

DIRECTIONS: Read the article and **highlight what you believe to be the main idea of each section.** You may comment in the margins as needed. After each color coded section, use the space provided to share evidence of your thinking: a comment about the content, a connection to something you already know/your life, a question it raises for you, or a technique that you noticed the writer used in that section.

World population predicted to reach 9.6 billion by 2050

By Jaclyn Skurie, National Geographic Society
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By 2050, demographers from the United Nations project that the population will reach 9.6 billion.

But that projection has changed considerably in recent years. In 2000, the U.N. predicted a population with 700 million fewer people than it is predicting now — only 8.9 billion people in 2050.

Other organizations, meanwhile, have slightly different 2050 projections. The United States Census Bureau projects a population of 9.4 billion. The Population Reference Bureau, a nongovernmental group that tracks U.S. demographics, has increased its projection by two million since their last estimates were published in 2010; their number now matches the U.N. estimate.

What explains why these figures evolve and why they don't exactly sync up?

Population projections are dynamic. While they are often reflective of the real world, many factors that determine future trend lines are unclear and evolving.

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Three Big Population Drivers

In predicting future population size, demographers first assume a no-surprise future and focus on three main drivers of population — births, deaths, and migration. Life expectancy is kept on a consistent upward trend, and unpredictable events like epidemics and wars are ruled out.

"The HIV/AIDS epidemic — it was not predicted, and it substantially changed the demographics of some countries in the 1970s," said Francois Pelletier, chief of the population estimates and projections section of the United Nations.

When it comes to analyzing the three big population drivers, demographers draw on surveys and census data from around the world. The UN also takes into account progress made in achieving internationally agreed upon initiatives such as the Millenium Development Goals.

That information is used to reassess past population projections and generate a revised report.

In the case of the biannual U.N. population report, World Population Prospects, three distinct population projections are created — high, medium, and low variants. The middle variant — which this year is 9.6 billion people in 2050 — is the one that gets the most attention.

The high variant assumes each woman has half a child more than the medium variant, which leads to a prediction of 10.9 billion for 2050. The low variant assumes half a child less, which would result in a 2050 population of 8.3 billion.

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No Crystal Ball

But Robert Engelman, president of environmental research organization World Watch Institute, said that there is no "crystal ball" for population projections and plenty of room for error.

Changing fertility and birthrates have the potential to significantly impact future population levels. The 2012 U.N. report said that population growth has slowed for the world overall. Still, however, it will be rapid in developing regions like Nigeria and Malawi, where populations are projected to increase at least fivefold by 2100.

And then there are the unknown unknowns.

"If an asteroid hits the Earth in the right place, there may be little or no population in 2050," Engelman said. "And demographers don't think about asteroids."

Pelletier said errors in population dynamics at the global level tend to cancel themselves out.

"If there's a country where you're a bit off and a bit too high, and another where you're a bit too low, then the population number evens out," he said.

That helps explain why the U.N.'s projections are relatively consistent with other recent population figures for 2050.

Demographers say there is little reason to anticipate a population bomb or doomsday situation. In fact, the population growth rate has already started to slow, and this downward trend is projected to continue through 2050.

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DIRECTIONS: Now that you have read and thought about the article, write your objective summary below. Use your highlights to guide you. It should consist of the articles 3-4 main points and should not contain 1st person pronouns (I, me, my) nor direct quotes from the text.