

**As of November, 2008****Water Conflict Chronology<sup>1</sup>****Dr. Peter H. Gleick****Pacific Institute for Studies in Development, Environment, and Security**

<b>Date</b>	<b>Parties Involved</b>	<b>Basis of Conflict</b>	<b>Violent Conflict or In the Context of Violence?</b>	<b>Description</b>	<b>Sources</b>
3000 BC	Ea, Noah	Religious account	Yes	Ancient Sumerian legend recounts the deeds of the deity Ea, who punished humanity for its sins by inflicting the Earth with a six-day storm. The Sumerian myth parallels the Biblical account of Noah and the deluge, although some details differ.	Hatami and Gleick 1994
2500 BC	Lagash, Umma	Military tool	Yes	Lagash-Umma Border Dispute-The dispute over the "Gu'edena" (edge of paradise) region begins. Umlama, King of Lagash from 2450 to 2400 B.C., diverts water from this region to boundary canals, drying up boundary ditches to deprive Umma of water. His son Il cuts off the water supply to Girsu, a city in Umma.	Hatami and Gleick 1994
1790 BC	Hammurabi	Development disputes	No	Code of Hammurabi for the State of Sumer - Hammurabi lists several laws pertaining to irrigation that address negligence of irrigation systems and water theft.	Hatami and Gleick 1994
1720-1684 BC	Abi-Eshuh, Iluma-Ilum	Military tool	Yes	Abi-Eshuh v. Iluma-Ilum- A grandson of Hammurabi, Abish or Abi-Eshuh, dams the Tigris to prevent the retreat of rebels led by Iluma-Ilum, who declared the independence of Babylon. This failed attempt marks the decline of the Sumerians who had reached their apex under Hammurabi.	Hatami and Gleick 1994
circa 1300BC	Sisra, Barak, God	Religious account,	Yes	This is an Old Testament account of the defeat of Sisera and his "nine hundred chariots of iron" by the unmounted army of	New Scofield Reference

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		Military Tool		Barak on the fabled Plains of Esdraelon. God sends heavy rainfall in the mountains, and the Kishon River overflows the plain and immobilizes or destroys Sisera's technologically superior forces ("...the earth trembled, and the heavens dropped, and the clouds also dropped water," Judges 5:4; "...The river of Kishon swept them away, that ancient river, the river Kishon," Judges 5:21).	Bible, KJV; Judges 4:7-15 and Judges 5:4-22.
1200 BC	Moses, Egypt	Military tool, Religious account	Yes	Parting of the Red Sea- When Moses and the retreating Jews find themselves trapped between the Pharaoh's army and the Red Sea, Moses miraculously parts the waters of the Red Sea, allowing his followers to escape. The waters close behind them and cut off the Egyptians.	Hatami and Gleick 1994
720-705 BC	Assyria, Armenia	Military tool	Yes	After a successful campaign against the Halidians of Armenia, Sargon II of Assyria destroys their intricate irrigation network and floods their land.	Hatami and Gleick 1994
705-682 BC	Sennacherib, Babylon	Military weapon /target	Yes	In quelling rebellious Assyrians in 695 B.C., Sennacherib razes Babylon and diverts one of the principal irrigation canals so that its waters wash over the ruins.	Hatami and Gleick 1994
6 <sup>th</sup> Century BC	Assyria	Military target; Military tool	Yes	Assyrians poison the wells of their enemies with rye ergot.	Eitzen, E.M. and E.T. Takafuji. 1997
Unknown	Sennacherib, Jerusalem	Military tool	Yes	As recounted in Chronicles 32.3, Hezekiah digs into a well outside the walls of Jerusalem and uses a conduit to bring in water. Preparing for a possible siege by Sennacherib, he cuts off water supplies outside of the city walls, and Jerusalem survives the attack.	Hatami and Gleick 1994

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681-699 BC	Assyria, Tyre	Military tool, Religious account	Yes	Esarhaddon, an Assyrian, refers to an earlier period when gods, angered by insolent mortals, created destructive floods. According to inscriptions recorded during his reign, Esarhaddon besieges Tyre, cutting off food and water.	Hatami and Gleick 1994
669-626 BC	Assyria, Arabia, Elam	Military tool, Military target	Yes	Assurbanipal's inscriptions also refer to a siege against Tyre, although scholars attribute it to Esarhaddon. In campaigns against both Arabia and Elam in 645 B.C., Assurbanipal, son of Esarhaddon, dries up wells to deprive Elamite troops. He also guards wells from Arabian fugitives in an earlier Arabian war. On his return from victorious battle against Elam, Assurbanipal floods the city of Sapibel, and ally of Elam. According to inscriptions, he dams the Uhai River with the bodies of dead Elamite soldiers and deprives dead Elamite kings of their food and water offerings.	Hatami and Gleick 1994
612 BC	Egypt, Persia, Babylon, Assyria	Military tool	Yes	A coalition of Egyptian, Median (Persian), and Babylonian forces attacks and destroys Ninevah, the capital of Assyria. Nebuchadnezzar's father, Nebopolassar, leads the Babylonians. The converging armies divert the Khosr River to create a flood, which allows them to elevate their siege engines on rafts.	Hatami and Gleick 1994
605-562 BC	Babylon	Military tool	No	Nebuchadnezzar builds immense walls around Babylon, using the Euphrates and canals as defensive moats surrounding the inner castle.	Hatami and Gleick 1994
590-600 BC	Cirrha, Delphi	Military tool	Yes	Athenian legislator Solon reportedly had roots of helleborus thrown into a small river or aqueduct leading from the Pleistrus River to Cirrha during a siege of this city. The enemy forces became violently ill and were defeated as a result. Some accounts have Solon building a dam across the Plesitus River cutting off the city's water supply. Such practices were	Absolute Astronomy 2006

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558-528 BC	Babylon	Military tool	Yes	widespread. On his way from Sardis to defeat Nabonidus at Babylon, Cyrus faces a powerful tributary of the Tigris, probably the Diyalah. According to Herodotus' account, the river drowns his royal white horse and presents a formidable obstacle to his march. Cyrus, angered by the "insolence" of the river, halts his army and orders them to cut 360 canals to divert the river's flow. Other historians argue that Cyrus needed the water to maintain his troops on their southward journey, while another asserts that the construction was an attempt to win the confidence of the locals.	Hatami and Gleick 1994
539 BC	Babylon	Military tool	Yes	According to Herodotus, Cyrus invades Babylon by diverting the Euphrates above the city and marching troops along the dry riverbed. This popular account describes a midnight attack that coincided with a Babylonian feast.	Hatami and Gleick 1994
430 BC	Athens	Military tool	Yes	During the second year of the Peloponnesian War in 430 BC when plague broke out in Athens, the Spartans were accused of poisoning the cisterns of the Piraeus, the source of most of Athens' water.	Strategy Page 2006.
355-323 BC	Babylon	Military tool	Yes	Returning from the razing of Persepolis, Alexander proceeds to India. After the Indian campaigns, he heads back to Babylon via the Persian Gulf and the Tigris, where he tears down defensive weirs that the Persians had constructed along the river. Arrian describes Alexander's disdain for the Persians' attempt to block navigation, which he saw as "unbecoming to men who are victorious in battle."	Hatami and Gleick 1994
210-209 BC	Rome and Cathage	Military tool	Yes	In 210 BC, Scipio crossed the Ebro to attack New Carthage. During a short siege, Scipio led a breaching column through a supposedly impregnable lagoon located on the landward side of the city; a strong northerly wind combined with the natural	Fonner 1996, Gowan 2004

