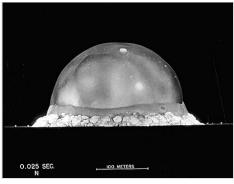


List of United States nuclear weapons tests

The **nuclear weapons tests of the United States** were performed from 1945 to 1992 as part of the <u>nuclear arms race</u>. The <u>United States</u> conducted around 1,054 <u>nuclear tests</u> by official count, including 216 atmospheric, underwater, and space tests. [1][notes 1] Most of the tests took place at the <u>Nevada Test Site</u> (NNSS/NTS) and the <u>Pacific Proving Grounds</u> in the <u>Marshall Islands</u> and off Kiritimati Island in the <u>Pacific</u>, plus three in the Atlantic Ocean. Ten other tests took place at various locations in the <u>United States</u>, including <u>Alaska</u>, <u>Nevada</u> other than the <u>NNSS/NTS</u>, <u>Colorado</u>, <u>Mississippi</u>, and <u>New Mexico</u>.

United States nuclear tests



<u>Trinity</u>, part of <u>Project Manhattan</u>, was the first ever nuclear explosion.

United States' nuclear testing series summary

	United States' nuclear testing series summary										
Series or years	Years covered	Tests ^[Summ 1]	<u>Devices</u> fired	Devices with un- known yield	Peace- ful use tests	Non-PTBT tests ^[Summ 2]	Yield range (kilotons) [Summ 3]	Total yield (kilotons) [Summ 4]	Notes		
Trinity	1945	1	1			1	21	21	First nuclear weapons test, conducted as part of the Manhattan Project. Tested the Man design.		
Crossroads	1946	2	2			2	21	42	First postwar test series.		
Sandstone	1948	3	3			3	18 to 49	104	The first use of "levitated" cores made of oralloy. Tested components for Mark 4 design.		
Ranger	1951	5	5			5	1 to 22	40	First tests at the Nevada Test Site. Operation originally named "Operation Faust".		
Greenhouse	1951	4	4			4	46 to 225	398	George shot was physics experiment relating to the hydrogen bomb; Item shot was first boosted fission weapon.		
Buster- Jangle	1951	7	7			7	small to 31	72	The first series in which troop maneuvers (Desert Rock exercises) were performed.		
Tumbler- Snapper	1952	8	8			8	1 to 31	104			
lvy	1952	2	2			2	500 to 10,400	10,900	The "Mike" shot was the first multi-megaton thermonuclear weapon.		
Upshot- Knothole	1953	11	11			11	small to 61	252	18,000 men exposed in Desert Rock V up to 26.6 REM. 84 exceeded current yearly limits of 5 REM/ yr.		
Castle	1954	6	6			6	110 to 15,000	48,200	Bravo shot inspired secret Project 4.1 to study fallout victims. It overproduced by 250% of expected yield, caused fallout over a wide area.		
Teapot	1955	14	14			14	1 to 43	167			
Wigwam	1955	1	1			1	30	30	2,000 feet (610 m) underwater		
Project 56	1955– 1956	4	4			4	0 to 0	0			

Series or years	Years covered	Tests [Summ 1]	<u>Devices</u> fired	Devices with un- known yield	Peace- ful use tests	Non-PTBT tests [Summ 2]	Yield range (kilotons) [Summ 3]	Total yield (kilotons) [Summ 4]	Notes
Redwing	1956	17	17			17	small to 5,000	20,820	Test with "energy budget". Competition between UCRL and LASL over budget allocation was high.
Project 57	1957	1	1			1	0	0	The first safety test, asking whether an improperly ignited bomb (as in a plane crash) would cause a nuclear blast.
Plumbbob	1957	29	29			25	0 to 74	345	Included the largest atmospheric test in CONUS.
Project 58+58A	1957	4	4			1	small to	1	Four more safety tests.
Hardtack I	1958	35	35			35	0 to 9,300	35,628	A series in the Pacific Proving Ground, including three rocket boosted high altitude tests called Operation Newsreel.
Argus	1958	3	3			3	2	4	Also known as Operation Floral before becoming Argus for security reasons. Tested three weapons in the South Atlantic, trying to create an artificial energy belt in the magnetosphere.
Hardtack II	1958	37	37			24	0 to 22	46	Meant to squeeze all possible testing into the time before Eisenhower's test ban started on 30 October 1958. Planned as "Operation Millrace", changed to HT II when a science panel recommended to "stop testing after the Hardtack series."
Nougat	1961– 1962	44	44		1	2	small to 67	357	First all- underground test series. Included first Operation Plowshare shot "Gnome" in Carlsbad, New Mexico, which was detonated in an

