Hi Guillaume,

"Guillaume Dargaud" <dargaud@sung3.ifsi.rm.cnr.it> wrote in message
news:3b24e6b1@news.ColoState.EDU...
> For lack of a better place, I'll ask it here even though it is not IDL
> specific (but I will probably implement it in IDL).
>
> I need to make maps of the world in a special way (I don't even know what
> this is called, so if anybody can provide me with a keyword...)
> Say you have a quantity of rain per sq degrees and you want to enlarge the
> surface area of places where it rains a lot and shrink the surface area of
> dry places... You end up with a tiny sahara, but large tropical zones...
> How would you go to do something like that...?
> I have seen it done before, but don't know what this kind of mapping is
> called.

This caught my interest, so here's what I found:

"A cartogram or Density Equalizing Map Projection is a map whose boundaries
have been deformed so that population density is uniform over the entire
map." (substitute any measurable quantity for "population density")

A good starting point:
 http://www.geog.ubc.ca/courses/klink/g372/notes/cartogram.ht ml

An example:
http://www.statistik.zh.ch/map/bsp/aktuell/map.html
To show the effect: select Population_abs from left popup, then click
Cartogram Iterations a few times.

Another example (circles representing regions):
http://www.statistik.zh.ch/map/dorling/dorlingexample.html

I haven't studied this thoroughly, but it looks like existing algorithms are
all iterative, starting with the original regions, nudging vertices around
until the region areas match the quantities you wish them to reflect. Sounds
like fun!

More References:
Dougenik, James. A., Nicholas R. Chrisman and Duane R. Niemeyer (1985): "An
Algorithm to Construct Continous Area Cartograms", Professional Geographier,
37 (1), 75-81.

Dorling, Daniel (1996): Area Cartograms: Their Use and Creation, Concepts

and Techniques in Modern Geography (CATMOG), 59

http://imap.chesapeake.net/~merrill/mdocs/demp/pubs.html

Cheers,
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-Dick

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