



Manhattan Project

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1942-1946

- Development of Atomic Bombs
 - Albert Einstein and Enrico Fermi warn that the Nazis are trying to develop an atomic bomb.
 - Roosevelt agrees to fund a project to research nuclear capabilities
 - Manhattan Project



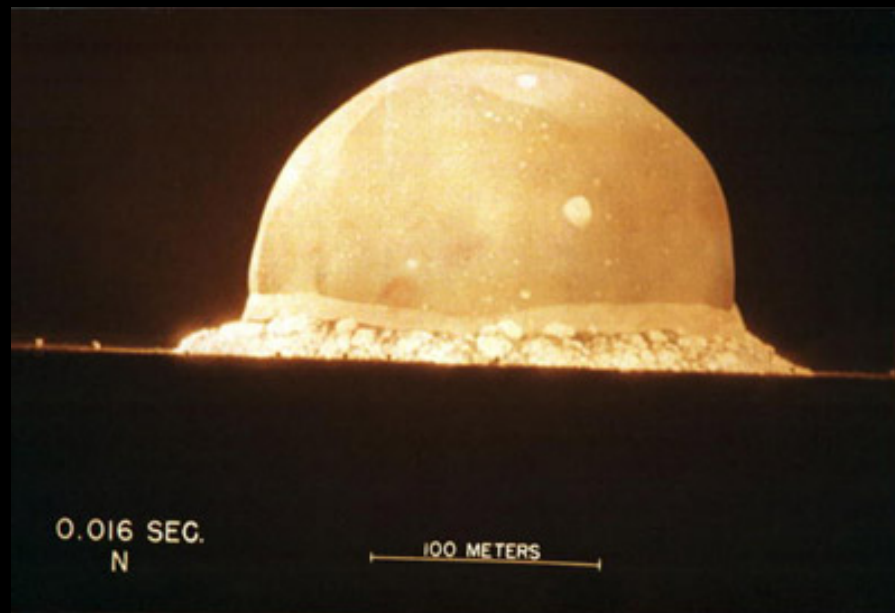
Important People

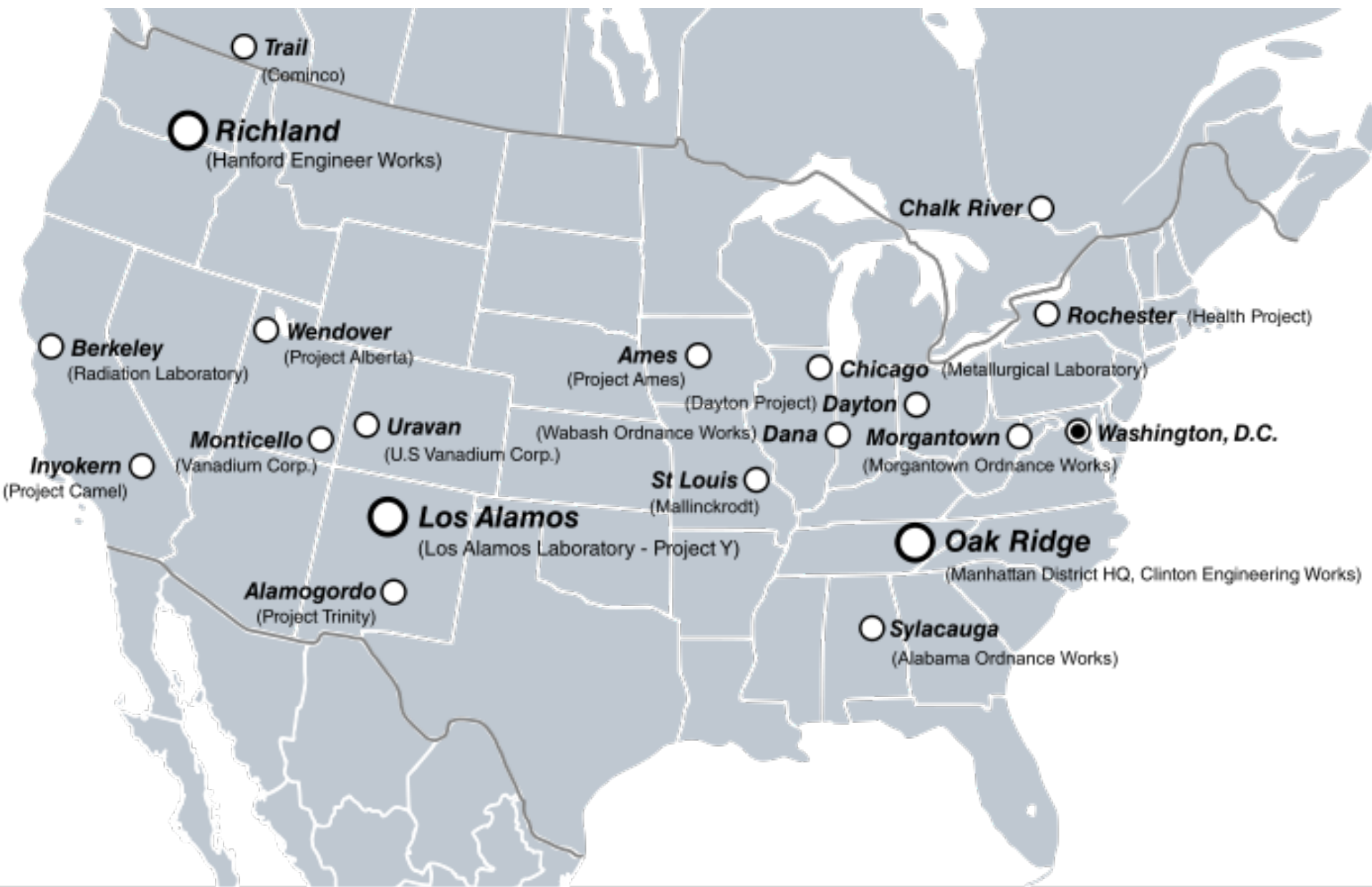
- J. Robert Oppenheimer- Project Overseer
- General Leslie Groves- Organized all project locations
- Scientists Who Invented the Atomic Bomb under the Manhattan Project:
 - David Bohm, Leo Szilard, Eugene Wigner, Otto Frisch, Rudolf Peierls, Felix Bloch, Niels Bohr, Emilio Segre, James Franck, Enrico Fermi, Klaus Fuchs and Edward Teller.



