Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
LAND BALLISTIC MISSILES БАЛЛИСТИЧЕСКИЕ РАКЕТЫ НАЗЕМНОГО БАЗИРОВАНИЯ							
UNITED STATES							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
LGM-30G	Minuteman III					13,000	
	MK-12A	200	1979	MIRV, Single	1-3 x W78 335		600
	MK-21 SERV	200	2006	Single	1 x W87 300		200
TOTAL 23(SIPRI) 23(BULL)		400					800
SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ							
ATACMS Block I		Some	1991	Single	1 x 560kg payload	165	Some
ATACMS Block IA		Some	1998	Single	1 x 160kg payload	300	Some
ATACMS Block II		Some	2002	Single	1 x 270kg payload	140	Some
TOTAL 08(WIKI)		Some					Some
RUSSIA							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
SS-18 M6	RS-20V	34	1992	MIRV	10 x 500-800	11,000-	340

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
Satan						15,000	
SS-19 M3 Stiletto	RS-18 (UR-100NUTTH)	…	1980	MIRV	6 x 400	10,000	…
SS-19 Mod 4	Avangard	7	2019	HGV	1 x HGV 400	10,000	7
SS-25 Sickle	RS-12M (Topol)	…	1988	Single	1 x 800	10,500	…
SS-27 Mod. 1 (silo)	RS-12M2 (Topol-M)	60	1997	Single	1 x 800	10,500	60
SS-27 Mod. 1 (mobile)	RS-12M1 (Topol-M)	18	2006	Single	1 x (800)	10,500	18
SS-27 Mod. 2 (mobile)	RS-24 (Yars)	171	2010	MIRV	4 x (100)	10,500	684
SS-27 Mod. 2 (silo)	RS-24 (Yars)	22	2014	MIRV	4 x (100)	10,500	88
SS-X-29	RS-28 Sarmat	-	(2024)	MIRV	10 x (100)?	10,000+	-
Sirena-M		9	2022		Command and control module	-	-
TOTAL 23(SIPRI) 23(BULL)		306					1,185
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
9M729	SSC-8	20	2016		1 x (10-100)	2,350	20
TOTAL		20					20

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
23(SIPRI) 23(BULL)							
SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ							
SS-1c Mod 1	Scud-B	Some	1964	Single	1 x 1,000kg payload	300	Some
SS-1c Mod 2	Scud-B	Some	1964	Single	1 x 950kg payload	240	Some
SS-21 Scarab	Tochka	Some	1981	Single	(1 x 10-100)	120	Some
SS-26 Stone	Iskander-M	150	2005	Single	(1 x 10-100)	350	70
TOTAL 23(SIPRI) 23(BULL) 08(WIKI)		150					70
CHINA							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
CSS-3	DF-4	6	1980	Single	1 x 3,300	5,500	0
CSS-4 Mod 1	DF-5A	6	1981	Single	1 x 4,000-5,000	12,000	6
CSS-4 Mod 2	DF-5B	12	2015	MIRV	5 x 200-300	13,000	60
CSS-4 Mod 3	DF-5C	…	(2024)	MIRV	…	13,000	…
CSS-10 Mod 1	DF-31	6	2006	Single	1 x 200-300	7,200	6
CSS-10 Mod 2	DF-31A/AG	84	2007/2018	Single	1 x 200-300	11,200	84
CSS-20	DF-41 (mobile version)	28	2020	MIRV	3 x 200-300	>12,000	84

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
TOTAL 23(SIPRI) 23(BULL)		142					240
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
CSS-6 Mod 1	DF-15/M-9	…	1994	Single	1 x 50-350	600	Some
CSS-22	DF-17	54	2020	Single	1 x HGV	>1,800	…
CSS-5 Mod 2/6	DF-21A, DF-21E	24	1996/2017	Single	1 x 200-300	>2,100	24
CSS-18	DF-26	162	2016	Single	1 x 200-300	>3,000	54
TOTAL 23(SIPRI) 23(BULL)		240					78
SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ							
CSS-7	DF-11/M-11	32	1999	Single	1 x 0.5	300	Some
CSS-8	DF-7	30	?	Single	1 x 500kg payload	150	?
TOTAL 22(SIPRI) 21(BULL) 04(IISS)		~162					Some
INDIA							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
Agni VI		0	(2027)	Single	1 x 10-40	>6,000	0

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
TOTAL 23(SIPRI) 22(BULL)		0					0
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
Agni I		16	2007	Single	1 x 12	>700	16
Agni II		16	2011	Single	1 x 10-40	>2,000	16
Agni III		16	2014	Single	1 x 10-40	>3,200	16
Agni IV		8	2022	Single	1 x 10-40	>3,500	8
Agni V		0	(2023)	Single	1 x 10-40	>5,000	0
Agni-P		0	(2025)	MIRV	2 x 10-40	1,000-2,000	0
TOTAL 23(SIPRI) 22(BULL) 12(JDW) 11(WIKI)		56					56
SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ							
Prithvi II		24	2003	Single	1 x 12	250	24
TOTAL 23(SIPRI) 20(BULL)		24					24
PAKISTAN							
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
Shaheen-1/1A	Hatf 4	16	2003	Single	1 x 5-12	750/900	16
Ghauri-1	Hatf 5	24	2003	Single	1 x 10-40	1,250	24
Shaheen-2	Hatf 6	24	2014	Single	1 x 10-40	2,000	24
Shaheen-3	Hatf 6	…	(2023)	Single	1 x 10-40	2,750	…

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
Ababeel	Hatf…	0	…	MIRV	…	2,200	0
Babur-2 GLCM	Hatf…	…	…	Single	1 x 5-12	900	…
TOTAL 23(SIPRI) 23(BULL) 15(WIKI)		64					64
SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ							
Abdali	Hatf 2	10	(2015)	Single	1 x 5-12	200	10
Ghaznavi	Hatf 3	16	2004	Single	1 x 5-12	300	16
Nasr	Hatf 9	24	(2013)	Single	1 x 5-12	70	24
Babur/-1A GLCM	Hatf-7	12	2014	Single	1 x 5-12	350	12
TOTAL 23(SIPRI) 23(BULL) 15(WIKI)		62					62
ISRAEL							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
Jericho 3		25	2011-2015				25
				Single	1 x 1,000-1,300	11,500	
				MIRV	6 x 100	11,500	
TOTAL 23(SIPRI) 22(BULL) 12(JDW) 11(WIKI)		25					25

