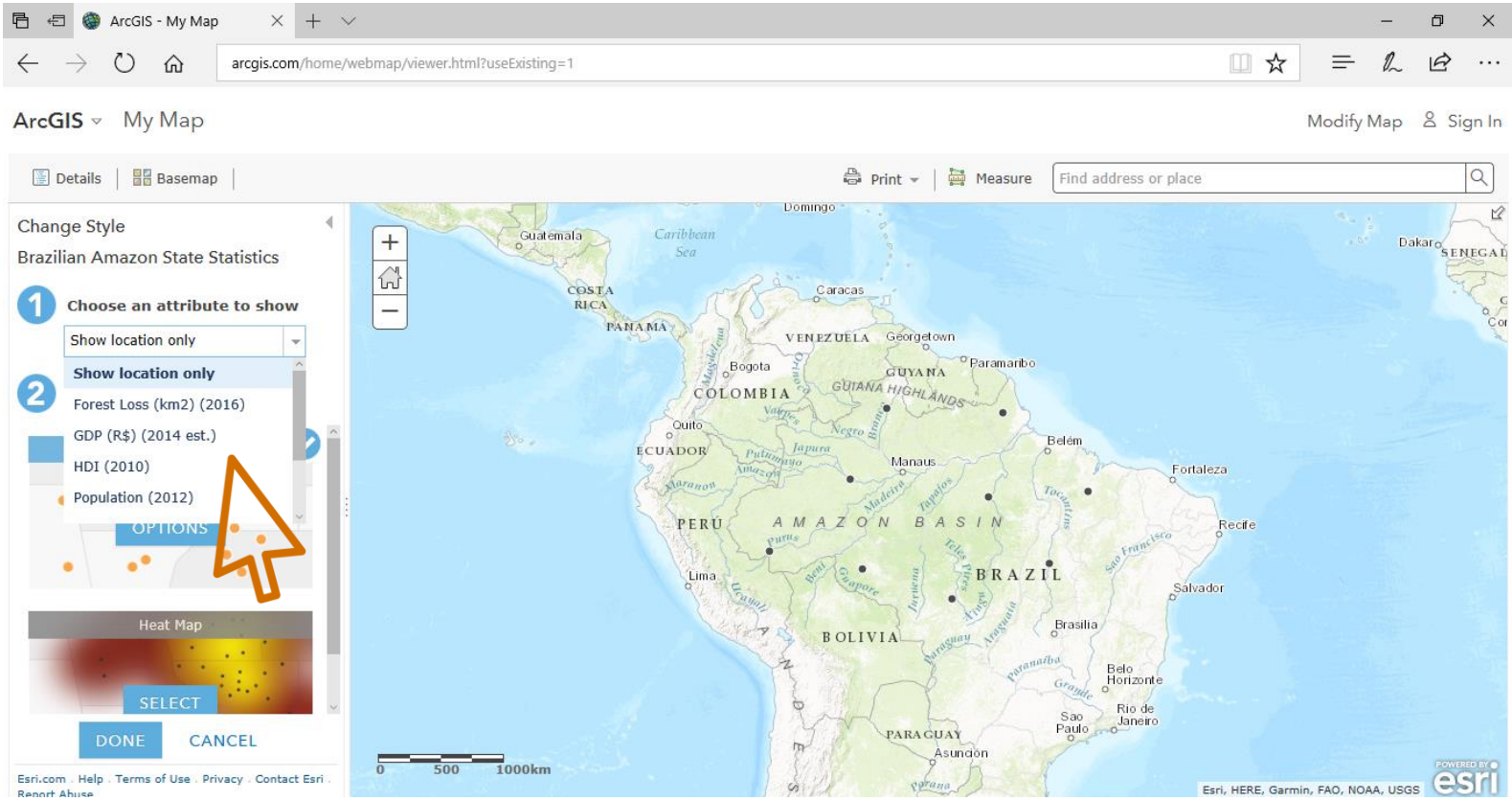
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Changing the attributes changes the data displayed:



Nuffield Foundation

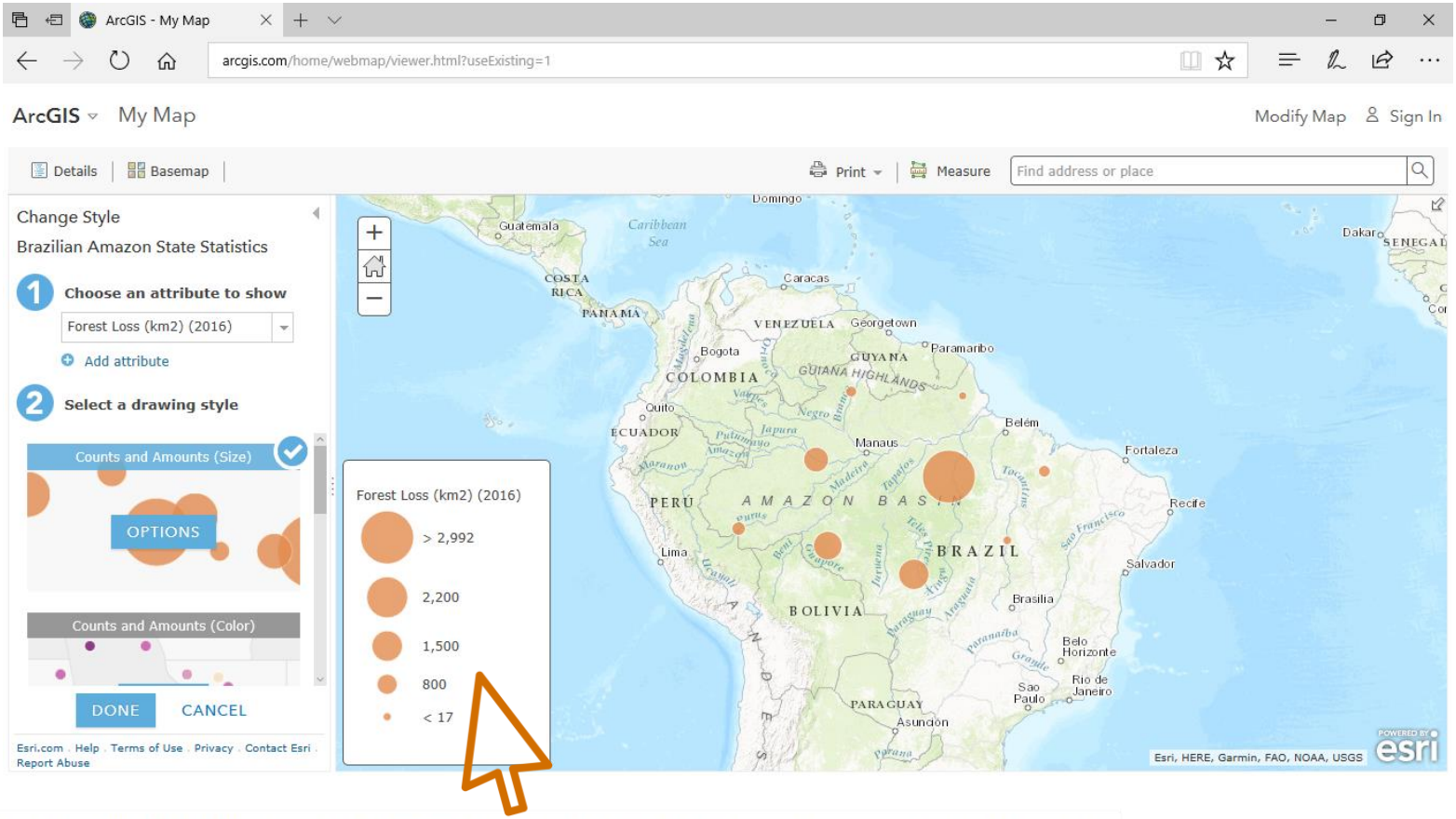
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

The default presentation method is proportional circles:



Nuffield Foundation

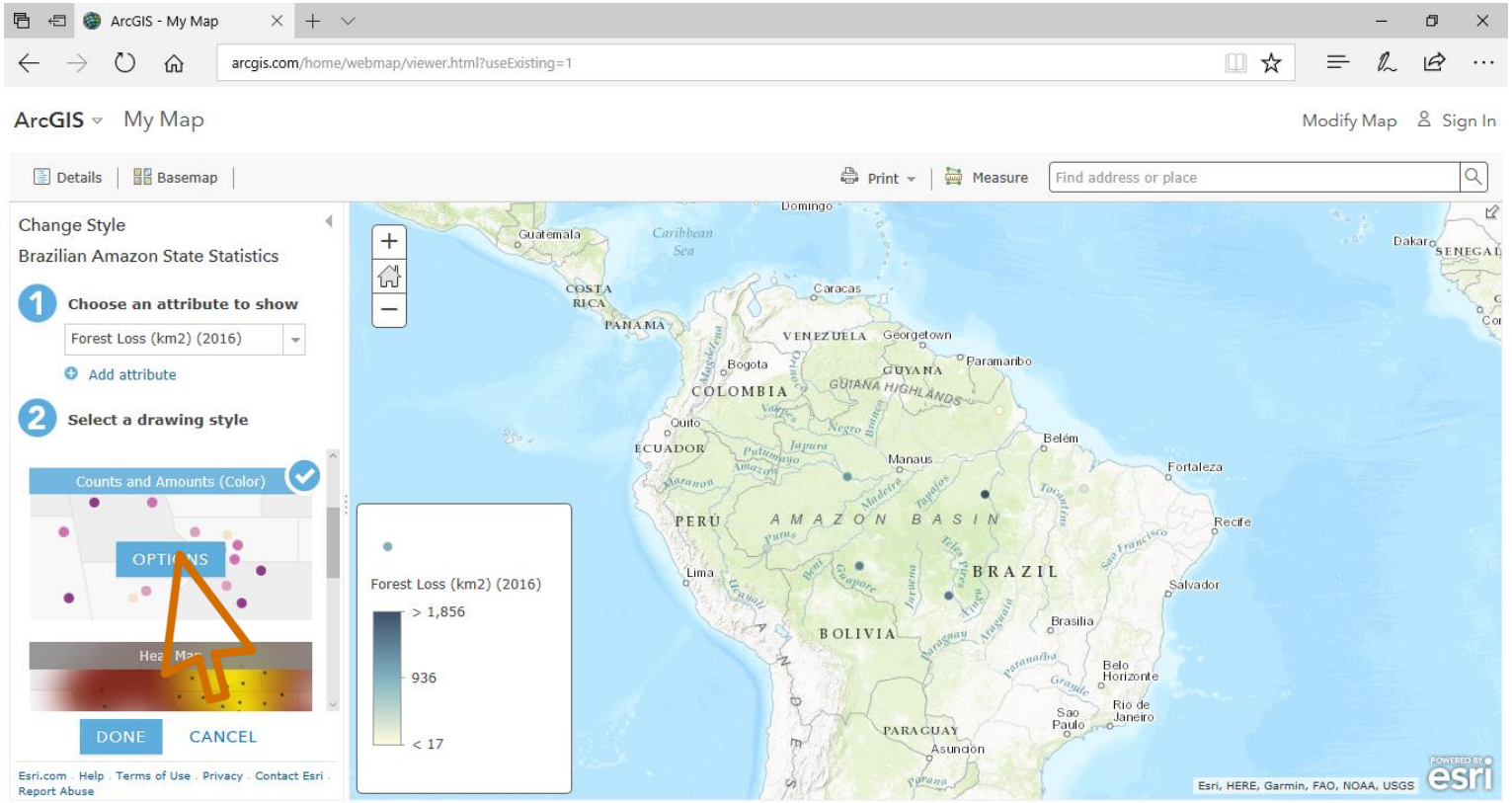
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting '<u>Counts and Amounts (Color)</u>' changes the map to choropleth shaded dots:



Nuffield Foundation

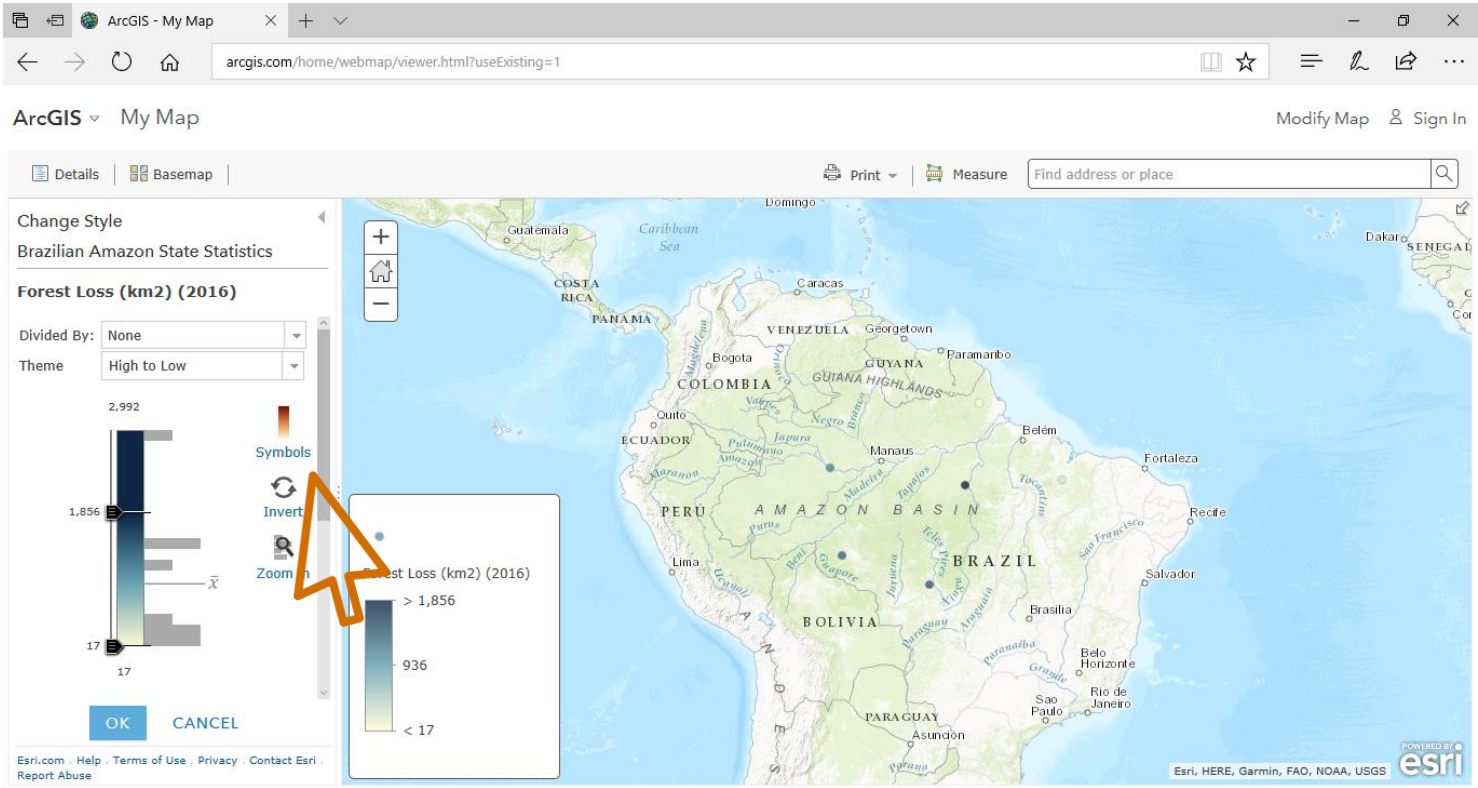
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting '<u>Options</u>' and '<u>Symbols</u>' gives you the ability to change the size, shape and colour palette of the choropleth shapes:



