

# **Nuclear Weapons**

**~~We destroy them or they destroy us?~~**

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# Before and After (Hiroshima)



# Casualties

- (1) On August 6, 1945, a US bomber dropped an atomic on Hiroshima. Around 140,000 people died until the end of 1945.
- (2) On August 9, 1945, a second atomic bomb was dropped on Nagasaki. Estimates generally put the number of deaths around 80,000 until the end of 1945.
- (3) It is estimated that out of every 6 deaths in the bombings, 5 were civilians and 1 was military.  
(More than 80% were civilians)

[\(http://www.dolmlife.org/Justice/Disarmament/bombfactsheet.pdf\)](http://www.dolmlife.org/Justice/Disarmament/bombfactsheet.pdf)

## **Were there more casualties than those who died when the bomb hit?**

- (1) Yes.
- (2) Many more people suffered for several or many years before dying due to radiation exposure from the bombs.
- (3) It is estimated that by 1950, 200,000 more people had died from atomic bomb-related diseases or injuries.
- (4) Many more lived with permanent suffering.

(<http://www.dolmlife.org/Justice/Disarmament/bombfactsheet.pdf>)

# What types of long-term effects due to radiation?

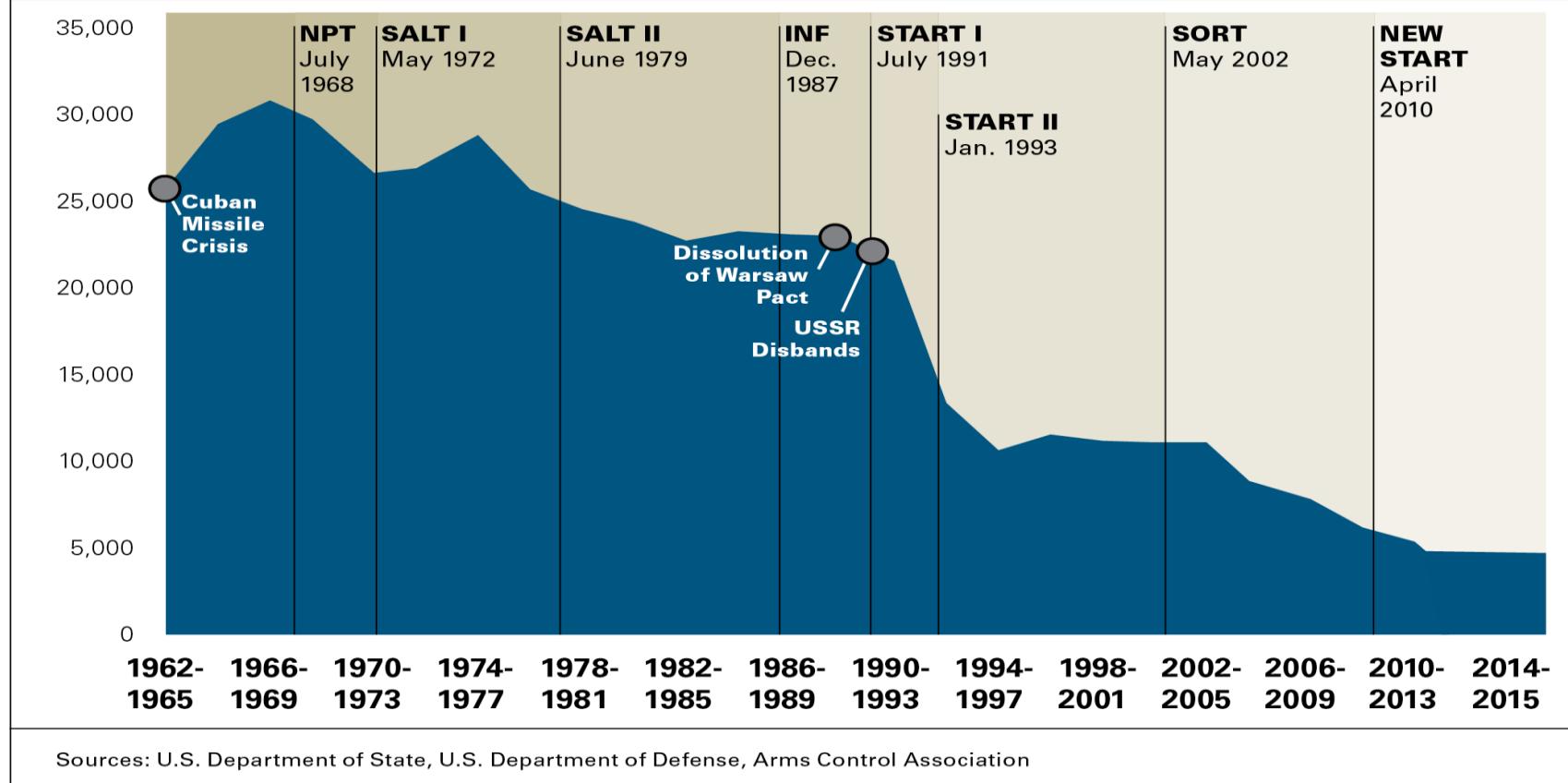
- (1) Cancer was the most common radiation-caused disease.
- (2) Other diseases, such as liver failure and respiratory diseases, occurred in atomic bomb-survivors.  
[\(http://www.domlife.org/Justice/Disarmament/bombfactsheet.pdf\)](http://www.domlife.org/Justice/Disarmament/bombfactsheet.pdf)
- (3) The average age of the survivors has now reached 80.13 as of the end of March 2015.
- (4) This marked the first time that the average age of A-bomb survivors has exceeded 80.  
[\(http://www.hiroshimapeacemedia.jp/?p=46730\)](http://www.hiroshimapeacemedia.jp/?p=46730)

