

Catastrophic Mortality in Hawaii

Robert C. Schmitt

Catastrophic mortality has taken more than 5,500 lives in Hawaii during the past 190 years. This total includes estimated losses from all accidents and natural disasters resulting in five or more deaths per event. Almost half of the cumulative total occurred as a result of the December 7, 1941 attack on Pearl Harbor, which killed about 2,500. Between 1,100 and 1,200 Islanders died in the twenty-three tsunamis, floods, landslides, volcanic eruptions, explosions, fires, riots, and mass murders in the "catastrophic" category. Four motor vehicle accidents and 84 air and sea disasters, many of which occurred to Hawaiian ships or aircraft far from the Islands, accounted for more than 1,900 deaths between 1778 and 1968.

The definition of catastrophic mortality used in this chronology is necessarily somewhat arbitrary. It generally follows the definition adopted by the Metropolitan Life Insurance Company, which includes all accidents (transportation, fire and explosion, tornadoes, floods, hurricanes, mines and quarries, and others) in which five or more persons are killed.¹ It includes the Pearl Harbor attack but excludes the Battle of Midway and the bloody conflicts of the late 18th the early 19th centuries.* Deaths from famine and epidemics are likewise omitted. Air and sea disasters are included if they occurred in Hawaiian waters, or between Hawaii and the craft's next (or last) port of call, or if Hawaii was the first land reached by survivors.

This restricted definition of catastrophic mortality was chosen because of classification problems and a severe lack of accurate data. Discussing Kamehameha, Bingham wrote: "It is supposed that some six thousand of the followers of this chieftain, and twice that number of his opposers, fell in battle during his career, and by famine and distress occasioned by his wars and devastations from 1780 to 1796. . . . However the greatest loss of life according to early writers was not from the battles, but from the starvation of the

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* *The Battle of Midway, fought near the tiny island at the northwestern end of the Hawaiian chain on June 4, 1942, resulted in the deaths of 307 Americans and approximately 3,500 Japanese; see Henry H. Adams, 1942: The Year That Doomed the Axis (New York: David McKay Co., Inc., 1967), p. 224.*

vanquished and consequential sickness due to destruction of food sources and supplies—a recognized part of Hawaiian warfare.”² It thus becomes impossible to isolate battle casualties from deaths by disease or famine. No estimates exist, moreover, for some of the bloodiest battles of this period. Even where figures on battle deaths are available, according to Stokes, the data are notoriously unreliable and subject to wild exaggeration. Estimates for losses in the battle of Nuuanu (1795), for example, have ranged from 300 to 10,000. This statistical uncertainty continues right through the Humehume rebellion of 1824, the last large-scale armed conflict on Hawaiian soil until the Pearl Harbor attack.³

Mortality from epidemics and famine is equally difficult to estimate. Early writers stated that the *mai okuu* of 1804 carried off more than half of the population, and Adams subsequently reported total mortality from this plague in excess of 100,000. Kuykendall, in contrast, was highly skeptical, and attributed these statements to “legendary exaggeration.”⁴ Wide differences of opinion exist even for the 1853 smallpox epidemic, a generally well documented event which probably accounted for more than 5,000 lives.⁵ Virtually nothing is available on famine mortality, although the drought of 1806–1807 supposedly caused “great numbers” of the natives to perish of starvation and thirst.⁶

This is not to say that information on accidents and natural disasters is completely reliable. The subject has been largely ignored by serious historians. A complete listing of disasters is probably an unattainable goal, especially for earlier periods. Dates and death totals are frequently contradictory, even for relatively recent events. Loss of life in the 1946 tsunami, for example, has been variously reported as 142, 159, 161, and 173.

Catastrophes listed in this compilation have been grouped into eleven categories: tsunami, flood and storm, earthquake and landslide, volcanic eruption, explosion, fire, ship disaster, aircraft accident, railroad accident, highway accident, and violence.

TSUNAMI

Records on Hawaiian tsunamis (also called seismic or tidal waves) go back to 1819. Between that time and 1968, seven tsunamis—including all six responsible for loss of life—have been classified as “very severe.”⁷

The first tsunami in this category occurred on November 7, 1837. At least 16 persons were drowned on Maui and Hawaii, where many houses were destroyed.⁸

The next major tsunami struck Hawaii on April 2, 1868, in company with a mighty earthquake (the worst in Island history), a disastrous landslide, and the sinking of many miles of coastline by from three to seven feet. Heavy damage and loss of life occurred throughout Kau and Puna, from South Point to Hilo. Out of 81 deaths caused by this multiple catastrophe, 46 were attributed to the tsunami.⁹

Another "very severe" tsunami was recorded on August 13 and 14, 1868, but no lives were lost.¹⁰

Five persons died in the tsunami of May 10, 1877, all of them in Hilo.¹¹

The tsunami of February 3, 1923 caused considerable damage in Hilo and Kahului and took one life, that of a Hilo fisherman.¹²

The worst tsunami in Island history struck, without warning, on April 1, 1946. Both in property damage and loss of life this wave surpassed all of those that had preceded it. All parts of the Territory were affected, and Hilo most of all. Out of 159 deaths reported by the Red Cross, 96 occurred in Hilo, 25 elsewhere on Hawaii, and 38 on other islands of the chain.¹³ (Authorities differ somewhat on the exact total. The Board of Health reported only 142 deaths, probably because of omitting the missing; Thrum's Annual gave 161; and both the Coast and Geodetic Survey and the Hawaii Institute of Geophysics reported 173.¹⁴) If the Red Cross count is correct, the 1946 tsunami was the sixth worst disaster in the history of Hawaii.

Another massive wave, second only to the 1946 tsunami, devastated Hilo on May 23, 1960. Property damage was extensive. Sixty-one persons (57 according to the State Department of Health) perished in this disaster.¹⁵

STORM AND FLOOD

Storms and floods—if one excepts marine disasters and tsunamis—have accounted for relatively little catastrophic mortality in Hawaii during the past 190 years.

