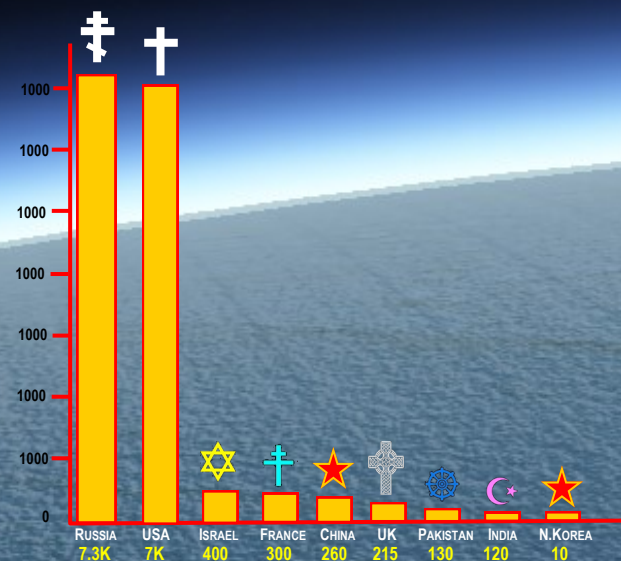


NUCLEAR DETONATIONS

100 MEGATON NUKE 'TSAR' STRIKE IN SAN FRANCISCO



World Nuclear Arsenals
ESTIMATED NUMBER OF WARHEADS



A Scenario

Given a major urban city like San Francisco and its surroundings, it would be estimated that nearly 2 million people would instantaneously vaporize. As mentioned before, the fireball would be about 10 miles in diameter. The subsequent radius of around 30 miles would leave most surface structures flattened. Within a radius of 60 miles, people not projected in building would suffer 3rd degree burns. The flash from the blast would blind those that would see it from 30 miles away and it is estimated that the detonation would produce a wind gust up to 180 miles an hour. The seismic effect would model that of an 8.0 earthquake. Based on the simulation, the winds would take the radiation clouds with the prevailing winds to the northwest. This wind would contaminate the agricultural crops and water supply. Given the tonnage of explosives, window would shatter for 100s of miles.

The mushroom cloud would be seen by people as far as 300 miles as it would rise above the *stratosphere*. Mind you, this would just be 1 bomb. In a real life scenario, and with arsenals of over 1000s of such nuclear devises, multiple nuclear detonations would be expected in the major urban areas. In the case of the North Bay Area of San Francisco, California the taking-out of the city proper would cripple the western grid of financial markets. The major tech companies leading research and innovation in the sciences, medicine and other disciples that have a high concentration in the Bay Area would be wiped-out. A further detonation of bombs to destroy Silicon Valley which is approximately 60 miles from San Francisco would obliterate the brain-power of the leading tech innovators in the world. Many of the top companies and internet giants are located here. Based on this sole 1 nuclear devise of 100 MT, it would be estimated that over 2 million people would die of injuries sustained after 3 days.



The 50 MT fireball was about 6 miles across and did not touch the ground.



The 50 MT detonation created an 8.0 earthquake.



Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Data MBARI

San Francisco, CA USA Drag the marker to wherever you'd like to get.

'Tsar Bomba' - largest USSR bomb designed (100 MT)

Enter a yield (in kilotons):



Estimated fatalities:
1,937,220

Estimated injuries:
2,373,590

In any given 24-hour period, there are approximately **~13,000,000** people in the 1 psi range of the most recent detonation.

Effects radii for 100 megaton airburst* (smallest to largest):

- Radiation radius (500 rem): 6.99 km (153 km²)**
500 rem radiation dose; without medical treatment, there can be expected between 50% and 90% mortality from acute effects alone. Dying takes between several hours and several weeks.
- Fireball radius: 7.92 km (197 km²)**
Maximum size of the nuclear fireball; relevance to lived effects depends on height of detonation. If it touches the ground, the amount of radioactive fallout is significantly increased.

- Air blast radius (20 psi): 10.1 km (321 km²)**
At 20 psi overpressure, heavily built concrete buildings are severely damaged or demolished; fatalities approach 100%.

- Air blast radius (5 psi): 21.2 km (1,420 km²)**
At 5 psi overpressure, most residential buildings collapse, injuries are universal, fatalities are widespread.

- Radiation radius (3rd degree burns): 64.2 km (12,960 km²)**
Third degree burns extend throughout the layers of skin, and are often painless because they destroy the pain nerves. They can cause severe scarring or disablement, and can require amputation. 100% probability for 3rd degree burns at this yield is 13.9 cal/cm².

Estimated total-dose fallout contours for a 100 megaton surface burst (52% fission) with a 15 mph wind