

Investigating Climate Change indicators by Clustering and Fitting

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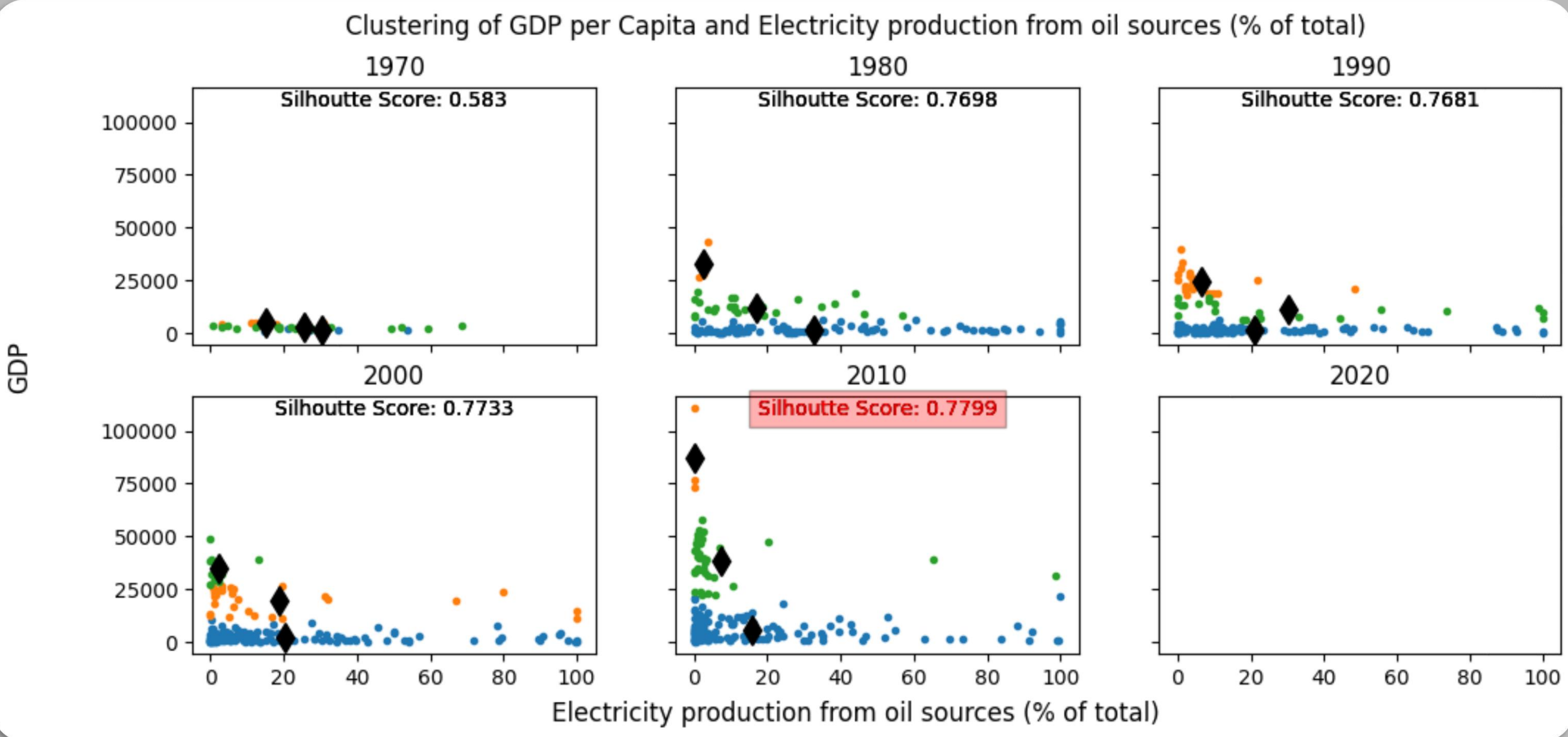