Hurricanes and other severe tropical storms have been exceedingly rare in this part of the Pacific. The most destructive was Hurricane Dot in August 1959. Other hurricanes of record were Hiki (August 1950), Kanoa (July 1957), and Nina (December 1957). None of the four resulted in loss of life.

Winds have seldom exceeded 100 miles an hour. The greatest velocities ever recorded in the Islands (as distinct from crude estimates based on damage or other effects) were sustained winds of 80 m.p.h. and gusts over 105 high on Mauna Loa in January 1959. Gusts have reached 103 m.p.h. at Kilauea Point, Kauai, 83 at Honolulu International Airport, and 80 at the Honolulu Federal Building. No deaths resulted from these winds.¹⁶

Several disastrous floods have occurred. Two days of heavy rainfall culminated in a cloudburst on January 18, 1916, flooding Iao Valley and sweeping through the town of Wailuku, Maui. Fourteen persons were drowned.¹⁷ A heavy rainstorm flooded Kalihi in Honolulu on November 18, 1930 and resulted in 12 deaths.¹⁸ Others, such as the Waimea River (Kauai) flood of February 7, 1949 and the Pearl City and Waiawa flood of January 5, 1968, caused a good deal of property damage but little or no loss of life.¹⁹

EARTHQUAKE AND LANDSLIDE

Earth movements—earthquakes, landslides, or tunnel or dam collapses—have contributed but little to catastrophic mortality in the Islands. Only three such disasters have been reported.

The first one took place on April 2, 1868, when a tremendous earthquake shook the Island of Hawaii. This quake, the most severe ever recorded in the archipelago, reached an estimated magnitude of $7\frac{3}{4}$ on the Richter scale.²⁰ It caused widespread destruction throughout Kau and its effects extended all the way to Kauai. More importantly, the shock triggered a vast landslide one to two miles wide and as much as 30 feet in depth, which swept three miles in as many minutes. This landslide killed 31 persons and 1,000 head of cattle, horses, goats and sheep.²¹ This cataclysm, as noted earlier, was immediately followed by a subsidence of the coastline and a great tidal wave, which brought the overall death toll to 81.

The second disaster in this category was the collapse of the Alexander Dam during its construction in upper Wahiawa Gulch, Kauai, on March 25, 1930. Six workers perished.²²

The third took place on August 14, 1954 during construction of the Wilson Tunnel through the Koolau Mountains. Tons of soft mud suddenly squirted through the shaft and buried five workmen.²³

VOLCANO

Hawaiian volcanoes have provided many spectacular shows, but only twice have they been known to bring death to Island residents.

In November, 1790, Keoua and his army, including the wives and children of the men, encamped at Kilauea while en route from Hilo to Kau. Soon they were pinned down by a great explosive eruption: ". . . an immense volume of sand and cinders . . . came down in a destructive shower for many miles around," completely incinerating the second of the three parties and killing an estimated 400 persons. The eruption soon led to even more tragic consequences: Whitman reported that "thousands of victims are said to have been sacrificed to appease the angry gods. . ."²⁴ This was the greatest natural disaster in Island history, and ranked second only to the Pearl Harbor attack among all Hawaiian catastrophes.

The only other Kilauea explosion recorded in the past two centuries took place on May 17, 1924. This time only one person was killed.²⁵

EXPLOSION

Man-made explosions have been almost as deadly as the volcanic variety in Hawaiian history. At least four of catastrophic magnitude have occurred, all of them during World War II.

The first, an explosion of ammonia pipes in a refrigeration system, killed five waterfront workers and injured nine in Hilo on February 7, 1943.²⁶

The second resulted from the collision of two Navy dive bombers during training exercises over Maui late in 1943. Both pilots parachuted to safety but their respective radiomen were killed. A bomb carried by one of the planes, loosened by the impact, fell and exploded in the midst of a group of Marines, killing 20 and injuring 29. (The exact time and place of this accident are

unclear. One source gives the date as December 7, another as December 11, and both locate it near "Keilii Point," possibly a misspelling for Kealii Point, several miles east of Pauwela.²⁷)

A far more serious explosion took place in Pearl Harbor during preparations for the Saipan invasion. Morison described it thus:²⁸

In West Loch, in the midst of a cluster of LSTs that were loading mortar ammunition near the Naval Ammunition Depot, *LST-353* burst into flame and exploded with a roar that could be heard all over Oahu and far out to sea. This triggered off five other LSTs. . . . Six LSTs and 3 LOTs were lost and the casualties were heavy; 163 dead, 396 injured.

This disaster, the fifth most destructive to human life in Hawaiian history, occurred on May 21, 1944, but except for a brief inside-page item five days later no account of it appeared in the press until the middle of June.²⁹

Another explosion shook the Naval Ammunition Depot on June 11, 1944, killing 10 men who were transferring ammunition.³⁰

FIRE

Fires have from time to time burned down large sections of Honolulu, but loss of life has been surprisingly light. Three of the greatest conflagrations—the Esplanade fire of 1877 and Chinatown fires of 1886 and 1900—caused exceptional property damage but killed no one, although the latter blaze left 4,500 persons homeless.³¹

