

NUKES

WHAT ABOUT THEM?



WHAT ARE THEY?
IS IT LEGAL TO USE THEM?
IS IT LEGAL TO HAVE THEM?
WHO HAS THEM
AND WHO WANTS THEM?
WHY ARE THEY STILL AROUND?



“It is a measure of arrogance to assert that a nuclear weapons-free world is impossible when 95% of the nations of the world are already nuclear-free. There is no security in nuclear weapons. It is a fool’s game.”

General Lee Butler, head of US Strategic Nuclear Forces 1991-1994

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IKV Pax Christi’s campaign for a world free of nuclear weapons.
For more information, go to www.nonukes.nl.

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WHAT ABOUT NUCLEAR WEAPONS?

Nuclear weapons – atom-bombs or hydrogen-bombs – or just ‘nukes’ have been around for about 65 years. Even before the first bomb was dropped, people have opposed the development and use of these weapons. In this booklet, we will take a closer look at what it is about nukes that makes people continue to resist them.

Nukes are different. Why?

First Nukes have terrible destructive capacity.

A single bomb can flatten an entire city. Due to that power, they forced a change in global war strategy: instead of battlefield victories, total enemy annihilation became a real possibility.

Second There is a lot about nuclear weapons that people don't know. For example, most people think that nukes were only used twice. But actually, over 2000 nuclear explosions have taken place, most of them on nuclear test sites. As a result, there are huge areas that cannot sustain human life due to radioactive pollution that will last for thousands of years.

Third There are still about 23,000 of them around the globe!!!

Fourth Since the use of nukes is so inconceivable, and the debate around the right to have them is so

complicated, a lot of politicians just tend to keep quiet on the issue of nuclear disarmament.

However in the last few years, a renewed debate has sprung up.

We are part of this debate, and that's why we wrote this booklet. From here on we will explain and discuss the following aspects of nuclear weapons: What are they? Who has or wants them? Is it legal to use them? Is it legal to have them? What are other effects of nuclear weapons, apart from the blast? What about the money? Is it right or wrong to have them? And, hopefully, how can you help the world to get rid of these things, before the world is destroyed by them?!

We believe that a world free of nuclear weapons is not only possible, it's necessary. We hope after reading this, you'll agree.



Explosion as a result of a nuclear weapons test by the US military at Bikini Atoll, Micronesia, on 25 July 1946. The water released by the explosion was highly radioactive and contaminated many of the ships that were set up near it.

WHAT ARE NUCLEAR WEAPONS?

Nuclear weapons come in every shape and size. The biggest bomb designs went up to 100 Megatons, which is 8,000 times stronger than Little Boy, the Hiroshima bomb.

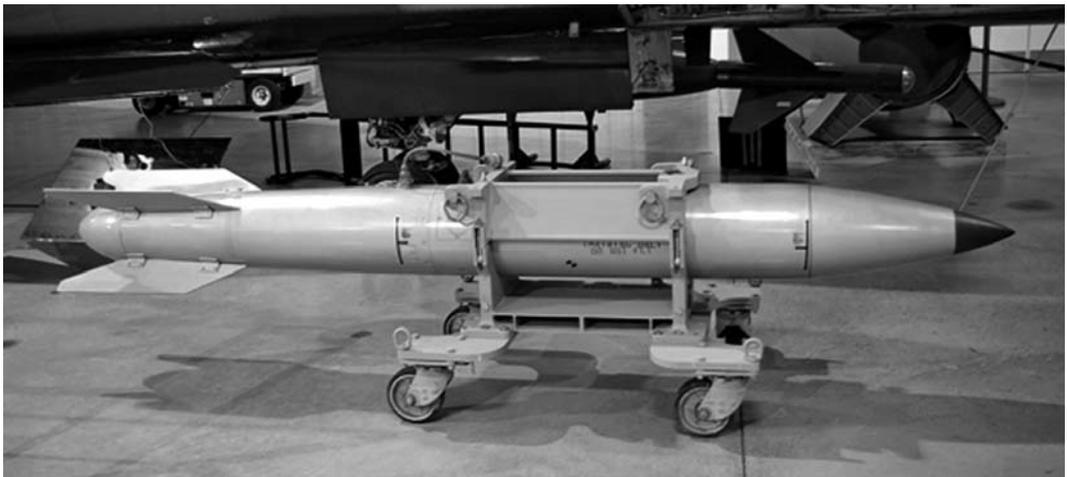
The biggest nuclear weapon ever tested was the Russian 'Tsar Bomb', at 50 Megatons. If this bomb were detonated over the Eiffel Tower in Paris, the flash would be visible in Berlin, window panes would shatter in London, and the 300 inhabitants of the rustic countryside village Fains-la-Folie (100 km from Paris) would suffer from third degree burns. The smallest nuclear weapons deployed today carry a 0,3 kiloton explosion, enough to wipe away Vatican City.