Nuffield Foundation

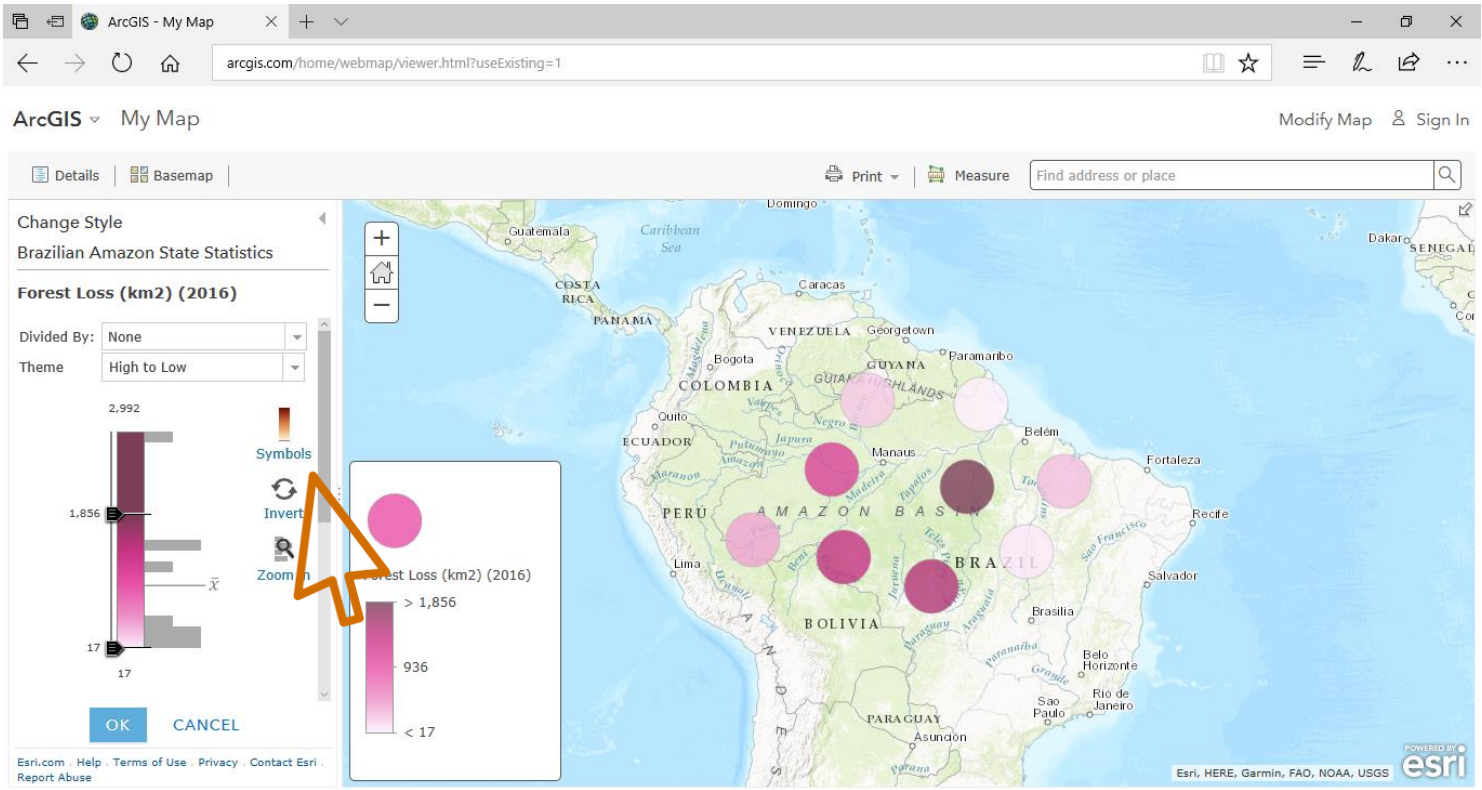
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting 'Options' and 'Symbols' gives you the ability to change the size, shape and colour palette of the choropleth shapes:



Nuffield Foundation

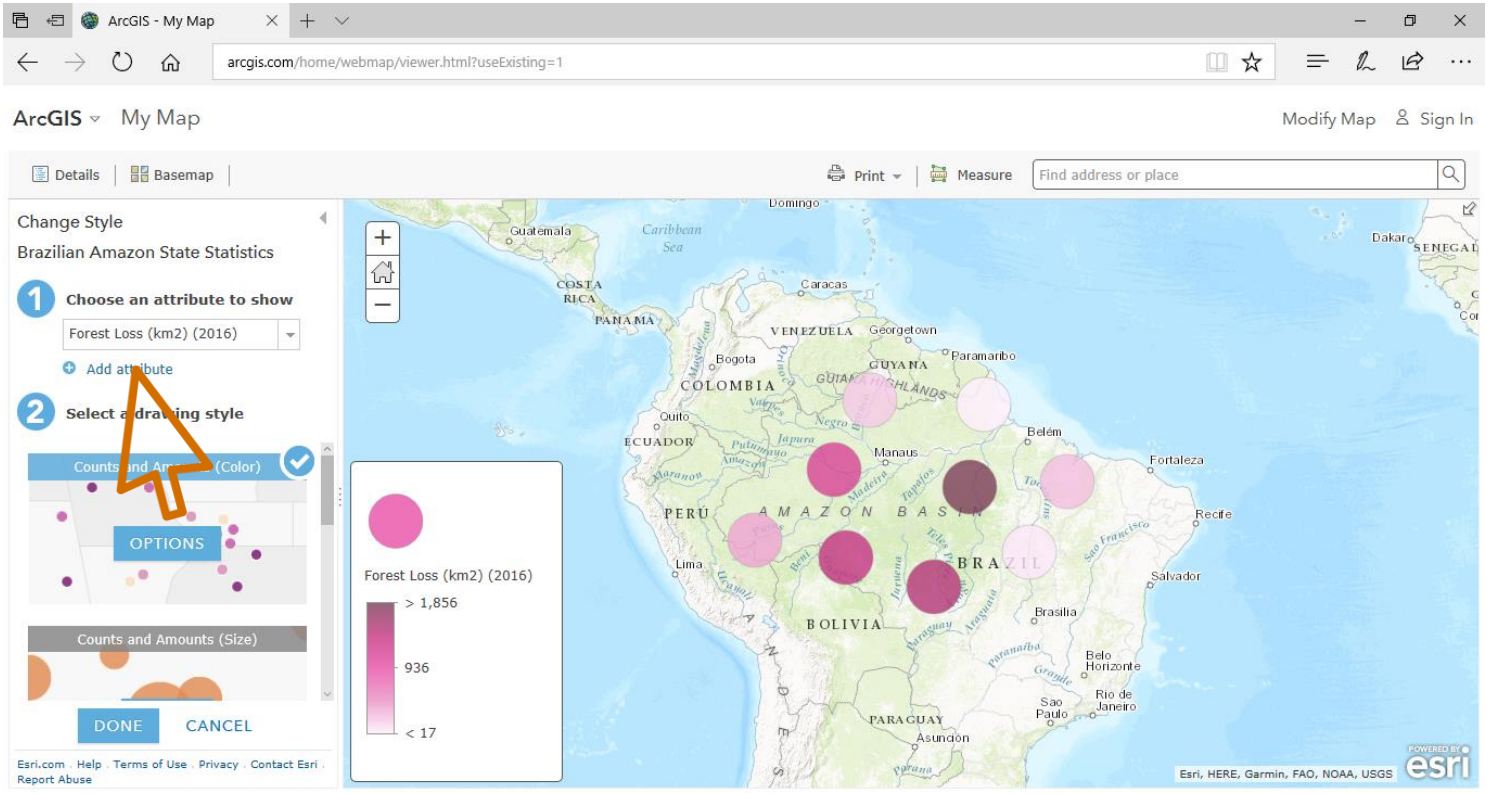
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Select 'Add attribute' to compare more than one variable from the CSV file:



Nuffield Foundation

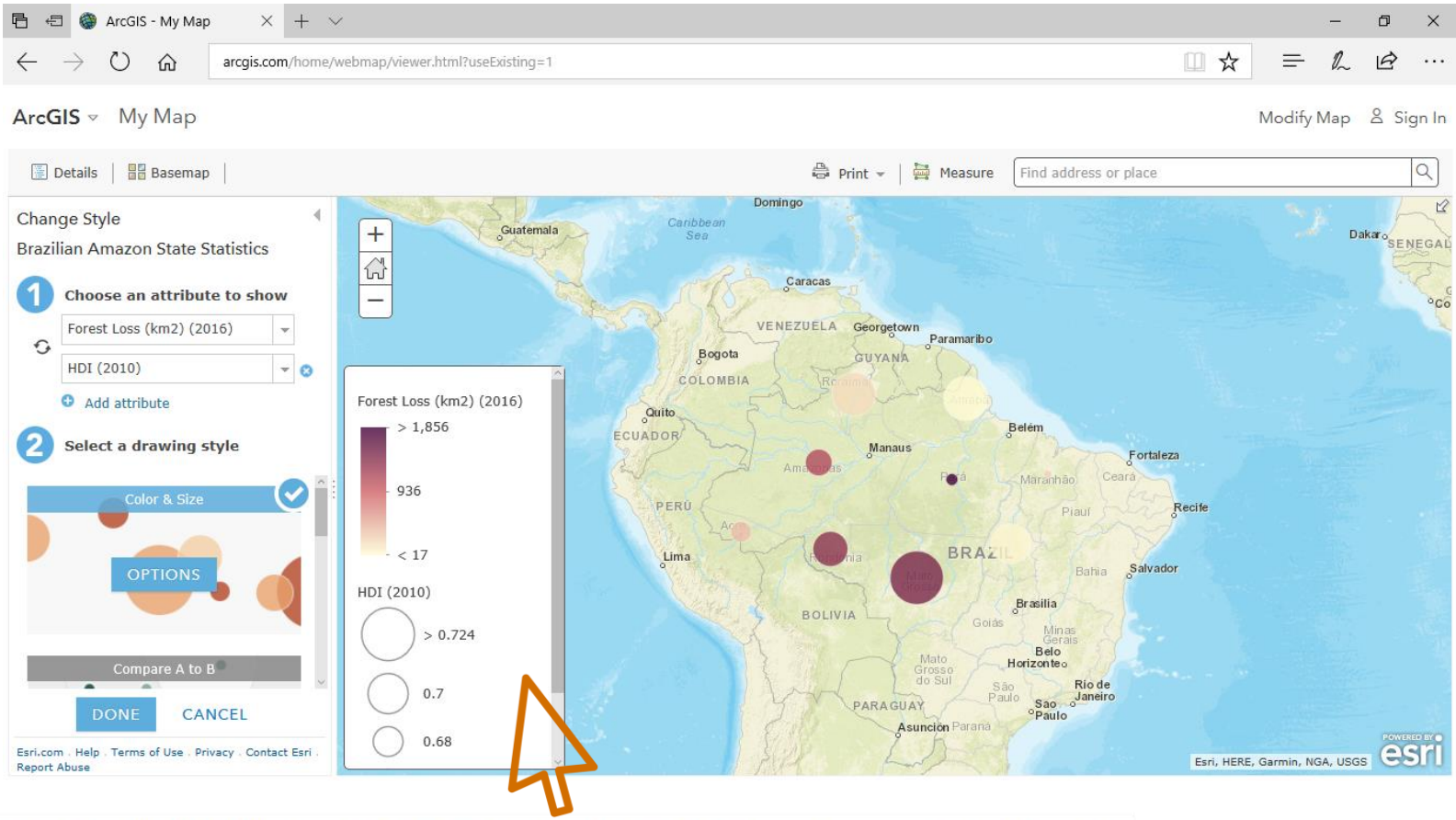
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

In this case, size and colour represent the two different variables:



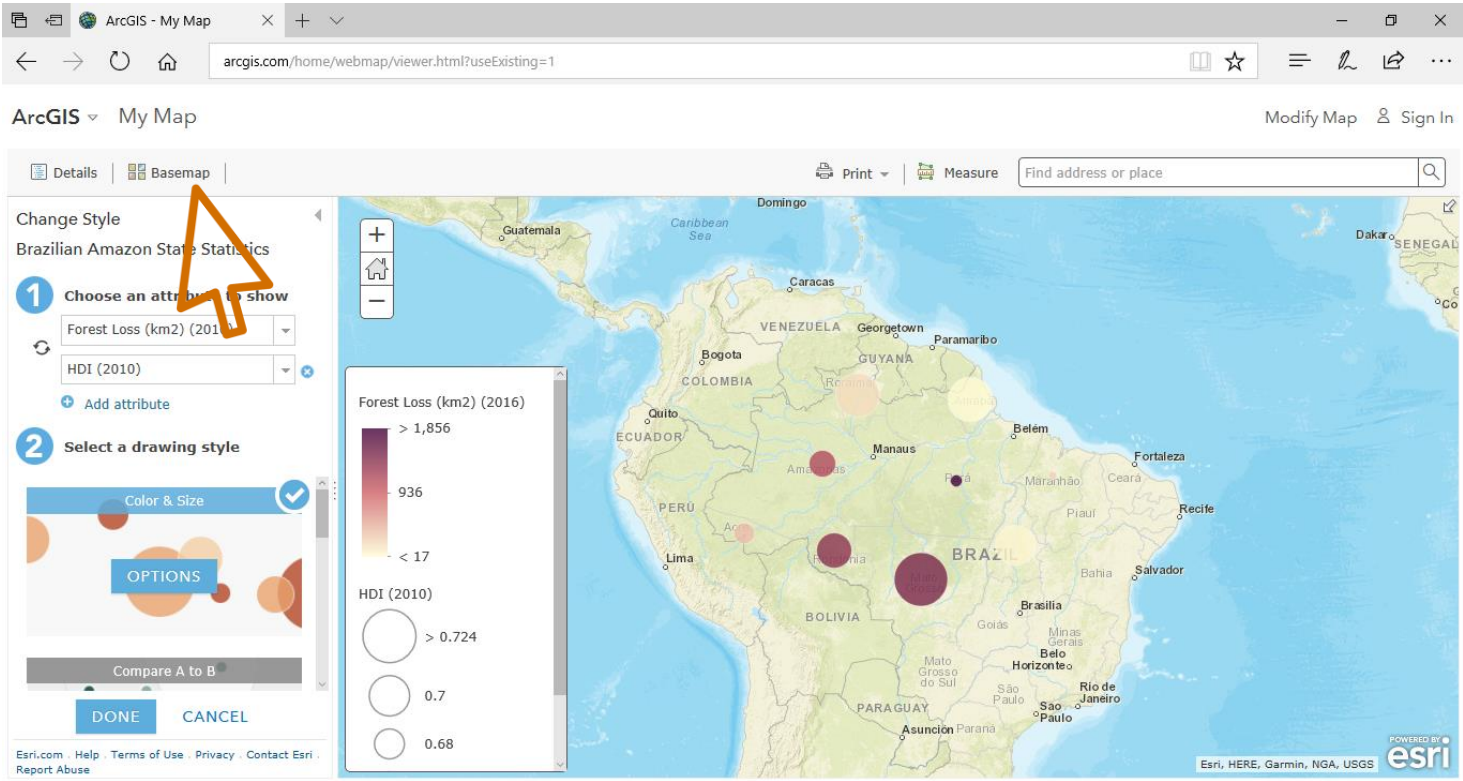
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Experiment with changing the basemap to make the data stand out, as well as with scale, colour and attribute selected:



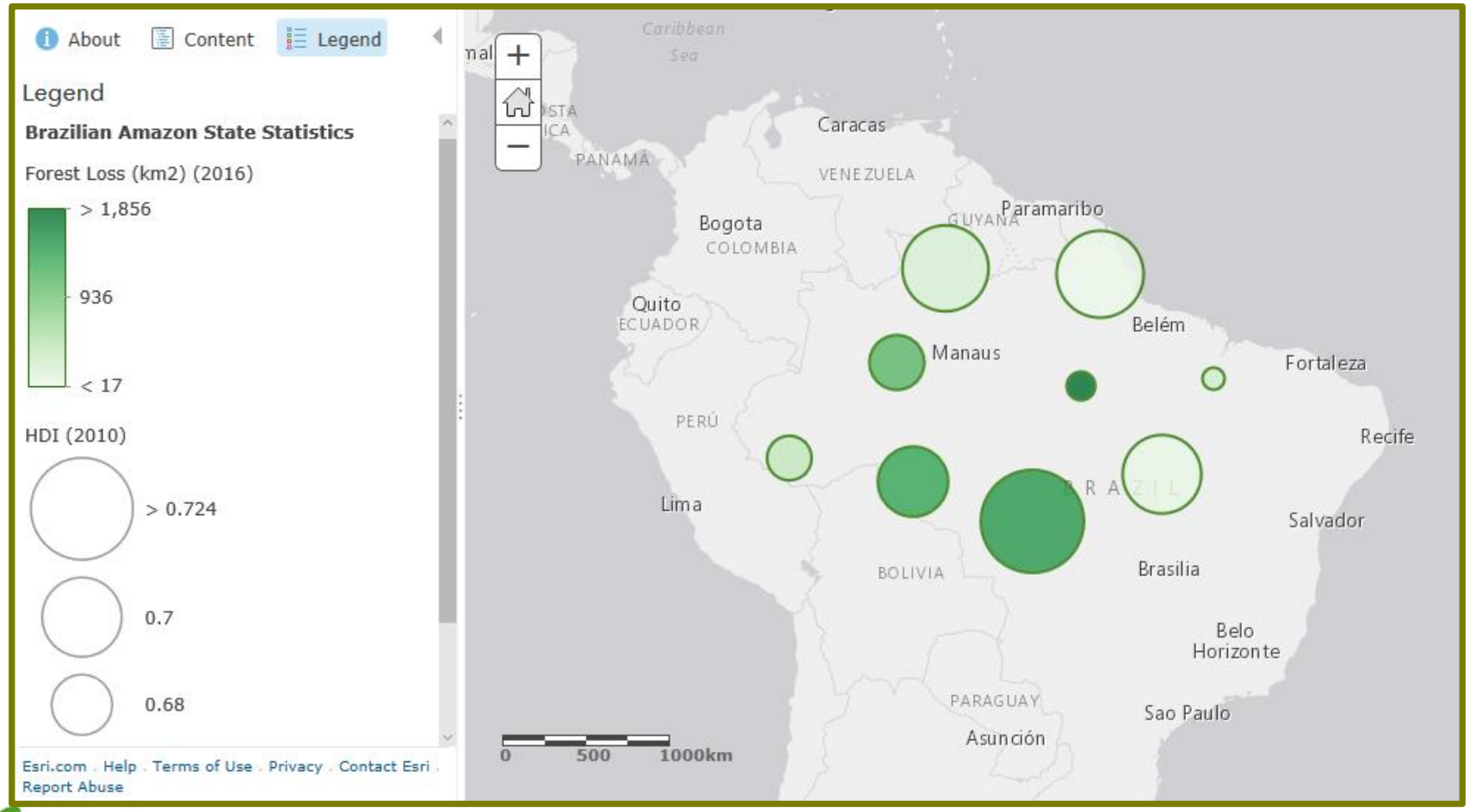
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



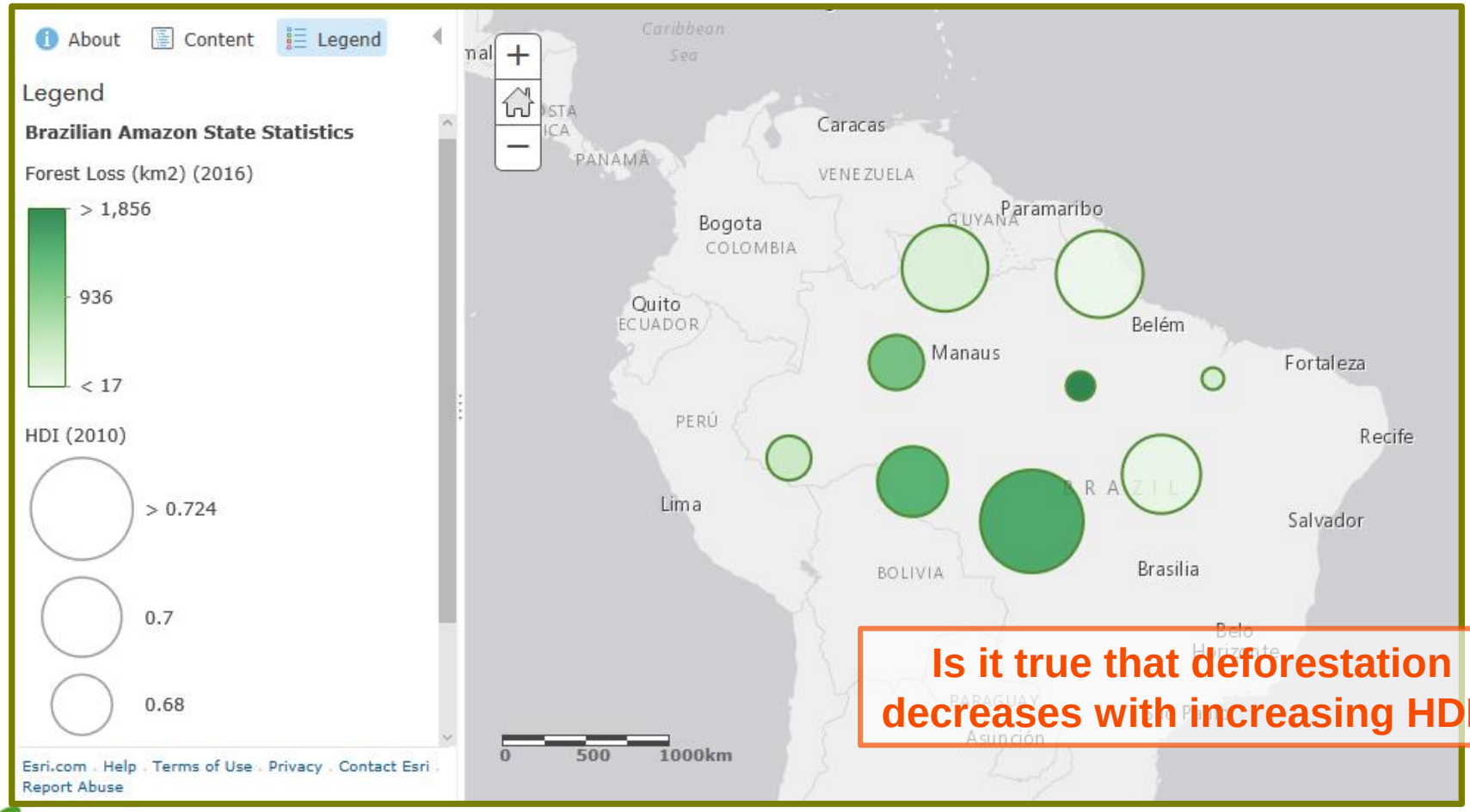
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



Is it true that deforestation decreases with increasing HDI?

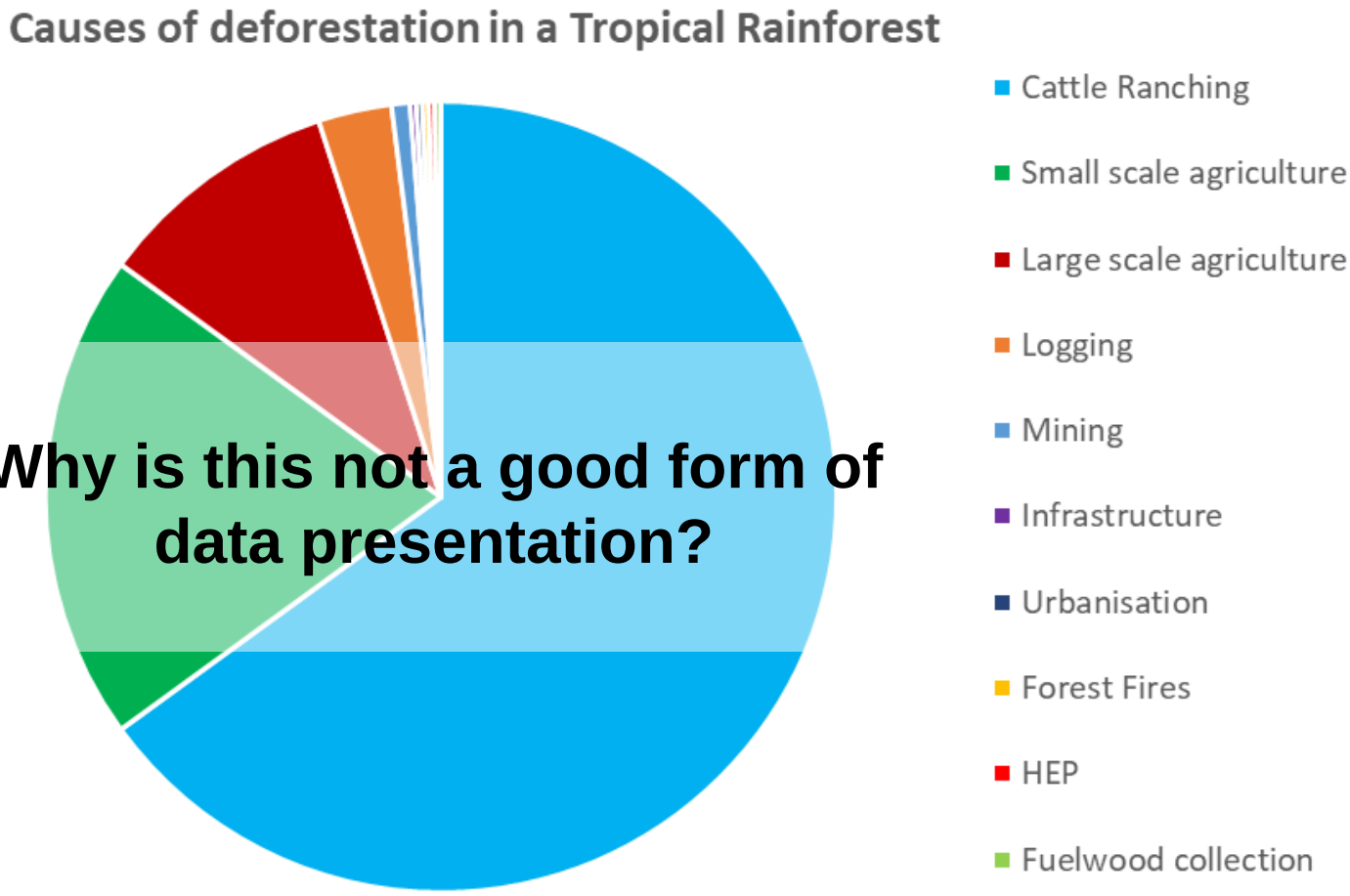
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



Why is this not a good form of data presentation?

