MINI PROJECT

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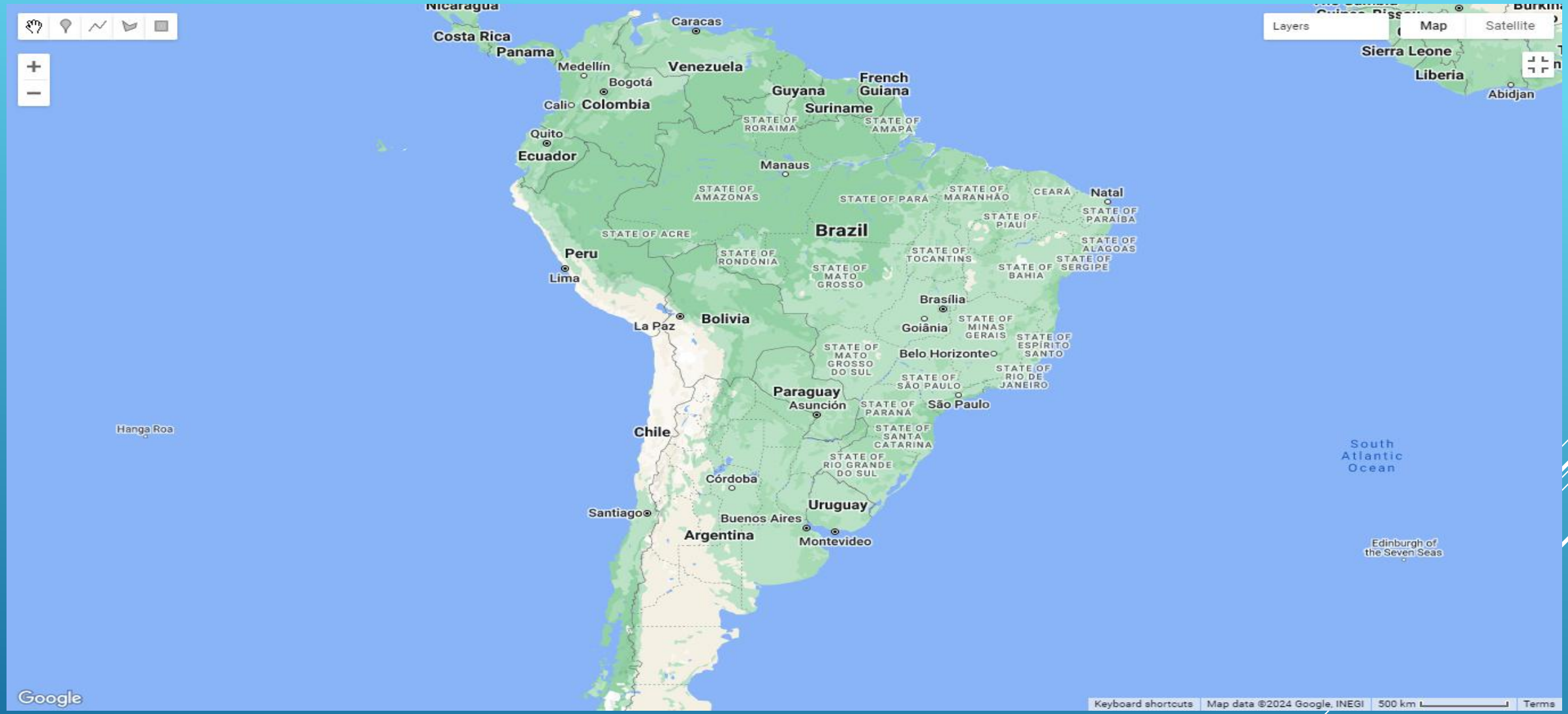
BRAZIL SOIL MOISTURE MAP 2017

