

## Table of causes

The causes are broken down as follows:

		40s	50s	60s	70s	80s	90s	00s	10s	20s
Total:	87	1	17	31	9	16	1	2	8	2
Cause is concealed / is unknown (C):	6					1			3	2
Force majeure (FM):	0,5			0,5						
Human (H):	37,5									
Alcohol/Drugs/Fatigue (HAD):	4			1,5	1				1,5	
Communication (HC):	2									
<i>External (HCE):</i>				0						
<i>Internal (HCI):</i>				2			1			
Decision (HD):	6,5									
<i>Deliberate Deception (HDD):</i>				0						
<i>Confluence of Events (HDE):</i>				2		0,5		1,5		
<i>Group Dynamics (HDG):</i>				1,5				0,5		
<i>Incomplete/incorrect information (HDI):</i>				2		0,5		1,5		
<i>Misinterpretation (HDM):</i>				1			0,5			0,5
<i>Underestimation of the opponent's possibilities &amp; abilities (HDU):</i>				0						
Misfortune (HM):	13,5		0,5	4,5	3	4		1	0,5	
Psychopathy/Senility (HPS):	0									
Risk-taking (HR):	5,5	1	1	1,5	1	1				
Sloppiness (HS):	6			2,5	1	1		1	0,5	
Other (HO):	0									
Engine (E):	43									
Technology breaks down (EB):	0,5			0,5						
Computer (EC):	4						1			
<i>Hardware (ECH):</i>				2			2			
<i>Software &amp; A.I. Artificial Intelligence (ECS):</i>				1						1
Sensors (ES):	7,5		1	3,5	1	2				
Transmission (ET):	1			1						
Warhead in... (EW):	30									
<i>Aircraft (EWA):</i>				16,5		11	2,5	1	1	1
<i>Land based missile (EWL):</i>				7			6		1	
<i>Submarine or ship (EWS):</i>				6,5		2,5	2	1	1	
Other (EO):	0									

## Events (short presentation)

**When:**      **Who/Where: (Code) What:**

### 1940 till 1949

1949-XX-YY: US/SOW:      (HR) Curtis E. LeMay wants to destroy Soviet Union with nuclear first strike, Truman stops him, McNamara fires him in 1965.

### 1950 till 1959

195X-YY-ZZ: US:      (ES) NORAD registered on radar the approach of a Soviet bomber fleet in the polar region. It was a flock of wild geese  
 1950-XX-YY: US:      (EWA/EWS) Contamination St. Lawrence Stream. In 1950 4 more incidents. Loss of 51 warheads and 7 reactors in the sea.  
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 1950-02-13: US/CAN:      (EWA) For technical reasons (Convair B-36B crash), the A-bomb Mark 4 had to be dropped and detonated non-nuclear. 5 dead.  
 1951-04-11: US/KOR/CN: (HR) Douglas McArthur repeatedly proposes to use nuclear weapons against 49 North Korean cities and China, Truman fires him in 1951.  
 1956-03-10: US/EUR:      (EWA) A B-47 crashed into the Mediterranean Sea with 2 plutonium cores that were not found. Contamination. Casualties?  
 1956-07-27: US/GB:      (EWA) B-47 crashed at Lakenheath and hit a depot with 3 live A-bombs. Damage, no detonation. No contamination.  
 1956-11-05: US/SOW:      (HDE/HDI) Suez crisis: wrong, misinterpreted or exaggerated info come together and give wrong picture.  
 1958-01-01: US/ARC:      (EWA) US forces lose A-bomb in Arctic. To date 51 warheads and 7 nuclear reactors lost at sea.  
 1958-01-31: US/MOR:      (EWA) After a crash of a B-47 carrying a live Mark 6 in Morocco, there was only contamination of the surrounding area.  
 1958-02-05: US:      (EWA) B-47 collides with fighter jet, Howard Richardson had to drop H-bomb Mark 15 near Savannah (Georgia). Not found.  
 1958-02-28: US/GB:      (EWA) A B-47 crashed badly at Greenham Common, with scientists detecting elevated radioactivity. US denies.  
 1958-03-11: US/GB:      (EWA/HM) B47 jet (training) accidental bomb release. Mark 6. crater. 6 injured. Contamination. Mars Bluff/South Carolina.  
 1959-11-25: US:      (EWA) Plane crashed near Whidbey Island (Washington). H-bombs were not found.

