

# NUCLEAR DETONATIONS

## 100 MEGATON NUKE 'TSAR' STRIKE IN THE BAY AREA

**NUKEMAP** 2.42 : FAQ

Drag the marker to wherever you'd like to target.

Los Angeles, CA USA

Enter a yield (in kilotons): **100000**

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

Estimated fatalities:  
**7,947,470**



Estimated injuries:  
**5,707,000**

In any given 24-hour period, there are approximately **24,002,597** 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 km<sup>2</sup>)**  
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 km<sup>2</sup>)**  
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 km<sup>2</sup>)**  
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 km<sup>2</sup>)**  
At 5 psi overpressure, most residential buildings collapse, injuries are universal, fatalities are widespread.
- Radiation radius (3rd degree burns): 64.2 km (12,960 km<sup>2</sup>)**  
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/cm<sup>2</sup>.

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

Created by **Alex Wellerstein**, 2012-2017.

NUKEMAP is sponsored by:  
the College of Arts and Letters,  
Stevens Institute of Technology

#	City; State	POP
1	New York City; New York	8,336,697
2	Los Angeles; California	3,857,799
3	Chicago; Illinois	2,714,856
4	Houston; Texas	2,160,821
5	Philadelphia; Penn	1,547,607
6	Phoenix; Arizona	1,488,750
7	San Antonio; Texas	1,382,951
8	San Diego; California	1,338,348
9	Dallas; Texas	1,241,162
10	San Jose; California	982,765
11	Austin; Texas	842,592
12	Jacksonville; Florida	836,507
13	Indianapolis; Indiana	834,852
14	San Francisco; California	825,863
15	Columbus; Ohio	809,798
16	Fort Worth; Texas	777,992
17	Charlotte; North Carolina	775,202
18	Detroit; Michigan	701,475
19	El Paso; Texas	672,538
20	Memphis; Tennessee	655,000

