



CENTER FOR EXCELLENCE IN DISASTER MANAGEMENT & HUMANITARIAN ASSISTANCE



USINDOPACOM Foreign Disaster Response in the Indo-Asia-Pacific June 1991 – June 2019

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Appendix 1: Other USINDOPACOM Foreign Disaster Response (FDR) Support

(Due to very limited information available on the following USINDOPACOM responses, a list and brief summary is provided in the Appendix)

- a. July 1990 - Philippines: Earthquake
- b. September 1990 - Philippines: Heavy Rains and Mudslides
- c. January 1995 – Japan: Great Hanshin Earthquake (also known as the Kobe Earthquake)
- d. January 1998 – Hebei Province, China: Earthquake
- e. November 1999 – Vietnam: Floods
- f. December 2004 – Luzon, Philippines: Typhoons and Tropical Storms
- g. 2007 – Philippines: Legazpi Typhoon Recovery

Disclaimer

This report has been prepared in good faith based on open-source information available at the date of publication. While making every attempt to ensure the information is relevant and accurate, CFE-DM does not guarantee or warrant the accuracy, reliability, completeness or currency of the information in this publication.

About the Center for Excellence in Disaster Management and Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DOD) organization that was established by U.S. Congress in 1994. The Center is a direct reporting unit to U.S. Indo-Pacific Command and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

CFE-DM was founded as part of the late Senator Daniel K. Inouye's vision. The Senator had witnessed the effects of Hurricane Iniki that struck the Hawaiian Islands in 1992 and felt the civil-military coordination in the response could have been more effective. He set about to establish CFE-DM to help bridge understanding between civil and military responders, and to provide a DOD platform for building Disaster Management and Humanitarian Assistance (DMHA) awareness and expertise in U.S. forces, and with partner nations in the Asia-Pacific. While maintaining a global mandate, the Asia-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice.

Mission

CFE-DM increases the readiness of U.S. forces, civilian and military counterparts, and international partners to respond globally to foreign humanitarian assistance and disaster relief operations through civil-military coordination, training, information sharing, and regional planning.

Vision

CFE-DM exists to save lives and alleviate human suffering by connecting people, improving coordination, and building capacity.

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Introduction

Worldwide, the Indo-Asia-Pacific is the region most prone to disasters. Natural disasters in the Indo-Asia-Pacific region have killed 2 million people, or 57 percent of the global death toll from disasters, since 1970. The number of people killed annually in the region has averaged 43,000. The deaths were primarily due to earthquakes, followed by storms and floods. The region is home to 60 percent of the world's population but is disproportionately affected by disasters, with some 88 percent of the region's population affected. People in the Indo-Asia-Pacific are five times more likely to be affected by a natural disaster than in other parts of the world.¹

Because of the frequency and intensity of disasters in the region, the United States Indo-Pacific Command (USINDOPACOM, formerly known as U.S. Pacific Command or USPACOM prior to May 2018) was called upon to support at least 36 foreign disaster responses in the region from June 1991 to June 2019. This does not reflect every significant or major disaster that struck the region. In the majority of cases, the U.S. government is able to respond to most U.S.-declared foreign disasters with civilian response assets and funds. The U.S. Department of Defense (DOD) only assists the US Agency for International Development (USAID)/Office of Foreign Disaster Assistance (OFDA) in around 10% of US-declared foreign disasters on average annually. However, those events are usually major disasters where affected nations' resources are overwhelmed and civilian and military response capacity have been exceeded, thus the support of unique foreign military assets are requested.²

Of note, U.S. military forces have been called upon to support disaster relief efforts in the USINDOPACOM Area of Responsibility (AOR) each year since 2004, when the devastating Indian Ocean tsunami struck the region, affecting more than a dozen countries and leading to the deaths of some 230,000 people. For that disaster, around 35 foreign nations contributed military assets to assist with the massive response efforts. Around 30,000 military personnel were called upon to assist in total. The U.S. alone contributed nearly 16,000 military personnel to aid in the response.

This report looks at U.S. military foreign disaster response operations in the Indo-Asia-Pacific region, and provides a brief summary of each event and the accompanying response from U.S. forces. The report is general in nature and meant to give an overview of USINDOPACOM and overall DOD efforts, but some details may not be covered due to length constraints. As such, it is not possible to cover every aspect from every crisis in this document.

There are 29 summaries of U.S. military response to foreign disasters in the region discussed in the main body of the report. The majority of these are major natural disaster events, including earthquakes, tsunami, major storms, and flooding. While every attempt was made to be inclusive of each foreign response operation in the region, it is possible some events were not captured. While nearly all relief missions occurred in the USINDOPACOM AOR, the response to the 2005 Pakistan earthquake was also included, although Pakistan falls under U.S. Central Command (USCENTCOM) responsibility. During this mission, USINDOPACOM troops supported USCENTCOM forces in a response to a disaster in the Indo-Asia-Pacific, therefore it was decided to include that operation in this report.

Additionally, while conducting an extensive literature review, CFE-DM has encountered references to U.S. military support in the region that unfortunately had little information available to warrant

¹ Asia-Pacific Disaster Report 2017, UNESCAP, <https://www.unescap.org/publications/asia-pacific-disaster-report-2017-leave-no-one-behind>

² U.S. Government Agencies & Military, <https://www.usaid.gov/partnership-opportunities/us-government-and-military>

inclusion into the main section of this report. Because of the lack of detail currently available, it was decided to capture these events in an appendix in the back of the report. Thus, for information on these U.S. military disaster relief efforts, please see “Appendix 1: Other USINDOPACOM Foreign Disaster Response Support.”

The intent of this report is to not only chronicle U.S. military response and assistance to foreign disasters, but it is also hoped that the responses serve as an example, or perhaps even template, of how military support is utilized for effective disaster relief in the region. The report aims to inform the future U.S. military responder about what assets were used for a particular relief effort and how that can prepare them for planning for a similar mission in support of USAID/OFDA, the U.S. lead federal agency in foreign disaster relief.

Although disaster relief is not a core DOD mission, due to the frequent and diverse natural hazard risks and humanitarian emergencies faced by countries across the Indo-Asia-Pacific, the unique capabilities of the U.S. military will likely continue to be called upon to support Humanitarian Assistance/Disaster Relief (HADR) missions in the region well into the foreseeable future.

June 1991 – Philippines: Mount Pinatubo Eruption

Background

On June 15, 1991, after some two months of unrest, Mount Pinatubo, located on the main island of Luzon in the Philippines, erupted explosively, and sent a massive cloud of ash into the sky. Deadly pyroclastic flows (avalanches of hot ash) raced down its flanks along with lahars (giant mudflows of ash), which traveled more than 30 miles down valleys. Towns and cities near the volcano were destroyed. Pinatubo first showed signs of activity on April 2, 1991 after being dormant for some 500 years. The eruption forced the Government of the Philippines and U.S. military authorities to call for the evacuation of populations near the danger zone of the volcano, including U.S. military service members and their dependents at the two largest U.S. military bases in the Philippines, Clark Air Base and U.S. Naval Station at Subic Bay. In total, around 75,000 people, including the local population, as well as the U.S. military personnel and dependents, were safely evacuated.³

According to the United States Geological Survey (USGS), more than 840 people were reported killed from the eruption. Around 942,764 people (192,641 families) in total were affected, according to the United Nations. The most severely affected area was Central Luzon and the number of houses damaged or destroyed was reported at 3,388.⁴ Relief efforts for the eruption were complicated because of the arrival of Typhoon Yunya (locally known as Diding) which struck southern Luzon, also on June 15. At least 4 people were killed directly from the storm, but Yunya was also blamed for triggering lahar flows, causing more casualties.⁵ The typhoon also helped spread ash to as far away as the Indian Ocean.⁶

The eruption affected three U.S. military bases in the area, Clark Air Base, Subic Bay Naval Base and Naval Air Station Cubi Point. The eruption led to the evacuation of thousands of U.S. military personnel and their dependents at Clark and Subic Bay. Over 21,000 American military personnel and dependents in total were evacuated from the bases and away from the Philippines.⁷



The cataclysmic lateral eruption of Mount Pinatubo, June 15, 1991. Photo taken moments after the eruption commenced.

Photo from U.S. Coast Guard

Source: <https://seabeemagazine.navylive.dodlive.mil/2018/06/15/kicking-ash-the-seabees-of-operation-fiery-vigil/>

³ MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

⁴ Philippines Mt Pinatubo Volcanic Eruption Aug 1992 UN DHA Situation Reports 1-8, <https://reliefweb.int/report/philippines/philippines-mt-pinatubo-volcanic-eruption-aug-1992-un-dha-situation-reports-1-8>

⁵ Typhoon hits Philippines, kills four, <https://www.upi.com/Archives/1991/06/15/Typhoon-hits-Philippines-kills-four/2021676958400/>

⁶ Remembering Mount Pinatubo 25 Years Ago: Mitigating a Crisis, <https://www.usgs.gov/news/remembering-mount-pinatubo-25-years-ago-mitigating-crisis>

⁷ MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

U.S. Military Response: “Operation Fiery Vigil”

Shortly after Pinatubo first awakened in April, U.S. Geological Survey (USGS) scientists with the Volcano Disaster Assistance Program’s (VDAP) crisis response team arrived at Clark Air Base and joined scientists from the Philippine Institute of Volcanology and Seismology (PHIVOLCS). The joint team worked to evaluate the threat from Pinatubo, installing instruments and mapping volcanic deposits in order to better understand the volcano. Their evaluation enabled them to alert people in areas at risk and provide advice to the Government of the Philippines and to the U.S. military at Clark and Subic. The U.S. military provided air assistance to the PHIVOLCS-VDAP team. Clark Air Base was home to more than 15,000 American service members and their dependents.⁸



Mount Pinatubo, Philippines, June 1991. First major eruption of Mount Pinatubo, viewed from Clark Air Base. R.S. Culbreth/U.S. Air Force
<https://www.stripes.com/recounting-us-military-s-last-days-in-the-philippines-1.228182#gallery>

The VDAP-USGS team developed an alert system for civil defense and U.S. military officials to communicate the risk from the volcano. Base officials put together a plan to evacuate people to Subic and Naval Air Station Cubi Point and began procedures for an evacuation on June 8. Aircraft also began to be evacuated and a 374th Tactical Air Wing C-9A aircraft evacuated premature babies, their mothers and medical staff to Kadena Air Base in Japan.^{9, 10, 11}

Following the first low-level eruption on June 9, the U.S. Secretary of Defense authorized evacuation of all non-essential military and DOD civilian personnel and their dependents at Clark Air Base. On early June 10, 15,000 non-essential personnel were evacuated by road from Clark to Subic Bay, around 30 miles to the southwest. By that time period, local residents had already evacuated and almost all aircraft had been removed. Several smaller lahars damaged Clark.^{12, 13, 14}

On June 12, 29 fixed wing aircraft departed Naval Air Station Cubi point. Of the remaining 66 aircraft, which were mainly helicopters, only nine were not in hangars. On June 13, ash forced the closure of Cubi Point and Manila International Airport. On June 15, the main eruption sent debris over 100,000 feet into the air and Clark Air Base was buried under 1-2 feet of ash.^{15, 16}

The situation also worsened at Subic Bay due to the eruption, and on June 16, Navy ships began moving non-essential personnel and dependents from Subic Bay to Cebu Island, 350 miles from Pinatubo. In total around 17,000 evacuees were carried by ship to Cebu. From Mactan Airfield on Cebu, the evacuees were airlifted to Andersen Air Force Base in Guam and then most went to the continental United States by the Military Airlift Command (or MAC, the predecessor of the Air

8 MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

9 MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

10 Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

11 Fiery Vigil, <https://amcmuseum.org/history/fiery-vigil/>

12 MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

13 Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

14 Fiery Vigil, <https://amcmuseum.org/history/fiery-vigil/>

15 Fiery Vigil, <https://amcmuseum.org/history/fiery-vigil/>

16 Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>



With a force of 62.7 pounds per square foot, the wet volcanic ash collapsed the roofs of countless buildings at Cubi Point and Subic Bay, including this one at the naval station, July 8, 1991. With torches, hand tools and front-end loaders, Seabees dismantled and demolished some structures and repaired the roofs of others. Photo from U.S. Navy

Source: <https://seabeemagazine.navylive.dodlive.mil/2018/06/15/kicking-ash-the-seabees-of-operation-fiery-vigil/>



World Airways DC-10, Naval Air Station Cubi Point, on the flight line weighed down by thick, water-soaked ash, June 17, 1991. Photo from U.S. Navy

Source: <https://seabeemagazine.navylive.dodlive.mil/2018/06/15/kicking-ash-the-seabees-of-operation-fiery-vigil/>

National Guard's 254th Air Base Group and sailors from Naval Air Station Agana. Additionally, over 2,000 tons of cargo was also moved.^{22, 23}

Aircraft used were C-5s which flew 12 missions, C-141s which flew 195 missions, C-130s which flew 38 missions and a C-9 which flew one mission.²⁴

Mobility Command, or AMC) and commercial aircraft. In total around 21,635 people arrived at Andersen in less than one week.¹⁷ The evacuation operation was called "Operation Fiery Vigil." Commanding General, 13th USAF, commanded the JTF.^{18, 19}

According to a report by the Center for Naval Analyses, the concept of operations called for a three-step process:

1. Movement of non-essential personnel and dependents from Clark AFB to Subic Bay;
2. Movement of evacuees from Subic to Cebu Island; and,
3. Evacuation from Cebu to CONUS (or other appropriate sites) via aircraft.

The USAF kept a security force at Clark, which was downsized following the eruption.²⁰

Ash fall covered Clark Air Base, located some nine miles away from Pinatubo, and Subic Bay Naval Base. On Clark, many buildings collapsed under the weight of rain-saturated ash. Facilities at Subic Bay, located some 25 miles from Pinatubo, were also severely damaged.²¹

The Military Airlift Command alone airlifted 15,000 passengers on 246 missions, 191 of which were C-141 flights, while the others came in on chartered aircraft. About 21,635 people would arrive at Andersen in the space of less than one week. Others instrumental in making the operation succeed were Guam Air

17 Operation Fiery Vigil brought 21,000 refugees to Andersen, <https://www.andersen.af.mil/News/Article-Display/Article/415796/operation-fiery-vigil-brought-21000-refugees-to-andersen/>

18 Fiery Vigil, <https://amcmuseum.org/history/fiery-vigil/>

19 Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

20 Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

21 MobileResponse Team Saves Lives in Volcano Crises, <https://pubs.usgs.gov/fs/1997/fs064-97/>

22 Fiery Vigil by Daniel L. Haulman, <https://amcmuseum.org/history/fiery-vigil/>

23 Operation Fiery Vigil brought 21,000 refugees to Andersen, <https://www.andersen.af.mil/News/Article-Display/Article/415796/operation-fiery-vigil-brought-21000-refugees-to-andersen/>

24 Fiery Vigil by Daniel L. Haulman, <https://amcmuseum.org/history/fiery-vigil/>

An on-scene U.S. Marine Corps (USMC) force (then Marine Air-Ground Task Force 4-90 or MAGTF 4-90) assisted with the response. When augmented by elements of the 15th Marine Expeditionary Unit (MEU), who were offloaded to provide room for evacuees, the MAGTF 4-90 consisted of 3,000 Marines.²⁵

Fiery Vigil involved support from all four services. The Air Force provided airlift for the evacuees. MAGTF 4-90 consisted mainly of USMC Reserve units (BLT 1/24 and HMLA-76). Augmenting Marine forces included elements of the 15th MEU; Contingency MAGTF 2-91 (which completed operations in Bangladesh in Operation Sea Angel and then headed to the Philippines with 32 Reverse Osmosis Water Purification Units and engineering equipment aboard the USS St. Louis); a survey-liaison reconnaissance party (SLRP), offload preparation party (OPP), and six CH-53Ds, which deployed from Okinawa to the Philippines aboard the USS Midway; and two OV-10Ds which deployed from Okinawa. For the Navy, 28 ships directly supported the evacuation, and U.S. Naval Construction Battalions or Seabees did engineering and clean up work.²⁶

When conditions improved, two MAC C-5 Galaxies flew 34 pallets of food to the Philippines to help feed local people displaced by the eruption.²⁷

On June 22, a team of 11 engineers and utility specialists from Pacific Air Forces (PACAF) headquarters and the 554th Red Horse arrived at Clark Air Base to assess damages and determine the fate of the base. Clark was the oldest and largest overseas U.S. base. On July 17, the U.S. announced Clark AB would not re-open. The American flag was lowered on November 26, 1991 and Clark Air Base was turned back to the Philippines, after over 90 years of U.S. presence. Operation Fiery Vigil started on June 8 and the operation wrapped up on July 2, 1991. The operation was the largest evacuation operation to the U.S. since the fall of South Vietnam in 1975.^{28, 29, 30}



Seabees at Subic Bay and Cubi Point used a combination of a front loader and bulldozer to create berms of ash slurry before pushing it off to collection points for disposal. Photo taken October 19, 1991, Naval Station Subic Bay.

Photo from U.S. Navy

Source: <https://seabeemagazine.navylive.dodlive.mil/2018/06/15/kicking-ash-the-seabees-of-operation-fiery-vigil/>



CLARK AIR BASE, Philippines -- In 1991 U.S. Air Force and Marine personnel evacuated a truck full of munitions aboard a helicopter at the height of the Mount Pinatubo volcanic eruption at here. The lahar (hot mudflow) and ash fall from the volcano resulted in extensive damages to major facilities on base. Clark AB closed down in November of 1991 ending almost a century of American military presence in the Philippines.

U.S. Air Force photo by Master Sgt. Val Gempis

Source: <https://www.af.mil/News/Photos/igphoto/2000030105/>

²⁵ Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

²⁶ Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

²⁷ Fiery Vigil by Daniel L. Haulman, <https://amcmuseum.org/history/fiery-vigil/>

²⁸ Operation Fiery Vigil, https://www.globalsecurity.org/military/ops/fiery_vigil.htm

²⁹ Fiery Vigil by Daniel L. Haulman, <https://amcmuseum.org/history/fiery-vigil/>

³⁰ Ibid.

April 1991 – Bangladesh: Cyclone Gorky (also known as Cyclone Marian)

Background

On April 29-30, 1991, powerful Tropical Cyclone Gorky (also referred to as Cyclone Marian), struck the southeastern coastal lowlands and offshore islands of Bangladesh with 235 km/hr (140 mile/hour) winds accompanied by a 6-8 meter storm surge. The devastating storm left 139,000 people dead. Women and children reportedly made up more than 60 percent of those who perished. The lives of more than a million livestock were also lost as well, an important part of the livelihoods of many affected Bangladeshis. The cyclone destroyed infrastructure in affected areas and essentially wiped out the water supply. Thousands of people reportedly took refuge in cyclone shelters, however, thousands more remained outside due to lack of space. The estimated number of those left homeless was 2.5–3 million.^{31, 32}

Ten districts, home to some 11.2 million people were affected, with the four coastal districts of Bhola, Noakhali, Chittagong and Cox's Bazar being the worst-affected. The offshore islands of Kutbdia, Sandwip and Mahshkali were submerged from flood waters. The port at Chittagong was badly flooded and damaged. Unfortunately, it was the only port in the region capable of receiving supplies, thereby greatly hampering the relief effort.^{33, 34}

Bangladesh had installed its first civilian government less than two months earlier led by Prime Minister Begum Khaleda Zia. Following the cyclone, Zia flew to affected areas to assess the destruction. Upon her return to the capital, Dhaka, she appealed for international assistance. Food, shelter, drinking water, medicine and clothing were among the immediate needs. It was also noted that one of the key problems for the government would be the lack of capability to distribute relief goods to affected areas. Land routes were cut off



Housing was destroyed in Khankanabad, Banskhali, south of Chittagong
Photo from USCINCPAC

Source: Angels From the Sea: Relief Operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf

31 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

32 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

33 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

34 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

and the government had only six functioning helicopters.³⁵³⁶

The Armed Forces of Bangladesh were the initial key responders from the Government of Bangladesh and were mobilized to immediately restore clean drinking water, reestablish communications, and distribute relief supplies. The army soon began to establish camps and began feeding the affected, while the Air Force utilized helicopters not damaged by the storm to begin food and medicine deliveries to isolated areas. The Bangladesh Rifles, a paramilitary force, was also sent to assist officials with maintaining order.³⁷

U.S. Military Response: “Operation Productive Effort/Sea Angel”

United States Ambassador William B. Milam immediately declared a disaster and authorized the immediate release of US\$25,000 to Bangladesh for relief after a request by United States Agency for International Development (USAID) Mission Director Mary Kilgour. In addition, some US\$2 million worth of medical supplies donated through the Department of Defense’s (DOD) Humanitarian Assistance program was given to the Ministry of Health. On May 3, Kilgour, accompanied by Defense Attaché Lt. Col. James Dunn and First Lt. David Silverman, commanding officer of the U.S. Army’s 2d Platoon, Company B, 84th Engineer Battalion (Combat) (Heavy) flew to affected areas to assess the damage.³⁸

It was determined from the assessments that a supply of water purification tablets and oral rehydration salts were the number one priority. Some of the earliest assistance came in the form of 13 pallets of relief and medical supplies from Pacific Command’s Humanitarian Assistance Office



MajGen Henry C. Stackpole III, commanding the III Marine Expeditionary Force headquartered on Okinawa, was given command of the joint American effort to provide disaster relief to the victims of the Bangladesh cyclone.

Department of Defense Photo (USAF) DF-ST-92-06107
Source: https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf

to be prepared in Okinawa and delivered by a C-141 Starlifter plane on May 10. In addition, an Air Force C-5A transport plane from Southwest Asia arrived and the DOD donated relief items totaling some US\$25 million. After receiving approval from the Bangladesh Army, the U.S. embassy deployed 15 soldiers from the U.S. Army’s 84th Engineer Battalion to Chittagong to assist with repair of the airport.³⁹

On or about May 10, Commander in Chief, Pacific Command (USCINCPAC) activated Joint Task Force Productive Effort and designated Major General Henry Stackpole III, as its Commander. ADM Charles R. Larson, USN, was Commander of USCINCPAC at the time. According

³⁵ Ibid.

³⁶ Operation Sea Angel: A Case Study, https://www.rand.org/pubs/monograph_reports/MR374.html

³⁷ Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

³⁸ Ibid.

³⁹ Ibid.

to “Requirements for Humanitarian Assistance and Peace Operations: Insights From Seven Case Studies,” based on news reports that Bangladeshi’s were calling U.S. military personnel “angels from the sea,” the operations name was later changed to “Sea Angel,” or Joint Task Force Sea Angel (JTF-SA).⁴⁰ A Presidential order came on May 11 from President George Bush directing the U.S. military to assist with relief efforts. A 28-person advance party was formed to provide assessments, led by General Stackpole.^{41, 42}

Upon landing in Bangladesh, General Stackpole assumed operational control of the 84th Engineer Battalion detachment, combat camera, public affairs and maintenance personnel from the Cobra Gold exercise in Thailand who had been assigned to the JTF. A military Disaster Assessment and Relief Team (DART) from the 1st Battalion, 1st Special Forces Group A (Airborne) also joined the JTF.⁴³

Stackpole and staff members met with Bangladeshi Lt. Gen. Muhammad Noor Uddin Khan and some of his staff and toured affected areas. An Air Force C-5A Galaxy transport carrying 5 U.S. Army Blackhawk helicopters, support equipment and a 56-person augmentation team arrived from Hawaii, including the JTF deputy commander USAF Colonel Edward G. Hoffman. Lt. Colonel Thomas F. Elzey was named JTF Army component commander.⁴⁴

Stackpole decided to split the JTF staff between Dhaka and Chittagong. Dhaka would primarily function as a planning and liaison headquarters, headed by Col. Stephen Lindblom, III MEF Operations officer as the JTF’s chief of staff. The Chittagong center would schedule helicopter flights and landing craft operations to move relief supplies within affected areas.⁴⁵

III MEF activated Contingency Marine Air-Ground Task Force 2-91 (CMAGTF 2-91) to support the deployment and assist the response. CMAGTF 2-91 was drawn from 26 different MEF units. Within 96 hours of activation, 44 Marines and Navy corpsmen were airlifted to Bangladesh, and with the assistance of eight reverse osmosis water purification units (ROWPUs) began producing potable water. On the 19th, another 190 Marines boarded the USS St. Louis and left Okinawa for Bangladesh.^{46, 47}



An air-cushion landing craft being loaded with relief supplies for transport to one of the offshore islands.

Photo from 5th MEB

Source: https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf

40 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

41 Ibid.

42 Ibid.

43 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

44 Ibid.

45 Ibid.

46 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

47 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

According to a report by the Center for Naval Analyses, a three phase concept (concept of operations) for the relief operation was developed:

1. Humanitarian relief operations to reduce mortality and stabilize the situation, with a focus on the distribution of immediate needs (such as food and medical supplies). CJTF estimated this phase would last 14 days. (Actual: 27-29 May.)
2. Humanitarian relief operations focused on the delivery of supplies and equipment to allow self-help recovery projects to begin. Phase to last ten days. (Actual: 29 May-7 June.)
3. Conversion to long-term support and reconstruction operations. U.S. military to provide some technical support but most U.S. forces to phase out of relief operations. Phase to last five days. (Actual: 7-13 June 1991.)⁴⁸

On May 11, an amphibious task force comprised of the Amphibious Group 3 (PhibGru3) and the 5th Marine Expeditionary Brigade (5th MEB), commanded by Rear Admiral Stephen S. Clarey, were ordered to the Bay of Bengal to provide disaster relief. The group ended up providing the bulk of support for Operation Sea Angel. The group had just left deployment to the Persian Gulf, following Operation Desert Storm. The eight ship, 3,000 person group consisted of seven amphibious ships and one support ship. These were: the amphibious assault ship Tarawa; the amphibious docks Vancouver and Juneau; the dock landing ships Anchorage and Mount Vernon; the tank landing ships Frederick and Barbour County; and the fleet oiler Passumpsic. Landing craft included four air cushioned landing craft, utility and mechanized landing craft, and inflatable and rigid craft. The 4,000 person 5th MEB, as an all air-ground task force, was comprised of a command element, ground combat element, aviation combat element and a combat service support element and also had 28 helicopters at its disposal. The group reached Bangladesh on May 15. After arrival, Gen. Stackpole assumed operational control and the role of the group was deemed to provide delivery of food, medicine and expertise. Despite the large number of available personnel, no more than 500 U.S. military personnel were allowed ashore at any time.^{49, 50, 51}

On May 14, the vanguard of JTF Forward headquarters deployed to Chittagong, including Special Operations Force troops who formed Mobile Area Assessment Teams which conducted assessments at key relief sites on the mainland and offshore islands. In addition, Air Force specialists from the 1723rd Special Tactics Squadron provided assessments at airfields at Chittagong, Cox's Bazar, and Dhaka. The remaining elements of the CinCPac augmentation team arrived, which included Army Blackhawk aviators and support staff, a reserve civil affairs team from the 351st CA Command, a Corps of Engineers harbor assessment team, communications, public affairs and medical staff including Captain John R. Downs, MC, USNR who was designated the JTF surgeon. The IIIMEF command element was augmented by PACOM's deployable joint task force augmentation cell, or DJTFAC.^{52, 53}

Since the amphibious task force had more than 90 percent of available helicopter transport, Gen. Stackpole assigned the group the largest area of the disaster zone. The area encompassed 23,000

48 Ibid.

49 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

50 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

51 Operation Sea Angel: A Case Study, https://www.rand.org/pubs/monograph_reports/MR374.html

52 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

53 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

square kilometers and more than 240 kilometers of coast from Chittagong in the north to Cox's Bazar in the south, as well as offshore islands.⁵⁴

As of May 18, the JTF included more than 7,000 military personnel comprised of 179 staff in the JTF HQ; 3,000 from PhibGru3; 4,000 from 5th MEB; 54 Air Force personnel from 374th Tactical Air Wing (with four C-130s); 89 Army personnel (a five-helicopter detachment from the 25th ID); and 78 personnel in the JSOTF. As one of the main tasks was to transport relief, through two weeks of operations, U.S. Forces delivered some 2,430 tons of aid. The JTF-SA also helped transport Bangladeshi government officials, relief workers, the media, and VIP's. U.S. military operations lasted until June 13, 1991, when Operation Sea Angel concluded.^{55, 56}

In total in support of the operation, the Air Force flew 194 missions, delivering 2,430 tons of cargo; Army Blackhawk helicopters flew 805 sorties, delivering 891.5 tons of relief supplies; Navy/Marine assets flew 969 sorties, delivering 700 tons of relief supplies; 266,000 gallons of potable water were produced from ROWPUs, and around 15,000 patients were treated by U.S. forces.⁵⁷



One of five U.S. Army Blackhawk helicopters from the 4th Battalion, 25th Aviation Regiment, based in Hawaii, is unloaded at Zia International Airport. The helicopters were part of the Joint Task Force augmentation cell. Photo from USCinCPac

Source: https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf



When the first U.S. Army Blackhawk helicopters arrive at landing zones on Sandwip island they are rapidly unloaded and the relief supplies quickly distributed

Department of Defense Photo (USAF) DO-307-SPT-91-7071
Source: https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf

54 Angels from the sea: Relief operations in Bangladesh, 1991, https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_1.pdf?ver=2012-10-11-163159-377

55 Requirements for Humanitarian Assistance and Peace Operations: Insights from Seven Case Studies, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a533209.pdf>

56 Operation Sea Angel: A Case Study, https://www.rand.org/pubs/monograph_reports/MR374.html

57 Operation Sea Angel: A Case Study, https://www.rand.org/pubs/monograph_reports/MR374.html

The Troop list for the operation included:

Command element: Commanding General III MEF, Maj Gen Stackpole
Detachment (Det) III MEF
Deployable JTF Augmentation cell
C-12 Det MCAS Iwakuni and MCAS Futenma
4th Combat Communications Group
Public Affairs Office
Det 834th Air Logistics Division
Det 364th Civil Affairs Brigade
Det 322d Civil Affairs Group
Det 358th Civil Affairs Command

Marines:

5th Marine Expeditionary Brigade
Marine Air Ground Task Force 2-91

Navy:

Amphibious Group 3
USS St. Louis
Environmental Preventative Medicine Unit-6

Air Force:

Det 374th Tactical Airlift Wing
Det 603d Airlift Control Squadron
Det 8 Mobile Aerial Port Squadron (MAPS)

Army:

4-25 Aviation Battalion
Det 84th Engineer Battalion (Combat) (Heavy)

Special Operations Forces:

Joint Special Operations Task Force⁵⁸



One of five U.S. Army Blackhawk helicopters from the 4th Battalion, 25th Aviation Regiment, based in Hawaii, is unloaded at Zia International Airport. The helicopters were part of the Joint Task Force augmentation cell.

Photo from USCinCPac

Source: https://www.marines.mil/Portals/59/Publications/ANGELS%20FROM%20THE%20SEA%20-%20RELIEF%20OPERATIONS%20IN%20BANGLADESH%201991%20PCN%2019000316400_2.pdf



A damaged village in Bangladesh, surrounded by flooded fields, three weeks after the storm had struck.

Photo by: Airman 1st Class Cheryl Sanzi (USAF). Image from the Defense Visual Information Center, ID number DFST9202642 https://commons.wikimedia.org/wiki/File:Flooded_village_after_1991_cyclone.jpg

⁵⁸ Ibid.

January 2001 – India: Gujarat Earthquake (also known as the Bhuj Earthquake)

Background

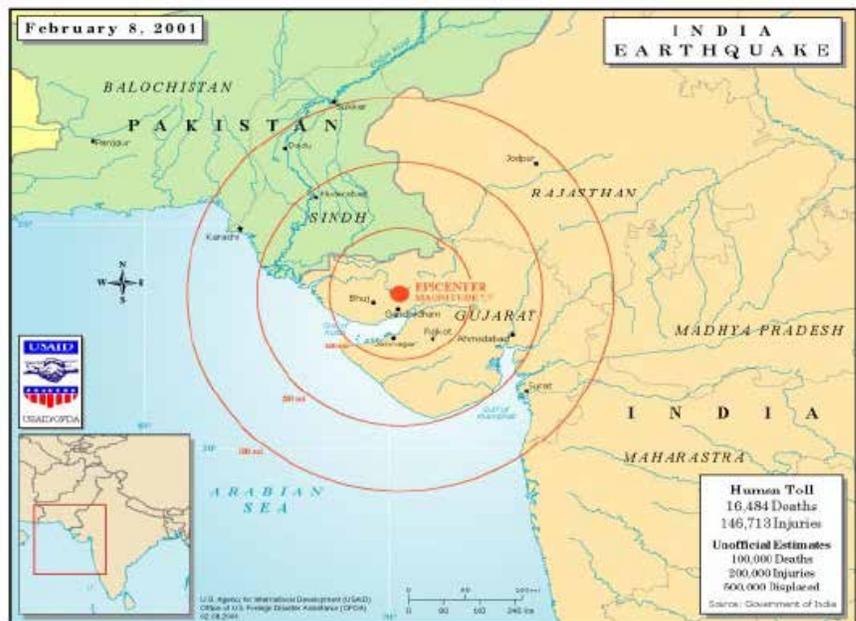
On January 26, 2001 an earthquake measuring 7.9 magnitude on the Richter scale hit the Kutch region of eastern Gujarat state as India celebrated its 52nd Republic Day. At least 14,000 lives were lost, around 160,000 people were injured, and over 1 million homes were destroyed or damaged. The ancient city of Bhuj was devastated. The earthquake was felt across the state and caused damages as far away as Ahmedabad, located around 250 km from the epicenter.⁵⁹ Twenty-one out of 25 districts were affected. The most affected districts were Kutch-Bhuj, Ahmedabad, Jamnagar and Rajkot. According to the UN, within those districts, 37.8 million people out of a total state population of 41 million people were affected.

Gujarat is located on the west coast of India. In addition to its coastline on the Arabian Sea, it is bordered by Pakistan, and the Indian states of Rajasthan, Madhya Pradesh and Maharashtra.⁶⁰ The earthquake was the most powerful to strike India since August 15, 1950 when an 8.5- magnitude earthquake killed 1,538 people in northeastern Assam state.