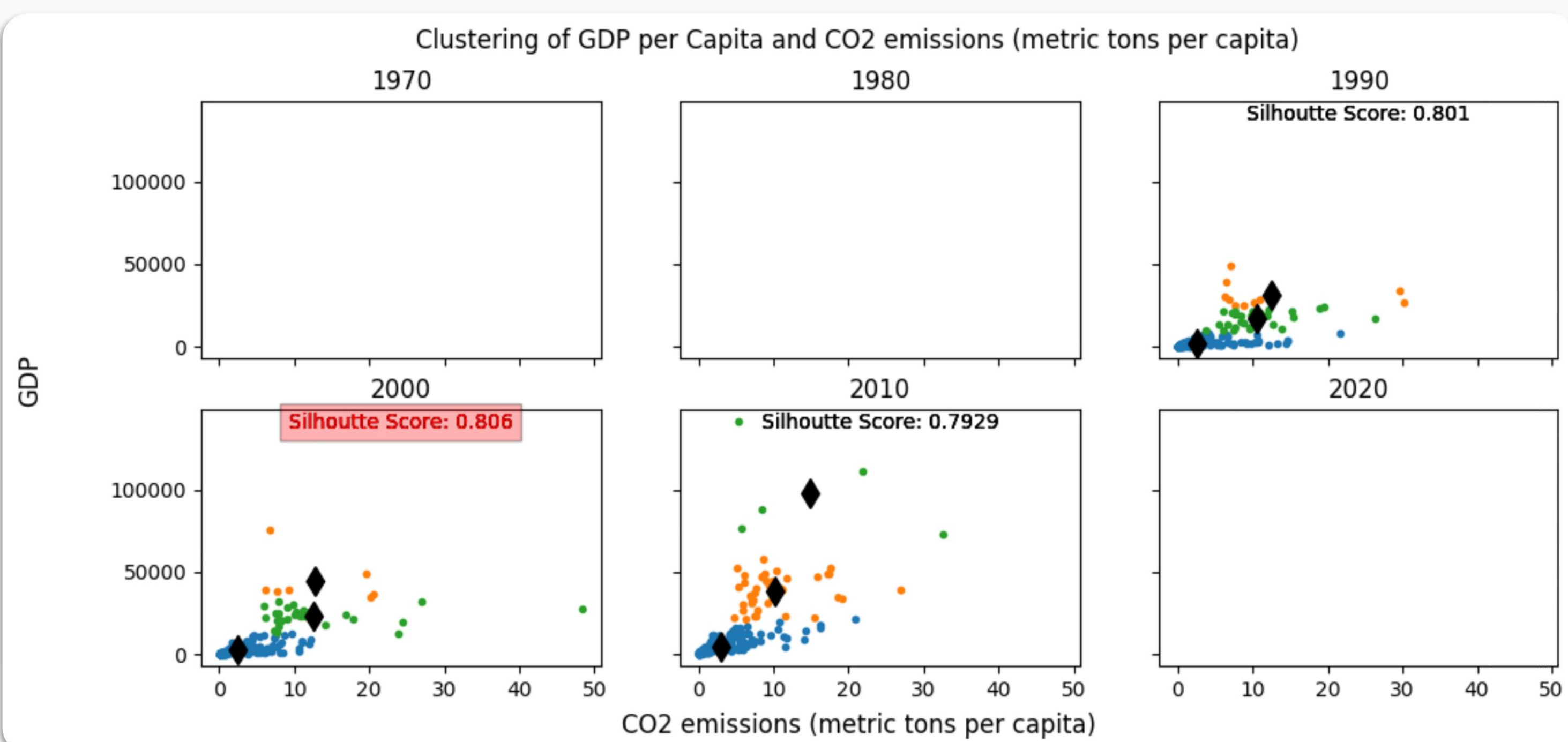
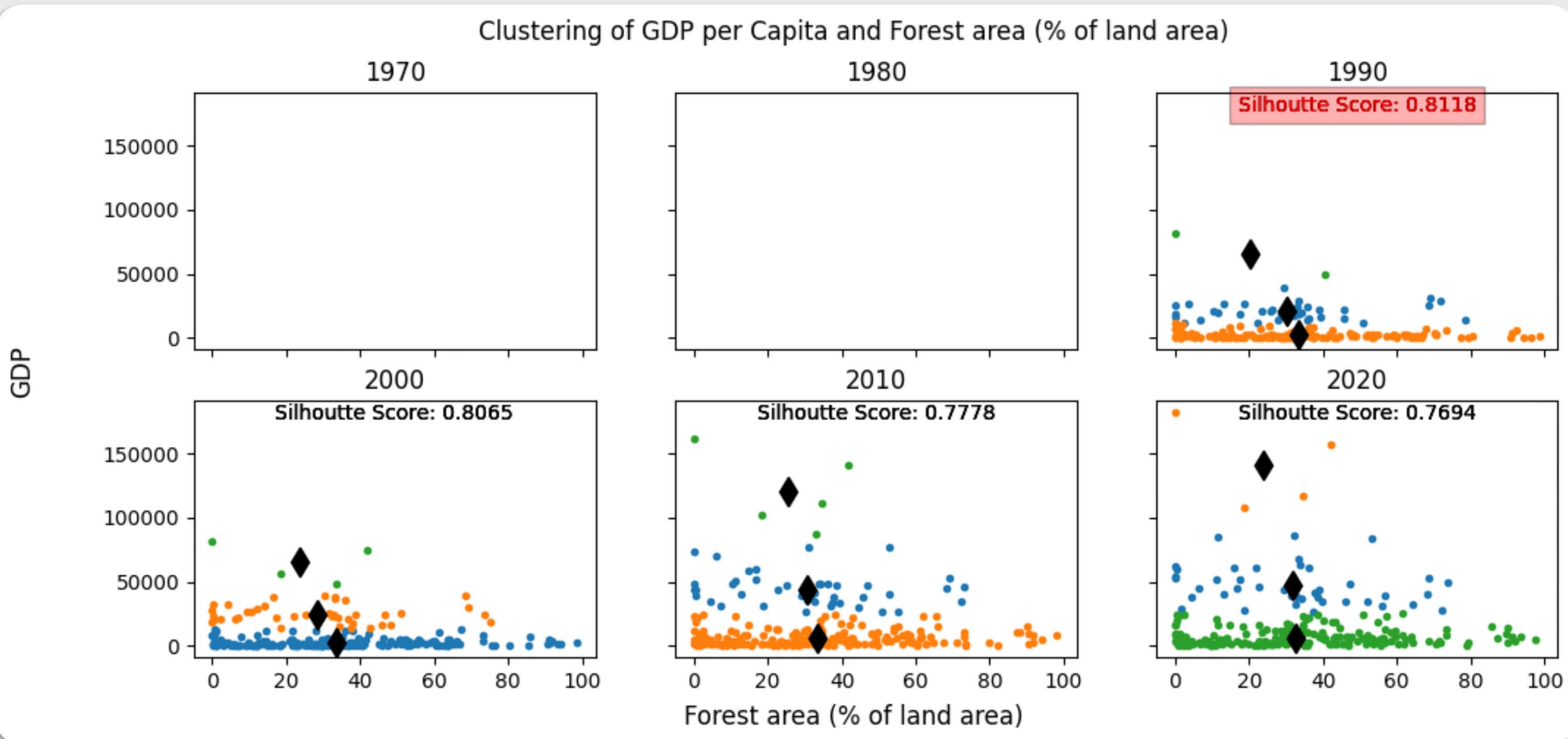
