

Appendix 5

List of a few tragic disasters^{*}

Prehistoric Disasters

- Great prehistoric floods
- The Snowball Earth hypothesis
- Various extinction events
- Melting of glacial dams
- Impact events

Classical Disasters

- Thera volcanic eruption caused tsunamis in the Aegean sea, destroyed Minoan fleet, leaving Crete open to mainland invaders (1650-1450 BC)
- Rhodes earthquake destroyed the Colossus of Rhodes(226 BC)
- Vesuvius volcanic eruption, Italy (79 AD)
- Sodom and Gomorrah which were destroyed in Biblical disaster
- Climatic disaster of 535 AD, triggered by an Indonesian volcanic eruption grassland failures spurred migrations of Avars and others; plagues, conjectured collapse of Late Antiquity

Medieval Disasters

- Alexandria earthquakes which destroyed the Pharos of Alexandria (1303 and 1323)
- Grote Mandrenke Storm tide in Northwestern Europe (January 1362)

19th Century Disasters

- New Madrid Earthquake (1811-12)

^{*} Sources include {http://en.wikipedia.org/wiki/List_of_disasters}, visited on 20-10-05 and {http://www.idro.com.au/disaster_list/asp}, visited on 08-10-05.

- Volcanic eruption of Mount Tambora, Indonesia caused climate abnormalities in 1816 (10 April 1815). Hence it is known as the “Year Without a Summer.”
- Volcanic eruption Krakatoa, Indonesia (August 26, 1883)
- St. Louis-East Tornado (May 27, 1896)
- Galveston Hurricane, Galveston and Texas (September 8, 1900)

Modern Natural Disasters

- 1755 Lisbon earthquake (November 1, 1755)
- Krakatoa, Indonesia, volcanic eruption, (August 26, 1883)
- Galveston Hurricane of 1900, Galveston, Texas (September 8, 1900)
- 1906 San Francisco earthquake, San Francisco, California (April 18, 1906)
- Great Lakes Storm of 1913, Great Lakes basin region (November, 1913)
- Great Kanto Earthquake, Tokyo, Japan (September 1, 1923)
- Tri-State Tornado, Missouri, Illinois, and Indiana (March 18, 1925)
- 1931 Huang He floods, China (August 1931)
- North Sea Flood, United Kingdom and The Netherlands (1953)
- Escuminac Disaster, Escuminac, New Brunswick, Canada (June 20, 1959)
- North Sea Flood of 1962, Germany
- Palm Sunday Tornado Outbreak, Midwest, United States (April 11, 1965)
- Bhola cyclone in East Pakistan/Bangladesh, (November 13, 1970)
- Super Outbreak, tornadoes in 13 U.S. states (April 3, 1974)
- Tangshan earthquake, China (July 26, 1976)
- USA Heat Wave of 1980, (June to September 1980)
- Spitak Earthquake, Spitak, Armenia (December 7, 1988)
- Mount Pinatubo volcanic eruption (June 15, 1991)
- Chicago Heat Wave Chicago, Illinois (July 1995)
- Kobe Earthquake, Kobe, Hyogo (January 17, 1995)
- Kocaeli Earthquake, Kocaeli, Turkey (August 17, 1999)
- Kaprun disaster, Kaprun, Austria (November 11, 2000)
- 2001 Gujarat Earthquake, Bhuj, India (January 26, 2001)
- P36 Offshore Oil Platform Sinking, South America (March, 2001)

- European Heat Wave, Europe (Summer 2003)
- Bam Earthquake, Iran (December 26, 2003)
- Indian Ocean earthquake, Indonesia (December 26, 2004)
- Sumatran earthquake, Indonesia (March 28, 2005)