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
Note [1], [2], [3], [4], [5]							
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
Jericho 2		25	1990				25
				Single	1 x 750-1,000kg payload	1,500-1,800	
TOTAL 23(SIPRI) 22(BULL) 16(IISS) 11(WIKI)		25					25
NORTH KOREA							
ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ							
Hwasong-13	KN-08	Some				12,000	Some
Hwasong-14	KN-20	…	2017	Single	1 x 500-1,000kg payload	>10,000	Some
Hwasong-15	KN-22	…	2017	Single	1 x 1,000-1,500kg payload	>13,000	Some
Hwasong-17	KN-28	…	2020	MIRV		15,000	Some
Taepodong-2	…	…	…	Single	…	12,000	…
TOTAL 23(SIPRI) 22(BULL)		Some					Some
IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ							
Hwasong-7	Nodong	Some	1993	Single	1 x 1,000kg	>1,200	Some

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
					payload		
Hwasong-9	Scud-ER (extended range)	Some		Single	1 x 500kg payload	1,000	Some
Pukguksong-2	KN-15	Some	2017	Single		>1,000	Some
Hwasal-1		Some	2021	Single		1,500	Some
Hwasal-2		Some	2021	Single		2,000	Some
Hwasong-8	/Unnamed ‘Hypersonic Missile’	Some	2021	Single	HGV	>1,000	Some
Hwasong-10	BM-25, Musudan	Some	2010		1 x 1,000kg payload	>3,000	Some
Hwasong-12	KN-17	Some	2017		1 x 1,000kg payload	>4,500	Some
‘New type’ IRBM		Some	2022			>4,500	Some
TOTAL 23(SIPRI) 22(BULL) 15(IISS) 11(WIKI)		0(6)					Up to 20
SLBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ, БАЗИРУЮЩИЕСЯ НА ПОДВОДНЫХ ЛОДКАХ							
UNITED STATES							
UGM-133A	Trident II D5/ D5LE	280					
	MK-4		1992	MIRV	1-8 x W76-0	>12,000	…

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
					100		
	MK-4A		2008	MIRV	1-8 x W76-1 190	>12,000	1,511
	MK-4A		2019	MIRV	1-8 x W76-2 8 kt	>12,000	25
	MK-5		1990	MIRV	1-8 x W88 455	>12,000	384
TOTAL 23(SIPRI) 23(BULL)		280					1,920
UNITED KINGDOM							
UGM-135	Trident II D-5	48	1994	MIRV	1-8 x 100	12,000	120
TOTAL 23(SIPRI) 21(BULL)		4/64					120
RUSSIA							
SS-N-18 M1 Stingray	RSM-50 (Volna)	0/0	1978	MIRV	3 x 50	6,500	0
SS-N-23 M1	RSM-54 (Sineva)	5/80	2007/2014	MIRV	4 x 100	9,000	320
SS-N-32	RSM-56 (Bulava)	6/96	2012	MIRV	6 x 100	>8,050	576
TOTAL 23(SIPRI) 23(BULL)		10/160					896
FRANCE							
M-51.1		16	2010	MIRV	4-6 x 100	>6,000	80

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
M-51.2		32	2016	MIRV	4-6 x 100	>9,000	160
M-51.3		0	(2025)	MIRV	(6 x 100)	(>9,000)	0
TOTAL 23(SIPRI) 23(BULL)		48					240
CHINA							
CSS-N-14	JL-2	…	2016	Single	1 x 200-300	>7,000	…
CSS-N-X	JL-3	72	(2020s)	MIRV		>10,000	72
TOTAL 23(SIPRI) 23(BULL)		72					72
INDIA							
	K-4	…	?	Single	1 x 10-40	3,500	…
Sagarika / Arihant	K-15	12	2018	Single	1 x 12	700	12
Dhanush	NA	2	2013	Single	1 x 12	400	4
TOTAL 23(SIPRI) 22(BULL)		14					16
PAKISTAN							
Babur-3 SLCM	Hatf-…	0	(2025)	Single	1 x 5-12	450	0
TOTAL 22(SIPRI) 21(BULL)		14					16
NORTH KOREA							
Pukguksong-1	KN11	…	2014	Single		>1,000	…
Pukguksong-3	KN26	…	2017	Single		1,900-2,500	…
Pukguksong-4		…	2020	Single		3,500-	…

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
						5,400	
Pukguksong-5		…	2021	MIRV			…
Small ‘New Type’ SLBM		…	2021			400-600	…
Unknown SLBM		…	2022				…
TOTAL 23(SIPRI) 22(BULL)		…					…
AIRCRAFT БОМБАРДИРОВЩИКИ							
UNITED STATES							
STRATEGIC СТРАТЕГИЧЕСКИЕ							
B-52H	Stratofortress	46/87	1961	20 x ALCM	5-150	16,000	500
				ACM	5-150		
B-2A	Spirit	20/20	1994	16 x Bombs B61-7, -11, B83-1	ACM 5-150	11,000	288
TOTAL 23(SIPRI) 23(BULL)		66/107					788
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
F-15E	Strike Eagle	Some	1988	Bomb B61-3, B61-4	5 x 0.3-170	3,840	80
F-16C/D	Fighting Falcon	Some	1987	Bomb B61-3, B61-4	2 x 0.3-170	3,200	60
F-16MLU	Fighting Falcon	Some	1985	Bomb B61-3, B61-4	2 x 0.3-170	3,200	30