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537	Goths and Rome	Military tool and military target	Yes	ebb of the tide left the lagoon shallow enough for the Roman infantry to wade through. New Carthage was soon taken. In the 6 <sup>th</sup> century AD, as the Roman Empire began to decline, the Goths besieged Rome and cut almost all of the aqueducts leading into the city. In 537 AD this siege was successful. The only aqueduct that continued to function was that of the Aqua Virgo, which ran entirely underground.	Rome Guide 2004, InfoRoma 2004.
1187	Saladin and the Middle East	Military tool	Yes	Saladin was able to defeat the Crusaders at the Horns of Hattin in 1187 by denying them access to water. In some reports, Saladin had sanded up all the wells along the way and had destroyed the villages of the Maronite Christians who would have supplied the Christian army with water.	Lockwood 2006, Priscoli 1998
1503	Florence and Pisa warring states.	Military tool	No: Plan only	Leonardo da Vinci and Machievelli plan to divert Arno River away from Pisa during conflict between Pisa and Florence.	Honan 1996
1573-74	Holland and Spain	Military tool	Yes	In 1573 at the beginning of the eighty years war against Spain, the Dutch flooded the land to break the siege of Spanish troops on the town Alkmaar. The same defense was used to protect Leiden in 1574. This strategy became known as the Dutch Water Line and was used frequently for defense in later years.	Dutch Water Line 2002
1642	China; Ming Dynasty	Military tool	Yes	The Huang He's dikes breached for military purposes. In 1642, "toward the end of the Ming dynasty (1368-1644), General Gao Mingheng used the tactic near Kaifeng in an attempt to suppress a peasant uprising."	Hillel 1991
1672	French, Dutch	Military tool	Yes	Louis XIV starts the third of the Dutch Wars in 1672, in which the French overran the Netherlands. In defense, the Dutch opened their dikes and flooded the country, creating a watery barrier that was virtually impenetrable.	Columbia 2000

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1748	United States	Development dispute; terrorism	Yes	Ferry house on Brooklyn shore of East River burns down. New Yorkers accuse Brooklynites of having set the fire as revenge for unfair East River water rights.	Museum of the City of New York (MCNY n.d.)
1777	United States	Military tool	Yes	British and Hessians attacked the water system of New York. "... the enemy wantonly destroyed the New York water works" during the War for Independence.	Thatcher 1827
1841	Canada	Development dispute, terrorism	Yes	A reservoir in Ops Township, Upper Canada (now Ontario) was destroyed by neighbors who considered it a hazard to health.	Forkey 1998
1844	United States	Development dispute, terrorism	Yes	A reservoir in Mercer County, Ohio was destroyed by a mob that considered it a hazard to health.	Scheiber 1969
1850s	United States	Development dispute; terrorism	Yes	Attack on a New Hampshire dam that impounded water for factories downstream by local residents unhappy over its effect on water levels.	Steinberg 1990
1853-1861	United States	Development dispute, terrorism	Yes	Repeated destruction of the banks and reservoirs of the Wabash and Erie Canal in southern Indiana by mobs regarding it as a health hazard.	Fatout 1972, Fickle 1983
1860-1865	United States	Military tool; Military target	Yes	W.T. Sherman's memoirs contain an account of Confederate soldiers poisoning ponds by dumping the carcasses of dead animals into them. Other accounts suggest this tactic was used by both sides.	Eitzen and Takafuji 1997
1870s	China	Development dispute	No	Local construction and government removal (twice) of an unauthorized dam in Hubei, China.	Rowe 1988
1870s to	United States	Development	Yes	Recurrent friction and eventual violent conflict over water	Rasch 1968

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1881		dispute		rights in the vicinity of Tularosa, New Mexico involving villagers, ranchers, and farmers.	
1887	United States	Development dispute, Terrorism	Yes	Dynamiting of a canal reservoir in Paulding County, Ohio by a mob regarding it as a health hazard. State Militia called out to restore order.	Walters 1948
1890	Canada	Development dispute, terrorism	Yes	Partly successful attempt to destroy a lock on the Welland Canal in Ontario, Canada either by Fenians protesting English Policy in Ireland or by agents of Buffalo, NY grain handlers unhappy at the diversion of trade through the canal.	Styran and Taylor 2001
1908-09	United States	Development dispute	Yes	Violence, including a murder, directed against agents of a land company that claimed title to Reelfoot Lake in northwestern Tennessee who attempted to levy charges for fish taken and threatened to drain the lake for agriculture.	Vanderwood 1969
1863	United States Civil War	Military tool	Yes	General U.S. Grant, during the Civil War campaign against Vicksburg, cut levees in the battle against the Confederates.	Grant 1885, Barry 1997
1898	Egypt; France; Britain	Military and political tool	Military maneuvers	Military conflict nearly ensues between Britain and France in 1898 when a French expedition attempted to gain control of the headwaters of the White Nile. While the parties ultimately negotiates a settlement of the dispute, the incident has been characterized as having "dramatized Egypt's vulnerable dependence on the Nile, and fixed the attitude of Egyptian policy-makers ever since."	Moorhead 1960
1907-1913	Owens Valley, Los Angeles, California	Terrorism, Development dispute	Yes	The Los Angeles Valley aqueduct/pipeline suffers repeated bombings in an effort to prevent diversions of water from the Owens Valley to Los Angeles.	Reisner 1986, 1993
1915	German Southwest	Military tool	Yes	Union of South African troops capture Windhoek, capital of	Daniel 1995

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	Africa			German Southwest Africa. (May.) Retreating German troops poison wells – “a violation of the Hague convention.”	
1935	California, Arizona	Development dispute	Military maneuvers	Arizona calls out the National Guard and militia units to the border with California to protest the construction of Parker Dam and diversions from the Colorado River; dispute ultimately is settled in court.	Reisner 1986, 1993
1938	China and Japan	Military tool, Military target	Yes	Chiang Kai-shek orders the destruction of flood-control dikes of the Huayuankou section of the Huang He (Yellow) river to flood areas threatened by the Japanese army. West of Kaifeng dikes are destroyed with dynamite, spilling water across the flat plain. The flood destroyed part of the invading army and its heavy equipment was mired in thick mud, though Wuhan, the headquarters of the Nationalist government was taken in October. The waters flooded an area variously estimated as between 3,000 and 50,000 square kilometers, and killed Chinese estimated in numbers between “tens of thousands” and “one million.”	Hillel 1991, Yang Lang 1989, 1994
1939-40	Netherlands, Germany	Military tool	Yes	During the mobilization of the Dutch at the beginning of World War II, 1939-40, the Dutch attempted to flood the Gelderse Vallei with the New Dutch Water Defence Line, which had been completed in 1885. During the German invasion in May 1940, large areas were inundated.	IDG 1996
1939-1942	Japan, China	Military target, Military tool	Yes	Japanese chemical and biological weapons activities reportedly include tests by “Unit 731” against military and civilian targets by lacing water wells and reservoirs with typhoid and other pathogens.	Harris 1994
1940-1945	Multiple parties	Military target	Yes	Hydroelectric dams routinely bombed as strategic targets during World War II.	Gleick 1993