21st Century Disasters

- Gujarat Earthquake, Bhuj, India (January 26, 2001)
- European Heat Wave (Summer 2003)
- Bam Earthquake, Iran (December 26, 2003)
- Hurricane Ivan, Caribbean Sea, Southeastern United States (September, 2004)
- Hurricane Jeanne, Greater Antilles, Eastern United States (September, 2004)
- Indian Ocean earthquake and tsunami, Indonesia (December 26, 2004)
- Indian Ocean earthquake and tsunami, India (December 26, 2004)
- Sumatran earthquake, Indonesia (March 28, 2005)
- Hurricane Dennis, Caribbean Sea, Southeastern United States (July 2005)
- Maharashtra floods, Mumbai, Maharashtra, Western India (July 2005)
- Hurricane Katrina, United States (August 2005)
- Hurricane Rita, United States (September 2005)
- Hurricane Stan, Mexico, Central America, Guatemala, (October, 2005)
- Earthquake in India and Pakistan, (October 8, 2005)
- Hurricane Wilma, Caribbean Sea, Mexico, United States (October, 2005)
- Tamilnadu floods, South India (November-December 2005)

Transportation Disasters

Air Disasters

- Hydravion disaster Rio de Janeiro (December 3, 1928)
- Airship R101 disaster (October 5, 1930)
- Hindenburg disaster (May 6, 1937)
- Superga air disaster (May 4, 1949)
- Munich air disaster (February 6, 1958)

- Staines air disaster (July 18, 1972)
- Ermenonville air disaster north of Paris (March 3, 1974)
- Tenerife disaster collision between KLM and PanAm Boeing 747's (March 27, 1977), the world's largest multiple aircraft disaster
- Mount Erebus disaster in Antarctica (November 28 1979)
- Korean Air Flight 7 Boeing 747 shootdown (September 1 1983)
- Air India Flight 182 (June 23, 1985)
- Japan Airlines Flight 123 (August 12, 1985), the world's largest single aircraft disaster
- Challenger space shuttle explosion (January 28, 1986)
- Mulhouse-Habsheim Airshow Airbus A320 air disaster (June 26, 1988)
- Iran Air Flight 655 Airbus A300 USS Vincennes shootdown (July 3, 1988)
- Ramstein airshow disaster (August 28, 1988)
- Lockerbie disaster (December 21, 1988)
- Kegworth air disaster (January 8, 1989)
- Sioux City air disaster (July 19, 1989)
- Long Island Flight 052 air disaster (January 25, 1990)
- Bangalore India Airlines A320 air disaster (February 14, 1990)
- Los Angeles International Airport air disaster (February 1, 1991)
- Dahrhan Scud attack (February 25, 1991)
- Lauda Air Boeing 767 air disaster (May 26, 1991)
- Strasbourg Air Inter A320 air disaster (January 20, 1992)
- Bijlmerramp disaster, Bijlmerramp, Netherlands (October 4, 1992)
- Mamony Baikal Air Tupolev 154 air disaster (January 3, 1994)
- Nagoya Airport air disaster (April 26, 1994)
- Flight ZD576 Helicopter air disaster (June 2, 1994)
- China Northwest Airlines Tupolev 154 air disaster (June 6, 1994)
- Pittsburgh Boeing 737 disaster (September 8, 1994)
- Zairian Trans Service Airlift Electra air disaster (December 18, 1994)
- Cali air disaster (December 20, 1995)
- Kinshasa Antonov 32 air disaster (January 8, 1996)
- Dominican Republic Boeing 757 disaster (February 7, 1996)
- Peruvian Fawcett Airlines Boeing 737 air disaster (March 2, 1996)