# Nuclear Arsenal : During and After Cold War

[http://www.armscontrol.org/files/images/US\\_Stockpile\\_A.png](http://www.armscontrol.org/files/images/US_Stockpile_A.png)

## U.S. Nuclear Weapons Stockpile, 1962-2015

Since the late-1960s, the United States and Russia have signed a series of nuclear arms treaties that have contributed to steep cuts in their active and inactive nuclear warhead stockpiles.

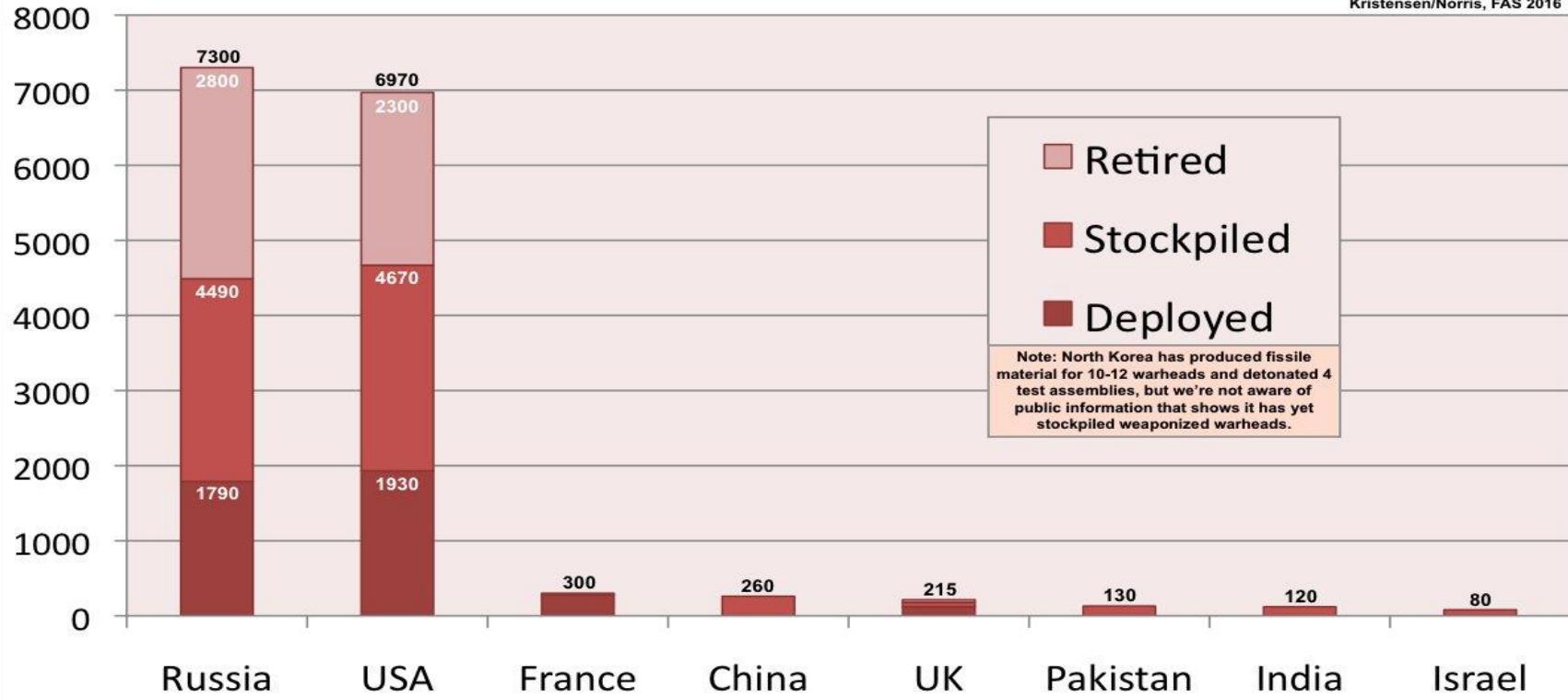


# Nuclear Weapons Today

<http://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>

## Estimated Global Nuclear Warhead Inventories, 2016

Kristensen/Norris, FAS 2016



# In case Vancouver is .....

**See the immense area destroyed by a nuclear firestorm  
created by the explosion of one nuclear weapon.  
(Computer Simulation)**

[http://www.nucleardarkness.org/nuclear/nuclearexplosion\\_simulator/](http://www.nucleardarkness.org/nuclear/nuclearexplosion_simulator/)

# JFK

## **Address Before the General Assembly of the United Nations, New York City, September 25, 1961)**

- (1) Today, every inhabitant of this planet must contemplate the day when this planet may no longer be habitable.
- (2) Every man, woman and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident or miscalculation or by madness.
- (3) The weapons of war must be abolished before they abolish us.

# What happened at Fukushima

## (1) Accident of multiple reactors

- meltdown of nuclear fuel at reactor Unit 1, 2 and 3
- spent fuel pools damage in Unit 4