Nuffield Foundation

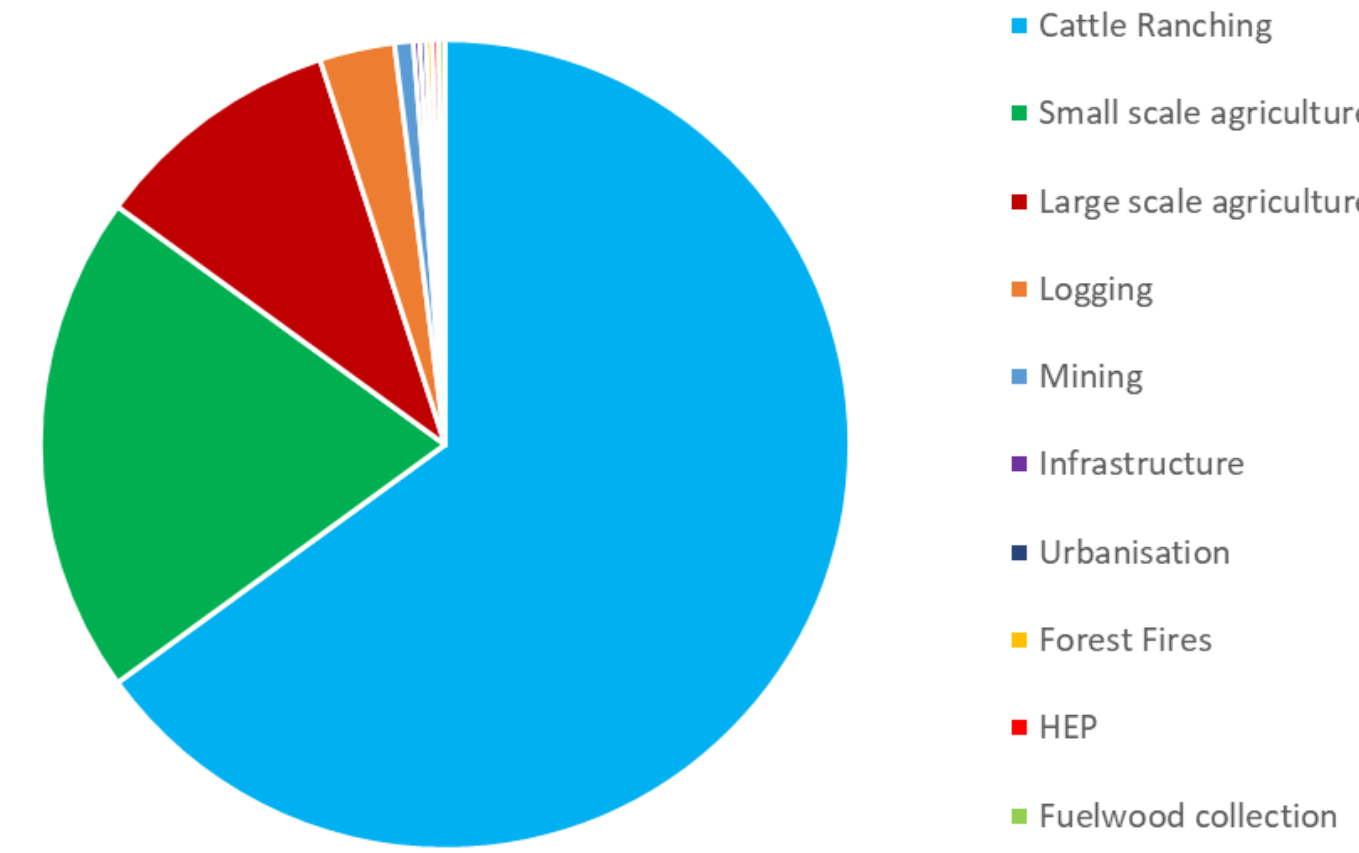
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Causes of deforestation in a Tropical Rainforest



Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Country	Area of forest cover (km²)	Forest Cover	Loss as % of 2004 cover	Rate of deforestation change 2004 - 2014	Loss 2001-2014
Brazil	519,191,664	61.90%	4.90%	-6.00%	38,336,733
DR Congo	199,224,295	87.10%	3.20%	22.90%	7,977,010
Indonesia	160,978,096	85.80%	9.60%	2.40%	18,507,771
Colombia	81,779,083	72.60%	2.50%	-9.70%	2,822,694
Peru	78,069,516	60.90%	2.10%	16.40%	1,949,886
Bolivia	64,520,862	60.00%	4.20%	7.50%	3,394,108
Venezuela	56,531,450	62.80%	1.80%	-13.30%	1,376,709
Angola	55,315,474	44.40%	2.60%	19.40%	1,740,011
Mexico	53,182,952	27.40%	3.70%	-9.90%	2,587,661

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

Royal Geographical Society with IBG

Advancing geography and geographical learning

Guess the Deforestation Rate

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

768,935 km^2 of tropical rainforest has been lost from the Brazilian Amazon since 1970

How many countries the size of England could you fit in this area?

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

768,935 km^2 of tropical rainforest has been lost from the Brazilian Amazon since 1970

= 6 countries the size of England

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

7,989 km^2 of tropical rainforest was lost from the Brazilian Amazon in 2016

How many football pitches could you fit in this area?

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

7,989 km^2 of tropical rainforest was lost from the Brazilian Amazon in 2016

= 1,248,281 football pitches

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Assuming deforestation was happening at the same pace, 24 hours a day and on every day of the year, how many football pitches are we losing every hour in the Brazilian Amazon alone?

1,248,281 football pitches a year

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Assuming deforestation was happening at the same pace, 24 hours a day and on every day of the year, how many football pitches are we losing every hour in the Brazilian Amazon alone?

1,248,281 football pitches a year

= 142 football pitches an hour

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

Royal Geographical Society with IBG

Advancing geography and geographical learning

ArcGIS Data Presentation Guide

Nuffield Foundation

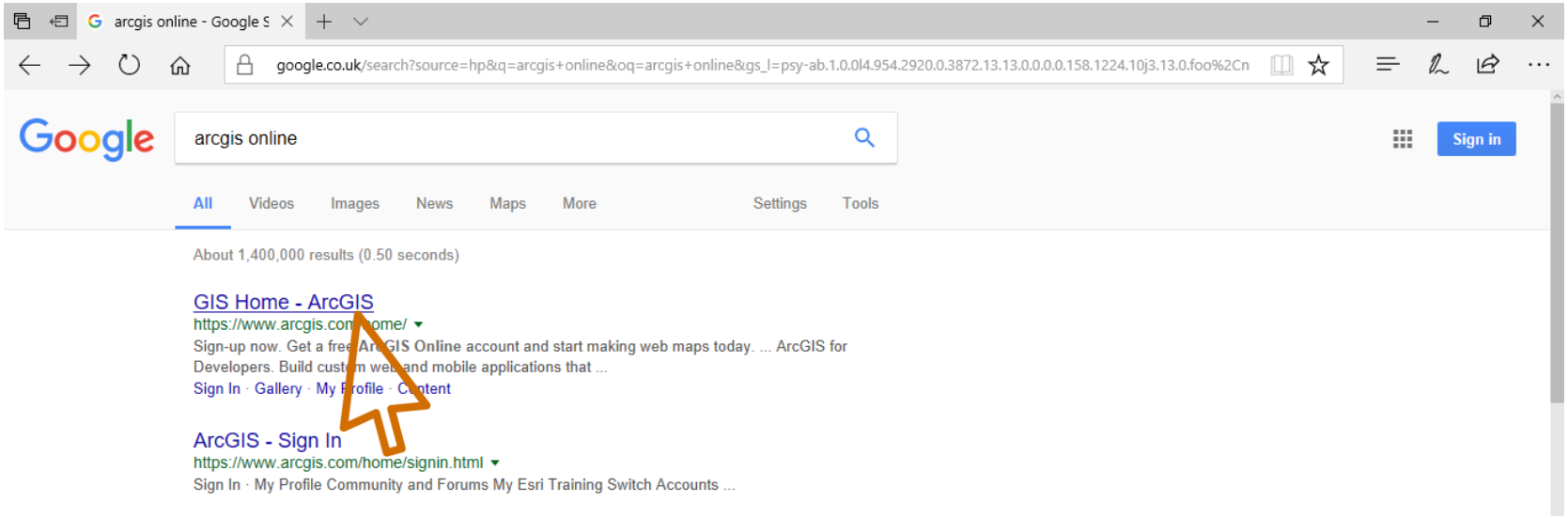
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Go onto ArcGIS Online:



Nuffield Foundation

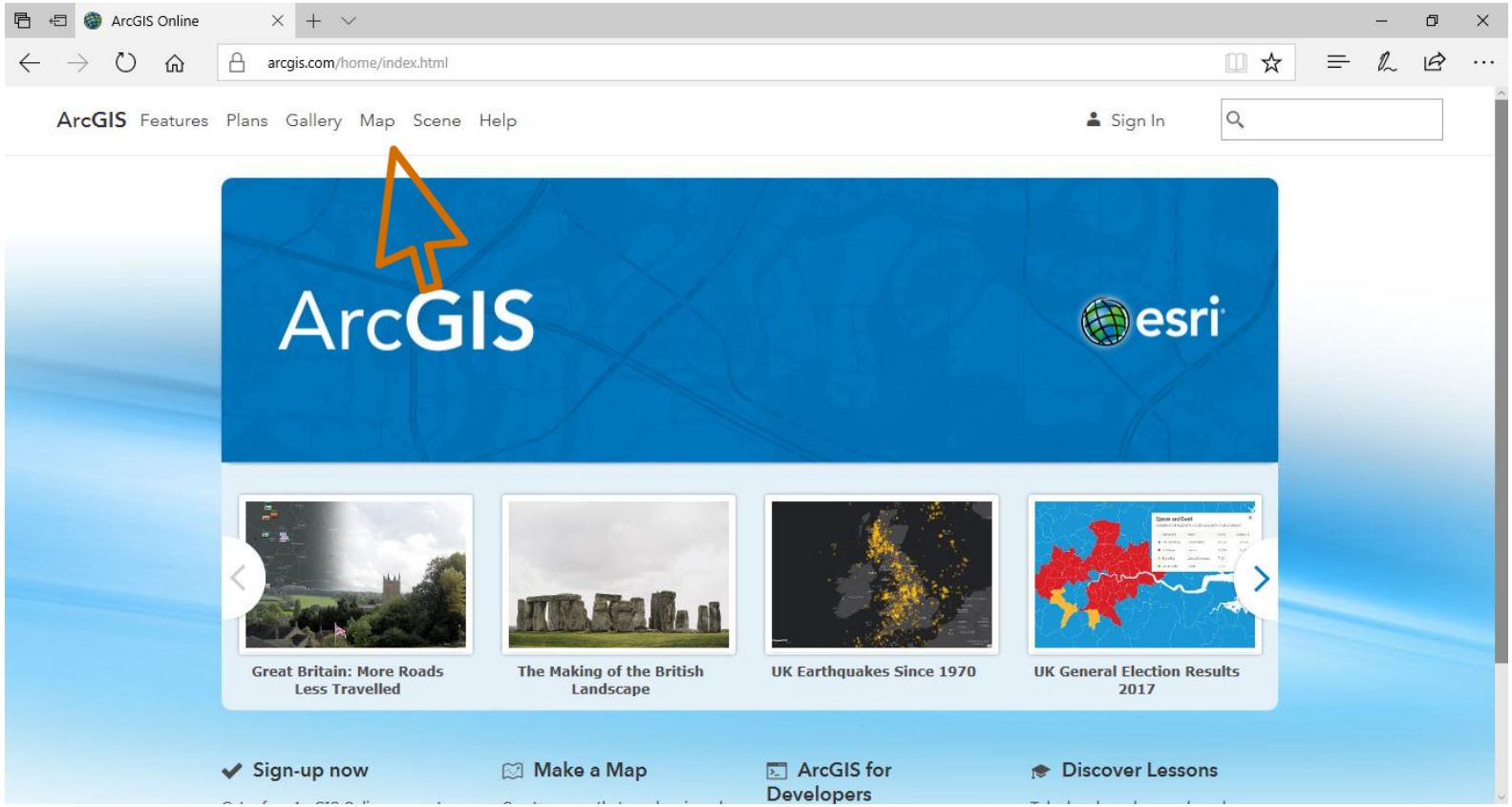
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Select ‘Map’ :