### 1960 till 1969

1960-01-01: US:      (EWL) Detonation of a BOMAG air defence missile. Nuclear warhead melts. Contamination.  
 1960-10-05: US:      (ES) Error on radar because of moonrise  
 1960-10-24: SOW:      (HM) Baikonur: R16 intercont. ballistic missile, wrong switch activated before launch, explosion, combustion, nitric acid, 100+ dead  
 1961-01-24: US:      (EWA) 2 H-bombs fell accidentally on Goldsboro/North Carolina. Last of 6 switches prevented nuclear detonation  
 1961-03-14: US:      (EWA/HAD) Yuba City/Calif., crash B-52, 4 A-bombs, decompression, lack of fuel, no contamination, 1 dead, injured  
 1961-11-24: US:      (HDE/ET) Loss of SAC contact with NORAD & BMEWS systems due to failure of a relay station, attack was suspected.  
 1962-06-04: US/PAZ:      (EWL) South Sea A: H warhead falls into the sea and was never found.  
 1962-06-20: US/PAZ:      (EWL) South Sea B: H warhead detonated at an altitude of 10 kilometres. Contamination of parts of the atoll.  
 1962-07-26: US/PAZ:      (EWL) South Sea C: Rocket with H-bomb explodes on launch pad. Contamination several kilometres.  
 1962-08-23: US/SOW:      (HM) US bombers in Soviet no-fly zone due to navigation error. Fortunately Soviets did not react. Later correction of the route.  
 1962-10-XX: US/PAZ:      (EWL) South Sea D: Nuclear rocket launch failure.  
 1962-10-14: SOW/US:      (...) Cuban crisis/Caribbean crisis: Soviet missiles in Cuba as a result of American missiles in Italy, Turkey (until 1962-10-28)

