

Introduction

“The World’s Nuclear Warheads Count” is an easily understood illustration of the current state of the world we live in, showing nearly 13,880 nuclear warheads in the world by country and by type.

The PCU Nagasaki Council for Nuclear Weapons Abolition (PCU-NC) and the Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA) began producing this poster in 2013 as an educational resource for all audiences, from elementary school students to adults.

As part of the peace education efforts toward Hiroshima’s and Nagasaki’s Atomic Bomb Memorials in August, we present annual updates on the latest information every June.

The detailed data of this poster, which was compiled by the “RECNA Nuclear Warhead Data Monitoring Team,” including RECNA staff, has been published on our website. (www.recna.nagasaki-u.ac.jp/recna/en-nwdata/list_of_nuclear) Please see the website for further details. This data is updated from time to time.

We hope this guide will aid those using the poster in understanding background information and terminology in simple, plain terms. It should be especially useful in the education field, particularly in schools.

June 2019

PCU Nagasaki Council for
Nuclear Weapons Abolition (PCU-NC)
Research Center for Nuclear Weapons
Abolition, Nagasaki University (RECNA)

Contact

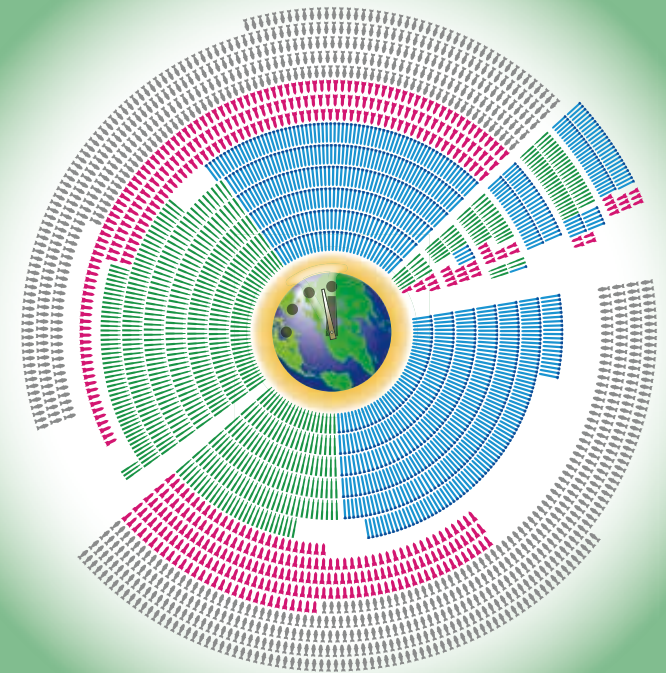
**PCU Nagasaki Council for
Nuclear Weapons Abolition (PCU-NC)**

1-14, Bunkyo-machi, Nagasaki, 852-8521

TEL: +81-95-819-2252 FAX: +81-95-819-2165

<http://www.recna.nagasaki-u.ac.jp/recna/pcu-en/>

A Guide to the World’s Nuclear Warheads Count June 2019



13,880

**PCU Nagasaki Council for
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Research Center for Nuclear Weapons
Abolition, Nagasaki University (RECNA)**

Frequently Asked Questions

Q1. What is the difference between a “nuclear warhead” and a “nuclear weapon” ?

The fact that atomic bombs were dropped on Hiroshima and Nagasaki by US B29 bombers is well known. In addition to nuclear bombs similar to the ones dropped on Hiroshima and Nagasaki, a diverse range of nuclear weapons, including nuclear missiles, artillery shells, and torpedoes, has been developed during the last 74 years.

Although there is no agreed, single definition of a “nuclear weapon,” in general, a nuclear weapon consists of a “nuclear warhead” and its “delivery vehicle.” A “warhead” is the part of a nuclear weapon that causes an explosion. A nuclear warhead is the heart of the weapon, but the warhead alone is not considered a weapon. Complete nuclear weapons consist of a number of parts, including the control and propulsion mechanisms that guide it towards its target. The three main pillars of strategic nuclear delivery vehicles are land-based intercontinental ballistic missiles (ICBM), submarine-launched ballistic missiles (SLBM), and strategic bombers.

Q2. What is the difference between a “nuclear weapon” and an “atomic bomb” ?