- Pakistan Ariana Afghan Airlines Antonov 12 air disaster (January 13, 1998)
- Philippines Cebu Pacific Air DC-9-30 air disaster (February 2, 1998)
- Sudanese Air Force Antonov 26 air disaster (February 12, 1998)
- Taiwan China Airlines Airbus A300 air disaster (February 16, 1998)
- Afghanistan Ariana Afghan Airlines Boeing 727 air disaster (March 19, 1998)
- Peruvian Air Force Antonov 32 air disaster (March 28, 1998)
- Colombia TAME Ecuador Boeing 727 air disaster (April 20, 1998)
- Peru Occidental Petroleum Boeing 737-200 air disaster (May 5, 1998)
- Mauretanian Air Force Yunshuji Y-7 air disaster (May 12, 1998)
- Lao Aviation Yakovlev 40 air disaster (May 25, 1998)
- Mongolia MIA T Y-12 air disaster (May 26, 1998)
- Myanma Airways Fokker F-27 air disaster (August 24, 1998)
- Ecuador Cubana Tupolev 154 air disaster (August 29, 1998)
- Swissair Flight 111 (September 2, 1998)
- Angola Prestavia Antonov 26 air disaster (September 2, 1998)
- Morocco Paukn Air BAe-146 air disaster (September 25, 1998)
- Sri Lanka LionAir Antonov 24 air disaster (September 29, 1998)
- Lignes Aériennes Congolaises Boeing 727 air disaster (October 10, 1998)
- Thai Airways Airbus A310 air disaster (December 11, 1998)
- Nicaraguan Air Force Antonov 26 air disaster (January 21, 1999)
- China Southwest Tupolev 154 air disaster (February 24, 1999)
- Sudanese Air Force Antonov 32 air disaster (June 3, 1999)
- Argentina LAPA Boeing 737-200 air disaster (August 31, 1999)
- EgyptAir disaster (October 31, 1999)
- Yugoslavia United Nations ATR-42 air disaster (November 12, 1999)
- Portugal SATA Air Açores BAe ATP air disaster (December 11, 1999)
- Venezuela Cubana Yakovlev 42 air disaster (December 25, 1999)
- Libya Sirte Oil Company Shorts 360 air disaster (January 13, 2000)
- Côte d'Ivoire Kenya Airways Airbus A310 air disaster (January 30, 2000)
- Alaska Airlines MD-80 air disaster (January 31, 2000)

- Sri Lankan Air Force Antonov 26 air disaster (March 30, 2000)
- Air Philippines Boeing 737-200 air disaster (April 19, 2000)
- Rwanda AF Antonov 8 air disaster (April 19, 2000)
- China Wuhan Airlines Yunshuji Y-7 air disaster (June 22, 2000)
- India Alliance Air Boeing 737-200 air disaster (July 17, 2000)
- Concorde disaster (July 25, 2000)
- Royal Nepal Airlines DHC-6 Twin Otter air disaster (July 27, 2000)
- Democratic Republic of the Congo STAER Airlines Antonov 26 air disaster (August 12, 2000)
- Bahrain Gulf Air Airbus A320 air disaster (August 23, 2000)
- Georgia Russian Air Force Ilyushin 18 air disaster (October 25, 2000)
- Taiwan Singapore Airlines Boeing 747 air disaster (October 31, 2000)
- Angola ACA-Ancargo Air Antonov 26 air disaster (October 31, 2000)
- Angola ASA Pesada Antonov 24 air disaster (November 15, 2000)
- Venezuela Rutaca Douglas DC-3 air disaster (January 25, 2001)
- Florida Air National Guard Shorts 330 air disaster (March 3, 2001)
- Turkish Air Force CASA CN235 air disaster (May 16, 2001)
- Iran Faraz Qeshm Yakovlev 40 air disaster (May 17, 2001)
- Russia Vladivostokavia Tupolev 154 air disaster (July 4, 2001)
- 11/ 11 attacks at Pentagon (September 11, 2001)
- Sibir Airlines Tupolev 154 air disaster (October 4, 2001)
- Italy SAS 110 MD-80 air disaster (October 8, 2001)
- American Airlines Airbus A300 air disaster (November 12, 2001)
- Russia IRS Aero Ilyushin 18 air disaster (November 19, 2001)
- Switzerland Crossair BAe-146 air disaster (November 24, 2001)
- Colombia Petroproduccion Fairchild FH-227 air disaster (January 17, 2002)
- Colombia TAME Ecuador Boeing 727 air disaster (January 28, 2002)
- Iran Air Tours Tupolev 154 air disaster (February 12, 2002)
- South Korea Air China Boeing 767 air disaster (April 15, 2002)
- Nigeria EAS Airlines BAC 111 air disaster (May 4, 2002)
- China Northern MD-80 air disaster (May 7, 2002)
- China Airlines Boeing 747 air disaster (May 25, 2002)

