

America May or May not be Great Anymore... but it's Certainly Different

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That's a Great Question

A certain "savvy" politician has made a habit of claiming that America must be made great again. Though it is certainly difficult to objectively state what makes a "great country", there are certain metrics that we can assess. We set out to answer the question "How has America's performance in the global community changed?" We've done this by grouping countries based on similar features.

I've Seen The Data, it's Great

We've collected our data from the World Bank DataBank, an online collection of various world development datasets. We've created four subsets of that data which we wanted to explore: Education, Environment, Health, and Economics.

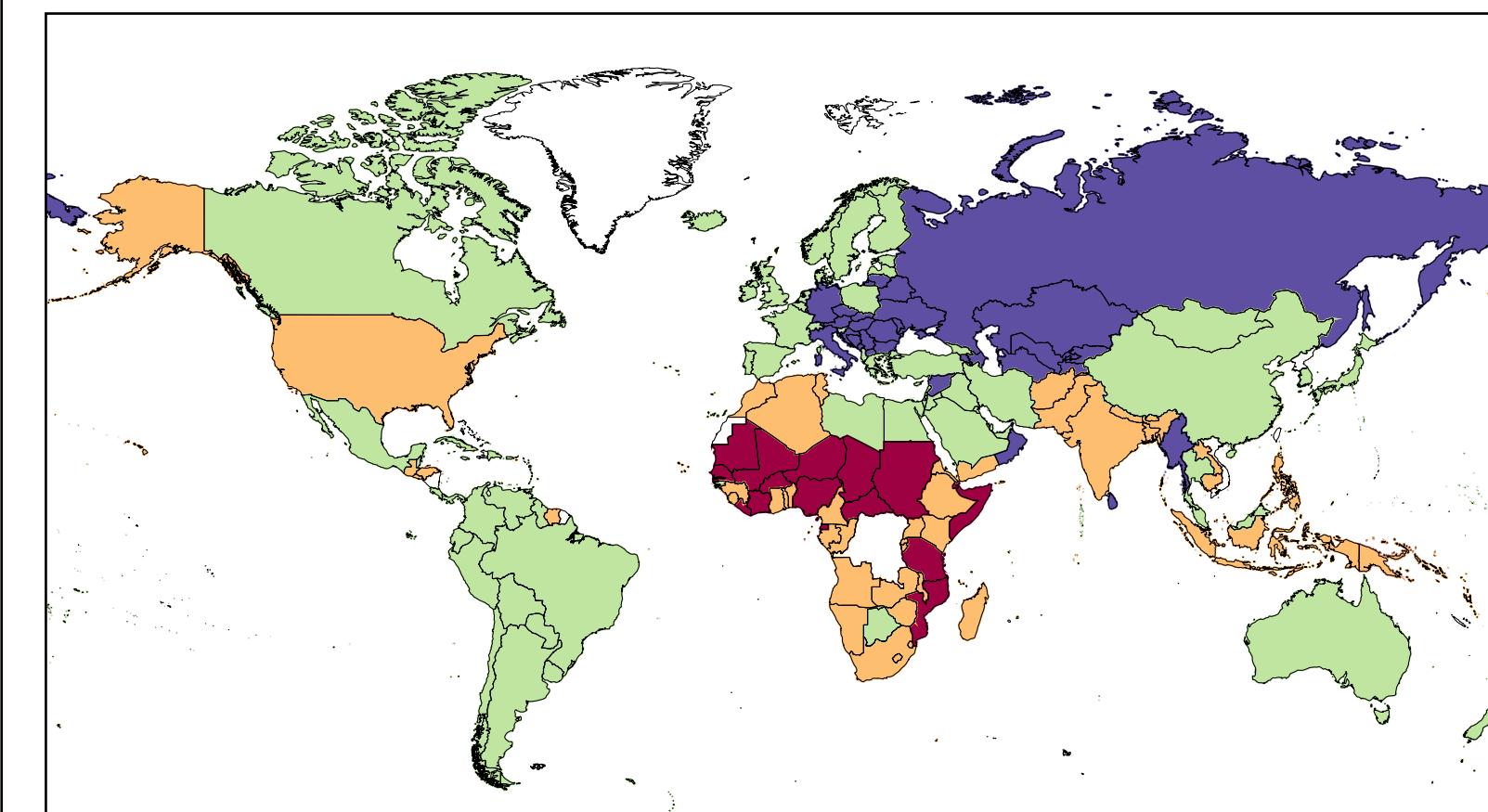
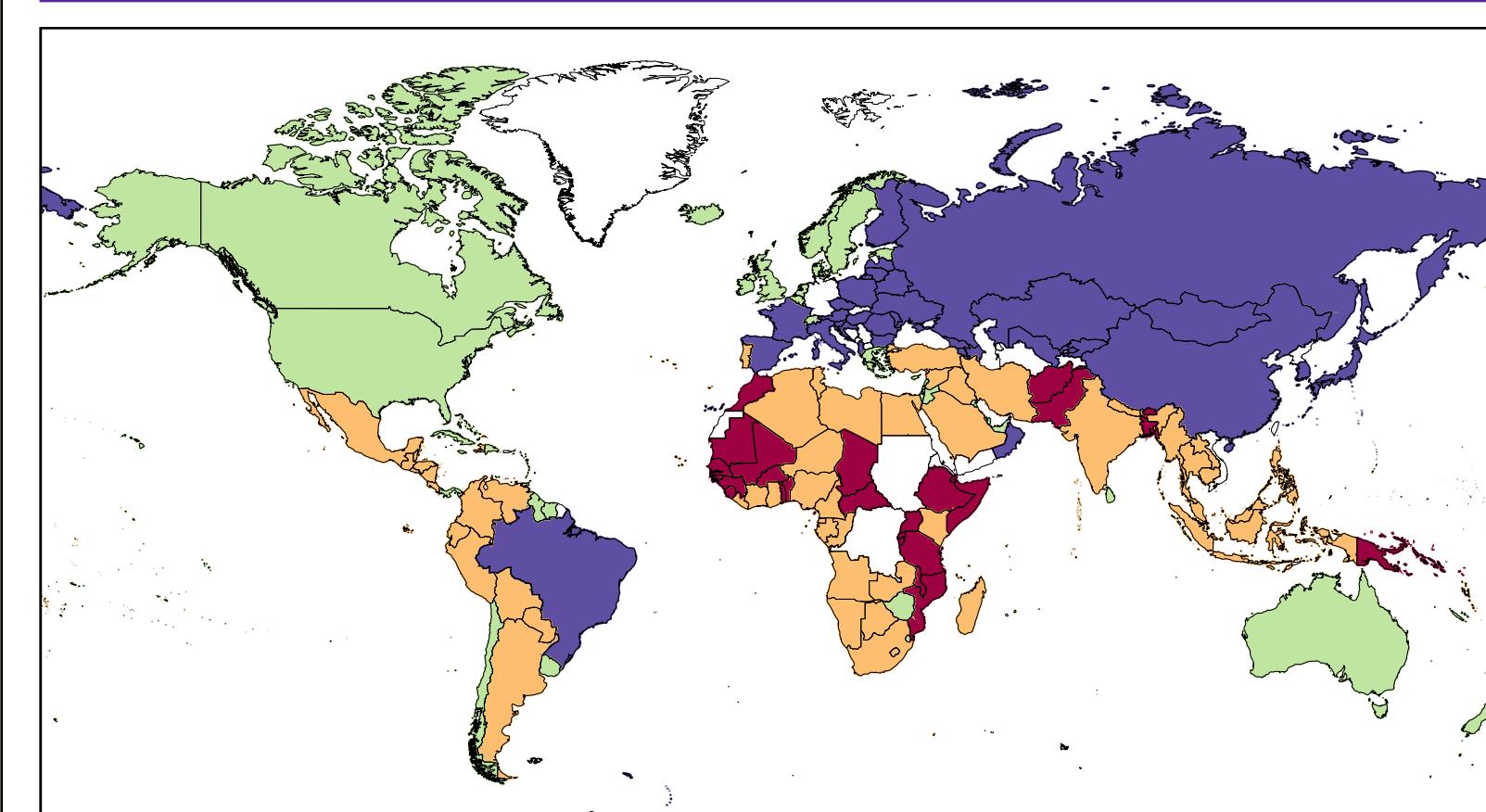
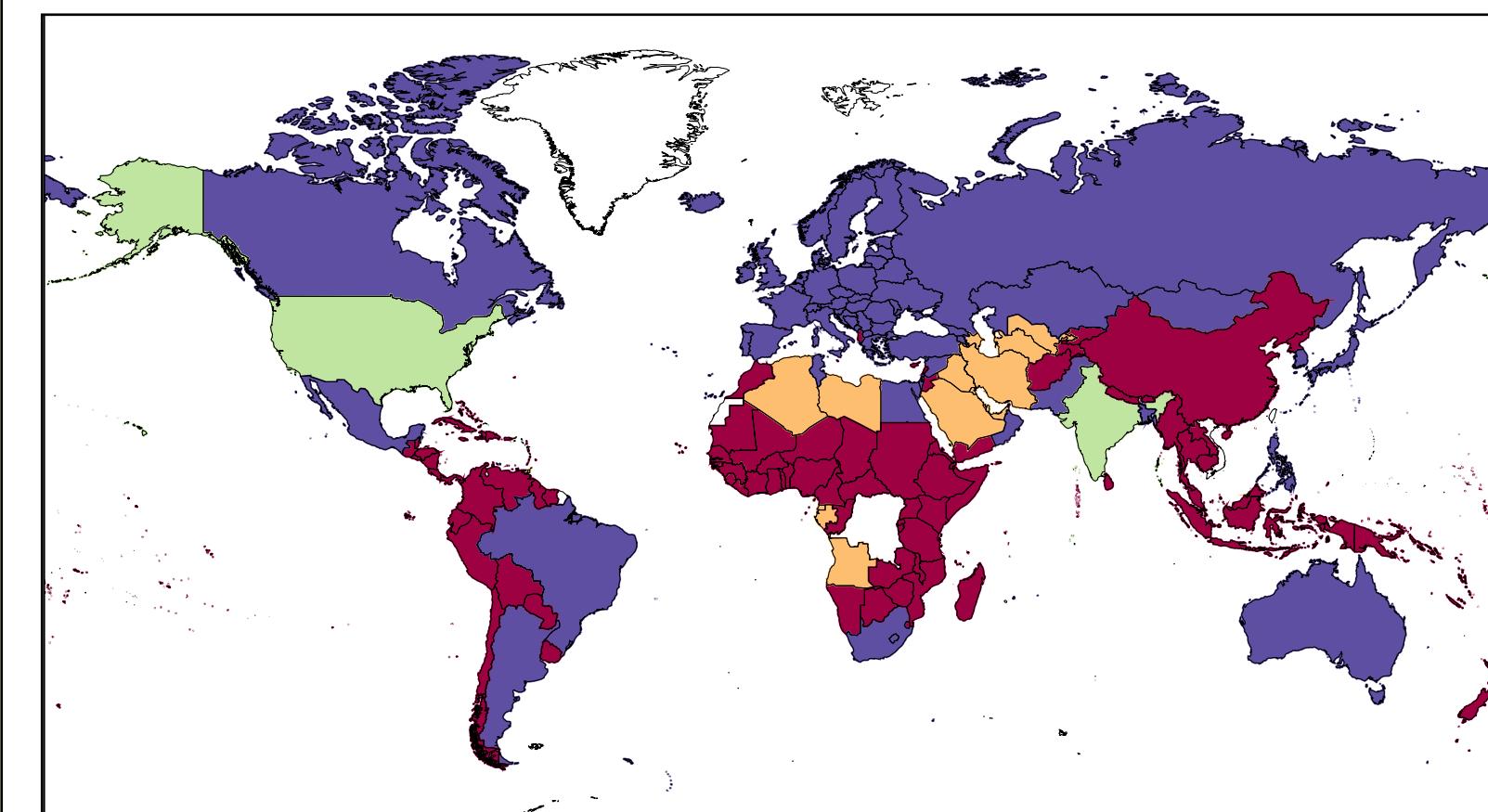