Series or years	Years covered	Tests ^[Summ 1]	Devices fired	Devices with un- known yield	Peace- ful use tests	Non-PTBT tests[Summ 2]	Yield range (kilotons) [Summ 3]	Total yield (kilotons) [Summ 4]	Notes
									underground salt dome.
Sunbeam	1962	4	4			4	small to 2	2	Aka Operation Dominic II. Test of small tactical warheads, including the man-portable "Davy Crockett". Last atmospheric test series. The Army's part of Sunbeam was Operation Ivy Flats.
<u>Dominic</u>	1962– 1963	31	31			31	2 to 9,960	34,640	"Frigate Bird" was the only operational test of a missile "mated" with a live warhead. Series also included three high-altitude tests known as Operation Fishbowl, separated out in this text.
<u>Fishbowl</u>	1962	9	9	4		9	400 to 1,400	2,205	The high altitude rocket part of Operation Dominic. Included several failed tests as the rockets failed for various reasons.
Storax	1962– 1963	47	47		3	1	1 to 115	585	
Roller Coaster	1963	4	4			4	0	0	Storage- transportation safety experiments, measured plutonium dispersal risk.
Niblick	1963– 1964	41	43		4		small to 249	698	
Whetstone	1964– 1965	46	49		4	1	small to	476	
Flintlock	1965– 1966	47	49		2		small to	1,891	
Latchkey	1966– 1967	38	38		3		small to 870	1,831	
Crosstie	1967– 1968	48	57	5	4	2	small to 1,300	3,638	
Bowline	1968– 1969	47	58		2	1	small to 1,150	2,152	
Mandrel	1969–70	52	78	1	2		small to 1,900	5,528	
Emery	1970– 1971	16	24	2			small to	565	
Grommet	1971– 1972	34	39		1		small to 4,800	5,200	Included Cannikin, the largest underground explosion ever

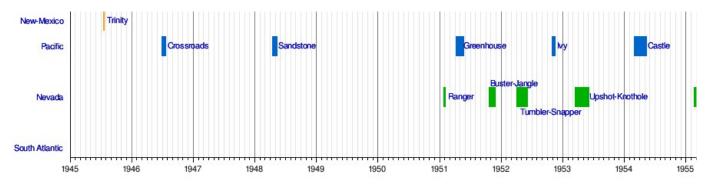
Series or years	Years covered	Tests ^[Summ 1]	<u>Devices</u> fired	Devices with un- known yield	Peace- ful use tests	Non-PTBT tests ^[Summ 2]	Yield range (kilotons) [Summ 3]	Total yield (kilotons) [Summ 4]	Notes
									at 5 Mt, fired under the Aleutian island Amchitka.
Toggle	1972– 1973	28	35		1		small to 250	958	
Arbor	1973– 1974	18	20				small to 150	274	
Bedrock	1974– 1975	27	29				small to 750	2,840	
Anvil	1975– 1976	21	21				0 to 1,000	5,993	
Fulcrum	1976– 1977	21	24				small to 140	635	
Cresset	1977– 1978	22	23				0 to 150	1,122	
Quicksilver	1978– 1979	16	16				1 to 140	717	
Tinderbox	1979– 1980	14	14				1 to 140	452	
Guardian	1980– 1981	14	14				1 to 140	322	
Praetorian	1981– 1982	19	20				1 to 140	938	
Phalanx	1982– 1983	18	19				1 to 143	365	
Fusileer	1983– 1984	16	16				small to 150	521	
Grenadier	1984– 1985	16	16				3 to 150	670	
Charioteer	1985– 1986	16	16				small to 140	549	
Musketeer	1986– 1987	14	16				3 to 150	970	
Touchstone	1987– 1988	13	15				2 to 150	696	
Cornerstone	1988– 1989	11	17				1 to 150	436	
Aqueduct	1989– 1990	10	13				small to 150	426	
Sculpin	1990– 1991	7	9				2 to 140	478	
<u>Julin</u>	1991– 1992	7	9				small to 100	172	The last test series, cut off by the negotiation of the Comprehensive Test Ban Treaty.
Totals	1945- Jul-16 to 1992- Sep-23	1032	1132	12	27	231	0 to 15,000	196,552	Total country yield is 36.3% of all nuclear testing.

