

# The True Size of Africa

A small contribution in the fight against rampant *immappancy*, by Kai Krause

In addition to the well known social issues of *illiteracy* and *innumeracy*, there also should be such a concept as "*immappancy*", meaning *insufficient geographical knowledge*.

A survey with random American schoolkids let them guess the population and land area of their country. Not entirely unexpected, but still rather unsettling, the majority chose "1-2 billion" and "largest in the world", respectively. Even with Asian and European college students, geographical estimates were often off by factors of 2-3. This is partly due to the highly distorted nature of the predominantly used mapping projections (such as *Mercator*).

A particularly extreme example is the worldwide misjudgement of the true size of Africa. This single image tries to embody the massive scale, which is larger than the *USA*, *China*, *India*, *Japan* and *all of Europe* - combined!

COUNTRY	AREA x 1000 km <sup>2</sup>
USA	9.629
China	9.573
India	3.287
Mexico	1.964
Peru	1.285
France	633
Spain	506
Papua New Guinea	462
Sweden	441
Japan	378
Germany	357
Norway	324
Italy	301
New Zealand	270
United Kingdom	243
Nepal	147
Bangladesh	144
Greece	132
<b>TOTAL</b>	<b>30.102</b>
<b>AFRICA</b>	<b>30.221</b>
Just for Reference: The Surface of the MOON	37.930

## Please note:

The graphical layout of this map is meant purely as a visualization to illustrate the fact: Africa is much larger than almost everyone assumes! Even totally blurred outlines could have been used to make that point, however the table at left is very accurate, citing:

[http://en.wikipedia.org/wiki/List\\_of\\_countries\\_and\\_outlying\\_territories\\_by\\_total\\_area](http://en.wikipedia.org/wiki/List_of_countries_and_outlying_territories_by_total_area)

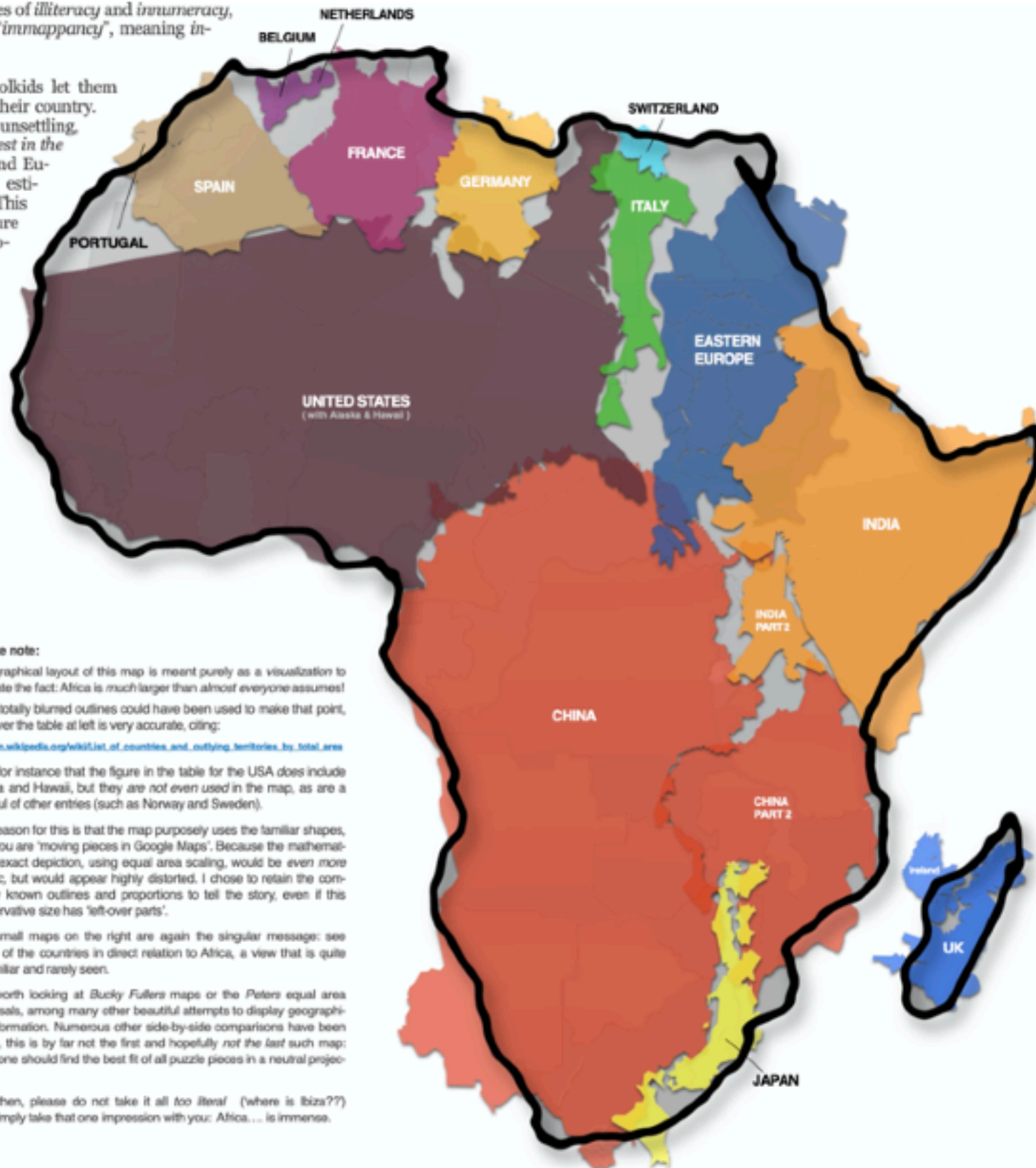
Note for instance that the figure in the table for the USA does include Alaska and Hawaii, but they are not even used in the map, as are a handful of other entries (such as Norway and Sweden).

The reason for this is that the map purposely uses the familiar shapes, as if you are 'moving pieces in Google Maps'. Because the mathematically exact depiction, using equal area scaling, would be even more drastic, but would appear highly distorted. I chose to retain the commonly known outlines and proportions to tell the story, even if this conservative size has 'left-over parts'.

The small maps on the right are again the singular message: see some of the countries in direct relation to Africa, a view that is quite unfamiliar and rarely seen.

It is worth looking at Bucky Fullers maps or the Peters equal area proposals, among many other beautiful attempts to display geographical information. Numerous other side-by-side comparisons have been made, this is by far not the first and hopefully not the last such map: someone should find the best fit of all puzzle pieces in a neutral projection.

Until then, please do not take it all too literal (where is Ibiza??) and simply take that one impression with you: Africa... is immense.



## Top 100 Countries

Area in square kilometers. Percentage of World Total  
Sources: Britannica, Wikipedia, Almanac 2010



United States



Europe



India



Japan



China

# PROJECTED COORDINATE SYSTEM COMPONENTS

- ▶ **A Geographic Coordinate System**

- ▶ Datum, with origin and units

- ▶ **A projection**

- ▶ Developable Surface (such as cylindrical, conical, others)

- ▶ **An origin**

- ▶  $(x,y) = (0,0)$

- ▶ **Units**

- ▶ Distance: meters, feet