

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 13,000 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, has been published on our website:

https://www.recna.nagasaki-u.ac.jp/recna/en-nwdata/list_of_nuclear_2022



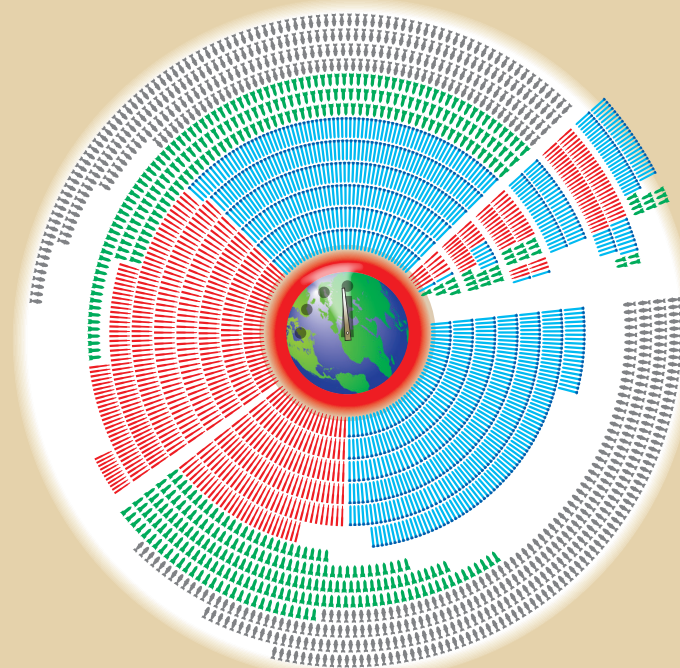
Please see the website for further details.

June 2022

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12,720

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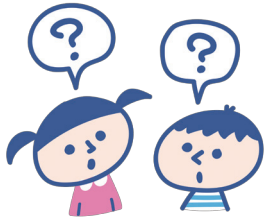
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Frequently Asked Questions



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

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.”

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

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.

Q3) What is the difference between a nuclear weapon and other weapons?

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.”

Q4) Is nuclear testing still being conducted?

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-bombed cities as well as the international community.

Q5) North Korea’s nuclear weapons: How advanced are they?

The nuclear force of the Democratic People’s Republic of Korea (North Korea) is continuing a trend of expansion. The details of the nation’s nuclear plans are unclear but they continue to produce the nuclear material required as the ingredients of nuclear weapons, and they have repeatedly tested a variety of missiles that could be mounted with nuclear weapons. Diplomatic efforts have been underway with the first ever US-North Korea summit held in 2018, but the realization of the promised complete denuclearization of the Korean Peninsula is stagnating.

Q6) Does Iran possess nuclear weapons?

Iran does not possess any nuclear weapons. However, since it had been furtively proceeding with uranium enrichment activities that could lead to the acquisition of nuclear weapons the intentions of the nation’s nuclear development have been under suspicion. In an attempt to arrive at a diplomatic solution the Joint Comprehensive Plan of Action was concluded in 2015 between Iran and the six major nations. In return for complying with restrictions, inspections and monitoring of its nuclear development capability, there was to be a comprehensive lifting of economic sanctions on Iran. However, the United States unilaterally withdrew from the agreement in 2018 and restarted its sanctions on Iran, which in turn relaunched its enrichment program, and US-Iran relations have deteriorated.

Q7) Will the Treaty on the Prohibition of Nuclear Weapons lead to the nuclear weapons abolition?

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.

Q8) What does the abandonment of nuclear weapons involve?

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.

Q9) What can Japan do?

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.