Nuffield Foundation

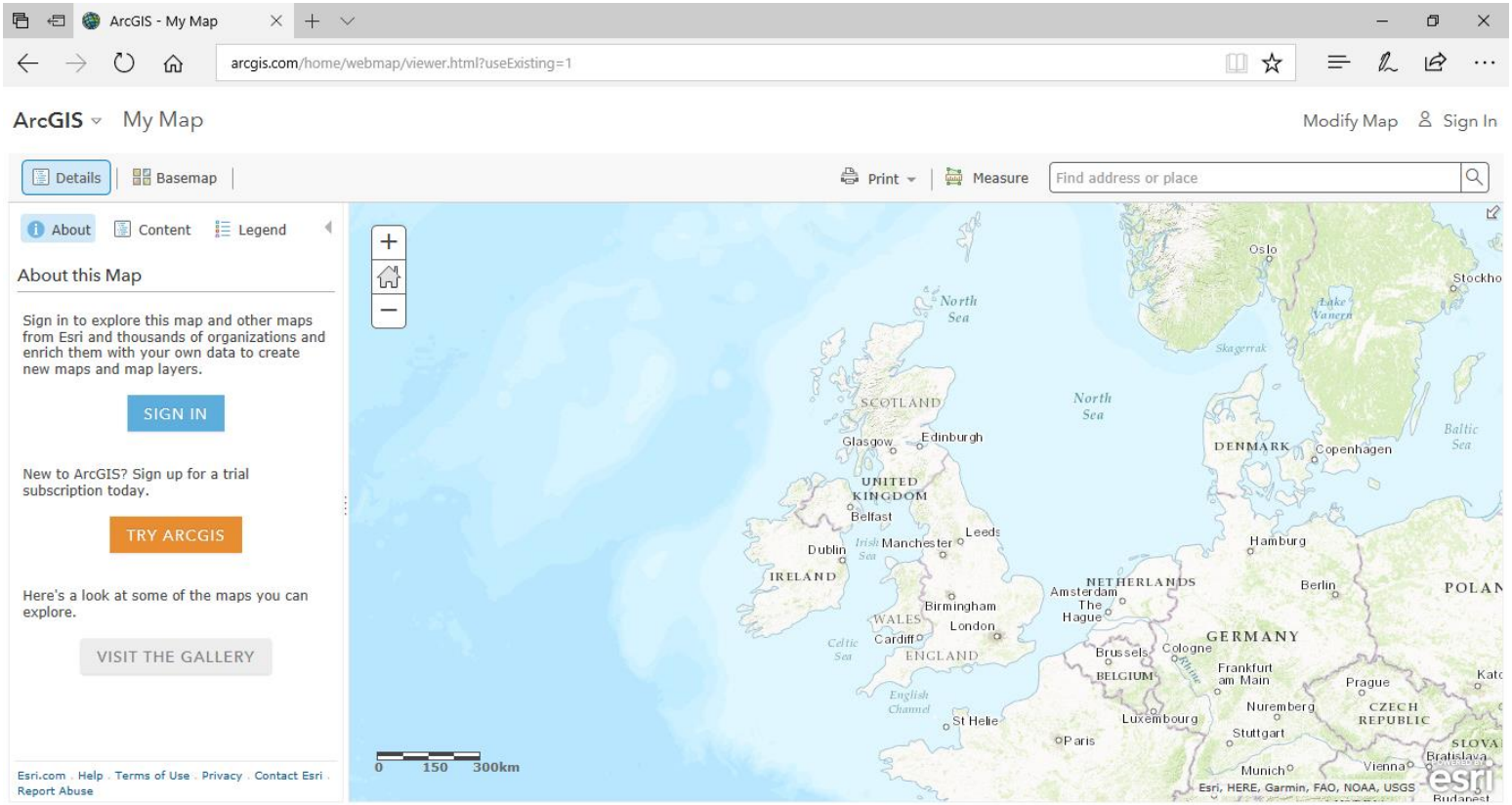
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Drag the CSV data file onto the map:



Nuffield Foundation

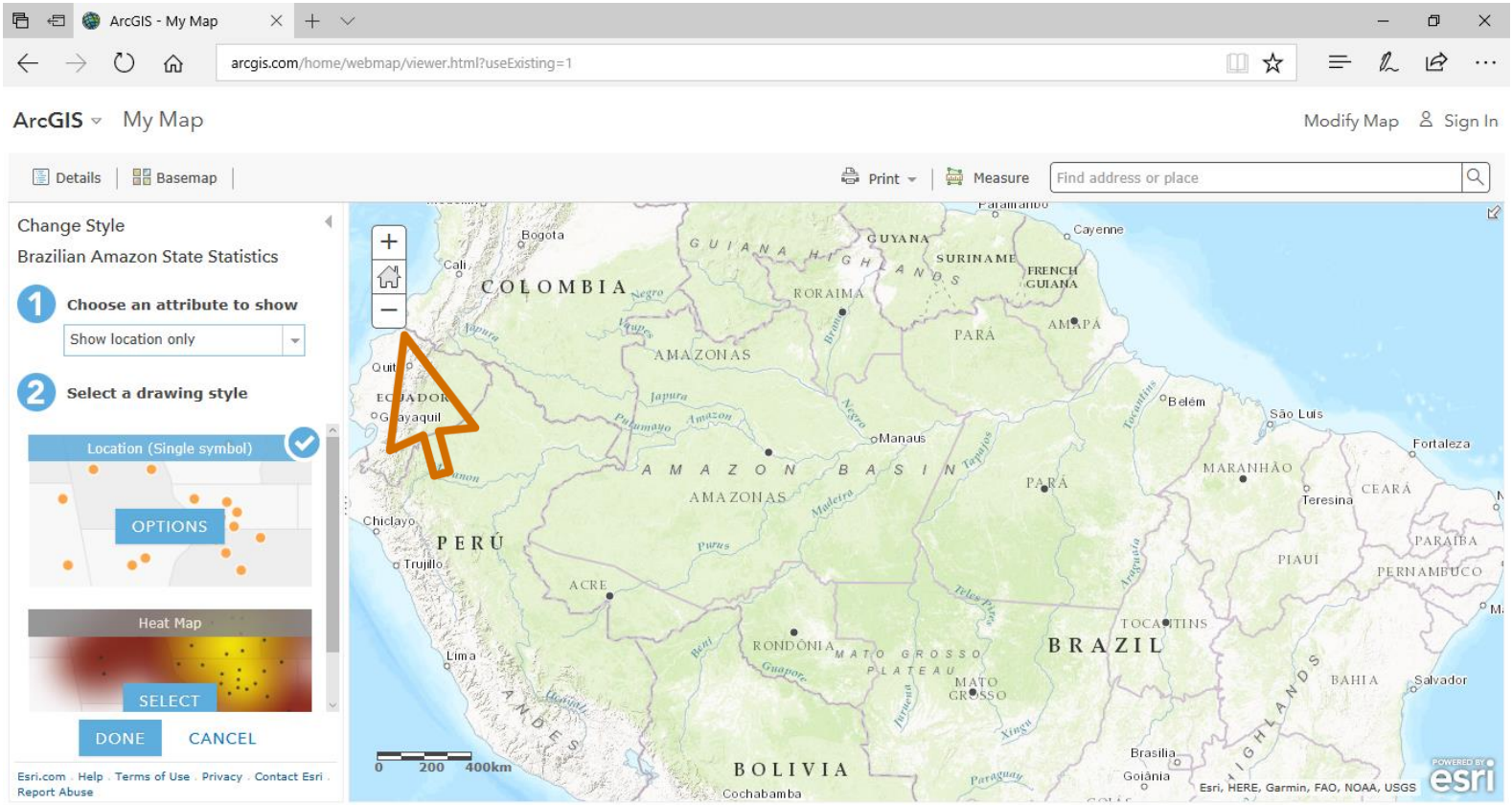
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Zoom out to a level where you can see Brazil most clearly:



Nuffield Foundation

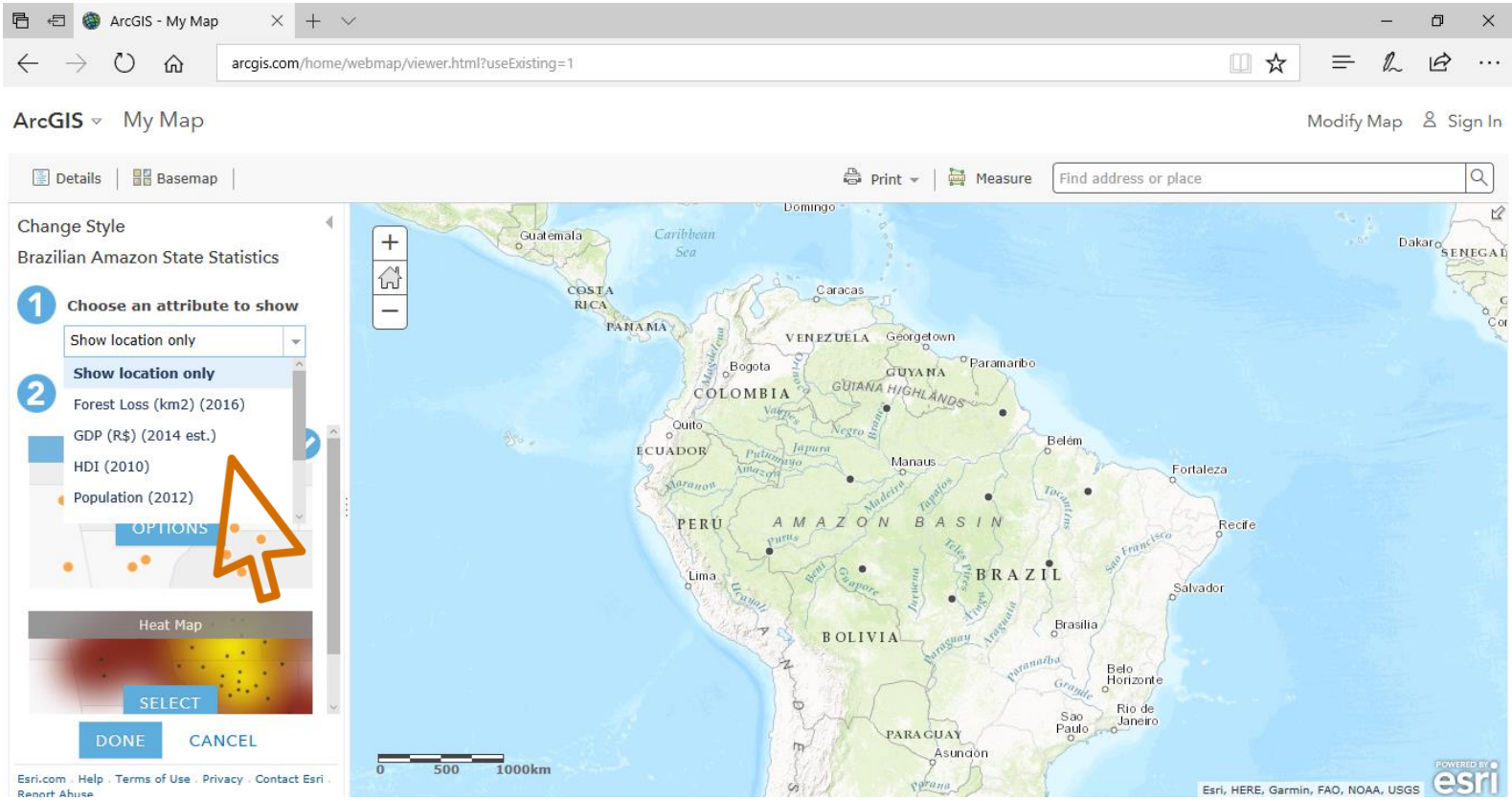
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Changing the attributes changes the data displayed:



Nuffield Foundation

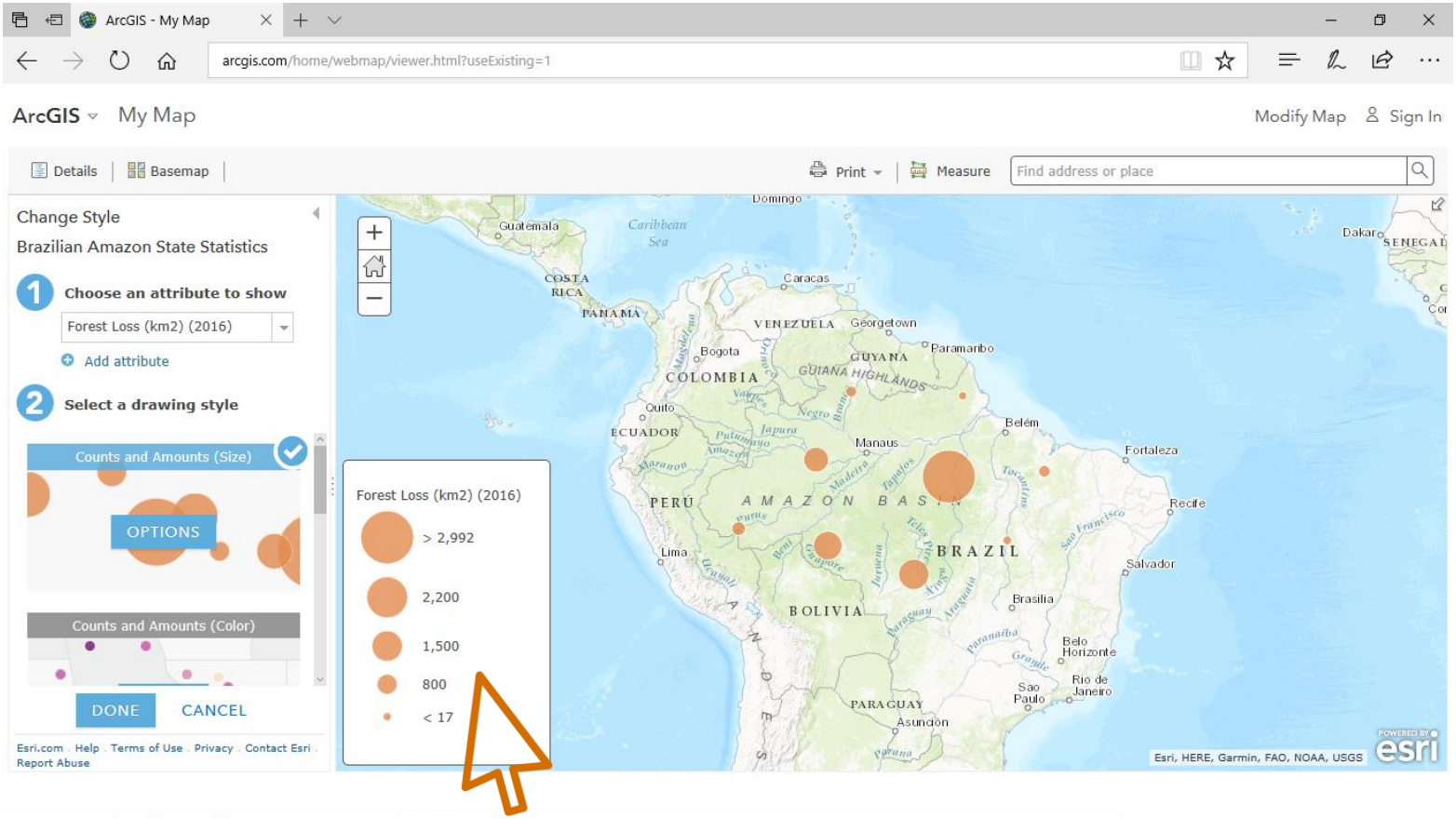
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