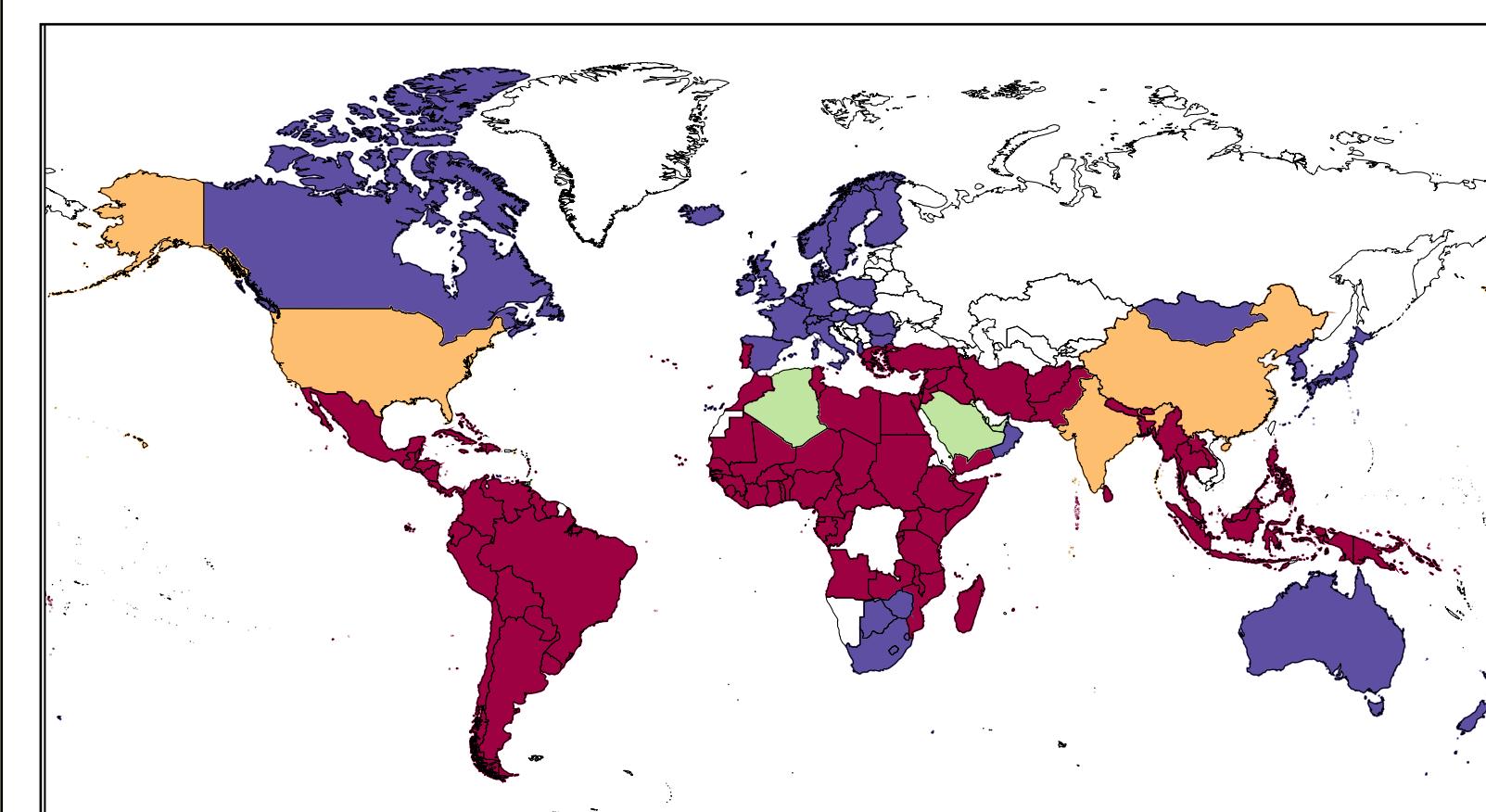
For each category, we've displayed a grouped map of the Ronald Reagan years, 1983–1988, often touted as the golden age by American conservatives, on top. Below it is the post-subprime mortgage crisis Barack Obama years, 2011–2015, often considered the most successful of his presidency.