Highlights of the 2022 World's Nuclear Warheads Count

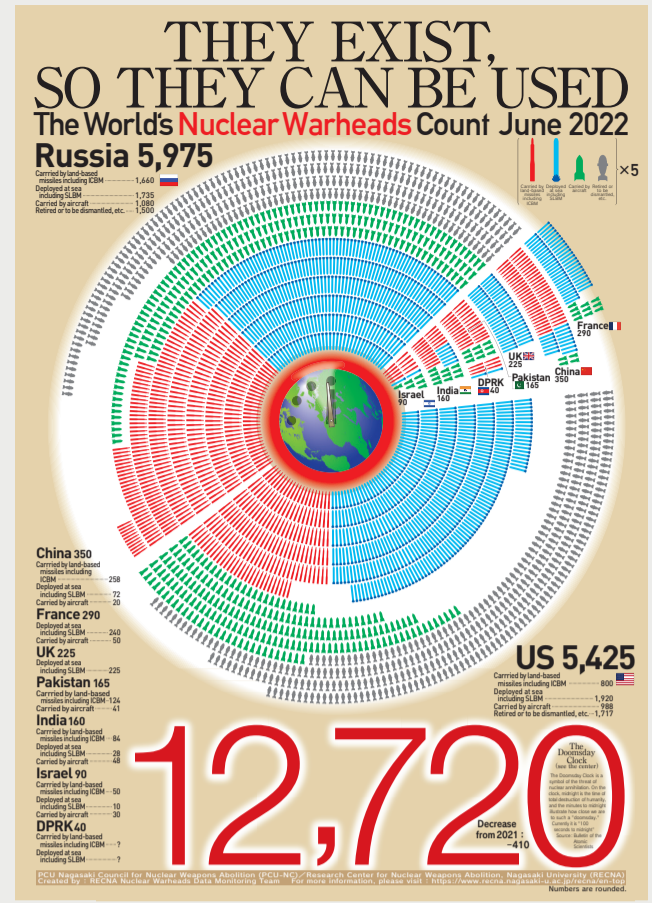
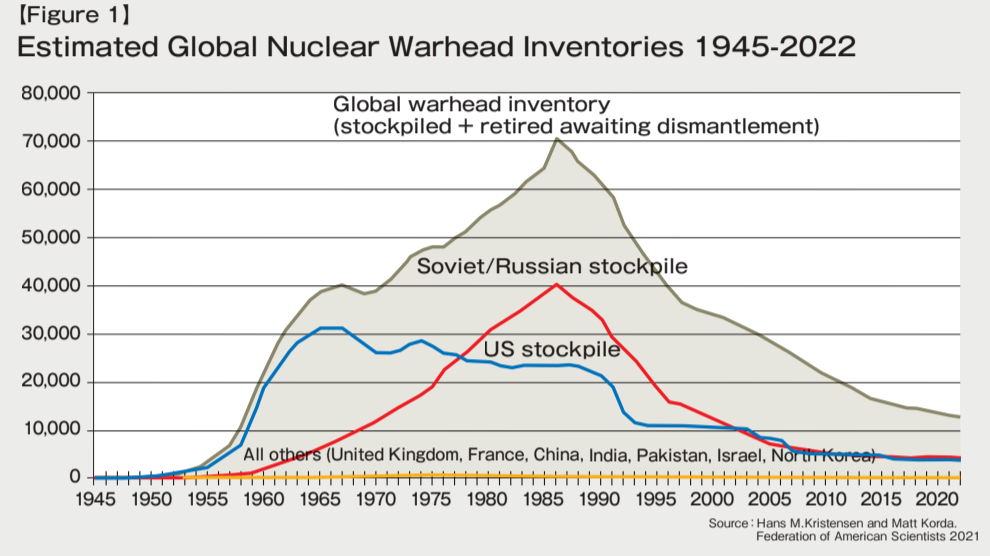
- The total number of warheads continues to decline. But qualitative expansion is progressing and the risk of using nuclear weapons is increasing.
- Although the number of warheads held by the U.S. and Russia has decreased, their military stockpiles remain almost unchanged.
- North Korea abandons its missile launch moratorium. Preparations to resume nuclear testing are underway.

Introduction

As of June 2022, the total number of nuclear warheads in the world is estimated to be 12,720. This is a decrease of 410 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. Five of these countries—the U.S., Russia, France, U.K. and China—are defined as "Nuclear Weapons States" under the Nuclear Nonproliferation Treaty (NPT). India, Pakistan, and Israel continue to possess nuclear weapons outside the NPT. North Korea declared its withdrawal from the NPT in 2003.

The total number of nuclear warheads continues to decline. At the peak in 1987, there were nearly 70,000 warheads, with the number significantly declining after the end of the Cold War. Most of this reduction was due to bilateral agreements between the U.S. and Russia, which together account for more than 90% of the total number, or unilateral reduction measures taken by them respectively.