Nuclear weapons are categorized by their range. The best known weapons are 'strategic' nukes that can target any place on earth from any given launching point. Most of these weapons are owned by Russia and the US. Reductions of these strategic nukes are agreed in treaties like the new START Treaty recently signed by the two countries. However, both countries still own thousands of these weapons, enough to destroy our planet several times.

At the other end of the spectrum are the 'tactical' nuclear weapons, designed for use in specific military campaigns, on the battlefield. While longer range strategic weapons are delivered by missiles and bombers, shorter range tactical nukes can be mounted on top of a missile, or take the form of gravity-bombs, landmines or even grenades. Tactical nukes are used to bomb enemy soldiers or to put up a wall of radiation to block invading troops.

Since the Cold War ended, the US reduced its tactical nuclear arsenal by 85%, Russia by 70%. Nevertheless, there are still approximately 2,000 Russian tactical nukes close to the borders of central and eastern European states, and 200 US tactical nukes are deployed in Belgium, Germany, Italy, the Netherlands and Turkey. Unlike strategic nuclear weapons, tactical nuclear weapons are not included in disarmament treaties.

A B61-bomb. This is the type of US tactical nuclear weapon that is deployed in Europe under NATO-agreements.



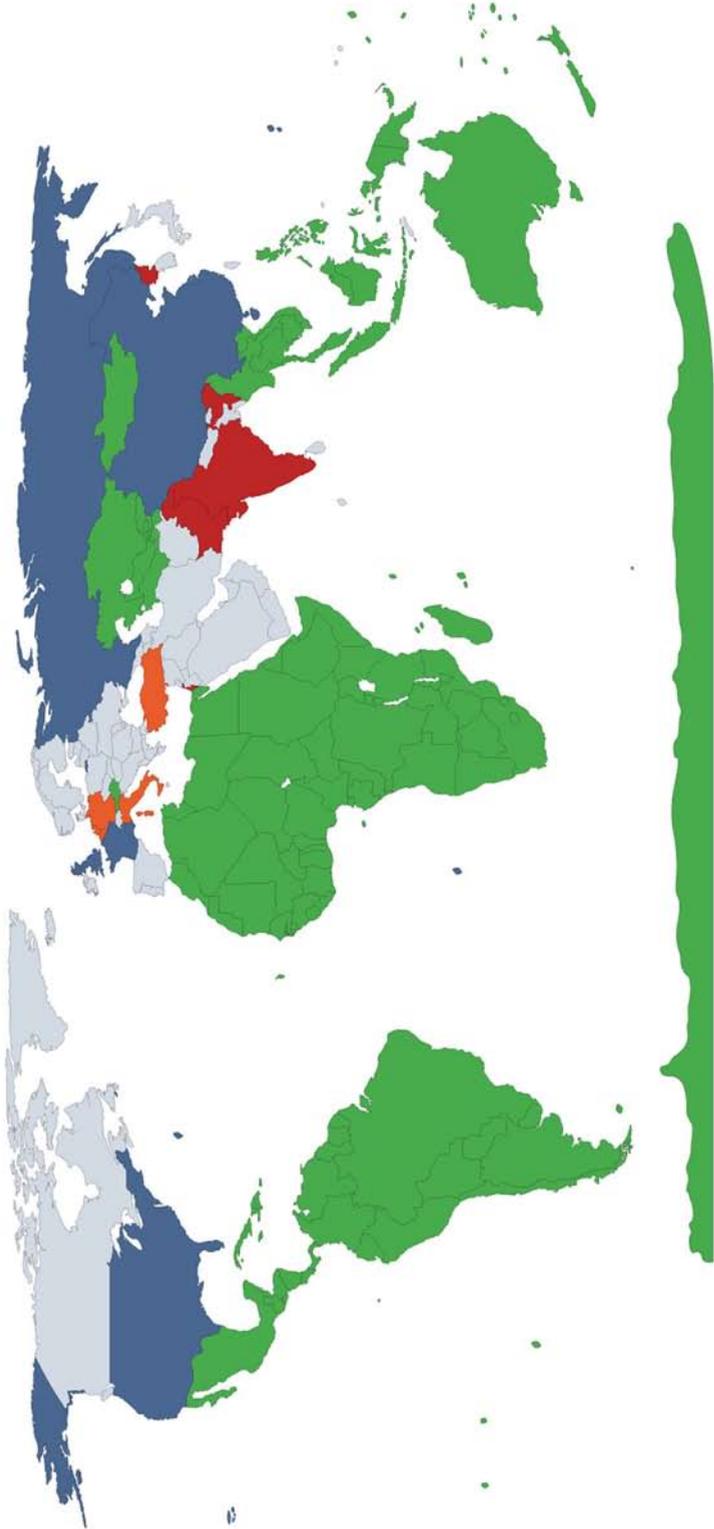


Replica of the Tsar Bomb in Sarov Atomic Bomb Museum. The Tsar Bomb is the biggest nuclear bomb ever tested.



In practice, the function of nuclear weapons is not to annihilate enemy cities, but to prevent other nuclear powers from doing so. Politically, nuclear weapons are used every day to threaten or coerce non-nuclear states into compliance and to deter a nuclear or conventional attack.

Nuclear bombs were used twice in war. On August 6, 1945 the United States dropped a bomb on Hiroshima, three days later it dropped another one on Nagasaki. Up to 200,000 people died instantly in the two blasts, and a similar amount died in the first years after the event because of injuries or radiation effects. Long term effects continue throughout the generations.



- NPT* nuclear weapon states
- Non-NPT nuclear weapon states
- States hosting US nuclear weapons
- Nuclear weapon free zones

Number of warheads per country:

China: 240	Pakistan: >100
France: 300	Russia: 12,000
India: 75	UK: 180
Israel: 180	U.S.: 9,600
North Korea: <10	

Want to see the effects of a nuclear attack? Go to www.nonukes.nl or scan this QR-code with your mobile phone.



* see page 9

IS IT LEGAL TO USE NUCLEAR WEAPONS?