INTRODUCTION

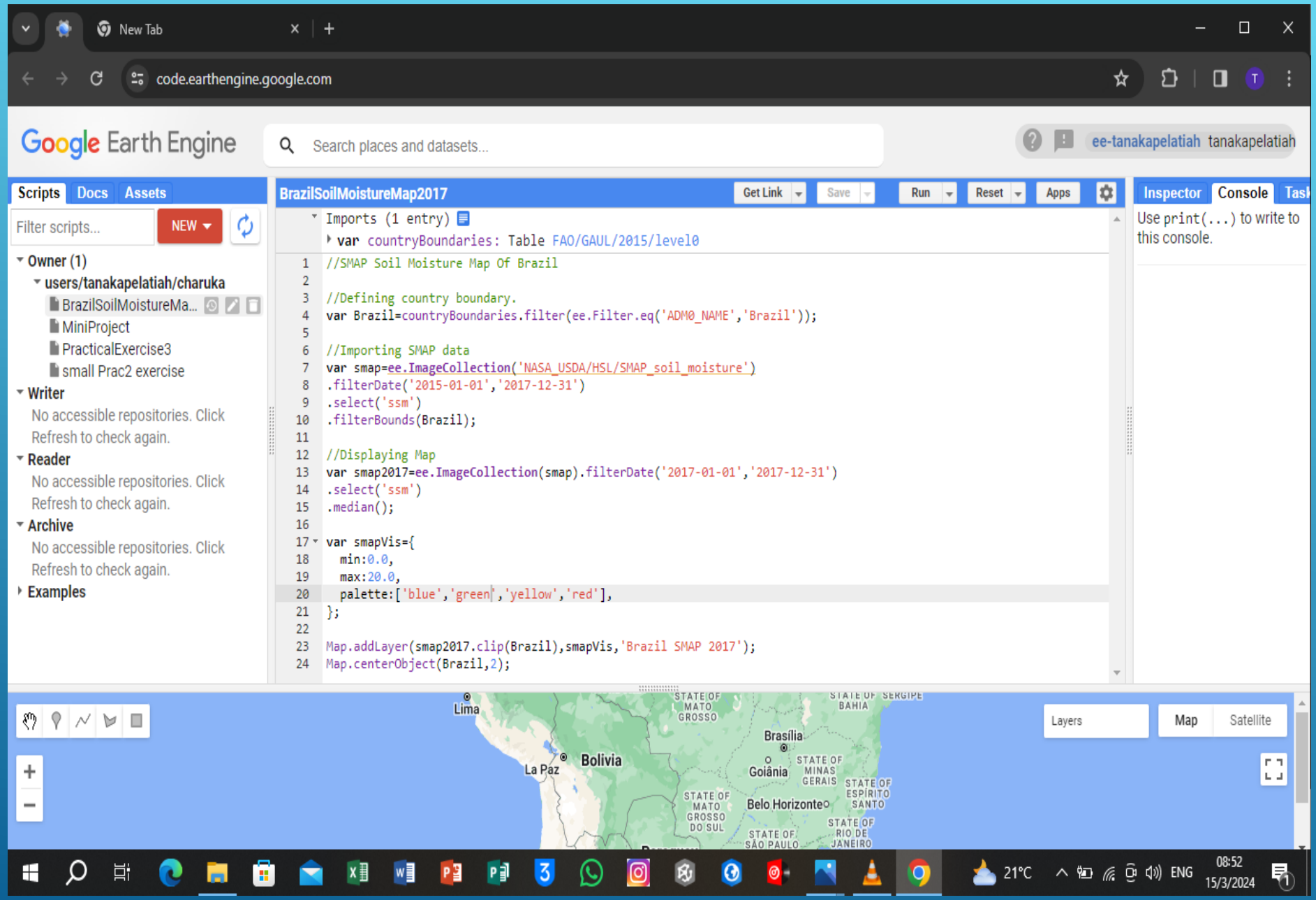
- Soil moisture is a key variable in the hydrological cycle, and it plays an important role in agricultural productivity in determining crop yields and water resources management.
- While it is difficult to measure soil moisture directly, it can be estimated using remote sensing techniques such as Google Earth Engine.
- In this mini project, Google Earth Engine was used to create a soil moisture map for Brazil for the year of 2017.
- Google Earth Engine is a cloud-based platform that allows users to analyze large amounts of geospatial data and extract meaningful information.

OBJECTIVES

- To write a functional code that will produce the required soil moisture map
- To produce a clear visual representation of Brazil's soil moisture map using Google Earth Engine.