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1943	Britain, Germany	Military target	Yes	British Royal Air Force bombed dams on the Möhne, Sorpe, and Eder Rivers, Germany (May 16, 17). Möhne Dam breach killed 1,200, destroyed all downstream dams for 50 km. The flood that occurred after breaking the Eder dam reached a peak discharge of 8,500 m <sup>3</sup> /s, which is nine times higher than the highest flood observed. Many houses and bridges were destroyed. 68 were killed.	Kirschner 1949, Semann 1950
1944	Germany, Italy, Britain, United States	Military tool	Yes	German forces used waters from the Isoletta Dam (Liri River) in January and February to successfully destroy British assault forces crossing the Garigliano River (downstream of Liri River). The German Army then dammed the Rapido River, flooding a valley occupied by the American Army.	Corps of Engineers 1953
1944	Germany, Italy, Britain, United States	Military tool	Yes	German Army flooded the Pontine Marches by destroying drainage pumps to contain the Anzio beachhead established by the Allied landings in 1944. Over 40 square miles of land were flooded; a 30-mile stretch of landing beaches was rendered unusable for amphibious support forces.	Corps of Engineers 1953
1944	Germany, Allied forces	Military tool	Yes	Germans flooded the Ay River, France (July) creating a lake two meters deep and several kilometers wide, slowing an advance on Saint Lo, a German communications center in Normandy.	Corps of Engineers 1953
1944	Germany, Allied forces	Military tool	Yes	Germans flooded the Ill River Valley during the Battle of the Bulge (winter 1944-45) creating a lake 16 kilometers long, 3-6 kilometers wide, and 1-2 meters deep, greatly delaying the American Army's advance toward the Rhine.	Corps of Engineers 1953
1945	Romania, Germany	Military target	Yes	The only known German tactical use of biological warfare was the pollution of a large reservoir in northwestern Bohemia with sewage in May 1945.	SIPRI 1971

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1947 onwards	Bangladesh, India	Development dispute	No	Partition divides the Ganges River between Bangladesh and India; construction of the Farakka barrage by India, beginning in 1962, increases tension; short-term agreements settle dispute in 1977-82, 1982-84, and 1985-88, and thirty-year treaty is signed in 1996.	Butts 1997, Samson & Charrier 1997
1947-1960s	India, Pakistan	Development dispute	No	Partition leaves Indus basin divided between India and Pakistan; disputes over irrigation water ensue, during which India stems flow of water into irrigation canals in Pakistan; Indus Waters Agreement reached in 1960 after 12 years of World Bank-led negotiations.	Bingham <i>et al.</i> 1994, Wolf 1997
1948	Arabs, Israelis	Military tool	Yes	Arab forces cut off West Jerusalem's water supply in first Arab-Israeli war.	Wolf 1995, 1997
1950s	Korea, United States, others	Military target	Yes	Centralized dams on the Yalu River serving North Korea and China are attacked during Korean War.	Gleick 1993
1951	Korea, United Nations	Military tool and Military target	Yes	North Korea released flood waves from the Hwachon Dam damaging floating bridges operated by UN troops in the Pukhan Valley. U.S. Navy plans were then sent to destroy spillway crest gates.	Corps of Engineers 1953
1951	Israel, Jordan, Syria	Military tool, Development disputes	Yes	Jordan makes public its plans to irrigate the Jordan Valley by tapping the Yarmouk River; Israel responds by commencing drainage of the Huleh swamps located in the demilitarized zone between Israel and Syria; border skirmishes ensue between Israel and Syria.	Wolf 1997, Samson & Charrier 1997
1953	Israel, Jordan, Syria	Development dispute, Military target	Yes	Israel begins construction of its National Water Carrier to transfer water from the north of the Sea of Galilee out of the Jordan basin to the Negev Desert for irrigation. Syrian military actions along the border and international disapproval lead	Naff and Matson 1984, Samson & Charrier 1997

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1958	Egypt, Sudan	Military tool, Development dispute	Yes	Israel to move its intake to the Sea of Galilee. Egypt sends an unsuccessful military expedition into disputed territory amidst pending negotiations over the Nile waters, Sudanese general elections, and an Egyptian vote on Sudan-Egypt unification; Nile Water Treaty signed when pro-Egyptian government elected in Sudan.	Wolf 1997
1960s	North Vietnam, United States	Military target	Yes	Irrigation water supply systems in North Vietnam are bombed during Vietnam War. 661 sections of dikes damaged or destroyed.	IWTC 1967, Gleick 1993, Zemmali 1995
1962	Israel, Syria	Development dispute, Military target	Yes	Israel destroys irrigation ditches in the lower Tarfiq in the demilitarized zone. Syria complains.	Naff and Matson 1984
1962 to 1967	Brazil; Paraguay	Military tool, Development dispute	Military maneuvers	Negotiations between Brazil and Paraguay over the development of the Paraná River are interrupted by a unilateral show of military force by Brazil in 1962, which invades the area and claims control over the Guaira Falls site. Military forces were withdrawn in 1967 following an agreement for a joint commission to examine development in the region.	Murphy and Sabadell 1986
1963-1964	Ethiopia, Somalia	Development dispute, Military tool	Yes	Creation of boundaries in 1948 leaves Somali nomads under Ethiopian rule; border skirmishes occur over disputed territory in Ogaden desert where critical water and oil resources are located; cease-fire is negotiated only after several hundred are killed.	Wolf 1997
1964	Cuba, United States	Military tool	No	On February 6, 1964, the Cuban government ordered the water supply to the U.S. Naval Base at Guantanamo Bay cut off.	Guantanamo Bay Gazette.

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1964	Israel, Syria	Military target	Yes	Headwaters of the Dan River on the Jordan River are bombed at Tell El-Qadi in a dispute about sovereignty over the source of the Dan.	1964. Naff and Matson 1984
1965	Zambia, Rhodesia, Great Britain	Military target	No	President Kenneth Kaunda calls on British government to send troops to Kariba Dam to protect it from possible saboteurs from Rhodesian government.	Chenje 2001
1965	Israel, Palestinians	Terrorism	Yes	First attack ever by the Palestinian National Liberation Movement Al-Fatah is on the diversion pumps for the Israeli National Water Carrier. Attack fails.	Naff and Matson 1984, Dolatyar 1995
1965-1966	Israel, Syria	Military tool, Development dispute	Yes	Fire is exchanged over “all-Arab” plan to divert the Jordan River headwaters (Hasbani and Baniyas) and presumably preempt Israeli National Water Carrier; Syria halts construction of its diversion in July 1966.	Wolf 1995, 1997
1966-1972	Vietnam, US	Military tool	Yes	U.S. tries cloud-seeding in Indochina to stop flow of materiel along Ho Chi Minh trail.	Plant 1995
1967	Israel, Syria	Military target and tool	Yes	Israel destroys the Arab diversion works on the Jordan River headwaters. During Arab-Israeli War Israel occupies Golan Heights, with Baniyas tributary to the Jordan; Israel occupies West Bank.	Gleick 1993, Wolf 1995, 1997, Wallenstein & Swain 1997
1969	Israel, Jordan	Military target and tool	Yes	Israel, suspicious that Jordan is overdiverting the Yarmouk, leads two raids to destroy the newly-built East Ghor Canal; secret negotiations, mediated by the US, lead to an agreement in 1970.	Samson & Charrier 1997