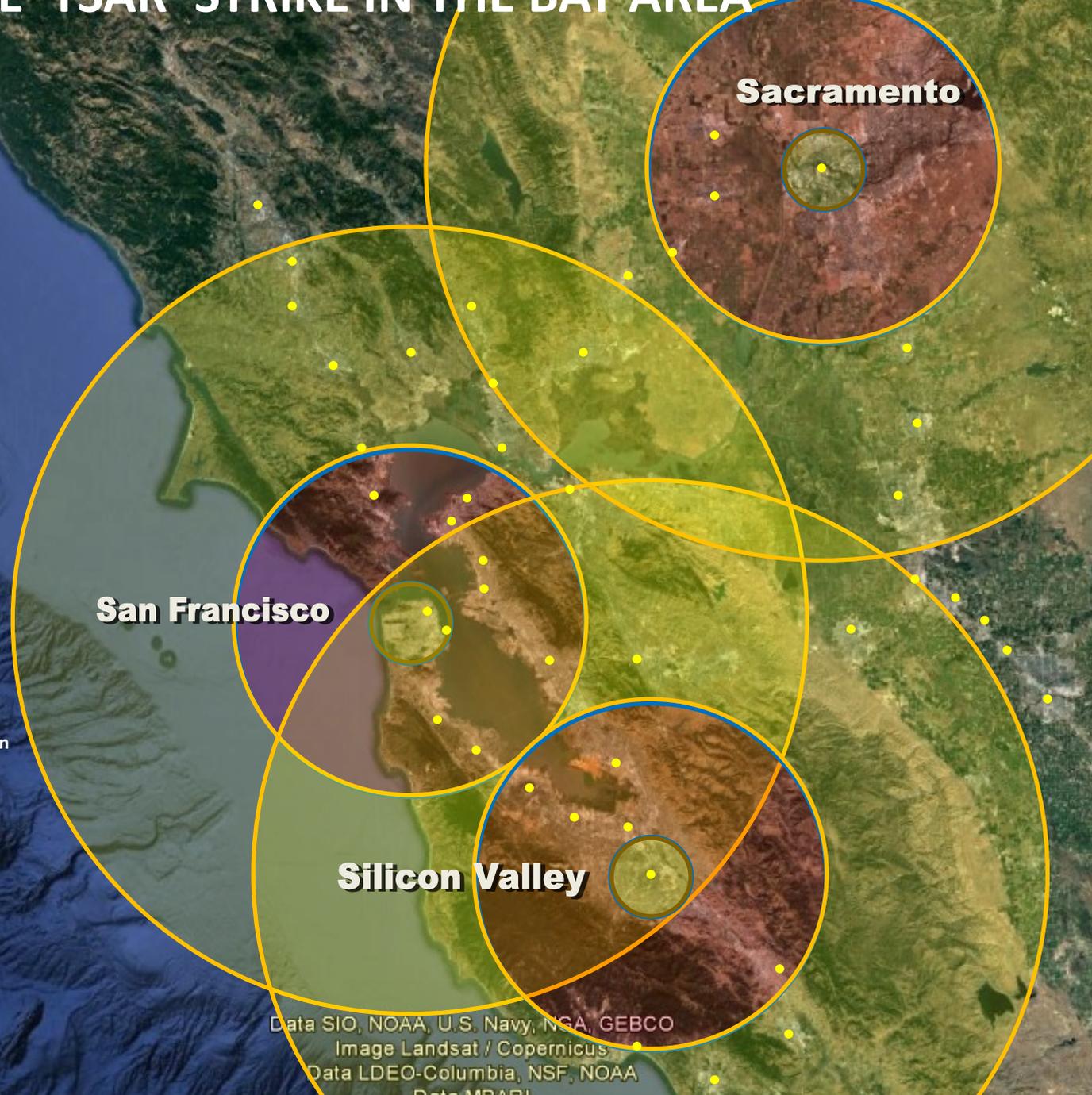
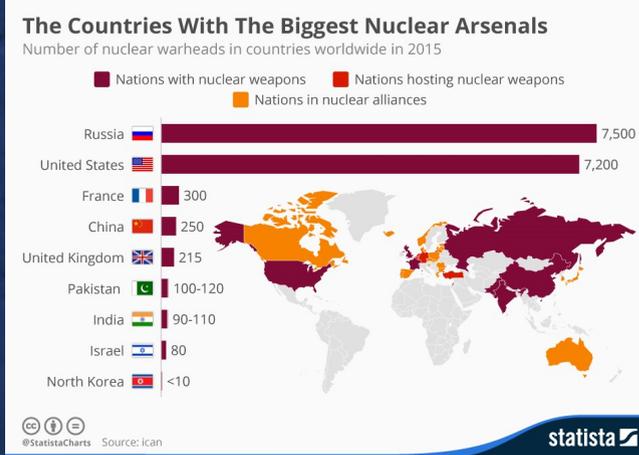
### California

A western U.S. state, stretches from the Mexican border along the Pacific for nearly 900 miles. Its terrain includes cliff-lined beaches, redwood forest, the Sierra Nevada Mountains, Central Valley farmland and the Mojave Desert. The city of Los Angeles is the seat of the Hollywood entertainment industry. Hilly San Francisco is known for the Golden Gate Bridge, Alcatraz Island and cable cars.

Capital: Sacramento  
Population: 38.8 million (2014)

California is the most populous state in the United States and the third most extensive by area. Located on the western (Pacific Ocean) coast of the U.S., California is bordered by the other U.S. states of Oregon, Nevada, and Arizona and shares a border with Mexico.

With only approximate 10 Russian Tsar 100 Megaton warheads, the majority of California's nearly 40 million people would be killed and/or injured. As the state is the current bread basket of the nation and the 6th largest economy in the world, such an apocalyptic scenario would also cripple the American Union. The vast military industrial complex of several seaports, mainly San Diego with its Marine and Navy installations would render a military blow to America's might.



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Image Landsat / Copernicus  
Data LDEO-Columbia, NSF, NOAA  
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• = populated area  
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