

Introduction

A Guide to the World's Nuclear Warheads Count

“The World’s Nuclear Warheads Count” is an easily understood illustration of the current state of the world we live in, showing approximately 12,500 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.

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. The detailed data of this poster, which was compiled by the “RECNA Nuclear Warhead Data Monitoring Team,” including RECNA staff, is also available on our website below. Please see the website for further details (You can also access the site via the QR code).

<https://www.recna.nagasaki-u.ac.jp/recna/en-topics/43753>



June 2023

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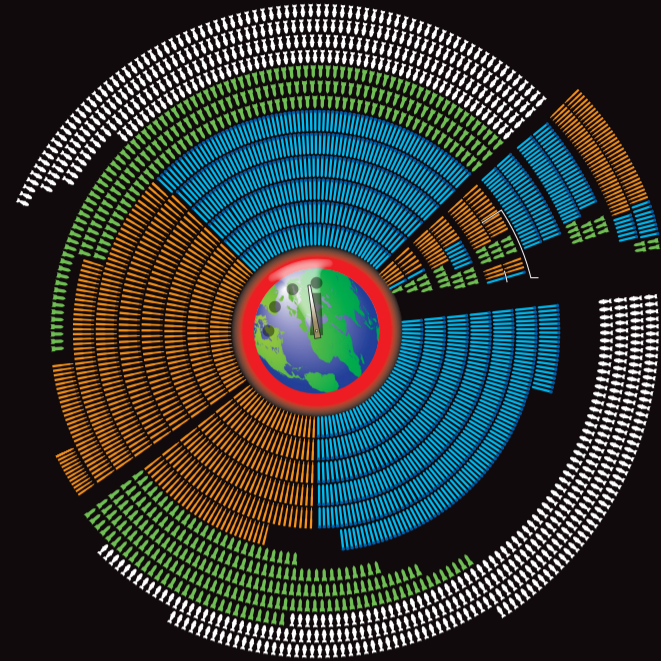
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June 2023



12,520

核兵器廃絶
長崎連絡協議会
PCU-Nagasaki Council

RECNA
長崎大学核兵器廃絶研究センター
Nagasaki University
Research Center for Nuclear Weapons Abolition

In order to achieve a world free from nuclear weapons the cooperation not only of the nuclear powers but of all nations is essential. Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) obligates all nations to strive towards the realization of nuclear disarmament. It is particularly vital that nations such as Japan that are dependent on the nuclear umbrella change their policies and aim for a security that does not rely on nuclear weapons. One aspect of striving for this is to move towards the creation of a Northeast Asia Nuclear Weapon-Free Zone.

What can Japan do?

First of all the components of nuclear weapons are dismantled but the problem is the nuclear material, which cannot be easily disposed of. Subsequently, nuclear material has to be managed and processed in a way that will make it impossible to ever use again for weapons. Unfortunately the amount of nuclear material in the world is continuing to increase.

What does the abandonment of nuclear weapons involve?

The Treaty on the Prohibition of Nuclear Weapons (TPNW), which entered into force in January 2021, is the treaty which prohibits state parties from developing, testing, possessing, using, or threatening to use nuclear weapons. Of course, the establishment 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” are unlikely to join it, at least for the time being. However, the adoption of the TPNW, which clearly brands nuclear weapons as illegal, inhumane weapons will help to stigmatize such weapons. Nuclear weapons are now immoral and illegitimate. It is expected that this fact could exert further pressure on those countries relying on nuclear deterrence to review their policies, by influencing public opinion.

Will the Treaty on the Prohibition of Nuclear Weapons lead to the nuclear weapons abolition?

Currently, an estimated 100 tactical nuclear warheads held by the United States are deployed in five European countries (Belgium, Germany, Italy, the Netherlands, and Turkey) for use by North Atlantic Treaty Organization (NATO) forces. If war should break out, it is envisioned that U.S. nuclear warheads would be loaded onto the warplanes of these non-nuclear weapon states. It is truly a relic of the Cold War, and there have long been calls in Europe for their removal. However, before this was achieved, the conflict among countries intensified against the backdrop of the Ukrainian crisis, and Russia decided on a plan to deploy tactical nuclear weapons in its ally, Belarus. In Japan, too, some politicians proposed the consideration of a “nuclear sharing” policy, an idea which drew much attention, but Prime Minister Kishida refused to contemplate it, saying that it would violate the “three non-nuclear principles” of Japan.

What is “nuclear sharing”?