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1970	United States	Terrorism	No: Threat	The Weathermen, a group opposed to American imperialism and the Vietnam war, allegedly attempted to obtain biological agents to contaminate the water supply systems of US urban centers.	Kupperman and Trent 1979, Eitzen and Takafuji 1997, Purver 1995
1970s	Argentina, Brazil, Paraguay	Development dispute	No	Brazil and Paraguay announce plans to construct a dam at Itaipu on the Paraná River, causing Argentina concern about downstream environmental repercussions and the efficacy of their own planned dam project downstream. Argentina demands to be consulted during the planning of Itaipu but Brazil refuses. An agreement is reached in 1979 that provides for the construction of both Brazil and Paraguay's dam at Itaipu and Argentina's Yacyreta dam.	Wallenstein & Swain 1997
1972	United States	Terrorism	No: Threat	Two members of the right-wing "Order of the Rising Sun" are arrested in Chicago with 30-40 kg of typhoid cultures that are allegedly to be used to poison the water supply in Chicago, St. Louis, and other cities. It was felt that the plan would have been unlikely to cause serious health problems due to chlorination of the water supplies.	Eitzen and Takafuji 1997
1972	United States	Terrorism	No: Threat	Reported threat to contaminate water supply of New York City with nerve gas.	Purver 1995.
1972	North Vietnam	Military target	Yes	United States bombs dikes in the Red River delta, rivers, and canals during massive bombing campaign.	Columbia Electronic Encyclopedia 2000
1973	Germany	Terrorism	No: Threat	Threat by a biologist in Germany to contaminate water supplies with bacilli of anthrax and botulinum toxin unless he was paid \$8.5 million	Jenkins and Rubin 1978, Kupperman and

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1974	Iraq, Syria	Military target, Military tool, Development dispute	Military maneuvers	Iraq threatens to bomb the al-Thawra dam in Syria and massed troops along the border, alleging that the dam had reduced the flow of Euphrates River water to Iraq.	Trent 1979 Gleick 1994
1975	Iraq, Syria	Development dispute, Military tool	Military maneuvers	As upstream dams are filled during a low-flow year on the Euphrates, Iraqis claim that flow reaching its territory is "intolerable" and asks the Arab League to intervene. Syrians claim they are receiving less than half the river's normal flow and pull out of an Arab League technical committee formed to mediate the conflict. In May Syria closes its airspace to Iraqi flights and both Syrian and Iraq reportedly transfer troops to their mutual border. Saudi Arabia successfully mediates the conflict.	Gleick 1993, 1994, Wolf 1997
1975	Angola, South Africa	Military goal, military target	Yes	South African troops move into Angola to occupy and defend the Ruacana hydropower complex, including the Gové Dam on the Kunene River. Goal is to take possession of and defend the water resources of southwestern Africa and Namibia.	Meissner 2000
1977	United States	Terrorism	Yes	Contamination of a North Carolina reservoir with unknown materials. According to Clark: "Safety caps and valves were removed, and poison chemicals were sent into the reservoir....Water had to be brought in."	Clark 1980, Purver 1995
1978- onwards	Egypt, Ethiopia	Development dispute, Political tool	No	Long standing tensions over the Nile, especially the Blue Nile, originating in Ethiopia. Ethiopia's proposed construction of dams on the headwaters of the Blue Nile leads Egypt to repeatedly declare the vital importance of water. "The only matter that could take Egypt to war again is water" (Anwar Sadat-1979). "The next war in our region will be over the	Gleick 1991, 1994

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				waters of the Nile, not politics” (Boutrous Ghali-1988).	
1978-1984	Sudan	Development dispute, Military target, Terrorism	Yes	Demonstrations in Juba, Sudan in 1978 opposing the construction of the Jonglei Canal led to the deaths of two students. Construction of the Jonglei Canal in the Sudan was forcibly suspended in 1984 following a series of attacks on the construction site.	Suliman 1998; Keluel-Jang 1997
1980s	Mozambique, Rhodesia/Zimbabwe, South Africa	Military target, Terrorism	Yes	Regular destruction of power lines from Cahora Bassa Dam during fight for independence in the region. Dam targeted by RENAMO (the Mozambican National Resistance).	Chenje 2001
1981	Iran, Iraq	Military target and tool	Yes	Iran claims to have bombed a hydroelectric facility in Kurdistan, thereby blacking out large portions of Iraq, during the Iran-Iraq War.	Gleick 1993
1980-1988	Iran, Iraq	Military tool	Yes	Iran diverts water to flood Iraqi defense positions.	Plant 1995
1982	United States	Terrorism	No: Threat	Los Angeles police and the FBI arrest a man who was preparing to poison the city's water supply with a biological agent.	Livingston 1982, Eitzen and Takafuji 1997
1982	Israel, Lebanon, Syria	Military tool	Yes	Israel cuts off the water supply of Beirut during siege.	Wolf 1997
1981-1982	Angola	Military target, Military tool	Yes	Water infrastructure, including dams and the major Cunene-Cuvelai pipeline, was targeted during the conflicts in Namibia and Angola in the 1980s.	Turton 2005
1982	Guatemala	Development dispute	Yes	177 civilians killed in Rio Negro over opposition to Chixoy hydroelectric dam.	Levy 2000
1983	Lebanon	Terrorism	Yes	An explosives-laden truck disguised as a water delivery vehicle destroyed a barracks in a U.S. military compound,	BBC News 2007

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1983	Israel	Terrorism	No	killing more than 300 people. The attack was blamed on Hezbollah with the support of the Iranian government. The Israeli government reports that it had uncovered a plot by Israeli Arabs to poison the water in Galilee with "an unidentified powder."	Douglass and Livingstone 1987
1984	United States	Terrorism	Yes	Members of the Rajneeshee religious cult contaminate a city water supply tank in The Dalles, Oregon, using Salmonella. A community outbreak of over 750 cases occurred in a county that normally reports fewer than five cases per year.	Clark and Deininger 2000
1985	United States	Terrorism	No	Law enforcement authorities discovered that a small survivalist group in the Ozark Mountains of Arkansas known as The Covenant, the Sword, and the Arm of the Lord (CSA) had acquired a drum containing 30 gallons of potassium cyanide, with the apparent intent to poison water supplies in New York, Chicago, and Washington, D.C. CSA members devised the scheme in the belief that such attacks would make the Messiah return more quickly by punishing unrepentant sinners. The objective appeared to be mass murder in the name of a divine mission rather than to change government policy. The amount of poison possessed by the group is believed to have been insufficient to contaminate the water supply of even one city.	Tucker 2000, NTI 2005
1986	North Korea, South Korea	Military tool	No	North Korea's announcement of its plans to build the Kungansan hydroelectric dam on a tributary of the Han River upstream of Seoul raises concerns in South Korea that the dam could be used as a tool for ecological destruction or war.	Gleick 1993
1986	Lesotho, South Africa	Military goal, Development dispute	Yes	South Africa supports coup in Lesotho over support for ANC and anti-apartheid, and water. New government in Lesotho then quickly signs Lesotho Highlands water agreement.	American University 2000b