An atomic bomb is a type of nuclear weapon. Nuclear weapons are roughly divided into two types: atomic bomb and hydrogen bomb. An atomic bomb uses the energy released by the fission of a uranium or plutonium nucleus. On the other hand, a hydrogen bomb uses the more powerful energy from the fusion of hydrogen nuclei. The nuclear fusion process requires a high temperature and pressure, triggered by an atomic bomb explosion. Nearly all modern nuclear weapons produce a large amount of energy by using a combination of nuclear fission and fusion. The most powerful nuclear weapon ever created by mankind thus far was a hydrogen bomb called “Tsar Bomba” (meaning “the Emperor of Bombs”), which was detonated by the Soviet Union on the island of Novaya Zemlya in the Arctic Circle on October 30, 1961. Its explosive yield was 50 megatons, which is 3,800 times that of the atomic bomb detonated over

Hiroshima.

Rather than promoting a Cold War era-like increase in the power and numbers of nuclear weapons, current technological advances have focused on miniaturizing nuclear warheads, multiplying the number of warheads that can be loaded in a single missile, and increasing the accuracy of missiles. It is an unfortunate reality in the world today that the nuclear powers continue to possess long-term programs for the modernization and capacity-building of their nuclear arsenals.

Q3. North Korea’s nuclear weapons: How advanced are they?

Development of nuclear weapons by the Democratic People’s Republic of Korea (DPRK or North Korea) has been of serious concern to the international community. In 2006, the DPRK conducted its first underground nuclear explosive test, following the declaration of its withdrawal from the Nuclear Non-Proliferation Treaty (NPT) in January 2003. In spite of repeated calls from the international community for it to terminate nuclear testing, the DPRK has conducted additional five nuclear tests: in 2009, 2013, 2016 (January and September) and September 2017. Moreover, the DPRK has been concerting its efforts into developing nuclear-capable missiles, and has repeatedly conducted various missile test launches.

The overall picture of the DPRK’s nuclear program is, however, unclear. Although on our poster we estimate the number of nuclear warheads possessed by the DPRK to be 20-30, there is no agreed estimation among researchers and research institutes, and no one knows the exact figures. Nevertheless, it is almost certain that the nuclear technology of the DPRK has advanced steadily, and many experts are raising serious concerns that the DPRK has already succeeded in making its nuclear warheads small enough to be loaded on their missiles.

New developments regarding the situation have been observed in diplomatic efforts aimed at denuclearizing the Korean Peninsula since the beginning of 2018. In April 2018, an inter-Korean summit meeting was held and the leaders of North and South Korea released the historic Panmunjom Declaration. The leaders of the United States and North Korea then met for the first time in June 2018, and signed a joint statement, reaffirming their efforts to build a lasting and stable peace regime on the Korean Peninsula and the DPRK’s commitment to work toward complete

denuclearization of the Korean Peninsula. These developments marked the first step toward reducing tension and building peace in the region. However, the second US-DPRK summit held in February 2019 ended abruptly without a deal, and there still remain many challenges that need to be overcome. In order to achieve the promised complete denuclearization of the Korean Peninsula, persistent efforts should be continued involving all related countries.

Q4. Will the adoption of the Treaty on the Prohibition of Nuclear Weapons eliminate nuclear weapons?

On July 7, 2017, the Treaty on the Prohibition of Nuclear Weapons (TPNW) was adopted. This is the first international law to categorically outlaw all nuclear weapons. Based on international humanitarian law, this ground-breaking treaty prohibits state parties from developing, testing, possessing, using, or threatening to use nuclear weapons, as well as assisting or encouraging anyone to engage in any activity prohibited under the treaty. The efforts of civil society, including the *hibakusha* of Hiroshima and Nagasaki, as well as many like-minded countries that have acted in concert with civil society movements to raise awareness of the inhumanity of nuclear weapons have finally borne fruit.

Of course, the adoption of the TPNW does not automatically mean that we will immediately achieve the goal of abolishing nuclear weapons. Countries with nuclear weapons and those under the “nuclear umbrella” have taken a negative stance toward the treaty and are unlikely to join it, at least for the time being. However, the adoption of the TPNW, which clearly brands nuclear weapons as illegal, will help to stigmatize such weapons. Nuclear weapons are now not only immoral, but also illegal. This fact could exert further pressure on those countries relying on nuclear deterrence to review their policies, by influencing public opinion and changing attitudes of people and private companies.

In fact, more and more cities all over the world have declared their support for the TPNW, most notably, Washington D.C. and Paris, which are the capital cities of nuclear weapon states. Moreover, there are increasing numbers of financial institutes that have adopted a policy of not investing their money in nuclear weapon-related companies since the adoption of the TPNW. The TPNW has been slowly, but steadily executing its power to change the world for better.

The United States and Russia Own over 90% of the World's Nuclear Warheads

The nine countries that possess nuclear warheads are the United States, Russia, France, the United Kingdom, China, Pakistan, India, Israel, and North Korea.