International Humanitarian Law, or The Laws of War determines how to behave during wartime. For example, one must not kill enemy soldiers that have surrendered and laid their weapons down, and it's illegal to kill defenceless people who did not take part in the fighting.

The effects of a nuclear bomb reach much further than soldiers, and they continue long after the initial explosion. When the United States dropped the bomb on Hiroshima, the blast instantly killed more than 90% of the Hiroshima medical community. The burst temperature, estimated to reach over a million degrees Celsius, was so hot that the air itself caught fire. Radiated particles contaminated large areas and many exposed people died of radiation sickness, or developed forms of cancer later on. Nuclear weapons cannot distinguish between soldiers and civilians.

The International Court of Justice (ICJ), the world's highest authority on the interpretation of international law, said in 1996 that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law”.

In May 2010, for the first time, signatories of the Non-Proliferation Treaty, the only global treaty regulating nuclear weapons (see next section), expressed “deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons and reaffirms the need for all States at all times to comply with applicable international law, including international humanitarian law”. Linking Humanitarian Law to nuclear weapons strengthens opportunities to prevent future use of these weapons by outlawing them altogether. Just as International Humanitarian Law led to the outlawing of biological and chemical weapons, it too can be a path to forever outlaw nuclear weapons.

One survivor of Hiroshima told her story: “Many people on the street were killed almost instantly. The fingertips of those dead bodies caught fire and the fire gradually spread over their entire bodies from their fingers. A light gray liquid dripped down their hands, scorching their fingers. I... I was so shocked to know that fingers and bodies could be burned and deformed like that. I just couldn't believe it. It was horrible. And looking at it, it was more than painful for me to think how the fingers were burned, hands and fingers that would hold babies or turn pages, they just, they just burned away.”
See: <http://www.inicom.com/hibakusha>, for more stories of survivors of the bombs.



IS IT LEGAL TO HAVE NUCLEAR WEAPONS?

According to the nuclear Non-Proliferation Treaty (NPT), it is not legal to build, buy or steal nuclear weapons. However, for the five countries who tested nuclear weapons before 1967, a loophole exists. These five (China, France, Russia, the UK and the US) are not forbidden to have them, but are legally obliged to negotiate nuclear disarmament. Every country in the world- except India, Israel, North Korea and Pakistan - is part of the NPT.