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1986	Lesotho, South Africa	Development dispute, Military goal	Yes	Bloodless coup by Lesotho's defense forces, with support from South Africa, lead to immediate agreement with South Africa for water from the Highlands of Lesotho, after 30 previous years of unsuccessful negotiations. There is disagreement over the degree to which water was a motivating factor for either party.	Mohamed 2001
1988	Angola, South Africa, Cuba	Military goal, Military target	Yes	Cuban and Angolan forces launch an attack on Calueque Dam via land and then air. Considerable damage inflicted on dam wall; power supply to dam cut. Water pipeline to Owamboland cut and destroyed.	Meissner 2000
1990	South Africa	Development dispute	No	Pro-apartheid council cuts off water to the Wesselton township of 50,000 blacks following protests over miserable sanitation and living conditions.	Gleick 1993
1990	Iraq, Syria, Turkey	Development dispute, Military tool	No	The flow of the Euphrates is interrupted for a month as Turkey finishes construction of the Ataturk Dam, part of the Grand Anatolia Project. Syria and Iraq protest that Turkey now has a weapon of war. In mid-1990 Turkish president Turgut Ozal threatens to restrict water flow to Syria to force it to withdraw support for Kurdish rebels operating in southern Turkey.	Gleick 1993 & 1995
1991-present	Karnataka, Tamil Nadu (India)	Development dispute	Yes	Violence erupts when Karnataka rejects an Interim Order handed down by the Cauvery Waters Tribunal, set up by the Indian Supreme Court. The Tribunal was established in 1990 to settle two decades of dispute between Karnataka and Tamil Nadu over irrigation rights to the Cauvery River.	Gleick 1993, Butts 1997, American University 2000a
1991	Iraq, Kuwait, US	Military target	Yes	During the Gulf War, Iraq destroys much of Kuwait's desalination capacity during retreat.	Gleick 1993

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1991	Canada	Terrorism	No: Threat	A threat is made via an anonymous letter to contaminate the water supply of the city of Kelowna, British Columbia, with "biological contaminates." The motive was apparently "associated with the Gulf War." The security of the water supply was increased in response and no group was identified as the perpetrator.	Purver 1995
1991	Iraq, Turkey, United Nations	Military tool	Yes	Discussions are held at the United Nations about using the Ataturk Dam in Turkey to cut off flows of the Euphrates to Iraq.	Gleick 1993
1991	Iraq, Kuwait, US	Military target	Yes	Baghdad's modern water supply and sanitation system are intentionally and unintentionally damaged by Allied coalition. "Four of seven major pumping stations were destroyed, as were 31 municipal water and sewerage facilities – 20 in Baghdad, resulting in sewage pouring into the Tigris. Water purification plants were incapacitated throughout Iraq" (Arbutnot 2000). In the first eight months of 1991, after Iraq's water infrastructure was damaged by the Persian Gulf War, the New England Journal of Medicine reported that nearly 47,000 more children than normal died in Iraq and the country's infant mortality rate doubled to 92.7 per 1,000 live births.	Gleick 1993, Arbutnot 2000, Barrett 2003
1992	Czechoslovakia, Hungary	Political tool, Development dispute	Military maneuvers	Hungary abrogates a 1977 treaty with Czechoslovakia concerning construction of the Gabcikovo/Nagymaros project based on environmental concerns. Slovakia continues construction unilaterally, completes the dam, and diverts the Danube into a canal inside the Slovakian republic. Massive public protest and movement of military to the border ensue; issue taken to the International Court of Justice.	Gleick 1993
1992	Turkey	Terrorism	Yes	Lethal concentrations of potassium cyanide are reported	Chelyshev

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1992	Bosnia, Bosnian Serbs	Military tool	Yes	discovered in the water tanks of a Turkish Air Force compound in Istanbul. The Kurdish Workers' Party (PKK) claimed credit.	1992
1992	Bosnia, Bosnian Serbs	Military tool	Yes	The Serbian siege of Sarajevo, Bosnia and Herzegovina, includes a cutoff of all electrical power and the water feeding the city from the surrounding mountains. The lack of power cuts the two main pumping stations inside the city despite pledges from Serbian nationalist leaders to United Nations officials that they would not use their control of Sarajevo's utilities as a weapon. Bosnian Serbs take control of water valves regulating flow from wells that provide more than 80 percent of water to Sarajevo; reduced water flow to city is used to 'smoke out' Bosnians.	Burns 1992, Husarska 1995
1993-present	Iraq	Military tool	No	To quell opposition to his government, Saddam Hussein reportedly poisons and drains the water supplies of southern Shiite Muslims, the Ma'dan. The marshes of southern Iraq are intentionally targeted. The European Parliament and UN Human Rights Commission deplore use of water as weapon in region.	Gleick 1993, American University 2000c, National Geographic News 2001
1993	Iran	Terrorism	No	A report suggests that proposals were made at a meeting of fundamentalist groups in Tehran, under the auspices of the Iranian Foreign Ministry, to poison water supplies of major cities in the West "as a possible response to Western offensives against Islamic organizations and states."	Haeri 1993
1993	Yugoslavia	Military target and tool	Yes	Peruca Dam intentionally destroyed during war.	Gleick 1993
1994	Moldavia	Terrorism	No: Threat	Reported threat by Moldavian General Nikolay Matveyev to	Purver 1995

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1995	Ecuador, Peru	Military and political tool	Yes	contaminate the water supply of the Russian 14th Army in Tiraspol, Moldova, with mercury. Armed skirmishes arise in part because of disagreement over the control of the headwaters of Cenepa River. Wolf argues that this is primarily a border dispute simply coinciding with location of a water resource.	Samson & Charrier 1997, Wolf 1997
1997	Singapore, Malaysia	Political tool	No	Malaysia supplies about half of Singapore's water and in 1997 threatened to cut off that supply in retribution for criticisms by Singapore of policy in Malaysia.	Zachary 1997
1998	Tajikistan	Terrorism, Political tool	No: Threat	On November 6, a guerrilla commander threatened to blow up a dam on the Kairakkhum channel if political demands are not met. Col. Makhmud Khudoberdyev made the threat, reported by the ITAR-Tass News Agency.	WRR 1998
1998	Angola	Military and political tool	Yes	In September 1998, fierce fighting between UNITA and Angolan government forces broke out at Gove Dam on the Kunene River for control of the installation.	Meissner 2001
1998/1994	United States	Cyber-terrorism	No	The Washington Post reports a 12-year old computer hacker broke into the SCADA computer system that runs Arizona's Roosevelt Dam, giving him complete control of the dam's massive floodgates. The cities of Mesa, Tempe, and Phoenix, Arizona are downstream of this dam. No damage was done. This report turns out to be incorrect. A hacker did break into the computers of an Arizona water facility, the Salt River Project in the Phoenix area. But he was 27, not 12, and the incident occurred in 1994, not 1998. And while clearly trespassing in critical areas, the hacker never could have had control of any dams--leading investigators to conclude that no lives or property were ever threatened.	Gellman 2002, Lemos 2002