I Do Great Business with this Model

We are using an unsupervised learning algorithm to perform our analysis of the feature sets. We use agglomerative clustering to group countries together by similarities in their feature sets. Agglomerative clustering operates by recursively creating clusters while minimizing various attributes based on the linkage criteria. We used a Ward linkage, which means that the algorithm was attempting to minimize the error sum of squares within each cluster.

For each Obama administration map, we've also calculated the average values for each feature in each cluster, and then compared them across clusters. We've reported the features with the largest magnitude of difference in terms of standard deviation, and also supplied a short commentary on what the clustering patterns between administrations represent in each feature set.

Let Us Show You



Interestingly enough, here the US actually shifted toward the blue end of the spectrum. In the Reagan era, the US was grouped practically alone with China and India. China became red, and both India and the US became green by the Obama administration. This is the one field where the US actually moved closer to Western Europe. The blue countries had more liquid CO2 emissions and urban population growth, and less gaseous fuel emissions than the red countries.

Comparing Extremes

CO2 emisn. from liquid fuel consumption (% tot)	+1.35
CO2 emisn. from gaseous fuel consumption (% tot)	-0.97
Annual urban population growth %	+0.92

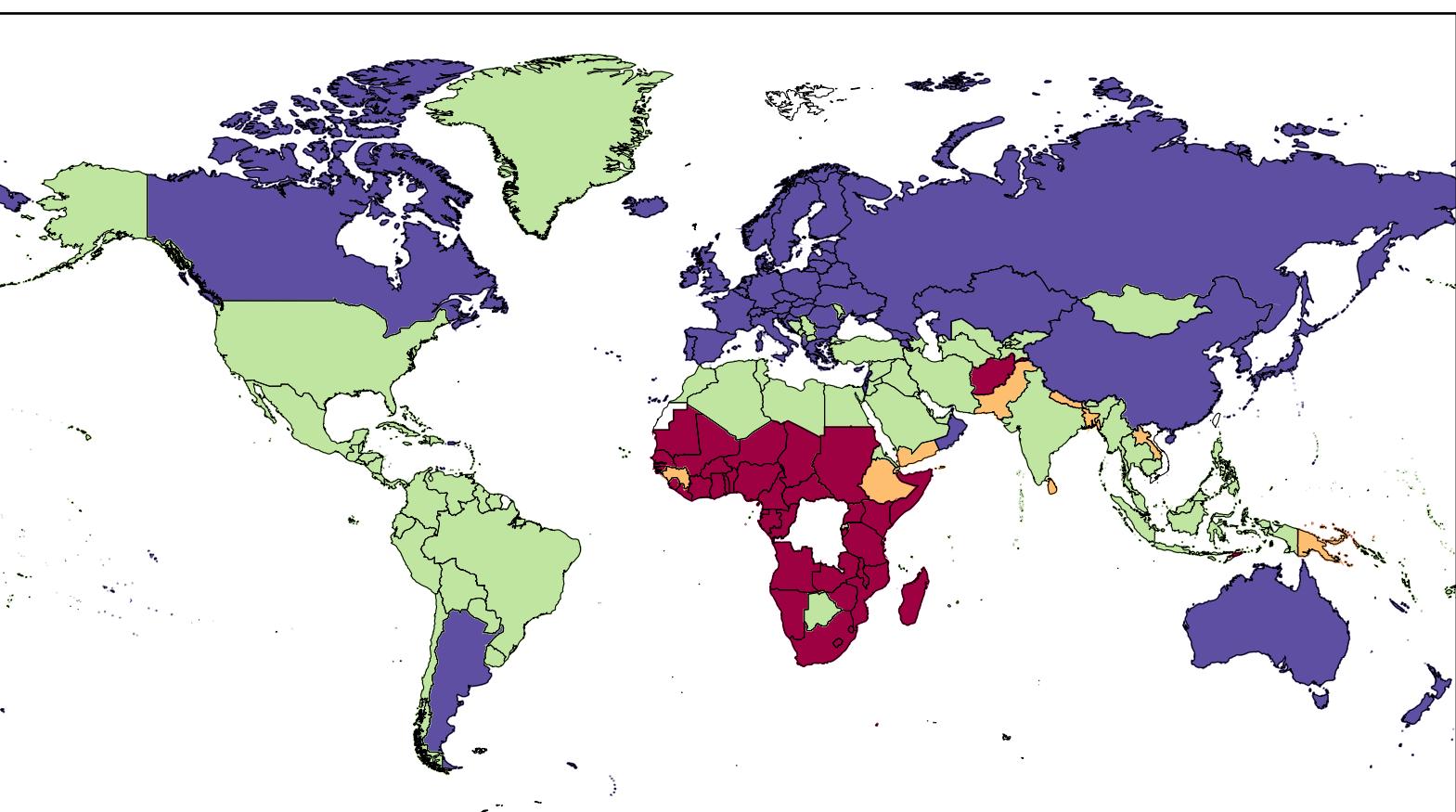
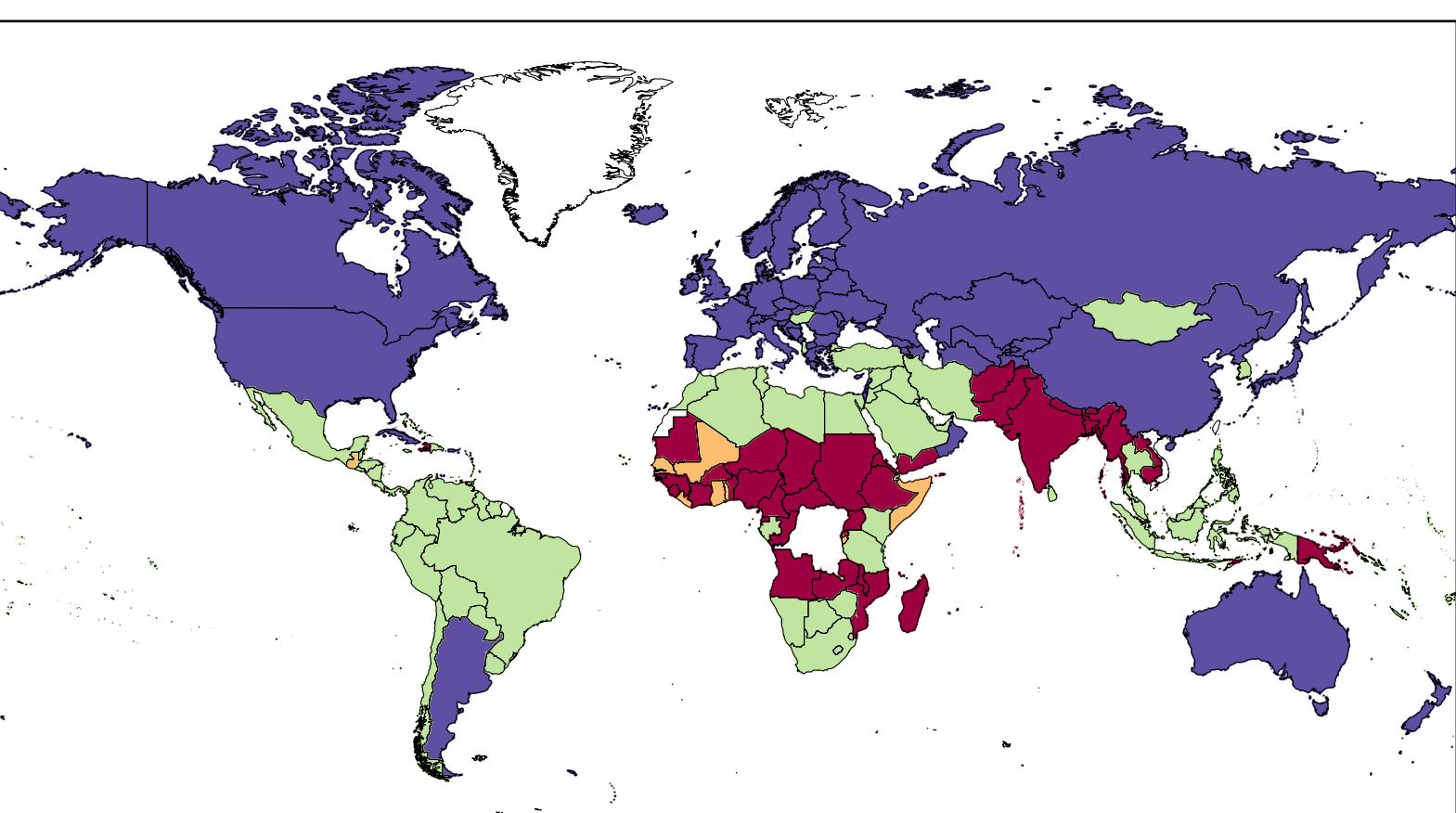
Environment

In health, America transitioned from blue to green. Similar to education, we transitioned away from the government provided healthcare that is now common in the Western European countries. The green and blue clusters have higher life expectancies, and lower birth and fertility rates than the orange and red clusters.

Comparing Extremes

Life expectancy at birth	+2.50
Birth rate per 1,000 people	-2.48
Births per 1,000 women ages 15-19	-2.31

Health



Education

Comparing Midlevels

Secondary school enrolment ratio %	-1.29
Primary school pupil-teacher ratio	+1.29
Primary education repeaters %	+1.27

America has shifted further toward the red countries. The green countries socialized with government-provided education, and are often touted as the countries with the best primary school systems, as we see much of Western Europe in green. Education is unique from the other fields in that each cluster seems to have its own characteristics, and there seems to be less of a progression between the colors. The United States transitioned into a group with a higher enrollment ratio, higher teacher-pupil ratio, and less repeaters in primary education.

Economy

Comparing Extremes

% of GDP value from agriculture	+1.27
Concessional debt (% of debt)	+1.18
Avg maturity on new external debt commitments (yrs)	+1.16

For economics, we group the world into three clusters. America transitions from blue to yellow. The difference across the color spectrum is interesting, as the blue group has more agriculture and debt than its red counterpart.