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
PA-200	Tornado	Some	1983	Bomb B61-3, B61-4	2 x 0.3-170	2,400	30
TOTAL 23(SIPRI) 23(BULL) 09(WIKI) 04(IISS)		Some					200
RUSSIA							
STRATEGIC СТРАТЕГИЧЕСКИЕ							
Bear H	Tu-95 MS/M	39/55	1981	ALCM, Bombs	6 x AS-15A ALCMs, bombs	6,500-10,500	448
Blackjack	Tu-160/M	11/15	1987	ALCM, SRAM, bombs	12 x AS-15B ALCMs or AS-16 SRAMs, bombs	10,500-13,200	132
TOTAL 23(SIPRI) 23(BULL)		50/68					580
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
Land-based bombers Бомбардировщики наземного базирования							
Tu-22M-3	Backfire-C	60	1974	ASM, bombs	3 x ASM, bombs	4,800-7,000	300
Su-24M/M2	Fencer-D	70	1974	Bombs	2 x bombs	2,100-3,000	70
Su-34	Fullback	124	2006	Bombs	2 x bombs		124
Su-57	Felon	…	(2024)		(bombs, ASM?)		…

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
MiG-31K	Foxhound	12	2018		1 x ALBM		12
TOTAL 23(SIPRI) 23(BULL)		266					506
Naval bombers, submarines, surface ships Военно-морские бомбардировщики, подводные лодки, надводные корабли							
TOTAL 23(SIPRI) 23(BULL)		Some					835
FRANCE							
LAND-BASED НАЗЕМНОГО БАЗИРОВАНИЯ							
Rafale BF3		40	2010-2011	ASMP	1 x 300	2,000	40
TOTAL 23(SIPRI) 23(BULL)		40					40
CARRIER-BASED БАЗИРУЮЩИЕСЯ НА АВИАНОСЦАХ							
Rafale MK3		10	2010-2011	ASMP	1 x 300	2,000	10
TOTAL 23(SIPRI) 23(BULL)		10					10
CHINA							
STRATEGIC СТРАТЕГИЧЕСКИЕ							
H-6K	B-6	10	2009	Bomb	1 x 3,000kg payload	3,100	10
H-6N	B-6	10	2020	ALBM	1 x ALBM	3,100	10

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
H-20	B-20	…	(2028)	…	…	…	…
Fighters		?	1972-	Bomb	1 x bomb		?
TOTAL 23(SIPRI) 23(BULL)		20					20
ISRAEL							
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
F-4E-2000	Kurnass	Some	1989	Bomb	1 x 8,480kg payload	2,200	Some
F-16A Fighting Falcon	Netz/Hawk	88	1980	Bomb	1 x 5,400kg payload	2,500	Some
F-16B Fighting Falcon	Netz/Hawk	16		Bomb	1 x 5,400kg payload	2,500	Some
F-16C Fighting Falcon	Barak / Lightning	75		Bomb	1 x 5,400kg payload	2,500	Some
F-16D Fighting falcon	Barak / Thunderbolt	46		Bomb	1 x 5,400kg payload	2,500	Some
F-16I Fighting Falcon	Sufa / Storm	100/25		Bomb	1 x 5,400kg payload	1,600	30
F-15I Strike Eagle	Ra'am / Thunder	25/25	1997	Bomb	1 x 10,400kg payload	4,450	Some
F-35I Lightning II		(20)+(55)	(2015)-(2030)	Bomb	5,895kg payload	2,200	(Some)
TOTAL 23(SIPRI) 22(BULL) 15(WIKI) 12(JDW)		348+(20)+(55)					30

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
INDIA							
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
Jaguar IS	Shamsher	16	1981	Bomb	1 x bomb	1,600	16
Mirage 2000H	Vajra	32	1985	Bomb	1 x bomb	1,850	32
Rafale		36	2022			2,000	0
TOTAL 23(SIPRI) 22(BULL)		48					48
PAKISTAN							
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
Mirage III/V		36	1998	Bomb or Ra'ad ALCM	1 x 4,000kg payload	2,100	36
TOTAL 23(SIPRI) 23(BULL)		36					36
NORTH KOREA							
SUB-STRATEGIC ПОЛУСТРАТЕГИЧЕСКИЕ							
H-5	Il-28	(80)	1950	Bomb	1 x 3,000kg payload	2,100	Some
TOTAL 18(SIPRI) 18(BULL)		(80)					Some
SLCM КРЫЛАТЫЕ РАКЕТЫ, ЗАПУСКАЕМЫЕ С ПОДВОДНЫХ ЛОДОК							
UNITED STATES							
Tomahawk	TLAM-	325	1984	Single	1 x 5-150	2,500	(0)

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
	N						
TOTAL 19(SIPRI) 19(BULL)		325					(0)
RUSSIA							
SS-N-9	Siren	Some	1972	Single	1 x 200	110	Some
SS-N-12	Sandbox	Some	1959-1960	Single	1 x 350	550	Some
SS-N-19	Shipwreck	Some	1980	Single	1 x 500	550	Some
SS-N-21	Sampson	Some	1984	Single	1 x 200	2,400	Some
SS-N-22	Sunburn	Some	1980	Single	1 x 320kg payload	120	Some
SS-N-30	Kalibr	Some	2012	Single	1 x 450kg payload	2,500	Some
TOTAL 15(WIKI) 15(JDW) 11(SIPRI) 10(BULL)		Some					~280
ISRAEL							
Turbo-Popeye 3		20	2000	Single	1 x 200kg payload	1,500	10
TOTAL 23(SIPRI) 22(BULL) 04(IISS)		20					10
PAKISTAN							
Babur-3 SLCM	Hatf-…	0		Single	1 x 5-12	450	0

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
TOTAL 22(SIPRI) 21(BULL)							
ALCM КРЫЛАТЫЕ РАКЕТЫ, ЗАПУСКАЕМЫЕ С САМОЛЕТОВ							
UNITED STATES							
AGM-868		1,140	1982/1991	Single	1 x 900-1,400kg payload	2,500	Some
AGM-129		460	1990	Single	1 x 5-200	3,500	Some
TOTAL 11(SIPRI) 08(BULL)		1,600					Some
RUSSIA							
AS-4	Kh-24 Kitchen	Some	1964	Single	1 x 1,000	310	Some
AS-15A	Kh-55 Kent	Some	1971	Single	1 x 200-250	2,500	Some
AS-15B	Kh-55SM Kent	Some	1986	Single	1 x 200-250	3,000	Some
AS-16	Kh-15 Kickback	Some	1980	Single	1 x 350	150	Some
TOTAL 11(SIPRI) 08(BULL)		Some					Some
FRANCE							
ASMP		Some	1985	Single	1 x 300	250	Some