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1998	Democratic Republic of Congo	Military target, Terrorism	Yes	Attacks on Inga Dam during efforts to topple President Kabila. Disruption of electricity supplies from Inga Dam and water supplies to Kinshasa	Chenje 2001, Human Rights Watch 1998
1998 to 2000	Eritrea and Ethiopia	Military target	Yes	Water pumping plants and pipelines in the border town of Adi Quala were destroyed during the civil war between Eritrea and Ethiopia.	ICRC 2003
1999	Lusaka, Zambia	Terrorism, Political tool	Yes	Bomb blast destroyed the main water pipeline, cutting off water for the city of Lusaka, population 3 million.	FTGWR 1999
1999	Yugoslavia	Military target	Yes	Belgrade reported that NATO planes had targeted a hydroelectric plant during the Kosovo campaign.	Reuters 1999a
1999	Bangladesh	Development dispute, Political tool	Yes	50 hurt during strikes called to protest power and water shortages. Protest led by former Prime Minister Begum Khaleda Zia over deterioration of public services and in law and order.	Ahmed 1999
1999	Yugoslavia	Military target	Yes	NATO targets utilities and shuts down water supplies in Belgrade. NATO bombs bridges on Danube, disrupting navigation.	Reuters 1999b
1999	Yugoslavia	Political tool	Yes	Yugoslavia refuses to clear war debris on Danube (downed bridges) unless financial aid for reconstruction is provided; European countries on Danube fear flooding due to winter ice dams will result. Diplomats decry environmental blackmail.	Simons 1999
1999	Kosovo	Political tool	Yes	Serbian engineers shut down water system in Pristina prior to occupation by NATO.	Reuters 1999c

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1999	South Africa	Terrorism	Yes	A home-made bomb was discovered at a water reservoir at Wallmansthal near Pretoria. It was thought to have been meant to sabotage water supplies to farmers.	Pretoria Dispatch 1999
1999	Angola	Terrorism, Political tool	Yes	100 bodies were found in four drinking water wells in central Angola.	International Herald Tribune 1999
1999	Puerto Rico, U.S.	Political tool	No	Protesters blocked water intake to Roosevelt Roads Navy Base in opposition to U.S. military presence and Navy's use of the Blanco River, following chronic water shortages in neighboring towns.	New York Times 1999
1999	China	Development dispute; terrorism	Yes	Around Chinese New Years, farmers from Hebei and Henan Provinces fought over limited water resources. Heavy weapons, including mortars and bombs, were used and nearly 100 villagers were injured. Houses and facilities were damaged and the total loss reached one million \$US. Parties involved: Huanglongkou Village, Shexian County, Hebei Province and Gucheng Village, Linzhou City, Henan Province	China Water Resources Daily 2002
1999	East Timor	Military tool, Terrorism	Yes	Militia opposing East Timor independence kill pro-independence supporters and throw bodies in water well.	BBC 1999
1999	Yemen	Development dispute	Yes	700 soldiers were sent to quell fighting that claimed six lives and injured 60 others in clashes that erupted between two villages fighting over a local spring near Ta'iz. The village of Al-Marzuh believed it was entitled to exclusive rights from a spring because it was located on their land; the neighboring village of Quradah believed their rights to the water was affirmed in a 50-year-old court verdict. The dispute erupted in violence. President Ali Abdullah Saleh intervened by summoning the sheikhs of the two villages to the capital, and	Al-Qadhi 2006

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1998-1999	Kosovo	Terrorism, Political tool	Yes	sorted out the problem by dividing the water into halves. Contamination of water supplies/wells by Serbs disposing of bodies of Kosovar Albanians in local wells. Other reports of Yugoslav federal forces poisoning wells with carcasses and hazardous materials.	CNN 1999, Hickman 1999.
1999 to 2000	Namibia, Botswana, Zambia	Military goal: Development dispute	No	Sedudu/Kasikili Island, in the Zambezi/Chobe River. Dispute over border and access to water. Presented to the International Court of Justice	ICJ 1999
2000	Ethiopia	Development dispute	Yes	One man stabbed to death during fight over clean water during famine in Ethiopia	Sandrasagra 2000
2000	Central Asia: Kyrgyzstan, Kazakhstan, Uzbekistan	Development dispute	No	Kyrgyzstan cuts off water to Kazakhstan until coal is delivered; Uzbekistan cuts off water to Kazakhstan for non-payment of debt.	Pannier 2000
2000	Belgium	Terrorism	Yes	In July, workers at the Cellatex chemical plant in northern France dumped 5,000 liters of sulfuric acid into a tributary of the Meuse River when they were denied workers' benefits. A French analyst pointed out that this was the first time "the environment and public health were made hostage in order to exert pressure, an unheard-of situation until now."	Christian Science Monitor. 2000
2000	Hazarajat, Afghanistan	Development dispute	Yes	Violent conflicts broke out over water resources in the villages Burna Legan and Taina Legan, and in other parts of the region, as drought depleted local resources.	Cooperation Center for Afghanistan 2000
2000	India: Gujarat	Development dispute	Yes	Water riots reported in some areas of Gujarat to protest against authority's failure to arrange adequate supply of tanker water. Police are reported to have shot into a crowd at Falla village	FTGWR 2000

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				near Jamnagar, resulting in the death of three and injuries to 20 following protests against the diversion of water from the Kankavati dam to Jamnagar town.	
2000	Bolivia	Development dispute	Yes	Massive protests, riots, and violence result from efforts to privatize the water system of Cochabamba, Bolivia.	Shultz and Draper 2009
2000	United States	Terrorism	No	A drill simulating a terrorist attack on the Nacimiento Dam in Monterey County, California got out of hand when two radio stations reported it as a real attack.	Gaura 2000
2000	Kenya	Development dispute	Yes	A clash between villagers and thirsty monkeys left eight apes dead and ten villagers wounded. The duel started after water tankers brought water to a drought-stricken area and monkeys desperate for water attacked the villagers.	BBC 2000, Okoko 2000
2000	Australia	Cyber-terrorism	Yes	In Queensland, Australia, on April 23 <sup>rd</sup> , 2000, police arrested a man for using a computer and radio transmitter to take control of the Maroochy Shire wastewater system and release sewage into parks, rivers, and property.	Gellman 2002
2000	China	Development dispute	Yes	Civil unrest erupted over use and allocation of water from Baiyangdian Lake – the largest natural lake in northern China. Several people died in riots by villagers in July 2000 in Shandong after officials cut off water supplies. In August 2000, six died when officials in the southern province of Guangdong blew up a water channel to prevent a neighboring county from diverting water.	Pottinger 2000
2001	Israel, Palestine	Terrorism, Military target	Yes	Palestinians destroy water supply pipelines to West Bank settlement of Yitzhar and to Kibbutz Kisufim. Agbat Jabar refugee camp near Jericho disconnected from its water supply after Palestinians looted and damaged local water pumps. Palestinians accuse Israel of destroying a water cistern,	Israel Line 2001a,b; ENS 2001a.