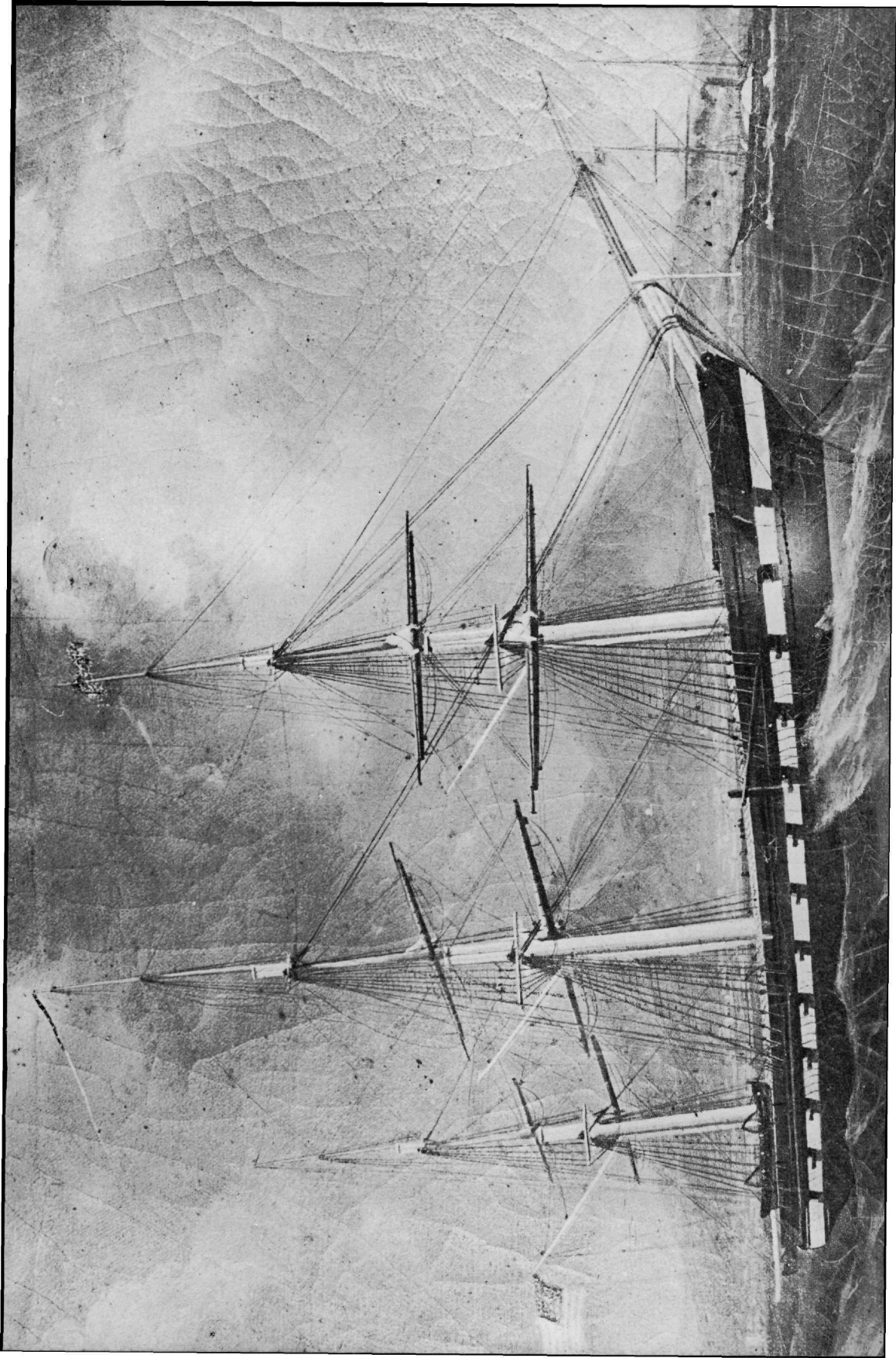
The greatest number of fatalities from a single fire appears to have occurred in Kalihi on June 8, 1944. Two Army medium bombers collided in midair and plunged into a congested residential area, setting fire to 11 or 12 dwellings. Ten women and children perished in the burning buildings. All four crewmen died in the crash.³²

Records of the State Fire Marshal Division reveal only one other fire with a death toll as high as five. On July 24, 1961, a family of five died when fire partly destroyed their home in the Enchanted Lake subdivision near Kailua, Oahu.³³

MARINE DISASTERS

Shipping losses have been the most frequent cause of catastrophic mortality in Hawaii, accounting for about four-tenths of all the disasters and a fourth of all the deaths reported in this 190-year summary. At least 47 sinkings and disappearances have taken five or more lives; more than 1,400 passengers and crew members have drowned or vanished in these incidents. This list, moreover, must certainly be incomplete, at least for the 18th century when navigation was hazardous and written records were few.

This painting of the U.S.S. Levant (1837-1860) was done while the ship was on cruise in the Mediterranean. The artist: Francisco de Simone.





Not all of the disasters listed here took place in Hawaiian waters. Ships that sank or vanished elsewhere are included if Hawaii was their next (or last) scheduled landfall, or if Hawaii was the first land reached by survivors.

As in other types of catastrophe, some of the most spectacular events took a surprisingly small toll of life and limb. No one died when the S.S. *Manchuria*, one of the largest passenger liners plying the Pacific, ran hard aground off Rabbit Island on August 20, 1906.³⁴ All 217 persons aboard the S.S. *City of Honolulu* escaped safely when the liner burned and sank in mid-ocean while en route from Los Angeles to Honolulu, on October 12, 1922.³⁵ Another liner of the same name was gutted and sunk by a fire while she was tied up at Honolulu's Pier 8 in May 1930, but no one was killed.³⁶

Marine disasters in Hawaiian waters go back at least as far as October 31, 1796, when the British brig *Arthur*, under command of Captain Barber, hit a coral shoal two leagues southwest of "Whitite Bay, Woahu" and broke up. Six of the 22 men aboard drowned while trying to reach shore.³⁷

The greatest marine disaster in Island history—and third highest in loss of life among all types of catastrophe—was the disappearance of the *Kamehameha* in 1829 or 1830. The High Chief Boki, Governor of Oahu, had fitted out two brigs, the *Kamehameha* and *Becket*, and sailed from Honolulu on December 2, 1829 in quest of the sandalwood islands. The two vessels stopped at Rotuma, then sailed for Erromanga in the New Hebrides. The *Kamehameha* never arrived; possibly the ship and its 250 occupants went down in a storm. The *Becket* finally gave up looking for their companion craft and turned homeward, but by the time they reached Honolulu on August 3, 1830 all but 20 of their number had succumbed to disease or starvation.³⁸

The second worst marine disaster in Hawaiian history was the disappearance of the large United States Navy sloop *Levant* with 210 aboard. The *Levant* left Hilo for Acapulco in September 1860 and was never heard from again. Some thought it had been sunk in an October gale, with survivors reaching an uncharted island between Hawaii and California. In 1904—almost 44 years after the disappearance—the Navy Department actually sent out another vessel to scout for the island and any survivors from the *Levant*. It was unsuccessful.³⁹ The loss of the *Levant* ranks fourth among all Hawaiian disasters.