Five of these countries (the United States, Russia, France, the United Kingdom, and China) are defined by the Nuclear Non-Proliferation Treaty (NPT) as Nuclear Weapon States, as they had been conducting nuclear testing at the time of NPT negotiations. India, Pakistan, and Israel possess nuclear weapons outside of the NPT framework. North Korea declared its withdrawal from the NPT in 2003.

Comparing the sizes of the areas bordered by the brown dotted lines you will see that the numbers of nuclear weapons possessed by the United States and Russia are almost equal. In the current post-Cold War era, relations have improved between these two countries, but nuclear weapons remain in a state of "high alert" in which they can still be fired at any time within a matter of minutes. The risk of nuclear disaster, whether by design, human error, or accident, continues to exist.

The United States and Russia committed to reduce the number of deployed strategic nuclear warheads held by each country to 1,550 or less under the New START Treaty, which entered

into force in February 2011. The reduction levels envisaged by the treaty were achieved by both countries before the deadline in February 2018. However, this falls far short of a substantial reduction in their nuclear arsenals, since the United States only reduced its arsenal by a couple of hundred rounds, while Russia had already achieved the goals under the treaty when it entered into force. With the deterioration of US-Russia relations over the Ukraine and Syria situations, there does not appear to be any sign of progress in discussions on the extension or a successor treaty to the New START.

The Trump Administration has expressed its willingness to strengthen US nuclear deterrence to confront perceived threats posed by North Korea and Russia, including development of more usable, new nuclear weapons. In response to such a policy, Russia has been upgrading and enhancing its nuclear capabilities. As some bilateral and multilateral arms control regimes have been severely deteriorating, there is an increasing concern about the resurgence of a nuclear arms race between the two nuclear powers.

"Operationally Deployed Nuclear Warheads"
Nuclear warheads which are deployed at a military unit and are capable of use.

"Strategic Nuclear Weapons"
Nuclear warheads to be mounted on nuclear weapons for the purpose of attacking enemy cities and major military installations. Non-strategic nuclear weapons, by contrast, have a more limited usage in battlefield situations. Non-strategic nuclear weapons include "tactical nuclear weapons" and "theater nuclear weapons."

Types of Delivery Vehicles and Nuclear Warheads

The types of delivery vehicles for nuclear warheads are divided into the following three categories. Each icon represents five nuclear warheads.

Nuclear warheads deployed at sea; e.g., Submarine-Launched Ballistic Missiles (SLBMs)

SLBM
"Submarine-Launched Ballistic Missiles (SLBM)"
Ballistic missiles capable of being launched from submarines.

Nuclear warheads deployed on land; e.g., Intercontinental Ballistic Missiles (ICBMs)

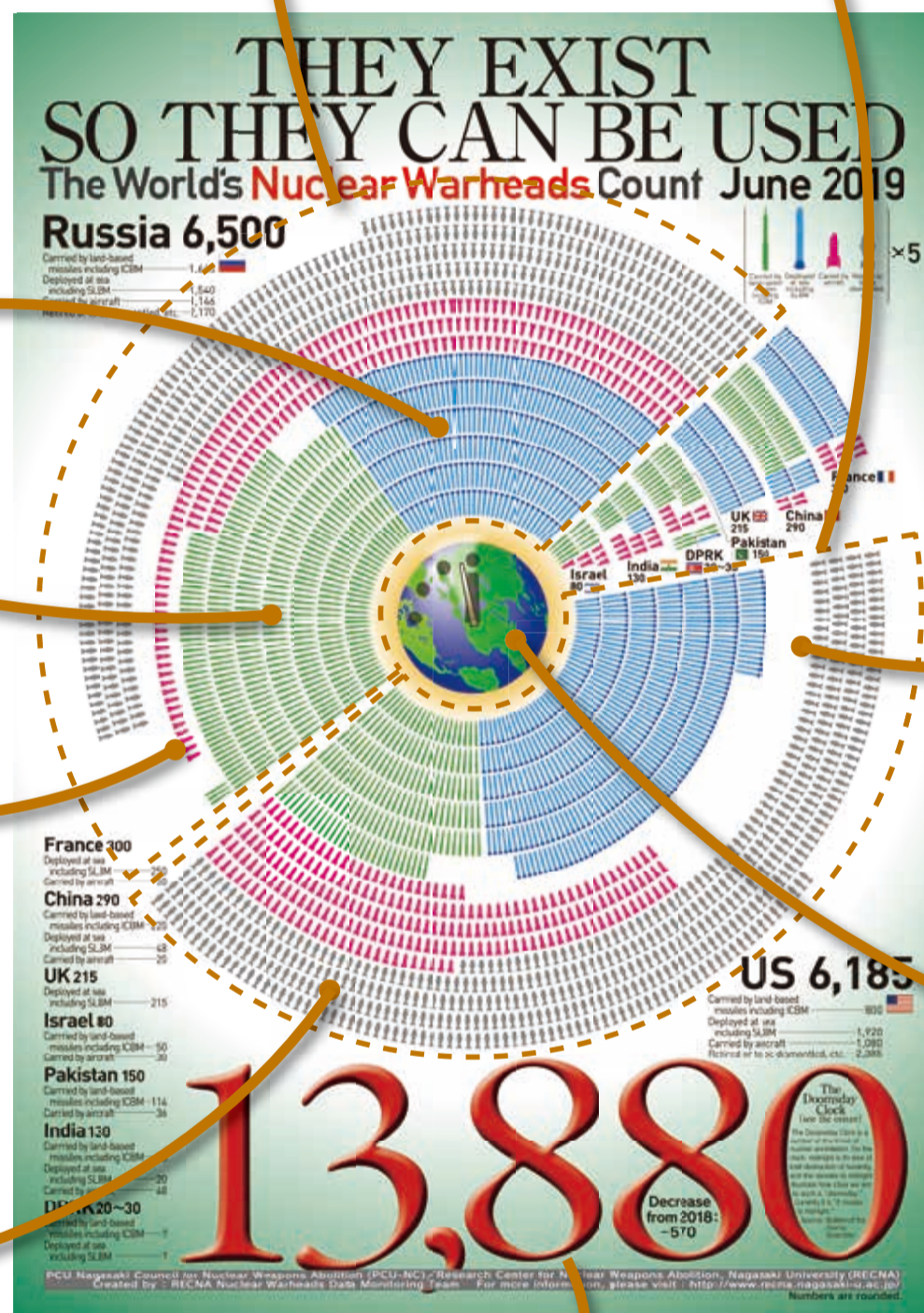
ICBM
"Intercontinental Ballistic Missiles (ICBM)"
Land-based ballistic missiles with a range of 5,500 km or more.