Since 1945 over 2,000 nuclear tests have been conducted over the world, causing massive damage to humans and the environment. The latest nuclear test was conducted by North Korea in September 2017. The Comprehensive Test Ban Treaty (CTBT) that prohibits any kind of nuclear explosion testing has still not come into effect even though more than 25 years have now elapsed since its establishment. The United States and other nations have carried out “subcritical nuclear tests” that do not cause the nuclear fission chain reactions that lead to nuclear explosions and are therefore not an infringement of the CTBT, earning the criticism of the atomic-bombard cities as well as the international community.

Is nuclear testing still being conducted?

Nuclear weapons generate explosive force of tens of thousands to hundreds of thousands of times the power of conventional bombs, and high temperatures that can even melt steel. Moreover, they result in many fatalities due to their power radiation, and cause long-lasting physical and mental pain and suffering to those exposed to them. This is why they are also referred to as “weapons of mass destruction” and “inhumane weapons.”

What is the difference between a nuclear weapon and other weapons?

All numbers shown by the poster are estimates. In general, information on nuclear weapons is a national military secret, and no detailed data is released by any country. In particular, public information on Russia, China, India, Pakistan, and North Korea, including the total number of nuclear warheads, is extremely limited. Israel has not even disclosed whether or not it possesses nuclear weapons. Therefore, researchers and experts working on this issue have been estimating the number, types, and deployment status of nuclear weapons in each country based on information from various angles, such as the amount of nuclear material possessed by each country. This poster was also created by carefully examining data from various sources.

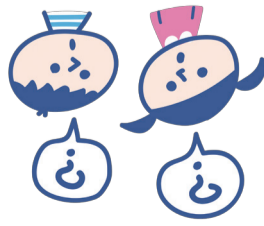
How do you count nuclear warheads?

An atomic bomb (A-bomb) is a type of nuclear weapon. It uses the energy released by the fission of a uranium or plutonium nucleus. In addition, there is a hydrogen bomb (H-bomb), which uses the more powerful energy from the fusion of hydrogen nuclei.

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

A “warhead” is the part of a nuclear weapon that causes an explosion. In general the combination of the warhead and the missiles onto which it is loaded are referred to as a “nuclear weapon.”

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



Frequently Asked Questions

Highlights of the 2023 World's Nuclear Warheads Count

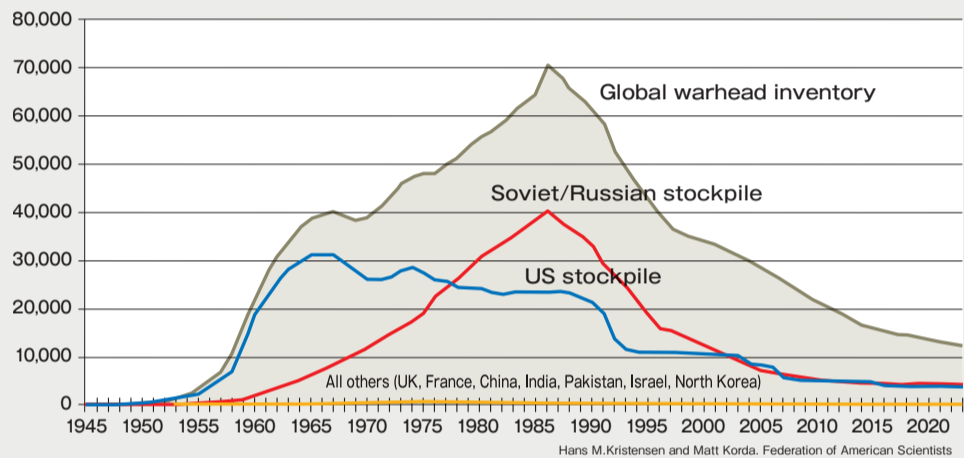
- The total inventories appear to have declined, but with regard to deployable nuclear warheads (excluding those retired or to be dismantled), there is an ongoing military expansion.
- A qualitative arms race is also underway, involving modernization of nuclear weapons and development of new types of nuclear weapons.