The third most serious shipping catastrophe (and seventh among all disasters) was the loss of H.B.M.S. *Condor* in December 1901. This British sloop of war left Victoria, B.C., for Honolulu on December 3 with either 114 or 140 men aboard (sources differ). The ship and all hands were apparently lost in a gale off the Oregon coast soon after leaving port.⁴⁰

Earlier in the same year the steamer *City of Rio de Janeiro*, en route from the Orient to California by way of Honolulu, hit some rocks and sank near San Francisco. Out of 210 aboard the liner, 128 (including 11 Hawaii residents) were drowned.⁴¹ (Another source gives the toll as 104.⁴²) This accident, which

The aerial photo shows LSTs burning in West Loch, Pearl Harbor, on May 21, 1944. The stricken ships occupy berths T-8 and T-9. Other LSTs are underway to escape.

occurred on February 22, 1901, ranks fourth among marine disasters and eighth among all categories.

Other shipwrecks and disappearances are listed below in chronological order.

1806: Eight survivors were rescued from the wreck of a Japanese junk and brought to Honolulu after the deaths of fourteen of their companions, some by being washed overboard in a gale and the rest by being killed and eaten for food.⁴³

December 1832: Five persons of the nine aboard a Japanese junk died before it drifted ashore at Waialua, Oahu.⁴⁴

May 10, 1840: The schooner *Keola*, with between 30 and 40 persons aboard, went down off Kahoolawe when its ballast shifted. All but four of the passengers drowned. The survivors had to swim 25 miles to the nearest land.⁴⁵

March 1843: The brig *Marie-Joseph* with 37 aboard vanished while en route from France to Hawaii. The 25 passengers were priests, sisters and other church personnel being taken by Mgr. Rouchouze to staff the Catholic mission in Hawaii. The ship was apparently lost near the Strait of Magellan.⁴⁶

April 1845: Seven drowned when the schooner *Paalua* capsized in a squall six or seven miles from Kauai.⁴⁷

August 1846: The brig *William Neilson* sailed from Honolulu for China on August 5 and was never heard from again. Eleven persons, including Capt. Dominis and U.S. Commissioner Brown, vanished with the ship.⁴⁸

January 1849: Five natives perished when the schooner *Kekouenohi* sank off Kauai.⁴⁹

March 1857: The schooner *Kamamalu* sailed from Honolulu on March 13 for Hilo, touching at Lahaina, and was never afterward heard from. It supposedly capsized and sank in the Hawaiian Channel. About 70 were on board.⁵⁰

August 10, 1858: The schooner *Prince of Hawaii* capsized in a squall halfway between Hanalei and Niihau, and only six of the 11 passengers and crew were able to make shore.⁵¹

March 1859: The schooner *George* sailed from Kauai on March 1, bound for Honolulu with "a number of native passengers," and disappeared.⁵²

May 1866: The clipper *Hornet*, en route from New York to San Francisco, burned and sank 1,500 miles southeast of Hawaii on May 3. After a harrowing 43-day voyage, a lifeboat bearing 15 survivors reached Laupahoehoe. The other lifeboat, carrying the remaining 16 from the *Hornet*, was never heard from.⁵³

1871: The American brig *Shelehoff* was dismasted in a cyclone on July 3 and 4 while en route from San Francisco to Callao. Eleven of the 12 persons aboard died before the hulk was spotted 400 miles from Hawaii on October 19.⁵⁴

January 1875: The American schooner *Varuna* sailed from Honolulu for San Francisco on January 7 and vanished. Six persons were aboard.⁵⁵

October 1884: All hands were lost when the Hawaiian brigantine *Dora* was wrecked on the coast of Lower California in a hurricane.⁵⁶

July 26, 1885: The Hawaiian schooner *Pohoiki* capsized 3 miles off the Kau coast in a gale, and 5 of the 9 persons aboard were killed by sharks or drowned.⁵⁷

September 4, 1885: The schooner *Ka Moi*, with 9 persons on board, sailed from Pohoiki, Puna in heavy weather and disappeared.⁵⁸

December 1885: All 7 persons on the new Hawaiian schooner *Domitila* died when the ship, which had left Honolulu for Hilo on December 6, capsized between Maui and the Big Island.⁵⁹

February 3, 1888: The bark *Wandering Minstrel* broke up on a reef at Midway during a storm, marooning 29 persons for almost 14 months. Five or six of the castaways left in a small boat and probably drowned, six others died of beri-beri or starvation, and one was a murder-victim.⁶⁰

November 27, 1888: Six of the crew of the Swedish bark *Virgo* drowned in the surf when their ship was driven onto Malden Island. The survivors were rescued and brought to Honolulu on December 14.⁶¹

August 26, 1892: The American ship *William A. Campbell*, bound from Port Townsend for Queenstown, went down in a gale 2,100 miles from Hilo. One lifeboat, with 11 survivors, reached Puna September 20; another boat, bearing the remaining 14 from the ship, apparently was lost.⁶²

January 16, 1893: The Hawaiian bark *Lady Lampson*, en route from Sydney to Honolulu, was wrecked on a reef 40 miles from Palmyra. A boat with 7 survivors got to Honolulu February 13, but a second boat, with 5 aboard, failed to show up.⁶³

November 5, 1898: The American ship *Wm. H. Starbuck*, bound from Port Blakeley for Cape Horn, burned at sea. After sailing 2,000 miles in 3 weeks, a boat's crew of 15 survivors (one of their number had drowned) reached Hookena on November 26. The second lifeboat, with 6 of the crew, vanished.⁶⁴

December 1902: The American ship *Florence*, which sailed from Tacoma for Honolulu in heavy weather on December 1, disappeared, taking with her 15 persons.⁶⁵

February 1904: When the tramp steamer *Conemaugh* left Honolulu on January 26, local observers expressed grave concern for her safety.⁶⁶ Somehow she made it to Coronel, Chile, then sailed for New York via the Horn, carrying a crew of 35. That was the last seen of the ship.⁶⁷