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2001	Pakistan	Development dispute, Terrorism	Yes	blocking water tanker deliveries, and attacking materials for a wastewater treatment project. Civil unrest over severe water shortages caused by the long-term drought. Protests began in March and April and continued into summer. Riots, four bombs in Karachi (June 13), one death, 12 injuries, 30 arrests. Ethnic conflicts as some groups “accuse the government of favoring the populous Punjab province [over Sindh province] in water distribution.”	Nadeem 2001, Soloman 2001
2001	Macedonia	Terrorism, Military target	Yes	Water flow to Kumanovo (population 100,000) cut off for 12 days in conflict between ethnic Albanians and Macedonian forces. Valves of Glaznja and Lipkovo Lakes damaged.	AFP 2001, Macedonia Information Agency 2001
2001	China	Development dispute	Yes	In an act to protest destruction of fisheries from uncontrolled water pollution, fishermen in northern Jiaying City, Zhejiang Province, dammed the canal that carries 90 million tons of industrial wastewater per year for 23 days. The wastewater discharge into the neighboring Shengze Town, Jiangsu Province, killed fish, and threatened people's health.	China Ministry of Water Resources 2001.
2001	Philippines	Terrorism, Political tool	No	Philippine authorities shut off water to six remote southern villages yesterday after residents complained of a foul smell from their taps, raising fears Muslim guerrillas had contaminated the supplies. Abu Sayyaf guerrillas, accused of links with Saudi-born militant Osama bin Laden, had threatened to poison the water supply in the mainly Christian town of Isabela on Basilan island if the military did not stop an offensive against them.	World Environment News 2001
2001	Afghanistan	Military target	Yes	U.S. forces bombed the hydroelectric facility at Kajaki Dam in Helmand province of Afghanistan, cutting off electricity for the city of Kandahar. The dam itself was apparently not	BBC 2001, Parry 2001

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2002	Nepal	Terrorism, Political Tool	Yes	targeted. The Khumbuwan Liberation Front (KLF) blew up a hydroelectric powerhouse of 250 kilowatts in Bhojpur District January 26. The power supply to Bhojpur and adjoining areas was cut off. Estimated repair time was 6 months; repair costs were estimated at 10 million Rs. By June 2002, Maoist rebels had destroyed more than seven micro-hydro projects as well as an intake of a drinking water project and pipelines supplying water to Khalanga in western Nepal.	Kathmandu Post 2002; FTGWR 2002a
2002	Rome, Italy	Terrorism	No: Threat	Italian police arrest four Moroccans allegedly planning to contaminate the water supply system in Rome with a cyanide-based chemical, targeting buildings that included the United States embassy. Ties to Al-Queda were suggested.	BBC 2002
2002	Kashmir, India	Development dispute	Yes	Two people were killed and 25 others injured in Kashmir when police fired at a group of villagers clashing over water sharing. The incident took place in Garend village in a dispute over sharing water from an irrigation stream.	The Japan Times 2002
2002	United States	Terrorism	No: Threat	Papers seized during the arrest of a Lebanese national who moved to the US and became an Imam at a Islamist mosque in Seattle included "instructions on poisoning water sources" from a London-based al-Qaida recruiter. The FBI issued a bulletin to computer security experts around the country indicating that al-Qaida terrorists may have been studying American dams and water-supply systems in preparation for new attacks. "U.S. law enforcement and intelligence agencies have received indications that al-Qaida members have sought information on Supervisory Control And Data Acquisition (SCADA) systems available on multiple SCADA-related Web sites," reads the bulletin, according to SecurityFocus. "They	McDonnell and Meyer 2002, MSNBC 2002

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2002	Colombia	Terrorism	Yes	specifically sought information on water supply and wastewater management practices in the U.S. and abroad." Colombian rebels in January damaged a gate valve in the dam that supplies most of Bogota's drinking water. Revolutionary Armed Forces of Colombia (FARC), detonated an explosive device planted on a German-made gate valve located inside a tunnel in the Chingaza Dam.	Waterweek 2002
2002	Karnataka, Tamil Nadu, India	Development dispute	Yes	Continuing violence over the allocation of the Cauvery River between Karnataka and Tamil Nadu. Riots, property destruction, more than 30 injuries, arrests through September and October.	The Hindu 2002a,b, The Times of India 2002a.
2002	United States	Terrorism	No: Threat	Earth Liberation Front threatens the water supply for the town of Winter Park. Previously, this group claimed responsibility for the destruction of a ski lodge in Vail, Colorado that threatened lynx habitat.	Crecente 2002, Associated Press 2002
2003	United States	Terrorism	No: Threat	Al-Qaida threatens US water systems via call to Saudi Arabian magazine. Al-Qaida does not "rule out...the poisoning of drinking water in American and Western cities."	Associated Press 2003a, Waterman 2003, NewsMax 2003, US Water News 2003
2003	United States	Terrorism	Yes	Four incendiary devices were found in the pumping station of a Michigan water-bottling plant. The Earth Liberation Front (ELF) claimed responsibility, accusing Ice Mountain Water Company of "stealing" water for profit. Ice Mountain is a subsidiary of Nestle Waters.	Associated Press 2003b

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2003	Colombia	Terrorism, development dispute	Yes	A bomb blast at the Cali Drinking Water Treatment Plant killed 3 workers May 8 <sup>th</sup> . The workers were members of a trade union involved in intense negotiations over privatization of the water system.	PSI 2003
2003	Jordan	Terrorism	No: Threat	Jordanian authorities arrested Iraqi agents in connection with a botched plot to poison the water supply that serves American troops in the eastern Jordanian desert near the border with Iraq. The scheme involved poisoning a water tank that supplies American soldiers at a military base in Khao, which lies in an arid region of the eastern frontier near the industrial town of Zarqa.	MJS 2003
2003	Iraq, United States, Others	Military Target	Yes	During the U.S.-led invasion of Iraq, water systems were reportedly damaged or destroyed by different parties, and major dams were military objectives of the U.S. forces. Damage directly attributable to the war includes vast segments of the water distribution system and the Baghdad water system, damaged by a missile.	UNICEF 2003, ARC 2003
2003	Iraq	Terrorism	Yes	Sabotage/bombing of main water pipeline in Baghdad. The sabotage of the water pipeline was the first such strike against Baghdad's water system, city water engineers said. It happened around 7 in the morning, when a blue Volkswagen Passat stopped on an overpass near the Nidaa mosque and an explosive was fired at the six-foot-wide water main in the northern part of Baghdad, said Hayder Muhammad, the chief engineer for the city's water treatment plants.	Tierney and Worth 2003
2003-2007	Sudan, Darfur	Military tool, Military target,	Yes	The ongoing civil war in the Sudan has included violence against water resources. In 2003, villagers from around Tina said that bombings had destroyed water wells. In Khasan	Toronto Daily 2004, Reuters Foundation

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		Terrorism		Basao they alleged that water wells were poisoned. In 2004, wells in Darfur were intentionally contaminated as part of a strategy of harassment against displaced populations.	2004
2004	Mexico	Development dispute	Yes	Two Mexican farmers argued for years over water rights to a small spring used to irrigate a small corn plot near the town of Pihuamo. In March, these farmers shot each other dead.	The Guardian 2004
2004	Pakistan	Terrorism	Yes	In military action aimed at Islamic terrorists, including Al Qaeda and the Islamic Movement of Uzbekistan, homes, schools, and water wells were damaged and destroyed.	Reuters 2004a
2004	India, Kashmir	Terrorism	Yes	Twelve Indian security forces were killed by an IED planted in an underground water pipe during “counter-insurgency operation in Khanabal area in Anantnag district.”	TNN 2004
2004	China	Development Dispute	Yes	Tens of thousands of farmers staged a sitin against the construction of the Pubugou dam on the Dadu River in Sichuan Province. Riot police were deployed to quell the unrest and one was killed. Witnesses also report the deaths of a number of residents. (See China 2006 for follow-up.)	BBC 2004b, VOA 2004.
2004	China, United States	Military target	No	A 2004 Pentagon report on China’s military capacity raises the concept of Taipei adopting military systems capable of being used as a tool for deterring Chinese military coercion by “presenting credible threats to China’s urban population or high-value targets, such as the Three Gorges Dam.” China promptly denounces “a U.S. suggestion” that Taiwan’s military target the Three Gorges dam, leading to a U.S. denial that it had so urged.	The China Daily 2004; Pentagon 2004.
2004	South Africa	Development dispute	Yes	Poor delivery of water and sanitation services in Phumelela Township led to several months of protests, including some	CDE 2007