The Indian military operation was called: “Operation Sahayata.” Immediately following the quake, the Indian Army initially performed most of the rescues and flew in heavy equipment. The Army also set up relief camps, distributed food, and provided medical aid. Military hospitals were set up in Kachchh region, Pune and Ahmedabad. The army also provided security.⁶¹

The Indian military moved some 30,000 troops by air across the country to the earthquake affected area in around 72 hours to help with relief efforts.⁶²

The Indian Union Home Ministry also sent 47 companies of the central paramilitary forces for rescue and relief work, such



India Earthquake - February 8, 2001

Source: USAID, <https://reliefweb.int/map/india/india-earthquake-february-8-2001>

⁵⁹ Rising up from the Ashes, Gujarat ramps up Disaster Preparedness, <https://reliefweb.int/report/india/rising-ashes-gujarat-ramps-disaster-preparedness>

⁶⁰ UN System Response to the Gujarat Earthquake Immediate Needs and Action Plan, <https://reliefweb.int/report/india/un-system-response-gujarat-earthquake-immediate-needs-and-action-plan>

⁶¹ Learning from earthquakes: Preliminary observations on the origin and effects of the January 26, 2001 Bhuj (Gujarat, India) earthquake, http://www.iitk.ac.in/nicee/skj/Research_Papers/INL_005.pdf

⁶² Indo-U.S. Military Relationship: Expectations and Perceptions, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a500476.pdf>

as the Rapid Action Force (RAF), Central Reserve Police Force (CRPF) and Border Security Force (BSF).⁶³ Additionally, military staff at Bhuj military airport supported international aid flying into the airport.⁶⁴

U.S. Military Response

On January 26, USAID/OFDA activated a 24-hour Response Management Team (RMT) to coordinate the U.S. Government response to the disaster, including U.S. military support. On January 28, an eleven-member USAID/Disaster Assistance Response Team (DART), comprised of a team leader and logistics, information, program, and communications personnel, a water technical specialist, as well as a military liaison officer, was sent to the affected areas and New Delhi.⁶⁵

On February 3, four U.S. Department of Defense (DOD) C-17 aircraft carrying 92 large tents, 10,000 blankets, 1,500 sleeping bags, two rough terrain forklifts, two water trailers, and a 2.5 ton truck arrived in Ahmedabad on February 3. A six-person DOD Humanitarian Assistance Survey Team (HAST) arrived to coordinate with USAID/DART.^{66, 67}

USAID/OFDA-funded airlifts arrived in India with relief commodities on January 30, February 3, and February 4, which included technical equipment, shelter materials, blankets, sleeping bags, equipment for water/sanitation, and other supplies. The commodities were consigned to USAID/OFDA's implementing partners and the Indian military.⁶⁸

In general, the DOD provided personnel, relief supplies, equipment, and transport assistance.



U.S. Air Force personnel unload relief supplies destined for earthquake victims in India from a C-5A Galaxy at Andersen Air Force Base, Guam, on Feb. 3, 2001. U.S. Air Force photo by Senior Airman Levi Collins
Source: https://commons.wikimedia.org/wiki/File:U.S._Air_Force_personnel_unload_relief_supplies_destined_for_earthquake_victims_in_India_from_a_C-5A_Galaxy_at_Andersen_Air_Force_Base,_Guam.JPG

USAID/OFDA provided funds to assist with the storage and transport of DOD commodities. The HAST conducted an assessment of ongoing support requirements in coordination with USAID/DART on February 14.⁶⁹

Two C-5s, which were refueled by KC-135s from the Hawaii National Guard, carried 115 tons of relief from California to Guam. From Guam, four C-17s refueled by KC-135s from Japan, delivered the supplies to Ahmedabad, India.⁷⁰

As relief efforts concluded, on February 15, the USAID/DART demobilized and the RMT in Washington, D.C. deactivated.⁷¹

63 The Kutch Earthquake 2001 Recollections, Lessons and Insights, <https://nidm.gov.in/PDF/pubs/KUTCH%202001.pdf>

64 IFRC*Choreographer of Disaster Management The Gujarat Earthquake, <http://www.fritzinstitute.org/PDFs/Case-Studies/Gujarat%20Earthquake.pdf>

65 India - Earthquake Summary Fact Sheet, Fiscal Year (FY) 2001, <https://reliefweb.int/report/india/india-earthquake-summary-fact-sheet-fiscal-year-fy-2001>

66 India - Earthquake Fact Sheet #16, Fiscal Year (FY) 2001, <https://reliefweb.int/report/india/india-earthquake-fact-sheet-16-fiscal-year-fy-2001>

67 India - Earthquake Summary Fact Sheet, Fiscal Year (FY) 2001, <https://reliefweb.int/report/india/india-earthquake-summary-fact-sheet-fiscal-year-fy-2001>

68 Ibid.

69 India - Earthquake Summary Fact Sheet, Fiscal Year (FY) 2001, <https://reliefweb.int/report/india/india-earthquake-summary-fact-sheet-fiscal-year-fy-2001>

70 Wings of Hope, <https://www.amc.af.mil/Portals/12/documents/AFD-131018-056.pdf>

71 India - Earthquake Summary Fact Sheet, Fiscal Year (FY) 2001, <https://reliefweb.int/report/india/india-earthquake-summary-fact-sheet-fiscal-year-fy-2001>

December 2004 – Indian Ocean Earthquake and Tsunami

Background

On December 26, 2004, a massive 9.0-magnitude earthquake occurred off Indonesia's westernmost Aceh province, located on Sumatra Island, creating tsunami waves that affected 14 countries, mainly in Southeast Asia and South Asia, but reaching as far away as Africa. The tsunami waves reportedly travelled at speeds up to 600-800 km/hour in the ocean and were up to 30 meters high when they struck coastal areas at speeds of up to 60 km/hour. More than 228,000 people were killed in the disaster and nearly 2.5 million in total were affected across the region. Economic damages totaled nearly US\$10 billion. The countries most affected by the tsunami were Indonesia, Thailand, Sri Lanka, India and the Maldives. In response to the disaster, thirty-five nations contributed 75 helicopters, 41 ships, 43 fixed-wing aircraft, and more than 30,000 personnel to assist in relief efforts. Of these, around 16,000 military personnel were from the United States.^{72, 73}

Indonesia

The largest tsunami waves hit the west coast of Sumatra along a 500 km stretch and inundated areas nearly 5 km inland. Nearly 170,000 people reportedly lost their lives in Indonesia alone. The tsunami waves were said to have arrived as quickly as 15 minutes after the earthquake started. More than 200,000 homes in Aceh were destroyed or damaged by the tsunami waves. Economic damages were estimated at US\$4.45 billion in Indonesia. In the aftermath of the disaster, Indonesian President Susilo Bambang Yudhoyono declared a three-month state of emergency. On December 27, 2004, the Government of Indonesia asked the UN to coordinate incoming international assistance. The next day, President Yudhoyono said Aceh was open to the international community for emergency response efforts.^{74, 75}



The aftermath, Jan. 14, 2005, of the Dec. 26 tsunami which destroyed Banda Aceh, Sumatra, Indonesia. U.S. Navy photo by Petty Officer 3rd Class Tyler J. Clements Source: <https://archive.defense.gov/home/photoessays/2005-01/p20050118d2.html>

To complicate matters in the most affected areas, the response effort had to deal with a potential security situation. An armed independence movement by the Free Aceh Movement (Gerakan Aceh Merdeka, or GAM) had led to a long-running conflict in the province with Indonesian security forces. Due to the security concerns, the Indonesian military (Tentara Nasional Indonesia, or

72 The tsunami legacy - Innovation, breakthroughs and change, <https://reliefweb.int/report/indonesia/tsunami-legacy-innovation-breakthroughs-and-change>

73 The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAanC.pdf>

74 Ibid.

75 Tsunami 2004: A comprehensive Analysis, Volume-1, <https://apps.who.int/iris/handle/10665/206047>

TNI) was concerned about the situation, particularly if humanitarian agencies were allowed unrestricted access to affected areas. The TNI ended up providing escorts for foreign militaries, UN agencies, and NGOs moving into certain areas. However, following the disaster, GAM leadership declared an immediate cessation of hostilities, while the TNI was instructed to adopt a more defensive posture.⁷⁶ Fortunately, no security incidents were reported.

A massive response by the international community resulted in dozens of foreign governments, the international humanitarian community, and foreign militaries mobilizing to help those affected by the disaster. An estimated US\$13.5 Billion in aid was given to affected countries.⁷⁷ Around 195 foreign and international humanitarian organizations, 38 local humanitarian groups and 14 United Nations agencies assisted in the three-month emergency relief effort in Indonesia.⁷⁸

Sri Lanka

On the morning of December 26, 2004, around two hours after the earthquake struck, tsunami waves hit the eastern, southern and western coasts of Sri Lanka, or more than half the island nation's coastline. The tsunami waves swept away thousands of people, destroyed infrastructure and flooded large areas of the coast. More than 35,000 people lost their lives due to the tsunami and thousands of others were displaced. Over two million Sri Lankans in total were affected by the disaster. Twelve districts out of the 25 districts in the country were severely affected. The tsunami particularly affected the coastal districts of Jaffna, Mullaitivu, Trincomalee, Batticaloa, Ampara, Hambantota, Matara and Galle. A couple of weeks after the disaster struck, in January 2005, the UN reported that the number of families displaced by the disaster was 97,953, or 578,224 people in total. The number of houses destroyed was reported at 93,054. Following the disaster, the Government of Sri Lanka declared a state of emergency and requested international assistance. To coordinate relief operations, the Government established a Centre for National Operations under the direct authority of the Prime Minister. The Centre provided links to the government ministries and provided an interface between the Government, NGOs and the UN. The Centre was directly supported by the Office of the Resident Coordinator and the UN Disaster Assessment and Coordination (UNDAC) team.^{79, 80, 81, 82, 83}



U.S. Navy air crewmen assigned to the "Providers" of Helicopter Combat Support Squadron 5, hand out supplies to tsunami victims at a small village on the island of Sumatra, Indonesia, Jan. 15, 2005. U.S. Navy photo by Seaman Nicholas B. Morton
Source: <https://archive.defense.gov/home/photoessays/2005-01/p20050118c2.html>

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAanC.pdf>

⁷⁹ The United Nations Post-Tsunami Assistance in Sri Lanka, <https://lk.one.un.org/7060/en/un-post-tsunami-assistance/>

⁸⁰ Commemorating the lives we lost from the 2004 Indian Ocean Tsunami, <https://reliefweb.int/report/sri-lanka/commemorating-lives-we-lost-2004-indian-ocean-tsunami>

⁸¹ Tsunami disaster -- Sri Lanka Summary situation report 26 - 31 Dec 2004, <https://reliefweb.int/report/sri-lanka/tsunami-disaster-sri-lanka-summary-situation-report-26-31-dec-2004>

⁸² Humanitarian Situation Report - Sri Lanka 07 Jan 2005, <https://reliefweb.int/report/sri-lanka/humanitarian-situation-report-sri-lanka-07-jan-2005>

⁸³ Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>

Thailand

After the earthquake struck off Aceh, Thailand was one of the first countries in the region outside of Indonesia to be affected by massive tsunami waves. Tsunami waves impacted Thailand's Andaman coast roughly two hours after the quake struck. A total of 8,221 people were killed in Thailand and another 8,457 people were injured. Around 58,550 people were directly affected by the disaster. Tsunami waves were reportedly as high as 10 meters. The tsunami hit the coast of the Andaman Sea coastal provinces of Krabi, Trang, Phang Nga, Phuket, Ranong and Satun. Phang Nga was the most severely affected. Most of the fatalities occurred along the coast of just three provinces, Phang Nga, Phuket, and Krabi. Additionally, 3,302 houses were destroyed, while another 1,504 were damaged.^{84, 85, 86}

Maldives

Tsunami waves left an estimated 82 people dead and 26 missing in the Maldives. Around 12,558 persons were displaced. About half of the island of Male was covered by two feet of water, forcing the closure of the airport. Reports stated that a 10-15 foot wave washed over parts of the Maldives, destroying infrastructure. The disaster sparked the creation of a new National Disaster Management Centre (NDMC) in the Maldives the day the tsunami struck.^{87, 88}

Although foreign militaries from all over the globe assisted in the response operations, regional militaries played a major role in the response. Regional militaries contributed ships, helicopters, fixed and rotary wing aircraft, as well as provided engineering, medical and logistics support. Military personnel from Bangladesh, Brunei, India, Malaysia, Pakistan and Singapore assisted their affected neighbors, while elsewhere from the region, Australia, New Zealand, Japan, South Korea and the United States contributed military forces and assets to provide relief assistance for the mega-disaster.⁸⁹

U.S. Military Response: *“Operation Unified Assistance”*

US Pacific Command (USPACOM) dubbed its relief operations in support of affected nations in the region, “Operation Unified Assistance.” The U.S. military provided assistance to Indonesia, Sri Lanka, Thailand and the Maldives, with badly affected Aceh province in Indonesia receiving the bulk of the U.S. military’s relief aid.

Combined Support Force 536 (CSF 536), led by Marine Lt. Gen. Robert R. Blackman Jr., commander of the III Marine Expeditionary Force in Japan, was formed to support relief operations. CSF 536 was set up at the Thai air base in U-Tapao, Thailand.^{90, 91}

Less than a day after the tsunami struck, U.S. Secretary of State Colin Powell announced that the

84 The Economic Impact of the 26 December 2004 Earthquake and Indian Ocean Tsunami in Thailand, <https://reliefweb.int/report/thailand/economic-impact-26-december-2004-earthquake-and-indian-ocean-tsunami-thailand>

85 Tsunami 2004: A comprehensive Analysis, Volume-1, <https://apps.who.int/iris/handle/10665/206047>

86 Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>

87 Indian Ocean Earthquake and Tsunami: Humanitarian Assistance and Relief Operations, <https://fas.org/sgp/crs/row/RL32715.pdf>

88 Tsunami Legacy: Innovation, Breakthroughs and Change, https://reliefweb.int/sites/reliefweb.int/files/resources/TGLLP_2009_TS_legacy.pdf

89 The 2004 tsunami: civil military aspects of the international response, https://www.alnap.org/system/files/content/resource/files/main/coordination_civil_military.pdf

90 Operation Unified Assistance, <http://www.airforcemag.com/MagazineArchive/Pages/2005/April%202005/0405tsunami.aspx>

91 Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>

U.S. would deploy a Navy P-3 aircraft to help assess damages.⁹² The Department of Defense supported relief operations in Thailand, Indonesia, Sri Lanka, and the Maldives beginning December 30, 2005.

Within 36 hours of the disaster, Air Force aircraft were taking off from Yokota AB, Japan, carrying relief supplies to U-Tapao and less than a day-and-a-half later, C-130s and helicopters were delivering supplies to survivors.⁹³

At the height of the relief operation, there were nearly 16,000 U.S. military personnel in the region supporting disaster relief efforts. There were 26 ships, 58 helicopters, and 43 fixed wing aircraft in total. DOD delivered over 18 million pounds of relief supplies and equipment and provided well over 400,000 gallons of fresh water and ferried almost 8,000 passengers. DOD also treated almost 2,500 patients.^{94, 95} In the first few weeks after the disaster, helicopters were the only means of delivering relief supplies to small pockets of survivors along the coast in Indonesia.

The US military airlift effort averaged 522,000 pounds of food, water, and other supplies per day over the 47 days of operations. Some relief supplies and support equipment had to come by C-5 Galaxies and C-17 Globemaster IIIs all the way from the continental United States to the central distribution point at U-Tapao. C-130 Hercules aircraft then distributed the supplies to smaller airfields throughout the affected area. From there, U.S. helicopters and other nations moved them to affected populations. The airlift operated mainly from U-Tapao in a “hub and spoke” system.⁹⁶

More than 2,000 airmen from 100 Air Force units and 14 bases, as far away as Charleston AFB, were involved. They supported or flew 30 Air Force aircraft that conducted more than 1,400 sorties in the region and scores of long-haul missions into the theater by Air Mobility Command (AMC) C-17s and C-5s. Maj. Gen. David A. Deptula, director of air and space operations for Pacific Air Forces served as the joint force air component commander (JFACC) for Combined Support Force 536.⁹⁷

By February 23, 2005, AMC aircraft flew 106 missions, airlifting 2,768 passengers and 3,370 tons of cargo to Colombo, Sri Lanka, U-Tapao, Banda Aceh and Jakarta, Indonesia. The 353d Special Operations Group flew MC-130s to deliver some 800,000 pounds of relief, evacuate 32 casualties, and transported 591 aid workers to parts of Indonesia and Thailand.⁹⁸

On December 29, US Transportation Command (TRANSCOM), headquartered at Scott AFB, Ill., dispatched a C-17 from McChord AFB in Washington State, to carry a maintenance package from Yokota to U-Tapao, to support the Yokota-based C-130s. In the next few days, C-5 and C-17 airlifters carried helicopters, relief supplies, support personnel, and emergency responders.⁹⁹

The theater airlift control center at TRANSCOM responded to requests from the air mobility division of the Pacific Air Operations Center at Hickam AFB, Hawaii. The Pacific Air Ops Center then provided command and control and integration capability for all US fixed-wing missions within the Pacific theater. Air Force aircraft involved in the relief effort included 35 C-17s, 24 C-5s, 21 C-130s, six HH-60s, two KC-135s, and one C-21. Nine Navy P-3C patrol aircraft conducted surveillance.¹⁰⁰

92 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

93 Operation Unified Assistance, <http://www.airforcemag.com/MagazineArchive/Pages/2005/April%202005/0405tsunami.aspx>

94 Continuing support for tsunami relief, <https://georgewbush-whitehouse.archives.gov/infocus/tsunami/>

95 Operation Unified Assistance, <http://www.airforcemag.com/MagazineArchive/Pages/2005/April%202005/0405tsunami.aspx>

96 Ibid.

97 Ibid.

98 Wings of Hope, <https://www.amc.af.mil/Portals/12/documents/AFD-131018-056.pdf>

99 Operation Unified Assistance, <http://www.airforcemag.com/MagazineArchive/Pages/2005/April%202005/0405tsunami.aspx>

100 Ibid.

U.S. Military Response in Indonesia

The leader of the Indonesian Armed Forces, General Endriartono Sutarto, directly requested assistance through his military counterparts in Australia, Malaysia, New Zealand, Singapore and the U.S., based on previous relationships. Militaries from these countries arrived in Banda Aceh and Medan, capital of North Sumatra province, soon after the request was made. The government set a limit of 90 days for the emergency relief phase with the understanding that all foreign military assets would withdraw from Aceh by that deadline. TNI had the responsibility for coordinating with foreign militaries and provided force protection for foreign troops. Daily coordination meetings were chaired by the TNI.¹⁰¹

Foreign military assets were sent by 16 different countries and all foreign military assets were sent bilaterally. Negotiations occurred for all force deployments, particularly on rules of engagement and status-of-forces agreements. The foreign militaries were initially asked to support the effort with search and rescue, evacuation and stabilization efforts. The militaries specifically provided naval assets, fixed-wing aircraft and helicopters. Other top priorities included medical evacuations, distribution of relief, shelter, land clearance and prevention of diseases.¹⁰²

The U.S. military established its command and control center and operating base for tsunami relief at the U-Tapao airbase in Thailand. For relief efforts in Aceh, The US Combined Support Group–Indonesia (CSG-I) was created with its headquarters based in Medan.

List of U.S. Military assets used for the response:

- Aircraft carrier USS Abraham Lincoln
- Landing helicopter dock USS Essex
- Dock landing ship USS Fort McHenry
- Hospital ship USNS Mercy
- Landing helicopter dock USS Bonhomme Richard
- Helicopter CH-46 Sea Knight (8)
- Helicopter MH-53 Sea Stallion (4)
- Helicopter MH-60 Knighthawk (4)
- Helicopter SH60 Seahawk (14)
- Fixed-wing aircraft C-130 Hercules (4)
- Fixed-wing aircraft C-17 Globemaster III (2)
- Hovercraft (2)¹⁰³

On December 28, the U.S. military operation's forward command element, Combined Support Force (CSF) 536, arrived in Thailand to begin coordinating the military assistance part of the US disaster relief effort. The next day, the United States announced the deployment of the Abraham Lincoln Carrier Strike Group (ALCSG), which contained five ships, and the Bonhomme Richard Expeditionary Strike Group (BHRESG), which contained seven ships. Additionally, a Special Purpose Marine Air Ground Task Force (SPMAGTF) consisting of two ships was also deployed.^{104, 105}

The first elements of the ALCSG arrived off the coast of Banda Aceh on December 31 and sent out

101 The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAAnC.pdf>

102 Ibid.

103 The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAAnC.pdf>

104 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

105 Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>



An MH-60S Knighthawk from Helicopter Combat Support Squadron 11 embarked aboard USS Bonhomme Richard Expeditionary Strike Group 5, delivers much need materials and supplies, Jan. 16, 2005, to the inhabitants of Meuloboh, Sumatra, Indonesia. U.S. Navy photo by Petty Officer 1st Class Felix Garza Jr. Source: <https://archive.defense.gov/home/photoessays/2005-01/p20050118f01.html>



The Military Sealift Command hospital ship USNS Mercy navigates alongside USS Abraham Lincoln after arriving on station near Banda Aceh, Sumatra, Indonesia, Feb. 3, 2005. U.S. Navy photo by Petty Officer 3rd Class Gabriel R. Piper Source: <https://archive.defense.gov/home/photoessays/2005-02/p20050203b7.html>

its first helicopter relief flight and began ferrying food and water to survivors on the severely affected western coast of Aceh where roads had been destroyed. The first elements of the BHRESG arrived near Medan and began to transfer supplies on January 3. A few days later, the BHRESG began operations in Meulaboh, in Aceh province. The USS Bonhomme Richard, the USS Essex and the USS Fort McHenry supported the operation for a month. Twenty-eight helicopters from the ships flew more than 100 missions daily, dropping off relief and performing medical evacuations on the west coast of Aceh. The TNI would often manage the distribution of the relief supplies to survivors. Two US hovercrafts were also utilized to gain access to stranded populations. The ALCSG also provided helicopters to the World Health Organization (WHO), to transport members of military and civilian organizations for assessments.^{106,}

¹⁰⁷

U.S. planes and helicopters from the Abraham Lincoln and Bonhomme Richard flew some 600 sorties and delivered 4.8 million pounds of food, water, and medicine. U.S. forces also evacuated 3,000 injured to shelters and hospitals. For coordination efforts, at Banda Aceh airport each morning, around 20 Indonesian, U.S., German,

Australian and other military officers met with UN personnel to coordinate efforts.¹⁰⁸

TRANSCOM also provided a seven-person tanker airlift control element (TALCE) out of Travis AFB for on-site management of airfield operations, command, control and communications, aerial port services, maintenance, security, weather, and intelligence. The TALCE team flew into the damaged airfield at Banda Aceh, and helped turn the small military facility into a major hub for distribution.¹⁰⁹

The hospital ship USNS Mercy joined the operation on February 2, 2005, relieving the USS

¹⁰⁶ Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

¹⁰⁷ The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAanC.pdf>

¹⁰⁸ Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>

¹⁰⁹ Operation Unified Assistance, <http://www.airforcemag.com/MagazineArchive/Pages/2005/April%202005/0405tsunami.aspx>

Abraham Lincoln, which left the area on February 4. The Mercy provided medical and surgical capabilities to assist during the early stages of the recovery phase. Personnel on the Mercy also provided sanitation, water quality surveillance and disease prevention measures in temporary camps. Additionally, personnel also helped repair equipment and facilities in Indonesian hospitals and provided training to healthcare workers. In total, the Mercy treated some 20,000 patients affected by the tsunami. The Mercy and the last US military assets left Indonesia on March 16, 2005.^{110, 111, 112}

U.S. Military Response in Sri Lanka, Thailand and the Maldives

The original plan was for the Bonhomme Richard Expeditionary Strike Group (BHRESG) to support the response in Sri Lanka, but the group was redirected to Indonesia, as Aceh was the most severely affected area and in need of more assistance. The U.S. Navy ship, the USS Duluth, headed to Sri Lanka to support operations there. U.S. Marine helicopters lifted supplies from the port at Sri Lanka's capital city of Colombo, to coastal villages in the south, east and north and U.S. forces provided fresh water in the initial stages of the response. In Thailand, the U.S. military mostly aided in search and rescue operations, as the damage was generally less and the national government was more capable of responding to the disaster. A team of U.S. military forensic experts were deployed to Thailand to assist the government.^{113,}

¹¹⁴

The New York Air National Guard's 105th Airlift Wing flew C-5s to airlift helicopters, water purification equipment and emergency supplies from Kadena Air Base, Japan to Thailand and Sri Lanka.¹¹⁵

An U.S. civil-military team was in the Maldives on January 3, 2005 to assess damages in preparation for U.S. assistance. An initial estimate called for 1,000 military personnel to be in the Sri Lanka/Maldives area. On January 17th, two military supply ships were sent to assist the Maldives.¹¹⁶



Koggala, Sri Lanka (Jan. 16, 2005) – U.S. Navy Seabees assigned to Naval Mobile Construction Battalions Seven (NMCB-7), survey the site of a schoolhouse destroyed by the Dec. 26th Tsunami in the village of Koggala, Sri Lanka.

U.S. Navy photo by Journalist Seaman S.C. Irwin (RELEASED)

Source: [https://commons.wikimedia.org/wiki/File:US_Navy_050116-N-68431-018_U.S._Navy_Seabees_assigned_to_Naval_Mobile_Construction_Battalions_Seven_\(NMCB-7\),_survey_the_site_of_a_schoolhouse_destroyed_by_the_Dec._26th_Tsunami_in_the_village_of_Koggala,_Sri_Lanka.jpg](https://commons.wikimedia.org/wiki/File:US_Navy_050116-N-68431-018_U.S._Navy_Seabees_assigned_to_Naval_Mobile_Construction_Battalions_Seven_(NMCB-7),_survey_the_site_of_a_schoolhouse_destroyed_by_the_Dec._26th_Tsunami_in_the_village_of_Koggala,_Sri_Lanka.jpg)

¹¹⁰ The Effectiveness of foreign military assets in natural disaster response, <https://www.sipri.org/sites/default/files/files/misc/FMA/SIPRI08FMAAnC.pdf>

¹¹¹ Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

¹¹² Tsunami relief, April 2005, <https://reliefweb.int/sites/reliefweb.int/files/resources/7DE384EA71C8479085257012006221D2-usaid-tsunami-30apr.pdf>

¹¹³ Ibid.

¹¹⁴ Ibid.

¹¹⁵ Wings of Hope, <https://www.amc.af.mil/Portals/12/documents/AFD-131018-056.pdf>

¹¹⁶ Indian Ocean Earthquake and Tsunami: Humanitarian Assistance and Relief Operations, <https://fas.org/sgp/crs/row/RL32715.pdf>

October 2005 – Pakistan: Kashmir Earthquake

Background

On October 8, 2005, a magnitude 7.6 earthquake struck northern Pakistan, India and Afghanistan. Pakistan was the worst affected country. An estimated over 75,000 people were killed, 70,000 injured and 3.5 million left homeless. The epicenter of the earthquake was near Muzaffarabad, the capital of Pakistan-administered Kashmir, and 60 miles north northeast of Pakistan's capital, Islamabad. The most affected areas were the North West Frontier Province (NWFP), Northern Punjab, Pakistan-administered Kashmir in Pakistan and Indian-administered Kashmir in India.^{117, 118}

Following the quake, the Pakistan Ministry of Foreign Affairs welcomed international assistance in the form of rescue teams and relief items, in particular tents, blankets, food and medicines.¹¹⁹

The Pakistan Army launched a large-scale relief and rescue operation, dubbed “Operation Imdad.”¹²⁰ The army took the lead in the international relief effort and used more than 150,000 troops for the response. The Pakistani military also provided security for the U.S. military, including for the U.S. military’s mobile hospital set up in Muzaffarabad. Additionally, Pakistani army troops accompanied U.S. military troops in Chinook helicopters during operations.¹²¹

U.S. Military Response: “Operation Lifeline”

General John Abizaid, the U.S. Central Command commander, arranged for the U.S. Ambassador to coordinate with the American commander in Afghanistan, Lieutenant General Karl Eikenberry, to get immediate military support; and recommended the Expeditionary Strike Group-1 (ESG-1) commander, Admiral Michael LeFever, to command the military’s portion of the relief effort. The disaster relief operation was dubbed “Operation Lifeline.”¹²²

On October 9, Admiral LeFever and a small staff from ESG – 1 arrived to create Combined Disaster Assistance Center–Pakistan (CDAC–PAK).¹²³ CDAC–PAK eventually consisted of



The city of Balakot, Pakistan, was devastated by an earthquake Oct. 8, 2005.

U.S. Air Force photo by Tech. Sgt. Mike Buytas

Source: <https://archive.defense.gov/home/photoessays/2005-10/p20051018a8.html>

117 South Asia - Earthquake Fact Sheet #21, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/318B59ABEA04FF63492570AF004A991-usaid-sas-3nov.pdf>

118 Perceptions of the Pakistan earthquake response, <https://reliefweb.int/report/world/perceptions-pakistan-earthquake-response>

119 Pakistan, India, Afghanistan - Earthquake: OCHA Situation Report No. 3, <https://reliefweb.int/report/pakistan/pakistan-india-afghanistan-earthquake-ocha-situation-report-no-3>

120 Pakistan, India - Earthquake: OCHA Situation Report No. 5, <https://reliefweb.int/report/india/pakistan-india-earthquake-ocha-situation-report-no-5>

121 Pakistan earthquake relief operations: Leveraging humanitarian missions for strategic success, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1042822.pdf>

122 Ibid.

123 Ibid.



Pakistani earthquake victims crowd around a U.S. Army CH-47 Chinook helicopter delivering disaster relief supplies to the earthquake devastated area surrounding the town of Oghi, Pakistan, on Oct. 17, 2005.

Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2002023004/>



HICKAM AIR FORCE BASE, Hawaii -- Airmen and Soldiers load a CH-47 Chinook heavy lift helicopter onto a C-5 Galaxy. Company B, 214th Aviation Regiment of the 2nd Battalion, 25th Aviation Regiment at Wheeler Army Air Field, received orders to deploy to Pakistan to support earthquake relief operations. A total force team helped load the aircraft.

U.S. Air Force photo by Tech. Sgt. Shane A. Cuomo
Source: <https://www.af.mil/News/Article-Display/Article/133053/pacific-command-joins-pakistan-earthquake-relief-effort/>

approximately 1,200 personnel and included the staffs of two surgical field hospitals, 25 helicopters to include 21 Chinooks, a company of 125 Navy Seabees who arrived by sea at Karachi, and a small detachment of “Pararescuemen” from the U.S. Air Force. Australia also contributed a detachment of 140 soldiers and four Blackhawk helicopters, organized as Task Force 632. U.S. helicopters flew more than 5,900 missions over six months.¹²⁴

The U.S. military began relief operations on October 10. A U.S. Air Force C-17 with a 7th airlift squadron crew, based in McChord Air Force Base, flew from Bagram Air Base in Afghanistan and landed in Pakistan with 12 pallets of relief supplies, totaling some 90,000 pounds. Three weeks after the earthquake struck, 993 U.S. military personnel and 24 helicopters supported operations with nine CH-47s positioned at Bagram for potential deployment. As operations increased, as of November 28, almost 2,000 helicopter sorties had been flown and over 4,500 tons of relief supplies were delivered. Additionally, around 15,000 evacuees and relief workers were transported. The U.S. military also set up a Mobile Army Surgical Hospital (MASH) in Muzaffarabad on Oct. 29, which had 96 beds and two operating rooms. The MASH had performed at least 276 surgeries and treated 4,937 patients.^{125, 126, 127} Additionally, the U.S. military delivered 1,913 general purpose tents.¹²⁸

A “Joint Operations Centre” was established to task the UN Humanitarian Air Service (UNHAS), Pakistan Military, NATO and US Military Air Assets.¹²⁹ In the operation’s early days, Navy Seabees with Naval Mobile Construction

124 Pakistan earthquake relief operations: Leveraging humanitarian missions for strategic success, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1042822.pdf>

125 The earthquake in South Asia: Humanitarian Assistance and Relief Operations, December 12, 2005, <https://digital.library.unt.edu/ark:/67531/metacrs8257/>

126 When the earth shook: U.S. Responds to Magnitude 7.6 Earthquake in Pakistan, <https://archive.defense.gov/home/features/2006/2005yearinreview/article4.html>

127 Ibid.

128 South Asia - Earthquake Fact Sheet #15, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/4D30C086715D52F2492570A600077EA4-usaid-sasia-25oct.pdf>

129 The South Asia Earthquake: Pakistan - Eight weeks on, <https://reliefweb.int/report/pakistan/south-asia-earthquake-pakistan-eight-weeks>

Battalion 74, deployed from Gulfport, Missouri and worked to clear roads of rubble and repair culverts.¹³⁰ At least nine military and civilian ships, including the USS Cleveland, the USS Tarawa and the USS Pearl Harbor, delivered equipment and supplies through Pakistan's port of Karachi.¹³¹

On October 16, USPACOM sent three C-5 Galaxies with four Army Ch-47 helicopters, equipment and 60 soldiers from Company B, 214th Aviation Regiment of the 2nd Battalion, 25th Aviation Regiment at Wheeler Army Airfield, Hawaii.¹³²

U.S. Air Force C-17s, C-130s, KC-10s, as well as contracted planes, delivered relief supplies to Chaklala Air Base, in Rawalpindi, Punjab province. From Chaklala, U.S. Army helicopters flew emergency relief to survivors in affected areas.¹³³

Okinawa-based III MEF Combined Medical Relief Team-3 (CMRT-3) comprised of Marine corpsmen, doctors and nurses, treated more than 10,000 patients at their field hospital in Shinkiyari, Pakistan. They began providing assistance on November 15 and became fully operational in Shinkiyari by November 17.¹³⁴

Five Marine landing support specialists attached to CMRT-3 formed a Marine helicopter support team at the Muzaffarabad airport and assisted by manually connecting sling loads underneath Army CH-47 Chinook cargo helicopters. Pakistani army troops were to retrieve the cargo in areas that were too dangerous to land in.¹³⁵ The Marines, from Okinawa's 3rd Transportation Support Battalion, 3rd Marine Logistics Group, helped deliver more than 6.5 million pounds of relief supplies.¹³⁶

As operations began to slow down in late February, the U.S. transferred approximately US\$8 million in medical, engineering, and flight-refueling assets to the Government of Pakistan to assist with reconstruction efforts.¹³⁷

CDAC-PAK held a ceremony for its official departure on March 31, 2006. In total, American military forces delivered more than 1,000 tons of relief supplies and 107 pieces of engineering equipment, and flew more than 5,900 relief missions. At the peak of initial relief efforts, more than 1,200 personnel and 25 helicopters provided vital transport, logistics, and medical



Marine landing support specialists attach external loads, or sling-loads, to the bottom of an Army CH-47 Chinook helicopter recently in Muzaffarabad, Pakistan. The Okinawa-based Marines currently are serving in Pakistan with Combined Medical Relief Team-3.

Photo by Scott Biscuiti/USMC

Source: <https://www.stripes.com/news/okinawa-marines-work-to-get-drop-on-pakistan-quake-relief-1.44356#gallery>

¹³⁰ When the earth shook: U.S. Responds to Magnitude 7.6 Earthquake in Pakistan, <https://archive.defense.gov/home/features/2006/2005yearinreview/article4.html>

¹³¹ Pakistan earthquake relief operations: Leveraging humanitarian missions for strategic success <https://apps.dtic.mil/dtic/tr/fulltext/u2/1042822.pdf>

¹³² Pacific Command joins Pakistan earthquake relief effort, <https://www.af.mil/News/Article-Display/Article/133053/pacific-command-joins-pakistan-earthquake-relief-effort/>

¹³³ Wings of Hope, <https://www.amc.af.mil/Portals/12/documents/AFD-131018-056.pdf>

¹³⁴ Pakistan earthquake relief operations: Leveraging humanitarian missions for strategic success <https://apps.dtic.mil/dtic/tr/fulltext/u2/1042822.pdf>

¹³⁵ Ibid.