November 24, 1907: This was the last heard of the *Bangalore*, which had sailed from Norfolk for Pearl Harbor on October 23 with 21 persons on board.⁶⁸

August 27, 1908: Final sighting of the 4-masted iron bark (or "shipentine") *Fort George*, which left New York for Honolulu on July 26 with 20 persons aboard.⁶⁹

July 16, 1909: The schooner *Ada* disappeared between Paauhau and Honolulu with 6 on board.⁷⁰

February 27, 1911: Seven of the 8 persons aboard the schooner *Moi Wahine* drowned when their craft was struck by the lightship tender *Kukui* between Oahu and Maui.⁷¹

March 25, 1915: In the first submarine disaster in U.S. Navy history, the submarine F-4, *Skate*, sank in 50 fathoms off Honolulu Harbor. All 21 men perished.⁷²

July 1915: The cable schooner *Strathcona* was wrecked on a reef south of Suva while sailing from Auckland to Honolulu. Eight crew members were

picked up in a ship's boat, but a second boat, with perhaps 5 or 6 aboard, was not found.⁷³

November 25, 1915: The Chilean ship *Carelmapu*, which left Honolulu for Port Townsend on October 19, was driven ashore on Vancouver Island and her entire crew of 25 was lost.⁷⁴

December 3, 1918: S.S. *Benito Juarez*, from San Francisco, foundered in a gale 40 miles northeast of Molokai Channel, with a loss of 7 lives.⁷⁵

May 2, 1921: A Japanese freighter, *Tokyo Maru*, took fire and sank while steaming from Puget Sound to Honolulu. Eight persons died; the remaining 65 were rescued and taken to Seattle.⁷⁶

June 14, 1925: Five drowned when the sampan *Rose D.* capsized in Lahaina roadstead. Ten persons clinging to the hull were saved when Capt. Dauvauchelle swam four hours to Molokai and got help.⁷⁷

February 16, 1927: The freighter *Elkton*, en route from the Philippines to Honolulu with 37 aboard, vanished in heavy weather east of Manila after radioing distress signals.⁷⁸

March 26, 1928: A radioed SOS, coming from an area 400 miles southwest of Hawaii during a severe storm on this date, was later attributed to the new M/S *Asiatic Prince*, which disappeared while steaming from Los Angeles to Yokohama with a crew of 48. The freighter may have been hijacked by Chinese crew members.⁷⁹

February 1938: A Japanese fishing trawler, *Hachinohe Maru*, was wrecked on Kure. A rescue ship arrived in March but failed to find any evidence of the 25 persons aboard.⁸⁰

December 7, 1941: Only thirteen minutes after the first bombs hit Pearl Harbor, the steam schooner *Cynthia Olsen* radioed from a point 1,000 miles northeast of Oahu that it was under attack by a submarine. No trace of the ship or its 35 occupants was ever found.⁸¹

December 18, 1941: Nine members of the crew of the freighter *Prusa* died when their ship was torpedoed by a submarine 100 miles southeast of Oahu. Thirteen of the 26 survivors eventually reached Honolulu, while the rest made their way to the Gilberts.⁸²

January 28, 1942: Twenty-nine persons were lost when a Japanese submarine torpedoed the transport *Gen. Royal T. Frank* in the channel between Maui and Hawaii. Thirty-three survivors made it to land.⁸³

Numerous Matson ships were lost to enemy submarine or air attack during World War II, but these sinkings either resulted in fewer than five deaths or occurred too far from Hawaiian waters for inclusion here.⁸⁴

May 1944: During rehearsals for the assault on Saipan, held at Maalaea Bay and Kahoolawe between May 14 and 20, an LCT in which Marines were sleeping was pitched overboard from the deck of *LST-485* by heavy seas, owing to insufficient lashing, and 19 men were lost.⁸⁵

March 12, 1947: The tanker *Fort Dearborn*, steaming from San Francisco to Shanghai, broke in two during a gale 1,100 miles northwest of Oahu. Thirty-two of the 44 crewmen were rescued, but 12 who set out in a lifeboat were never found.⁸⁶

AIRCRAFT

Air disasters have supplanted marine losses as the most frequent cause of catastrophic mortality during the past three decades. At least 37 crashes and disappearances have been in the "catastrophic" category, accounting for some 485 lives. Only seven of the 37, however, have involved civilian aircraft, and none has occurred to a scheduled inter-island flight.

The greatest death toll in any Island air accident was 66, caused by the crash of a MATS R6-D into the Waianae Mountains near Lualualei Naval Ammunition Depot on March 22, 1955. The plane had left Hickam for Travis AFB the previous evening, but had turned back $3\frac{1}{2}$ hours out because of radio trouble. Everyone aboard, including 55 members of the armed forces, two military dependents, and a nine-man Navy crew, died in the 2:16 a.m. crash.⁸⁷

Other catastrophic accidents are listed below in chronological order.

May 21, 1935: A Navy P.M.-1 patrol plane with six occupants was lost off Midway during a mass flight to that island.⁸⁸

January 24, 1936: The mid-air collision of two Army bombers 1,200 feet over Luke Field killed six (out of eight) crewmen in what at that time was called "the worst air accident in Hawaiian aviation history."⁸⁹

January 11, 1938: Pan-American Airways' *Samoan Clipper* went down near Pago Pago while on a survey flight to Auckland, killing all seven persons aboard.⁹⁰

March 30, 1938: Two Navy Consolidated patrol bombers crashed off Oahu in separate accidents. Five were killed in the first crash, six in the second.⁹¹

July 29, 1938: A Martin flying boat operated by Pan-American, *Hawaii Clipper*, disappeared between Guam and Manila with 15 on board.⁹² (Neither this loss nor that of the *Samoan Clipper* met the definition of Hawaiian disaster used for this paper, although both were of considerable interest to Hawaii residents. Neither is included in the statistical totals for this section.)

The enormous growth of military aviation in Hawaii during the early 1940's was probably accompanied by a corresponding increase in catastrophic air mishaps, although fewer than a dozen were described in Honolulu newspaper accounts. Such limited coverage is understandable in the light of war-time secrecy and newsprint shortages.