Testing

- Trinity Test
 - New Mexico's Alamogordo Bombing and Gunnery Range on *July 16th, 1945.*





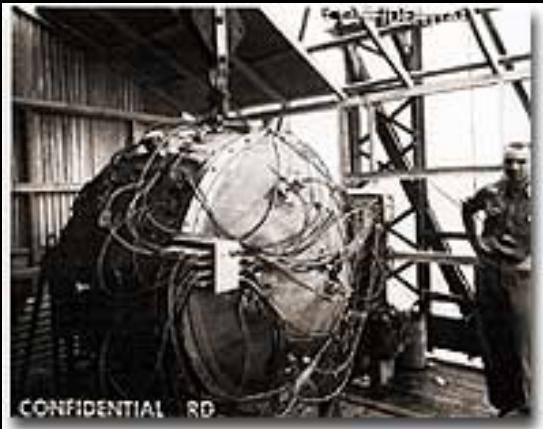
Before first test...

- Fermi personally offered to take wagers among the top physicists and military present on whether the atmosphere would ignite, and if so whether it would destroy just the state, or incinerate the entire planet.
 - This last result had been previously calculated to be almost impossible, although for a while it had caused some of the scientists some anxiety.



Testing

- 100 Foot tower
- Some scientists are blinded from the explosion





Trinity and Beyond

atomcentral.com

Trinity and Beyond

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USS Indianapolis

TOP SECRET

- On July 30, 1945, after completing a top secret mission to deliver parts of the atom bomb "Little Boy."
 - Dropped on Hiroshima
 - Was torpedoed in the South Pacific by a Japanese submarine.
- An estimated 300 men were killed upon impact
 - Close to 900 sailors were cast into the Pacific Ocean, where they remained, undetected by the navy, for nearly five days.
 - Battered by a savage sea, they struggled to survive, fighting off hypothermia, sharks, physical and mental exhaustion, and, finally, hallucinatory dementia.
 - By the time rescue (which was purely accidental) arrived, all but 321 men had lost their lives.