The default presentation method is proportional circles:



Nuffield Foundation

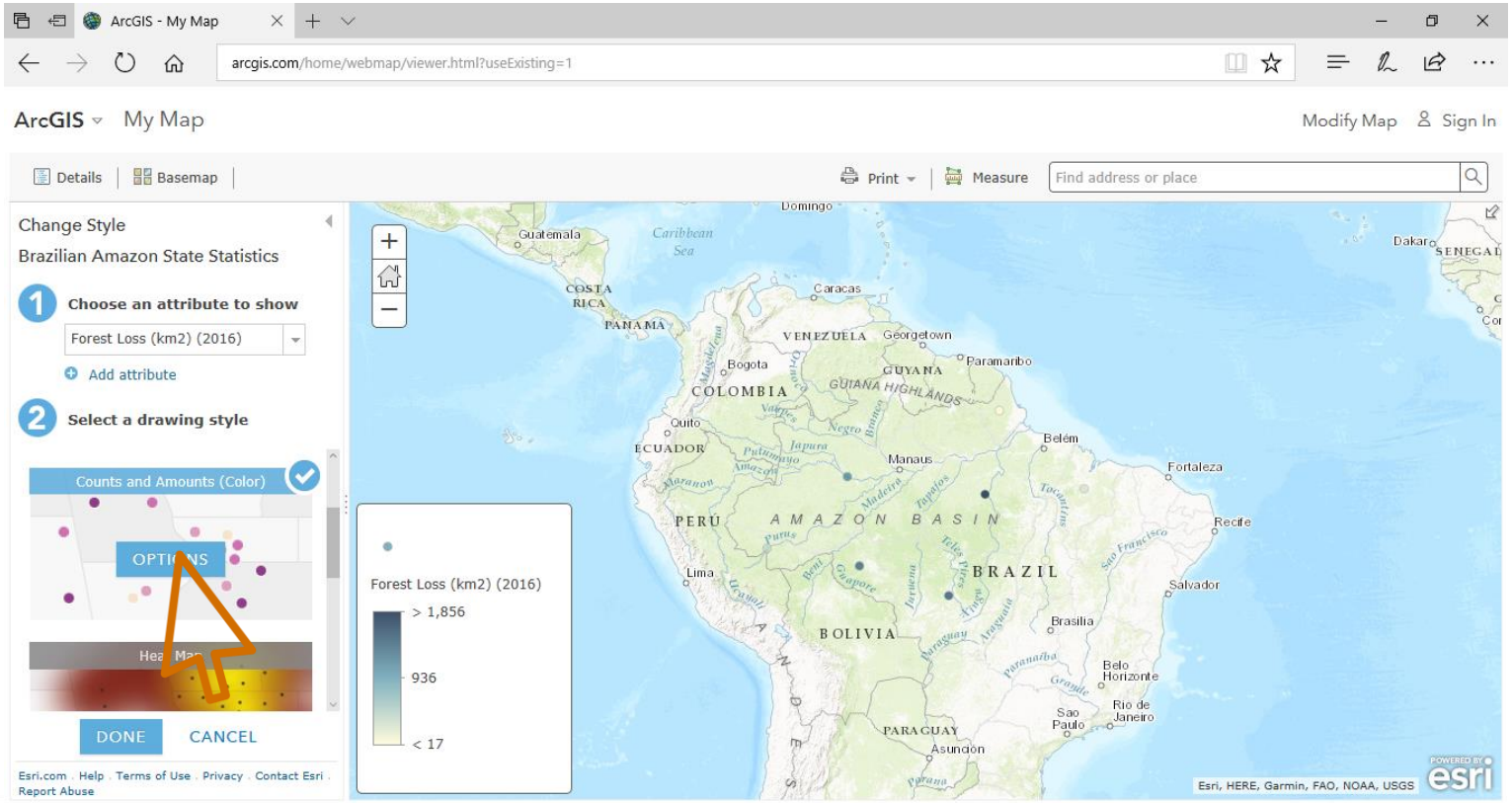
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting '<u>Counts and Amounts (Color)</u>' changes the map to choropleth shaded dots:



Nuffield Foundation

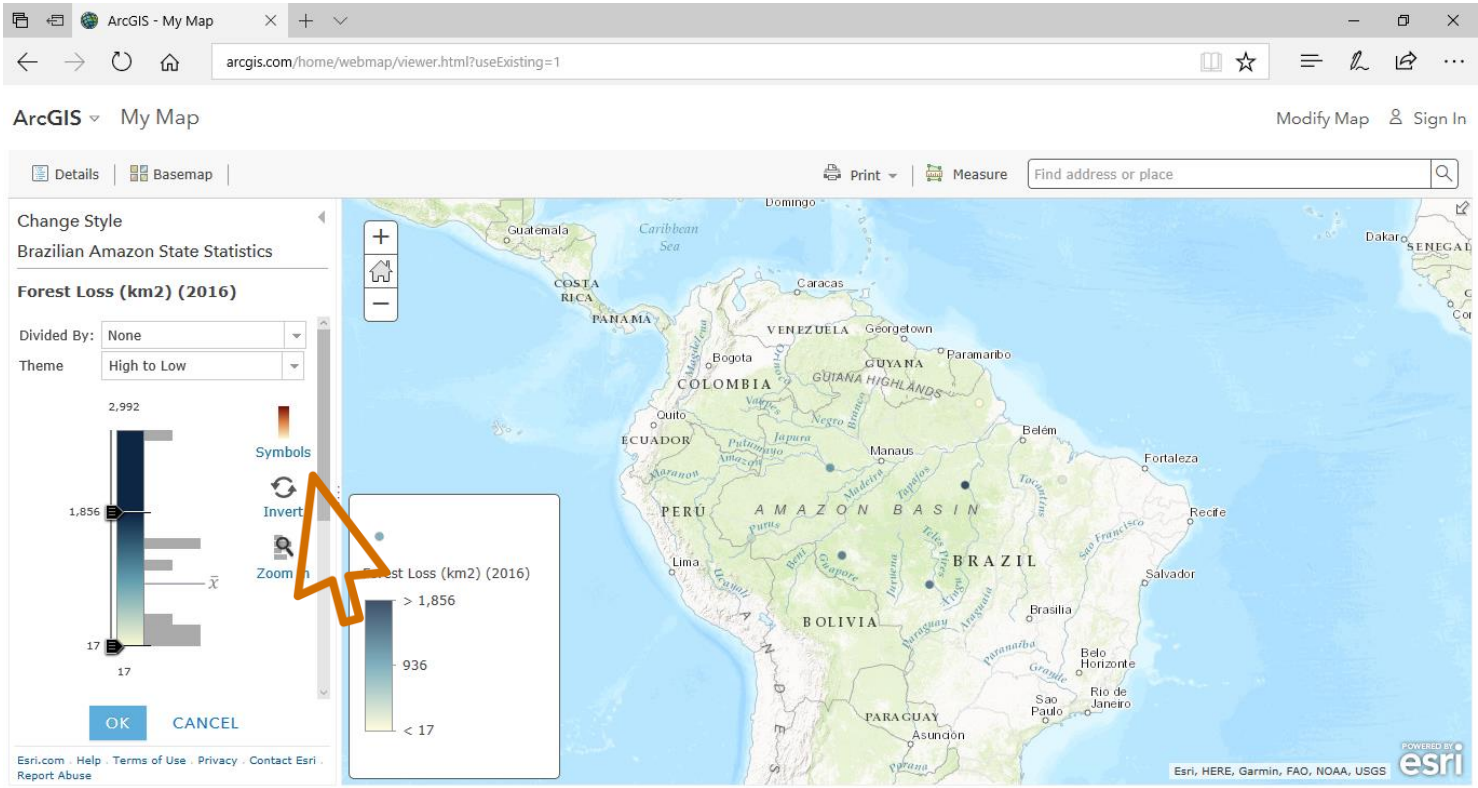
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting 'Options' and 'Symbols' gives you the ability to change the size, shape and colour palette of the choropleth shapes:



Nuffield Foundation

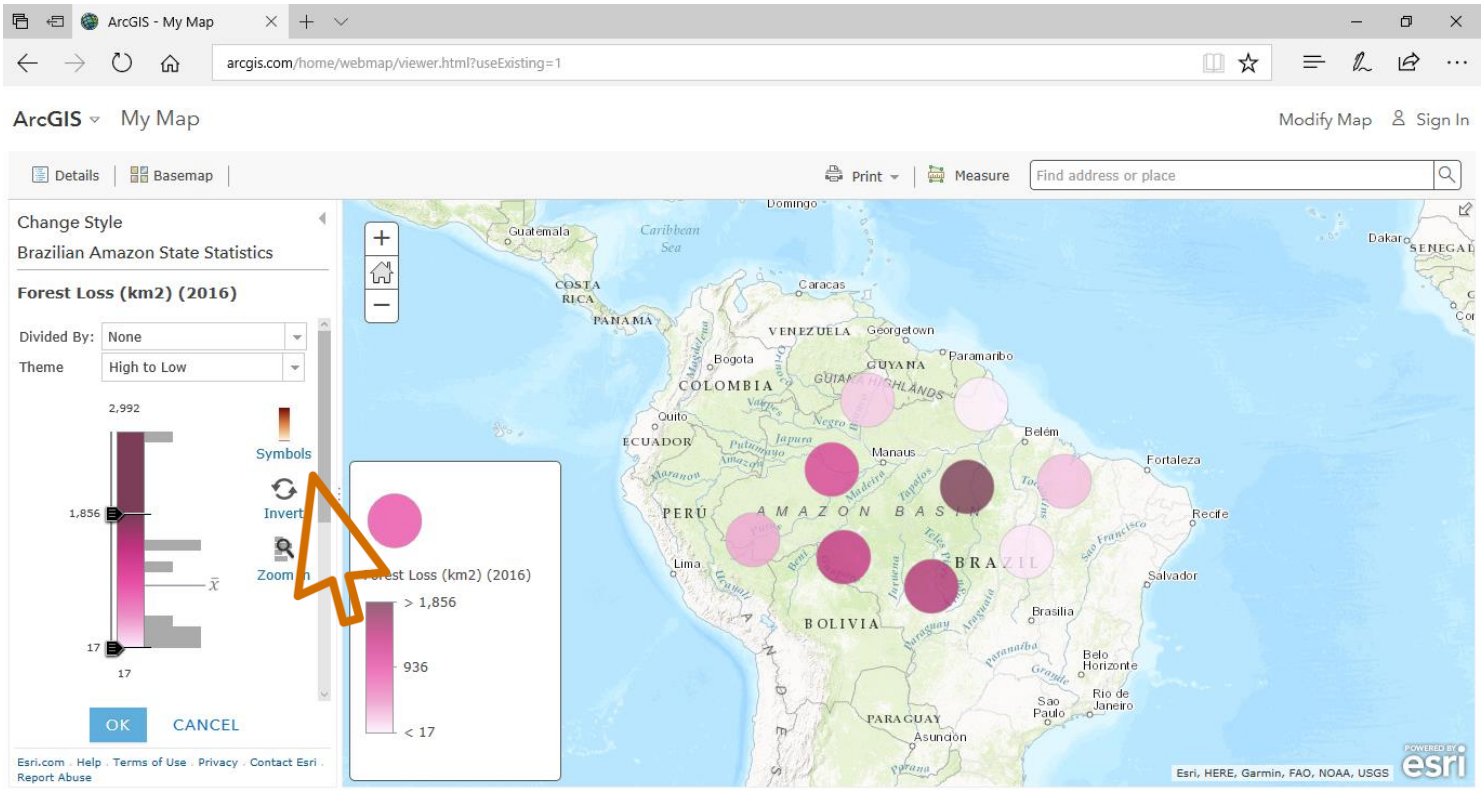
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Selecting 'Options' and 'Symbols' gives you the ability to change the size, shape and colour palette of the choropleth shapes:



Nuffield Foundation

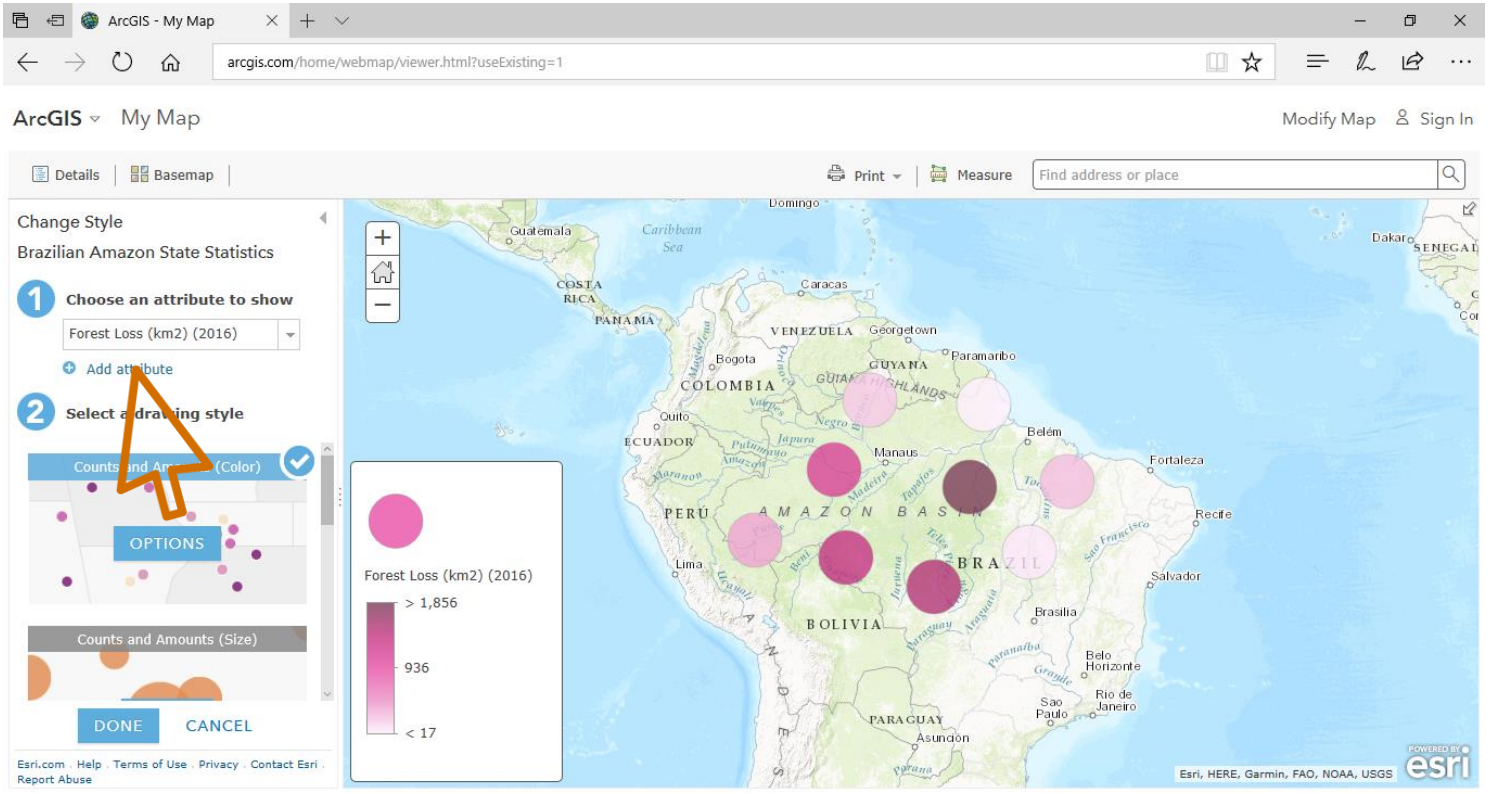
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Select 'Add attribute' to compare more than one variable from the CSV file:



Nuffield Foundation

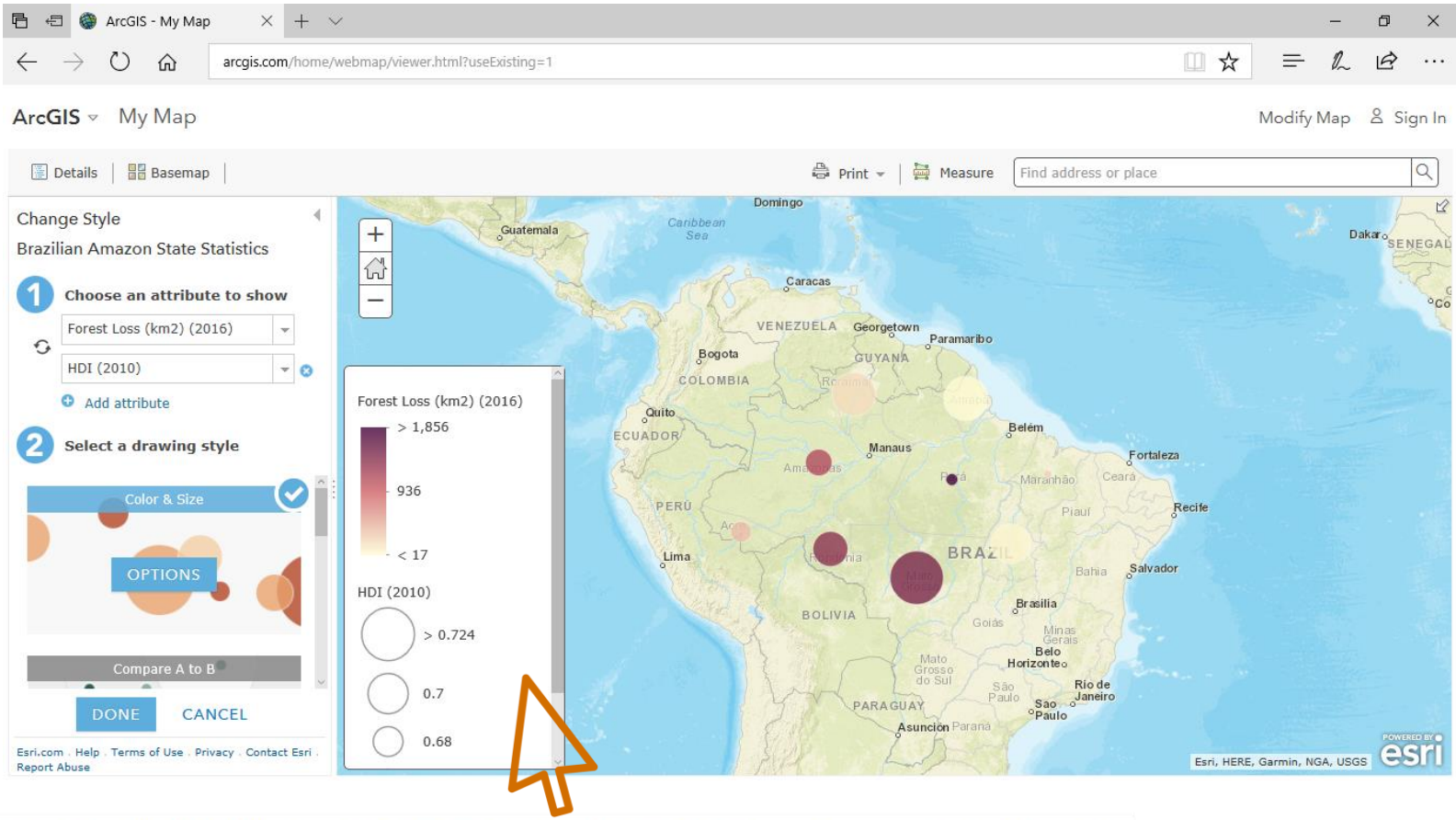
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

In this case, size and colour represent the two different variables:



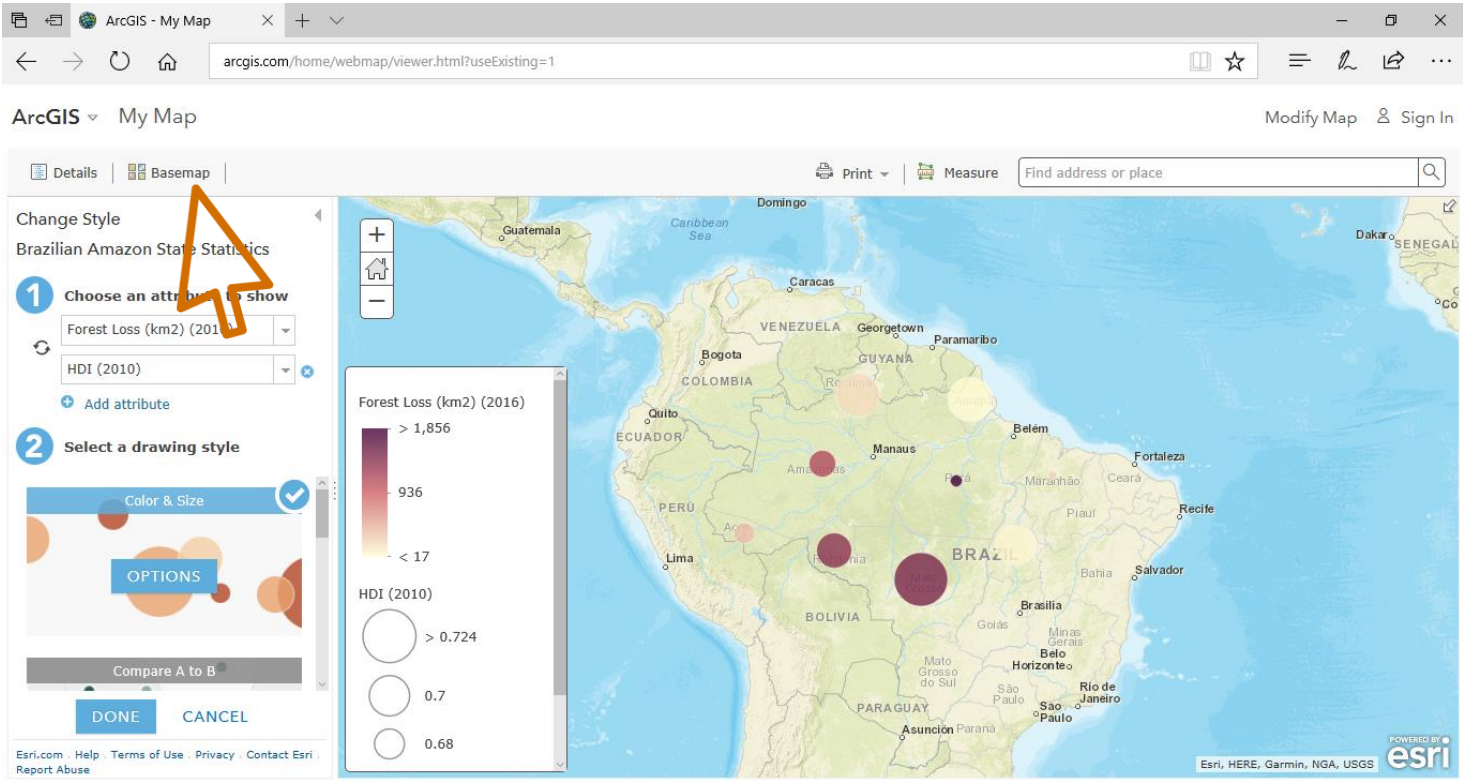
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Experiment with changing the basemap to make the data stand out, as well as with scale, colour and attribute selected:



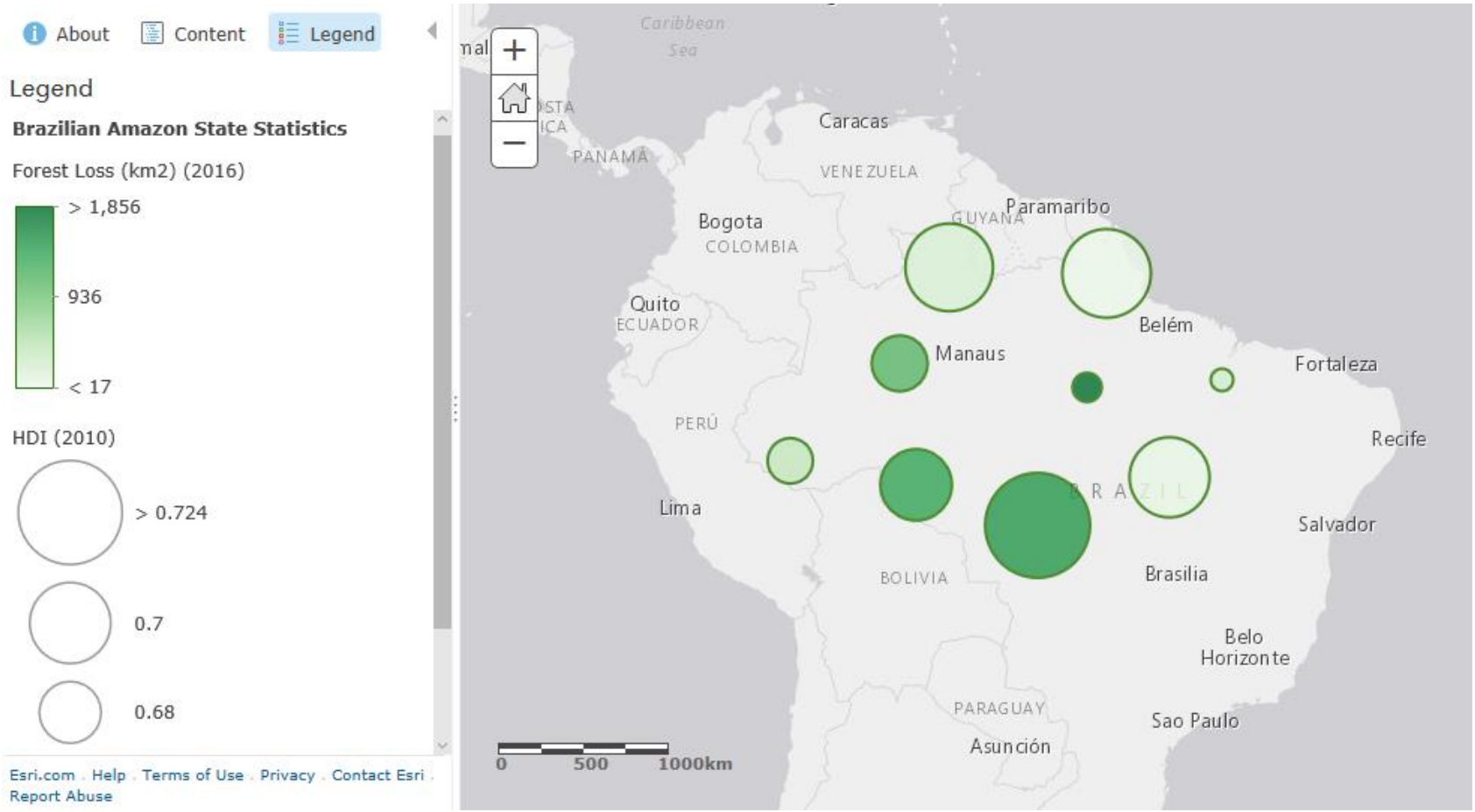
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