¹³⁶ Okinawa Marines work to get drop on Pakistan quake relief, <https://www.stripes.com/news/okinawa-marines-work-to-get-drop-on-pakistan-quake-relief-1.44356>

¹³⁷ Feb. 21, 2006 - Fact Sheet – DOD Assistance to Pakistan, https://archive.defense.gov/home/features/2005/Pakistan/Fact_sheets/20062702a.html?storyID=123013273

and engineering support in the affected areas. Helicopter crews delivered more than 175 tons of relief each day and transported over 18,000 people in total. U.S. crews offloaded more than 18 million pounds of humanitarian aid and supplies at Chaklala Air Base, which helped facilitate delivery of international aid.^{138, 139}

Engineers cleared debris from more than a dozen schools, built a camp for displaced citizens, completed sanitation projects, and adopted a village that included building five schools and 50 homes. On Feb. 13, the U.S. donated approximately 25 pieces of equipment, valued at US\$2.5 million, including bulldozers, backhoes, dump trucks and generators, to the Pakistan government.¹⁴⁰

U.S. medical teams in Muzaffarabad and Shinkiari treated approximately 35,000 patients. On Feb. 16 the U.S. donated its 84-bed Mobile Army Surgical Hospital (MASH) used in the relief operation to the Government of Pakistan. Valued at more than US\$4.5 million, the mobile hospital included intensive-care units, a pharmacy lab, radiology units, and a power-generation system.¹⁴¹

Additionally, U.S. airplanes and crews flew 10 strategic airlift sorties as part of the North Atlantic Treaty Organization (NATO) relief efforts, and the NATO mission delivered more than 2,700 tons of relief supplies.¹⁴²



Pakistani soldiers load humanitarian relief supplies onto a CH-47D Chinook helicopter at Muzaffarabad, Pakistan, on Nov. 19, 2005. U.S. Air Force photo by Airman 1st Class Barry Loo
Source: <https://archive.defense.gov/home/photoessays/2005-11/p20051121b1.html>

¹³⁸ Pakistan earthquake relief operations: Leveraging humanitarian missions for strategic success, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1042822.pdf>

¹³⁹ Feb. 21, 2006 - Fact Sheet – DOD Assistance to Pakistan, https://archive.defense.gov/home/features/2005/Pakistan/Fact_sheets/20062702a.html?storyID=123013273

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² When the earth shook: U.S. Responds to Magnitude 7.6 Earthquake in Pakistan, <https://archive.defense.gov/home/features/2006/2005yearinreview/article4.html>

February 2006 – Philippines: Leyte Landslide

Background

On the morning of February 17, 2006, a rain-triggered landslide from Mount Canabag occurred at the village of Guinsaugon in Southern Leyte, in the Philippines, leaving 1,126 people dead and displacing around 19,000 others. Around 45 hectares were buried under 25-40 meters of mud. The provincial disaster coordinating council had earlier declared a state of calamity in the province due to rainy weather conditions and residents of 26 villages in the province were evacuated, including those from Guinsaugon. However, the day before the landslide, residents returned to the village after seeing signs of better weather conditions. The Government of the Philippines reported that Southern Leyte had received four times the normal rainfall before the landslide, some 478 mm vs. 137 mm, caused by continuous rains for a week-long period. Because of fears of another landslide, some 10,000 people from nearby barangays (villages) were later evacuated. It was estimated that the landslide caused economic damages of some US\$25 million.^{143, 144}

Philippine President Gloria Macapagal Arroyo ordered rescue and relief operations and the entire naval force in the Visayas to serve as hospitals and command centers. In general, the Armed Forces of the Philippines (AFP) carried out search, rescue, retrieval, relief and recovery operations. Three navy ships headed immediately to the area to provide relief and to serve as “floating hospitals.” Rescue teams from the 505th squadron of the Philippine Air Force (PAF) aided with search and rescue efforts, utilizing three helicopters. The PAF also delivered relief supplies via C-130s. The 43rd Infantry Battalion of the Philippine Army conducted initial search and rescue operations.^{145, 146, 147}

The Government of the Philippines (GoP) and the AFP also provided disaster response coordination, air transport and logistics, medical and health monitoring in evacuation centers,



U.S. Marines aboard a CH-46E Sea Knight helicopter make an aerial assessment Feb. 19, 2006, of the Feb. 17, 2006, landslide in Leyte, Philippines. The Sea Knight, from the “Flying Tigers” of Marine Medium Helicopter Squadron 262, is providing humanitarian assistance for victims of the landslide.

U.S. Navy photo by Petty Officer 1st Class Michael D. Kennedy

Source: <https://archive.defense.gov/home/features/Leyte/landslide/index.html>

143 Recovery status report: The Southern Leyte Landslide 2006, https://reliefweb.int/sites/reliefweb.int/files/resources/26098_26098recoverystatusreportleytemarch.pdf

144 Philippines: Landslides in Southern Leyte - Preliminary report, <https://reliefweb.int/report/philippines/philippines-landslides-southern-leyte-preliminary-report>

145 Recovery status report: The Southern Leyte Landslide 2006, https://reliefweb.int/sites/reliefweb.int/files/resources/26098_26098recoverystatusreportleytemarch.pdf

146 Philippines: Landslides in Southern Leyte - Preliminary report, <https://reliefweb.int/report/philippines/philippines-landslides-southern-leyte-preliminary-report>

147 Philippines: Update No 11. re landslide at Brgy Guinsaugon, Saint Bernard, Southern Leyte, <https://reliefweb.int/report/philippines/philippines-update-no-11-re-landslide-brgy-guinsaugon-saint-bernard-southern>

health education, water, environmental health, case management of orphaned children, identification of the deceased, and identification of resettlement sites.¹⁴⁸ Additionally, the Philippine Army built a 1,000 square meter warehouse at Fort Bonifacio to house foreign donations.

The GoP requested relief aid following the disaster. The international community responded with relief supplies and monetary donations, while several countries sent military personnel, search and rescue personnel and medical teams to assist. A week after the disaster, the number of national and international personnel supporting the disaster was reported at 1,998. The UN sent a UN Disaster Assessment and Coordination (UNDAC) team to support coordination efforts, while the United Nations Country Team also supported the operations. The Governor of Southern Leyte declared search and rescue operations completed on February 24 as rescuers were not able to find any survivors. By the next day most of the foreign militaries and the UN Disaster Assessment and Coordination (UNDAC) team left the operation.^{149, 150, 151}



Republic of Philippines army soldiers offload blankets from a U.S. Marine Corps CH-46E Sea Knight helicopter in Leyte, Philippines, Feb. 19, 2006. The helicopter is from Marine Medium Helicopter Squadron 262 (Reinforced), 31st Marine Expeditionary Unit. Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001967531/>

Foreign military assistance included:

Indonesia: 2 C-130 aircraft brought 40 responders and relief goods

Turkey: Provided a 9- man rescue and medical team.¹⁵²

U.S. Military Response

U.S. Marines, sailors, soldiers and airmen who were in the region for a joint multinational training exercise, Balikatan, which began on the day the landslide hit, assisted the AFP and GoP with relief efforts at the request of the Philippine government. Balikatan is an annual Philippines-U.S. bilateral combined exercise. The Forward Deployed Amphibious Ready Group (ARG) and elements of the 3rd Marine Expeditionary Brigade (3d MEB) had arrived in the Philippines on February 17 in Subic Bay for the exercise but were diverted to provide relief assistance. Airmen from the 36th Contingency Response Group (36th CRG) were also deployed for the Balikatan '06 exercise and were also diverted to help respond. The US. Military personnel formed Joint Task Force Balikatan 2006 (JTF Balikatan 2006) to aid the response. More than 2,500 U.S. personnel in total were diverted from the exercise to assist with relief efforts. U.S. military forces arrived off the southern Leyte coast on February 19

¹⁴⁸ Ibid.

¹⁴⁹ Recovery status report: The Southern Leyte Landslide 2006, https://reliefweb.int/sites/reliefweb.int/files/resources/26098_26098recoverystatusreportleytemarch.pdf

¹⁵⁰ United Nations continues assistance in Philippines, <https://reliefweb.int/report/philippines/united-nations-continues-assistance-philippines-0>

¹⁵¹ Philippines: Update No 11. re landslide at Brgy Guinsaugon, Saint Bernard, Southern Leyte, <https://reliefweb.int/report/philippines/philippines-update-no-11-re-landslide-brgy-guinsaugon-saint-bernard-southern>

¹⁵² Philippines: Update No 11. re landslide at Brgy Guinsaugon, Saint Bernard, Southern Leyte, <https://reliefweb.int/report/philippines/philippines-update-no-11-re-landslide-brgy-guinsaugon-saint-bernard-southern>

to help provide disaster relief.^{153, 154, 155} The JTF Balikatan 2006 commander was Marine Brigadier General Mastin Robeson.

The U.S. military provided air transport, search and rescue, body retrieval, and temporary shelter for evacuees. The Philippine Red Cross also asked the U.S. for helicopter support to assist with operations. Sailors and Marines from the Forward Deployed Amphibious Ready Group (ARG), which was comprised of the USS Essex, USS Harpers Ferry and USS Juneau also provided assistance along with the USNS Yukon and USS Curtis Wilbur. The Essex, Harpers Ferry and elements of the 3rd Marine Expeditionary Brigade, the 31st Marine Expeditionary Unit, left port from Subic Bay soon after receiving the call for assistance. The Forward Deployed ARG is part of Task Force 76, with headquarters at White Beach Naval Facility, Okinawa and with an operating detachment in Sasebo, Japan. Captain Mark E. Donahue, commodore, Amphibious Squadron 11, the task group commander of the ARG, flew over the area after arriving and met with the AFP.^{156, 157, 158, 159, 160}

An initial delivery of relief supplies contained five generators, 10 light sets on tripods, 100 shovels, 2,100 five-gallon water cans, 900 1.5-gallon water cans, 400 four-quart kettles, 2,000 blankets, Meals, Ready to Eat (MREs) and bottled water. Additional relief supplies sent into Tacloban for further distribution to the Leyte disaster area included a pallet of water, a pallet of MREs, a pallet of shovels and miscellaneous supplies, five generators and a reverse-osmosis water purification unit (ROWPU) capable of purifying 800 gallons per hour.¹⁶¹

An initial group of 96 Marines from the 31st MEU went ashore by CH-53E Super Stallion



U.S. Marines from the 31st Marine Expeditionary Unit board a Marine CH-46E Sea Knight helicopter on the flight deck of the amphibious assault ship USS Essex (LHD 2) off the coast of Leyte, Philippines, Feb. 20, 2006.
Source: U.S. Department of Defense, <https://www.defense.gov/observe/photo-gallery/igphoto/2002023497/>



U.S. Marines with Company Golf, 2nd Battalion, 5th Marine Regiment, 31st Marine Expeditionary Unit, help in search and rescue efforts.
Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001967526/>

¹⁵³ Search and Rescue Ops End, Relief Ops Continue in Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=14761>

¹⁵⁴ Forward Deployed ARG Responds to Landslide in Philippines, https://www.navy.mil/submit/display.asp?story_id=22381

¹⁵⁵ Joint military response to mudslide continues in Philippines 20 Feb 2006, <https://reliefweb.int/report/philippines/joint-military-response-mudslide-continues-philippines-20-feb-2006>

¹⁵⁶ Amphibious Ready Group Responds to Philippines Landslide, <https://archive.defense.gov/news/newsarticle.aspx?id=14815>

¹⁵⁷ USS Essex, USS Harpers Ferry and USS Curtis Wilbur Arrive on Station to Help Philippine Mudslide Victims, https://www.navy.mil/submit/display.asp?story_id=22388

¹⁵⁸ U.S. Forces Help Victims of Leyte Island Landslide, <https://archive.defense.gov/home/features/Leyte/landslide/index.html>

¹⁵⁹ Joint military response to mudslide continues in Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=14804>

¹⁶⁰ Ibid.

¹⁶¹ Navy Ships Arrive in Philippines to Provide Disaster Relief, <https://archive.defense.gov/news/newsarticle.aspx?id=14811>

Helicopters to assist with rescue efforts. Landing craft air cushions, 22 helicopters and more than 4,000 Marines and Sailors participated in the relief effort. U.S. Marine Corps CH-46E Sea Knight helicopters were used to ferry supplies. Additionally, the airmen from the 36th Contingency Response Group (36th CRG) from Guam assisted the GoP in assessing requirements. A Pacific Air Force C-17 from Hickam helped bring in additional relief supplies and support personnel.^{162, 163}

U.S. military personnel also contracted and transported a 2-ton rotary drill rig to aid in the search. U.S. and Philippine troops coordinated with public health officials to monitor public health in the area. U.S. troops also provided air and ground transportation.¹⁶⁴

In total, JTF Balikatan provided more than 3,100 five-gallon water cans, 900 1.5-gallon water cans, three pallets of bottled water, 2,500 blankets, two pallets of military rations, 1,500 sleeping mats, 150 pick axes, 500 shovels, three pallets of rice, a pallet of medications, 12 55-gallon diesel fuel drums, 40 chainsaws and five generators.¹⁶⁵

Philippine and U.S. aircraft flew more than 400 hours to ferry in supplies and people. Fixed wing aircraft utilized included KC-130 Hercules and C-17 Globemaster III aircraft. Helicopters utilized included the CH-46E, CH-53E Super Stallion, UH-1N Huey and the H-60 Blackhawk.¹⁶⁶

On February 25, the AFP and U.S. military personnel with Joint Task Force Balikatan ended their week-long search and rescue efforts at the direction of the Leyte Island governor.¹⁶⁷



A U.S. Marine from the 31st Marine Expeditionary Unit waits for transport to the site of a landslide in Guinsaugon, Philippines, Feb. 21, 2006.

Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001967528/>

¹⁶² U.S. Forces Help Victims of Leyte Island Landslide, <https://archive.defense.gov/home/features/Leyte/landslide/index.html>

¹⁶³ Joint military response to mudslide continues in Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=14804>

¹⁶⁴ Mudslide Relief Efforts Continue Despite Damaged Equipment, <https://archive.defense.gov/news/newsarticle.aspx?id=14793>

¹⁶⁵ Search and Rescue Ops End, Relief Ops Continue in Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=14761>

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

May 2006 – Indonesia: Yogyakarta Earthquake

Background

On May 27, 2006 a 6.3-magnitude earthquake struck Yogyakarta and surrounding areas in Central Java Province, on the Indonesian island of Java, leaving 5,778 people killed, and 37,883 injured. Additionally, 139,859 houses were destroyed and another 468,149 were damaged. In total 2.7 million people were affected and some 1.5 million people were left homeless from the earthquake.¹⁶⁸ Villages in remote areas south of Yogyakarta and in and around Bantul were the most severely affected. The epicenter was located around 20 km south-southeast of Yogyakarta at a depth of 10 kilometers.¹⁷⁰

To complicate matters, Mount Merapi, also located in Central Java, began erupting on June 14, displacing more than 6,300 people from Klaten and Sleman districts.¹⁷¹ Officials put the alert status for the volcano eruption at the highest level due to the danger of pyroclastic flows.¹⁷² Fortunately, volcanic activity began to decline by the end of June, however, the alert status remained high for a while.¹⁷³ The Government of Indonesia (GoI) requested international assistance to deal with the disaster.

U.S. Military Response: “Operation Aftershock”

The Government of Indonesia (GoI) requested military support within hours of the earthquake on May 27, 2006. That same day, U.S. Ambassador to Indonesia B. Lynn Pascoe declared a disaster due to the impact of the quake. In response, USAID/OFDA provided almost US\$6 million for earthquake response activities, including airlifts and distribution of relief; health, shelter, and water and sanitation activities; support for humanitarian coordination efforts; and the dissemination of information. USAID/OFDA concentrated on serving the most affected communities in Bantul and Klaten districts. At the time of the



SEWON, Indonesia (May, 31, 2006): Indonesian Soldiers and Okinawa-based Marines and sailors work together to set up surgical and acute care medical facilities. About 100 service members from III Marine Expeditionary Force began deploying to the area at the Indonesian government’s request only days after the disaster struck.

U.S. Marine Corps photo by 1st Lt. Eric C. Tausch
Source: <https://www.marforpac.marines.mil/News/News-Article-Display/Article/530151/okinawa-based-marines-sailors-respond-to-indonesian-earthquake/>

¹⁶⁸ Indonesia: Snapshot on Earthquakes (Dec 2004 - Oct 2009), <https://reliefweb.int/map/indonesia/indonesia-snapshot-earthquakes-dec-2004-oct-2009>

¹⁶⁹ Indonesia: Earthquake and Mt. Merapi Volcano OCHA Situation Report No. 18, <https://reliefweb.int/report/indonesia/indonesia-earthquake-and-mt-merapi-volcano-ocha-situation-report-no-18>

¹⁷⁰ Indonesia Yogyakarta Earthquake: Appeal no. MDRID001, Operations Update No. 6, <https://reliefweb.int/sites/reliefweb.int/files/resources/0C9DE75AB7F13D6B492571A0000ABA9D-ifrc-idn-01jul.pdf>

¹⁷¹ Ibid.

¹⁷² Indonesia: Earthquake and Mt. Merapi Volcano OCHA Situation Report No. 15, <https://reliefweb.int/report/indonesia/indonesia-earthquake-and-mt-merapi-volcano-ocha-situation-report-no-15>

¹⁷³ Indonesia: Earthquake and Mt. Merapi Volcano OCHA Situation Report No. 16, <https://reliefweb.int/report/indonesia/indonesia-earthquake-and-mt-merapi-volcano-ocha-situation-report-no-16>



Airmen from the 36th Airlift Squadron and Combat Mobility Element at Yokota Air Base, Japan, unload supplies and equipment at Yogyakarta, Indonesia, on Thursday, June 1, 2006. The C-130 Hercules mission brought humanitarian relief aid to Indonesia. U.S. Air Force photo/Airman 1st Class Javier Cruz Jr.
Source: <https://www.af.mil/News/Article-Display/Article/130824/airmen-provide-support-to-indonesian-earthquake-victims/>

Yogyakarta earthquake, the United States and Indonesia had a Memorandum of Understanding that allowed the U.S. military to provide aid when requested by the Indonesian government. U.S. military participants dubbed the mission as: “Operation Aftershock.”^{174, 175}

Through three airlifts, USAID/OFDA provided eight emergency medical kits (each serving the medical needs of 10,000 people for three months), 150 rolls of plastic sheeting, 10,200 ten-liter water containers, and 5,004 hygiene kits. Two of the medical kits supplied the U.S. military field hospital in Bantul District.¹⁷⁶

A USAID/DART team deployed on May 28. The USAID/DART comprised twelve members, including specialists in health, shelter, and water and sanitation and a U.S. Geological Survey (USGS) volcanologist. The USAID/DART worked closely with USAID/Indonesia and the Department of Defense (DOD) III Marine Expeditionary Force (III MEF) to coordinate relief efforts.¹⁷⁷

The U.S. Embassy in Jakarta sent a regional medical officer, four doctors from the Naval Medical Research Unit, two nurses and other staff to Yogyakarta.¹⁷⁸

To assist the GoI with the response, U.S. Pacific Command sent military personnel, including medical staff, supplies, equipment and other military resources for the relief operation. Military personnel were deployed from the III MEF, U.S. Pacific Air Force units in Guam, and the USNS Mercy. The Mercy had been on a medical deployment to assist Southeast Asia and Western Pacific

174 Operation aftershock: The U.S. military disaster response to the Yogyakarta earthquake May through June 2006, <https://academic.oup.com/milmed/article/173/3/236/4557690>

175 Indonesia - Earthquake Fact Sheet #16, Fiscal Year (FY) 2006
<https://reliefweb.int/sites/reliefweb.int/files/resources/0DFF78DD9367F427852571D50069BD12-usaid-idn-25aug.pdf>

176 Indonesia - Earthquake Fact Sheet #16, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/0DFF78DD9367F427852571D50069BD12-usaid-idn-25aug.pdf>

177 Ibid.

178 U.S. aid continues to flow to Indonesia earthquake victims
<https://reliefweb.int/report/indonesia/us-aid-continues-flow-indonesia-earthquake-victims>

countries as part of Pacific Partnership.¹⁷⁹

The first military personnel arrived to the severely affected Bantul district within 72 hours of the quake. A team of around 100 U.S. troops arrived on May 31 and set up a field hospital in Sewon soccer stadium in Bantul District, located 12 kilometers southeast of Mount Merapi, which became fully operational on June 1. The unit consisted of personnel from the 3D Marine Expeditionary Brigade (3D MEB), U.S. Marine Corps Fleet 3rd Surgical Company, the U.S. hospital ship USNS Mercy and the USS Essex. The Mercy sent a medical team to help augment the medical team from the 3D MEB, while the Essex supported the operation with a shock trauma platoon (a complete surgical team). The group began treating patients a little over 24 hours later.^{180, 181, 182, 183, 184}

Medical personnel initially helped in existing medical facilities in Yogyakarta while the surgery suite was being assembled. The 3D MEB fielded a one-bed operating room and a four person recovery room. They were supported by 178 members of a Marine headquarters battalion. The 3D MEB brought in much needed medical equipment or the response, including a digital x-ray machine.¹⁸⁵

“Doctors, nurses, medical technicians, and supplies are rapidly deploying to Indonesia to support the humanitarian efforts near Yogyakarta. The goal is to reduce further loss of life and help alleviate human suffering. We offer our sincere condolences to the people of Indonesia affected by this tragedy, and will do our best to ease their suffering with available medical assets. The U.S. has strong regional ties to Indonesia, and we are a longstanding friend of the Indonesian people,” said Brigadier General Dana Atkins, U.S. Pacific Command Director of Operations.¹⁸⁶

The team also deployed mobile medical teams with the help of Indonesian nurses and physicians.



Sewon, Indonesian (June 3, 2006) - Hospitalman Taylor Simpkins treats a patient at Global Rescue Network's Mobile Hospital in Jetis, Indonesia. U.S. and Indonesian military members visited the hospital to assist in the overflow of patients caused by the earthquake.

U.S. Marine Corps photo by Lance Cpl. Warren Peace (RELEASED)

Source: <https://www.flickr.com/photos/trackpads/7718648220/in/photolist-KqLWG-2bWymjv-28jnfP9-uZtaS-cl56c/>

179 U.S. pacific command responds to Indonesian earthquake, <https://reliefweb.int/report/indonesia/us-pacific-command-responds-indonesian-earthquake>

180 Indonesia - Earthquake Fact Sheet #16, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/0DFF78DD9367F427852571D50069BD12-usaid-idn-25aug.pdf>

181 U.S. aid continues to flow to Indonesia earthquake victims, <https://reliefweb.int/report/indonesia/us-aid-continues-flow-indonesia-earthquake-victims>

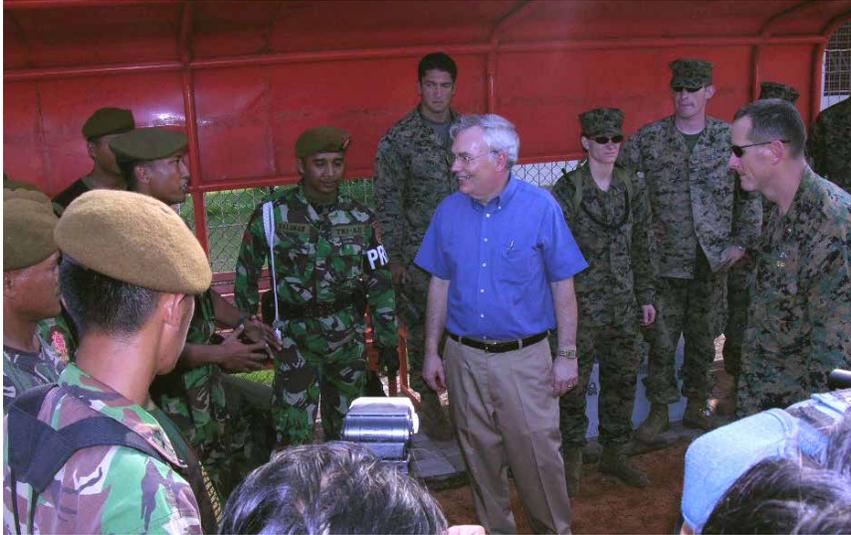
182 U.S. Military Responds to Indonesia Earthquake, https://www.navy.mil/submit/display.asp?story_id=23910

183 Operation aftershock: The U.S. military disaster response to the Yogyakarta earthquake May through June 2006, <https://academic.oup.com/milmed/article/173/3/236/4557690>

184 Indonesia - Earthquake Fact Sheet #16, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/0DFF78DD9367F427852571D50069BD12-usaid-idn-25aug.pdf>

185 Operation aftershock: The U.S. military disaster response to the Yogyakarta earthquake May through June 2006, <https://academic.oup.com/milmed/article/173/3/236/4557690>

186 U.S. Military Responds to Indonesia Earthquake, https://www.navy.mil/submit/display.asp?story_id=23910



SEWON, Indonesia (May, 31, 2006) U.S. Ambassador to Indonesia Lynn Pascoe visits Indonesian soldiers and Okinawa-based Marines and sailors as they establish mobile surgical and acute care facilities here for victims of the May 27 earthquake that struck Java Island.

Official U.S. Marine Corps photo by 1st Lt. Eric C. Tausch

Source: [https://www.marforpac.marines.mil/News/News-Article-Display/](https://www.marforpac.marines.mil/News/News-Article-Display/Article/530151/okinawa-based-marines-sailors-respond-to-indonesian-earthquake/)

Article/530151/okinawa-based-marines-sailors-respond-to-indonesian-earthquake/

The material movers aided greatly in the response as reports stated responders were previously loading and off-loading by hand.¹⁸⁹

On June 1, two C-130 Hercules aircraft deployed to Paya Lebar Air Base with some 85 airmen from the 374th Air Expeditionary Group from Yokota and Misawa Air Bases in Japan to deliver relief.¹⁹⁰

Additionally, more than 400 aircrew members completed over 42 missions, carrying over 277 tons of relief supplies. Air sorties included over five C-17 transport missions, six C-130 transport missions, and 31 KC-130 tanker/transport missions. Eight C-130s were utilized for the mission. In total, the U.S. military delivered 310 metric tons of medical and relief supplies, including 10,000 jerry cans for purified water delivery and 5,000 hygiene kits.^{191, 192, 193}

The mobile teams assisted patients in villages that were unable to make it to the stadium.¹⁸⁷

The medical team provided assistance for 16 days and then redeployed to their component commands when they were no longer seeing earthquake-related injuries. In total, U.S. military medical teams treated over 4,627 patients in mobile medical teams and at the field hospital.¹⁸⁸

U.S. Military personnel also brought in tents, tarps, water, and medical supplies, as well as forklifts and pallet movers that could get on and off aircraft.

187 Operation aftershock: The U.S. military disaster response to the Yogyakarta earthquake May through June 2006, <https://academic.oup.com/milmed/article/173/3/236/4557690>

188 Operation aftershock: The U.S. military disaster response to the Yogyakarta earthquake May through June 2006, <https://academic.oup.com/milmed/article/173/3/236/4557690>

189 Rumsfeld in Indonesia, Offers Condolences to Earthquake Victims, <https://archive.defense.gov/news/newsarticle.aspx?id=16116>

190 Airmen provide support to Indonesian earthquake victims, <https://www.af.mil/News/Article-Display/Article/130824/airmen-provide-support-to-indonesian-earthquake-victims/>

191 Indonesia - Earthquake Fact Sheet #16, Fiscal Year (FY) 2006, <https://reliefweb.int/sites/reliefweb.int/files/resources/0DFF78DD9367F427852571D50069BD12-usaid-idn-25aug.pdf>

192 Rumsfeld in Indonesia, Offers Condolences to Earthquake Victims, <https://archive.defense.gov/news/newsarticle.aspx?id=16116>

193 U.S. aid continues to flow to Indonesia earthquake victims, <https://reliefweb.int/report/indonesia/us-aid-continues-flow-indonesia-earthquake-victims>

April 2007 – Solomon Islands: Earthquake and Tsunami

Background

A magnitude 8.1 earthquake struck 50 km off the New Georgia islands in the Solomon Sea on April 1, 2007, off the coast of Gizo Province, generating a local tsunami which struck more than 300 communities along the coast in the Solomon Islands. The town of Gizo was one of the hardest-hit areas. The tsunami reportedly struck within just minutes after the earthquake hit. Fifty-two people were killed and an additional 36,000 were affected by the disaster. It was reportedly the worst disaster to affect the Solomon Islands since World War II. The earthquake had triggered tsunami warnings across the region, but were called off later.¹⁹⁴

Affected areas included Gizo, Simbo, Ranogga, Shortland Islands, Munda, Noro, Vella la Vella, Kolombangarra and parts of the southern

coast of Choiseul. Gizo, Simbo Island, western coast of Ranogga and the central southern coast of Choiseul between Moli, Posarae and Sasamunga were the worst-affected areas.^{195, 196}

The Solomon Islands government appealed for international assistance and declared a state of emergency for the Western and Choiseul Provinces and the northern part of Isabel Island. A self-sufficient International Tsunami Survey Team was dispatched to aid in the response. Regional militaries from Papua New Guinea, Australia, New Zealand and France also aided in the response.

Foreign military support:

France: A military aircraft was used to transport medical supplies to Gizo as well as ferrying a Taiwan medical team.¹⁹⁷

Papua New Guinea: An air force plane helped ferry UNICEF staff.

Australia: Australian peacekeepers assisted in relief efforts and Australian helicopters were also utilized. An Australian military team was dispatched to assist at the Munda Health Center. Australian peacekeepers had led a Regional Assistance Mission to Solomons Islands (RAMSI) since 2003 and RAMSI personnel provided helicopter support. The Australia Defence Force set up a medical center in Sasamunga and conducted an environmental assessment.¹⁹⁸

New Zealand: New Zealand C-130 military transport plane delivered tarps, water and food rations in



Houses destroyed by an earthquake and resulting tsunami on the Solomon Islands in April 2007.

U.S. Navy photo by Andrew Meyers

Source: <https://www.australiangeographic.com.au/topics/science-environment/2016/09/explainer-how-to-prepare-for-a-tsunami/>

¹⁹⁴ Ancestral heritage saves tribes during 1 April 2007 Solomon Islands tsunami, <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2007GL031654>

¹⁹⁵ South Pacific Tsunami - OCHA Situation Report No. 14, <https://reliefweb.int/report/solomon-islands/south-pacific-tsunami-ocha-situation-report-no-14>

¹⁹⁶ Ancestral heritage saves tribes during 1 April 2007 Solomon Islands tsunami, <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2007GL031654>

¹⁹⁷ Situation Report: Solomon Island Earthquake/Tsunami, 08 April 2007, https://www.who.int/hac/crises/slb/sitreps/solomon_sitrep_08avril2007.pdf

¹⁹⁸ South Pacific Tsunami - OCHA Situation Report No. 11, <https://reliefweb.int/report/solomon-islands/south-pacific-tsunami-ocha-situation-report-no-11>

the town of Munda. Additionally, New Zealand provided helicopters for relief efforts.¹⁹⁹ Two air load teams assisted in loading at Henderson Airport in Honiara.²⁰⁰

U.S. Military Response

The United States military provided a U.S. Navy Seahawk HH-60 helicopter to assist the International Tsunami Survey Team with damage assessments.^{201, 202} The U.S. military also provided air transport via two helicopters.²⁰³

The USNS Stockham, an afloat prepositioning ship from Military Sealift Command, also arrived with a supply of relief items and was sent to the Solomons to be ready to conduct HADR operations on the ground. The Stockham was later called upon to assist with a transport accident. Utilizing its helicopter, the Stockham rescued 20 people from a 200-ft Taiwanese flagged freighter, the Yun Fa Zoi, which ran aground on a coral reef near the Gizo harbor in the Solomon Islands in the late hours of April 12. Most of those rescued were New Zealand Red Cross and aid workers who were in the area to provide assistance to victims of the tsunami.^{204,}

²⁰⁵

The USNS Stockham is a U.S. Navy Maritime Pre-Positioning Ship and is part of Military Sealift Command's Pre-Positioning Program. It has a mixed crew of U.S. Navy personnel and Merchant Marine seamen. The Stockham is operated by a crew of 38 civilian mariners along with 102 military personnel embarked and the ship is one of 35 ships that preposition military cargo in strategic locations around the world.²⁰⁶

The ship's surgeon left on the ship's HH-60 helicopter within an hour of the distress call and treated passengers with injuries from the Yun Fa Zoi. Twenty people were brought aboard the helicopter which then flew to Gizo, where the passengers were met by local police and medical personnel to receive further medical treatment.



GIZO, Solomon Islands (April 16, 2007) - Lt. Cmdr. Karlwin Matthews, assigned to Navy Medical Corps, stops to talk with a villager about a plan to build a fresh water rain catcher in Gizo. Matthews is an individual augmentee from Balboa Naval Hospital in San Diego embarked aboard USNS Stockham (T-AK 3017). U.S. Navy photo by Mass Communication Specialist Second Class Andrew Meyers (RELEASED)
Source: https://commons.wikimedia.org/wiki/Category:2007_Solomon_Islands_earthquake_relief_efforts#/media/File:US_Navy_070416-N-4790M-254_Lt_Cmdr_Karlwin_Matthews_assigned_to_Navy_Medical_Corps_stops_to_talk_with_a_villager_about_a_plan_to_build_a_fresh_water_rain_catcher_in_Gizo.jpg

¹⁹⁹ Aid Filters Through to Tsunami Survivors in Solomon Islands, <https://www.voanews.com/a/a-13-2007-04-04-voa4/347841.html>

²⁰⁰ South Pacific Tsunami - OCHA Situation Report No. 8, <https://reliefweb.int/report/solomon-islands/south-pacific-tsunami-ocha-situation-report-no-8>

²⁰¹ Months after an earthquake and tsunami, Solomon Islands struggle to recover, https://www.unicef.org/infobycountry/solomonislands_40050.html

²⁰² Ancestral heritage saves tribes during 1 April 2007 Solomon Islands tsunami, <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2007GL031654>

²⁰³ South Pacific Tsunami - OCHA Situation Report No. 11, <https://reliefweb.int/report/solomon-islands/south-pacific-tsunami-ocha-situation-report-no-11>

²⁰⁴ Rescue at sea: Stockham rescues 20 off Solomon Islands, <https://www.msc.navy.mil/sealift/2007/June/rescue.htm>

²⁰⁵ South Pacific Tsunami - OCHA Situation Report No. 9, <https://reliefweb.int/report/solomon-islands/south-pacific-tsunami-ocha-situation-report-no-9>

²⁰⁶ Rescue at sea: Stockham rescues 20 off Solomon Islands, <https://www.msc.navy.mil/sealift/2007/June/rescue.htm>

November 2007 – Bangladesh: Cyclone Sidr

Background

Tropical Cyclone Sidr, a Category 4 storm, hit the southwest coast of Bangladesh on November 15, 2007, with winds up to 240 kilometers per hour and heavy rains, killing 4,234 people and affecting around 8.9 million others. The cyclone was accompanied by storm surge up to 6 meters in some areas, which flooded low-lying coastal areas. The worst affected areas were the southwest coast of the country with four out of the country's 30 districts "severely affected" and another eight categorized as "moderately affected." Cyclone Sidr was the strongest cyclone to hit the country since Cyclone Gorky (Marian) in 1991. Sidr took a similar path to Cyclone Bhola in 1970 and Cyclone Gorky in 1991, and severely damaged similar areas of the country.^{207, 208}

Sidr was the second major disaster to affect the country within a year. Earlier, devastating monsoon floods had caused extensive damage totaling almost US\$1.7 Billion.²⁰⁹

Approximately 600,000 Bangladeshis were evacuated ahead of Cyclone Sidr, and were housed in 1,800 cyclone shelters. Emergency disaster kits were distributed to those evacuated. Civilian agencies provided assistance, and the Bangladesh military set up medical camps.²¹⁰



Aerial view of the destruction left behind by Tropical Cyclone Sidr in Bangladesh, Nov. 27, 2007. The USS Kearsarge and the embarked 22nd Marine Expeditionary Unit conducted humanitarian assistance and disaster relief missions.

Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001181980/>

The Bangladesh Armed Forces Division deployed five navy ships and 18 helicopters to deliver relief supplies. The Armed Forces assisted with the transportation of relief goods from Dhaka via Air Force assets; transportation of relief goods using Army, Navy and civil assets; civilian health care services with military medical teams; clearing of roads; and, the restoration of telecommunication.²¹¹

Despite the strength of the storm, there were lower casualty rates than expected. The government of Bangladesh, utilizing years of experience and lessons learned from previous cyclones, had implemented improved disaster mitigation measures, including cyclone shelters and embankments which were credited

207 Humanitarian Civil-Military Coordination in Emergencies: Towards a predictable model, https://reliefweb.int/sites/reliefweb.int/files/resources/RCG_05042017_Final_electronic.pdf

208 Cyclone Sidr in Bangladesh Damage, Loss and Needs Assessment For Disaster Recovery and Reconstruction, https://reliefweb.int/sites/reliefweb.int/files/resources/F2FDFF067EF49C8DC12574DC00455142-Full_Report.pdf

209 Ibid.

210 Humanitarian Civil-Military Coordination in Emergencies: Towards a predictable model, https://reliefweb.int/sites/reliefweb.int/files/resources/RCG_05042017_Final_electronic.pdf

211 Humanitarian Civil-Military Coordination in Emergencies: Towards a predictable model, https://reliefweb.int/sites/reliefweb.int/files/resources/RCG_05042017_Final_electronic.pdf

with helping to lower casualty rates.²¹² Additionally, the government's recent investment in an early warning system served to limit these damages and led to timely evacuation of the affected populations.²¹³

U.S. Military Response: "Operation Sea Angel II"

A U.S. military medical team was already in Bangladesh and stood by prepared to provide medical aid. At the request of the U.S. Embassy in Bangladesh, on November 19, U.S. Pacific Command also sent a 23-man Humanitarian Assistance Survey Team (HAST) comprised of U.S. Marines, to the southern coast of Bangladesh to determine how the U.S. military could provide assistance.²¹⁴²¹⁵

A U.S. Army Pacific (USARPAC) team from USPACOM provided medical assistance. The team was participating in Exercise Tendon Bengal with the Bangladesh military. The exercise involved medical teams from the U.S. as well as Bangladeshi Army and civilians and involved training on disaster response and humanitarian assistance. The team worked closely with their Bangladeshi counterparts and other U.S. service members to aid cyclone victims.²¹⁶

The U.S. Navy ships, USS Essex, USS Kearsarge, and USS Tarawa, were also ordered to head towards Bangladesh in the event that the Government of Bangladesh would request assistance. The ships carried 20 or more helicopters that could be utilized in the response.²¹⁷

The Government of Bangladesh officially requested U.S. military support on November 22. The U.S. military's initial response efforts included providing water purification along with medical aid, but shifted to providing transportation of food to remote areas and the deployment of mobile medical teams. Military tasks were determined in conjunction with the government and USAID. The operation was named "Sea Angel II" on December 2, 2007.²¹⁸

Marine Lt. Gen. John F. Goodman, commander of U.S. Marine Corps Forces, Pacific, led overall efforts.²¹⁹ Marine Brigadier General Ronald Bailey arrived in Bangladesh to lead U.S. military response efforts on the ground.

In response to the cyclone, the U.S. Navy redirected the USS Kearsarge and the USS Tarawa



BANGLADESH (Nov. 26, 2007) Local citizens wave goodbye to the crew of a CH-46E Sea Knight helicopter assigned to Marine Medium Helicopter Squadron (HMM) 261 after they delivered water to help aid the victims of Tropical Cyclone Sidr.

U.S. Navy photo by Mass Communication Specialist Seaman Ash Severe
Source: https://www.navy.mil/view_imagex.asp?id=53116&t=1

212 Cyclone Sidr in Bangladesh Damage, Loss and Needs Assessment For Disaster Recovery and Reconstruction, https://reliefweb.int/sites/reliefweb.int/files/resources/F2FDF067EF49C8DC12574DC00455142-Full_Report.pdf

213 Ibid.

214 Bangladesh: U.S. Government Disaster Relief Support Following Cyclone Sidr, <https://2001-2009.state.gov/secretary/rm/2007/11/95320.htm>

215 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

216 Soldiers Aid Bangladesh Cyclone Victims, https://www.army.mil/article/6353/soldiers_aid_bangladesh_cyclone_victims

217 Bangladesh: U.S. Government Disaster Relief Support Following Cyclone Sidr, <https://2001-2009.state.gov/secretary/rm/2007/11/95320.htm>

218 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

219 Marines Deliver Water to Cyclone-Stricken Bangladesh, <https://archive.defense.gov/news/newsarticle.aspx?id=48208>

Expeditionary Strike Group 3 to Bangladesh. The Kearsarge arrived first off the coast of Bangladesh on November 22. The 22nd Marine Expeditionary Unit (MEU) was embarked on the Kearsarge. The 22nd MEU was composed of Aviation Combat Element, Marine Medium Helicopter Squadron (HMM) 261; Ground Combat Element, Battalion Landing Team, 3rd Battalion, 8th Marine Regiment; Logistics Combat Element, Combat Logistics Battalion 22; and its Command Element. Elements of Amphibious Squadron 8 also provided assistance.^{220, 221}

Overall, U.S. military assets included: Helicopter and fixed wing aircraft, water purification capability, medical services, and landing crafts for inland transportation. The Bangladeshi Armed Forces provided force protection during ground relief activities for the U.S. military. In general, the Bangladesh military focused on ground operations while the U.S. focused on airlift operations. Bangladeshi military liaison officers also helped the U.S. to better determine key areas for relief operations.²²²



BAWFAL, BANGLADESH- 071204- Marines from HMM-166 (REIN), 11th Marine Expeditionary Unit fly into Bawfal, Bangladesh to deliver food to the Bangladeshi people on a CH-46E.

Photo by Sgt. Bryson K. Jones (Released)

Source: <https://www.11thmeu.marines.mil/News/News-Article-Display/Article/533488/sea-angel-ii-lands-in-bangladesh-with-more-aid/>

On November 23, Navy ADM Timothy J. Keating, commander of U.S. Pacific Command, and Marine Brig. Gen. Ronald L. Bailey, commander of the 3rd Marine Expeditionary Brigade, met with representatives of the Bangladesh military, the U.S. Agency for International Development and the U.S. Embassy in the nation's capital city of Dhaka. A team from Kearsarge, led by Navy Rear Adm. Carol M. Pottenger, commander of Task Force 76, also was present at the meeting.²²³

After the USS Kearsarge arrived off the coast of Bangladesh, members of the Bangladesh Armed Forces, Government of Bangladesh, U.S. Embassy and U.S. Agency for International Development (USAID) representatives met November 24 to discuss how the ship and the embarked 22nd Marine Expeditionary Unit could support relief efforts. After arriving, the Kearsarge's crew began to immediately deliver bottles of water (some 700 gallons) to the city of Barrisal in southern Bangladesh on November 23. The Kearsarge had travelled some 3,500 miles to assist with relief efforts in Bangladesh.^{224, 225}

On November 26, crews from the Kearsarge delivered some 12,000 pounds of medical supplies, food and water and an 18- person medical team comprised of U.S. Army and Air Force personnel, to a local hospital in Patuakhali. The delivery was made by

220 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

221 22nd MEU birds bring medical support to cyclone victims, <https://www.22ndmeu.marines.mil/News/Article-View/Article/510245/22nd-meu-birds-bring-medical-support-to-cyclone-victims/>

222 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

223 Marines Deliver Water to Cyclone-Stricken Bangladesh, <https://archive.defense.gov/news/newsarticle.aspx?id=48208>

224 Kearsarge Assists Bangladesh in Relief Efforts, https://www.navy.mil/submit/display.asp?story_id=33485

225 U.S. military ends cyclone aid mission to Bangladesh, <https://www.reuters.com/article/us-bangladesh-us-idUSSP19947120071207>

a CH-53E Super Stallion helicopter which picked up the personnel and supplies from Dhaka.²²⁶ The Kearsarge has the capability to produce 200,000 gallons of fresh water daily, and five gallon bags were filled with water by crew members for distribution.²²⁷

The 22nd MEU and Fleet Surgical Team 4 medical teams, comprised of 7-9 personnel each, visited the villages of Bamna, Rangabali, South Khali, and Dubla Char over a four day period and treated around 1,640 patients.²²⁸

Kearsarge redeployed on December 3, when it was relieved by the USS Tarawa (LHA 1) with the embarked 11th Marine Expeditionary Unit (MEU) (Special Operations Capable). The Kearsarge had provided relief from November 23. The Tarawa arrived after being redirected from a regular scheduled deployment to the Western Pacific and the Middle East.^{229, 230}



BAWFAL, BANGLADESH- 071204- An overhead view of the landing zone for food rations being delivered by the 11th Marine Expeditionary Unit. The USS Tarawa and the embarked 11th MEU (SOC) conducted Humanitarian Assistance/Disaster Relief efforts in response to the Government of Bangladesh's request for assistance. Photo by Sgt. Bryson K. Jones (Released)
Source: <https://www.11thmeu.marines.mil/News/News-Article-Display/Article/533488/sea-angel-ii-lands-in-bangladesh-with-more-aid/>

As part of relief efforts, Marines and sailors from the 11th MEU delivered food in the village of Bawal via CH-46E Sea Knight helicopters from Marine Medium Helicopter Squadron 166 (Reinforced).²³¹ By the end of the operation, in total, the Tarawa Sailors and Marines delivered over 49,000 pounds of supplies, including blankets, food and water purification tablets. Medium and heavy-lift helicopters flew over 29 sorties and two medical teams provided care to some 727 patients over three days. The Tarawa continued relief efforts until December 6, and then redeployed out of Bangladesh on December 7.^{232, 233}

226 22nd MEU birds bring medical support to cyclone victims, <https://www.22ndmeu.marines.mil/News/Article-View/Article/510245/22nd-meu-birds-bring-medical-support-to-cyclone-victims/>

227 22nd MEU SOC Ramps Up Relief Operations in Bangladesh, https://www.navy.mil/submit/display.asp?story_id=33554

228 22nd MEU wraps up medical relief in Bangladesh, <https://www.22ndmeu.marines.mil/News/Article-View/Article/510249/22nd-meu-wraps-up-medical-relief-in-bangladesh/>

229 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

230 Sea Angel II lands in Bangladesh with more aid, <https://www.11thmeu.marines.mil/News/News-Article-Display/Article/533488/sea-angel-ii-lands-in-bangladesh-with-more-aid/>

231 Ibid.

232 Tarawa Completes Military Element of Humanitarian Operations in Bangladesh, https://www.navy.mil/submit/display.asp?story_id=33813

233 Disaster Relief and Engagement Operations, 1990-2010: A Synthesis of CNA Analyses, https://www.cna.org/CNA_files/PDF/D0024934.A1.pdf

May 2008 – Myanmar: Cyclone Nargis

Background

Powerful Cyclone Nargis made landfall in the Ayeyarwady (also spelled Irrawaddy) Delta region of Myanmar (Burma) on the night of May 2, 2008, severely affecting the Delta areas, before hitting the Yangon (Rangoon) region, site of the former capital, Yangon, the next day. The worst affected area was the Delta region. Cyclone Nargis left 138,300 people dead and affected 2.4 million people. An additional 19,359 people were injured. The cyclone also displaced more than 800,000 people in the low-lying townships of the lower Delta. The tidal surge that hit along with the storm, was reportedly higher than five meters. Strong winds were recorded with speeds up to 200km/h and heavy rains caused widespread devastation, severely damaging infrastructure. Hundreds of thousands of homes were destroyed, and the main drinking water sources were severely affected. Livelihoods were also greatly affected as the storm destroyed agricultural lands, shrimp farms, and affected the fishing industry and local businesses.

The Post-Nargis Joint Assessment carried out in June 2008 showed that the impact of Nargis on the country was similar in scale to that seen in Indonesia following the 2004 Indian Ocean earthquake and tsunami. Cyclone Nargis was the worst natural disaster in the recorded history of Myanmar, and worldwide the third deadliest storm ever recorded at a global level.^{234, 235, 236}

The Government of Myanmar declared a state of emergency in cyclone-affected areas. The national response to the cyclone was reportedly quick, but was not sufficient because of the scale of the disaster. Cyclone Nargis had overwhelmed the capacity of the national response.^{237, 238}



Myanmar service members unload food packages from a U.S. Air Force C-130 Hercules to a Myanmar military vehicle at the Yangon International Airport, May 12, 2008. The plane carrying water, food and medical supplies was part of Joint Task Force Caring Response.

U.S. Marine Corps photo by Sgt. Andres Alcaraz

Source: <https://archive.defense.gov/photoessays/PhotoEssaySS.aspx?ID=710>

²³⁴ Best practices and lessons learnt UNICEF Myanmar's response following cyclone Nargis, https://www.unicef.org/infobycountry/files/Myanmar_Nargis_Evaluation.pdf

²³⁵ Cyclone Nargis Emergency appeal final report, <https://reliefweb.int/report/myanmar/cyclone-nargis-emergency-appeal-final-report>

²³⁶ Inter-Agency Real Time Evaluation of the Response to Cyclone Nargis 17 December 2008, <https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/IA%20RTE%20Cyclone%20Nargis%20Final%20Report.pdf>

²³⁷ Best practices and lessons learnt UNICEF Myanmar's response following cyclone Nargis, https://www.unicef.org/infobycountry/files/Myanmar_Nargis_Evaluation.pdf

²³⁸ Office of U.S. Foreign Disaster Assistance annual report for fiscal year 2008, https://pdf.usaid.gov/pdf_docs/pdacm965.pdf

Access to the affected areas and populations was the first and primary obstacle to international response efforts. The Government of Myanmar was initially very reluctant to accept any foreigners in the country to respond to the disaster. When foreigners were allowed in, reportedly all foreign responders experienced major obstacles in obtaining visas to enter Myanmar, and additional obstacles were encountered in obtaining travel authorizations to reach the Delta region. For the U.S., responding to the cyclone was particularly challenging, because of tense diplomatic relations between it and the ruling Myanmar junta.²³⁹

Efforts by the international community, particularly a visit by UN Secretary General Ban Ki-Moon and by ASEAN Member States, finally helped convince the Myanmar government to formally accept relief with the condition that Myanmar authorities would be in charge of distribution. Non-Governmental Organizations (NGOs) were also thought to have played a vital role in convincing the government of Myanmar to allow foreign responders into the country.²⁴⁰

For the U.S, getting the Government of Myanmar to accept assistance took several negotiations and a visit to Myanmar by the Director of Foreign Assistance and USAID Administrator Henrietta Fore, and PACOM Commander, ADM Timothy J. Keating, for the U.S. to be allowed to fly relief aid into the country.²⁴¹

On May 5, Charge d' Affaires Shari Villarosa declared a disaster in Myanmar due to Nargis and in response USAID/OFDA immediately provided US\$250,000 to UN agencies for assistance.²⁴²

India and China sent in military medical teams to help with the response. Other foreign militaries to assist in the relief effort were Australia, Bangladesh, Cambodia, Canada, China, Greece, India, Indonesia, Laos, Malaysia, Pakistan, and Thailand, who all helped deliver aid to Myanmar. A French and British ship reportedly waited offshore with the USS Essex battle group but were not granted permission to assist.²⁴³

U.S. Military Response: “Operation Caring Response”

When the cyclone hit Myanmar, the U.S. military already had assets in the area for the annual Exercise Cobra Gold in Thailand. The U.S. military operation in response to Cyclone Nargis was called “Caring Response.” Joint Task Force Caring Response (JTF-CR) was created out of the exercise on May 3 and Lt. Gen. John F. Goodman, Commander of the U.S. Marine Forces Pacific (MARFORPAC), who was leading the exercise, became commander of the JTF-CR. Operations, mainly comprised of a U.S. military operated “air bridge,” from U-tapao air base in Thailand to Rangoon, lasted from May 12, when C-130 sorties began until June 22, 2008. The JTF mainly focused on logistics and the provision of emergency non-food relief.^{244, 245}

239 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

240 Ibid.

241 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

242 Burma - Cyclone Fact Sheet #2, Fiscal Year (FY) 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/52032C009E89EE5085257442006403E4-Full_Report.pdf

243 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

244 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

245 Burma - Cyclone Fact Sheet #24, Fiscal Year (FY) 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/C78891E58770488DC125748200389992-Full_Report.pdf



Myanmar service members unload food packages from a U.S. Air Force C-130 Hercules to a Myanmar military vehicle at the Yangon International Airport, May 12, 2008. The plane carrying water, food and medical supplies was part of Joint Task Force Caring Response. U.S. Marine Corps photo by Sgt. Andres Alcaraz
Source: <https://archive.defense.gov/photoessays/PhotoEssaySS.aspx?ID=710>

U.S. Navy ships, the USS Essex, USS Harpers Ferry, USS Mustin and USS Juneau, along with the embarked 31st Marine Expeditionary Unit (31st MEU), which comprised part of the USS Essex Amphibious Ready Group (ARG), arrived in the Bay of Bengal from the Gulf of Thailand on May 13 where they had been for the Cobra Gold exercise. Additionally, the ARG deployed a dozen helicopters to a staging area in Thailand, where they could reach Myanmar in a few hours if needed. Equipment and supplies had been pre-positioned at Mae Sot, Thailand to serve as a forward operating base, but these were never used. Other assets were available, for instance, the Essex had on board 23 helicopters which could have been used to transport

relief. Unfortunately, no ship-to-shore operations were allowed by Myanmar and the ships stayed off shore for 22 days before departing. The Pentagon said that additional ships, the USS Blue Ridge, and the USS Kitty Hawk carrier strike group, as well as the USS Nimitz aircraft carrier were available if needed, according to the Pentagon at the time. Additional U.S. military assets were on standby throughout the region, including in U-Tapao, Bangkok, and Korat, Thailand, as well as in Guam.^{246, 247, 248, 249, 250, 251, 252}

After the Government of Myanmar agreed to allow assistance, the first U.S. C-130 flight from U-Tapao airfield in Thailand, located around 90 miles southeast of the capital Bangkok, delivered 28,000 pounds of relief, comprised of bottled water, mosquito nets and blankets, followed by two more flights which brought an additional 44,650 pounds of supplies, comprised of food and water.^{253,254} USAID Administrator Henrietta Fore and ADM Timothy J. Keating, Commander of USPACOM, accompanied the first flight. As supplies were being off-loaded Keating met with Myanmar officials to offer more aid. The air crew that accompanied him were from the Marine Aerial Refueler Transport Squadron 152, based out of Okinawa. The crew had also been in the region for

246 Burma - Cyclone Fact Sheet #2, Fiscal Year (FY) 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/52032C009E89EE5085257442006403E4-Full_Report.pdf

247 PaCom Commander Accompanies Burmese Relief Mission, Appeals to Allow More Aid, <https://archive.defense.gov/news/newsarticle.aspx?id=49859>

248 Negotiating humanitarian access to cyclone-affected areas of Myanmar: a review, <https://odihpn.org/magazine/negotiating-humanitarian-access-to-cyclone-affected-areas-of-myanmar-a-review/>

249 First of Three Planned U.S. Relief Flights Brings Aid to Burma, <https://archive.defense.gov/news/newsarticle.aspx?id=49849>

250 U.S. Military Ready to Provide Aid for Stricken Burmese, Official Says, <https://archive.defense.gov/news/newsarticle.aspx?id=49808>

251 Marines, Sailors Prepare for Possible Operations in Burma, <https://archive.defense.gov/news/newsarticle.aspx?id=49840>

252 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

253 Ibid.

254 First of Three Planned U.S. Relief Flights Brings Aid to Burma, <https://archive.defense.gov/news/newsarticle.aspx?id=49849>

Cobra Gold 2008 when it was diverted to assist relief operations.^{255, 256}

Initially, relief efforts by the U.S. military operated under strict conditions laid out by the affected nation's rulers. U.S. personnel were not allowed to distribute relief supplies. At first, Myanmar officials off loaded supplies from aircraft and further distributed the items. However, after the delivery of five flights, Myanmar officials allowed the U.S. to consign supplies to NGOs who further distributed the relief items.²⁵⁷

The U.S. had also offered the use of heavy lift helicopters and landing crafts, but the offers were not accepted by Myanmar. Other foreign militaries, such as Thailand and Singapore, had also offered to send helicopters, but the offers were also turned down.²⁵⁸

Around June 7, operations began to wind down. From June 11-20, the Essex Expeditionary Strike Group left the Gulf of Burma. On June 22, C-130s carried out their last sorties of relief deliveries.²⁵⁹

When operations completed on June 22, 2008, the JTF-CR had completed 186 C-130 sorties, and transported 4 million pounds of relief supplies, including water, food and emergency shelter materials. The deliveries had also supported 32 international aid agencies in total, including UN agencies, and NGOs. Relief goods from Thailand were also delivered. The UN's World Food Program (WFP) took over the "air bridge" from the U.S. military when it reached full capacity.^{260, 261, 262}

255 USAID administrator delivers aid to Burma and announces an additional \$13 million in humanitarian assistance, <https://reliefweb.int/report/myanmar/usaaid-administrator-delivers-aid-burma-and-announces-additional-13-million>

256 PaCom Commander Accompanies Burmese Relief Mission, Appeals to Allow More Aid, <https://archive.defense.gov/news/newsarticle.aspx?id=49859>

257 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

258 Ibid.

259 Ibid.

260 Burma - Cyclone Fact Sheet #24, Fiscal Year (FY) 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/C78891E58770488DC125748200389992-Full_Report.pdf

261 Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

262 UN and U.S. Agencies Assisted Cyclone Victims in Difficult Environment, but Improved U.S. Monitoring Needed, <https://www.gao.gov/products/GAO-11-700>

May 2008 – China: Sichuan Earthquake

Background

On May 12, 2008, an earthquake measuring 8.0 on the Richter scale struck Wenchuan County in China's southwestern Sichuan Province. The neighboring provinces of Gansu and Shaanxi were also badly affected. Almost 100,000 people were killed, more than 360,000 injured and more than 45.55 million people were affected by the disaster. The quake was reportedly the deadliest since the 1976 Tangshan earthquake which killed at least 240,000 people, and the strongest since the Chayu earthquake in 1950. In some areas, it was reported that more than 90 percent of homes had been destroyed by the temblor.^{263, 264, 265, 266}

U.S Military Response

Two C-17 Globemaster IIIs, one assigned to the 15th Airlift Wing at Hickam Air Force Base, Hawaii, and the other assigned to the 3rd Wing at Elmendorf Air Force Base, Alaska, delivered more than 175,000 lbs. of relief supplies to the Chinese military and government. The delivery included tents, food, blankets, lanterns, generators and other supplies which were sent directly to the Shuangliu International Airport at Chengdu, the largest city in Sichuan. Senior members of the People's Liberation Army met the aircrews when they arrived.²⁶⁷

The Department of Defense purchased the relief supplies from FEMA. Less than 24 hours after receiving the request from USPACOM, FEMA had delivered 17 pallets of relief supplies from its Pacific Distribution Center to the 15th Airlift Wing at Hickam Air Force Base for transport.²⁶⁸



Earthquake relief supplies from the United States are unloaded at the Shuangliu International Airport in Chengdu, China. Two U.S. Air Force C-17 Globemaster III aircraft delivered food, water containers, blankets, generators, lanterns and various hand tools, which were taken immediately to earthquake areas. Secretary of Defense Robert Gates, in support of the U.S. Department of State, authorized U.S. Pacific Command to support earthquake relief efforts in the People's Republic of China.

U.S. Air Force photo/Tech. Sgt. Chris Vadnais

Source: <https://www.dvidshub.net/image/89375/us-sends-relief-supplies-china>

²⁶³ Sichuan quake anniversary: China's "transformed approach" to disaster risk, <https://reliefweb.int/report/china/sichuan-quake-anniversary-china-s-transformed-approach-disaster-risk>

²⁶⁴ 5.12 Sichuan Earthquake 10 Years On, <https://reliefweb.int/report/china/512-sichuan-earthquake-10-years>

²⁶⁵ 10th Anniversary of Wenchuan Earthquake, <https://reliefweb.int/report/china/10th-anniversary-wenchuan-earthquake>

²⁶⁶ Transforming livelihoods five years after the Sichuan quake, <https://reliefweb.int/report/china/transforming-livelihoods-five-years-after-sichuan-quake>

²⁶⁷ U.S. Sends Relief Supplies to China, <https://archive.defense.gov/news/newsarticle.aspx?id=49920>

²⁶⁸ FEMA supports federal aid to China, <https://reliefweb.int/report/china/fema-supports-federal-aid-china>

“The members of U.S. Pacific Command offer our sincere condolences to the citizens of the People’s Republic of China who have been affected by this recent earthquake,” said Navy Adm. Timothy Keating, the commander of U.S. Pacific Command. “We will continue to provide any assistance we can to minimize their suffering and loss of life.”²⁶⁹

The relief missions took place as USPACOM was delivering humanitarian aid to Myanmar following Cyclone Nargis. (See above)



Senior Capt. Guan Youfei, deputy director of the Foreign Affairs Office of the Chinese Ministry of National Defense (center) and U.S. Army Brig. Gen. Charles W. Hooper, U.S. military attaché in Beijing, greet the first of two U.S. aircrews delivering earthquake relief supplies to China. The two C-17 U.S. Globemaster III aircraft carried food, water containers, blankets, generators, lanterns and various hand tools.

U.S. Air Force photo/Tech. Sgt. Chris Vadnais

Source: <https://www.dvidshub.net/image/89374/us-sends-relief-supplies-china>

²⁶⁹ U.S. Sends Relief Supplies to China, <https://archive.defense.gov/news/newsarticle.aspx?id=49920>

June 2008 – Philippines: Typhoon Fengshen (also known as Typhoon Frank)

Background

On June 18, 2008, Typhoon Fengshen (locally known as Frank) entered the Philippine Area of Responsibility (PAR) first as a tropical depression and then intensified into a typhoon when it made landfall in the Eastern Visayas region.

The typhoon left at least 557 dead, 87 missing and 826 injured. Heavy rains and powerful winds from Fengshen triggered flooding, landslides and storm surges. The most affected areas were the provinces of Iloilo, Capiz, Aklan, Antique, Leyte and Samar. More than 4 million people (900,000 families) were affected, and a total of 500,494 people (100,080 families) were evacuated to 1,525 evacuation centers. Some 3,492,286 people (738,110 families) chose to stay outside evacuation centers. A total of 81,510 houses were destroyed and an additional 326,321 were damaged. Economic costs of damage to infrastructure and agriculture was estimated at P13.525B.²⁷⁰

In addition to the affected land areas, a deadly transport disaster occurred after the “MV Princess of the Stars” ferry boat went aground on June 21 as Fengshen moved through the area. The ship capsized around three kilometers from Romblon on the shore of Sibuyan Island in the central Philippines, resulting in the deaths of more than 700 passengers. Less than 60 people survived. Rescue and recovery operations were suspended after it was discovered that the boat was transporting some 100,000 liters of fuel in the cargo as well as a large amount of highly toxic pesticides. The Government of the Philippines (GoP) requested international help from the UN and the Joint UNEP/OCHA Environment Unit (JEU), and the European Commission, through the Monitoring and Information Centre (MIC), assisted. The group provided a report of their findings to the GoP before salvage operations began, after completing their visit on July 20, 2008. The U.S. military was also asked to assist in rescue operations.^{271, 272}



Flooding caused by Typhoon Fengshen is visible from the air above Roxas in the Republic of the Philippines, June 26, 2008. The northern part of the island was heaviest hit by the typhoon. U.S. Navy photo by Senior Chief Spike Call
Source: <https://archive.defense.gov/photoessays/PhotoEssaySS.aspx?ID=826>

270 NDCC Update Situation Report No. 33 on the effects of Typhoon “Frank” (Fengshen), 31 July 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/AF08756A504E59A48525749700629D7A-Full_Report.pdf

271 OCHA Situation Report No. 1, The Philippines: ‘Princess of the Stars’ ferry disaster – toxic cargo, 15 July 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/F344606D0B08D05D4925748800036806-Full_Report.pdf

272 Environment: Capsized ferry in Philippines - joint EU and UN assessment report presented to Philippine authorities, <https://reliefweb.int/report/philippines/environment-capsized-ferry-philippines-joint-eu-and-un-assessment-report>

U.S. Military Response

On June 25, 2008, the aircraft carrier USS Ronald Reagan (CVN 76) and its carrier group, which include one cruiser, two destroyers, and one frigate, arrived west of Panay Island. The USS Ronald Reagan with the embarked Carrier Air Wing (CVW) 14 and other navy ships arrived to support GoP relief efforts. The other ships included the guided-missile cruiser USS Chancellorsville (CG 62), and three ships of Destroyer Squadron (DESRON) 7, the guided-missile destroyers USS Howard (DDG 83) and USS Gridley (DDG 101) and the guided-missile frigate USS Thach (FFG 43). Also providing assistance to the Armed Forces of the Philippines (AFP) were the maritime prepositioning ship USNS Gunnery Sgt. Frank Stockham (T-AK 3017) and the rescue and salvage ship USNS Safeguard (T-ARS 50), which assisted in the recovery operations of the sunken ferry Princess of the Stars. Rear Adm. Phil Wisecup, commander of the Navy ships, arrived on shore to meet with Lt. Gen. Ike Inserto, commander of AFP's Central Command, and other senior Philippine officers. Inserto and his senior commanders assessed the capabilities of the USS Ronald Reagan and requested that the U.S. ships provide helicopter support to assist in delivering supplies to remote areas affected by the typhoon.^{273, 274, 275}

On June 26, Sailors from the USS Ronald Reagan and other supporting ships worked with the AFP to deliver relief supplies to the victims of Typhoon Fengshen on the island of Panay.²⁷⁶

HH-60H Seahawk and SH-60F Seahawk helicopters from Helicopter Anti-Submarine Squadron (HS) 4, embarked aboard Ronald Reagan; SH-60B Seahawk helicopters from Helicopter Anti-Submarine Squadron (Light) 43, embarked aboard the guided-missile destroyer USS Howard; and Helicopter Anti-Submarine Squadron (Light) 37; embarked aboard the guided-missile frigate USS



U.S. Navy sailors and Philippine Army soldiers work together unloading supplies for people suffering in the wake of Typhoon Fengshen at Kalibo Airport in the Philippines, June 26, 2008.

U.S. Navy photo by Senior Chief Spike Call

Source: <https://archive.defense.gov/photoessays/PhotoEssaySS.aspx?ID=826>

Thach, made 19 relief sorties to deliver food and bottled water to the most affected areas. Two C-2A Greyhound cargo planes from the Ronald Reagan also arrived, delivering water and rice. Over the course of two days, the carrier provided 28,128 20-ounce bottles of water and 9,060 pounds of rice. U.S. and AFP personnel worked together, loading the supplies onto helicopters for delivery to storm victims.²⁷⁷

Inside the helicopters, U.S. Navy air crews paired with AFP officers and civilian government officials to make the deliveries. AFP officers embarked on the

273 U.S. Navy Ships On Station To Support Armed Forces of the Philippines, https://www.navy.mil/submit/display.asp?story_id=38063

274 Ibid.

275 USAID Fact Sheet #1, Philippines Typhoon, June 27, 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/FB15485FC74E13A74925747600057E32-Full_Report.pdf

276 US Navy, Armed Forces of the Philippines Deliver Supplies to Typhoon-Ravaged Areas, https://www.navy.mil/submit/display.asp?story_id=38077

277 Ibid.

USS Ronald Reagan helped direct the effort.²⁷⁸ To assist with the storm response, Philippine Air Force (PAF) C-130 cargo planes delivered supplies to Iloilo's Santa Barbara airport.