The very first meeting of the General Assembly of the United Nations in 1946 agreed to establish a commission to work on “the elimination from national armaments of atomic weapons and all other major weapons adaptable to mass destruction”.

This commission eventually became the International Atomic Energy Agency (IAEA). The IAEA is responsible for helping countries develop peaceful uses of nuclear technology (including energy and medicine) while making sure that they do not use this information or material to make nuclear weapons. The NPT requires that countries without nuclear weapons sign a safeguards agreement with the IAEA that regulates how this development and monitoring is to take place.

In the NPT, the nuclear powers pledged to negotiate nuclear disarmament. Today, the NPT has been in force for over 40 years, yet there remain over 23,000 nuclear weapons in the world. Since 1997 proposals have been circulated in the UN General Assembly to create a treaty that would make nuclear weapons illegal for EVERYONE. However, because of the political importance some countries attach to their nuclear weapons, negotiations on this proposal have not yet begun.



The world requested, through the UN General Assembly, some clarification about the responsibility of the five Nuclear Weapons States to meet their disarmament obligations. The International Court of Justice clarified that not only do the countries that have nuclear weapons need to negotiate disarmament, they need to get a result from those negotiations that will lead to a nuclear weapons free world.

ARE NUCLEAR WEAPONS SAFE?

Lots of great action movies are about nuclear weapons falling into in the wrong hands or used by accident through miscommunication and human error. How real are these scenarios? A small movie review through the eyes of nuclear safety.

In the 007-movie **Never Say Never Again** two nuclear warheads are stolen by a drug-addicted air force officer. Will this ever happen? Extremely unlikely: first, nuclear weapons are safely tucked away in bunkers and highly secured military facilities. And even if you managed to get a hold of one, safety precautions make it nearly impossible to launch or detonate a nuke. However, for years American nuclear base personnel would reset code locks for nuclear bunkers to '0000' just to make life easier for everybody. More recently, Belgian activists managed to break in and enter Kleine Brogel Air Base, where 20 nuclear bombs are kept. The activists walked around the site freely for several hours while videotaping nuclear vaults and military equipment.

In Stanley Kubrick's famous film **Dr. Strangelove, or: How I Learned to Stop Worrying and Love the Bomb**, a paranoid Brigadier General is able to deploy a nuclear attack without the knowledge of his superiors. Accidental launch or unauthorised launch by military personnel is another recurring movie scenario. In reality, a long chain of command and several codes and failsafe measures are needed before a nuclear rocket will launch. And these days, dropping a nuclear bomb from an aircraft like in *Dr. Strangelove* would not lead to a nuclear explosion, just to a big bump in the earth with some possible radiation leakage: for the actual detonation another safety procedure exists. However, during the Cold War the world seemed to have been only moments away from nuclear horror. In 1983 the Soviet early warning radar system repeatedly reported that US missiles were coming. Soviet strategy on this was: immediate nuclear counterattack.

Stanislav Petrov, the officer on duty, argued that a US attack was likely to have been of a larger scale than his computer reported, which led him to the conclusion that the system malfunctioned. He didn't report the warning to his superiors, thus preventing a retaliatory attack.

In another Bond movie, **The Spy Who Loved Me**, evil shipping tycoon Karl Stromberg steals British and Soviet submarines to bomb New York City and Moscow, setting off a nuclear third world war. Many movies have been made about governments losing control of submarines carrying nuclear weapons. Luckily this hasn't happened, but keeping nuclear arms afloat does have risk. Some figures: as far as we know in the last 50 years 4 Russian nuclear submarines sunk, 3 US subs hit the seabed, 6 British, US and Russian submarines collided with other ships or objects in the sea, a British and a French nuclear submarine even collided with each other, 8 US airplanes carrying nuclear warheads crashed, 4 US airplanes 'disappeared' above sea or accidentally dropped their nukes above sea OR land (luckily not leading to detonation), and a lot of fires, explosions and other inevitable accidents happened on board ships, airplanes, in factories and other nuclear weapons facilities.

Even if you take all safety precautions, there is always room for accident: in 1958, a US bomber experiencing engine trouble during takeoff jettisoned two fuel tanks, which exploded 65 feet behind a parked airplane loaded with nukes. The resulting fire burned for 16 hours and caused the high explosives package of at least one weapon to explode. The explosion released radioactive material, including powdered uranium and plutonium oxides.