- 1962-10-24: US/SOW: (ES) Soviet satellite explodes during Cuban Missile Crisis and is considered an attack.
- 1962-10-25: US: (HS) Bear set off nuclear alarm due to wiring failure. Officer off duty Base Volk Field Wisconsin stopped bomber launches.
- 1962-10-26: US/SOW: (HM) American F102A fighter jets with nuclear missiles inadvertently penetrated Soviet airspace. No escalation.
- 1962-10-26: US: (HCI) Surveillance located missile launched by Cuba, but detonated by US itself over Florida, lack of communication.
- 1962-10-26: US: (HS) Skipped procedures, easily accessible codes and ready-to-launch Minuteman-1 missiles at Malmstrom Air Force Base.
- 1962-10-27: SOV/US: (HDI/HR) V. Archipov prevents nuclear sinking of US Atlantic fleet by short-circuiting action of a submarine captain.
- 1962-10-27: US/CUBA: (HDG) Shooting down of an American U-2 spy plane over Cuba. Near escalation to nuclear war. Negotiations. De-escalation.
- 1962-10-27: US/SOW: (HR) U-2 spy plane penetrated 480 km into Soviet airspace, 2 nuclear-armed F-102A US fighters escort it home.
- 1962-10-28: US: (HDE) false report "An atomic bomb is dropped on Tampa/Florida", cause: satellite on the horizon & simultaneous military exercise.
- 1962-10-28: US: (HDI) False message warning centre Laredo to NORAD: "2 missiles over Georgia", cause: satellites were mistaken for missiles.
- 1962-10-28: US/JP: (HM) Suspected: 4 live launch codes for the H-bombs of the 498th Tactical Missile Group in Okinawa, although no "DEFCON 1".
- 1962-11-XX: US/PAZ: (EWL) South Sea IV: H-atom rocket launch failure.
- 1965-11-09: US: (ES/ET) Power failure northeastern USA. Sensors indicated nuclear explosion as cause. Circuit failure.
- 1965-12-05: US/VIE/JP: (EWA/HM) Aircraft crashed into the sea with **H-BOMB (!)** from USS "Ticonderoga" [from **VIETNAM (!)** to **JAPAN (!)**]. Not found.
- 1966-01-17: SPA/US: (FM/EWA) Palomares/Costa Cálida, B-52, turbulence, tanker explosion, 4 H-bombs found, 11 dead, contamination ground.
- 1967-05-23: US: (ES) Strong solar flare, coronal mass ejection, jammed several NORAD radars, Soviets accused, near counterattack.
- 1968-01-21: GRÖ/US: (EB/HS) Thule/Greenland, fire, B-52 crashed, 1 of 4 H-bombs missing, 2 dead, contamination, sick, **END OF BOMBER READINESS**
- 1968-04-11: US/SOW: (EWS) Hawaii-I: Soviet subm. K-129 sank. Unclear. 3 ballistic SS-N-5s, possibly nuclear torpedoes, 96 dead, CIA wanted to lift, broke up.
- 1968-05-22: US/ATL: (EWS) South of Azores: Nuclear submarine USS "Scorpion" sank with 2 Mark-45 nuclear torpedoes. 99 dead. Torpedo detonation?
- 1969-04-15: US/NKOR: (HAD) Attack order on North Korea with B61 bomb and F-4 by drunken Nixon after EC-121 (early warning aircraft) shoot-down.
- 1970 till 1979**
- 1970-02-22: DEU: (HM) Boetingen/Germany: Maintenance work, warhead fell down, was damaged and a piece of the rocket tip broke off.
- 1971-02-20: US: (HM) NORAD: Teletype erroneously sent "nuclear emergency" alert information to all radio and television stations.
- 1973-10-09: US/SOW: (HR) -24: Yom Kippur War (Arab-Israeli War): Israel wanted to use nuclear weapons, mechanic activated his base's alarm system.
- 1974-XX-XX: DEU: (HM) Laarbruch/Germany: An atomic bomb of type WE 177 fell down while being loaded into an aircraft.
- 1974-08-01: US: (HAD) US President Nixon was "cold-called" by the Secretary of Defence on nuclear issues because of depression, alcohol, drugs.
- 1975-11-22: US/SIZ: (EWS) Sicily: USS Kennedy/USS Belknap collided, major damage, fire and explosions only 10m from nuclear weapons. 8 dead.
- 1977-XX-XX: ???: (EWA) Engine fire of a CH-47 helicopter carrying nuclear weapons caused it to crash.
- 1979-10-03: ???: (ES) Radar detecting submarine-launched missile, detected missile body in low orbit, caused false alarm and hit report.
- 1979-11-09: US: (HS) NORAD. Simulated Soviet massive attack due to training tape mistaken for real attack but ignored by Bruce K Brown.
- 1980 till 1989**
- 1980-03-15: SOV/US: (ES) Kuril Islands: US sensors indicate expected impact on USA of 1 of 4 Soviet submarine training missiles due to trajectory.
- 1980-06-03: US: (ECH) Chip-I, Faulty chip shows Soviet attack. NORAD Cheyenne Mountain / Colorado, "2222" instead of "0000" missiles underway.
- 1980-06-06: US: (ECH) Chip-II, Faulty chip shows Soviet attack. NORAD Cheyenne Mountain / Colorado, "2222" instead of "0000" missiles underway.
- 1980-09-15: US: (EWA) Grand Forks: Parked B-52 bomber burned, wind prevented spread to high explosive of nuclear weapons.
- 1980-09-18: US: (HM) Missile explosion during maintenance: warhead 30m away, no radioactivity, Sgt. David Lee Livingston and colleague dead. Injured.