Russia's invasion of Ukraine, which began on February 24, 2022, has quickly raised the international community's concern about the use of nuclear weapons. While Russia's continued use of "nuclear blackmail" is to be severely condemned, it is not the only problem, as described below. The international framework for disarmament, nonproliferation, and arms control is facing tremendous headwinds.



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

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.

- 1** Nuclear warheads deployed at sea; e.g., Submarine-Launched Ballistic Missiles (SLBMs)
- 2** Nuclear warheads deployed on land; e.g., Intercontinental Ballistic Missiles (ICBMs)
- 3** Nuclear warheads carried by aircraft; e.g., bombers

All three of these categories contain nuclear warheads that are either "operationally deployed" (4) "strategic nuclear warheads" (5), "operationally deployed non-strategic nuclear warheads", or "reserve/non-deployed nuclear warheads" (3).

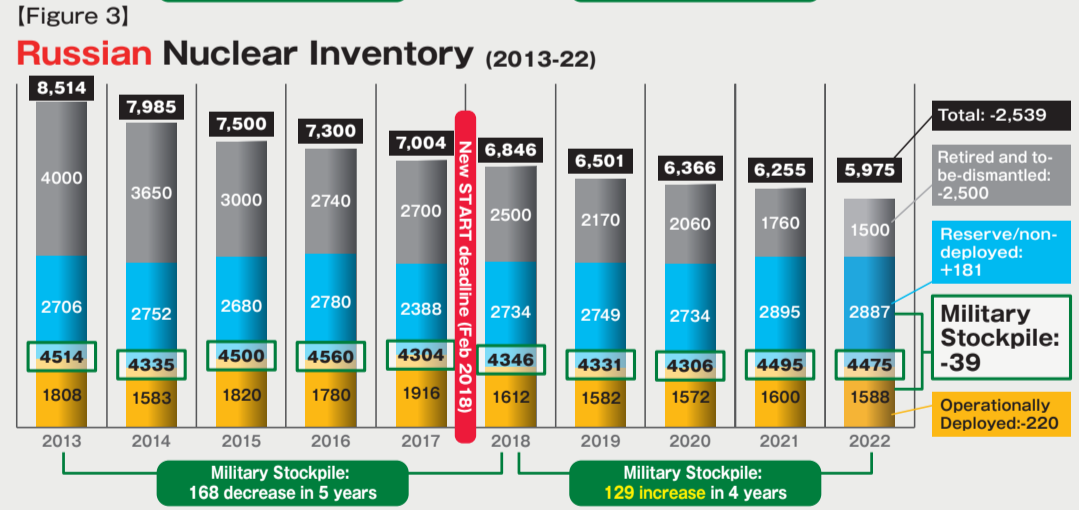
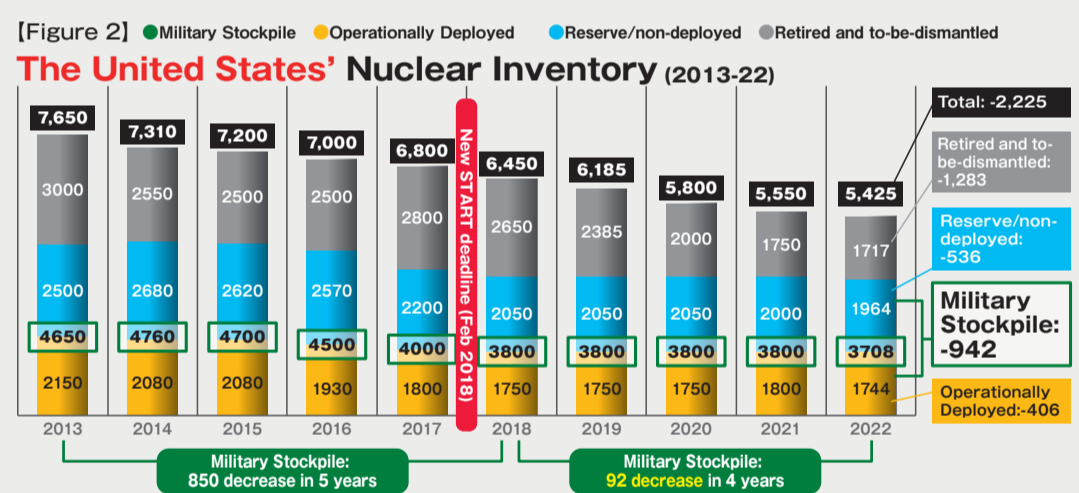
In addition the above, we have established a category for "retired and to-be-dismantled" warheads. Although these nuclear warheads have been retired from military stockpiles and stored for dismantlement, this does not necessarily eliminate the possibility of their reuse.