- Bashkirskie Avialinii Tupolev 154 air disaster (July 1, 2002)
- Central African Republic New Gomair Boeing 707 air disaster (July 4, 2002) Ukraine airshow disaster (July 27, 2002)
- Brazil Rico Linhas Aéreas Embraer 120 air disaster (August 30, 2002)
- Luxembourg Luxair Fokker 50 air disaster (November 6, 2002)
- Iran Aeromist Kharkiv Antonov 140 air disaster (December 23, 2002)
- Turkey THY BAe-146 air disaster (January 8, 2003)
- Peru TANS Fokker F-28 air disaster (January 9, 2003)
- Space Shuttle Columbia disaster (February 1, 2003)
- Iranian Revolutionary Guard Ilyushin 76 air disaster (February 19, 2003)
- Air Algérie Boeing 737-200 air disaster (March 6, 2003)
- Turkey UM Air Yakovlev 42 air disaster (May 26, 2003)
- Sudan Airways Boeing 737-200 air disaster (July 8, 2003)
- Haiti Tropical Airways Let 410 air disaster (August 24, 2003)
- Congolese Air Force Antonov 26 air disaster (November 29, 2003)
- Benin UTA Boeing 727 air disaster (December 25, 2003)
- Egypt Flash Airlines Boeing 737-300 air disaster (January 3, 2004)
- Uzbekistan Airways Yakovlev 40 air disaster (January 13, 2004)
- U.A.E. Kish Air Fokker 50 air disaster (February 10, 2004)
- Brazil Rico Linhas Aéreas Embraer 120 air disaster (May 14, 2004)
- Venezuelan Air Force Shorts 360 air disaster (August 21, 2004)
- Volga-Aviaexpress Tupolev 134 air disaster (August 24, 2004)
- Sibir Airlines Tupolev 154 air disaster (flight 1047) (August 24, 2004)
- China Yunnan Canadair Regional Jet air disaster (November 21, 2004)
- Indonesia Lion Airlines MD-80 air disaster (November 30, 2004)
- Afghanistan Kam Air Boeing 737-200 air disaster (February 3, 2005)

Rail Disasters

- St-Hilaire train disaster (1864)
- Abergele train disaster (1868)
- Ashtabula River Railroad Disaster (1876)

- Armagh rail disaster (June 12, 1889)
- Sunshine station disaster (April 20, 1908)
- Wellington avalanche (March 1, 1910)
- Tangiwai railway disaster (December 24, 1953)
- Granville railway disaster (January 18, 1977)
- Eschede train disaster (June 3, 1998)
- Ladbroke Grove rail crash (October 5, 1999)
- Hatfield rail crash (October 17, 2000)
- Potters Bar rail crash (May 10, 2002)
- Neyshabur disaster (February 18, 2004)
- Madrid train terror attacks (March 11, 2004)
- Ryongchon disaster (April 22, 2004)
- “Queen of the Sea” train disaster, Telwatta, Sri Lanka

Ship and Ferry Disasters

- Lexington fire (January 13, 1840)
- Tayleur sinking (January 21, 1854)
- Central America sinking (September 11, 1857)
- Lady Elgin sinking (September 7, 1860)
- Sultana explosion (April 27, 1865)
- Atlantic sinking (April 1, 1873)
- Deutschland grounding (December 6, 1875)
- General Slocum fire (June 15, 1904)
- Titanic sinking (April 15, 1912)
- Empress of Ireland sinking (May 30, 1914)
- Lusitania sinking (May 7, 1915)
- Eastland sinking (July 24, 1915)
- Iolaire sinking (January 1, 1919)
- Morro Castle fire (September 8, 1934)
- HMT Lancastria sinking (June 17, 1940)
- Tango Maru sinking (June 29, 1944)
- Ryusei Maru sinking (June 29, 1944)
- Toyama Maru sinking (June 29, 1944)
- Koshu Maru sinking (August 3, 1944)
- Junyo Maru sinking (September 18, 1944)