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
TOTAL 11(SIPRI) 08(BULL)		Some					Some
CHINA							
DH-10	CJ-10	150-350	2007	Single	1 x ?	>1,500	Some
DH-20?	CJ-20	?	(2014)	?	1 x ?	>1,500	Some
TOTAL 19(SIPRI) 19(BULL)		150-350					Some
PAKISTAN							
Ra'ad	Hatf-8	0	(2019)	Single	1 x 5-12	350	0
TOTAL 19(SIPRI) 18(BULL) 15(WIKI)		0					0
GLCM КРЫЛАТЫЕ РАКЕТЫ НАЗЕМНОГО БАЗИРОВАНИЯ							
INDIA							
Nirbhay		?	?	Single	1 x 250-450kg payload	>700	?
19(SIPRI) 18(BULL)							
MISSILE AND AIR DEFENSE SYSTEMS СИСТЕМЫ ПРОТИВОРАКЕТНОЙ И ПРОТИВОВОЗДУШНОЙ ОБОРОНЫ							
RUSSIA							

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
STRATEGIC DEFENSIVE SYSTEMS СИСТЕМЫ СТРАТЕГИЧЕСКОЙ ОБОРОНЫ							
53T6	SH-08 Gazelle	68	1986	Single	1 x 10	30	68
S-300 and S-400	SA-10/20 Grumble, and SA-21 Growler	750	1992/2007	Single	1 x low yield	5-150	290
3M-55 Yakhont	SS-N-26	56	(2014)	Single	1 x (10-100)	400+	23
SSC-1B Sepal	Redut	8	1973	Single	1 x 350	500	4
TOTAL 23(SIPRI) 23(BULL)		886					387
UNITED STATES							
STRATEGIC DEFENSIVE SYSTEMS СИСТЕМЫ СТРАТЕГИЧЕСКОЙ ОБОРОНЫ							
LAND-BASED НАЗЕМНОГО БАЗИРОВАНИЯ							
Fort Greely (Alaska)		26	2004				0
Fort Greely (Alaska)		(14)	(2017)				(0)
Vandenburg (California)		4	2004				0
TOTAL ground-based interceptors		30+(14)					0
SEA-BASED МОРСКОГО БАЗИРОВАНИЯ							
Aegis BMD		5					0

Table 2.9 - Operational Nuclear Delivery Systems, 2022-2023

Таблица 2.9 – Действующие системы доставки ядерного оружия, 2022-2023

NAME/DESIGNATION НАЗВАНИЕ	AKA ТАКЖЕ ИЗВЕСТНО КАК	NUMBER OF SYSTEMS Active+Spares ЧИСЛО СИСТЕМ Действующие+Запасные	YEAR FIRST DEPLOYED ГОД ВСТУПЛЕНИЯ НА ВООРУЖЕНИЕ	WARHEAD TYPE ТИП БОЕГОЛОВКИ	NUMBER OF WARHEADS x YIELD (kilotons) ЧИСЛО БОЕГОЛОВОК x МОЩНОСТЬ ЗАРЯДА (килотонн)	RANGE (km) ДАЛЬНОСТЬ (км)	TOTAL NUMBER OF WARHEADS Active+Spares ОБЩЕЕ ЧИСЛО БОЕГОЛОВОК Действующих+Запасных
cruisers							
Aegis BMD destroyers		25					0
TOTAL Aegis BMD ships		30(80-97)					0
15(IISS) 14(WIKI) 08(SIPRI)							
SUB-STRATEGIC DEFENSIVE SYSTEMS СИСТЕМЫ ПОЛУСТРАТЕГИЧЕСКОЙ ОБОРОНЫ							
PAC-3 missiles		546					0
TOTAL 08(SIPRI)		546					0

ACM advanced cruise missile
AKA also known as
ALCM air-launched cruise missile
ASM air-to-surface missile
MIRV multiple independently targetable re-entry vehicles
ICBM intercontinental ballistic missile
IRBM intermediate-range ballistic missile
SRBM short-range ballistic missile
SLBM submarine-launched ballistic missile
SLCM submarine-launched cruise missile
LACM land-attack cruise missile
GBI ground-based interceptors
BMD ballistic missile defense
PAC-3 Patriot advanced capability-3

SOURCES: SIPRI, BULL, WIKI, IISS, JDW

Notes.

1) According to an official report which was submitted to the American congress in 2004, it may be that with a payload of 1,000 kg the Jericho 3 gives Israel nuclear strike capabilities within the entire Middle East, Africa, Europe, Asia and almost all parts of North America, as well as within large parts of South America and North Oceania.
2) Henry A. Kissinger (16 July 1969), "Israeli Nuclear Program," Memorandum for the President (The White House), Retrieved 2009-07-26
3) Proliferation of Weapons of Mass Destruction: Assessing the Risks, U.S. Congress Office of Technology Assessment, August 1993, OTA-ISC-559, Retrieved 2008-12-09
4) Missile Survey: Ballistic and Cruise Missiles of Foreign Countries, by Andrew Feikert, Congressional Research Service, Updated March 5, 2004
5) Study on a Possible Israeli Strike on Iran's Nuclear Development Facilities, by Abdullah Toukan, Center for Strategic and International Studies, March 14, 2009