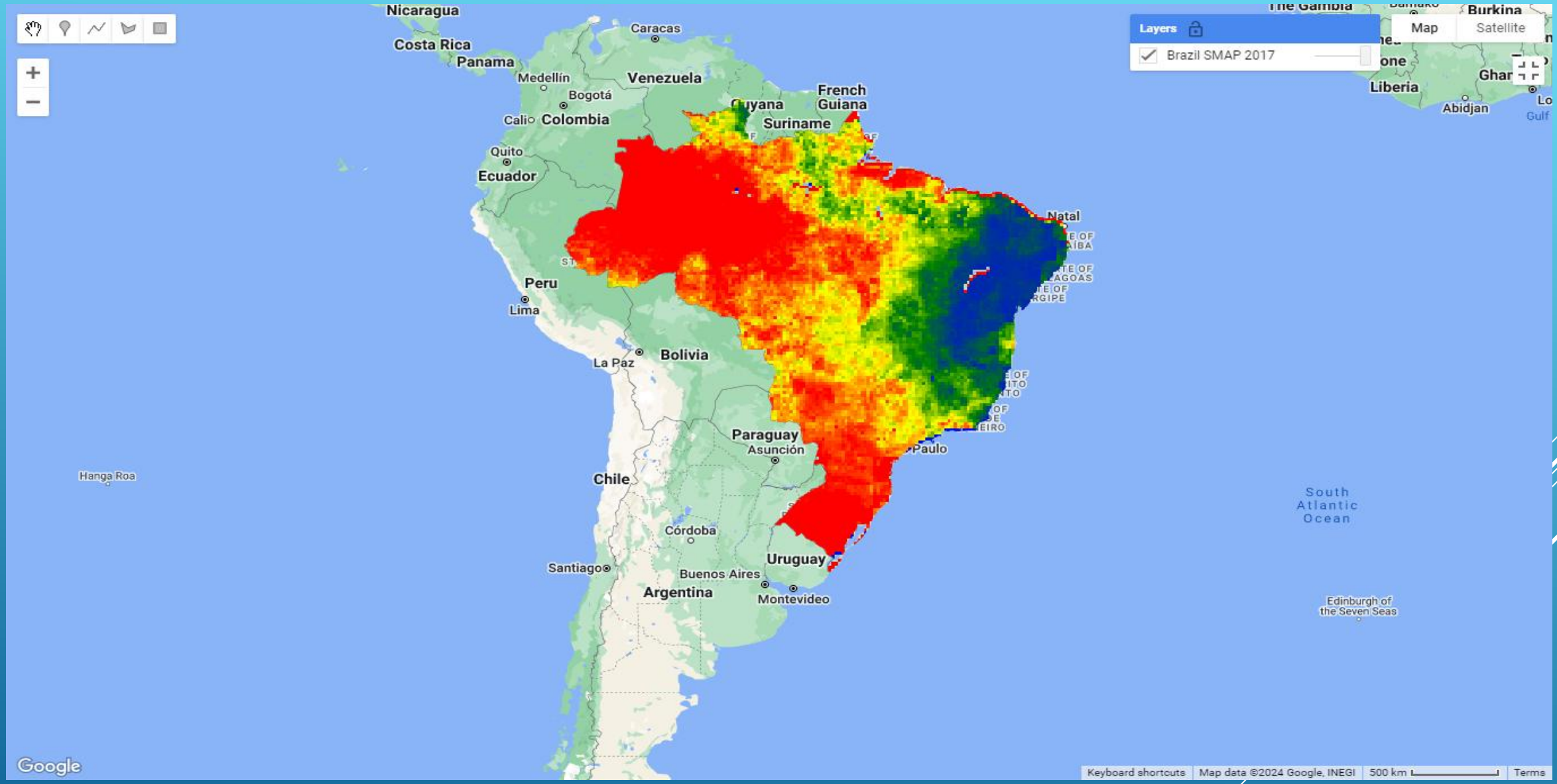


BRAZIL BEFORE SMAP LAYER



CODE

- For smap and smap2017, I selected using ‘ssm’ to only remain with soil moisture data.
- For smap2017, I filtered date to remain with only 2017 images.
- The median(), is for the aggregation of the entire image collection data to create one single image.



BRAZIL SMAP 2017

BRAZIL SMAP 2017 EXPLANATION

-The color differences indicate the different soil moistures of the country ‘BRAZIL’.

-With blue being the places of the lowest soil moisture followed by green then yellow and red being the places with the highest soil moisture

CONCLUSION

- The soil moisture map created in this project provides valuable insights into the spatial and temporal variability of soil moisture in the study area (Brazil).
- The soil moisture map is indicating its usefulness for applications such as crop yield prediction and water resource management.
- The soil moisture map can be further refined and improved by incorporating additional data sources and analysis techniques.
- Overall, this mini project has demonstrated the potential of Google Earth Engine as a powerful tool for the analysis of spatial data .