Population Estimation Service
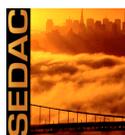### Developed by the NASA Socioeconomic Data and Applications Center at CIESIN

Summary

The Population Estimation Service is a Web-based service that can estimate population totals and related statistics for any area of the world a user selects. The service uses gridded data—data organized into rectangular areas. Each grid contains the total population for the represented area, but doesn't show exactly where within the grid that population is located.

SAMPLE CLASSROOM EXERCISE (Grades 6-12):

Find the population of Haiti and the population of its capital Port-au-Prince, then compare the two.

1. **Go to the Population Estimation Service Page** at http://sedac.ciesin.columbia.edu/gpw/wps.jsp.

2. **Locate Haiti on the Map**. You can pan (by clicking and dragging the map) and/or zoom (via the toolbar on the left side of the map) or type a search term in the Google Search box at the left. (Hint: this is a broad search, the same as you might get using Google. Typing the name of a city will be more likely to bring you to the precise location than will typing a country name. For example, type in Port-au-Prince to display that area of the map.

3. **Draw a polygon around the entire country of Haiti**. Click on the map to begin a line. Click again to extend the line. Continue drawing lines and clicking to complete your polygon. (Make any shape you want.) Double-clicking at any time will close the polygon and start the computation; or, when you are back to where you started, click once to close the polygon and begin the computation.

4. **A table will display below the map with the population estimates and statistics about the area**. Here's an explanation of the categories:

Cell count: Number of grid cells, or boxes, in your polygon
Min, Max: Minimum and maximum grid cell population within your polygon
Range: Maximum–minimum
Mean and Standard Deviation: The mean is the average population within the polygon; the standard deviation is a measure of the variability of the population count.
Land area: Total area of land (not including water) within your polygon
Mean unit area: Size of the administrative units (country, county, town, etc.) used to calculate the grid values. If the mean unit area is larger than your polygon you will get a quality warning: your polygon may not be capturing all the population in the underlying data. For example, in a large rural area with a small population, because the gridding method evenly distributes all population counts, a too-small polygon might not have any population assigned to it, and a quality warning would result.
Quality Warning: May occur for two reasons. One is mentioned above. The other happens when your polygon is drawn too small (containing less than 50 grid cells). In both cases the quality warning indicates the estimate might be unreliable. To address this issue, draw a larger polygon.

5. **To draw another polygon, select the clear button and begin again**. Now find the population of Haiti's capital, Port-au-Prince. Compare the two populations.