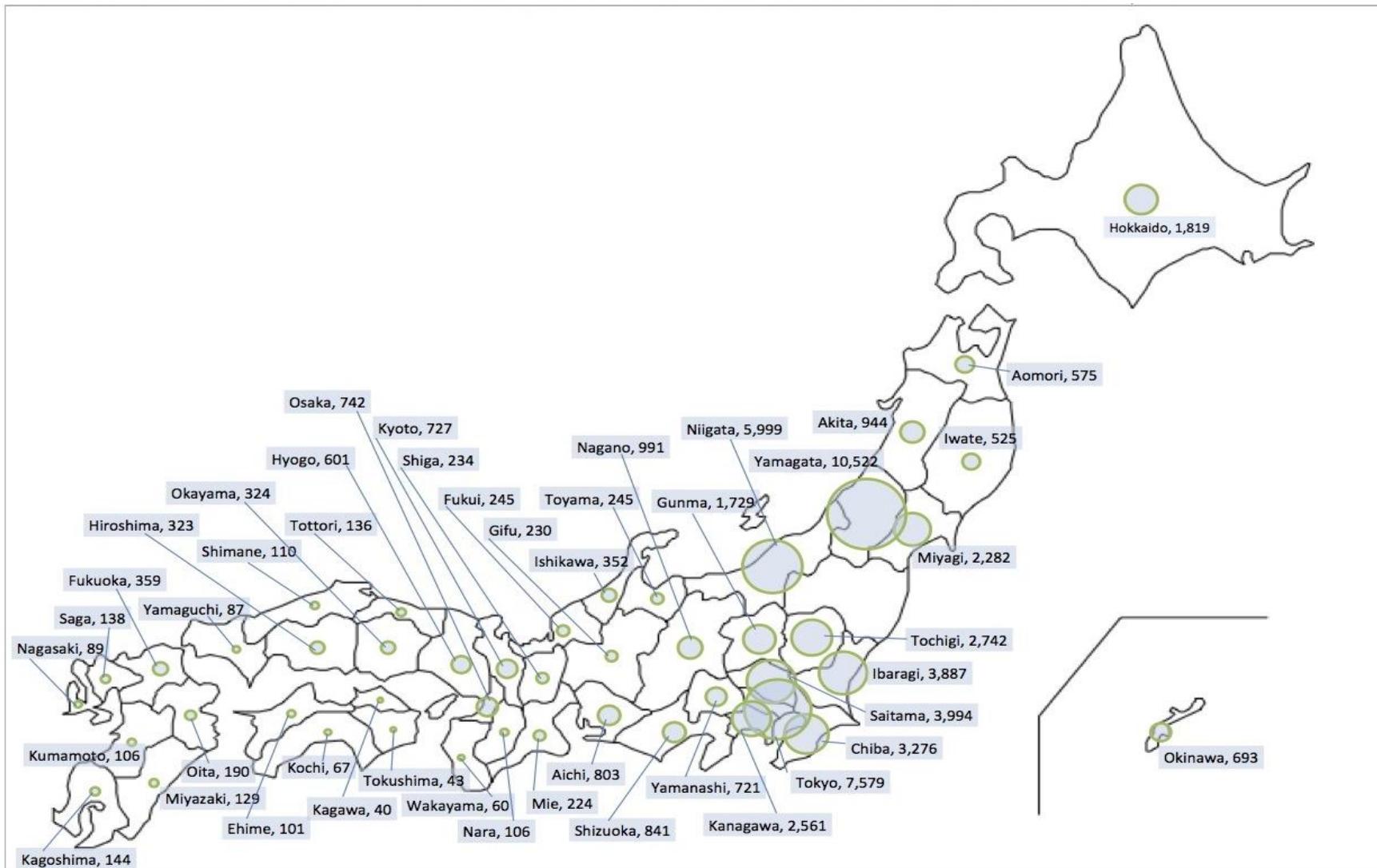
## (2) Evacuees

- Fukushima prefecture: 2 million
- At least 160,000 people has been evacuated their original home because of fear of radiation as of October, 2012.
- 56,920 people have fled their home in Fukushima pref. and stay in other prefecture as of March , 2013.

# Evacuees from Fukushima to Other Prefectures

(as of July 2012 – November 2013)

<http://fukushimaontheglobe.com/the-earthquake-and-the-nuclear-accident/situation-of-the-evacuees>



# Weaponization of Nuclear Facilities

- (1) An attack on nuclear facilities by terrorists or during war can cause a serious radioactive emergency.
- (2) An attack with conventional weapons leading to the release of radioactivity would produce some of the effects of nuclear weapons.
- (3) Because of the possible magnitude of radioactive contamination in such an attack, we should regard nuclear facilities as potential enemy weapons that are beyond our control.

# How we can change?

- (1) A book edited by Bernard Brodie in 1946 said that “(i)t is not only sovereign states but individual attitudes which must undergo transformation” in the nuclear age.
- (2) As individuals, “citizen empowerment” does matter a lot.
- (3) Shall nuclear weapons, including weaponized nuclear facilities, destroy us or shall we destroy them?

# Conclusion

The answer depends on us,  
not them.

Thank you very much for your attention.