Between June 25 and June 27, helicopters and fixed wing C-2 aircraft from the carrier group, flying fifty-one and nine sorties respectively, delivered relief commodities and transported U.S. Government and Armed Forces of the Philippines personnel to otherwise inaccessible areas on Panay and Sicogon islands.²⁷⁹

The DOD was also asked to assist with the Princess of the Stars ferry accident, a secondary disaster due to the storm. On June 24, 2008, the U.S. Navy Ship Stockham was deployed with small boats, two search and rescue helicopters, and an underwater scuba team, to find survivors and locate bodies from the Princess of the Stars.²⁸⁰



ILOILO, Philippines (June 25, 2008) Rear Adm. James P. Wisecup, left, shakes hands with Angelo Reyes, Secretary of Energy for the Republic of the Philippines. Wisecup, commander of Carrier Strike Group (CSG) 7, arrived in Iloilo to assess damage caused by Typhoon Fengshen. Navy photo by Mass Communication Specialist 2nd Class Jennifer Kimball
https://www.navy.mil/view_image.asp?id=60589&t=1



PAN DE AZUCAR ISLAND, Philippines (June 27, 2008) An MH-60R Seahawk helicopter assigned to the "Scorpions" of Helicopter Anti-Submarine Squadron Light (HSL) 49 lands in an open field to deliver supplies to residents at Pan de Azucar Island. U.S. Navy photo by Mass Communication Specialist 2nd Class Jennifer S. Kimball. (Released)
 Source: [https://commons.wikimedia.org/wiki/Category:Typhoon_Fengshen_\(2008\)#/media/File:US_Navy_080627-N-0640K-443_An_MH-60R_Seahawk_helicopter_assigned_to_the.jpg](https://commons.wikimedia.org/wiki/Category:Typhoon_Fengshen_(2008)#/media/File:US_Navy_080627-N-0640K-443_An_MH-60R_Seahawk_helicopter_assigned_to_the.jpg)

278 US Navy, Armed Forces of the Philippines Deliver Supplies to Typhoon-Ravaged Areas, https://www.navy.mil/submit/display.asp?story_id=38077

279 USAID Fact Sheet #1, Philippines Typhoon, June 27, 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/FB15485FC74E13A74925747600057E32-Full_Report.pdf

280 USAID Fact Sheet #1, Philippines Typhoon, June 27, 2008, https://reliefweb.int/sites/reliefweb.int/files/resources/FB15485FC74E13A74925747600057E32-Full_Report.pdf

August 2009 – Taiwan: Typhoon Morakot

Background

Typhoon Morakot made landfall in Taiwan on August 7, 2009, leaving at least 602 people dead and 92 reported as missing. From August 8 to 9, Typhoon Morakot passed over Taiwan with heavy rains and wind speeds of more than 100 mph, resulting in extensive flooding and mudslides. The storm affected much of the south-central part of the island and more than 24,000 people were evacuated from affected areas. Additionally, a total of 5,311 people were displaced and stayed in 53 temporary camps. The storm caused widespread damage throughout central and southern Taiwan, particularly in Kaohsiung, Pingtung, Taitung, Nantou, Chiayi, and Tainan counties, mainly affecting remote mountainous regions. Pingtung, Tainan and Kaohsiung were the three most affected counties. Morakot was reportedly one of the deadliest typhoons to have hit the island in the past 50 years. According to UNOCHA, between August 6 and 9, Morakot dumped more than 3 meters of water and caused estimated economic losses of US\$3.4 billion.^{281, 282, 283, 284, 285} More than 40,000 Taiwanese troops were involved in the search for survivors.²⁸⁶

U.S. Military Response

On August 11, American Institute in Taiwan (AIT) Acting Director Robert S. Wang issued a disaster declaration due to the effects of the typhoon. In response, USAID/OFDA provided \$250,000 through the AIT to support the relief efforts of the Taiwan Red Cross Organization (TRCO).²⁸⁷

USAID/OFDA deployed two regional advisors to Taiwan, between August 14 and 24, to conduct assessments and coordinate U.S. Government efforts in coordination with the AIT, TRCO, local government officials, the Taiwan military and the U.S. Department of Defense (DOD).²⁸⁸

Taiwan requested heavy lift assistance from the U.S. and the U.S. Secretary of Defense directed U.S. Pacific Command (USPACOM) to assist. For the response effort, USPACOM was to provide support for logistics, transportation and relief supplies. From there, the Seventh Fleet assigned the task to Combined Task Force 76 (CTF 76). Given the limited scope of Taiwan's support request, CTF 76 redeployed Commander, Amphibious Squadron 11 (CPR11), along with elements of the commodore's staff, and 31st Marine Expeditionary Unit (MEU) aboard the USS Denver (LPD 9), which had two MH-53Es and two MH-60S helicopters and an LCAC hovercraft aboard. CPR 11's commodore assembled a Humanitarian Assistance Survey Team (HAST) and flew ashore. He met

281 Asia: Typhoon Morakot - Information Bulletin n° 1, <https://reliefweb.int/report/china/asia-typhoon-morakot-information-bulletin-n-1>

282 Taiwan: Most recent disaster declaration - Typhoon, 11 Aug 2009, <https://reliefweb.int/report/china-taiwan-province/taiwan-most-recent-disaster-declaration-typhoon-11-aug-2009>

283 Taiwan - Typhoon Fact Sheet #1, Fiscal Year (FY) 2009, https://reliefweb.int/sites/reliefweb.int/files/resources/59D29B96DF1FEABB492576170005E1C8-Full_Report.pdf

284 Asia: Typhoon Morakot - Information Bulletin n° 2, https://reliefweb.int/sites/reliefweb.int/files/resources/D93C20ABC4604DF285257616005B74B5-Full_Report.pdf

285 Typhoon Morakot Situation Report #3, September 2, 2009, https://reliefweb.int/sites/reliefweb.int/files/resources/D93C20ABC4604DF285257616005B74B5-Full_Report.pdf

286 Typhoon Morakot Situation Report #1, August 19, 2009, https://reliefweb.int/sites/reliefweb.int/files/resources/A9DAD7AA2E24B84F492576180001BA4F-Full_Report.pdf

287 Taiwan: Most recent disaster declaration - Typhoon, 11 Aug 2009, <https://reliefweb.int/report/china-taiwan-province/taiwan-most-recent-disaster-declaration-typhoon-11-aug-2009>

288 Taiwan - Typhoon Fact Sheet #2, Fiscal Year (FY) 2009, <https://reliefweb.int/report/china-taiwan-province/taiwan-typhoon-fact-sheet-2-fiscal-year-fy-2009>

with USAID, the American Institute in Taiwan, the Taiwan government, and military personnel to review the status of relief operations. After discussing the host nation's priorities with USAID representatives, the commodore decided he could best assist the Taiwan government by using the helicopters to lift construction vehicles and equipment to outlying and mountainous areas cut off by floods and landslides.^{289, 290}

On August 15 and 16, the DOD delivered 517,420 water purification tablets and 120 rolls of plastic sheeting via two C-130 cargo planes from Marine Corps Air Station Futenma on Okinawa for distribution to

affected populations. In addition, USPACOM provided air assets, including two heavy-lift helicopters and two medium-lift helicopters from the U.S.S. Denver from Sasebo Naval Base, Japan, to transport excavation equipment.^{291, 292}

The commodore deployed 45 sailors and Marines to provide a tactical air control team, a helicopter rigging team, a helicopter logistics and maintenance team, and a public affairs team at Tainan Air Force Base, where they worked together with their Taiwanese counterparts. The MH-60S provided aerial damage surveys and verification of helicopter landing zones, while the MH-53E performed lift missions. In six days the team flew 55 sorties, lifting 20 construction vehicles and 20 boxes of relief supplies, for a total of 255,800 pounds.²⁹³

DOD assistance to Taiwan came out to roughly US\$700,000 through the Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) account for logistics, transportation and relief commodities.²⁹⁴

DOD Personnel assisted the USAID/OFDA Principal Regional Advisor (PRA) in conducting field assessments in southern Taiwan between August 20 and 22. The team was accompanied by AIT officials and Taiwan authorities. U.S. military helicopters also assisted humanitarian assessments in mountainous Kaohsiung County and the Pingtung coastal delta region.²⁹⁵



An MH-60S Knighthawk lifts off from a temporary landing zone in Min Chuan, Taiwan, leaving behind a crew of Marines to manage inbound earthmovers Aug. 19, 2009. The MH-60S and other Navy helicopters embarked aboard USS Denver (LPD 9) conducted humanitarian operations in Taiwan to provide assistance to those suffering in the wake of typhoon Morakot.

U.S. Navy photo by Mass Communication Specialist 3rd Class Casey H. Kyhl
Source: https://commons.wikimedia.org/wiki/File:US_Navy_photo_090819-N-WJ771-286_Morakot_relief.jpg

289 Foreign humanitarian assistance and disaster-relief operations: lessons learned and best practices, by Captain Cathal O'Connor, U.S. Navy, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

290 U.S. sends troops, aid for victims of typhoon in Taiwan, <https://www.stripes.com/news/u-s-sends-troops-aid-for-victims-of-typhoon-in-taiwan-1.94026>

291 Taiwan - Typhoon Fact Sheet #2, Fiscal Year (FY) 2009, <https://reliefweb.int/report/china-taiwan-province/taiwan-typhoon-fact-sheet-2-fiscal-year-fy-2009>

292 U.S. sends troops, aid for victims of typhoon in Taiwan, <https://www.stripes.com/news/u-s-sends-troops-aid-for-victims-of-typhoon-in-taiwan-1.94026>

293 Foreign humanitarian assistance and disaster-relief operations: lessons learned and best practices, by Captain Cathal O'Connor, U.S. Navy, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

294 Taiwan - Typhoon Fact Sheet #2, Fiscal Year (FY) 2009, <https://reliefweb.int/report/china-taiwan-province/taiwan-typhoon-fact-sheet-2-fiscal-year-fy-2009>

295 Ibid.

September 2009 – Philippines: Tropical Storm Ketsana (also known as Tropical Storm Ondoy)

Background

Tropical storm Ketsana (locally known as Ondoy) made landfall in the Philippines on September 26, 2009, causing widespread flooding in Central Luzon as it passed through the central region of the country. The storm hit with maximum winds of up to 147 kmh. According to the Philippines National Disaster Coordinating Council (NDCC), Ketsana made landfall near the border of Aurora and Quezon, crossed the central Luzon area for an approximate 12 hour period, and then moved off the coast of Zamabales. It then exited out of the Philippines into the South China Sea on September 27. During a 12-hour period on September 26, rainfall was recorded at approximately 450 mm at the Manila Observatory, which reportedly equaled a rainfall event that occurs once every 180 years. Weather officials estimated the volume of rain to be about one month's worth in just half a day. The rains also generated high levels in the Marikina River, exceeding its capacity. The storm caused widespread flooding in the Metro Manila area and neighboring Rizal province, including the cities of Antipolo, Makati, Malabon, Marikina, Muntinlupa, Pasig, Quezon, San Juan, Taguig, and Valenzuela.^{296, 297, 298}

The storm left 464 people dead, 529 injured and 37 others missing. A total of 993,227 families or 4,901,234 people were affected by Ketsana. Around 15,798 families or 70,124 people were evacuated in 244 evacuation centers. The total number of houses destroyed was 30,082, while another 154,922 were damaged by the storm. Estimated economic damages to infrastructure and agriculture amounted to some PHP 11 billion. The government requested international assistance on September 28 and declared a National State of Calamity on October 2.^{299, 300}

Tropical storm Ketsana was followed by Typhoon Parma (locally known as Pepeng), a category 3 storm, which affected the Philippines during October 3-9, 2009. Parma first made landfall in the Philippines over the eastern coast of Cagayan. Parma brought sustained winds of 195 km/hr and gusts of up to 230 km/hr. Parma stalled in the northern part of Luzon, reversed its track and dumped heavy rainfall on agricultural areas that were already inundated. After nearly a week, Parma exited the Philippines on October 10, exiting out into the South China Sea. Parma left 465 people dead, 207 injured and left another 47 people missing. Some 954,087 families, or 4,478,284 people, were affected by Parma. There were also 3,258 families, or 14,892 people, evacuated to 54 evacuation centers. Additionally, around 6,807 houses were destroyed and another 55,062 houses were damaged. Economic damages to agriculture and infrastructure amounted to an estimated PhP 27.297 billion. Together, Ketsana and Parma caused total economic damages of some US\$4,383,000,000. The two

296 Typhoons Ondoy and Pepeng: Post-Disaster Needs Assessment Executive Summary, https://reliefweb.int/sites/reliefweb.int/files/resources/Full_Report_2419.pdf

297 Philippines: Typhoon Ketsana changed life forever, <https://reliefweb.int/report/philippines/philippines-typhoon-ketsana-changed-life-forever>

298 Philippines: NDCC UPDATE - Final Report on Tropical Storm "ONDOY" and Typhoon "PEPENG"
<https://reliefweb.int/report/philippines/philippines-ndcc-update-final-report-tropical-storm-ondoy-and-typhoon-pepeng>

299 Typhoons Ondoy and Pepeng: Post-Disaster Needs Assessment Executive Summary, https://reliefweb.int/sites/reliefweb.int/files/resources/Full_Report_2419.pdf

300 Philippines: NDCC UPDATE - Final Report on Tropical Storm "ONDOY" and Typhoon "PEPENG"
<https://reliefweb.int/report/philippines/philippines-ndcc-update-final-report-tropical-storm-ondoy-and-typhoon-pepeng>

storms affected over 9.3 million people out of an estimated population of 43.2 million, and left nearly 1,000 people dead. The majority of deaths caused by Ketsana were reportedly due to drowning, while deaths during Parma were largely attributed to landslides.^{301, 302}

The Philippines government launched immediate search and rescue operations in flooded areas on September 26. The Armed Forces of the Philippines, the Philippine National Red Cross (PNRC), the Philippine National Police, the Bureau of Fire Protection, Department of Public Works and Highways, and the Philippine Coast Guard (PCG) were the first responders. Early warnings from the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and the U.S. Navy's Joint Typhoon Warning Center (JTWC) led to the evacuation of 45,500 from the path of Parma.³⁰³

It should be noted here that the U.S. Department of Defense had just provided support for Typhoon Morakot in August (see above) when three disasters, Tropical Storm Ketsana in the Philippines, the Padang Earthquake in Indonesia (see next section), and a tsunami which affected both American Samoa and Western Samoa, occurred within a few days of each other in late



Members of the U.S. Armed Forces and the Armed Forces of the Philippines deliver family food packs donated by local businesses and private organizations to aid communities affected by Tropical Storm Ketsana, Manila, Oct. 4, 2009. Source: <https://dod.defense.gov/Photos/Photo-Gallery/igphoto/2001155425/>

September and early October 2009. News at the time had much of the region's response community stretched thin due to Typhoon Morakot and the subsequent "triple disaster." Additionally, on the heels of Ketsana--which went on to also affect Laos, Cambodia and Vietnam--the Philippines was hit by Typhoon Parma, as mentioned above, which caused additional damages to the Philippines. Despite its assets being stretched thin, DOD assisted in all three relief efforts.

U.S. Military Response

U.S. military support began September 27 with assistance from Joint Special Operations Task Force – Philippines (JSOTF-P). The U.S. forces temporarily deployed in Zamboanga provided 20 personnel, a helicopter and four Zodiac inflatable boats to move food and medical supplies and conduct initial rescue operations in the Manila area. In the early stages of the response, PACOM also provided equipment, transport, and logistics support. "About 20 personnel with the Joint Special Operations Task Force went up to Manila to help the armed forces of the Philippines in any way they could," Navy ADM Timothy J. Keating, USPACOM Commander said.^{304, 305}

301 Typhoons Ondoy and Pepeng: Post-Disaster Needs Assessment Executive Summary, https://reliefweb.int/sites/reliefweb.int/files/resources/Full_Report_2419.pdf

302 Philippines: NDCC UPDATE - Final Report on Tropical Storm "ONDOY" and Typhoon "PEPENG" <https://reliefweb.int/report/philippines/philippines-ndcc-update-final-report-tropical-storm-ondoy-and-typhoon-pepeng>

303 Ibid.

304 Marines, Sailors Bring Aid to Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=56077>

305 Command Continues Aid Efforts in Pacific, <https://archive.defense.gov/news/newsarticle.aspx?id=56087>



Crew members assigned to Utility Landing Craft 1631 unload U.S. Marines' equipment at Naval Base Subic Bay, Philippines, on Oct. 3, 2009. Landing craft 1631 is part of the USS Denver (LPD 9) Amphibious Task Group, which was asked by the government of the Philippines to support humanitarian assistance operations in the wake of Typhoon Ketsana.

DoD photo by Petty Officer Andrew Smith, U.S. Navy. (Released)
 Source: <https://archive.defense.gov/photos/newsphoto.aspx?newsphotoid=11801>



U.S. service members and members of the Armed Forces of the Philippines deliver family food packs to aid communities affected by tropical storm Ketsana in Manila, Philippines, on Oct. 4, 2009. The food packs were donated by local businesses and other private organizations.
 Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001248454/>

On September 29, around 100 3rd Marine Expeditionary Force (III MEF) Marines flew from Okinawa to assess the situation in the Philippines. On September 30, U.S. Navy ships USS Denver, USS Tortuga, and USS Harpers Ferry, with embarked Marines and sailors of the 31st Marine Expeditionary Unit (31st MEU), headed from Okinawa to the Philippines. The next day, Marine Corps Brig. Gen. Mark A. Brilakis, commander of the 3D Marine Expeditionary Brigade (3D MEB), flew to the Philippines to lead efforts. C-130 transport aircraft from the 1st Marine Aircraft Wing delivered humanitarian aid and a III MEF humanitarian assistance support team also arrived to assess the operation.³⁰⁶

U.S. military personnel also delivered relief supplies to remote areas in the Philippines, provided limited medical and dental care and established long-range communication capabilities for relief efforts.³⁰⁷

Medical personnel from the 31st MEU set up a medical civil affairs program at an elementary school in Marikina City that provided care for more than 760 medical and dental patients. Additionally, U.S. military personnel distributed food, providing more than 2,400 meals for Quezon City residents.³⁰⁸

U.S. troops worked alongside Philippine forces to clear tons of debris, deliver food, and provide medical assistance to 9,000 patients in total.³⁰⁹

306 Marines, Sailors Bring Aid to Philippines, <https://archive.defense.gov/news/newsarticle.aspx?id=56077>

307 Ibid.

308 Ibid.

309 Marines, sailors ready to assist Typhoon Megi victims, <https://www.stripes.com/news/pacific/philippines/marines-sailors-ready-to-assist-typhoon-megi-victims-1.122520>

September 2009 – Indonesia: Padang, Sumatra Earthquakes

Background

In late September and early October 2009, Indonesia's Sumatra Island was hit by two powerful earthquakes that caused widespread destruction and triggered landslides that buried villages. The first earthquake was a 7.6-magnitude temblor that hit off the coast of Padang city, the capital of West Sumatra province, on September 30, 2009. Padang and Pariaman were the worst affected areas in the province. The second earthquake struck on October 1 and measured 7.0-magnitude. It struck 46 km southeast of Sungai Penuh in Jambi province at a depth of 10 km. An estimated 1,117 people died and another 1,214 people were injured from the quakes. The government estimated damages at US\$745 million. Around 2.5 million people in total were thought to have been affected by the earthquakes.^{310, 311, 312, 313}

The most affected areas were: Padang City, Pariaman City, Padang Pariaman district; Mentawai district; Agam district; and Pesisir Selatan district. The Indonesian government requested assistance from the U.S. government to respond to the disaster.³¹⁴

U.S. Military Response

U.S. special operations forces from the 353rd Special Operations Group (353rd SOG) were quickly able to set up communications with USPACOM headquarters and help Indonesian and American officials assess the damage. The group was in country for an exercise when the first earthquake hit on September 30. As part of initial relief efforts, an Air Force C-130 Hercules transport delivered supplies to the area around Padang.³¹⁵



Col. Dan Settergren (left) meets with Ted Osius, U.S. Deputy Charge de Affairs in Indonesia, and Rear Adm. Richard Landolt, Amphibious Force 7th Fleet commander, to explain the Air Force humanitarian assistance rapid response team mission and capabilities in front of the team's mobile field hospital Oct. 6, 2009, in Padang, Indonesia. U.S. Air Force photo/Staff Sgt. Veronica Pierce
Source: <https://www.af.mil/News/Article-Display/Article/118909/air-force-harrt-arrives-in-indonesia/>

310 Indonesia: Earthquake Situation Report No. 18, https://reliefweb.int/sites/reliefweb.int/files/resources/133D43113C6B86978525765C0068F0B9-Full_Report.pdf

311 Indonesia: Earthquake Situation Report No. 19, https://reliefweb.int/sites/reliefweb.int/files/resources/37D2C87DB6ECBFEA8525765F00669041-Full_Report.pdf

312 Indonesia: Earthquake Situation Report No. 3, https://reliefweb.int/sites/reliefweb.int/files/resources/E63E0026DA4BDC65C12576430062E4D6-Full_Report.pdf

313 Indonesia: Earthquake Situation Report No. 2, https://reliefweb.int/sites/reliefweb.int/files/resources/D0B6FF38FC9EB5E4852576420053A9C1-Full_Report.pdf

314 Indonesia: Earthquake Situation Report No. 4, https://reliefweb.int/sites/reliefweb.int/files/resources/9037A1B8CF8158F8852576440058FEAF-Full_Report.pdf

315 Command Continues Aid Efforts in Pacific, <https://archive.defense.gov/news/newsarticle.aspx?id=56087>

Navy Rear Adm. Richard Landolt, commander of the Amphibious Force 7th Fleet based in Okinawa, Japan, flew in with a Humanitarian Assistance Survey Team (HAST) on September 30, to lead U.S. military efforts.³¹⁶ On October 2, Airmen of the 353rd SOG and members of a special operations branch of the Indonesian air force started moving emergency response teams, equipment and relief supplies to the Padang area aboard a MC-130P Combat Shadow assigned to the 17th Special Operations Squadron (SOS). The joint team surveyed the area around Padang and provided damage assessments as well as moved personnel and cargo to affected areas. The



Members of the 353rd Special Operations Group, Indonesian air force members and emergency response teams board a MC-130P Combat Shadow Oct. 2, 2009, at Bandung, Indonesia. The 353rd SOG Airmen are from Kadena Air Base, Japan. (Courtesy photo)
Source: <https://www.af.mil/News/Article-Display/Article/118921/kadena-airmen-aid-indonesian-recovery-operations/>

personnel from the 353rd SOG were members of the 320th SOS and 17th SOS from Kadena Air Base. Combat controllers from the teams also surveyed possible airfields and landing zones in case relief operations needed to be expanded. The 353rd SOG quickly set up communications on the ground. Combat controllers are trained special operations forces and certified air traffic controllers that have the ability to establish airfields while also conducting air traffic control, command and control, and humanitarian assistance in austere locations.³¹⁷

As the Philippines had been hit by Tropical Storm Ketsana just four days earlier, the Seventh Fleet and III MEF agreed to split the ARG/MEU, with the 3rd Marine Expeditionary Brigade (3d MEB) leading the Philippines mission and Commander, Task Force 76 (CTF 76) leading the Indonesian mission. On October 3, USS Denver, with a command element from CPR 11, elements of 31st MEU, and Tactical Air Control Squadron 12 (TACRON 12), went to Indonesia with three CH-53E helicopters and a helicopter rigging team. Seventh Fleet sent USS McCampbell (DDG 85) and USNS Richard E. Byrd (T-AKE 4) with their helicopters to provide aerial surveys of the damage. On October 4, CTF 76 and a ten-member HAST/Forward Command Element (FCE) flew to Padang. The FCE established a command post in Jakarta, met with the ambassador and his staff, and coordinated efforts with USAID/OFDA and the TNI.³¹⁸

When the USS Denver, with three heavy lift helicopters, arrived October 8, they immediately began airlifting tents, water and food to people in remote areas. Within four days, they delivered more than 100,000 pounds of cargo.³¹⁹

By October 9, the Denver, McCampbell, and Richard E. Byrd were supporting operations. The

316 Collaboration drove earthquake relief, commander says, <https://www.af.mil/News/Article-Display/Article/118747/collaboration-drove-earthquake-relief-commander-says/>

317 Kadena airmen aid Indonesian recovery operations, <https://www.af.mil/News/Article-Display/Article/118921/kadena-airmen-aid-indonesian-recovery-operations/>

318 Foreign Humanitarian Assistance and Disaster-Relief Operations: Lessons Learned and Best Practices, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

319 Collaboration drove earthquake relief, commander says, <https://www.af.mil/News/Article-Display/Article/118747/collaboration-drove-earthquake-relief-commander-says/>

ships helicopters were used to assist USAID staff in airborne surveys, while long range CH53 helicopters delivered relief supplies to remote communities.³²⁰

An air operations coordination cell was formed at Padang airport with elements of the 353rd SOG. The group, with their TNI counterparts, opened the airport for operations. Only around 165 U.S. military personnel stayed ashore for the operation.³²¹

On October 5, Airmen of the 36th Mobility Response Squadron, deployed from Andersen AFB, Guam, and serving as members of a newly operational Air Force humanitarian assistance rapid response team (HARRT) arrived with some 200,000 pounds of medical and contingency response equipment. The HARRT, comprised of 69 members, included members of 13th Air Force at Hickam AFB, Hawaii; the 3rd Wing at Elmendorf AFB, Alaska; the 374th Medical Group at Yokota Air Base, Japan; and the 36th Contingency Response Group (36th CRG) and 36th Medical Group at Andersen AFB, providing medical support.^{322, 323, 324}

The 36th Contingency Response Group from Andersen Air Force Base, Guam, provided operations support for the HARRT. The 36th CRG is made up of Airmen from the 736th Security Forces Squadron, 36th Mobility Response Squadron, 644th Combat Communications Squadron and 554th RED HORSE Squadron.³²⁵

The HARRT was led by Colonel Dan Settergren, the 36th Contingency Response Group commander at Andersen AFB. “This mission, the HARRT package, takes the communication control, base operations and rapid deployment capabilities that are an inherent part of the air base opening



U.S. Air Force personnel and U.S. Marines unload a CH-53E Super Stallion helicopter carrying relief supplies for remote areas of Indonesia, following two earthquakes, Padang, Indonesia, Oct. 9, 2009. The helicopter crew is assigned to the Dragons of Marine Medium Helicopter Squadron 265. Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001155435/>

mission and allows us the ability to rapidly establish a medical capability anywhere in the theater,” Col. Settergren said.³²⁶

The HARRT set up a mobile field hospital and living quarters in an open field next to D. Jamil Hospital in Padang in an effort to maintain close partnerships with local hospitals. Local medical students assisted the response effort and also provided translation services. The HARRT team began seeing patients on October 7. U.S. military personnel at the field hospital treated more than 600 patients. Three of the four hospitals in Padang were severely damaged during the earthquake.

320 Foreign Humanitarian Assistance and Disaster-Relief Operations: Lessons Learned and Best Practices, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

321 Ibid.

322 McChord Airmen provide humanitarian airlift to Indonesia, <https://www.af.mil/News/Article-Display/Article/118860/mcchord-airmen-provide-humanitarian-airlift-to-indonesia/>

323 Airmen treat hundreds of Indonesian earthquake victims, <https://www.af.mil/News/Article-Display/Article/118884/airmen-treat-hundreds-of-indonesian-earthquake-victims/>

324 Air Force HARRT arrives in Indonesia, <https://www.af.mil/DesktopModules/ArticleCS/Print.aspx?PortalId=1&ModuleId=850&Article=118909>

325 Andersen Airmen keep HARRT beating, <https://www.af.mil/News/Article-Display/Article/118875/andersen-airmen-keep-harrt-beating/>

326 Ibid.

The HARRT is reportedly capable of accommodating between 250 to 400 patients a day.^{327, 328, 329}

A C-17 crew from Elmendorf AFB transported the personnel and 13 pallets of equipment at Yokota AB, while a C-17 crew from Hickam AFB transported the personnel and equipment at Andersen AFB. Included in the team was a seven-person mobile field surgical team consisting of specialists in the fields of general surgery, orthopedic surgery, anesthesiology and emergency medicine from the 3rd Medical Group at Elmendorf AFB.³³⁰

The HARRT was developed by the 13th Air Force to provide a rapidly deployable team that can provide medical assistance in the event of a natural disaster in the Indo-Asia-Pacific region. The team combined the command and control and base operating support capability of the 36th CRG with the medical expertise of medical personnel to form a small, rapid-response unit to help affected nations during disaster relief operations. The HARRT is capable of deploying to an affected area within 24 hours of notification and can set up a fully operational medical facility within 6 hours of arriving.^{331, 332, 333}

McChord Air Force Base Airmen from the 7th Airlift Squadron completed their second humanitarian airlift mission in just over a week on October 9, delivering more than 87,000 pounds of cargo in support of relief operations. The cargo included a forklift and 10 pallets of fuel, food rations, water, and medicine, and was received at Minangkabau International Airport by the 36th Mobility Response Squadron.³³⁴

By October 13, emergency relief operations began to wind down as roads were cleared and the demand for airlift decreased. By October 17, all U.S. forces had departed. In 13 days the U.S. military had provided medical treatment to 1,945 people, ferried 1,117 people, flew 150 sorties and lifted 640,000 pounds of supplies.³³⁵



Capt. Steven Ellis collects medical history information from a patient with the help of Khairul, a local interpreter, Oct. 10, 2009, in Padang, Indonesia. Captain Ellis is a flight surgeon from the 36th Medical Group at Andersen Air Force Base, Guam.
U.S. Air Force photo/Staff Sgt. Veronica Pierce
Source: <https://media.defense.gov/2009/Oct/13/2000456820/-1/-1/0/091010-F-3177P-140.JPG>

327 Interpreters key to Air Force efforts in Indonesia, <https://www.af.mil/News/Article-Display/Article/118873/interpreters-key-to-air-force-efforts-in-indonesia/>

328 Andersen Airmen keep HARRT beating, <https://www.af.mil/News/Article-Display/Article/118875/andersen-airmen-keep-harrt-beating/>

329 Air Force HARRT arrives in Indonesia, <https://www.af.mil/News/Article-Display/Article/118909/air-force-harrt-arrives-in-indonesia/>

330 Airmen deploy to Indonesia to help quake victims, <https://www.af.mil/News/Article-Display/Article/118936/airmen-deploy-to-indonesia-to-help-quake-victims/>

331 Ibid.

332 Airmen treat hundreds of Indonesian earthquake victims, <https://www.af.mil/News/Article-Display/Article/118884/airmen-treat-hundreds-of-indonesian-earthquake-victims/>

333 Air Force humanitarian team set to depart for Indonesia, <https://www.af.mil/News/Article-Display/Article/118952/air-force-humanitarian-team-set-to-depart-for-indonesia/>

334 McChord Airmen provide humanitarian airlift to Indonesia, <https://www.af.mil/News/Article-Display/Article/118860/mcchord-airmen-provide-humanitarian-airlift-to-indonesia/>

335 Foreign Humanitarian Assistance and Disaster-Relief Operations: Lessons Learned and Best Practices, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

October 2010 – Philippines: Typhoon Megi (also known as Typhoon Juan)

Background

Around 2 million people in 17 cities and 23 provinces were affected when Super Typhoon Megi (locally known as Typhoon Juan) made landfall on October 18, 2010 in the Philippines with winds of more than 220 km/hr. Megi made landfall near Divilacan on the east coast of Isabela province. At least 31 people were killed and more than 148,000 houses were damaged, mostly in Isabela. The provinces of Cagayan, Kalinga, La Union and Pangasinan were also badly affected.³³⁶ Typhoon Megi was reportedly the strongest storm to hit the Philippines since Typhoon Durian in 2006.³³⁷

The Government of the Philippines appealed for assistance, and requested a need for fixed-wing aircraft and heavy-lift helicopters.³³⁸ Humanitarian organizations and foreign nations, including the U.S., immediately reached out to help.

U.S. Military Response

On October 19, U.S. Chargé d'Affaires Leslie A. Bassett declared a disaster. USAID/OFDA deployed a five-person assessment team to coordinate with other U.S. Government (USG) agencies, the GoP, and relief organizations to assess the impact and identify needs.³³⁹

In response to a Government request for aerial support, on October 20 USPACOM authorized U.S. Military action for 72 hours under “life and limb” provisions.³⁴⁰ The U.S. Department of Defense (DoD) provided four aircraft for aerial assessments and transport of personnel and supplies.³⁴¹

The U.S. military was also holding a nine-day drill with Philippine counterparts and quickly offered seven helicopters for rescue and delivery of relief goods.³⁴²

Additionally, the USS Essex, USS Harpers Ferry and USS Denver along with the Okinawa-based 31st Marine Expeditionary Unit (31st MEU) were participating in the amphibious landing exercise. The ships remained on standby off the coast of northeast Luzon in case they were called upon to provide additional support following damage assessments.³⁴³

USAID/OFDA sent a team to the Philippines to assist with coordination of U.S. government efforts, including the DOD assistance, and also began to conduct damage assessments.

Marines with the 31st MEU assisted the GoP with assessment of damage caused by Typhoon Megi. The DOD was also assisting Pakistan with massive floods in the country, so U.S. military assets were stretched.

336 Emergency appeal final report Philippines: Typhoon Megi, https://reliefweb.int/sites/reliefweb.int/files/resources/Full_Report_2955.pdf

337 South East Asia: millions affected by six natural disasters, <https://reliefweb.int/report/indonesia/south-east-asia-millions-affected-six-natural-disasters>

338 Philippines Requests Aid in Killer Typhoon's Aftermath <https://archive.defense.gov/news/newsarticle.aspx?id=61330>

339 Philippines – Typhoon, Fact Sheet #1, Fiscal Year (FY) 2011, October 20, 2010, https://pdf.usaid.gov/pdf_docs/PA00J471.pdf

340 Department of Defense Directive Number 5100.46, July 6, 2012, Subject: Foreign Disaster Relief, https://www.jag.navy.mil/distrib/instructions/DODD_5100.46_Foreign_Disaster_Relief.pdf

341 Ibid.

342 Super typhoon hits Philippines, <https://www.reuters.com/article/us-philippines-typhoon/super-typhoon-hits-philippines-idUSTRE69H0EI20101018>

343 Marines, sailors ready to assist Typhoon Megi victims, <https://www.stripes.com/news/pacific/philippines/marines-sailors-ready-to-assist-typhoon-megi-victims-1.122520>

March 2011 – Japan: Tohoku Earthquake and Tsunami (also known as the Great East Japan Earthquake and Tsunami)

Background

On March 11, 2011 a massive 9.0 magnitude earthquake struck 130 kilometers off the coast of northeast Japan, triggering large tsunami waves, and causing widespread devastation. Tsunami waves reportedly reached up to 30 meters high and inundated some 433,000 square kilometers of land. Around 15,891 people were killed and 2,579 people went missing. Around 17,000 homes and buildings were destroyed and another 138,000 were damaged. The disaster forced the evacuation of some 492,000 people in total. According to UNOCHA, the earthquake was the 4th strongest earthquake worldwide since 1900. Economic damages from the disaster have been estimated at US\$228 billion.^{344, 345, 346}



NORTHERN JAPAN (March 15, 2011) An aerial view of coastal damage in northern Japan after a 9.0 magnitude earthquake and subsequent tsunami devastated the area. Ships and aircraft from the Ronald Reagan Carrier Strike Group conducted search and rescue operations and re-supply missions in support of Operation Tomodachi throughout northern Japan.

U.S. Navy photo by Mass Communication Specialist 3rd Class Alexander Tidd/Released

Source: <https://usnhistory.navylive.dodlive.mil/2016/03/10/operation-tomodachi-partnerships-presence-readiness-and-heritage/>

The earthquake and tsunami also damaged three reactors in the Fukushima Daiichi Nuclear Plant, triggering a nuclear crisis, resulting in an unprecedented “triple disaster.” Damages to the nuclear plant and the subsequent leaking of radioactive material forced the evacuation on March 12 and 13 of more than 700,000 people living within the 20 km exclusion zone created by the Government of Japan. Another 136,000 people who lived within 20-30 km of the plant were encouraged by Japanese officials to evacuate or stay inside their homes. The nuclear accident was rated as level 7 on the International Nuclear Events Scale (INES), which was equivalent to that of the 1986 Chernobyl nuclear crisis.^{347, 348, 349}

Japan’s government and military forces worked quickly to respond to the

344 Japan: Earthquake & Tsunami - Situation Report No. 16, <https://reliefweb.int/report/japan/japan-earthquake-tsunami-situation-report-no-16>

345 Tsunamis account for \$280 billion in economic losses over last twenty years, <https://reliefweb.int/report/world/tsunamis-account-280-billion-economic-losses-over-last-twenty-years>

346 Earthquake and Tsunami Operations Update n° 10, https://reliefweb.int/sites/reliefweb.int/files/resources/Earthquake%20and%20Tsunami%20Operations%20Update%20No10_20120214.pdf

347 Japan: Earthquake & Tsunami - Situation Report No. 16, <https://reliefweb.int/report/japan/japan-earthquake-tsunami-situation-report-no-16>

348 FAQs: Fukushima Five Years On, <https://reliefweb.int/report/japan/faqs-fukushima-five-years>

349 Earthquake and Tsunami Operations Update n° 10, https://reliefweb.int/sites/reliefweb.int/files/resources/Earthquake%20and%20Tsunami%20Operations%20Update%20No10_20120214.pdf

disaster. By March 19, the Japan Self Defense Forces (JSDF) had deployed 106,200 personnel, 200 rotary aircraft, 322 fixed-wing aircraft, and 60 ships. Additionally, almost all of the Maritime JSDF (MJSDF) ships were deployed to affected areas. JSDF troops rescued nearly 20,000 individuals in the first week of relief operations and provided relief supplies to some 30,000 displaced by the disaster. JSDF personnel also supported activities at the nuclear reactors.^{350, 351}

The bulk of the foreign military response was provided by the U.S. military, however, Israel provided a medical team comprised of military personnel and China also sent a military search and rescue team to assist.³⁵²



Rear Adm. Robert Girrier, commander Carrier Strike Group Seven, explains operations supporting Japan's earthquake and tsunami relief efforts to Lt. Gen. Eiji Kimizuka, commanding general of Joint Task Force Touhoku, during a visit to the aircraft carrier USS Ronald Reagan. U.S. Navy Photo by Petty Officer 3rd Class Dylan McCord
Source: https://archive.defense.gov/home/features/2011/0311_japan/

U.S. Military Response: “Operation Tomodachi (Friend)”

The Government of Japan (GoJ) initially requested assistance from the U.S. on the evening of March 11. The main assistance requested by the GoJ was for search and rescue teams, the use of military lift to transport supplies and personnel, and DOD, Nuclear Regulatory Commission and Department of Energy nuclear expertise to help with the Fukushima nuclear reactor crisis.³⁵³

In a March 11, 2011 task order, PACOM designated the Commander, U.S. Forces Japan (USFJ) as the supported operational commander of the operation, and 7th Fleet, Fifth Air Force, U.S. Army Forces Japan (USARJ) and Marine Forces Japan (MARFORJ), or each of the services, designated its own supporting commander for the operation. On March 19, elements of JTF-519 from Pearl Harbor, augmented the staff of USFJ and formed a Joint Support Force (JSF) to take command over the mission.^{354, 355}

The U.S. military effort was dubbed “Operation Tomodachi (“Friend”)” and U.S. forces were able to coordinate their efforts almost immediately to provide support for Japanese responders because of the large presence of U.S. military personnel in Japan. Nearly 40,000 U.S. troops from all four services were stationed in Japan and are located at some 85 facilities in Honshu, Kyushu and Okinawa.