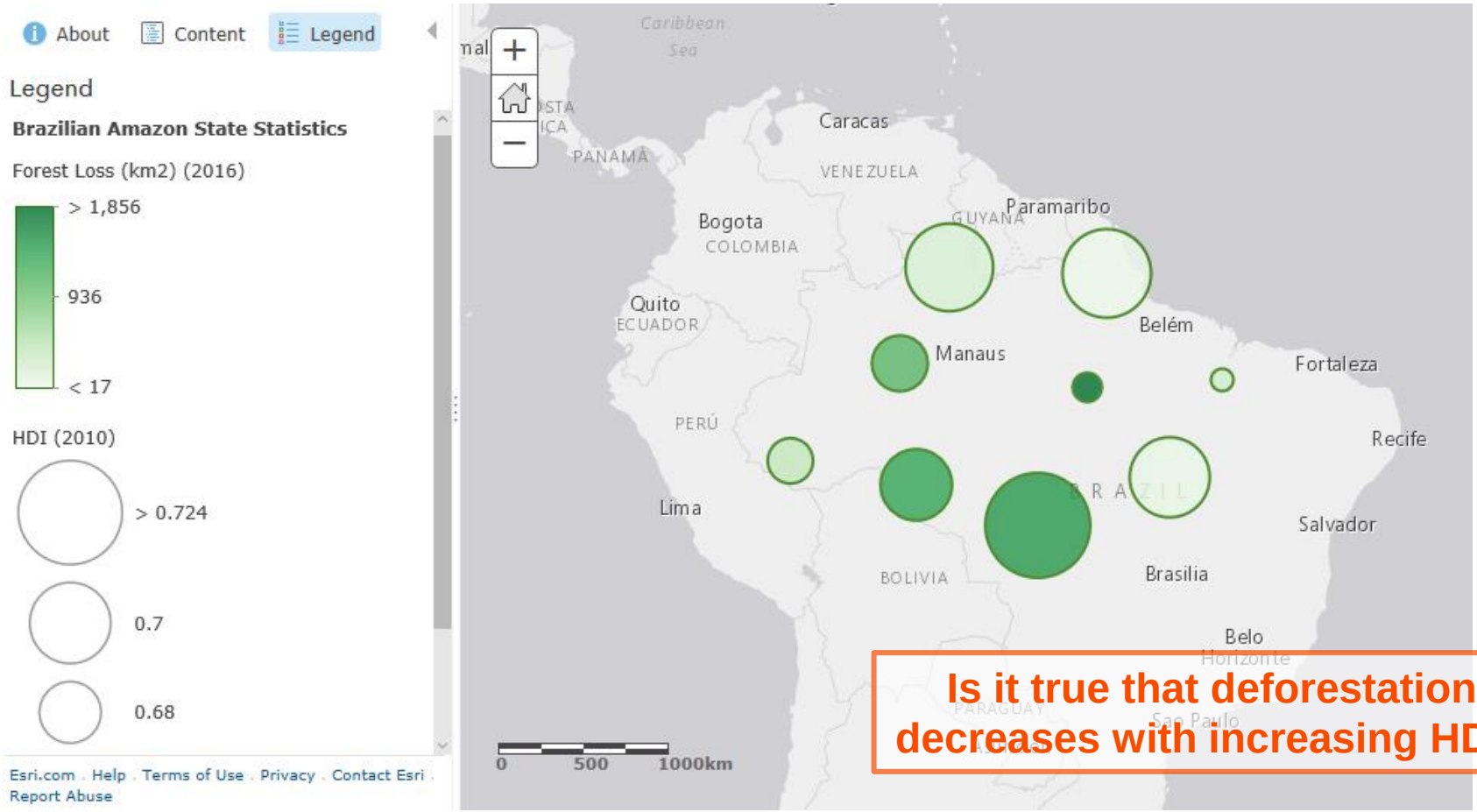
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



Is it true that deforestation decreases with increasing HDI?

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

Royal Geographical Society with IBG

Advancing geography and geographical learning

Evaluating Pie Charts

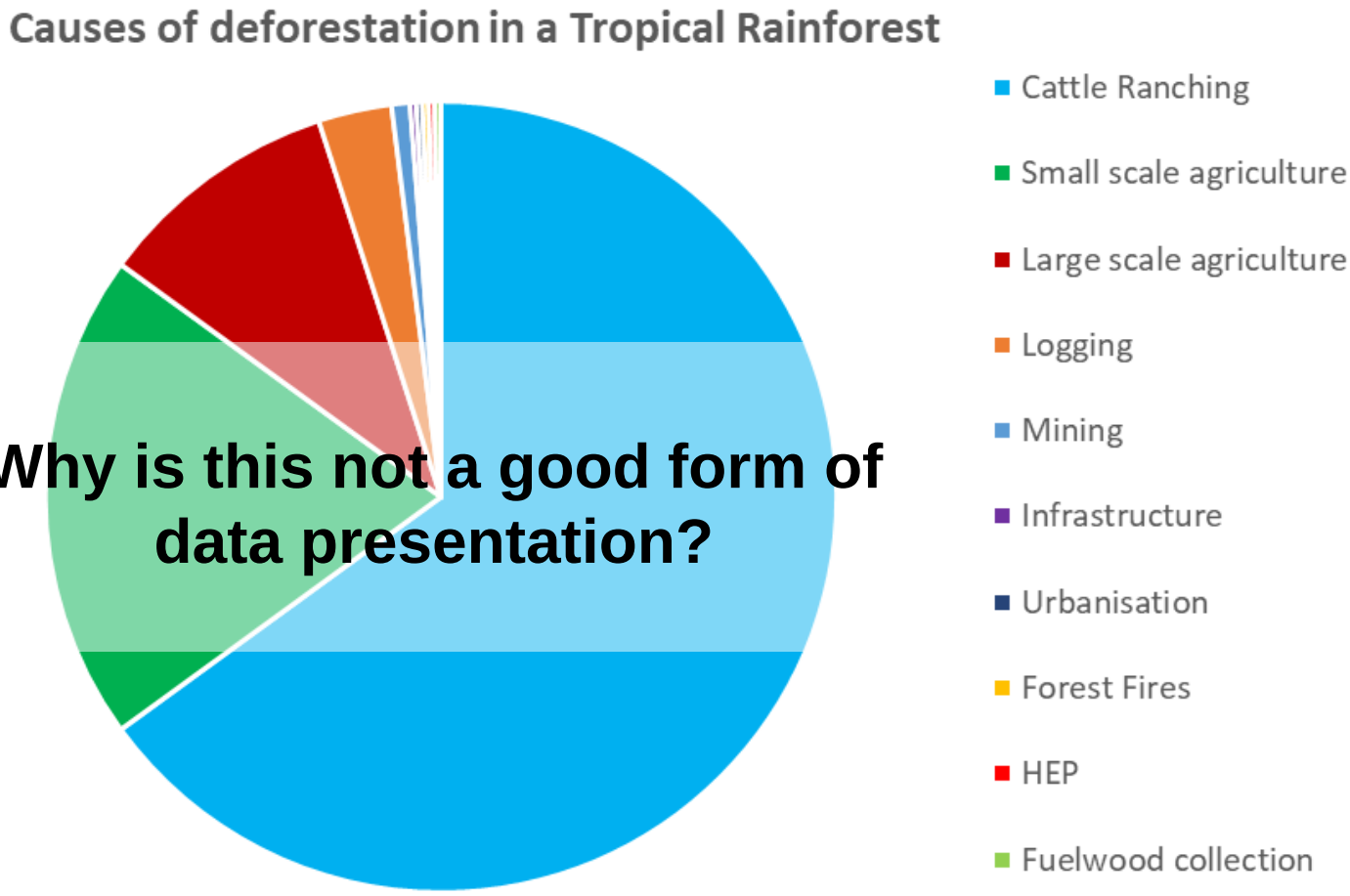
Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning



Why is this not a good form of data presentation?

Nuffield Foundation

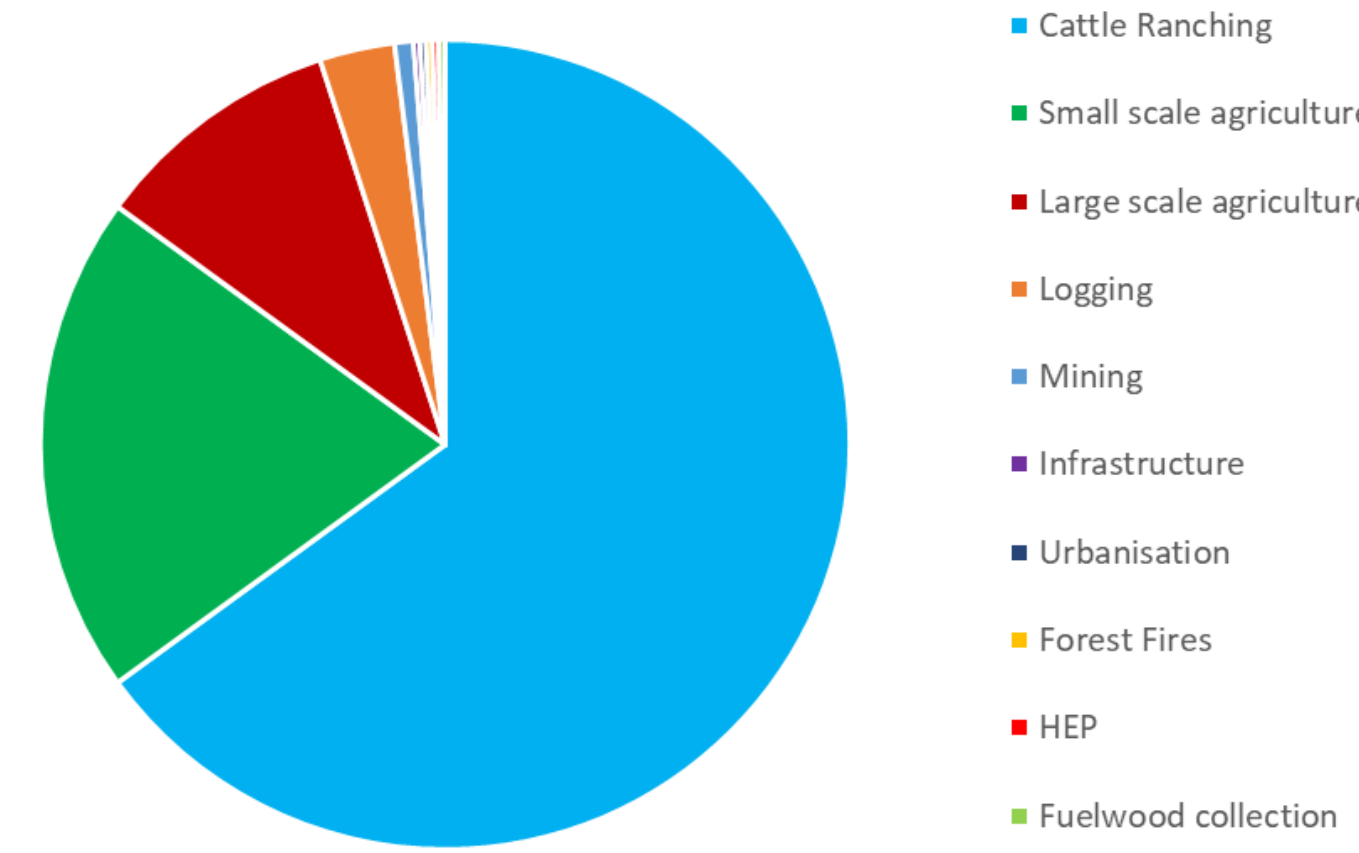
This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Causes of deforestation in a Tropical Rainforest



Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

Royal Geographical Society with IBG

Advancing geography and geographical learning

Deforestation in different countries

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.

The Future Tropical Rainforest

Royal Geographical Society with IBG

Advancing geography and geographical learning

Country	Area of forest cover (km²)	Forest Cover	Loss as % of 2004 cover	Rate of deforestation change 2004 - 2014	Loss 2001-2014
Brazil	519,191,664	61.90%	4.90%	-6.00%	38,336,733
DR Congo	199,224,295	87.10%	3.20%	22.90%	7,977,010
Indonesia	160,978,096	85.80%	9.60%	2.40%	18,507,771
Colombia	81,779,083	72.60%	2.50%	-9.70%	2,822,694
Peru	78,069,516	60.90%	2.10%	16.40%	1,949,886
Bolivia	64,520,862	60.00%	4.20%	7.50%	3,394,108
Venezuela	56,531,450	62.80%	1.80%	-13.30%	1,376,709
Angola	55,315,474	44.40%	2.60%	19.40%	1,740,011
Mexico	53,182,952	27.40%	3.70%	-9.90%	2,587,661

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.