USS Indianapolis

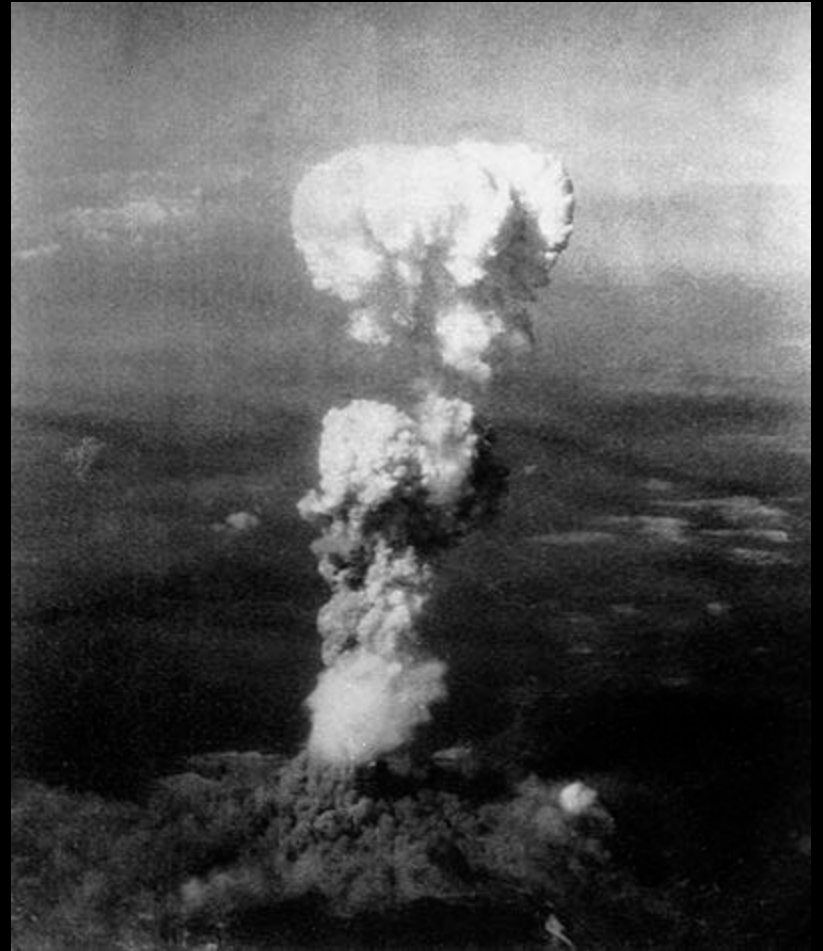
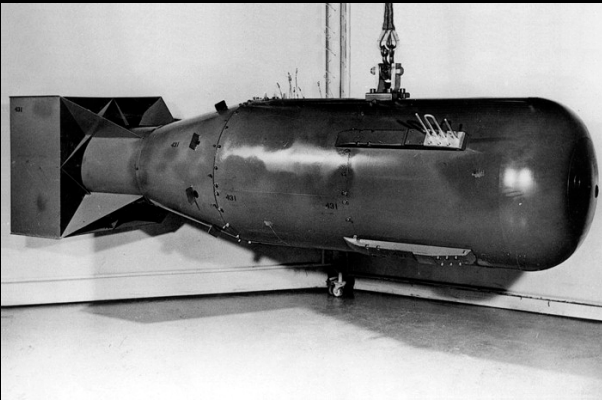
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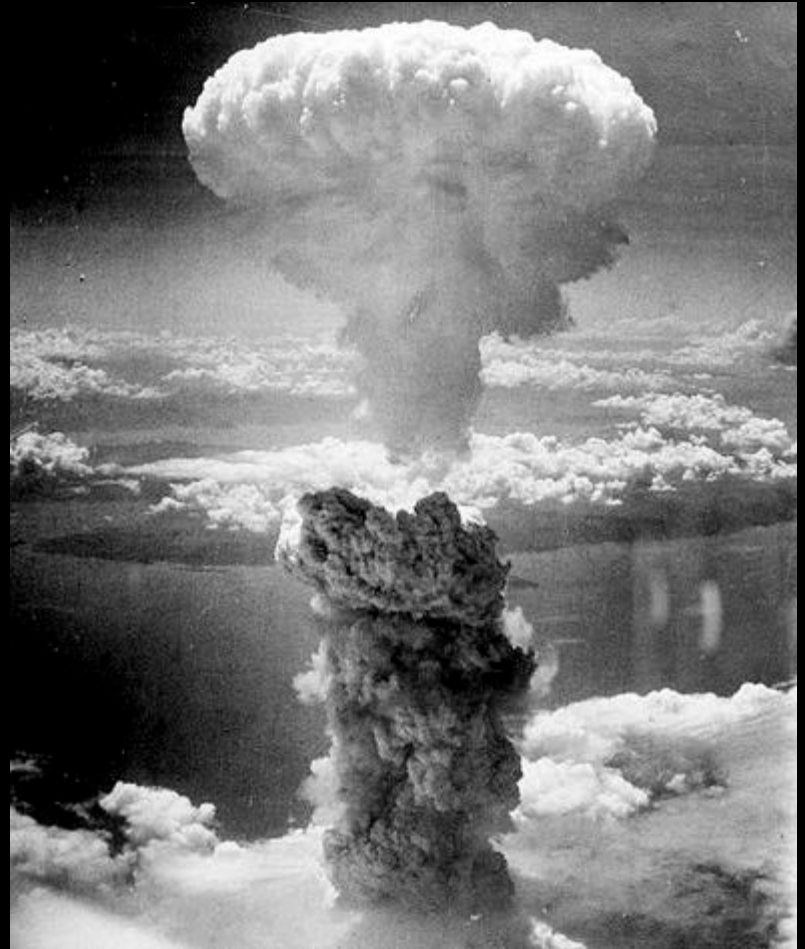
Hiroshima

- August 6th, 1945
- *Enola Gay*
- Little Boy



Nagasaki

- August 9th, 1945
- Dropped from B-29 Superfortress Bockscar
- Fat Man



Japanese Surrender

V-J Day

- Japanese surrender (USS Missouri/Tokyo Bay)
- September 2nd, 1945
- All troops or sailors along the route to the signing table were required to be over 6ft tall to make the Japanese feel smaller.









Moments after surrender, 2,000 planes flew in formation over the USS Missouri



80-G-421130 Carrier planes over USS Missouri, 2 September 1945

Underwater nuclear testing

Operation Crossroads

- Bikini Atoll
 - 200 feet underwater
 - Fireball and water column

Baker Test

- Bikini Atoll
 - 500 feet underwater
 - NO fireball
 - Just a water column





USS Arkansas