WHAT DO NUKES COST?

The secrecy around nuclear weapons means that for most countries, no reliable estimates exist on annual expenditures on nuclear weapons. The US is one of the more transparent countries in this respect, we know they spend more than \$35.000.000.000 (35 billion dollars) on nuclear arms each year.

The F-35 Joint Strike Fighter gets more expensive every day



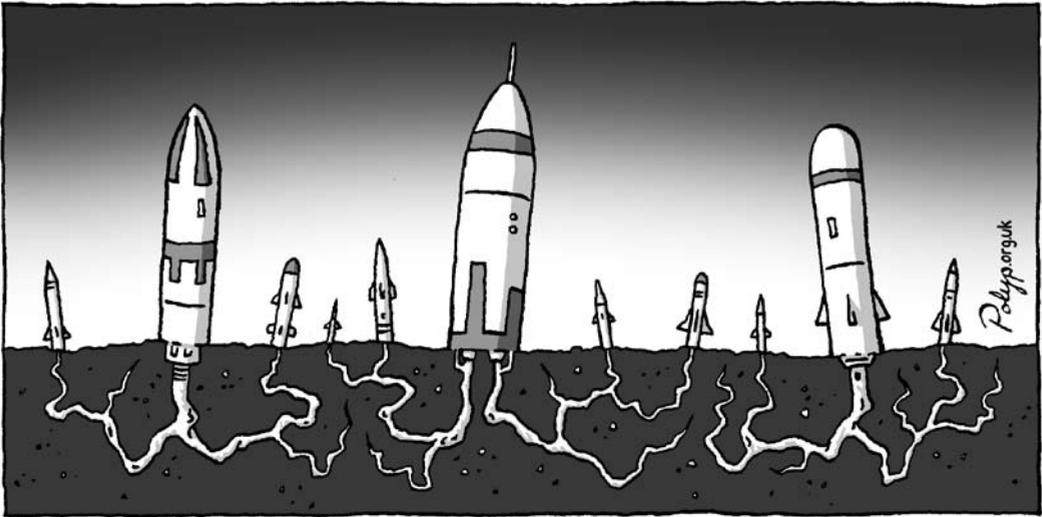
Only a small part of the high cost of nuclear arms is the actual warhead. The entire process is costly. Development, testing, maintenance, security, storage, training of personnel and disposal together make nuclear weapons expensive, especially considering their relatively limited relevance in modern warfare.

Estimates are that the US alone spent \$5.480.000.000.000 (or 5,48 trillion dollars) on nuclear arms in the first 50 years of their existence. And expenditures for nuclear arms never stop, unless we get rid of them all- and even then it will cost money to keep the poisonous waste generated by their disarmament out of the environment. The US plans to spend another \$4 billion just to extend the life of one type of warhead, the B61 bomb.

The costs of nuclear weapons extend even further. The same B61 bombs need to be dropped above their targets by fighter planes. In choosing replacement planes, all countries involved in flying B61 bombs have to ask the question: Do they buy a new plane that can carry and drop nuclear weapons? If so, it means the choice is limited to basically one option, namely the chronically delayed and technologically challenged F-35 Joint Strike Fighter. Making the F-35 capable of the nuclear task will add another \$440 million to the already mindboggling development budget.

All expenses are relative, of course. But for weapons that by design are contrary to the Laws of War, the financial burden is enormous.

BUT ...



Didn't Nuclear Weapons end the Second World War?

By the time the first nuclear weapon was tested, Germany had already surrendered. There are many doubts raised as to whether the bombs dropped on Hiroshima and Nagasaki were the reason that Japan surrendered, or if it was actually the Soviet declaration of war on Japan that was the cause.

Didn't Nuclear Weapons Keep the Cold War cold?

The mutual buildup of nuclear weapons between the USSR and the US may have prevented the two from engaging in war with one another directly, however, proxy wars (generally on the territories of developing nations) continued. War did not end with the development of the bomb. The chance that one of the proxy wars could have flared into a nuclear war was very close- several times.

Didn't the nuclear powers already agree to get rid of them?

Unfortunately, the nuclear Non-Proliferation Treaty is not as clear on this as it could be. The language in the treaty commits China, France, Russia, US and UK

to negotiate towards disarmament- not to forever get rid of their weapons.

What can you do? They've already been invented...