- 1. Includes all tests with potential for nuclear fission or fusion explosion, including combat use, singleton tests, salvo tests, zero yield fails, safety experiments, and bombs incapacitated by accidents but still intended to be fired. It does not include hydronuclear and subcritical tests, and misfires of a device which was subsequently fired successfully.
- 2. Number of tests which would have been in violation of the Partial Test Ban Treaty of 1963, such as atmospheric, space or underwater tests. Some "peaceful use" cratering tests which should have been violations were protested, and later quietly dropped.
- 3. "Small" refers to a value greater than zero but less than 0.5 kt.
- 4. Some yields are described like "< 20 kt"; such are scored at one half of the numeric amount, i.e., yield of 10k in this

example. "Unknown yield" adds nothing to the total.

Timeline

Graphical timeline of United States atmospheric nuclear weapons tests. [2]



Notes

1. Discrepancies with the table include 24 tests actually carried out by the United Kingdom at the NTS; four aborted tests in *Operation Fishbowl*; one test, *Anvil/Peninsula*, that jammed during lowering in its shaft and was abandoned; and five salvo tests listed as two enumerated tests each because they were treated that way when eventually described to the public, rather than standing on the treaty definition of a salvo test.

References

- 1. "United States Nuclear Tests: July 1945 through September 1992" (https://web.archive.org/web/20061012160826/http://www.nv.doe.gov/library/publications/historical/DOENV_209_REV15.pdf) (PDF) (DOE/NV-209 REV15). Las Vegas, NV: Department of Energy, Nevada Operations Office. 2000-12-01. Archived from the original (http://www.nv.doe.gov/library/publications/historical/DOENV_209_REV15.pdf) (PDF) on 2006-10-12. Retrieved 2013-12-18. {{cite journal}}: Cite journal requires | journal = (help)
- United States Nuclear Tests: July 1945 through September 1992 (https://www.nnss.gov/docs/docs_LibraryPublications/D OE_NV-209_Rev16.pdf) (PDF) (Report). Las Vegas, NV: Department of Energy, Nevada Operations Office. 2000-12-01. DOE/NV-209 REV15. Retrieved 2019-05-05.

Sources

- Yang, Xiaoping; North, Robert; Romney, Carl (August 2000). "CMR Nuclear Explosion Database (Revision 3)". SMDC Monitoring Research. {{cite journal}}: Cite journal requires | journal = (help)
- Andryushi, LA; Voloshin, N.P.; Ilkaev, R.I.; Matushchenko, A.M.; Ryabev, L.D.; Strukov, V.G.; Chernyshev, A.K.; Yudin, Yu.A. Mikhailov, V.N. (ed.). "Catalog of Worldwide Nuclear Testing" (https://web.archive.org/web/20131219131618/http://www.iss-atom.ru/ksenia/catal_nt/). Archived from the original (http://www.iss-atom.ru/ksenia/catal_nt/) on 2013-12-19. Retrieved 2013-03-04.
- Wm Robert Johnston, PhD. "Johnston Archive of Nuclear Weapons" (http://www.johnstonsarchive.net/nuclear/). Retrieved 2013-12-31. {{cite journal}}: Cite journal requires | journal | (help)

Retrieved from "https://en.wikipedia.org/w/index.php?title=List_of_United_States_nuclear_weapons_tests&oldid=1215310313"