³⁵⁰ Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

³⁵¹ Operation Tomodachi, <https://amcmuseum.org/history/operation-tomodachi/>

³⁵² Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

³⁵³ Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

³⁵⁴ Ibid.

³⁵⁵ Foreign humanitarian assistance and disaster relief operations: lessons learned and best practices, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>



An aerial view shows damage to Wakuya, Japan, March 15, 2011. U.S. Navy photo by Petty Officer 3rd Class Alexander Tidd
Source: https://archive.defense.gov/home/features/2011/0311_japan/



U.S. service members and Misawa residents pull a damaged vehicle from the woods near the port in Misawa, Japan, March 19, 2011. Service members, civilian employees and family members from Naval Air Facility Misawa helped residents clean up the port. U.S. Navy photo by Petty Officer 1st Class Matthew M. Bradley
Source: https://archive.defense.gov/home/features/2011/0311_japan/

ship, the JS Hyuga. In another example, a small group of Japanese soldiers coordinated relief efforts between the civilian Sendai airport authority and the U.S. marines helping to reopen the devastated runways.³⁶¹ The U.S. airbase at Misawa, located in Aomori prefecture in northeastern Japan, was used

U.S. forces began mobilizing and providing assistance to the Government of Japan the day the earthquake and tsunami hit. Military assets in the region were also redirected to the quake zone, including the aircraft carrier, the USS Ronald Reagan. The USS Ronald Reagan Carrier Strike Group included the USS Chancellorsville, USS Preble, USS Shiloh and USS Curtis Wilbur.^{356, 357}

U.S. military personnel were deployed to the affected areas within 24 hours of the earthquake. All search and rescue assets from Okinawa, were first moved to Yokota Air base outside of Tokyo and then deployed to the north.^{358, 359}

U.S. military forces and the JSDF worked very closely together during relief operations. JSDF helicopters used U.S. aircraft carriers for the first time in responding to the disaster. The USS Ronald Reagan aircraft carrier provided a platform for air operations as well as a refueling base for JSDF and Coast Guard helicopters. Other U.S. vessels transported JSDF troops and equipment, such as the USS Tortuga, which transported 90 JSDF vehicles and nearly 300 JSDF soldiers. U.S. forces train regularly with the JSDF, including many humanitarian assistance and disaster relief exercises and the years of training as well as many interoperable military assets greatly assisted joint response efforts.³⁶⁰

Liaison officers helped with communication between the JSDF and U.S. military forces. For instance, three Marine JSDF officers served on board the USS Reagan, parallel to three U.S. Navy liaison officers on the Japanese

356 Chronology of Operation Tomodachi, <https://www.nbr.org/publication/timeline-of-operation-tomodachi/>

357 Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

358 Ibid.

359 Operation Tomodachi, <https://amcmuseum.org/history/operation-tomodachi/>

360 Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

361 Ibid.

as a forward operating base for both U.S. and JSDF forces.³⁶²

On March 12, Commander, Task Force 76 (CTF 76) and 14 staff members deployed as 7th Fleet's maritime response cell (MRC) to USFJ. The MRC was the representative of the joint force maritime component commander (JFMCC). The MRC participated in daily coordination meetings, including the Joint Effects Coordination Board where the JSF, USAID and the components reviewed and validated requests for assistance in order to task them to the appropriate component. As of March 16, 2011, the U.S. Seventh Fleet was operating 19 ships, 140 aircraft, and more than 18,000 personnel in support of the disaster response. A U.S. Navy P-3 Orion was also used to perform aerial search missions over the debris from the tsunami, off the northern coast of Japan.^{363, 364}

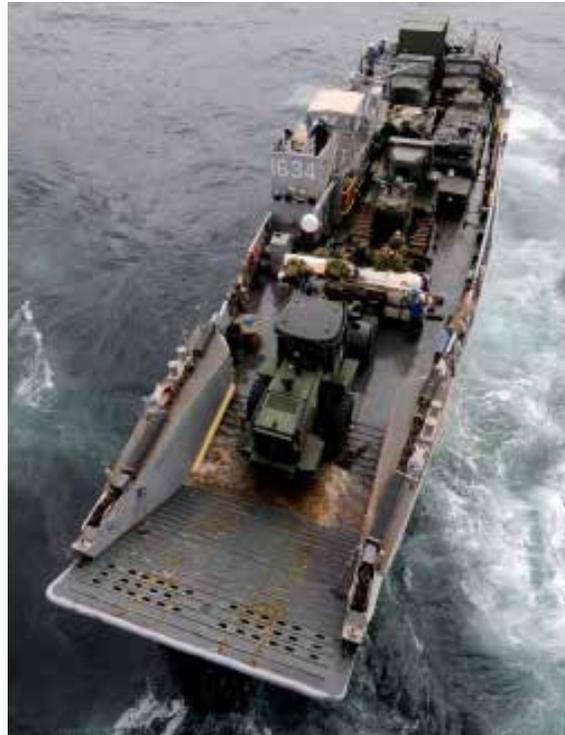
On March 18, U.S. and Japanese forces began to transition from a search and rescue effort to a relief mission.

As of April 1, Pacific Air Forces (PACAF) had conducted 444 sorties, delivering almost 6 million pounds of relief. The Air Force 33rd Rescue Squadron from Kadena Air Base also took part in search and rescue operations. The Air Force also launched an RQ-4 Global Hawk, a high-altitude unmanned aircraft from Andersen AFB in Guam, and a South Korea-based U-2, a high altitude manned aircraft, to assist with surveillance and assessments of damage. An Air Force special operations team conducted airfield surveys, including at Sendai International Airport, where they also assisted with runway clearing.^{365,}

³⁶⁶

The III Marine Expeditionary Force (III MEF) was involved in delivering supplies and clearing access. It also provided radiological surveillance and decontamination at the Fukushima Daiichi nuclear facility. U.S. Army Japan took part in the assessment effort in Sendai, and the U.S. Army Corps of Engineers Japan District helped with debris clearing.³⁶⁷

U.S. Army soldiers from the 35th Combat Support and Sustainment Battalion, along with the 10th Support Group, 83rd Ordnance, 505th Quartermaster Battalion, 1st Battalion, 1st Air Defense Artillery Regiment and the 1st Battalion, 1st Special Forces served in the operation. The task force, based out of Torii Station, Okinawa, served as a humanitarian logistics hub at Sendai International



SEA OF JAPAN (March 19, 2011) A landing craft utility debarks the forward-deployed amphibious assault ship USS Essex (LHD 2) to survey landing sites near Akita, Japan.

U.S. Navy photo by Mass Communication Specialist 3rd Class Adam M. Bennett/Released
Source: <https://usnhistory.navylive.dodlive.mil/2016/03/10/operation-tomodachi-partnerships-presence-readiness-and-heritage/>

³⁶² Ibid.

³⁶³ Foreign humanitarian assistance and disaster relief operations: lessons learned and best practices, <https://apps.dtic.mil/dtic/tr/fulltext/u2/1001888.pdf>

³⁶⁴ Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

³⁶⁵ Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

³⁶⁶ Soldiers help open runways at Sendai International, https://www.army.mil/article/54024/soldiers_help_open_runways_at_sendai_international

³⁶⁷ Lessons from department of defense disaster relief efforts in the Asia-pacific region, https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

Airport and provided cargo transload, debris removal, sling-load rigging and also delivered toys to affected children.³⁶⁸

U.S. troops played a major role in the re-opening of airfields and ports. In the aftermath of the disaster, Sendai's airport appeared to be unusable and in complete ruins. The airport was under eight feet of water, a day after the disaster. An Okinawa-based U.S. Special Operations Group that specialized in establishing forward supply bases began the initial removing of debris, including some of over 5,000 cars that had washed onto the runways. They were later joined by Army soldiers and Marines. U.S. military personnel helped Japanese forces clear and operationalize Sendai International Airport within five days of the disaster so that it could serve as an important relief hub in the devastated region. As of March 29, troops had cleared more than 2,300 vehicles, delivered 140 drums of kerosene as well as clothing, shoes, blankets and hygiene kits to evacuees. Some 260 Marines also worked side by side with the JSDF and the airport began receiving relief supplies on March 15 and was later opened to commercial flights on April 13. U.S. troops also helped clear the ports of Hachinohe, Miyako, and Oshima, which had been heavily damaged. The clearing of the runways and ports allowed for important distribution points for the relief effort.^{369, 370}

The operation began winding down in early April. On April 5, the USS Ronald Reagan Carrier Strike Group, concluded its support of the mission. The next day, Marines, sailors and soldiers with the Logistics Combat Element, 3rd Marine Expeditionary Brigade ended their participation. On April 7, the Essex Amphibious Ready Group concluded its mission after some three weeks of providing assistance and the 31st MEU departed Oshima Island after providing clean up services. By April 8, all U.S. Navy ships involved in the operation ended their mission and redeployed. The USS Tortuga, USS Safeguard, and USS Essex were the last to leave after the Tortuga and Safeguard presented underwater data on submerged navigational obstructions to local officials in Kessenuma and Oshima.³⁷¹

At the peak of operations, around 24,000 personnel, 189 aircraft, and 24 Navy vessels were involved. U.S. efforts focused on transport of relief supplies, JSDF personnel, equipment, surveillance, and the restoration of critical infrastructure in order to sustain operations.³⁷² In addition to immediate relief assistance and support to Japanese self-defense forces, the U.S. military delivered more than two million gallons of water, 189 tons of food, 11,960 gallons of fuel and 100 tons of relief supplies as well as medical assistance, search-and-rescue support, and heavy lift assistance.³⁷³ Operation Tomodachi concluded May 1, 2011.

“Operation Pacific Passage”

Further complicating relief operations is that aside from U.S. military personnel, there was a total of 43,000 U.S. military dependents and 5,000 DOD civilian employees stationed in Japan. Due to the nature of the disaster, the Air Force became involved with “Operation Pacific Passage,” a military-assisted voluntary evacuation operation, which led to the evacuation of some U.S. citizens and their dependents who wished to leave Japan. Initiated a week after the disaster struck, Operation Pacific Passage was a U.S Northern Command (USNORTHCOM)-led operation, and the Air Mobility Command (AMC), 18th Air Force and the 618th Air Operations Center played major roles in the

368 Soldiers help open runways at Sendai International, https://www.army.mil/article/54024/soldiers_help_open_runways_at_sendai_international

369 Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

370 Soldiers help open runways at Sendai International, https://www.army.mil/article/54024/soldiers_help_open_runways_at_sendai_international

371 Chronology of Operation Tomodachi, <https://www.nbr.org/publication/timeline-of-operation-tomodachi/>

372 Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

373 Operation Tomodachi: Partnerships, Presence, Readiness and Heritage, <https://usnhistory.navylive.dodlive.mil/2016/03/10/operation-tomodachi-partnerships-presence-readiness-and-heritage/>

operation. Eligible dependents of U.S. service members and DOD civilians were authorized by the U.S. Department of State to voluntarily depart March 16. In total, 7,322 U.S. military families were evacuated. The families were flown back to AMC bases and airports in the U.S., with the final flight arriving at Travis Air Force Base in California on March 28, 2011.^{374, 375}

Nuclear response

The DOD, along with the U.S. Nuclear Regulatory Commission, and Department of Energy, assisted Japan in dealing with the nuclear crisis. The U.S. military provided specially trained teams as well as airborne systems used to monitor radioactivity and teams on the ground who also monitored radioactivity. Efforts included on-the-ground expertise, decontamination of assets, monitoring of contamination of food and water, aerial detection capability, high-pressure water pumps, fire trucks, and protective gear. The U.S. Navy provided two water barges that provided 500,000 gallons of fresh water for cooling efforts for the damaged reactors. The Marines' Chemical and Biological Incident Response Force (C-BIRF) was deployed to provide training to the JSDF. Global Hawks and U-2 surveillance planes from Okinawa and WC-135 Constant Phoenix aircraft from Offutt Air Force Base in Nebraska were used to monitor radiation levels.^{376, 377}

The DOD's Defense Threat Reduction Agency (DTRA) also supported Operation Tomodachi by providing consequence management and advisory support. A team of 33 personnel from DTRA/Center for Combating Weapons of Mass Destruction (SCC-WMD) forward-deployed to Yokota Air Base Japan to provide support. This included support by a Consequence Management Advisory Team (CMAT) that was in South Korea for an exercise when the quake struck. The CMAT headed to Yokota Air Base after a request from U.S. Forces Japan. The CMAT team immediately began working with USFJ and the Japanese Ministry of Defense to develop plans to deal with the nuclear threat. The forward-deployed team was supported by 200 other DTRA/SCC-WMD team members at Fort Belvoir, Virginia who provided technical reachback support.^{378, 379}



EIELSON AIR FORCE BASE, Alaska -- Personnel from the 55th Aerospace Medicine Squadron and 55th Aircraft Maintenance Squadron report a "thumbs down," which indicates the WC-135 Constant Phoenix aircraft is above acceptable levels of contamination and needs be parked in an isolated location to be decontaminated. This initial radiation survey was done every time the WC-135 landed after collecting air samples in international airspace over the Pacific as part of Operation Tomodachi
Air Force photo by Staff Sgt. Christopher Boitz
Source: <https://www.afhistory.af.mil/FAQs/Fact-Sheets/Article/690225/operation-tomodachi/>

374 Five years later: Operations Tomodachi, Pacific Passage - Planning made all the difference, <https://www.amc.af.mil/News/Article-Display/Article/785870/five-years-later-operations-tomodachi-pacific-passage-planning-made-all-the-dif/>

375 Operation Pacific Passage Winds Down at Travis Air Force Base, https://www.navy.mil/submit/display.asp?story_id=59387

376 Japan 2011 earthquake: U.S. Department of Defense (DOD) response, <https://fas.org/sgp/crs/row/R41690.pdf>

377 Operation Tomodachi: Partnerships, Presence, Readiness and Heritage, <https://usnhistory.navylive.dodlive.mil/2016/03/10/operation-tomodachi-partnerships-presence-readiness-and-heritage/>

378 Defense Threat Reduction Agency, Our History, <https://www.dtra.mil/About/DTRA-History/>

379 The Shield: The Official Magazine of DTRA/SCC-WMD, Vol. 1, Issue 3, <https://www.hsdl.org/?view&did=721805>

October 2011 – Thailand: Floods

Background

Major flooding in Thailand began at the end of July 2011 after Tropical Storm Nock-ten affected the country. Floodwaters inundated 90 billion square kilometers of land, or more than two-thirds of the country. It was reportedly the worst flooding to hit Thailand in 50 years.³⁸⁰ Floods inundated 66 out of the country's 77 provinces, mainly in the northeastern and central regions, including the Bangkok metropolitan area, affecting more than 13 million people from July to December 2011, and resulting in more than 680 deaths. Heavy rain combined with storms during the rainy season led to the historic flooding. Flash floods were first reported in the north in May, followed by tropical depression Haima in June and Nock-Ten in July. Additionally, the southwest monsoon in August and September and the northeast monsoon in October added to the floods. Flood waters drained from the north down to the central plains of the Chao Phraya River Basin, and reached Bangkok in early November. At the peak of the flooding, more than 165,000 people sought shelter in some 2,600 shelters. Around 19,000 houses were destroyed and around 1.9 million were affected. Total economic losses amounted to THB 1.43 trillion (USD\$46.5 billion). Overall, 90 percent of the losses from the floods were from the private sector. Manufacturing took some 70 percent of the economic losses, mainly due to the flooding of six industrial estates in Ayuthaya and Pathum Thani in October and November.^{381, 382, 383}

The Royal Thai Armed Forces assigned some 56,000 army, navy, and air force personnel for flood relief efforts. The armed forces focused on water management, assisting the affected population, managing relief supplies and assisting other agencies. Additionally, troops also monitored flood defenses, water flow and performed water evacuation missions.³⁸⁴

U.S. Military Response

On October 7, a disaster declaration was announced by the U.S. Embassy. Later in October, the USS Mustin stopped in Thailand to conduct dozens of helicopter survey missions with the Thai military. Crew members of the ship also worked with communities and donated blood and relief funds. According to the Government of Thailand, two helicopters from the USS Mustin participated in over 69 survey trips of flooded areas with the Thai army. In November, the USS Lassen arrived in Thailand with personnel and equipment ready to assist with relief efforts.^{385, 386}

U.S. Marines, airmen and sailors worked jointly with their Thai military counterparts to provide flood relief on November 29 at the Don Mueang International Airport. The U.S. military and Royal Thai soldiers and airmen transported equipment from the Laem Chabang port to help fight the flooding at the airport. The Marines and sailors were assigned to Combat Logistics Regiment 3, part

380 2011 Thailand Flood Executive Summary, <http://www.thaiwater.net/web/index.php/ourworks2554/379-2011flood-summary.html>

381 Thailand Flooding 2554 Rapid Assessment for Resilient Recovery and Reconstruction Planning By the Ministry of Finance, Royal Thai Government and The World Bank 18 January, https://www.undp.org/content/dam/thailand/docs/UNDP_RRR_THFloods.pdf

382 Thai Flood 2011: Rapid Assessment for Resilient Recovery and Reconstruction Planning, <https://reliefweb.int/report/thailand/thai-flood-2011-rapid-assessment-resilient-recovery-and-reconstruction-planning>

383 Thailand after the floods: When communities own their change, <https://reliefweb.int/report/thailand/thailand-after-floods-when-communities-own-their-change>

384 Thai Flood 2011: Rapid Assessment for Resilient Recovery and Reconstruction Planning, <https://reliefweb.int/report/thailand/thai-flood-2011-rapid-assessment-resilient-recovery-and-reconstruction-planning>

385 Special Report: USA lends Thai flood victims a helping hand, <https://reliefweb.int/report/thailand/special-report-usa-lends-thai-flood-victims-helping-hand>

386 United States Provides Aid and Expertise to Thai Flood Victims, <https://geneva.usmission.gov/2011/11/17/us-aid-thai-flood/>

of the 3rd Marine Expeditionary Force's 3rd Marine Logistics Group.³⁸⁷

Employees of the U.S. Embassy also helped deliver food and gathered supplies for those affected by the floods. The U.S. also planned to train police and emergency personnel in disaster response and provided generators, survival kits and life vests. USAID/OFDA staff helped conduct assessments of flood affected areas, particularly in Bangkok and in Nonthaburi province. In response to the October 7 disaster declaration, USAID/OFDA provided more than US\$1.1 million for relief efforts. USAID/OFDA also supported the deployment of an Incident Command System (ICS) specialist to work with Thailand's emergency responders.^{388, 389}

U.S. military personnel provided equipment to assist, including hose-and-reel systems, 600-gallon-per-minute fuel pumps and vehicles for transportation. U.S. Marine Corps and Army engineers and civil engineers with the U.S. Air Force's 36th Contingency Response Group worked with the Thai armed forces to determine how to conduct the operations, including routing flood water, and determining the amount of water to be moved. Additionally, satellite images were forwarded to Thailand to assist with further assistance measures.³⁹⁰



Marines with the 3rd Marine Logistics Group prepare to pump flood water from affected areas at the Don Mueang International Airport in Bangkok, Nov. 29, 2011.

U.S. Marine Corps photo by Lance Cpl. Matheus J. Hernandez

Source: <https://archive.defense.gov/news/newsarticle.aspx?id=66414>

387 Face of Defense: U.S. Troops Combat Floods in Thailand, <https://archive.defense.gov/news/newsarticle.aspx?id=66414>

388 United States Provides Aid and Expertise to Thai Flood Victims, <https://geneva.usmission.gov/2011/11/17/us-aid-thai-flood/>

389 Fact sheet #3, Fiscal year (FY) 2012 Southeast Asia – Floods, November 8, 2011, https://pdf.usaid.gov/pdf_docs/PA00J4C6.pdf

390 Face of Defense: U.S. Troops Combat Floods in Thailand, <https://archive.defense.gov/news/newsarticle.aspx?id=66414>

December 2012 – Philippines: Typhoon Bopha (also known as Typhoon Pablo)

Background

Typhoon Bopha (locally known as Pablo) made landfall three times in the Philippines on December 4, 2012, passing over northern Mindanao, Central Visayas, and Palawan. Around 1,146 people were killed and 834 were reported missing. The typhoon affected over 6.2 million people and left over 230,000 houses damaged or destroyed. The four worst affected provinces were Compostela Valley, Davao Oriental, Agusan Del Sur, and Surigao del Sur. The number of displaced outside of evacuation centers was 925,412, with an additional 8,925 people sheltering in evacuation centers. Philippine President Benigno Aquino III accepted international offers of support and declared a state of emergency. In response, the international community and Government of the Philippines delivered relief aid to those affected by Bopha.^{391, 392, 393}

The Armed Forces of the Philippines (AFP), along with government personnel, responded immediately by deploying personnel to affected areas. The AFP provided support to areas inaccessible by land and also provided radios and handheld communications. Previous to the response, the AFP conducted women's skills trainings with government agencies which included disaster preparedness information in affected areas.³⁹⁴

U.S. Military Response

On December 5, U.S. Chargé d'Affaires Brian L. Goldbeck declared a disaster due to the effects of Typhoon Bopha. In response, USAID/OFDA focused assistance in the priority areas of logistics, emergency shelter, water, sanitation, and hygiene, and provision of relief supplies to vulnerable affected populations. On December 16, the USAID/OFDA field team concluded its assessment



Philippine service members and U.S. Marines off-load relief supplies from a U.S. Marine Corps KC-130J Hercules aircraft Dec. 15 at Davao International Airport, Mindanao, Republic of the Philippines. The service members loaded the supplies onto trucks to be taken to a central distribution hub where Philippine Government and nongovernmental organizations transported them to displaced citizens.

Photo by 1st Lt. Jean-Scott Dodd, III MEF

Source: <https://www.dvidshub.net/image/802232/us-philippines-service-members-rapidly-off-load-supplies-davao>

391 Report: The After Action Review/Lessons Learned Workshops Typhoon Bopha Response, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/Bopha%20AAR-LLR%20Report%202013_FINAL_14%20June%202013.pdf

392 Typhoon Bopha Situation Report No. 19 (as of 12 February 2013), <https://reliefweb.int/report/philippines/typhoon-bopha-situation-report-no-19-12-february-2013>

393 Philippines: Typhoon Bopha Situation Report No. 19 (as of 12 February 2013), <https://reliefweb.int/report/philippines/typhoon-bopha-situation-report-no-19-12-february-2013>

394 Report: The After Action Review/Lessons Learned Workshops Typhoon Bopha Response, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/Bopha%20AAR-LLR%20Report%202013_FINAL_14%20June%202013.pdf

activities in Davao Oriental and Compostela Valley provinces in southeastern Mindanao and returned to Manila to coordinate with staff from the U.S. Embassy, DOD and humanitarian partners.³⁹⁵

Members of III MEF and special operations personnel were in the Philippines when the typhoon hit. In general, U.S. military forces provided planning, coordination, personnel, water purification teams, and aircraft assets. U.S. Marines began moving relief supplies from Marine Corps Air Station (MCAS) Futenma in Okinawa, Japan, to Villamor Air Base, which shares runways with the Ninoy Aquino International Airport in Manila, where they were distributed. U.S. Joint Special Operations Task Force – Philippines assisted in the southern Mindanao region. Three water purification systems and an expert were dispatched to Davao on December 7.³⁹⁶

Navy ADM. Samuel J. Locklear, commander of USPACOM, credited the close alliance between the U.S. and the Philippines for allowing U.S. forces to provide timely assistance. “The established partnership we have ensured swift coordination with U.S. Marine Forces Pacific, and allowed for the transportation of live-saving supplies from Manila to communities isolated by severe infrastructure damage... This type of coordination and response to such a calamity would not be possible if not for the robust relationships already in place between our two countries,” Locklear said.³⁹⁷

Members of III MEF were participating in the planning conference for Balikatan 13 and special operations forces were working with the AFP when Typhoon Bopha made landfall. Marines with the 3rd Marine Expeditionary Brigade stood up the III MEF forward command element on December 8 and used it as a base to provide relief. Requests were coordinated through the US Embassy and



Marines load a KC-130J Hercules aircraft at Marine Corps Air Station Futenma bound for the Republic of the Philippines on Dec. 8 to assist in humanitarian assistance and disaster relief efforts in the wake of Typhoon Bopha. The aircraft provides the lift capacity and capability to transport personnel and relief supplies to areas where they are needed. Personnel with 3rd Marine Expeditionary Brigade, already located in the Philippines and serving as the III Marine Expeditionary Force Forward Command Element, helped provide assistance. The aircraft and Marines are with Marine Aerial Refueler Transport Squadron 152, Marine Aircraft Group 36, 1st Marine Aircraft Wing, III MEF.

Photo by Lance Cpl. Matthew Manning, III MEF

Source: <https://www.dvidshub.net/image/796972/marine-aircraft-heads-philippines-assist-relief-efforts>

OFDA. “The III MEF forward command element has established the bilateral coordination center, which is providing command and control for U.S. Marine relief efforts and coordinating requests for support with the government and Armed Forces of the Philippines, U.S. Embassy and Office of U.S. Foreign Disaster Assistance, part of the U.S. Agency for International Development. We have personnel with the Armed Forces of the Philippines, Pacific Air Forces, OFDA, Joint-U.S. Military Assistance Group-Philippines and Joint Special Operations Task Force-Philippines in the bilateral coordination center in order to prioritize and synchronize humanitarian assistance and relief efforts, which ultimately makes that coordination more efficient,” said Marine Corps Col. Mark J. Menotti, the officer in charge of the

395 Philippines – Typhoon Fact Sheet #3, Fiscal Year (FY) 2013, December 20, 2012 <https://reliefweb.int/sites/reliefweb.int/files/resources/12.20.12%20-%20USAID-DCHA%20Philippines%20Typhoon%20Fact%20Sheet%20%233.pdf>

396 Okinawa Marines helping with Philippines disaster relief, <https://www.stripes.com/news/marine-corps/okinawa-marines-helping-with-philippines-disaster-relief-1.200535>

397 Close U.S.-Philippine Ties Aid Typhoon Relief Efforts, <https://archive.defense.gov/news/newsarticle.aspx?id=118794>

III MEF FCE.^{398, 399, 400}

Two KC-130J Hercules aircraft with Marine Aerial Refueler Transport Squadron 152 also arrived in Manila from MCAS Futenma, December 8 to transport relief supplies to affected areas. The two KC-130 aircraft and around two dozen Marines made relief flights to the affected regions. Aside from relief supplies, they also transported four water purification specialists and personnel from USAID and personnel from the Philippine Department of Social Welfare and Development to Davao International Airport in Mindanao, the region most affected by the storm.^{401, 402, 403}

U.S. military forces transported relief supplies from Villamor Air Base in Manila to Davao International Airport. From Davao, the supplies were distributed by government personnel and NGOs to displaced families as directed by the Philippine Department of Social Welfare and Development and the National Disaster Risk Reduction and Management Council.⁴⁰⁴

The U.S. Marine Corps Forces Pacific Experimentation Center (MEC) also provided relief to affected areas. The MEC provided training to AFP soldiers on using water purification systems left in the country following Exercise Balikatan 2012. The systems were provided by the MEC by the Office of Naval Research, Naval Facilities Engineering Expeditionary Warfare Center, and OSD. The AFP deployed the systems to Davao two days later and they were later transported to other areas affected by the typhoon.⁴⁰⁵

Personnel from the U.S. Joint Special Operations Task Force – Philippines (JSOTF-P) assisted the Armed Forces of the Philippines in Mindanao. A coordination team supported the arrival, transfer, and onward movement of relief supplies to affected areas. From December



Philippine service members and U.S. Marines palletize relief supplies at Villamor Air Base in Manila during humanitarian assistance and disaster relief operations, Dec. 13, 2012. After palletizing the gear, the Marines transported the supplies via KC-130J Hercules aircraft to Davao International Airport for further distribution to citizens in need throughout Mindanao. The Marines are landing support specialists with 3rd Marine Logistics Group, III Marine Expeditionary Force and embarkation specialists with 3rd MLG and 1st Marine Aircraft Wing, III Marine Expeditionary Force. U.S. Marine Corps photo by 1st Lt. Jean-Scott Dodd
Source: <https://archive.defense.gov/news/newsarticle.aspx?id=118794>

398 Close U.S.-Philippine Ties Aid Typhoon Relief Efforts, <https://archive.defense.gov/news/newsarticle.aspx?id=118794>

399 Leathernecks on the Scene, Quickly Providing Disaster Relief, <https://mca-marines.org/leatherneck/leathernecks-on-the-scene-quickly-providing-disaster-relief/>

400 Marine Corps continues disaster efforts in Philippines, <https://www.dvidshub.net/news/99201/marine-corps-continues-disaster-efforts-philippines>

401 Okinawa Marines helping with Philippines disaster relief, <https://www.stripes.com/news/marine-corps/okinawa-marines-helping-with-philippines-disaster-relief-1.200535>

402 Close U.S.-Philippine Ties Aid Typhoon Relief Efforts, <https://archive.defense.gov/news/newsarticle.aspx?id=118794>

403 Leathernecks on the Scene, Quickly Providing Disaster Relief, <https://mca-marines.org/leatherneck/leathernecks-on-the-scene-quickly-providing-disaster-relief/>

404 Marine Corps continues disaster efforts in Philippines, <https://www.dvidshub.net/news/99201/marine-corps-continues-disaster-efforts-philippines>

405 MEC conducts helpful experiment in Philippines, <https://www.marforpac.marines.mil/News/News-Article-Display/Article/530582/mec-conducts-helpful-experiment-in-philippines/>



Members of the Armed Forces of the Philippines deploy an Aspen 2000 water purification system to Baganga Dec. 9 in order to provide relief to local communities affected by Typhoon Bopha.
(Courtesy photo)

Source: <https://media.defense.gov/2013/Jan/10/2000004463/-1/-1/0/121209-O-XX000-239.JPG>



A Marine Corps KC-130J Hercules carrying relief goods from Manila arrives in Davao City.

Courtesy U.S. Embassy Manila

Source: <https://www.stripes.com/news/marine-corps/okinawa-marines-helping-with-philippines-disaster-relief-1.200535>

10-12, JSOTF-P provided aerial assessments over Davao Del Sur, across Compostela Valley and along the east coast of Mindanao from Davao Oriental to Boston. These observations from the air provided over 600 images to advisers on the ground, in an effort to assess damage and facilitate distribution of relief.⁴⁰⁶

On December 16, the DOD completed its final airlift of emergency relief commodities from Manila to Davao City. Between December 9 and 16, DOD, in coordination with USAID/OFDA and the AFP, transported approximately 14,700 family food packs, 30 Metric Tons of rice, 94 MT of high-energy biscuits, 3,400 pieces of plastic sheeting, and 80 collapsible water containers, as well as various other relief supplies. In

total, DOD delivered 756,800 pounds of humanitarian items which were primarily provided by the Government of the Philippines. Some relief items were able to reach affected coastal areas within one day of being airlifted from Manila to Davao City. Additionally, DOD flew 131 flight hours in support of search-and-rescue operations.⁴⁰⁷

⁴⁰⁶ Updated Fact Sheet – U.S. Government Assistance to the Philippines for Typhoon Pablo Relief (December 12, 2012), <https://reliefweb.int/report/philippines/updated-fact-sheet-%E2%80%93-us-government-assistance-philippines-typhoon-pablo-relief>

⁴⁰⁷ Philippines – Typhoon Fact Sheet #3, Fiscal Year (FY) 2013, December 20, 2012 <https://reliefweb.int/sites/reliefweb.int/files/resources/12.20.12%20-%20USAID-DCHA%20Philippines%20Typhoon%20Fact%20Sheet%20%233.pdf>

November 2013 – Philippines: Typhoon Haiyan (also known as Typhoon Yolanda)

Background

Super Typhoon Haiyan (locally known as Yolanda) made landfall at 4:40 a.m. on November 8, 2013 in Guiuan municipality in Eastern Samar province. The storm made landfall six times on that day, with wind speeds up to 235 km/h, and gusts up to 275 km/h.⁴⁰⁸ Initial reports estimated that 4.3 million people were affected across 36 provinces--that number rose to 14 million affected across nine regions, including 4 million who were displaced.^{409,410} According to the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), the storm was the deadliest natural disaster in 2013, claiming over 6,000 lives and leaving 28,689 injured. Around 1.1 million houses were damaged or destroyed.^{411, 412}



Philippines Navy Capt. Vincent Trinidad, right, and U.S. Marine Corps Lt. Col. Travis T. Gaines discuss the situation at Tacloban, Republic of the Philippines, Nov. 18, 2013.