You can't put the 'genie back in the bottle', however, as with other weapons of mass destruction (chemical and biological) you CAN make them illegal for everyone to have. As with chemical weapons you can also create an inspection and verification regime that prevents them from being sold, used, or developed.

Don't we need them to prevent terrorists or rogue countries from using them?

The more nuclear weapons that exist, the more chances there are for them to be lost, stolen, or accidentally used. The only way to keep them out of the hands of the 'bad guys' is to get them out of everyone's hands.

THE MORAL QUESTION: RIGHT OR WRONG?

So, how about the moral perspective on nuclear weapons? The concept of morality is generally understood as what is 'right' or 'wrong'. Philosophers, religious leaders, politicians, writers and academics, but also you and I: we are constantly judging the world through our own opinions, convictions and beliefs.

Is it right or wrong to use nuclear weapons?

To threaten with them? Is it right or wrong to have them, and with that accept the risk that someone may use them?

These questions have been addressed by many people, and here are some examples of what they found:

Pope Benedict XVI, 1 January 2006

"In a nuclear war there would be no victors, only victims. The truth of peace requires that all - whether those governments which openly or secretly possess nuclear arms, or those planning to acquire them - agree to change their course by clear and firm decisions, and strive for a progressive and concerted nuclear disarmament."

The Dalai Lama, *A Human Approach to World Peace*

"I would like to appeal to all the leaders of the nuclear powers who literally have the future of the world in their hands, to the scientists and technicians who continue to create these awesome weapons of destruction, and to all the people at large who are in a position to influence their leaders, I appeal to them to exercise their sanity and begin to work at dismantling and destroying all nuclear weapons. We know that in the event of a nuclear war there will be no victors, because there will be no survivors."

Barack Obama

"As the only nuclear power to have used a nuclear weapon, the United States has a moral responsibility to act. We cannot succeed in this endeavor alone, but we can lead it, we can start it."

Albert Einstein

"The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe."

Philip Berrigan, American Roman Catholic Priest, Peace Activist

"Nuclear weapons are the scourge of the earth; to mine for them, manufacture them, deploy them, use them, is a curse against God, the human family, and the earth itself."

Henry Kissinger, *Our nuclear nightmare*, February 2009

"Any further spread of nuclear weapons multiplies the possibilities of nuclear confrontation; it magnifies the danger of diversion, deliberate or unauthorized. (...) How will publics react if they suffer or even observe casualties in the tens of thousands from a nuclear attack? Will they not ask two questions: What could we have done to prevent this? What shall we do now so that it can never happen again?"

Mikhail Gorbachev

"It is my firm belief that the infinite and uncontrollable fury of nuclear weapons should never be held in the hands of any mere mortal ever again, for any reason."

Now, what do you think? Is it right or wrong to make, have, or threaten with such a weapon?

FROM THE CRADLE TO THE GRAVE

The process of making, testing and finding the material for nuclear bombs.