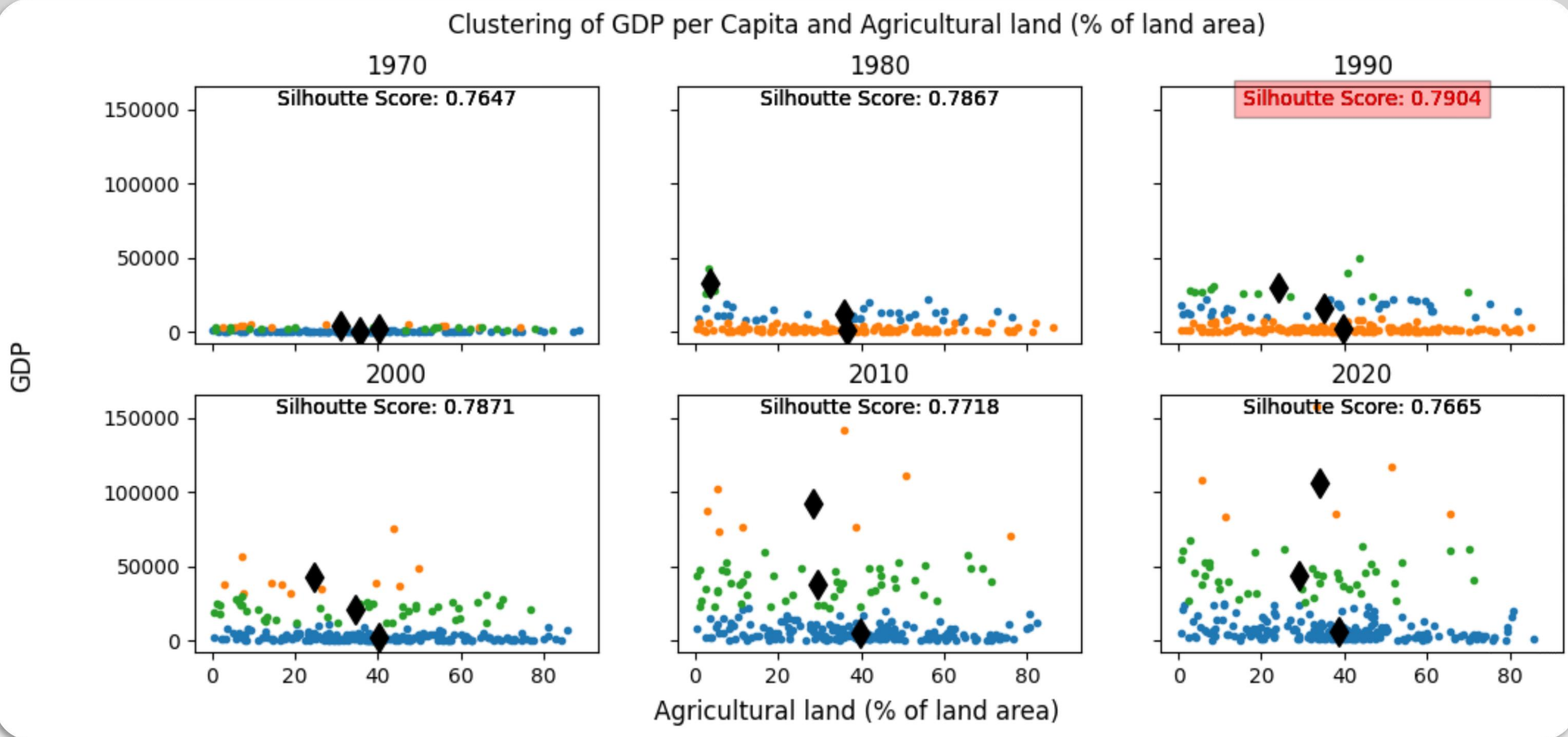
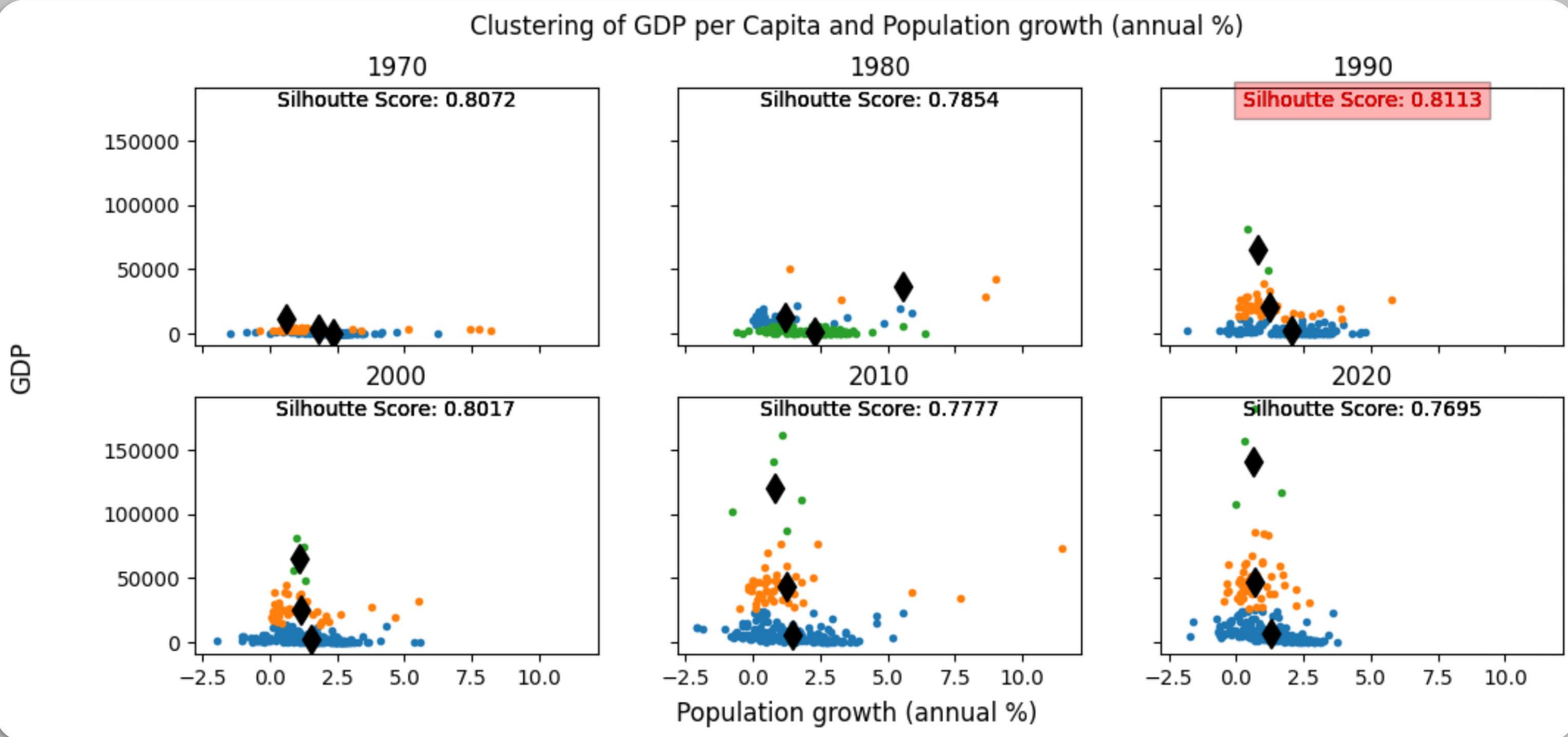
Introduction