Introduction

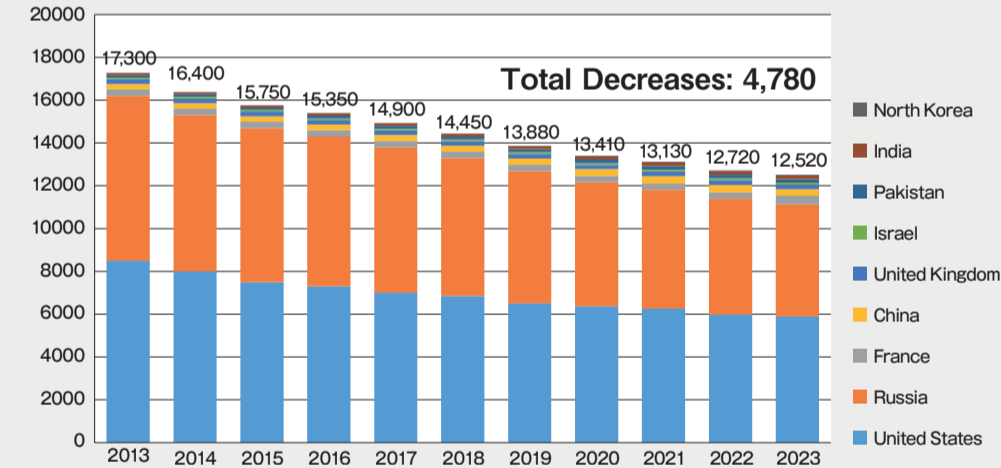
As of June 2023, the total number of nuclear warheads in the world is estimated to be 12,520. This is a decrease of 200 compared to last year. The nine countries that possess nuclear warheads are the United States, Russia, France, the United Kingdom, China, Pakistan, India, Israel and North Korea.

The G7 Leaders' Hiroshima Vision on Nuclear Disarmament, issued by the G7 Summit held in Hiroshima in May, stated that "the overall decline in global nuclear arsenals achieved since the end of the Cold War must continue and not be reversed." Indeed, the total number of nuclear warheads has been on a consistent downward trend since the end of the Cold War. At its peak (1987), there were nearly 70,000 nuclear warheads, but bilateral treaties between the U.S. and Russia and unilateral reductions have greatly reduced that number [Figure 1]. Looking at the 10-year transition from 2013, when this poster first appeared, the total number of nuclear warheads has been reduced by nearly 4,800 [Figure 2].

[Figure 1]
Estimated Global Nuclear Warhead Inventories 1945-2023



[Figure 2]
Estimated Global Nuclear Warhead Inventories 2013-2023



United States and Russia

Against the backdrop of Russia's military invasion of Ukraine, tensions and conflicts between the United States and Russia have intensified, reigniting a nuclear arms race. Both the U.S. and Russia have pursued extensive modernization plans involving substantial budgets to upgrade their aging Cold War-era nuclear weapon systems. Furthermore, they have accelerated the development and deployment of new advanced weapons utilizing cutting-edge technologies. In March 2023, President Putin announced the deployment of the tactical nuclear missile system "Iskander" in the Russian ally Belarus.

There have been significant cracks in bilateral and multilateral arms control frameworks. In February 2023, Russia announced the suspension of the New START treaty and, in response, the U.S. declared a partial halt in information sharing. New START is currently the last remaining bilateral arms control and disarmament treaty between the U.S. and Russia. The treaty has facilitated confidence-building between the two countries through limitations on the numbers of warheads and missiles, as well as verification measures including regular information exchange and on-site inspections. The breakdown of such treaties would further accelerate nuclear proliferation and have serious implications for the global order concerning nuclear weapons.

Since the implementation deadline of the New START in February 2018, there has been a shift towards an increase in deployable nuclear warheads. This emphasizes the urgent need to establish a new framework for arms control and disarmament to succeed the New START, which is set to expire in 2026. Both countries must engage in dialogue immediately. Future U.S.-Russia negotiations should not only focus on reducing the numbers of warheads and delivery systems but also include discussions about qualitative disarmament. This encompasses limitations or prohibitions on new weapons such as hypersonic missiles and precision-guided weapons that raise the risk of nuclear weapon use, as well as regulations on military activities in space and cyberspace. It is also crucial to involve China in these negotiations.

Others

China, India, Pakistan, and North Korea's nuclear capabilities are showing a trend of expansion. As illustrated in Figure 3, over the past decade, it is estimated that China has increased its nuclear warheads by 160, India by 64, Pakistan by 60, and North Korea by at least 30. Additionally, developments and deployments of various delivery systems, including missiles, are progressing rapidly. Currently, there are no apparent signs of halting these trends.

Particularly concerning is North Korea, which has advanced the development of non-strategic (tactical) nuclear weapons **5** and demonstrated a willingness to consider preemptive use of nuclear weapons. In September 2022, a law specifying conditions for nuclear weapon use was adopted. This indicates that the country has codified the possibility of preemptive nuclear use based on its discretionary judgment. A wide range of tests and training for the development and deployment of new weapons have continued.

There have also been indications pointing toward the possibility of a nuclear explosion test, the first since September 2017.

1 "Submarine-Launched Ballistic Missiles (SLBM)"

Ballistic missiles capable of being launched from submarines.

2 "Intercontinental Ballistic Missiles (ICBM)"

Land-based ballistic missiles with a range of 5,500 km or more.