1. Nevada, US, 1951-7

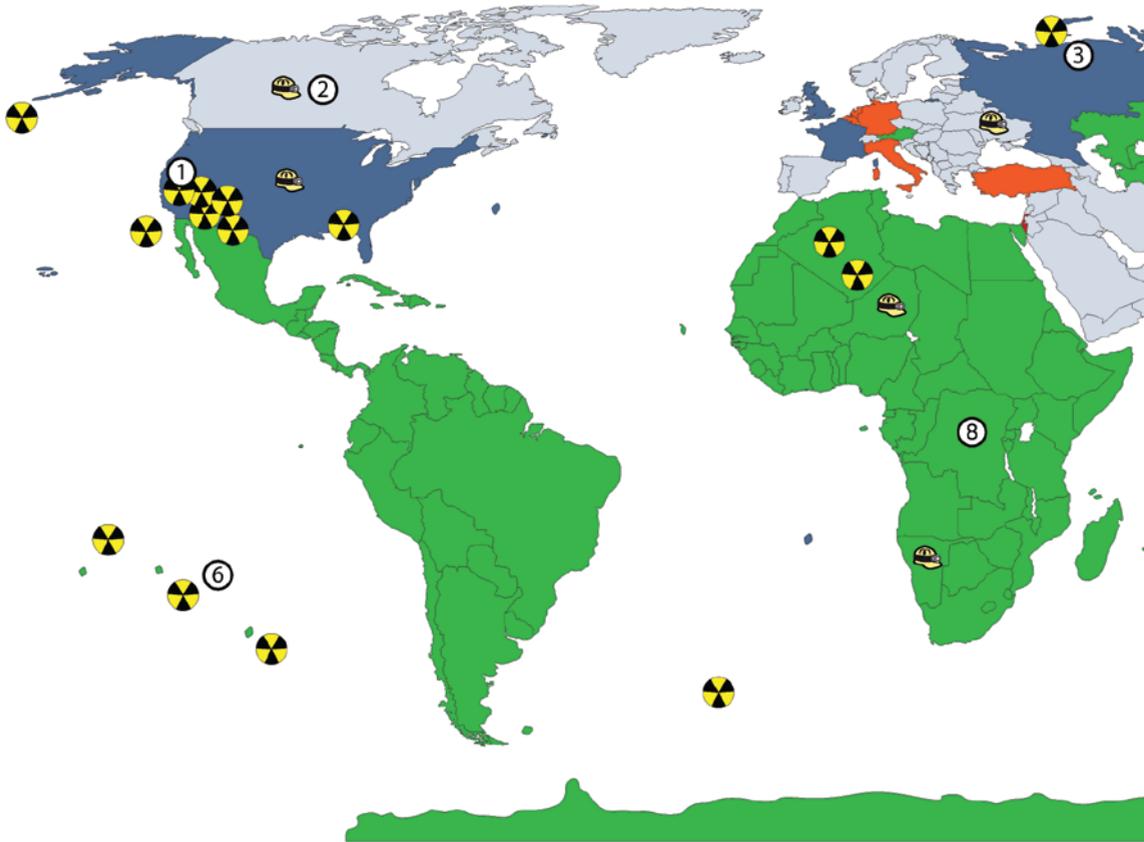
More than 1000 full scale nuclear test explosions took place at the site, which is still used for nuclear weapons development and nuclear waste storage.

2. McArthur River mine, Canada, 1988-?

McArthur River is the world's largest high-grade uranium deposit. Non-entry mining methods are required due to the high radiation exposure risk.

3. Novaya Zemlya Island, C.I.S., 1961

More than 225 nuclear detonations took place at this site, including the largest nuclear explosion ever- the 58 Megaton 'Tsar' bomb. The atmospheric disturbance generated by the explosion orbited the earth three times. A gigantic mushroom cloud rose as high as 64 kilometers, and was seen as far as 900km away.



- NPT nuclear weapon states
- Non-NPT nuclear weapon states
- States hosting U.S. nuclear weapons
- Nuclear weapon free zones

 - Top 10 Uranium Producing Countries

 - Nuclear Test Sites

4. Semipalatinsk, (now) Kazakhstan, 1947 – 1989

The Russian test site has been dubbed 'plutonium fields forever' because of the radioactive legacy left by the tests. Public pressure was instrumental in closing the site and encouraging containment of its radioactive legacy.

5. Eniwetok Atoll, Marshall Islands, 1948-1952

The first hydrogen bomb ever tested vaporized the island of Elugelab on 1 November 1952.

6. Mururoa and Fangatau Atolls, French Polynesia, 1966-1996

The French government conducted atmospheric tests until 1974, and their last below-ground test in 1996. The radioactive legacy left by the tests have caused birth defects and higher rates of cancers throughout the South Pacific.

7. Bikini Atoll, Marshall Islands, 1946-

Originally 23 islands made up the Atoll. Three were vaporized by nuclear tests. The people were relocated three times in as many years and are still waiting for the US to fulfill its promise to cleanup so they can return home.

8. Democratic Republic of the Congo (DRC), 1941-2004(?)

Uranium mined at the Shinkolobwe mine in Southwestern DRC went into the bomb dropped by the US on Hiroshima. Though the mine has officially been closed since 2004, the United Nations has cautioned that radioactive material continues to be smuggled out.

9. Maralinga, Australia, 1955-1963

The UK used the site for nuclear testing, and an initial cleanup was attempted in 1967. As with most nuclear test sites, there was forced relocation of the indigenous and Aboriginal populations.

