



# NUCLEAR DETONATIONS

## 100 MEGATON NUKE 'TSAR' STRIKE IN SYDNEY, AUSTRALIA

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

Enter a yield (in kilotons):

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

Estimated fatalities:  
**7,917,100**



Estimated injuries:  
**4,018,840**

In any given 24-hour period, there are approximately **16,375,708** 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.

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