Table 2.10 – Operational Nuclear Warheads, 2022-2023, Strategic

Таблица 2.10 – Действующие ядерные боеголовки, 2022-2023, Стратегические

RANK РАНГ	COUNTRY СТРАНА	ICBM МЕЖКОНТИНЕНТАЛЬНЫЕ БАЛЛИСТИЧЕСКИЕ РАКЕТЫ	IRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ СРЕДНЕГО РАДИУСА ДЕЙСТВИЯ	SLBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ, ЗАПУСКАЕМЫЕ С ПОДВОДНЫХ ЛОДОК	ALCM / BOMBS КРЫЛАТЫЕ РАКЕТЫ, ЗАПУСКАЕМЫЕ С САМОЛЕТОВ / БОМБЫ	TOTAL ВСЕГО
1	U.S.	800		1,920	788	3,508
2	Russia	1,197	20	896	580	2,693
3	China	240	78	72	20	410
4	France			240	50	290
5	U.K.			120		120
6	India		56	16		72
7	Pakistan		64			64
8	Israel	25	25			50
9	N. Korea		30			30

ALCM air-launched cruise missile
ICBM intercontinental ballistic missile
IRBM intermediate-range ballistic missile
SLBM submarine-launched ballistic missile

SOURCES: SIPRI, BULL, IISS, JDW

Table 2.11 – Operational Nuclear Warheads, 2022-2023, Sub-Strategic

Таблица 2.11 – Действующие ядерные боеголовки, 2022-2023, Полустратегические

RANK РАНГ	COUNTRY СТРАНА	SRBM БАЛЛИСТИЧЕСКИЕ РАКЕТЫ МАЛОГО РАДИУСА ДЕЙСТВИЯ	SLCM, NAVY WEAPONS КРЫЛАТЫЕ РАКЕТЫ, ЗАПУСКАЕМЫЕ С ПОДВОДНЫХ ЛОДОК, ВОЕННО-МОРСКОЕ ОРУЖИЕ	ABM, AIR / COASTAL DEFENSE ПРОТИВОРАКЕТНАЯ, ПРОТИВОВОЗДУШНАЯ / БЕРЕГОВАЯ ОБОРОНА	AIRCAFT STRIKE УДАРНЫЕ БОМБАРДИРОВЩИКИ	TOTAL ВСЕГО
1	Russia	70	835	385		1,290
2	U.S.				200	200
3	Pakistan	62			36	98
4	India	24			48	72
5	Israel	Some	10		30	>40
6	China	Some	Some		Some	Some
7	N. Korea				Some	Some
8	France					Some
9	U.K.					Some

SLCM sea-launched cruise missile
SRBM short-range ballistic missile

SOURCES: SIPRI, BULL, IISS, JDW

Table 2.12 – Operational Nuclear Warheads, 2022-2023, Total Inventory and Deployed

Таблица 2.12 – Действующие ядерные боеголовки, 2022-2023, Общие запасы и в строю

RANK РАНГ	COUNTRY СТРАНА	TOTAL INVENTORY ОБЩИЕ ЗАПАСЫ			DEPLOYED В СТРОЮ			
		23(BULL)	23(SIPRI)	See [1], [2], [3]	23(BULL)	23(SIPRI)	15(IISS)	10(JDW)
1	Russia	5,889	5,889		1,674	1,674	3,648	
2	U.S.	5,244	5,244		1,770	1,770	2,038	
3	Israel	90	90	Up to 400	90	90	80	100-300
4	China	350	350		350	350	Up to 250	
5	France	290	290		290	290	280	
6	U.K.	225	225		120	120	120	
7	Pakistan	170	170		170	170	Up to 130	
8	India	164	164		164	164	Up to 120	
9	N. Korea	30	30		30	30	Up to 20	

Notes:

1) "Background Information, 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons," United Nations, Retrieved 2006-07-02.
2) Brower, Kenneth S., "A Propensity for Conflict: Potential Scenarios and Outcomes of War in the Middle East," Jane's Intelligence Review, Special Report no. 14 (February 1997), p. 14-15.
3) "Nuclear Weapons: Who Has What at a Glance," Arms Control Association, Retrieved 2007-05-30.
4) The Bulletin of the Atomic Scientists puts the Israeli nuclear stockpile at 60-80 but notes that it is believed that Israel has produced nuclear material enough for 115-190 warheads.
5) In 1986, Mordechai Vanunu, a former technician at Dimona, revealed to the media some evidence of Israel's nuclear program. Israeli agents abducted him from Italy and transported him to Israel. An Israeli court then tried him in secret on charges of treason and espionage, and sentences him to 18 years imprisonment. At the time of Vanunu's arrest, *The Times* reported that Israel had material for approximately 20 hydrogen bombs and 200 fission bombs. If we take this information at face value, by now Israel should have material for considerably more nuclear bombs and that seems to corroborate the opinion of the sources from Notes [1], [2], [3] that Israel now may have up to 400 nuclear weapons.
6) Vanunu's information in October 1986 said that based on a reactor operating at 150 megawatts Israel produces 40 kg of plutonium per year. Israel possesses a 200 kg warhead, containing 6 kg of plutonium (Farr, Warner D. The Third Temple's Holy of Holies: Israel's Nuclear Weapons, USAF Counterproliferation Center, September 1999, Retrieved 2007-07-03). During 37 years after 1986 until 2023, Israel could have produced 37 x 40 = 1,480 kg of plutonium; divided by 6, it gives us 246 warheads; plus 220 warheads, which, according to Vanunu, Israel already had in 1986, we receive a possible number of Israel's warheads now at 466.
7) The substantial discrepancy over data about Israel (between the Bulletin of the Atomic Scientists and the

Stockholm International Peace Research Institute on one side and the International Institute for Strategic Studies, Jane's Defense Weekly, and sources from the notes [1], [2], [3] on the other side) may be explained by the following:

7.1) "Israel's nuclear weapons are not believed to be fully operational under normal circumstances" (Bulletin of the Atomic Scientists, article "Nuclear Notebook: Worldwide deployment of nuclear weapons, 2009").

7.2) As Zbigniew Brzezinski stated on Book TV in 2009, Israel had acquired a second-strike capability.

7.3) The opinion of Brzezinski is supported by other less prominent sources stating that Israel's nuclear weapons can now be launched from land, sea and air (Douglas Frantz, Israel Adds Fuel to Nuclear Dispute, Officials confirm that the nation can now launch atomic weapons from land, sea and air, Los Angeles Times, Sunday, October 12, 2003). This gives Israel a second strike option even if much of the country is destroyed (David Eberhart, Samson Option: Israel's Plan to Prevent Mass Destruction Attacks, NewsMax.Com, October 16, 2001).

