Final Project – State of the World by United Nations Indicators

As described in the companion to this document FinalProjectData (also included here), in the final project we will take a look at the state of the world by using 16 variables (Measures and Indicators) that are compiled by the institutions of the United Nations. Thus our study area is the world.

What are the objectives of this project?

- Work with socio-demographic and secondary data that are not inherently geospatial and that do not explicitly represent the physical environment.

- Create a Geospatial Data Library for 16 variables, by collecting, evaluating, and standardizing publicly available data that are not in a geospatial format.

- Use spatial analysis methods to be able to summarize Geospatial Data into meaningful information and knowledge expressed analytically and cartographically in a manner that is easy understood by broad audiences.

How to reach these objectives?

This project is wide open. Each group can choose to focus in all or in only some of the variables. After we compile the Geospatial Data Library, as a class - as a group, you can create your own composite indexes (weighted if you want) from these measures and indicators (for example you can make up a composite index of progress by combining literacy rate, internet use, and poverty level, and also weight each variable). You could also try to discover if there is any relation between variables (for example, you could compare poverty and literacy or poverty and incarceration, etc.). Remember that you have no constraints on how to use this data, and that the final goal of this effort is for you to shed light into issues that are not easily seen in the noise of too much (and not geographic) data. Therefore, as a group, you should come up with two or three research questions at the start of your analysis and then try to discover and present their answers via spatial analysis and output.

Preparing the data for the Final Project

In the Final Project we will take a look at the state of the world by using Measures and Indicators that are compiled by the institutions of the United Nations responsible for monitoring the welfare of most of the countries of the world. Out of hundreds of indicators that are available, we will focus on the 16 that are listed below and which fall under 7 different measures.

To prepare for the project we will download the data from the web in an excel format, then we will convert it to GIS, and then we will clean and standardize it according to the needs of our project. Following professor's demonstration in class for one indicator, each working group will prepare 3 datasets which will then be shared with the other groups. A shapefile, with country administrative boundaries and population for the world, is in the dropbox in the folder FinalProject/data. It was

downloaded from http://thematicmapping.org/downloads/world_borders.php.

Data Downloads:
UN Statistics Division - Global Indicators Database, http://data.un.org/Explorer.aspx?d=KI
More from here: http://www.uis.unesco.org/datacentre/pages/default.aspx

Population
>   Population density grp 1
>   Life expectancy grp 1
>   Infant mortality grp 1

Education
>   Primary education i.e. literacy grp 2
>   Total public expenditure on education as total of government expenditure grp 2

Culture and communication
>   Internet juna
>   Mobile cellular grp 2

Gender
>   Seats held by women in national parliament – percentage grp 3

Human Development
>   Human development grp 3
>   Human development inequality grp 3

World development
>   Military expenditure grp 4
>   Income share held by lowest 20% grp 4
>   Poverty ratio at national poverty line grp 4
>   Incarceration rates[1] grp 5

Environment
>   Percentage of land area covered by forest grp 5
>   Carbon dioxide emission (CO2) – metric tons per capita grp 5

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[1] This does not seem available from UN, but it can easy constructed with info that is here:
http://en.wikipedia.org/wiki/List_of_countries_by_incarceration_rate