U.S. Marine Corps photo by Cpl. Adam B. Miller
<https://archive.defense.gov/news/newsarticle.aspx?id=121196>

The storm affected nine out of seventeen regions. Leyte and Samar were the worst affected. Ninety percent of the infrastructure was destroyed in Leyte's largest city, Tacloban City. On November 11, 2013, Philippine President Benigno Aquino declared a State of National Calamity.⁴¹³

The typhoon hit at a time when the Philippines was recovering from civil conflict in Mindanao and a 7.2 magnitude earthquake in Bohol in the central Visayas region, which lay along the path of Haiyan.⁴¹⁴

The Armed Forces of the Philippines (AFP) mobilized a total of 23,789 personnel to assist with relief efforts. To aid with land transport, the AFP utilized 408 trucks and 141 other vehicles. At sea, the

AFP used seven ships, 25 boats, 10 auxiliary boats and 5 reservist boats. Nine fixed wing aircraft, including three C-130 aircraft were used for transport, while 24 helicopters were also utilized for the

408 Philippines Typhoon Haiyan (Yolanda) Action Plan (November 2013 – May 2014), https://reliefweb.int/sites/reliefweb.int/files/resources/Revised_Haiyan_GtG-final-12112013.pdf

409 Philippines: Typhoon Haiyan, Situation report No. 3 (as of 9 November 2013), <https://reliefweb.int/report/philippines/philippines-typhoon-haiyan-situation-report-no-3-9-november-2013>

410 Philippines: Typhoon Haiyan Situation report No. 22 (as of 10 December 2013), <https://reliefweb.int/report/philippines/philippines-typhoon-haiyan-situation-report-no-22-10-december-2013>

411 Typhoon Haiyan (Yolanda) Strategic Response Plan The Philippines, 27 December 2013, https://reliefweb.int/sites/reliefweb.int/files/resources/SRP_2013-2014_Philippines_Typhoon_Haiyan.pdf,

412 An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtnF5_iQ%3d&portalid=0

413 Advances in Civil-Military Coordination in Catastrophes: How the Philippines Turned Lessons Learned from Super Typhoon Haiyan (Yolanda) Into Best Practices for Disaster Preparedness and Response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtTc4%3d&portalid=0>

414 An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtnF5_iQ%3d&portalid=0

response.⁴¹⁵

Around 21 other foreign militaries assisted the Government of the Philippines in responding to Typhoon Haiyan. Camp General Emilio Aguinaldo, the headquarters of the Armed Forces of the Philippines (AFP), located in Quezon City, Manila, was the site of the Multinational Coordination Center (MNCC). The MNCC, led by the AFP, was used as an information sharing and coordination mechanism between the AFP and assisting foreign militaries to ensure effective collaboration in relief operations.⁴¹⁶

The 21 foreign militaries that provided military assets to aid the Philippines in the response to Typhoon Haiyan included: Australia, Belgium, Brunei, Canada, China, India, Indonesia, Israel, Italy, Japan, Malaysia, the Netherlands, New Zealand, Qatar, Republic of Korea, Russia, Singapore, Sweden, Thailand, United Kingdom, and the United States.



Survivors of Typhoon Haiyan prepare to board Australian and U.S. C-130 Super Hercules aircraft during Operation Damayan, Tacloban, Philippines, Nov. 18, 2013. The U.S. aircraft are assigned to the 3rd Marine Expeditionary Brigade, part of Joint Task Force 505. Source: <https://dod.defense.gov/Photos/Photo-Gallery/igphoto/2001123124/>

For oversight and coordination between the AFP and the foreign naval vessels, 17 Philippine Liaison Officers (LNO) served as links between the area commander and the foreign military ships.⁴¹⁷

U.S. Military Response: “Operation Damayan”

The Philippine government issued a formal request for assistance to the United States government on November 9, 2013. In immediate response, USPACOM directed Marine Corps Forces Pacific (MARFORPAC) to lead military relief operations in the Philippines, with 3d Marine Expeditionary Brigade (3d MEB) serving as the tactical mission commander on the ground, and ordered deployment of the aircraft carrier USS George Washington and elements of Carrier Strike Group 5 (CSG 5). In general, the U.S. military mostly focused on large-scale operations utilizing their unique capabilities in transport and logistics. The U.S. military relief operation was named: “Operation Damayan.” The U.S. military was able to respond quickly due to the pre-positioned assets throughout the region.⁴¹⁸

United States Government (USG) relief efforts as a whole focused on aerial damage assessments, search and rescue, and the delivery of food, water and emergency relief supplies to those displaced. The U.S. government, through USAID, the DOD, and the U.S. Department of State, provided

415 Philippines: Armed Forces of the Philippines' (AFP) Deployed Assets (as of 28 November 2013), <https://reliefweb.int/report/philippines/armed-forces-philippines-afp-deployed-assets-28-november-2013>

416 An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtNf5_iQ%3d&portalid=0

417 Advances in Civil-Military coordination in catastrophes: How the Philippines turned lessons learned from Super Typhoon Haiyan (Yolanda) into best practices for disaster preparedness and response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtTc4%3d&portalid=0>

418 An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtNf5_iQ%3d&portalid=0



U.S. Marine Capt. Joseph White, left, and Philippine Army Pfc. Vic D. Victorlano deliver U.S. Agency for International Development relief supplies in Pasay Luzon, Philippines, Nov. 19, 2013.

U.S. Marine Corps photo by Capt. Caleb Eames

Source: <https://archive.defense.gov/news/newsarticle.aspx?id=121188>



A U.S. Navy MH-60S Seahawk helicopter, center, assigned to Helicopter Sea Combat Squadron 25, prepares to drop supplies over the airport in Tacloban, Philippines, Nov. 14, 2013.

U.S. Navy photo by Petty Officer 3rd Class Ricardo R. Guzman

Source: <https://archive.defense.gov/news/newsarticle.aspx?id=121362>

ports, routes, distress signals, and obtain information critical for search and rescue operations in the affected areas of Leyte, Samar, and the Western Visayas. JSOTF-P performs an advisory role to Philippine Security Forces in the Southern Philippines. The group sent the first U.S. military personnel to respond to the disaster.⁴²¹

Villamor airfield was used as the central hub to deliver relief supplies to the affected areas of Tacloban, Guiuan, Borongan and Ormoc in Leyte and Samar. The first shipment of U.S. relief supplies arrived on November 12 and U.S. forces began distribution on November 13. The USS George Washington and CSG5 began relief operations on November 14.

On November 16, PACOM ordered the activation of Joint Task Force-505 (JTF-505) to lead the

assistance worth more than PHP 6,425,217,370 or U.S. \$143 million to the Philippines for rebuilding.⁴¹⁹

On November 10, a small group from 3d MEB established a Command Operations Center (COC) at Villamor Airbase, which is the headquarters of the Philippine Air Force located in the capital of the country, Manila. The air base shares runways with the Ninoy Aquino International Airport. The group immediately began to coordinate with the AFP, Joint U.S. Military Assistance Group-Philippines (JUSMAG-P) and USAID/OFDA personnel who had arrived days earlier.

A USPACOM Deployable Joint Task Force Augmentation Cell (DJTFAC) also immediately deployed and played a major role in establishing an operational joint headquarters. The group provided joint expertise and detailed knowledge of PACOM organization and processes and helped pave the way for the establishment of the Joint Task Force (JTF).⁴²⁰

Also on November 10, the Joint Special Operations Task-Force Philippines (JSOTF-P) located in Mindanao, began conducting surveillance to assess airfields,

419 Typhoon Yolanda, A Year Later: U.S. Embassy Manila Supports Filipino Resilience, <https://ph.usembassy.gov/typhoon-yolanda-a-year-later-u-s-embassy-manila-suports-filipino-resilience/>

420 An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtFnF5_iQ%3d&portalid=0

421 Ibid.



Philippine citizens gather around an MH-60S Seahawk as it delivers relief supplies to support Operation Damayan in Guiuan, Philippines, Nov. 17, 2013. The Seahawk is assigned to Helicopter Sea Combat Squadron 12.
Source: <https://www.defense.gov/observe/photo-gallery/igphoto/2001123061/>

tactical mission, replacing the team from the 3d MEB. LtGen. John E. Wissler, Commander, III MEF, assumed command of JTF-505, which established operations on November 18. The JTF-505 reached full operational capability on November 20.⁴²²

Eight days after the storm made landfall, a joint DOD-USAID-UNICEF team helped rebuild Tacloban's municipal water system restoring water service and reaching some 250,000 people.⁴²³ DOD aircraft also performed needs and damage assessments with USAID/OFDA staff. Missions were cleared in Manila by the USAID/OFDA Mission Tasking Matrix (MITAM).⁴²⁴

Assets from the U.S. military involved in relief efforts included: Aircraft Carrier George Washington, 2x Cruisers (Antietam, Cowpens) 2x Destroyers (Mustin, Lassen) 1x Supply Ship (Charles Drew) 2x LSD - Dock Landing Ship (Germantown and Ashland) 1x Submarine Tender (Emory Land) 1x Pathfinder (USN Bowditch) 1x LPD (Denver) 1x Dry Cargo Ship (Richard Byrd) and 1x Replenishment Oiler (Yukon). Aircraft included: 16 C130s, 14 V22 Ospreys, 3 P3s, 2 C2s, 1 C12, 8 Blackhawk helicopters, and 6 Tactical Water Purification Systems.⁴²⁵

Military efforts included more than 13,400 military troops, 66 aircraft, and 12 naval ships. In total, the U.S. delivered 2,495 tons of relief, and evacuated over 21,000 people. Additionally, the U.S. military helped ferry some 1,200 relief workers into Tacloban. More than 1,300 flights were completed to some 450 sites.⁴²⁶

⁴²² Ibid.

⁴²³ Typhoon Yolanda, A Year Later: U.S. Embassy Manila Supports Filipino Resilience, <https://ph.usembassy.gov/typhoon-yolanda-a-year-later-u-s-embassy-manila-suports-filipino-resilience/>

⁴²⁴ An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtnF5_iQ%3d&portalid=0

⁴²⁵ Philippines: Foreign Military Deployed Assets (as of 30 December 2013), <https://reliefweb.int/report/philippines/philippines-foreign-military-deployed-assets-30-december-2013>

⁴²⁶ Typhoon Yolanda, A Year Later: U.S. Embassy Manila Supports Filipino Resilience, <https://ph.usembassy.gov/typhoon-yolanda-a-year-later-u-s-embassy-manila-suports-filipino-resilience/>

After six days of full operations, JTF-505 presented a Transition Confirmation Briefing to the Commander of USPACOM on November 26, which stated: “unique DOD capabilities are no longer required” and recommended mission transition by 1) observing relief operations with U.S. Navy and Marine Corps amphibious forces in an “operational reserve” role, able to react to any sudden emergent requirements, and 2) disestablishing the JTF and releasing all major U.S. forces for redeployment by 1 December.⁴²⁷



U.S. sailors from the aircraft carrier USS George Washington and Philippine civilians unload relief supplies to support Operation Damayan in Guiuan, Philippines, Nov. 17, 2013.

U.S. Navy photo by Seaman Beverly Lesonik

Source: <https://archive.defense.gov/news/newsarticle.aspx?id=121177>

JTF-505 and USAID/

OFDA recognized that the emergency phase of relief operations for Haiyan terminated on or about November 26. So the U.S. military ceased major operations on November 26. The JTF-505 was disestablished on December 1.⁴²⁸

The U.S. Embassy in the Philippines noted that key to the fast bilateral teamwork between the AFP and the U.S. military was due to the Visiting Forces Agreement between the two countries.⁴²⁹ While other countries wanted to respond quickly to the disaster, many had to wait for legal agreements to be worked out for their troops to work in the Philippines.⁴³⁰

“Many humanitarian and military leaders noted that civil-military coordination during the Haiyan response in November-December 2013 was some of the best they had seen. The United States Agency for International Development Office of Foreign Disaster Assistance (USAID/ OFDA), the Department of Defense (DOD) United States Pacific Command (USPACOM) forces, and the US Embassy, Philippines demonstrated clear understanding of their roles and responsibilities as evidenced by their effective coordination. The United States Government (USG) response entities provided assistance reflecting their unique capabilities appropriately scaled throughout the response phase.”⁴³¹

⁴²⁷ An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtnF5_iQ%3d&portalid=0

⁴²⁸ Ibid.

⁴²⁹ For more information on the Visiting Forces Agreement see: “Defense: Status of Forces”, <https://www.state.gov/documents/organization/107852.pdf>

⁴³⁰ Typhoon Yolanda, A Year Later: U.S. Embassy Manila Supports Filipino Resilience, <https://ph.usembassy.gov/typhoon-yolanda-a-year-later-u-s-embassy-manila-suports-filipino-resilience/>

⁴³¹ An Inside Look into USPACOM Response to Super Typhoon Haiyan, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=eF0gtnF5_iQ%3d&portalid=0

March 2014 – Malaysia: Search for Malaysian Airlines Flight MH370

Background

Flight MH370, a Boeing 777-200 aircraft, went missing the night of March 8, 2014. It departed Kuala Lumpur, Malaysia at 12:41 a.m. Saturday local time and was scheduled to land at Beijing International Airport at 6:30am Beijing time. The flight had aboard 227 passengers from 14 nations (including the U.S.). Most passengers were mainly from China, and 12 crew members were also aboard.⁴³²

U.S. Military Response

The U.S. military contributed to international search efforts for the missing Malaysian airliner. On March 8, 2014, the USS Pinckney (DDG 91), an Arleigh Burke-class guided missile destroyer whose home port is in San Diego, was dispatched to the southern coast of Vietnam to join teams from Malaysia, Singapore and Vietnam in search and rescue efforts. The US military worked alongside other navies in the region sharing search tactics and exchanging information. The Pinckney was conducting training and maritime security operations in international waters of the South China Sea when it was called upon to assist. The ship carried two MH-60R helicopters that could be equipped for search and rescue. A P-3C Orion aircraft from Kadena Air Base in Okinawa, Japan, joined the Pinckney and brought long-range search, radar and communications capabilities to the effort.⁴³³⁴³⁴

The USS Kidd (DDG 100), another Arleigh Burke-class guided missile destroyer, later joined the Pinckney in the Gulf of Thailand for search and rescue operations. The ships reportedly used a “creeping-line” search method, according to the Pentagon. Two MH-60R Seahawk helicopters aided the search, using forward-looking infrared pods to search at night. The Seahawks joined the P-3C. In addition, the USNS John Ericsson, a fleet replenishment oiler, began providing logistics support.⁴³⁵

On March 11, the USS Kidd began conducting helicopter searches in the southwest section of the Gulf



Lt. j.g. Kyle Atakturk, left, and Lt. j.g. Nicholas Horton, naval aviators assigned to Patrol Squadron (VP) 16, pilot a P-8A Poseidon during a mission to assist in search and rescue operations for Malaysia Airlines flight MH370, March 19, 2014. VP-16 is deployed in the U.S. 7th Fleet area of responsibility supporting security and stability in the Indo-Asia-Pacific region. U.S. Navy photo by Mass Communication Specialist 2nd Class Eric A. Pastor/Released
Source: <https://navylive.dodlive.mil/2014/03/23/inside-the-u-s-navys-mh370-search/>

432 Navy Helps in Search for Missing Malaysia Airlines Jet, <https://archive.defense.gov/news/newsarticle.aspx?id=121802>

433 Ibid.

434 USS Kidd supports MH370 Search Mission, https://www.navy.mil/submit/display.asp?story_id=79592

435 U.S. Continues to Aid Search for Missing Malaysian Airliner, <https://archive.defense.gov/news/newsarticle.aspx?id=121807>



A U.S. Navy P-3C Orion patrol aircraft prepares to depart Subang, Indonesia, March 11, 2014, in search of the missing Malaysia Airlines flight in the Gulf of Thailand.

U.S. Navy photo

Source: https://archive.defense.gov/home/features/2014/0314_flight370/

of Thailand search area and the Pinckney began searches in the northeast portion of the search area. The Malaysian government, which led search efforts, assigned the search sectors. The Navy P-3C Orion continued to aid search efforts by flying over the Straits of Malacca and the Gulf of Thailand. A HM-60R Seahawk helicopter can search 400-600 square nautical mile area in a 3.5 hour sortie, while the Orion could cover about 1000-1500 square miles every hour.⁴³⁶

On March 14, the USS Kidd took over search efforts in the western search area, which included the Andaman Sea, Bay of Bengal and the northern Indian Ocean, while

the Pinckney headed to Singapore for scheduled maintenance. A P-8A Poseidon arrived to replace the P-3C to assist in searching a larger search area, which included the southern portion of the Bay of Bengal and northern Indian Ocean.⁴³⁷ The USS Kidd was able to cover 300 square miles of water every four hours, and searched more than 1,500 square miles each day.⁴³⁸

On March 19, the P-8 Poseidon relocated to Perth, Australia to join the Australians in searching the southern search area, where Australia directed search efforts. A P-8A has the capability to cover from 5,000 – 18,000 square nautical miles during one flight. A Navy P3 continued searching in the Bay of Bengal.^{439, 440}

On March 21, in a talk with U.S. Defense Secretary Chuck Hagel, Malaysian Defense Minister Hishamuddin bin Tun Hussein requested the use of some undersea surveillance equipment.⁴⁴¹ On March 24, U.S. Pacific Command ordered U.S. Pacific Fleet to move the Navy's Towed Pinger Locator 25, a black box locator, to Perth. The specialized locator equipment has the capability to listen to a depth of 20,000 feet.⁴⁴²

Additionally, a Bluefin-21 autonomous underwater vehicle was also sent to Perth. The vehicle has sonars that could be used to locate wreckage and can dive to depths of 14,700 feet. Search efforts at this stage were being focused off of Australia when evidence at the time seemed to point to the plane crashing in the Indian Ocean off the west coast of Australia.^{443, 444}

On March 27, the U.S. 7th Fleet announced that it would send a second P-8 Poseidon aircraft

436 Seventh Fleet Continues Search for Malaysian Airlines MH370, https://www.navy.mil/submit/display.asp?story_id=79591

437 USS Kidd Joins Search for Missing Malaysian Airliner, <https://archive.defense.gov/news/newsarticle.aspx?id=121839>

438 USS Kidd Expands Search for Malaysia Airlines Flight MH370 into Indian Ocean, <https://www.public.navy.mil/surfor/ddg100/Pages/USKiddExpandsSearchforMalaysiaAirlinesFlightMH370intoIndianOcean.aspx>

439 Navy Continues Search for Missing Malaysian Airliner, <https://archive.defense.gov/news/newsarticle.aspx?id=121867>

440 Inside the U.S. Navy's MH370 Search, <https://navylive.dodlive.mil/2014/03/23/inside-the-u-s-navys-mh370-search/>

441 Hagel Discusses Airliner Search With Malaysian Official, <https://archive.defense.gov/news/newsarticle.aspx?id=121881>

442 Navy Prepares Black Box Locator for Flight 370 Search, <https://archive.defense.gov/news/newsarticle.aspx?id=121883>

443 USS Kidd Joins Search for Missing Malaysian Airliner, <https://archive.defense.gov/news/newsarticle.aspx?id=121839>

444 U.S. Sends Sea Search Equipment to Australia, <https://archive.defense.gov/news/newsarticle.aspx?id=121887>

to Perth the next day from Okinawa, Japan. The plane would join an international team of search aircraft coordinated by the Australian Defence Force. At this point in time, 7th Fleet aircraft flew 16 missions, which amounted to more than 150 flight hours covering 220,000 square nautical miles. The P-3C Orion that was searching the northern Indian Ocean ceased its search mission and returned to its previously assigned missions.⁴⁴⁵

A Navy team began operating the Towed Pinger Locator (TPL) aboard the Australian defense vessel, Ocean Shield. The Bluefin-21 was also being operated off the ship during the round-the-clock operations. As of April 7, the two P-8s flew 24 missions with 220 hours of flight time, covering 336,000 square nautical miles.⁴⁴⁶

On April 10, the 7th Fleet USNS Caesar Chavez, a dry cargo/ammunition ship joined international search efforts. The deployment was in response to a formal Joint Operations Command request to USPACOM for tanker support. The Chavez conducted replenishment operations with the Australian Navy ships HMAS Success, HMAS Perth and HMAS Toowoomba. The Chavez is a combat logistics force ship and provides underway replenishment of dry cargo, fuel, and ammunition to US and coalition navy ships and is operated by the U.S. Navy's Military Sealift Command. The Chavez is operated by a crew of 125 civil service mariners and 11 U.S. Navy sailors.⁴⁴⁷

Weather specialists from the U.S. 7th Fleet called aerographer's mates (AG), provided meteorological support to the P-3c Orion and P-8a Poseidon squadrons deployed from Command Task Force 72.⁴⁴⁸

Patrol Squadron (VP) 16 (War Eagles) provided support over around two months with multiple aircrews rotating through Perth and flew more than 37 missions with the two P-8s, for a total of 313 flight hours and 365,118 square miles covered. It was the first time the P-8 was used in a search and rescue operation.⁴⁴⁹ The U.S. military ceased search and rescue operations roughly two months after first providing support.



A U.S. Navy MH-60R Seahawk helicopter from the USS Pinckney and the Malaysian Navy ship KD Terengganu conduct a coordinated air and sea search for the missing Malaysia Airlines jet in the Gulf of Thailand, March 12, 2014. The Seahawk is assigned to Helicopter Maritime Strike Squadron 78.

U.S. Navy photo by Petty Officer 1st Class Claudia Franco

Source: https://archive.defense.gov/home/features/2014/0314_flight370/

445 US 7th Fleet Adds Second P-8 Poseidon to MH370 Search, https://www.navy.mil/submit/display.asp?story_id=79928

446 US 7th Fleet MH370 Update, https://www.navy.mil/submit/display.asp?story_id=80169

447 Navy Logistics Ship Joins Search for Airliner, <https://archive.defense.gov/news/newsarticle.aspx?id=122040>

448 US 7th Fleet Weather Specialists Contribute to Pacific Humanitarian Assistance Efforts, <https://www.pacom.mil/Media/News/Article/564117/us-7th-fleet-weather-specialists-contribute-to-pacific-humanitarian-assistance/>

449 VP-16 Departs 7th Fleet After Historic Deployment, <https://www.pacom.mil/Media/News/Article/564373/vp-16-departs-7th-fleet-after-historic-deployment/>

December 2014 – Philippines: Typhoon Hagupit (also known as Typhoon Ruby)

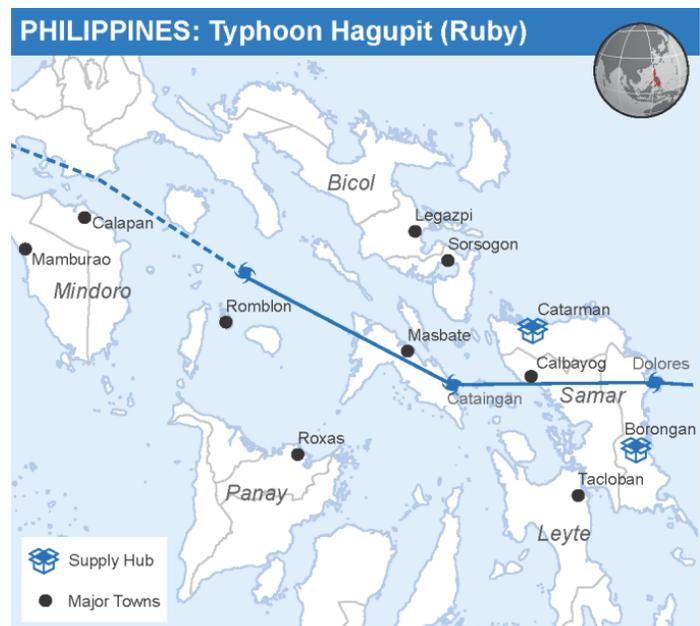
Background

Typhoon Hagupit (locally known as Typhoon Ruby) made its first landfall in the Philippines' Eastern Samar province as a category 2 storm on December 6, 2014 with maximum sustained winds of 175 km/hr and gusts of up to 210 km/hr. The storm made a second landfall in the morning of December 7, in Cataingan municipality, Masbate province. Over 700,000 people were evacuated ahead of the storm.⁴⁵⁰ Over the next few days, the storm made landfall over the Philippines several times. According to the United Nations Office for Disaster Risk Reduction (UNISDR) around 1.4 million people were evacuated during the typhoon in one of the largest peacetime evacuations in the country's history.⁴⁵¹

The typhoon weakened into a tropical storm as it continued to slowly move towards Batangas province, south of Manila, with moderate to heavy rain. As of December 8, an estimated 1 million people were in 687 evacuation centers across seven affected regions and Metro Manila.⁴⁵² A total of 18 deaths by the storm were reported.⁴⁵³

Hagupit made subsequent landfalls in the provinces of Masbate, Marinduque, Batangas and Lubang, as it weakened into a tropical depression. The storm exited the Philippine Area of Responsibility on December 10.⁴⁵⁴

Hagupit had intensified to a category 5 storm on December 4, 2014 before weakening in strength. Because the storm appeared to be headed towards the same area as destructive Typhoon Haiyan did a little over a year earlier, Philippine authorities and the international humanitarian community were on high alert. Additionally, the two typhoons were of considerable strength



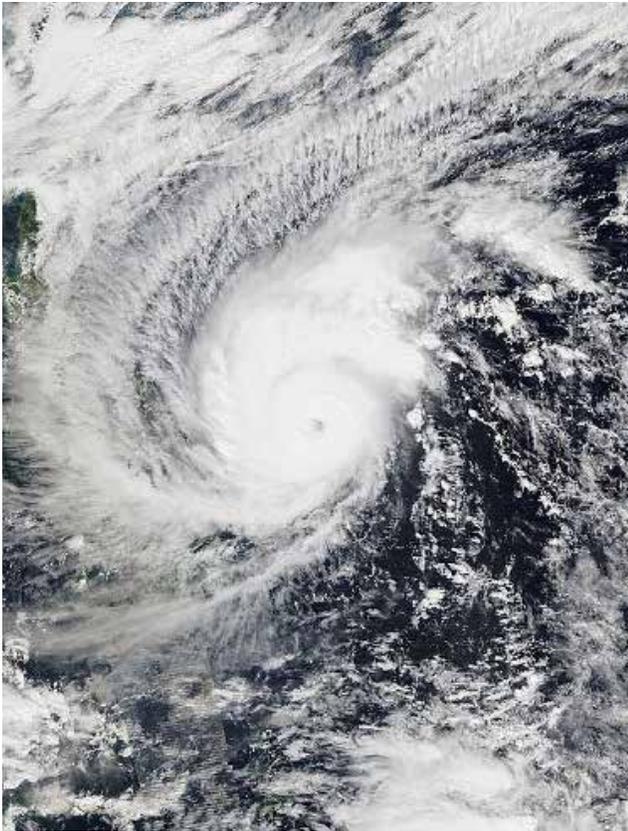
450 Philippines: Typhoon Hagupit Situation report No. 2 (as of 7 December 2014), <https://reliefweb.int/sites/reliefweb.int/files/resources/OCHAPhilippinesTyphoonHagupitSituationReportNo.2.7December2014.pdf>

451 Advances in Civil-Military coordination in catastrophes: How the Philippines turned lessons learned from Super Typhoon Haiyan (Yolanda) into best practices for disaster preparedness and response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtC4%3d&portalid=0>

452 Philippines: Typhoon Hagupit Situation Report No. 3 (as of 8 December 2014), <https://reliefweb.int/sites/reliefweb.int/files/resources/OCHAPhilippinesTyphoonHagupitSituationReportNo.3.8December2014.pdf>

453 NDRRMC Update SitRep No. 27 re effects of Typhoon "Ruby" (Hagupit), https://reliefweb.int/sites/reliefweb.int/files/resources/Sitrep_No_27_re_Effects_of_Typhoon_Ruby_as_of_19DEC2014_0600H.pdf

454 Philippines: Typhoon Hagupit Situation report No. 5 (as of 11 December 2014), <https://reliefweb.int/sites/reliefweb.int/files/resources/OCHAPhilippinesTyphoonHagupitSitReportNo5%2011Dec2014.pdf>



Typhoon Hagupit approaching the Philippines on December 5, 2014. VIIRS imagery from the Suomi NPP satellite operated by the National Oceanic and Atmospheric Administration
 Source: https://commons.wikimedia.org/wiki/File:Hagupit_2014-12-05_0422Z.jpg

and comparable size before making landfall. Fortunately, damages were not as severe as Typhoon Haiyan in November 2013, when some 5,000 lives were lost. In response to Hagupit, the Philippines applied lessons learned from Typhoon Haiyan. Preparation activities of local governments and the national government for Hagupit were applauded by the international humanitarian community and were thought to lessen the overall impact of the typhoon.⁴⁵⁵

In general, the Armed Forces of the Philippines (AFP) provided transportation for evacuations, established evacuation centers, search and rescue, distributed relief goods, cleared roads, provided aerial surveillance, provided security for warehouses, and assisted with shelters in affected areas and supported the Department of Social Welfare and Development (DSWD). The repositioning of AFP troops began around 120 hours ahead of landfall.⁴⁵⁶

The AFP established the Multinational Coordinating Center (MNCC) at Camp Aguinaldo in Quezon City to coordinate incoming foreign military assets. It became fully operational some 48 hours before Hagupit

made landfall. Although the Government of the Philippines (GoP) did not make an official call for assistance, offers were received from many countries. Offers of assistance were received from Australia, Brunei, Canada, China, Indonesia, Japan, Malaysia, Singapore, Thailand, the United Kingdom and the United States. The AFP also cleared roads and airports in eastern Samar.^{457, 458}

The AFP secured the National Food Authority (NFA) warehouses and DSWD food outlets as well as provided water sanitation teams on standby. About 48 hours prior to landfall, the AFP deployed road clearing teams and safety patrol units to prevent looting and crime. It also alerted 476 sealift vessels from different parts of the country to deploy to the affected areas in close coordination with the MNCC.⁴⁵⁹ Military trucks and choppers assisted by delivering relief to affected areas.⁴⁶⁰ Two

455 The U.S. Pacific Command Response to Super Typhoon Haiyan, <https://ndupress.ndu.edu/JFQ/Joint-Force-Quarterly-82/Article/793262/the-us-pacific-command-response-to-super-typhoon-haiyan/>

456 Advances in Civil-Military Coordination in Catastrophes: How the Philippines turned lessons learned from super typhoon Haiyan (Yolanda) into best practices for disaster preparedness and response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtTc4%3d&portalid=0>

457 Philippines: Typhoon Hagupit Situation report No. 2 (as of 7 December 2014), <https://reliefweb.int/sites/reliefweb.int/files/resources/OCHAPhilippinesTyphoonHagupitSituationReportNo.2.7December2014.pdf>

458 Advances in Civil-Military Coordination in Catastrophes: How the Philippines turned lessons learned from super typhoon Haiyan (Yolanda) into best practices for disaster preparedness and response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtTc4%3d&portalid=0>

459 Advances in Civil-Military Coordination in Catastrophes: How the Philippines turned lessons learned from super typhoon Haiyan (Yolanda) into best practices for disaster preparedness and response, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=QEDCMIMtTc4%3d&portalid=0>

460 CFE Disaster Information Report, Typhoon Hagupit (Ruby), Dec. 10, 2014, CDIR no. 7, <https://www.cfe-dmha.org/Admin/File-Management/LinkClick.aspx?fileticket=h8v-17a2bFU%3d&portalid=0>

C-130 planes also ferried relief supplies to affected areas.⁴⁶¹ The AFP also provided transportation assistance for evacuations.

Should the need have arisen, the AFP had designated Clark Airbase as the basing facility for foreign military aircraft. In-country military assets from Australia were on standby if required.⁴⁶²

U.S. Military Response

The U.S. Embassy in Manila helped track the typhoon before it made landfall, working with the Government of the Philippines (GoP) in monitoring, planning and preparing to respond to the storm. USAID provided assistance of US\$750,000. OFDA assessment teams, along with U.S. Pacific Command teams, augmented the U.S. Embassy, Manila in monitoring the storm. The assessment teams coordinated with government agencies and humanitarian organizations for a potential emergency response on the ground. U.S. Ambassador Philip Goldberg said that bilateral coordination between the two allies “clearly showed that the repeated humanitarian and disaster assistance training and exercises between our two countries is an important part of our relationship.”⁴⁶³

A team from the 3D Marine Expeditionary Brigade (3D MEB) arrived on December 6, to evaluate the situation and conduct preliminary coordination. A MARFORPAC-led Joint Liaison Group (JLG) arrived in Manila and met with the US Ambassador and OFDA representatives to evaluate the situation and conduct preliminary coordination.⁴⁶⁴ A U.S. military team from USPACOM, in conjunction with USAID/OFDA, assisted the U.S. Embassy by working with the GoP and the AFP to conduct initial assessments of conditions and needs in the worst affected areas. The teams coordinated with government agencies and humanitarian organizations on the ground.^{465, 466}

3D MEB also provided surveillance flights from JSOTF-P U28s and a CTF-72 P8 for damage and needs assessment with the AFP and OFDA representatives.⁴⁶⁷

461 CFE Disaster Information Report, Typhoon Hagupit (Ruby), Dec. 9, 2014, CDIR no. 6, <https://www.cfe-dmha.org/Admin/File-Management/LinkClick.aspx?fileticket=7f3Hu6QQXDg%3d&portalid=0>

462 CFE Disaster Information Report, Typhoon Hagupit (Ruby), Dec. 5, 2014 <https://www.cfe-dmha.org/Admin/File-Management/LinkClick.aspx?fileticket=9sdyAYPg0vA%3d&portalid=0>

463 Close Bilateral Cooperation Before, During and After Typhoon Ruby/Hagupit Enables Faster U.S. Government Emergency Response, <https://www.pacom.mil/Media/News/News-Article-View/Article/564919/close-bilateral-cooperation-before-during-and-after-typhoon-rubyhagupit-enables/>

464 CFE Disaster Information Report, Typhoon Hagupit (Ruby), Dec. 6, 2014, <https://www.cfe-dmha.org/Admin/File-Management/LinkClick.aspx?fileticket=4CwZojYZgVg%3d&portalid=0>

465 Ibid.

466 Statement from USAID spokesperson on Typhoon Hagupit (Ruby) in the Philippines, <https://reliefweb.int/report/philippines/statement-usaid-spokesperson-typhoon-hagupit-ruby-philippines>

467 CFE Disaster Information Report, Typhoon Hagupit (Ruby), Dec. 8, 2014, CDIR no. 5, <https://www.cfe-dmha.org/Admin/File-Management/LinkClick.aspx?fileticket=0ujF0Z80sBc%3d&portalid=0>

April 2015 – Nepal: Earthquake (also known as the Gorkha Earthquake)

Background

On April 25, 2015, a powerful 7.8 magnitude earthquake struck Nepal, leaving over 8,700 people dead, over 21,000 injured and destroying over 600,000 houses. The epicenter was located in Gorkha district, around 81 km (50 miles) northwest of the capital, Kathmandu with a depth of 15 km (9.3 miles). The quake affected 22 out of 75 districts in the country, as well as Kathmandu. On May 12, another strong 7.3 magnitude aftershock struck near Chilankha village in Dolakha District, causing additional damages and leaving at least another 150 people dead. Out of the country's 22 affected districts, the Government of Nepal (GoN) classified 14 districts as being severely affected and in need of urgent assistance.⁴⁶⁸

Because of the extent of the damage, the Government of Nepal requested international assistance, including foreign military assets (FMA). Along with the international humanitarian community, which included the United Nations (UN), international non-governmental organizations (INGOs), and 34 assisting nations from across the globe, at least 18 foreign militaries helped respond to the earthquake.

The 18 foreign militaries included Algeria, Bangladesh, Bhutan, Canada, China, Israel, India, Indonesia, Japan, Malaysia, Pakistan, Poland, Singapore, Spain, Sri Lanka, Thailand, UK, and the US. The military forces added considerable response capabilities to the Nepalese-led response effort, particularly in the areas of search and rescue (SAR), medical assistance, airlift and engineering support.⁴⁶⁹



A Nepalese soldier carries a young earthquake victim from a U.S. Marine Corps UH-1Y Venom helicopter assigned to Joint Task Force 505 to a medical triage area at Tribhuvan International Airport, Kathmandu, Nepal.