January 21, 1943: A Navy seaplane flying from Pearl Harbor to California crashed 100 miles north of San Francisco, killing all 19 persons aboard.⁹³

August 9, 1943: Eleven persons were killed when a Navy bomber fell into the Pearl Harbor Navy Yard, hitting a loaded bus. The toll included three crewmen and eight civilian bus passengers.⁹⁴

April 11, 1944: An Army plane making an emergency landing at Bellows Field struck the engineer dispatch office, killing five workers. The pilot was unhurt.⁹⁵

April 12, 1944: Nine occupants of an Army plane were killed when it crashed in Kipapa Gulch.⁹⁶

November 14, 1944: All 17 persons on an Air Transport Command C-54 flight to the Mainland died when the plane plunged into the ocean 50 miles from Oahu.⁹⁷

Other air disasters during World War II included the crash of an Army bomber near Ewa on July 3, 1942, a crash near Wheeler Field on April 14, 1943, the crash of an Army plane on Kahoolawe on December 21, 1943, and the crash of a B-24 bomber near Schofield Barracks on July 28, 1945. The Wheeler mishap killed one civilian and "several" soldiers.⁹⁸ The other three took five lives each.⁹⁹

November 3, 1945: A converted Liberty bomber LB-30 operated by Consolidated Airways for the Army Air Transport Command ran out of fuel while flying from Hickam to California and ditched 450 miles out. The crash, resulting from failure to check whether the plane had been refueled before take-off, killed 18 of the 26 persons aboard.¹⁰⁰ The *Honolulu Clipper* was forced down at sea the same night but without loss of life.¹⁰¹

December 6, 1945: Seven of the 8 occupants of an Army B-24 Liberator taking off for the West Coast from John Rodgers Airport died when their plane plunged into the reef $\frac{3}{4}$ -mile off Keehi Beach.¹⁰²

March 19, 1946: A B-29 Superfortress en route from Hawaii crashed 15 miles south of Livermore, California, and all seven occupants died.¹⁰³

August 8, 1946: The crash of an Army OA-10 into the sea near Mokapu took the lives of all eight persons aboard.¹⁰⁴

October 12, 1946: A Navy plane went down just off Barbers Point, killing all five of its occupants.¹⁰⁵

August 16, 1947: Ten of the 13 persons in an Air Force B-17, including Ambassador George Atcheson, Jr., died in a crash 50 miles from Barbers Point while on a flight from Kwajalein to Hickam.¹⁰⁶

August 24, 1948: A heavily-loaded B-29 Superfortress, shortly after take-off from Barbers Point, attempted an emergency landing at Hickam, overshot the field, and crashed, killing 16 of the 20 on board.¹⁰⁷

November 27, 1950: The wing of a Navy P2V patrol plane broke off in midair two miles off Kaena Point, leading to a crash that killed all five occupants.¹⁰⁸

July 11, 1953: A Transocean Airlines DC-6B exploded in midair 320 miles east of Wake Island while on a flight to Honolulu. All 58 persons aboard died, making this the second worst Island air disaster of all time.¹⁰⁹

October 29, 1953: In the first fatal crash of a commercial airliner between Hawaii and the West Coast, a British Commonwealth Pacific Airlines DC-6 flying from Honolulu to San Francisco rammed into a mountain 25 miles south of its destination. All 19 aboard were killed, including concert pianist William Kapell.¹¹⁰

January 21, 1954: The eight occupants of a Navy P2V Neptune died when their plane crashed into the Waianae Mountains while approaching Barbers Point Naval Air Station after a flight from Kwajalein.¹¹¹

April 17, 1954: A Cockett Airlines plane carrying five disappeared while on a flight from Upolu Point to Honolulu.¹¹²

September 23, 1955: A Flying Tiger Airlines DC-4 cargo plane en route from Honolulu to Wake Island crashed 400 miles northwest of Johnston Island, carrying its five crew members to their deaths.¹¹³

December 7, 1955: Seven of the ten men aboard a Navy P2V-5 patrol bomber died when their aircraft fell into the sea 26 miles east of Kauai.¹¹⁴

July 23, 1957: A Navy Lockheed P2V-5F Neptune patrol plane crashed off Barbers Point, killing all ten aboard.¹¹⁵

November 8, 1957: A Boeing Stratocruiser operated by Pan-American plunged into the ocean 1,034 miles northeast of Oahu while on a flight from Honolulu to San Francisco. All 44 passengers and crew members were killed, making this the third worst air accident in Island history.¹¹⁶ Pan American Stratocruisers had ditched twice previously between Hawaii and the Mainland, once (in 1955) with four deaths and later (in 1956) with no loss of life.¹¹⁷

December 23, 1957: Only four of the 23 men aboard a Navy Super Constellation WV-2 survived when their aircraft crashed 25 miles north of Oahu.¹¹⁸

January 19, 1958: A MATS C-97 with a crew of seven vanished 325 miles southwest of Oahu while on a flight to Kwajalein.¹¹⁹

July 4, 1958: Six of the nine aboard an Air Force C-124 Globemaster were killed in a crash near Johnston Island.¹²⁰

January 22, 1961: An Oahu-based Navy Super Constellation WV-2 crashed while landing at Midway, killing six men aboard the plane and three in a fire truck ground crew.¹²¹

July 22, 1962: A Canadian Pacific Airlines 4-engine jet-prop Britannia which had taken off from Honolulu International Airport for Fiji just 10 minutes earlier turned back with one engine out, missed the runway and crashed. This accident, the first fatal crash of a commercial airliner on Island soil, took 27 lives of the 40 on board.¹²²

January 1, 1964: An Air Force C-124 Globemaster with a crew of nine vanished on a flight from Wake Island to Honolulu.¹²³

September 23, 1968: In what news accounts called "the worst small plane disaster in Island history," a rented Piper Cherokee with 6 persons aboard disappeared while on a flight from Honolulu to Hilo. Wreckage and bodies were finally found three months later in the West Maui Mountains.¹²⁴

RAILROADS

Although no railroad accident in Hawaii has ever caused as many as five deaths and thus qualified for "catastrophic" classification, two rail mishaps came close enough to merit mention.