- Wilhelm Gustloff sinking (January 30, 1945)
- Steuben sinking (February 9, 1945)
- Goya sinking (April 16, 1945)
- Cap Arcona sinking (May 3, 1945)
- Thielbek sinking (May 3, 1945)
- Noronic fire (September 17, 1949)
- Princess Victoria sinking (January 31, 1953)
- Novorossiysk sinking (29 October, 1955)
- SS Andrea Doria sinking (July 26, 1956)
- Lakonia fire (December 22, 1963)
- Yarmouth Castle fire (November 13, 1965)
- Betelgeuse fire and explosion in Bantry Bay (January 8, 1979)
- Admiral Nakhimov sinking (August 31, 1986)
- Herald of Free Enterprise (March 6, 1987)
- Doña Paz sinking (December 21, 1987)
- M/S Scandinavian Star fire (April 7, 1990)
- M/S Estonia sinking (September 28, 1994)
- Kursk sinking (August 12, 2000)
- Joola sinking (September 26, 2002)

Road Disasters

- A dynamite truck blew up in Thailand (February 15, 1945)
- 7 ammunition trucks explode in Colombia (August 7, 1956)
- Two trucks collided in Togo (December 6, 1965)
- A bus drove into an irrigation canal in Egypt (August 9, 1973)
- A suspension bridge collapsed in Nepal (November 23, 1974)
- A gasoline tanker exploded in Spain (July 11, 1978)
- A gasoline tanker explodes in the Salang Tunnel in Afghanistan (November 3, 1982)
- A bus hit a bridge in Kenya (December, 1992)
- An explosion created a hole, in which 100 cars fell in South Korea (April 28, 1995)
- A gasoline tanker hit cars and exploded in Nigeria (November 4, 2000)

Other Man-made Disasters

Nuclear Disasters

- Mayak nuclear waste storage tank explosion, Chelyabinsk, Soviet Union (September 29, 1957)
- Three Mile Island, Dauphin County, Pennsylvania (March 28, 1979)
- Chernobyl nuclear power-plant disaster, Chernobyl, Ukraine (April 26, 1986)
- Tokai, Ibaraki nuclear fuel reprocessing plant (Japan, 1986)

Industrial Disasters

- Bhopal Disaster (India 1984)
- Benxihu Colliery explosion, (China, 1942)
- Texas City Disaster (Texas, 1947)
- Piper Alpha oil rig disaster (North Sea, 1988)
- Buffalo Creek Flood / Pittston Coal Company dam failure, (West Virginia, United States, 1972)
- Mine elevator failure, (South Africa, 1995)
- Boston Molasses Disaster (Boston, 1919)

Major War Disasters

- Bombing of Dresden in World War II (February 13-15, 1945)
- Bombing of Tokyo in World War II (February 23, March 9 and May 26, 1945)
- Atomic bombings of Hiroshima and Nagasaki (August 6 and August 9, 1945, respectively)

Dam Disasters

- Great Sheffield flood, Sheffield, England (March 11, 1864)
- Johnstown flood, Johnstown, Pennsylvania (May 31, 1889)
- St. Francis Dam disaster, Los Angeles, California (March 12, 1928)
- Vajont Dam disaster, Longarone, Italy (October 9, 1963)
- Banqiao Dam disaster, Henan Province, China (August 8, 1975)
- Effect of Hurricane Katrina on New Orleans, US (August 29, 2005)

Environmental Disasters

- Torrey Canyon oil spill in the English Channel (March 18, 1967)