7.4) The second strike strategy may mean that at any given time some of Israel's nuclear weapons are in storage.

Table 2.13 – States Possessing, Pursuing Or Capable Of Acquiring Weapons Of Mass Destruction, As Well As Those Which Used To Have Or Used To Pursue Them, 2022-2023

Таблица 2.13 – Государства, обладающие или способные к созданию оружия массового поражения, а также те, которые обладали или были способны к их созданию в прошлом, 2022-2023

STATE ГОСУДАРСТВО	NUCLEAR ENERGY ЯДЕРНАЯ ЭНЕРГИЯ	URANIUM ENRICHMENT ОБОГАЩЕНИЕ УРАНА	PLUTONIUM PRODUCTION ПРОИЗВОДСТВО ПЛУТОНИЯ	NUCLEAR WEAPONS ЯДЕРНОЕ ОРУЖИЕ	CHEMICAL WEAPONS ХИМИЧЕСКОЕ ОРУЖИЕ	BIOLOGICAL WEAPONS БИОЛОГИЧЕСКОЕ ОРУЖИЕ	MISSILE TECHNOLOGY РАКЕТНАЯ ТЕХНОЛОГИЯ
Algeria				Used to pursue			
Argentina	Possessing		Possessing	Capable			Pursuing
Armenia	Possessing		Possessing				
Australia				Capable	Capable	Capable	Capable
Belarus	Possessing			Capable			
Belgium	Possessing		Possessing				
Brazil	Possessing	Pursuing	Possessing	Capable			Possessing
Bulgaria	Possessing		Possessing			Capable	
Burma					Pursuing		
Canada	Possessing		Possessing				
Chile					Capable		
China	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing
Cuba						Capable	
Czechia	Possessing		Possessing				
Ethiopia					Used to pursue		
Egypt	Pursuing				Possessing	Possessing	Pursuing
Finland	Possessing		Possessing				
France	Possessing	Possessing	Possessing	Possessing	Possessing	Capable	Possessing

Table 2.13 – States Possessing, Pursuing Or Capable Of Acquiring Weapons Of Mass Destruction, As Well As Those Which Used To Have Or Used To Pursue Them, 2022-2023

Таблица 2.13 – Государства, обладающие или способные к созданию оружия массового поражения, а также те, которые обладали или были способны к их созданию в прошлом, 2022-2023

STATE ГОСУДАРСТВО	NUCLEAR ENERGY ЯДЕРНАЯ ЭНЕРГИЯ	URANIUM ENRICHMENT ОБОГАЩЕНИЕ УРАНА	PLUTONIUM PRODUCTION ПРОИЗВОДСТВО ПЛУТОНИЯ	NUCLEAR WEAPONS ЯДЕРНОЕ ОРУЖИЕ	CHEMICAL WEAPONS ХИМИЧЕСКОЕ ОРУЖИЕ	BIOLOGICAL WEAPONS БИОЛОГИЧЕСКОЕ ОРУЖИЕ	MISSILE TECHNOLOGY РАКЕТНАЯ ТЕХНОЛОГИЯ
Germany	Possessing	Possessing	Possessing	Capable	Capable	Capable	Capable
Hungary	Possessing		Possessing				
India	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing
Indonesia					Pursuing		
Iran	Possessing	Possessing	Pursuing	Used to pursue	Possessing	Possessing	Pursuing
Iraq			Used to have	Used to pursue	Used to have	Used to have	Used to pursue
Israel			Possessing	Possessing	Possessing	Possessing	Possessing
Italy			Possessing				
Japan	Possessing	Possessing	Possessing	Capable	Capable	Capable	Possessing
Kazakhstan			Possessing	Capable			
Laos					Used to pursue	Used to pursue	
Libya				Used to pursue	Used to have	Used to have	
Lithuania	Possessing		Possessing				
Mexico	Possessing		Possessing				
Netherlands	Possessing	Possessing	Possessing				
North Korea	Possessing		Possessing	Possessing	Possessing	Possessing	Possessing
Pakistan	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing
Romania	Possessi		Possessing				

Table 2.13 – States Possessing, Pursuing Or Capable Of Acquiring Weapons Of Mass Destruction, As Well As Those Which Used To Have Or Used To Pursue Them, 2022-2023

Таблица 2.13 – Государства, обладающие или способные к созданию оружия массового поражения, а также те, которые обладали или были способны к их созданию в прошлом, 2022-2023

STATE ГОСУДАРСТВО	NUCLEAR ENERGY ЯДЕРНАЯ ЭНЕРГИЯ	URANIUM ENRICHMENT ОБОГАЩЕНИЕ УРАНА	PLUTONIUM PRODUCTION ПРОИЗВОДСТВО ПЛУТОНИЯ	NUCLEAR WEAPONS ЯДЕРНОЕ ОРУЖИЕ	CHEMICAL WEAPONS ХИМИЧЕСКОЕ ОРУЖИЕ	BIOLOGICAL WEAPONS БИОЛОГИЧЕСКОЕ ОРУЖИЕ	MISSILE TECHNOLOGY РАКЕТНАЯ ТЕХНОЛОГИЯ
	ng						
Russia	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing
Saudi Arabia				Pursuing	Pursuing	Pursuing	Pursuing
Serbia				Pursuing	Capable		
Slovakia	Possessing		Possessing				
Slovenia	Possessing		Possessing				
South Africa	Possessing		Possessing	Capable	Capable	Capable	Capable
South Korea	Possessing		Possessing		Capable	Capable	Possessing
Spain	Possessing		Possessing				
Sudan					Used to pursue		
Sweden	Possessing		Possessing				
Switzerland	Possessing		Possessing				
Syria					Used to have	Pursuing	Pursuing
Taiwan	Possessing		Possessing		Possessing	Possessing	Possessing
Thailand					Pursuing		
Turkiey	Pursuing						
Ukraine	Possessing		Possessing	Capable			