10. Lop Nor, China, 1964-1996

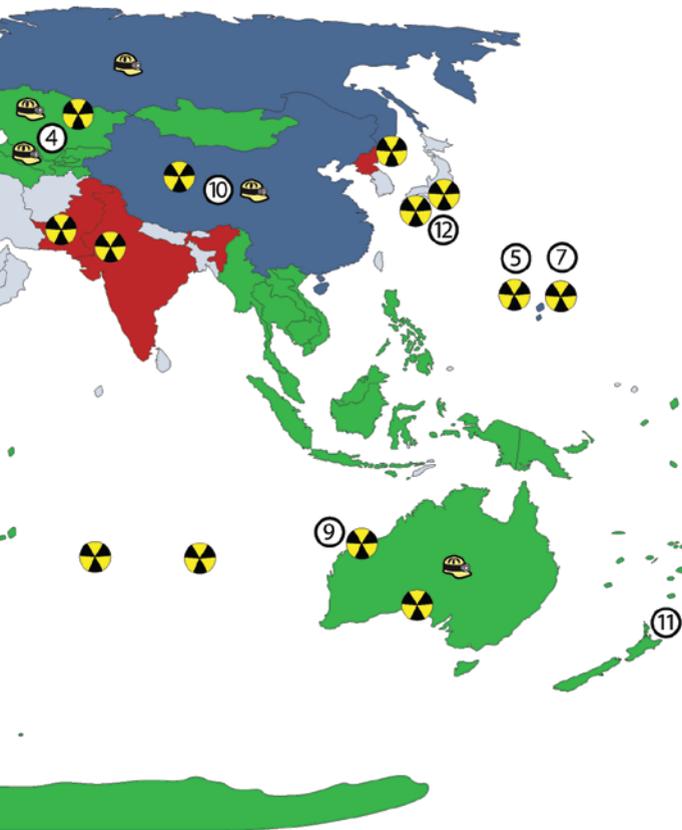
China's main nuclear test site, where the last test was conducted in July 1996.

11. Port of Auckland, New Zealand, 1985

The French Government sank the GreenPeace ship, the Rainbow Warrior, to prevent it from interfering in a nuclear test planned in Mururoa.

12. Hiroshima and Nagasaki, 1945

The only time a nuclear weapon has ever been dropped in war was on the Japanese cities of Hiroshima and Nagasaki, killing up to 200,000 people and leaving a radioactive legacy for generations to come.



WHAT CAN YOU DO?

Now is the time to take action against nuclear weapons. You can make a big difference. There are many things you can do, here are a few examples:

Talk about nukes

Knowledge is power, and we can only do something about the problem of nuclear weapons if people know about it. You don't have to be a recognized expert to talk to people about nukes, so tell your friends, tell your family. You'll sound like an expert when you stay up to date. We can help – visit www.nonukes.nl for the latest news, facts and ideas on this subject. You can also follow us on Twitter, through @NoNukesCampaign or sign up for our newsletter “What's New in Nukes”. Do you want to share this booklet? You can order more copies by sending an e-mail to info@ikvpaxchristi.nl. Many organisations are involved with campaigning against nuclear weapons, including one near you. Get involved and take action together with others in your community.

Get Creative and Take Action!

There are many ways to take action against nuclear weapons. Some ideas:

- Write to your politicians to ask what they are doing for the abolition of nuclear weapons.

- Sign petitions against nuclear weapons. There is power in numbers. Together our voices speak louder. Go to our website for the latest petitions.
- Start a local Gang of Four with your friends. Throughout the years, groups of politicians and policy makers have spoken out against nuclear weapons, usually in groups of 3 or 4. Start a local group with your friends, family or others and spread the message: No Nukes!
- Ask a member of the NoNukes team to speak at your local event
- Draw attention to the issue by organizing a campaign in your community. A good example is the campaign of a group in Heerlen (the Netherlands) which showed how much explosive nuclear power there is in the world today. They did so by filling two transparent cones with matches, each representing the nuclear striking power of Hiroshima and Nagasaki. Passers-by were asked to guess how many matches there were in the cones (58.935).
- There are lots of actions for a nuclear weapons free future- be creative, have fun and stay safe by saying: No Nukes!

About us

NoNukes is IKV Pax Christis campaign for a world free of nuclear weapons. IKV Pax Christi is the joint peace organisation of the Dutch Interchurch Peace Council (IKV) and Pax Christi Netherlands. We work for peace, reconciliation and justice in the world. We join with people in conflict areas to work on a peaceful and democratic society. IKV Pax Christi combines knowledge, energy and people to attain one single objective: there must be peace!

The NoNukes campaign informs, mobilizes and speaks out for nuclear disarmament. We do so through campaigns, contacts with politicians, research and publications. Do you want to know more? Please visit our website www.nonukes.nl.