The first occurred on the Kahului, Wailuku & Hamakuapoko Railroad (the "Kahului R. R.") on February 14, 1884. The last seven cars of a nine-car passenger and freight train, uncoupled when the engine halted on a grade near

Wailuku, rolled backward down the $\frac{3}{4}$ -mile decline with the reversing engine in frantic pursuit. Rounding a sharp curve at the bottom at 50 m.p.h., the runaway cars plowed into an approaching locomotive. Three of the eight passengers were killed and three others were seriously injured; the other two had jumped in time.¹²⁵

The second befell a speeding pineapple train three miles west of Waipahu Mill in 1922. Thrum wrote: "The worst train wreck in the history of the Oahu R. & L. Co. occurred July 16th, when the engine and twenty-eight cars of a fruit train of forty-one was derailed at the Waikakalaua gulch on the Wahiawa-Schofield line, killing the engineer, conductor and a fireman, and injuring two. Three others on the train at the time escaped injury."¹²⁶

MOTOR VEHICLE

A large number of Hawaii residents have died in motor vehicle accidents, yet, surprisingly, only four such accidents known to officials qualify for the designation of "catastrophic".

Out of 1,654 accidental deaths in Hawaii between January 1962 and the end of 1967, 691 (or 41.8 percent) were attributed to motor vehicles. The annual total increased regularly during this period, from 95 to 149.¹²⁷

The worst motor vehicle accident in Hawaii history, in terms of mortality, occurred on July 2, 1944, at 7:45 p.m., when an Army truck going down Farrington Highway in Waiialua, Oahu, struck a parked vehicle and overturned on six pedestrians walking alongside the roadway. Seven persons were killed: the six pedestrians, who were boys aged 6 to 15, and the passenger in the Army truck. The driver was found to be intoxicated and was charged with seven counts of manslaughter.¹²⁸

On October 20, 1945, the driver and four passengers in a car were killed on the Kamuela-Kawaihae Highway, Hawaii, when the driver lost control on a curve and their car went over an embankment.¹²⁹

A head-on collision on Kaunualii Highway, four miles west of Kekaha, Kauai, killed five persons, four in one automobile and one in the other, on February 28, 1959.¹³⁰

A similar head-on collision took place on Honoapiilani Highway near the Olowalu Store, Maui, on February 26, 1967. Five persons were killed, three in one car and two in the other.¹³¹

VIOLENCE

Catastrophic mortality resulting from "violence"—a statistical category which, for present purposes, includes affrays and assaults, riots, mass murders, air raids, and similar events—has approached 2,700 in the 190 years between Captain Cook's arrival and the end of 1968. One of the seven occurrences in this group, the Pearl Harbor attack, accounted for all but 175 or so of the deaths reported here. As noted earlier, deaths caused by the warfare which

periodically roiled Hawaii during the late 18th and early 19th centuries have been arbitrarily excluded.

The first outbreak of violence in the historical record was the one in which Captain James Cook was slain. On February 14, 1779, Cook and some of his men made an abortive effort to take a Hawaiian chief hostage so as to get back a stolen cutter. Inflamed by reports of the shooting of a chief on the other side of Kealakekua Bay, the natives attacked and killed Cook and four of his marines. The British immediately opened fire, killing four *alii* and 13 men. Fighting continued sporadically for several days. By the time peace was restored, according to Clerke, the Hawaiian losses had mounted "to four Aree's kill'd and 6 wounded, of their people 25 kill'd and 15 wounded. . . ." The British deaths were limited to the five suffered in the initial skirmish.¹³²

The next such event leading to catastrophic mortality was the "Olowalu massacre" on Maui in late January 1790. In retaliation for the theft of a small boat, Captain Simon Metcalfe of the *Eleanora* had his men fire broadside into scores of canoes filled with natives lured alongside the ship. This treacherous act killed more than a hundred of the Hawaiians and wounded many others.¹³³

Five or six weeks later Kameeiamoku attacked the schooner *Fair American* and killed five of the six men aboard, including Thomas Metcalfe, Simon's son.¹³⁴

Sailors rioted in Island port cities in 1825, 1826, 1827, 1842 and 1852, but little or no loss of life resulted.¹³⁵

The next flare-up of violence was the Wilcox Insurrection. On July 30, 1889, an armed band led by Robert W. Wilcox marched on Iolani Palace and laid siege to it. Seven of their number were killed and 12 were wounded before the attackers surrendered.¹³⁶

A confrontation between Filipino strikers and special police at Hanapepe, Kauai, on September 9, 1924 led to the killing of four policemen and sixteen strikers, and to the wounding of many others.¹³⁷

At least 36 union demonstrators were wounded (although no one was killed) when Hilo police fired into a crowd of strikers and sympathizers who had gathered to protest the docking of the *Waialeale*, on August 1, 1938.¹³⁸

Only one mass murder attained catastrophic proportions. On July 15, 1952, a crazed handyman on a farm near Koko Head ran amok and butchered five of the six members of the Richard Sumida family.¹³⁹

The worst disaster in Hawaiian history, responsible for almost half of the 5,500 or so "catastrophic" deaths reported in this 190-year review, was the Pearl Harbor attack of December 7, 1941. Approximately 2,500 persons died in the attack: 2,008 U.S. Navy personnel, 109 Marines, 218 Army personnel, 68 civilians, and fewer than 100 Japanese attackers. Out of 2,403 American deaths, nearly half occurred when the *Arizona* blew up. Almost all of the casualties and damage in civilian areas were caused by U.S. anti-aircraft fire. The Japanese lost 55 airmen, 9 crewmen on midget submarines, and an undetermined number aboard a large sub.¹⁴⁰

SUMMARY AND COMMENTS

This chronology has listed 112 disasters involving catastrophic mortality—defined as five or more deaths—in Hawaiian history, from the first white contact through December 1968. An estimated 5,575 persons died in these tragedies, distributed approximately as follows:

<i>Kind of disaster</i>	<i>No. of disasters</i>	<i>Deaths</i>
Natural disasters — — — — —	11	755
Tsunami — — — — —	5	287
Flood, wind, and earth movement — —	5	68
Volcano — — — — —	1	400
Fire and explosion — — — — —	6	219
Transportation — — — — —	88	1,929
Marine — — — — —	47	1,422
Air — — — — —	37	485
Railroad and motor vehicle — — —	4	22
Violence — — — — —	7	2,672
Pearl Harbor attack — — — — —	1	2,500
Assault, murder, and riot — — —	6	172

Among individual catastrophes, the one responsible for the greatest mortality was the Pearl Harbor attack, with about 2,400 American deaths and somewhat under 100 Japanese. Second was the Kilauea explosion of 1790, said to have killed 400 Hawaiians. Third and fourth place are taken by ship disappearances: the *Kamehameha* with 250 aboard in 1829–1830, and the *Levant* with 210 in 1860. The West Loch ammunition ship explosion of 1944 killed 163, thereby ranking fifth. The sixth worst disaster was the 1946 tsunami, which took 159 lives. Other catastrophes responsible for 100 or more deaths were the sinking of the *Condor* (140) and *Rio de Janeiro* (128), both in 1901, and the Olowalu Massacre (over 100) in 1790.

These mortality totals may seem modest in comparison with catastrophic death data for other parts of the world. A tabulation of Mainland figures covering the 25 years 1941 through 1965 reported 3,255 catastrophic accidents with 33,482 deaths. The worst were the Texas City fire and explosion, with 561 killed on April 16–17, 1947, and a night club fire in Boston on November 28, 1942, with 492 deaths.¹⁴¹ Even worse disasters have been recorded in Europe and Asia. *The Guinness Book of World Records* lists the following, among others: the flooding of the Hwang-ho, China, in 1887 (900,000 deaths); the 1556 Chinese earthquake (830,000); a landslide in Kansu Province in 1920 (200,000); the bombing of Dresden in February 1945 (135,000); a storm in North Viet-Nam in 1881 (300,000); sinking of the *Wilhelm Gustloff* off Danzig in 1945 (4,120); the Halifax explosion of 1917 (1,600); a French railroad accident in 1917 (543); the midair collision of two airliners over Staten Island in 1960 (137); a bus crash in India in 1962 (69).¹⁴²

Hawaiian disasters differ from those in other parts of the world not only in death toll but also in kind. Railroad accidents, tornadoes, and mine cave-ins and explosions are virtually unknown in the Islands but common on the Mainland. Tsunamis, volcanic eruptions, and shipwrecks in contrast are a far greater hazard in Hawaii than, say, the Middle West.

Property damage and loss of life have not been highly correlated in Island disasters. This has been particularly true of fires and marine accidents, in which property worth vast sums of money has sometimes been destroyed without accompanying loss of human lives.

Still another notable characteristic of Hawaiian disasters is their preference for non-residents. Over 95 percent of the deaths in the Pearl Harbor attack were among members of the armed forces from other parts of the country. The same could be said of the three worst explosions listed in this chronology. A high percentage of the 1,900 persons lost in air crashes and shipwrecks in the "catastrophic" category were likewise transients, such as tourists, armed forces personnel, or crew members from other areas. Tsunamis, volcanoes and other disasters, in contrast, have more frequently afflicted *kamaainas*.

The foregoing review has been necessarily brief and statistical in nature, with only minimal attention to the details of the events listed. It has thus had to bypass countless examples of great courage, perseverance, and self-sacrifice, cowardice, stupidity and viciousness. The terse descriptions and mortality totals often mask stories of suspense, tragedy, and high drama. A few of these events, not surprisingly, have found their way into books, movies, and the Sunday supplements. The material exists for many more such accounts.

NOTES

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⁵ Richard A. Greer, "Oahu's Ordeal—The Smallpox Epidemic of 1853—Part II," *Hawaii Historical Review*, Vol. II, No. 1 (October, 1965), p. 261.

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- ¹⁶ Letter from Saul Price, Regional Climatologist, Weather Bureau Pacific Region, October 8, 1968.
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- ¹²⁵ PCA, Feb. 16, 1884, p. 8; PCA, Feb. 18, 1884, p. 2; PCA, Mar. 4, 1884, p. 2; PCA, Mar. 5, 1884, p. 2.
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- ¹²⁷ Computed from data in *Annual Report, Department of Health, State of Hawaii Statistical Supplement*, 1962-1966, and preliminary data for 1967 supplied by the Department on October 11, 1968. Includes deaths to members of the armed forces, usually excluded before the 1962 report.
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- ¹²⁹ County of Hawaii Department of Police, letter dated Dec. 12, 1968. HSB, Oct. 25, 1945, p. 1, reports 4 deaths for this accident.
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- ¹³⁶ PCA, July 31, 1889, p. 3.
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- ¹³⁸ HSB, Aug. 1, 1938, p. 1; HSB, Aug. 2, 1938, p. 1. Kuykendall and Day, *op. cit.*, p. 277, give the number wounded as 50.
- ¹³⁹ HSB, July 15, 1952, p. 1.
- ¹⁴⁰ Walter Lord, *Day of Infamy* (New York: Holt, Rinehart and Winston, 1957), p. 220. Unpublished tabulations by the Territorial Department of Health (supplied Nov. 27, 1968), apparently exclusive of the missing, attributed 85 military deaths and 56 civilian deaths to "operations of war" in Hawaii during 1941. The Joint Committee on the Investigation of the Pearl Harbor Attack, U.S. Congress, reported 2,326 U.S. Army, Navy and Marine Corps deaths resulting from the December 7 attack and "a minimum of 68" and "less than 100" Japanese killed during the same attack (79th Congress, 2d Session, Senate Document No. 244, *Investigation of the Pearl Harbor Attack*, 1946, pp. 64-65). Allen reported "at least 57" civilian deaths (*op. cit.*, p. 7).
- ¹⁴¹ Metropolitan Life Insurance Company, *op. cit.*, pp. 2 and 4.
- ¹⁴² Norris and Ross McWhirter, *Guinness Book of World Records*, Revised Ed. (New York: Bantam Books, Inc., 1966), p. 300.

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