Table 2.13 – States Possessing, Pursuing Or Capable Of Acquiring Weapons Of Mass Destruction, As Well As Those Which Used To Have Or Used To Pursue Them, 2022-2023

Таблица 2.13 – Государства, обладающие или способные к созданию оружия массового поражения, а также те, которые обладали или были способны к их созданию в прошлом, 2022-2023

STATE ГОСУДАРСТВО	NUCLEAR ENERGY ЯДЕРНАЯ ЭНЕРГИЯ	URANIUM ENRICHMENT ОБОГАЩЕНИЕ УРАНА	PLUTONIUM PRODUCTION ПРОИЗВОДСТВО ПЛУТОНИЯ	NUCLEAR WEAPONS ЯДЕРНОЕ ОРУЖИЕ	CHEMICAL WEAPONS ХИМИЧЕСКОЕ ОРУЖИЕ	BIOLOGICAL WEAPONS БИОЛОГИЧЕСКОЕ ОРУЖИЕ	MISSILE TECHNOLOGY РАКЕТНАЯ ТЕХНОЛОГИЯ
Vietnam					Pursuing	Pursuing	
United Kingdom	Possessing	Possessing	Possessing	Possessing	Capable	Capable	Possessing
United States	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing	Possessing

SOURCES: BULL, SIPRI, EST, E, CIA, WIKI

Table 2.14 - Global Stocks of Highly Enriched Uranium (HEU), 2022

Таблица 2.14 – Мировые запасы высокообогащенного урана, 2022

STATE ГОСУДАРСТВО	STOCKPILE (TONS) ЗАПАСЫ (ТОНН)
Argentina	0.001-0.01
Australia	0.001-0.01
Belarus	0.1-1
Belgium	0.1-1
Canada	1-10
China	14 ± 3
France	25 ± 6
Germany	0.1-1
Ghana	~0.001
India	4.9 ± 2
Indonesia	~0.001
Iran	0.03
Israel	0.3
Italy	0.1-1
Jamaica	~0.001
Japan	1-10
Kazakhstan	1-10
Netherlands	0.1-1
Nigeria	~0.001
North Korea	Uncertain
Norway	0.001-0.01
Pakistan	4.9 ± 1.5
Poland	0.1-1
Russia	672 ± 120
South Africa	0.1-1
Switzerland	0.001-0.01
Syria	~0.001
United Kingdom	23
United States	487
Uzbekistan	0.01-0.1
TOTAL	~1245

Notes.

1) Most of highly-enriched material is 90-93% enriched uranium-235 (U-235), which is typically considered as weapon-grade. The estimates are in effect for the start of 2021. Important exceptions are noted.
2) The uncertainty in the estimate for France applies only to the military stockpile of about 25 tons and does not apply to the declared civilian stock. A 2014 analysis offers grounds for a significantly lower estimate of the stockpile of weapon-grade HEU (as large as 10 ± 2 tons or as low as 6 ± 2 tons), based on evidence that the Pierrelatte enrichment plant may have had both a much shorter effective period of operation and a smaller weapon-grade HEU production capacity than previously assumed.
3) France's HEU stockpile includes 5.4 tons declared as civilian. This figure is from France's INFCIRC/549 declaration to the International Atomic Energy Agency (IAEA) for the start of 2020.
4) It is believed that India is producing HEU (enriched to 30-45%) for use as naval reactor fuel. The estimate is for HEU enriched to 30%.
5) The data for Iran is the International Atomic Energy's (IAEA) estimate as of November 5, 2021. Iran started enriching uranium up to 20% on January 4, 2021 and started enriching HEU up to 60% enrichment level on

April 17, 2021.

6) Israel may have acquired 300 kg of weapon-grade HEU from the USA in or before 1965. Some of this material may have been consumed in the process of producing tritium.
7) North Korea is known to have a uranium enrichment plant at Yongbyon and possibly others elsewhere. Independent estimates of uranium enrichment capability and possible HEU production extrapolated to the end of 2022 suggest an accumulated HEU stockpile range of 250-1350 kg.
8) The estimate for Pakistan assumes total HEU production of 5 tons, of which about 100 kg was used in nuclear weapons tests.
9) For Russia the estimate is for the amount of 90% enriched uranium that would contain all U-235 in HEU. The actual amount of HEU might be different. It assumes that the Soviet Union stopped all HEU production in 1988. It may therefore understate the amount of HEU in Russia, since the Soviet Union stopped production of HEU for weapons in 1988 but kept producing HEU for civilian and non-weapon military uses, and Russia continues this practice. The material in discharged naval cores is not included in the current stock since the enrichment of uranium in these cores is believed to be less than 20 percent U-235. In addition, the number for Russia includes the HEU that was produced for fuel for China's CFR-600 reactor. That fuel was delivered to China in September-December 2022. The fuel contains about 7.6 tons of HEU with enrichments of 21% and 26%, for a total of 2 tons of 90% HEU equivalent.
10) The estimate for the United Kingdom reflects a UK declaration of 21.9 tons of HEU as of March 31, 2002, the average enrichment of which was not given. As the United Kingdom continues to use HEU in naval reactors, the value contains an increasing fraction of spent naval fuel. In 2018 about 500 kg HEU from the UK were transferred to the USA for down blending into low-enriched uranium.
11) The amount of the United States HEU is given in actual tons, not 93% enriched equivalent. In 2016, the United States has declared that, as of September 30, 2013 its HEU inventory was 585.6 tons, of which 499.4 tons was declared to be for "national security or non-national security programs including nuclear weapons, naval propulsion, nuclear energy, and science". This material was estimated to include 360.9 tons of HEU in weapons and available for weapons, 121.1 tons of HEU reserved for naval fuel and 17.3 tons of HEU reserved for research reactors. The remaining 86.2 tons was composed of 41.6 tons "available for potential down-blend to low enriched uranium or, if not possible, disposal as low-level waste", and 44.6 tons in spent reactor fuel. As of the end of 2021, the amount available for use had been reduced to about 468.2 tons, which id estimated to include 92.3 tons of HEU in naval reserve and 14.9 tons reserved for research reactors. It is estimated that at the end of 2021 the amount of material to be down blended was reduced to 19 tons.
12) The 2021 IAEA Annual Report lists 156 significant quantities of HEU under comprehensive safeguards in non-nuclear weapon states as of the end of 2021. Without knowing the exact enrichment levels, that means these states hold at least 3.9 tons HEU since, for HEU, a significant quantity is defined as 25 kg of U-235. In INFCIRC/912 (from 2017) more than 20 states committed to reducing civilian HEU stocks and providing regular reports. So far. Only 2 countries have reported under this scheme. At the end of 2018 (TIME OF LAST DECLARATION), Norway held less than 4 kg of HEU for civilian purposes. As of June 30, 2019, Australia held 2.7 kg of HEU for civilian purposes.
13) Totals are rounded to the nearest 5 tons.

