

7. World nuclear forces

Overview

At the start of 2023, nine states—the United States, the Russian Federation, the United Kingdom, France, China, India, Pakistan, the Democratic People’s Republic of Korea (DPRK, or North Korea) and Israel—together possessed approximately 12 512 nuclear weapons, of which 9576 were considered to be potentially operationally available. An estimated 3844 of these warheads were deployed with operational forces (see table 7.1), including about 2000 that were kept in a state of high operational alert—the same number as the previous year.

Overall, the number of nuclear warheads in the world continues to decline. However, this is primarily due to the USA and Russia dismantling retired warheads. Global reductions of operational warheads appear to have stalled, and their numbers are rising again. At the same time, both the USA and Russia have extensive and expensive programmes under way to replace and modernize their nuclear warheads, their missile, aircraft and submarine delivery systems, and their nuclear weapon production facilities (see sections I and II).

China is in the middle of a significant modernization and expansion of its nuclear arsenal (see section V). Its nuclear stockpile is expected to continue growing over the coming decade and some projections suggest that it will deploy at least as many intercontinental ballistic missiles (ICBMs) as either Russia or the USA in that period. However, China’s overall nuclear warhead stockpile is still expected to remain smaller than that of either of those states.

The nuclear arsenals of the other nuclear-armed states are even smaller (see sections III–IV, VI–IX), but all are either developing or deploying new weapon systems or have announced their intention to do so. India and Pakistan also appear to be increasing the size of their nuclear weapon inventories, and the UK has announced plans to increase its stockpile. North Korea’s military nuclear programme remains central to its national security strategy and it may have assembled up to 30 nuclear weapons and could produce more. Israel continues to maintain its long-standing policy of nuclear ambiguity, leaving significant uncertainty about the number and characteristics of its nuclear weapons.

The availability of reliable information on the status of the nuclear arsenals and capabilities of the nuclear-armed states varies considerably. In some cases, estimates can be based on the amount of fissile material—plutonium and highly enriched uranium (HEU)—that a country is believed to have produced (see section X) and on observations of missile forces.

HANS M. KRISTENSEN AND MATT KORDA

Table 7.1. World nuclear forces, January 2023

All figures are approximate and are estimates based on assessments by the authors. The estimates presented here are based on public information and contain some uncertainties, as reflected in the notes to tables 7.1–7.10.

Country	Year of first nuclear test	Warhead stockpile ^a			Retired warheads	Total inventory
		Deployed ^b	Stored ^c	Total		
United States	1945	1 770 ^d	1 938 ^e	3 708	1 536 ^f	5 244
Russia	1949	1 674 ^g	2 815 ^h	4 489	1 400 ^f	5 889
United Kingdom	1952	120	105	225	– ⁱ	225 ^j
France	1960	280	10	290	..	290
China	1964	–	410	410	–	410
India	1974	–	164	164	..	164
Pakistan	1998	–	170	170	..	170
North Korea	2006	–	30	30	..	30 ^k
Israel	..	–	90	90	..	90
Total		3 844	5 732	9 576	2 936	12 512

.. = not applicable or not available; – = nil or a negligible value.

Notes: SIPRI revises its world nuclear forces data each year based on new information and updates to earlier assessments. The data for Jan. 2023 replaces all previously published SIPRI data on world nuclear forces.

^a Some states, such as the USA, use the official term ‘stockpile’ to refer to this subset of warheads, while others, such as the UK, often use ‘stockpile’ to describe the entire nuclear inventory. SIPRI uses the term ‘stockpile’ to refer to all deployed warheads as well as warheads in central storage that could potentially be deployed after some preparation.

^b These are warheads placed on missiles or located on bases with operational forces.

^c These are warheads in central storage that would require some preparation (e.g. transport and loading on to launchers) before they could be deployed.

^d This figure includes c. 1370 warheads deployed on ballistic missiles and c. 300 stored at bomber bases in the USA, as well as c. 100 non-strategic (tactical) nuclear bombs thought to be deployed across 6 airbases in 5 North Atlantic Treaty Organization member states (Belgium, Germany, Italy, the Netherlands and Türkiye). These non-strategic bombs remain in the custody of the USA.

^e This figure includes c. 100 non-strategic nuclear bombs stored in the USA. The remainder are strategic nuclear warheads.

^f This figure refers to retired warheads that have not yet been dismantled.

^g This figure includes c. 1474 strategic warheads deployed on ballistic missiles and c. 200 deployed at heavy bomber bases.

^h This figure includes c. 999 strategic and c. 1816 non-strategic warheads in central storage.

ⁱ SIPRI previously estimated that the UK had c. 45 retired warheads awaiting dismantlement; however, SIPRI’s assessment as of Jan. 2023 is that these warheads are likely to be reconstituted to become part of the UK’s growing stockpile over the coming years (see note j).

^j The British government declared in 2010 that its nuclear weapon inventory would not exceed 225 warheads. It is estimated here that the inventory remained at that number in Jan. 2023. A planned reduction to an inventory of 180 warheads by the mid 2020s was ended by a government review published in 2021. The review introduced a new ceiling of 260 warheads.

^k Information about the status and capability of North Korea’s nuclear arsenal comes with significant uncertainty. North Korea might have produced enough fissile material to build 50–70 nuclear warheads; however, it is likely that it has assembled fewer warheads, perhaps c. 30.