- 1981-02-23: DEU: (C) Explosion of a Pershing II missile. Sechselberg, Baden-Württemberg.
- 1982-11-02: DEU: (HS) Waldprechtsweier: US missile transporter (Pershing Ia missile) brakes fail, several cars crushed, 1 dead.
- 1983-09-26: SOW: (ES) Stanislav J Petrov ignored 5 missile attacks, Serpukhov-15, false alarms, day/night boundary interference IR sensors of satellites.
- 1983-11-2/7/11: US/SOW: (HDG/HDM) Soviet Union considers NATO staff nuclear exercise "Able Archer 83" as an attack, plans nuclear first strike after "RJaN".
- 1984-XX-XX: US: (EC) Computer error, Minuteman missile tried to launch by mistake, armoured vehicle on silo prevented it.
- 1984-XX-XX: GB: (HM) Bruggen: A WE 177 nuclear bomb fell down while being loaded into an aircraft, temporary closure of the base.
- 1985-01-11: DEU: (EWL) Heilbronn-I: Electrostatic discharge, fire, explosion of a Pershing-II missile, parts flew 120 m, 3 dead, 16 seriously injured.
- 1986-06-30: ???: (HM) Accident with a Pershing missile. The nuclear warhead fell from the missile onto the ground.
- 1986-10-03: US/SOW: (HR) Collision US/USSR nuclear submarine, fire 2 missiles, near meltdown, boat sunk, Matr. Sergei Preminin and 7 others dead.
- 1987-05-05: DEU: (HM) Heilbronn-II: Pershing missile landed one in a ditch after a traffic accident.
- 1989-04-07: SOW: (EWS) North Sea: nuclear submarine K-278 "Komsomolets", fire, at 1700 m, 2 nuclear torpedoes, reactor, 42 dead, slightly contaminated.
- 1990 till 1999**
- 1995-01-25: NOR/RUS: (HCI) Norweg.-US research missile Black-Brant XII mistaken for intercontin. ballistic missile, exploded, Pres. Yeltsin on "nuclear case".
- 2000 till 2009**
- 2005-03-01: DEU: (HM) Büchel/Nordhorn, 1 practice bomb lost: Pilot released the bomb 900 metres too early. Missed drop.
- 2007-08-29: US: (HS) Minot Air Force Base/North Dakota: 6 misguided nuclear missiles secondarily missing, B-52 unguarded at night (until 30.8.).
- 2010 till 2019**
- 2010-10-23: US: (ECS) 1 hr loss of control over 50 Minuteman III intercontinental ballistic missiles, high alert, improperly installed computer smart card.
- 2013-01-01: US: (HS/HAD) 1 year command totally out of control: hacking defence, unfit for duty, ecstasy, speed, alcohol, women, fraud.
- 2014-01-16: DEU: (C) Büchel, Tornado without nuclear weapons crashed on night approach in flight path.
- 2014-03-01: DEU: (EWA) Büchel/Nordhorn, 3 practice bombs lost: technical malfunction caused misdrop
- 2016-03-18: US: (HAD) Over 3 months of substance abuse, 19 soldiers, 150 nuclear missiles, 90th Missile Wing at F. E. Warren Air Force Base.
- 2016-06-19: WORLD: (...) Rising risk: cyber, tensions USA-CHI/RUS, China "hair-trigger alert".
- 2016-06-20: WORLD: (...) Unknown incidents, nuclear deterrence unsuitable, more dead than saved with nuclear war risk greater than zero.
- 2017-02-14: DEU/US: (C) US-Spangdahlem/Eifel: Test message missile warning with shelter, on all "live" screens. After 8 min all-clear.
- 2018-01-13: NKOR/US: (HM/HDM) Hawaii-II: 'Warning' intercontinental ballistic missile, wrong button pressed, advance nuclear threats North Korea.
- 2019-08-08: RUS: (C) Arkhangelsk, test area/sea, explosion rocket stage?, hypersonic nuclear missile Zirkon? 5 dead? 3 injured? DMH/radioactivity?
- 2020 till 2029**
- 2020-12-12: DEU/US: (C) Ramstein conceals cause over false alarm linked to 4 Russian practice missiles in Sea of Okhotsk (Pacific)
- 2021-01-07: US: (...) Perry calls for abolition of president's sole decision-making power over nuclear weapons after Washington riots.
- 2021-03-02: DEU: (C) Büchel/Nordhorn, 2 practice bombs lost: cause still under investigation.
- XXXX-XX-XX: (...) Accidents involving nuclear weapons: To date, at least 50 nuclear warheads and 9 nuclear reactors have been lost at sea.