SOURCES: SIPRI, BULL, CIA, WIKI

Table 2.15 - Global Stocks of Separated Plutonium, 2022

Таблица 2.15 – Мировые запасы обогащенного плутония, 2022

STATE ГОСУДАРСТВО	MILITARY STOCKS (TONS) ВОЕННЫЕ ЗАПАСЫ (ТОНН)	CIVILIAN STOCKS (TONS) ГРАЖДАНСКИЕ ЗАПАСЫ (ТОНН)
Argentina (2015)	-	17.6
Armenia (2015)	-	2.1
Belgium (2015)	-	40.9
Brazil (2015)	-	5.9
Bulgaria (2015)	-	8.8
Canada (2015)	-	213
China	2.9 ± 0.6	0.04
Czechia (2015)	-	16.8
Finland (2015)	-	17.6
France	6 ± 1.0	84.9
Germany	-	0.6
Hungary (2015)	-	10.8
India	0.65 ± 0.15	8.5 ± 4.9
Israel	0.84 ± 0.1	-
Italy (2015)	-	<0.4
Japan	-	45.8
Kazakhstan (2015)	-	3.0
Lithuania (2015)	-	12.3
Mexico (2015)	-	5.2
Netherlands (2015)	-	1.4-1.7
North Korea	0.04	-
Pakistan	0.5 ± 0.17	-
Romania (2015)	-	10.4
Russia	88 ± 8	103.5
Slovakia (2015)	-	14.3
South Africa (2015)	-	9.46
South Korea (2015)	-	97.9
Spain (2015)	-	44.4
Sweden (2015)	-	54.4
Switzerland (2015)	-	18.0
Taiwan (2015)	-	32.4
Ukraine (2015)	-	50.6
United Kingdom	3.2	116.5
United States	38.4	49.4
TOTALS	~140	…

Notes.

1) The estimates are for the start of 2021.
2) The data for France, Japan, Russia, and the United Kingdom is for the end of 2020, reflecting their most recent INFCIRC/549 declaration. Some countries with civilian plutonium stocks do not submit an INFCIRC/549 declaration to the International Atomic Energy Agency (IAEA). Of these countries, Italy, the Netherlands, Spain and Sweden store their plutonium abroad.
3) The numbers for China are based on China's INFCIRC/549 declaration to the IAEA for the end of 2016. As of March 2023, this is the most recent declaration.
4) As part of the 2005 Indian-US Civil Nuclear Cooperation Initiative, India has included in the military sector

much of the plutonium separated from its spent power-reactor fuel. While it is labeled civilian here since it is intended for breeder reactor fuel, this plutonium was not placed under safeguards in the 'India-specific' safeguards agreement signed by the Indian government and the IAEA on February 2, 2009. India does not submit an INFCIRC/549 declaration to the IAEA.

5) Israel is believed to still be operating the Dimona plutonium production reactor but may be using it primarily for tritium production (tritium is an important component in nuclear weapons; it is used to enhance the efficiency and yield of fission bombs and the fission stages of hydrogen bombs in a process known as "boosting" as well as in external neutron initiators for such weapons). The estimate is for the beginning of 2022. Without tritium production, stockpiles could be as high as 1090 kg.
6) North Korea reportedly declared plutonium production of 37 kg in June 2008. It is believed that it subsequently unloaded its 5-Mwe reactor 3 additional times, in 2009, 2016 and 2018. The stockpile estimate has been reduced to account for the 6 nuclear tests conducted by the country. North Korea's reprocessing facility operated gain in 2021 for five months.
7) As of the beginning of 2022, Pakistan was operating 4 plutonium production reactors at its Khushab site. This estimate assumes that Pakistan is separating plutonium from the cooled spent fuel from all 4 reactors.
8) For Russia, the material includes 63.5 tons of separated plutonium declared in Russia's 2022 INFCIRC/549 declaration as civilian. Russia does not make the plutonium it reports as civilian available to IAEA safeguards. This amount includes 25 tons of weapon-origin plutonium stored at the Mayak Fissile Material Storage Facility, which Russia pledged not to use for military purposes. The material not available for weapons and monitored under safeguards includes 15 tons of weapons-grade plutonium produced between January 1, 1995, and April 15, 2010, when the last plutonium production reactor was shut down. It cannot be used for weapon purposes under the terms of a 1997 Russian-United States agreement on plutonium production reactors. The material is currently stored at Zheleznogorsk and is subject to monitoring by the United States inspectors.
9) In 2012 the United States declared a government-owned plutonium inventory of 95.4 tons as of September 30, 2009. In its 2021 INFCIRC/549 declaration, the most recent submitted, the United States declared 49.4 tons of unirradiated plutonium (both separated and in mixed oxide, MOX) as part of the stock identified as excess for military purposes (declaration for December 31, 2020). The United States placed about 3 tons of its excess plutonium, stored at the K-Area Material Storage facility at the Savannah River, under IAEA safeguards.
10) The estimates for other, non-nuclear power, states are done by reconciling the amounts of plutonium declared as "held in locations in other countries" and "belonging to foreign bodies" in the INFCIRC/549 reports.
11) The totals are rounded to the nearest 5 tons.

SOURCES: SIPRI, BULL, CIA, WIKI