World bank provide a huge dataset for climate change data, which consists of many indicators. This poster shows the analysis some of those indicators including the population growth, agricultural land, forest area(% of total land).

Clustering the Data

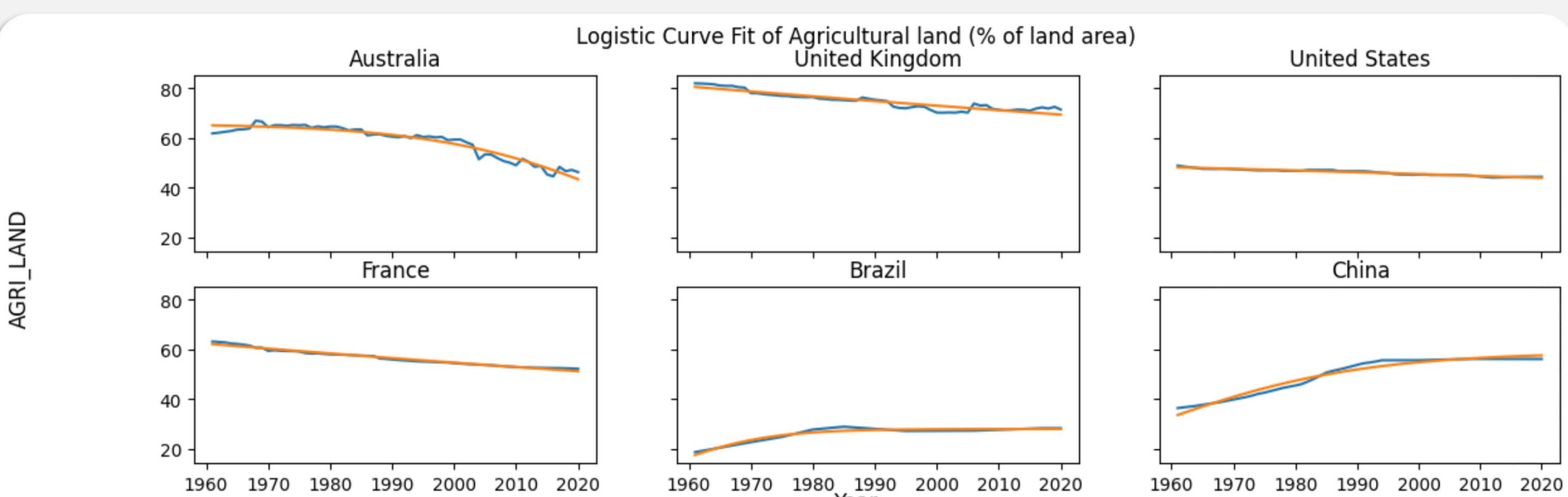
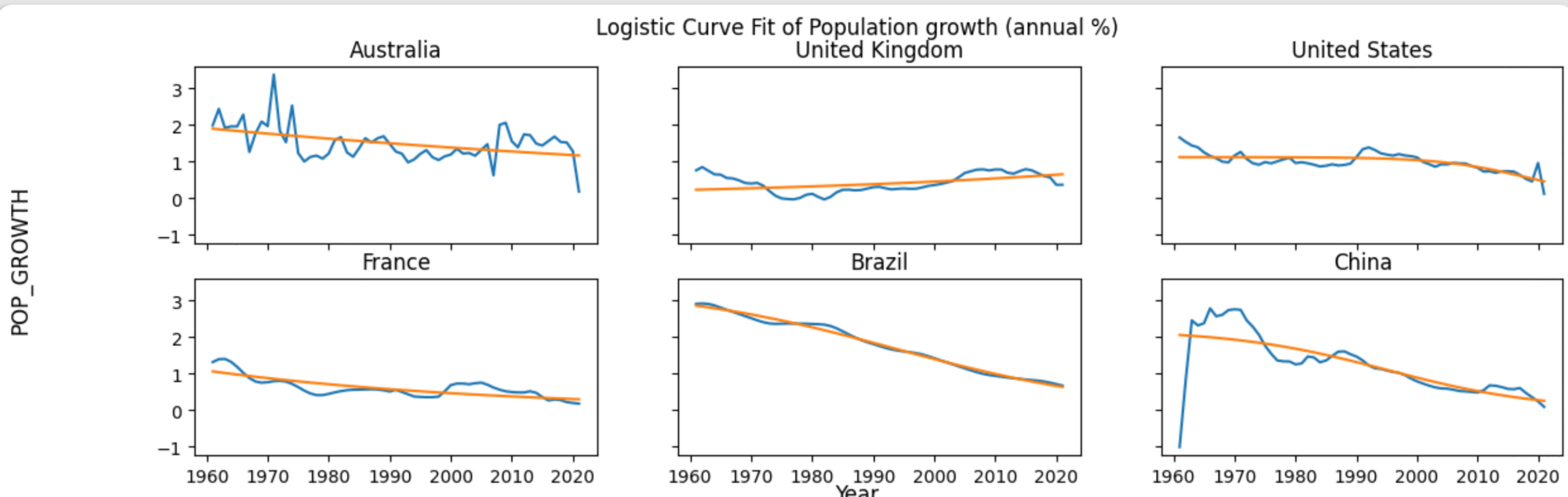
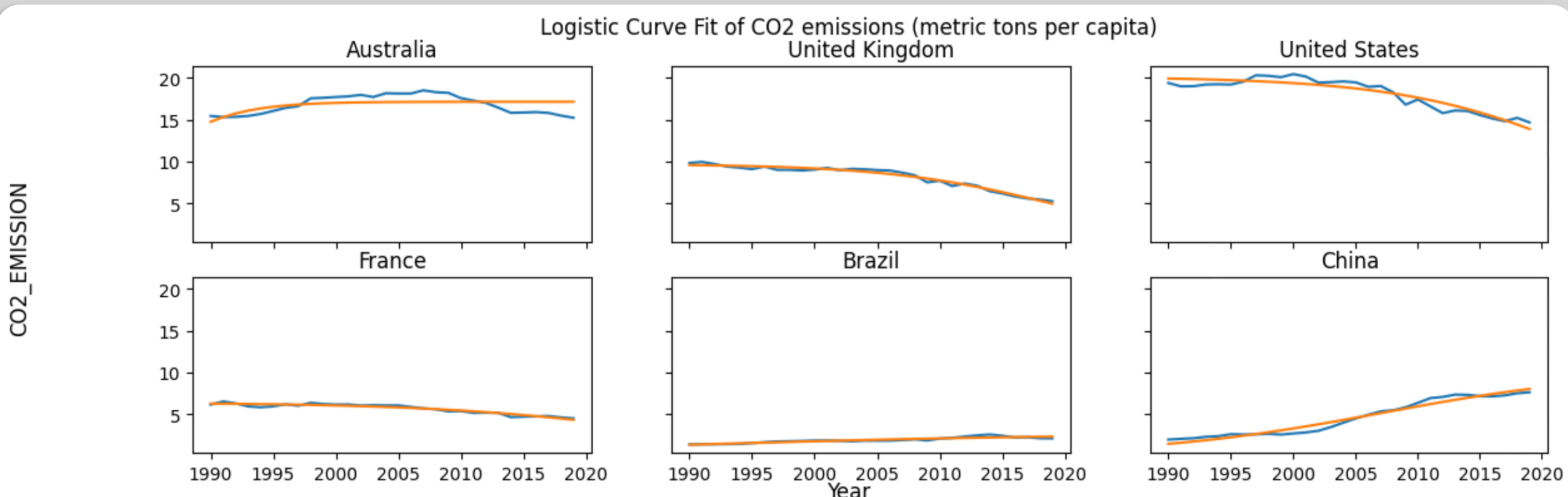
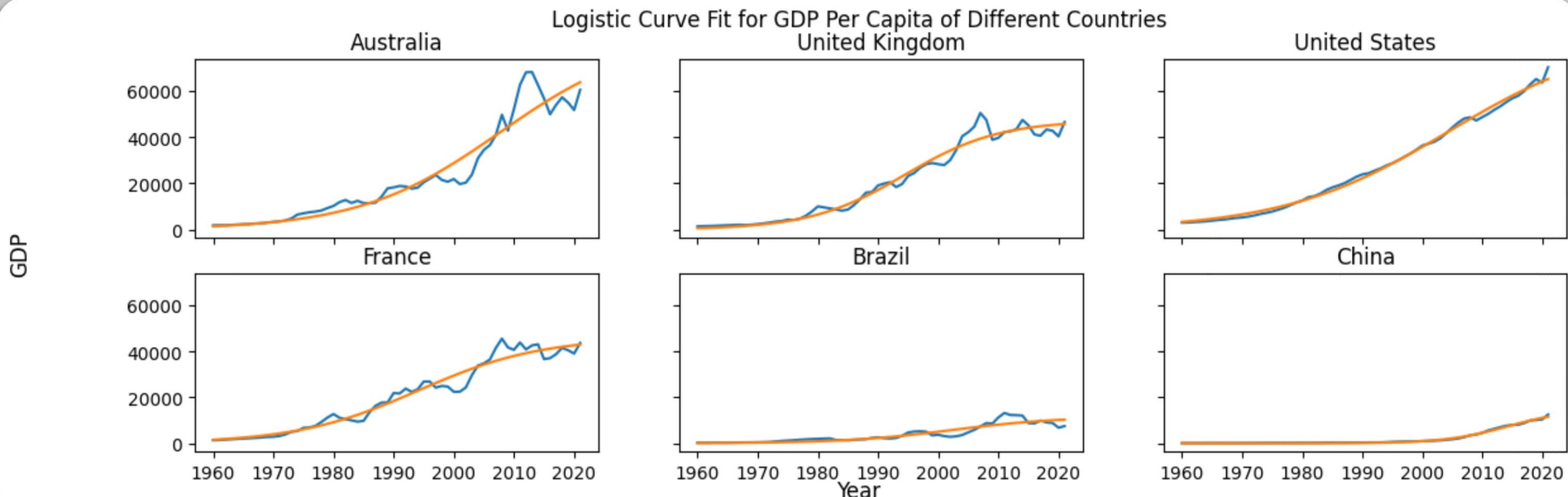
GDP per capita and the following datasets are analyzed

1. Population growth (annual %) : The countries with lower population growth had higher GDP.
2. Agricultural Land (% of land area) : minimal to no relation between GDP and agricultural land.
3. Forest Area (% of land area) : the countries with relatively lower forest area had higher GDP.
4. CO2 Emissions (metric tons per capita): There is a clear relationship between GDP and CO2 emission. The countries with higher GDP per capita had higher CO2 emission.



Fitting the Data

Different timeseries datasets of multiple countries were trained on logistic curve fit. The below graphs shows that the GDP per capita was increased rapidly in developed countries which the increment in developed countries was slow. CO2 emissions were decreased overall by it saw some increment in China. Population growth and agricultural land saw a slight decline.



Summary

It can be concluded from the clustering part that the countries with higher GDP per capita had:

- Lower population growth
- Higher CO2 emissions

The fitting part concludes that:

- Developed countries saw a steep rise in their GDP per capita a slight decrement in CO2 emission, population growth and agricultural land.
- Developing countries saw a relatively lower increase in GDP per capita Brazil and China faced population decline and an increment in their agricultural land.