- Love Canal, Niagara Falls, New York (1970s)
- Seveso disaster, Italy (1976)
- Sverdlovsk anthrax leak, USSR (April 2, 1979)
- Bhopal Disaster, Bhopal, India (December 3, 1984)
- Exxon Valdez oil spill, Prince William Sound (March 24, 1989)
- Prestige oil spill, off the Spanish coast, (November 13, 2002)

Mining Disasters

- Brunner, New Zealand (March, 1896)
- Scofield, Utah, United States (May 1, 1900)
- Fraterville Mine disaster, Tennessee, United States (May, 1902)
- Courriere, France (March, 1906)
- Monongah, West Virginia, United States (December, 1907)
- Burns Pit Disaster, Stanley, County Durham, England (February 16, 1909)
- Cherry, Illinois, United States (December, 1909)
- Hillcrest, Alberta, Canada (June 19, 1914)
- Dawson, New Mexico, United States (October, 1913)
- Gresford, Wrexham (September, 1934)
- Smith Mine #3, Montana, United States (February 27, 1943)
- Springhill Mining Disaster, Springhill, Nova Scotia, Canada (October 23, 1958)
- Luisenthal (near Völklingen), Germany (February 7, 1962)
- Buffalo Creek Flood, Logan County, West Virginia, United States (February 26, 1972)
- Kellogg, Idaho, United States (May, 1972)
- Westray Mine Disaster, Plymouth, Nova Scotia, Canada (May 9, 1992)

Explosion Disasters

- Mobile magazine explosion (May 25, 1865)
- 1887 Nanaimo Mine Explosion, Nanaimo, BC (May 3, 1887)
- Halifax explosion, Halifax, Nova Scotia (December 6, 1917)
- The Bombay Blasts, Victoria Dock Bombay, India (April 14, 1944)
- The Port Chicago Explosion (July 17, 1944)
- Texas City Explosion, Texas City, Texas, (April 16, 1947)
- BLEVE explosion at a refinery in Feyzin, France (January 4, 1966)

- Flixborough disaster, North Lincolnshire (June 1, 1974)
- Piper Alpha explosion, North Sea, Scotland, (July 6, 1988)
- Phillips Petroleum Co. isobutane UVCE in Pasadena, Texas, USA (October 23, 1989)
- Hindustan Petroleum Corporation LPG UVCE in Visakhapatnam, India (September 14, 1997)

Fire Disasters

- Great Fire of London, London, England (September 2-September 5, 1666)
- Great Chicago Fire, Chicago, Illinois (October 8, 1871)
- Peshtigo Fire, Peshtigo, Wisconsin (October 8, 1871)
- The Great Fire of 1892, St. John's, Newfoundland, (July 8, 1892)
- Hartford Circus Fire, Hartford, Connecticut (July 6, 1944)
- Summerland disaster, Isle of Man (August 2, 1973)
- Bradford City Disaster, Bradford, England (May 11, 1985)
- Kaprun disaster, Kaprun, Austria (November 11, 2000)
- Canberra bushfires Canberra, Australia, (January 18, 2003)
- The Station nightclub fire, West Warwick, Rhode Island (2003)

Others

- The Boston Molasses Disaster, Boston, Massachusetts (January 15, 1919)
- Great Smog of 1952, London, England
- 24 hours of Le Mans disaster, France, (June 11, 1955)
- Aberfan disaster, Merthyr Tydfil, Wales (October 21, 1966)
- Second Ibrox disaster, Glasgow, Scotland (January 2, 1971)
- Hyatt Regency walkway collapse, Kansas City, Missouri (July 17 1981)
- Heysel Stadium disaster, Brussels, Belgium (May 29, 1985)
- Hillsborough disaster, Sheffield, England (April 15, 1989)
- Sampoong Department Store collapse, Seoul, South Korea (June 30, 1995)
- Enschede fireworks disaster, Enschede, Netherlands (May 13, 2000)
- P36 Offshore Oil Platform Sinking, South America (March, 2001)
- Al-Aimmah bridge stampede, Baghdad, Iraq (August 31, 2005)