



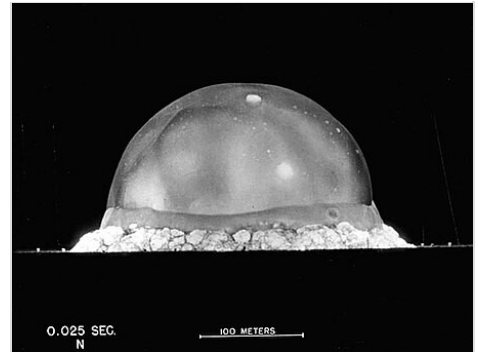
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List of United States nuclear weapons tests

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

United States nuclear tests



Trinity, part of *Project Manhattan*, was the first ever nuclear explosion.

United States' nuclear testing series summary

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

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<i>Redwing</i>	1956	17	17			17	small to 5,000	20,820	Test with "energy budget". Competition between UCRL and LASL over budget allocation was high.
<i>Project 57</i>	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.
<i>Plumbbob</i>	1957	29	29			25	0 to 74	345	Included the largest atmospheric test in CONUS.
<i>Project 58+58A</i>	1957	4	4			1	small to 1	1	Four more safety tests.
<i>Hardtack I</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 <i>Operation Newsreel</i> .
<i>Argus</i>	1958	3	3			3	2	4	Also known as <i>Operation Floral</i> before becoming <i>Argus</i> for security reasons. Tested three weapons in the South Atlantic, trying to create an artificial energy belt in the magnetosphere.
<i>Hardtack II</i>	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 <i>HT II</i> when a science panel recommended to "stop testing after the <i>Hardtack</i> series."
<i>Nougat</i>	1961–1962	44	44		1	2	small to 67	357	First all-underground test series. Included first <i>Operation Plowshare</i> shot "Gnome" in Carlsbad, New Mexico, which was detonated in an

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									underground salt dome.
<i>Sunbeam</i>	1962	4	4			4	small to 2	2	Aka <i>Operation Dominic II</i> . 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.
<i>Dominic</i>	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.
<i>Fishbowl</i>	1962	9	9	4		9	400 to 1,400	2,205	The high altitude rocket part of <i>Operation Dominic</i> . Included several failed tests as the rockets failed for various reasons.
<i>Storax</i>	1962–1963	47	47		3	1	1 to 115	585	
<i>Roller Coaster</i>	1963	4	4			4	0	0	Storage-transportation safety experiments, measured plutonium dispersal risk.
<i>Niblick</i>	1963–1964	41	43		4		small to 249	698	
<i>Whetstone</i>	1964–1965	46	49		4	1	small to 51	476	
<i>Flintlock</i>	1965–1966	47	49		2		small to 365	1,891	
<i>Latchkey</i>	1966–1967	38	38		3		small to 870	1,831	
<i>Crosstie</i>	1967–1968	48	57	5	4	2	small to 1,300	3,638	
<i>Bowline</i>	1968–1969	47	58		2	1	small to 1,150	2,152	
<i>Mandrel</i>	1969–70	52	78	1	2		small to 1,900	5,528	
<i>Emery</i>	1970–1971	16	24	2			small to 220	565	
<i>Grommet</i>	1971–1972	34	39		1		small to 4,800	5,200	Included <i>Cannikin</i> , the largest underground explosion ever

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									at 5 Mt, fired under the Aleutian island Amchitka.
<i>Toggle</i>	1972–1973	28	35		1		small to 250	958	
<i>Arbor</i>	1973–1974	18	20				small to 150	274	
<i>Bedrock</i>	1974–1975	27	29				small to 750	2,840	
<i>Anvil</i>	1975–1976	21	21				0 to 1,000	5,993	
<i>Fulcrum</i>	1976–1977	21	24				small to 140	635	
<i>Cresset</i>	1977–1978	22	23				0 to 150	1,122	
<i>Quicksilver</i>	1978–1979	16	16				1 to 140	717	
<i>Tinderbox</i>	1979–1980	14	14				1 to 140	452	
<i>Guardian</i>	1980–1981	14	14				1 to 140	322	
<i>Praetorian</i>	1981–1982	19	20				1 to 140	938	
<i>Phalanx</i>	1982–1983	18	19				1 to 143	365	
<i>Fusileer</i>	1983–1984	16	16				small to 150	521	
<i>Grenadier</i>	1984–1985	16	16				3 to 150	670	
<i>Charioteer</i>	1985–1986	16	16				small to 140	549	
<i>Musketeer</i>	1986–1987	14	16				3 to 150	970	
<i>Touchstone</i>	1987–1988	13	15				2 to 150	696	
<i>Cornerstone</i>	1988–1989	11	17				1 to 150	436	
<i>Aqueduct</i>	1989–1990	10	13				small to 150	426	
<i>Sculpin</i>	1990–1991	7	9				2 to 140	478	
<i>Julin</i>	1991–1992	7	9				small to 100	172	The last test series, cut off by the negotiation of the Comprehensive Test Ban Treaty.
<i>Totals</i>	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.

- 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.
- 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.
- "Small" refers to a value greater than zero but less than 0.5 kt.
- Some yields are described like "< 20 kt"; such are scored at one half of the numeric amount, i.e., yield of 10k in this