Nuclear warheads carried by aircraft; e.g., bombers

All three of these categories contain nuclear warheads that are either "operationally deployed strategic nuclear warheads", "operationally deployed non-strategic nuclear warheads", or "reserve/non-deployed nuclear warheads".

"Reserve/non-deployed nuclear warheads"
Reserved warheads which are not operationally deployed, but are stored for possible future use.

In addition to the above, we have established a category for "retired and to-be-dismantled" warheads. Although these nuclear warheads have been retired from military stockpiles and stored for dismantlement, this does not necessarily eliminate the possibility of their reuse.



Nuclear Bombs in Germany and Italy

The United States deploys about 150 non-strategic nuclear warheads in five NATO countries (Belgium, Germany, Italy, the Netherlands, and Turkey). This deployment is a relic of the Cold War. Calls for removing these weapons have been growing within Europe, but they have yet to be realized.

Two Minutes Left to Nuclear Annihilation?

Drawn on the image of the Earth in the center is the "Doomsday Clock." Continuously published since its first publication in the Bulletin of the Atomic Scientists in 1947, this countdown to midnight represents the countdown to annihilation of humankind by nuclear weapon use, symbolizing how close we are to a global crisis.

The closest the world has ever been to doomsday was in 1953, when the countdown was two minutes to midnight, due to the success of hydrogen bomb tests by the Soviet Union. In January 2018, the clock moved forward to "two minutes to midnight," the closest ever to the world's doomsday again. Against the background of the increasing risks of nuclear weapon use and modernization of the nuclear arsenals of nuclear states, experts warn that the human civilization is facing a grave crisis.

The Total Number of Nuclear Warheads in the World: Approx. 13,880

As of June 2019, the total number of nuclear warheads in the world is approximately 13,880. Information about nuclear weapons is generally kept as a state secret, so countries do not usually publish detailed data about them. As such, researchers and experts all of the world who are tackling this issue must estimate the number, types, and operational status of the nuclear weapons possessed by each country. This poster was created following careful examination of information from various sources.

What is your impression of the number of nuclear warheads of "13,880"? At the peak of the Cold War in 1987, the world had nearly 70,000 nuclear warheads. The number of nuclear warheads has been significantly reduced, but at a very slow rate. Our capability for "overkill," to kill all life on Earth multiple times over, has not changed.

As of last year (June 2018), the total number of nuclear warheads was 14,450; in other words, the world managed to dismantle 570 nuclear warheads over the previous year. However, this is not a simple situation. All nine of the world's nuclear powers have plans for modernizing their nuclear arsenals. As their nuclear weapons systems gradually become obsolete, so countries have been planning to renew them. It should be noted that such plans involve enormous budgets.