United States and Russia

As the tension and confrontation between the U.S. and Russia, as well as with China, has become more obvious, the nuclear arms race between these two nations has been rekindling. Both countries are vigorously implementing their modernization plans with a huge budget to upgrade their aging nuclear weapons systems, while accelerating their efforts to develop and deploy new types of weapons utilizing state-of-art technology. Bilateral and multilateral arms control regimes have also been deteriorating, as exemplified by the expiry of the Intermediate-Range Nuclear Forces (INF) Treaty in August 2019.

Against this background, efforts by the U.S. and Russia to reduce their nuclear arsenals continue to stall. During the nine-year period from 2013, when this poster first appeared, to 2022, the total number of U.S. nuclear warheads has been reduced by 2,225. But in terms of the military stockpiles (the total number of **operationally deployed nuclear warheads** (4) and **reserve/non-deployed nuclear warheads** (3)), the reduction has been limited to 942. When it comes to Russia, the total number of nuclear warheads has been reduced by 2,539, but the military stockpile reduction amounts to only 39 warheads. Since the implementation deadline (February 2018) of the New Strategic Arms Reduction Treaty (New START) between the U.S. and Russia, the pace of reduction in the number of nuclear warheads in the militaries of both countries has slowed further, and with Russia, this has even changed from decreasing to increasing. In sum, even though the total number of nuclear warheads is on a downward trend, the extent of reduction of "usable" nuclear warheads, both deployed and not deployed, has been extremely limited, indicating that nuclear disarmament is far from progressing. The U.S. and Russia must faithfully fulfill their nuclear disarmament obligations under Article VI of the NPT.

In addition, in future U.S.-Russia disarmament negotiations, a qualitative disarmament agenda should be put on the table, not just reductions in nuclear warheads and their delivery vehicles. Namely, the restrictions and bans on new weapons, such as hypersonic missiles and precision-guided weapons, which increase the risk of nuclear weapons use, and the regulation of military activities in the space and cyber domains. It is important to also involve China in these negotiations in the future.



Others

The number of nuclear warheads held by China, India, Pakistan, and North Korea has not changed from last year, but all are expanding their nuclear arsenals. Over the past nine years, China is believed to have increased its nuclear warheads by 100 warheads, India by 50-70 warheads, Pakistan by 45-65 warheads, and North Korea by at least 30 warheads. In addition, the development and deployment of various missiles and other delivery means are proceeding at a rapid pace. There is no sign so far that these trends will be halted.

In particular, North Korea has shown an even clearer stance toward demonstrating its nuclear capabilities during this period. North Korea has suspended ballistic missile tests since its Intercontinental Ballistic Missile (ICBM) launch test on November 29, 2017 against the backdrop of progress in diplomatic negotiations over the denuclearization of the Korean Peninsula. However, the moratorium on intermediate-range and long-range ballistic missiles was broken with the launch tests of an intermediate-range ballistic missile (IRBM) on January 30, 2022 and a missile believed to be a "new" ICBM on March 24, 2022. Kim Jong Il has indicated that he would not hesitate to launch a nuclear first strike, saying that the role of nuclear weapons is not only to deter war. It is also important to note that in these statements the possibility of using tactical nuclear weapons is emphasized, with indications pointing to the possibility of North Korea conducting a nuclear explosion test for the first time since September 2017.

[Table 1] Changes in the estimated number of nuclear warheads of nuclear armed countries (2013-22)

Country	2013	2022	increase/decrease
North Korea	<10	40	30 or more increase
India	90-110	160	50-70 increase
Pakistan	100-120	165	45-65 increase
Israel	80	90	10 increase
United Kingdom	225	225	No increase or decrease
China	250	350	100 increase
France	300	290	10 decrease
United States	7,650	5,425	2,225 decrease
Russia	8,514	5,975	2,539 decrease

- 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."