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2004	Gaza Strip	Terrorism, Development dispute	Yes	severe injuries and property damage. No one was killed during the protests, but a few people seriously injured, and municipal property was extensively damaged. The United States halts two water development projects as punishment to the Palestinian Authority for their failure to find those responsible for a deadly attack on a U.S. diplomatic convoy in October 2003.	Associated Press 2004a
2004	India	Development dispute	Yes	Four people were killed in October and more than 30 injured in November in ongoing protests by farmers over allocations of water from the Indira Gandhi Irrigation Canal in Sriganganagar district, which borders Pakistan. A curfew was imposed in the towns of Gharsana, Raola and Anoopgarh.	Indo-Asian News Service 2004
2004-2006	Somalia, Ethiopia	Development dispute	Yes	At least 250 people killed and many more injured in clashes over water wells and pastoral lands. Villagers call it the “War of the Well” and describe “well warlords, well widows, and well warriors.” A three-year drought has led to extensive violence over limited water resources, worsened by the lack of effective government and central planning.	BBC 2004a, AP 2005, Wax 2006
2005	Kenya	Development dispute	Yes	Police were sent to the northwestern part of Kenya to control a major violent dispute between Kikuyu and Maasai groups over water. More than 20 people were killed in fighting in January. By July, the death toll exceeded 90, principally in the rural center of Turbi. The tensions arose over grazing and water. Maasai herdsmen accused a local Kikuyu politician of diverting a river to irrigate his farm, depriving downstream livestock. Fighting displaced more than 2000 villagers and reflects tensions between nomadic and settled communities.	BBC 2005a, Ryu 2005, Lane 2005
2006	Yemen	Development	Yes	Local media reported a struggle between Hajja and Amran	Al-Ariqi 2006

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		dispute		tribes over a well located between the two governorates in Yemen. According to news reports, armed clashes between the two sides forced many families to leave their homes and migrate. News reports confirmed that authorities arrested 20 people in an attempt to stop the fighting.	
2006	China	Development dispute	Yes	The Chinese authorities executed a man who took part in protests against the Pubugou dam in Sichuan province in 2004 (see China 2004 entry). Chen Tao had been convicted of killing a policeman, but was executed before legal appeals had been completed.	BBC 2006d, Coonan 2006
2006	Ethiopia	Development dispute, water scarcity	Yes	At least 12 people died and over 20 were wounded in clashes over competition for water and pasture in the Somali border region.	BBC 2006a
2006	Ethiopia and Kenya	Development dispute	Yes	At least 40 people died in Kenya and Ethiopia in continuing clashes over water, livestock, and grazing land. Fighting occurred in the southern Ethiopia in the region of Oromo and the northern Kenya Marsabit district.	Reuters 2006
2006	Sri Lanka	Military tool, military target, terrorism	Yes	Tamil Tiger rebels cut the water supply to government-held villages in northeastern Sri Lanka. Sri Lankan government forces then launched attacks on the reservoir, declaring the Tamil actions to be terrorism. Conflict around the water blockade had claimed over 425 lives as of August.	BBC 2006b, 2006c, Gutierrez 2006
2006	Israel, Lebanon	Military target, terrorism	Yes	Hezbollah rockets damaged a wastewater treatment plant in Israel. The Lebanese government estimates that Israeli attacks damaged water systems throughout southern Lebanon, including tanks, pipes, pumping stations, and facilities along the Litani River.	Science 2006, Amnesty International 2006, Murphy 2006
2007	India	Development	Yes	Thousands of farmers breached security and stormed the area	Statesman

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2007	Afghanistan	dispute Military target, terrorism	Yes	of Hirakud dam to protest allocation of water to industry. Minor injuries were reported during the conflict between the farmers and police. The Kajaki Dam has been the scene of major fighting between Taliban and NATO forces, mainly British and Dutch. The Taliban is attempting to make it impossible to work on reconstruction of the dam and power lines to boost output.	News Service 2007 Friel 2007
2007	Canada	Terrorism	No	A Toronto man previously accused of attempted murder and illegal possession of explosives was charged with eight more counts of attempted murder after allegedly tampering with bottled water, which had been injected with an unspecified liquid.	The Star 2007
2007	Burkina Faso, Ghana, and Cote D'Ivoire	Development dispute	Yes	Declining rainfall has led to growing fights between animal herders and farmers with competing needs. In August, 2007 people were forced to flee their homes by fighting in Zounweogo province.	UNOCHA 2007
2008	Nigeria	Development dispute	Yes	A protest over the price of water in Nyanya, Abuja, Nigeria resulted in violence, including the beating of water vendors.	Yakubu 2008
2008	China, Tibet	Military target, development dispute	Yes	China launched a political crackdown in Tibet. At least some observers have noted the importance of Tibet for the water resources of China, though the political complications between Tibet and China extend far beyond water. As noted: "Tibet is referred to in some circles as the 'world's water tower' — the Tibetan plateau is home to vast reserves of glaciated water, the sources of 10 of the largest rivers in Asia, including the Yellow, Yangtze, Mekong, Brahmaputra, Salween, Hindus and Sutlej among others. By some estimates, the Tibetan plateau is the source of fresh water for fully a quarter of the world's population."	Sharife 2008
2008	Pakistan	Terrorism	Yes	In October, the Taliban threatened to blow up Warsak Dam,	Perlez and



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				the main water supply for Peshawar, during a government offensive in the region.	Shah 2008

**Notes:**

- Conflicts may stem from the drive to possess or control another nation's water resources, thus making water systems and resources a *political or military goal*. Inequitable distribution and use of water resources, sometimes arising from a water development, may lead to *development disputes*, heighten the importance of water as a strategic goal or may lead to a degradation of another's source of water. Conflicts may also arise when water systems are used as instruments of war, either as *targets* or *tools*. These distinctions are described in detail in Gleick (1993, 1998). In 2001, the Institute began including incidents involving water and *terrorism*. We note, however, the difficulty in defining "terrorism" (as opposed to military target, tool, or goal or other category) and caution users to use care with apply these categories. We use this term when individuals or groups act against governments or official agencies.
- Thanks to the many people who have contributed to this over time, including William Meyer who sent 9 fascinating items from the 1800s, Patrick Marsh, Mike Lane, Arthur Westing, Avilash Roul, Tony Turton, Hans-Juergen.Liebscher, Robert Halliday, Ma Jun, Marcus Moench, and others I've no doubt forgotten.

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