3 "Reserve/non-deployed nuclear warheads"

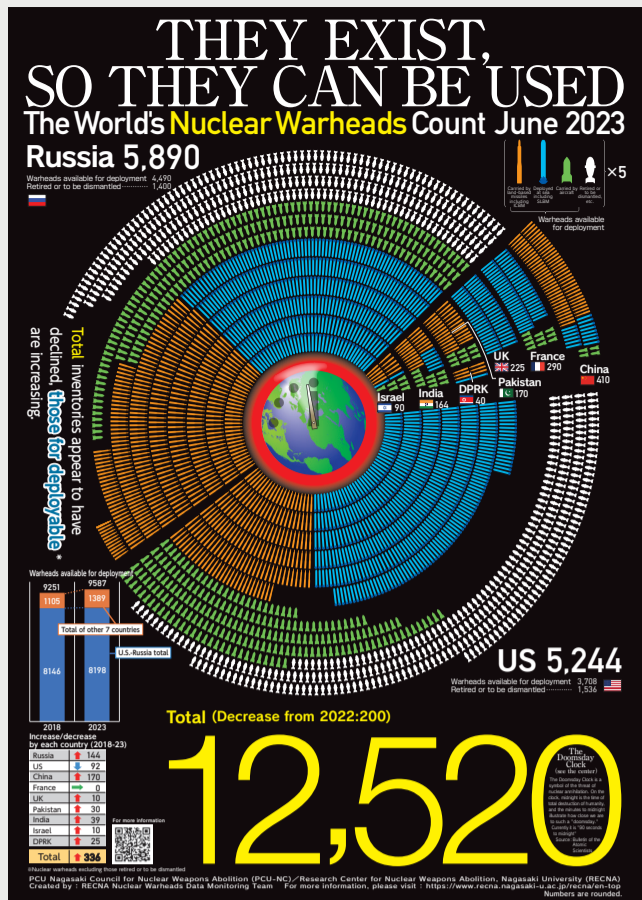
Reserved warheads which are not operationally deployed, but are stored for possible future use.

4 "Operationally Deployed Nuclear Warheads"

Nuclear warheads which are deployed at a military unit and are capable of use.

5 "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."



Since figures in the poster are rounded, some totals may differ from the actual total.

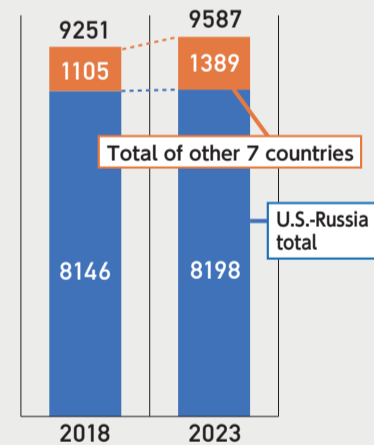
However, substantial nuclear expansion is underway. What is noteworthy is the number of **deployable nuclear warheads**. This is the total number of warheads minus the number of warheads "retired or to be dismantled." In other words, it is the total number of warheads deployed and ready for use (**operationally deployed nuclear warheads 4**) and the number of warheads stored in preparation for deployment (**reserve/non-deployed nuclear warheads 3**). The number of those for deployable has been on a clear upward trend since the implementation deadline (February 2018) of the New Strategic Arms Reduction Treaty (New START) between the U.S. and Russia [Figure 3].

In addition, all of the countries are making qualitative improvements in their nuclear arsenals. The international disarmament, non-proliferation, and arms control framework is facing very significant headwinds.

In the center of the poster is the Doomsday Clock: in January 2023, the hands of the Doomsday Clock were advanced by 10 seconds to a record-breaking 90 seconds to midnight. The Doomsday Clock, which has been published continuously since 1947 by the prestigious U.S. journal "The Bulletin of the Atomic Scientists," is an attempt to symbolically indicate the world's critical situation with the time remaining until midnight, which is analogous to the time when humanity is annihilated by the use of nuclear weapons or other means.

The primary reason for the recent advancement of the clock is the military invasion of Ukraine by Russia and the resulting increase in the risk of nuclear use. The clock is sounding the alarm that our world is facing a significant crisis.

[Figure 3]
Increase/Decrease of Warheads Available for Deployment 2018-2023



Country	2018	2023	Increase/decrease
Russia	4346	4490	↑ 144
United States	3800	3708	↓ 92
China	240	410	↑ 170
France	290	290	→ 0
United Kingdom	215	225	↑ 10
Pakistan	140	170	↑ 30
India	125	164	↑ 39
Israel	80	90	↑ 10
North Korea	15	40	↑ 25
Total	9251	9587	↑ 336