Population size fluctuates at differing rates in differing regions. Nonetheless, population growth has been the long-standing trend on all inhabited continents, as well as in most individual states. During the 20th century, the global population saw its greatest increase in known history, rising from about 1.6 billion in 1900 to over 6 billion in 2000 as the whole world entered the early phases of what has come to be called the "demographic transition". Some of the key factors contributing to this increase included the lessening of the mortality rate in many countries by improved sanitation and medical advances, and a massive increase in agricultural productivity attributed to the Green Revolution. By 2000, there were approximately ten times as many people on Earth as there had been in 1700.

However, this rapid growth did not last. During the period 2000–2005, the United Nations estimates that the world's population was growing at an annual rate of 1.3% (equivalent to around80 million people), down from a peak of 2.1% during the period 1965–1970. Globally, although the population growth rate has been steadily declining from its peak in 1968, growth still remains high in Sub-Saharan Africa.

In fact, during the 2010s, Japan and some countries in Europe began to reduce in population, due to sub-replacement fertility rates.

In 2019, the United Nations reported that the rate of population growth continues to decline due to the ongoing global demographic transition. If this trend continues, the rate of growth may diminish to zero by 2100, concurrent with a world population plateau of 10.9 billion. However, this is only one of many estimates published by the UN; in 2009, UN population projections for 2050 ranged between around 8 billion and 10.5 billion. An alternative scenario is given by the statistician Jorgen Randers, who argues that traditional projections insufficiently take into account the downward impact of global urbanization on fertility. Randers' "most likely scenario" reveals a peak in the world population in the early 2040s at about 8.1 billion people, followed by decline. Adrian Raftery, a University of Washington professor of statistics and of sociology, states that "there's a 70 percent probability the world population will not stabilize this century. Population, which had sort of fallen off the world's agenda, remains a very important issue."

Long-term global population growth is difficult to predict. The United Nations and the US Census Bureau both give different estimates – according to the UN, the world population reached seven billion in late 2011, while the USCB asserted that this occurred in March 2012. Since 1951the UN has issued multiple projections of future world population, based on different assumptions. From 2000 to 2005, the UN consistently revised these projections downward, until the 2006 revision, issued on 14 March 2007, revised the 2050 mid-range estimate upwards by 273 million.