U.S. Marine Corps photo by Gunnery Sgt. Ricardo Morales/Released
Source: <https://www.marines.mil/Photos/igphoto/2001047652/>

As part of Nepal's overall relief efforts, the Nepalese Army (NA) played a significant role in the disaster response. The NA's response operation was dubbed "Operation Sankat Mochan" ("Liberation from Crisis"). Immediately following the earthquake, the Nepalese Army (NA) became among the first to respond to the calamity in line with Nepal's National Disaster Response Framework (NDRF). Other government security forces, including Nepal's Armed Police Force and the Nepal Police, also served as primary responders.

⁴⁶⁸ CFE-DM Disaster Information Reports – Nepal Earthquake 2015, <https://www.cfe-dmha.org/Publications/Reports-and-Studies/CDIR-Nepal-EQ-2015>

⁴⁶⁹ MNMCC daily update 0800 hrs 18 May 2015

Initially, the operation order for “Operation Rahat” (“Operation Relief”) was issued and the NA was mobilized for search and rescue (SAR) and relief efforts. However, as further assessments of the damages from the earthquake were completed, Nepalese officials felt the need for a larger scale operation and the operation was replaced by “Operation Sankat Mochan”. Although NA personnel were affected by the earthquake themselves, 66,069 members, or some 90 percent of troops, were quickly mobilized to assist with relief efforts. Of these, 52,870 personnel redeployed from less affected areas to 594 sites in 14 of the most affected districts.^{470, 471}



Humanitarian and military staff members use the Multinational Military Operations and Coordination Center (MNMCC) and the Humanitarian-Military Operations Coordination Centre (HuMOCC) in Nepal to coordinate relief operations after a 7.8-magnitude earthquake struck the nation.
Source: Liaison-VII-2, Fall 2015, <https://www.cfe-dmha.org/Portals/0/liaison/Liaison-VII-2.pdf>

It should be noted that under Nepal’s “National Disaster Response Framework – 2013,” the NA is given prime responsibility for coordinating multinational and bilateral military humanitarian assistance. During the response, the NA primarily assisted with search and rescue operations and coordination of multinational military assistance, but also played a leading role in the treatment of the injured, the management and distribution of relief materials, coordination of non-military support from assisting nations, debris management and management of temporary shelters.⁴⁷²

As part of rescue and relief efforts, the NA rescued a total of 23,594 people and provided initial medical assistance to 85,954 people. Additionally, the NA helped distribute 5,707 tons of relief supplies. The Nepalese Army officially concluded Operation Sankat Mochan on July 16, 2015.⁴⁷³

Rescue operations were assisted through support teams from 34 countries, which included the 18 military and 16 non-military teams. The Multinational Forces in close coordination and co-operation with the NA via the Multi-National Military Coordination Centre (MNMCC) supported this operation. A total of 4,316 foreign military personnel from various teams (SAR, Engineering, Medical and Aviation) participated in the operation.⁴⁷⁴

In an effort to effectively communicate and coordinate with the various foreign military elements on the ground, the NA established the Multi-National Military Coordination Center (MNMCC) in NA headquarters soon after the earthquake struck. Most multinational military coordination occurred under the MNMCC.

While the MNMCC helped coordinate military response, the UNOCHA-led On-Site Operations Coordination Centre (OSOCC), helped coordinate civilian responders. As there was a delay in

470 Nepal Army Experience and Lessons Learned, pgs. 34-35, <http://www.nepalarmy.mil.np/engsankatmochan.php>

471 Manish Thapa, “Out of Barracks: Civil-Military Relations in Disaster Management: A Case Study of Nepalese Army’s Humanitarian Response during 2015 Earthquake in Nepal,” <https://www.upeace.org/uploads/file/Ideas01.pdf> (June 2016).

472 National Disaster Response Framework,“ <http://un.org.np/reports/national-disaster-response-framework>

473 Operation Sankat Mochan’ After Action Review (AAR),” <http://www.nepalarmy.mil.np/view-news.php?newsid=160&type=news&year=http://>

474 Ibid.

the establishment of the UNOCHA-led OSOCC, the MNMCC initially undertook the function of coordinating international civilian search and rescue teams as well as military teams until the OSOCC was stood up.

Shortly after the disaster struck, a United Nations Disaster Assessment and Coordination (UNDAC) team was deployed to Nepal with four United Nations Humanitarian Civil-Military Coordination (UN-CMCoord) officers. The team was invited by the NA to have a liaison function within the MNMCC to help facilitate coordination and information sharing. According to UNOCHA, the team developed a civil-military coordination strategy for Nepal that included the establishment of a Humanitarian-Military Operations Centre (HuMOCC) co-located with the MNMCC. Standing up the HuMOCC was part of a relatively “new” coordination strategy by the UN.

According to the NA, international teams from 34 nations, which included the 18 military teams, provided rescue assistance, administered medical treatment to 27,390 people, evacuated 3,493 people and delivered 966 tons of relief under close coordination with the NA. Foreign military assets included a much needed 23 helicopters, including 13 from India, 3 from China and 7 from the U.S. A total of 966 tons of relief materials were delivered by foreign aircraft. A total of 27,390 people were treated by the foreign military medical teams. The foreign SAR teams rescued a total of 19 survivors and extracted 135 dead bodies, according to the Nepalese Army. All the foreign military personnel returned home by June 4, 2015.^{475, 476}

U.S Military Response: “Operation Sahayogi Haat”

The U.S. military operation under U.S. Pacific Command (USPACOM) was dubbed “Operation Sahayogi Haat” (“Helping Hands”). The U.S. Embassy in Nepal headed the U.S. effort, with U.S. Agency for International Development (USAID) as the lead federal agency for the response.

USPACOM worked closely with both to determine how the Department of Defense (DOD) might best support the overall U.S. government response to this disaster.

With U.S. military assistance, the USAID Office of Foreign Disaster Assistance (OFDA) sent a Disaster Assistance Response Team (DART) including two Urban Search and Rescue (USAR) teams, which arrived via U.S. Air Force C-17 cargo aircraft on April 28. The DART had about 125 staff in total that arrived in Nepal to assist the GoN and response efforts. The DART is OFDA’s forward-



U.S. Marines and Nepalese soldiers unload tarps off of a UH-1Y Huey at Orang, Nepal, during Operation Sahayogi Haat, May 19, 2015.

U.S. Marine Corps photo by Cpl. Isaac Ibarra

Source: <https://dod.defense.gov/Photos/Photo-Gallery/igphoto/2001104761/>

⁴⁷⁵ Nepal Army Experience and Lessons Learned,” <http://www.nepalarmy.mil.np/engsankatmochan.php>

⁴⁷⁶ Operation Sankat Mochan’ After Action Review (AAR),” <http://www.nepalarmy.mil.np/view-news.php?newsid=160&type=news&year=http://>

deployable team that coordinates and manages the U.S. government's response in a disaster-affected country. The DART included the two USAR teams, one from Los Angeles County and the other from Fairfax County, Virginia. Throughout the disaster relief operation, in addition to working in close coordination with the GoN, the U.S. military continued to work closely with USAID/OFDA, and in close coordination with the DART.^{477, 478}

A U.S. military Special Forces team was on the ground in Nepal for a training exercise when the earthquake struck and quickly transitioned to begin supporting disaster relief, including medical assistance to the injured. The soldiers also provided logistical help and helped in search and rescue along popular trekking routes, including the Mount Everest Base Camp, an area that was also affected by the earthquake.⁴⁷⁹

Other forms of early support from USPACOM included the deployment of a Joint Humanitarian Assessment Survey Team (JHAST) with approximately 20 military personnel from Kadena Air Force Base, Okinawa, Japan which reached ground on April 29 to work with the OFDA DART team in Nepal to carry out coordinated assessments. In general, a JHAST offers expertise in communications, intelligence, medical, logistics planning, public affairs, aviation, ordnance, contracting, operations, protection, engineering, military police, and chemical, biological, radiological and nuclear situations.⁴⁸⁰

During relief operations, the JTF 505 JHAST advised the DART on DOD capabilities and assets available to support the response and helped assess appropriate DOD missions. Additionally, both the JTF 505 JHAST and DART conducted joint assessments, including focusing on airport operations at Kathmandu's Tribhuvan International Airport (TIA). The team also helped coordinate the response to OFDA validated requests from the GoN in coordination with the U.S. Embassy. The JTF 505 JHAST was led by Marine Brig. Gen. Paul Kennedy, Commander of 3rd Marine Expeditionary Brigade (3rd MEB).⁴⁸¹

On May 1, Marine Corps Forces, Pacific (MARFORPAC) was directed by USPACOM to activate JTF 505 and assume operational responsibilities as the U.S. supported commander in Nepal. U.S. Navy Adm. Samuel J. Locklear III, commander of USPACOM, designated Marine Corps Lt. Gen. John Wissler, commanding general of the 3rd Marine Expeditionary Force (III MEF), as the JTF commander. U.S. Air Force Brig. Gen. Michael Minihan, was the JTF 505 Joint Air Component Coordination Element commander.^{482, 483}

JTF 505 was stood up to provide unique capabilities to assist Nepal and activation of the JTF followed the initial U.S. military response to support Nepal's government, joining the efforts already underway by the JHAST, the special forces team, other U.S. government agencies such as the OFDA DART, and including the U.S. USAR teams who traveled to Nepal via Air Force C-17's.

JTF 505's forward headquarters in Nepal coordinated U.S. military relief efforts. JTF 505 Forward consisted of approximately 300 U.S. military personnel on the ground in Nepal, while JTF 505 Main

477 USAID Arrives in Nepal, Earthquake Response Efforts Begin," <https://blog.usaid.gov/2015/04/usaaid-arrives-in-nepal-earthquake-response-effortsbegin/>

478 USAID, U.S. Pacific Command Assist Earthquake Relief in Nepal," <http://www.pacom.mil/Media/News/Article/588508/usaaid-us-pacific-commandassist-earthquake-relief-in-nepal/>

479 U.S. Military Role in Assistance to Nepal" <http://www.pacom.mil/Media/News/Article/587121/us-military-role-in-assistance-to-nepal/>

480 8th TSC Troops Prepare for Pacific Theater Humanitarian Assistance Survey Team Mission, Demonstrate Expeditionary Capability," <http://www.pacom.mil/Media/News/Article/564235/8th-tsc-troops-prepare-for-pacific-theater-humanitarian-assistance-survey-team/>

481 PACOM Joint Humanitarian Assistance Survey Team Deployed to Nepal, <https://www.pacom.mil/Media/News/Article/586969/pacom-joint-humanitarian-assistance-survey-team-deployed-to-nepal/>

482 Joint Task Force Activates for Nepal Earthquake Relief," <http://www.315aw.afrc.af.mil/News/Article-Display/Article/587898/joint-task-force-activatesfor-nepal-earthquake-relief/>

483 Joint U.S. Forces Support Nepal Earthquake Relief Efforts in Thailand," <http://www.pacom.mil/Media/News/Article/588317/joint-us-forces-supportnepal-earthquake-relief-efforts-in-thailand/>

in Okinawa, Japan, and an Intermediate Staging Base (ISB) in Thailand consisted of approximately 590 U.S. military personnel. The JTF began to work closely with the U.S. State Department, USAID and other U.S. agencies to coordinate the U.S. response to requests by the GoN soon after it was activated. The JTF also began working with the MNMCC regarding prioritization of HA supplies and the process to deliver to affected areas.⁴⁸⁴

The JTF initially supported ongoing disaster relief operations with a U.S. Air Force contingency response group (CRG), three Marine Corps UH-1Y Huey helicopters, four Marine Corps MV-22 Osprey tilt-rotor aircraft, four Air Force C-17 Globemaster III transports and two Marine Corps KC-130 Hercules aircraft, as well as various ground and aviation command and control capabilities.⁴⁸⁵

The U.S. military deployed the 36th CRG, a rapid-deployment unit with the capability of securing, operating and managing an airfield, to Kathmandu, Nepal on May 5. The 42-person team, attached to JTF 505, was based out of Guam. The CRG was comprised of airmen along with security forces, anti-terrorism personnel and medics. As one of its first tasks, utilizing its unique capabilities and logistical expertise, the 36th CRG and members of the Civil Aviation Authority of Nepal teamed up to conduct an assessment and necessary repairs to TIA.⁴⁸⁶

In support of the operation, and to ensure the flow of relief and personnel to and from Nepal, the JTF helped set up an intermediate staging base (ISB) at U-Tapao Royal Thai Navy Airfield in Thailand. At the ISB, JTF personnel monitored communications with other JTF 505 components throughout the region and supported air operations. The JTF mission in Thailand was able to successfully move tons of cargo and hundreds of support personnel into Nepal. Additionally, Royal Thai Armed Forces worked with the JTF at the ISB to coordinate relief support with the Government of Thailand.

Over time, requirements for foreign militaries' unique capabilities diminish as more civilian air and ground capabilities become available for relief operations. As part of its redeployment, JTF 505 began drawing down its relief operations as the Nepalese government and international aid agencies began pivoting towards long-term recovery and reconstruction efforts. Other foreign militaries began redeploying home starting around May 9.

As part of redeployment efforts, the JTF 505



U.S. Marine Corps Capt Mathew Phelps works in the Joint Task Force (JTF) 505 Joint Operations Command Center (FWD) on May 6, 2015.
Photo by Chief Warrant Officer Clint Runy
Source: <http://www.pacom.mil/Media/Photos/igphoto/2001046082/>

484 Nepal Earthquake Relief Effort Named 'Operation Sahayogi Haat,' <http://www.pacom.mil/Media/News/Article/588303/nepal-earthquake-relief-effortnamed-operation-sahayogi-haat/>

485 Joint Task Force Activates for Nepal Earthquake Relief," <http://www.315aw.afrc.af.mil/News/Article-Display/Article/587898/joint-task-force-activatesfor-nepal-earthquake-relief/>

486 36th Contingency Response Group Expands US Military Support to Nepal," <http://www.pacom.mil/Media/News/Article/587959/36th-contingencyresponse-group-expands-us-military-support-to-nepal/>

transitioned CRG tasks to the Nepalese civil aviation authority and other international organizations, including training Nepal Airlines employees and Nepal Army personnel. JTF 505 participated in a press conference on May 20 with U.S. Ambassador Peter Bodde, OFDA's DART team leader, Bill Berger, and Nepal Chief of Army Staff, General Rana, to formally announce the completion of JTF 505 operations and subsequent redeployment. Nepal announced its transition from relief operations to the recovery phase of disaster response on May 21, 2015.⁴⁸⁷



Nepalese service members gather earthquake relief supplies delivered by members of Joint Task Force 505 at an outlying village near Kathmandu, Nepal, May 7, 2015. U.S. Marine Corps photo by Staff Sgt. Jeffrey D. Anderson
Source: <https://dod.defense.gov/News/Article/Article/604621/usaid-pacom-assist-earthquake-relief-in-nepal/>

JTF 505 deactivated on May 26 after redeploying from Nepal to U-Tapao Royal Air Field in Thailand in support of Operation Sahayogi Haat. About 900 U.S. military and civilian personnel from the Army, Navy, Air Force and Marine Corps contributed to the relief efforts under JTF 505. About 300 of the JTF 505 personnel worked in Nepal, 320 at the main headquarters in Japan, and 280 at the intermediate staging base in U-tapao, Thailand. By the end of its mission, as part of the JTF, the 36th CRG helped unload more than 200 aircraft in Nepal and helped reduce the backlog of aid stockpiles accumulated during the early stages of the response. Additionally, the 36th CRG helped train members of the NA and airport personnel during their ongoing operations.

During its deployment, the JTF 505 worked with 24 different countries to provide relief. In coordination with the GoN and USAID, the JTF delivered about 120 tons of relief supplies. The task force also transported 553 personnel and conducted 69 casualty evacuations. JTF 505 unique capabilities included the contribution of three Marine Corps UH-1Y Huey helicopters and four Marine Corps MV-22B Osprey tilt rotor aircraft to the relief effort. Additionally, four Air Force C-17 Globemaster IIIs, four Air Force C-130 Hercules and four Marine Corps KC-130J Hercules aircraft, as well as various ground and aviation command and control assets were utilized.^{488, 489, 490}

487 Joint Task Force 505 begins drawdown in Nepal,"<http://www.af.mil/News/Article-Display/Article/589300/joint-task-force-505-begins-drawdown-innepal/>
488 Ibid.

489 Guam Contingency Response Group Assists in Typhoon Recovery," <http://www.pacom.mil/Media/News/Article/613516/guam-contingency-responsegroup-assists-in-typhoon-recovery/>

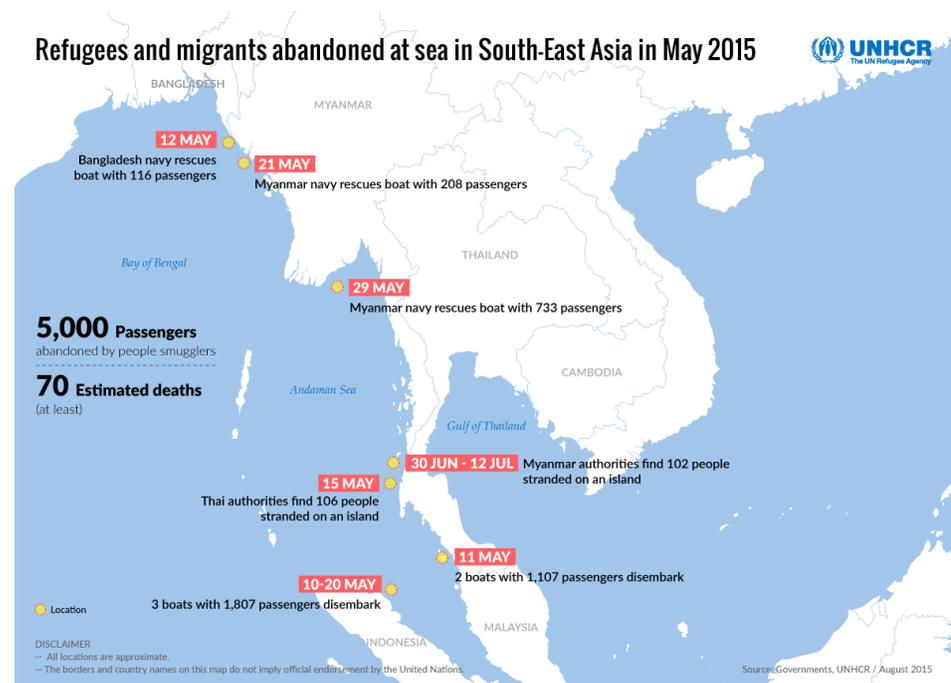
490 Nepal Earthquake Response Task Force Deactivates," <http://www.pacom.mil/Media/News/News-Article-View/Article/589705/nepal-earthquakeresponse-task-force>

May 2015 – Rohingya Sea Migration Background

In early 2015, thousands of Bangladeshi and Rohingya migrants departed irregularly by sea in the Bangladesh-Myanmar-border area in the Bay of Bengal, resulting in a humanitarian crisis as neighboring countries tightened border security and smugglers refused to bring ships ashore, leaving thousands of migrants stranded at sea without basic necessities. Around 25,000 migrants departed the border area by sea from January to March 2015, almost double the number over the same time period in 2014, according to UNHCR. Many of the migrants were reportedly adrift at sea for months in need of water, food and other basic supplies. Most of the migrants eventually ended up in Indonesia, Thailand and Malaysia via the Strait of Malacca and the Andaman Sea after being rescued or making their way to shore. The UN High Commissioner for Refugees (UNHCR) reported that since the beginning of 2014, around 88,000 people journeyed across the Bay of Bengal, tripling the scale of movement since 2012. UNHCR estimated that at least 1,050 people had perished at sea or went missing during that time period. UNHCR estimated that around 300 people died at sea in the first quarter of 2015 as a result of starvation, dehydration or abuse by boat crews.^{491, 492, 493}

Amidst mounting international concern and pressure, in late May 2015, Bangladesh, Indonesia, Malaysia, Myanmar and Thailand intensified search and rescue operations. Additionally, on May 29, representatives from 17 countries, as well as the UNHCR, the United Nations Office on Drugs and Crime (UNODC), the International Organization for Migration (IOM), and the United Nations Resident Coordinator for Thailand, attended the “Special Meeting on Irregular Migration in the Indian Ocean,” organized by the Royal Thai Government in Bangkok. Representatives of Japan, Switzerland, and the U.S. attended as observers.⁴⁹⁴

Representatives of the most affected



Source: UNHCR, <http://tracks.unhcr.org/2015/08/abandoned-at-sea/>

491 Some 25,000 risk sea crossings in Bay of Bengal over first quarter, almost double from year earlier, <https://reliefweb.int/report/thailand/some-25000-risk-sea-crossings-bay-bengal-over-first-quarter-almost-double-year>

492 Rohingya crisis, 22 May, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=L8t180QJt4%3d&portalid=0>

493 Rohingya Migrant Update, 22 June, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=8SVon1EDyUU%3d&portalid=0>

494 Rohingya Migrant Update, 22 June, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=8SVon1EDyUU%3d&portalid=0>

countries (Bangladesh, Indonesia, Malaysia, Myanmar, and Thailand) briefed the meeting on the efforts and measures each country was undertaking. Indonesia and Malaysia agreed to continue to provide humanitarian assistance and temporary shelter to some 7,000 irregular migrants still at sea provided that the resettlement and repatriation process would be done in a year by the international community.

The meeting identified intensifying search and rescue operations, and an agreed, predictable disembarkation plan as being among the priorities for the immediate response. Longer term needs included facilitating solutions for people in need of international protection.^{495, 496}

U.S. Military Assistance

The U.S. deployed military aircraft to assist in surveillance efforts in close collaboration with Malaysia and Thailand. USPACOM conducted surveillance and reconnaissance operations to locate vessels and pass on information to regional governments and militaries.⁴⁹⁷

With the support of the Malaysian government, the U.S. Navy conducted daily maritime surveillance flights out of Subang, Malaysia, to locate boats at sea carrying migrants. The information was shared with regional partners to share sea routes used by smugglers and to help locate boats at sea.⁴⁹⁸



Boat off the coast of Myanmar's Rakhine province
(file) Photo: OCHA

Source: <https://refugeesmigrants.un.org/myanmar-displaced-rohingya-risk-%E2%80%98re-victimization%E2%80%99-warns-un-refugee-agency>

495 Rohingya crisis, 22 May, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=L8t18OQTJt4%3d&portalid=0>

496 Rohingya Migrant Update, 22 June, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=8SVon1EDyUU%3d&portalid=0>

497 Rohingya Migrant Update, 22 June, 2015, CFE-DM Humanitarian Information Paper, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=8SVon1EDyUU%3d&portalid=0>

498 Assistant Secretary Anne C. Richard Travel to Thailand, Malaysia, and Indonesia to Highlight U.S. Assistance to Vulnerable Migrants and Asylum Seekers in South East Asia, <https://reliefweb.int/report/myanmar/assistant-secretary-anne-c-richard-travel-thailand-malaysia-and-indonesia-highlight>

April 2016 – Japan: Kumamoto Earthquakes

Background

In April 2016, a series of earthquakes struck the Kumamoto region of Kyushu, the southernmost of Japan's major islands. The first, a magnitude 6.5, occurred at 9:26 pm on April 14, followed by hundreds of smaller aftershocks. Two days later, a second magnitude 7.3 earthquake, 16 times more powerful than the first, struck the same area at 1:30 am, leading authorities to classify the 6.5 temblor a foreshock. Both quakes were within six miles of the surface, resulting in severe shaking and infrastructure damage, in particular to roads, bridges and tunnels. Major landslides also cut off remote villages.^{499, 500}

Seventy-two persons were killed and over 2,000 injured. Nearly 200,000 persons were evacuated and housed in temporary shelters. Over 160,000 structures sustained serious damage. While over 100,000 homes lost power, nuclear power plants were thankfully unaffected. Complicating the response, damage at Kumamoto Airport temporarily halted flights. Moreover, heavy rains in the days after both impeded relief efforts and led to fears of additional landslides and dam ruptures.⁵⁰¹



Yokota Air Base, Japan (April 18, 2016) - Master Sgt. Christopher Bergstrom, 374th Logistics Readiness Squadron air transportation specialist, speaks to a Japan Ground Self-Defense Force member at Chitose, Hokkaido. The 374th Airlift Wing airlifted vehicles and personnel to the island of Kyushu after it was struck by a devastating earthquake. Photo credit: Michael Washburn
Source: <https://www.pacom.mil/Media/News/Article/723642/yokota-aidsgovernment-of-japan-with-earthquake-relief/>

The Government of Japan estimated that damage could ultimately top US\$40 billion. The quake was the most powerful and damaging natural disaster since the March 2011 Tohoku earthquake, tsunami and radiological (Fukushima) disaster. Additionally, the second, more powerful earthquake's magnitude of 7.3 matched the Great Hanshin-Awaji (Kobe) earthquake of January 1995.⁵⁰²

One hour after the first quake, the Governor of Kumamoto requested assistance from the Japanese Ground Self-Defense Forces (GSDF) stationed in North Kumamoto. Across the next six weeks, over 20,000 personnel, composed of elements from the Japanese ground,

maritime and air forces, delivered lifesaving support to the relief operation. Over 100 aircraft were

499 The Guardian. "Japan hit by second powerful earthquake," April 16, 2016, <https://www.theguardian.com/world/2016/apr/16/japan-hit-by-second-powerful-earthquake-with-fears-of-more-to-come>

500 Case Study No. 5: "Exceptions to the Rule;" A review of U.S. military response to the Kumamoto earthquakes in Japan in April 2016, the Kaikoura, New Zealand earthquake in November 2016, and the Sri Lankan floods and landslides in May 2017, <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=w7AlsXIEhOY%3d&portalid=0>

501 The Japan Times. "Caught off guard by deadly quakes, Kumamoto still learning lessons one year on," April 13, 2017, <https://www.japantimes.co.jp/news/2017/04/13/national/caught-off-guard-deadly-quakes-kumamoto-still-learning-lessons-one-year/#.XHRN3uhKh7g>

502 The Japan Times. "More powerful magnitude-7.3 quake rocks Kumamoto, kills dozens," April 16, 2016, <https://www.japantimes.co.jp/news/2016/04/16/national/more-powerful-magnitude-7-3-quake-rocks-kumamoto-kills-dozens-more/#.XHbwTYhKh7j>

ultimately called upon to support the effort. Owing to the quick restoration of electricity, water, and gas, the Joint Task Force formed to support the response was disbanded three weeks later.⁵⁰³

Though the Japanese government did not formally request assistance, its overseas missions accepted donations in support of earthquake relief.⁵⁰⁴

U.S. Military Response

No disaster was declared by the U.S. Embassy in Tokyo and the response was not led by USAID/OFDA, however, U.S. Forces Japan (USFJ) stationed in the country were called upon to complement the Japanese relief effort. From April 18-23, U.S. C-130, MV-22 and UC-35 transport aircraft delivered 36 tons of food, water and relief supplies to Minamiaso Village, its overland connections cut off by massive landslides generated by the earthquakes. Military assets from Sasebo Naval Base, Yokota Air Base, and Marine Corps Air Station Futenma participated in the response. Marine Corps Air Station Iwakuni, the closest U.S. base, served as a joint hub for operations. Approximately 130 military personnel in total contributed directly to the relief effort.^{505, 506, 507}

USFJ support to the Japan Self-Defense Forces was enabled via an Acquisition and Cross-Servicing Agreement (ACSA). ACSAs, negotiated on a bilateral basis with U.S. allies or coalition partners, allow U.S. forces to exchange the most common types of support, including food, fuel, transportation, and equipment.

In addition to the United States, two military transport aircraft from the Republic of Korea provided rice, water and other relief aid to those impacted by the earthquake.⁵⁰⁸



Hakusui Sports Park, Aichi, Japan (April 20, 2016) - Japan Ground Self Defense Force (JGSDF) personnel carry supplies from a U.S. Marine Corps MV-22B Osprey tiltrotor aircraft from Marine Medium Tiltrotor Squadron (VMM) 265, 31st Marine Expeditionary Unit (MEU), in Hakusui Sports Park, Kyushu island. The supplies are in support of the relief effort after a series of earthquakes struck the island of Kyushu. Photo by: Cpl. Darien Bjorndal Source: <https://www.pacom.mil/Media/News/Article/739022/marines-step-up-relief-support-for-kyushu-earthquake-victims/>

503 2016 Kumamoto Earthquake." Japan Ministry of Defense, 2016, https://www.mofa.go.jp/a_o/na/kr/page4e_000423.html

504 Messages of Sympathy and Assistance from Foreign Countries, Regions, and International Organizations." Ministry of Foreign Affairs of Japan, July 8, 2016, https://www.mofa.go.jp/ms/m_c/page24e_000146.html

505 Assistance for the 2016 Kumamoto Earthquake Provided by the U.S. Forces in Japan." Ministry of Foreign Affairs of Japan, April 27, 2016, https://www.mofa.go.jp/a_o/na/kr/page4e_000423.html

506 The Guardian. "Japan hit by second powerful earthquake," April 16, 2016, <https://www.theguardian.com/world/2016/apr/16/japan-hit-by-second-powerful-earthquake-with-fears-of-more-to-come>

507 U.S. Department of Defense. "U.S. Military Delivers 30 Tons of Supplies for Japan Earthquake Relief," April 21, 2016, <https://dod.defense.gov/News/Article/Article/739952/us-military-delivers-30-tons-of-supplies-for-japan-earthquake-relief/>

508 Messages of Sympathy and Assistance from Foreign Countries, Regions, and International Organizations." Ministry of Foreign Affairs of Japan, July 8, 2016, https://www.mofa.go.jp/ms/m_c/page24e_000146.html

November 2016 - New Zealand: Kaikoura Earthquake

Background

On November 14, 2016, just after midnight, the Kaikoura area on New Zealand's South Island, was hit by a magnitude-7.8 earthquake at a depth of 23 km (14.2 miles). The area is located some 55 miles (93 km) northeast from Christchurch, on the east coast of South Island. Christchurch was hit by an earthquake on February 22, 2011 in which some 185 people were killed and thousands of buildings destroyed or damaged. In Kaikoura in 2016, two people were killed and 58 others reported injured. Around 41 buildings were reported destroyed. Over a thousand tourists and hundreds of local residents were stranded in Kaikoura because a highway (State Highway One) that linked the area to other parts of the country was cut off by landslides. Early economic damage estimates ranged from NZ\$2 billion (U.S.\$1.40 billion) - NZ\$12 billion (U.S.\$8.4 billion) according to analysts.⁵⁰⁹

The quake triggered tsunami waves of 2.49 meters (8 feet) above usual tide levels, according to Weather Watch New Zealand. The Ministry of Civil Defence and Emergency Management (CDEM) immediately issued a tsunami warning for the East Cape to Southland, including Wellington and the Chatham Islands, but it was ultimately cancelled. A state of emergency was declared in Kaikoura and evacuations were conducted along the coastal areas with local authorities leading the response. The National Crisis Management Centre was activated to provide support as required. The damage was exacerbated by heavy rains in Wellington, which brought flooding to affected areas.^{510, 511}

A local state of emergency was declared for the region of Canterbury. The capital, Wellington, was also reportedly affected by the quake. The tourist town of Kaikoura was home to around 2,000



Map Source: CFE-DM

509 New Zealand: Dozens of aftershocks follow deadly earthquake," <https://www.cnn.com/2016/11/13/asia/new-zealand-earthquake/>

510 New Zealand: Dozens of aftershocks follow deadly earthquake," <https://www.cnn.com/2016/11/13/asia/new-zealand-earthquake/>

511 Asia and the Pacific: Weekly Regional Humanitarian Snapshot (8-14 November 2016)," <https://reliefweb.int/report/philippines/asia-and-pacific-weekly-regional-humanitarian-snapshot-8-14-november-2016>



North Canterbury Earthquake Disaster Recovery assistance.
 Photo credit: U.S. Department of State.
 Source: <https://nz.usembassy.gov/commanding-officer-of-the-uss-sampson/>

residents and was a popular destination for whale-watching expeditions. Residents and tourists had to be airlifted out after landslides cut off the town. Air Commodore Darryn Webb, acting commander of the New Zealand joint forces, told TVNZ that some 200 people were the first to be airlifted out. There were an estimated 1,200 tourists in Kaikoura at the time.^{512, 513, 514}

In response, the New Zealand Defence Force (NZDF) immediately mobilized four Royal New Zealand Navy (RNZN) ships and over 400 sailors, 30 Army

personnel, and 11 helicopters and aircraft, plus 50 aircrew and some 200 ground support personnel from the Royal New Zealand Air Force (RNZAF). Defence Minister Gerry Brownlee said the New Zealand Navy had immediately sent the HMNZS Canterbury and HMNZS Wellington to Kaikoura and would later send the HMNZS Te Kaha and tanker ship, HMNZS Endeavour. Eventually, four air force helicopters airlifted people out of Kaikoura. A convoy of 27 army trucks carrying supplies were the first land forces to arrive in Kaikoura. The HMNZS Canterbury began evacuation efforts to Lyttelton starting with 192 evacuees. Two RNZAF A109 helicopters were used to transport police to conduct checks in remote areas of North Canterbury.^{515, 516, 517}

Towards the end of the response, the NZDF had mobilized up to 615 people, 11 aircraft and four vessels to support the Government's earthquake response. It delivered about 250 tons of vital supplies to Kaikoura by land, sea and air, and had rescued nearly 1,000 people from the seaside town.⁵¹⁸

The USS Sampson was steaming off the coast of New Zealand with a flotilla of partner nation ships, including the HMAS Darwin (Australia), HMCS Vancouver (Canada), and New Zealand's frigate HMNZS Te Kaha and tanker HMNZS Endeavour. The Sampson was headed along with the other ships to participate in the 75th anniversary of the Royal New Zealand Navy in Auckland, called the New Zealand International Naval Review.

Following the quake, New Zealand Defence Minister Brownlee said that New Zealand had received offers of help from five nations attending the International Naval Review - the United States, Australia, Canada, Japan and Singapore.⁵¹⁹

512 Thousands stranded in New Zealand after earthquakes," <https://www.cnn.com/2016/11/14/asia/new-zealand-earthquake/>
 513 HMCS Vancouver to provide supplies, transport equipment in area hit by earthquake, New Zealand officer says," <https://ottawacitizen.com/news/national/defence-watch/hmcs-vancouver-to-provide-supplies-transport-equipment-in-area-hit-by-earthquake-new-zealand-officer-says>
 514 New Zealand earthquake: Kaikoura evacuations under way," <https://www.bbc.com/news/world-asia-37982395>
 515 International navies respond to provide new Zealand earthquake relief," <http://www.janes.com/article/65590/international-navies-respond-to-provide-new-zealand-earthquake-relief>
 516 Ships heading south to aid earthquake response," <http://www.voxo.co.nz/politics/5/268387>
 517 The aftermath of the 7.8 earthquake so far," <https://www.radionz.co.nz/news/national/318002/the-aftermath-of-the-7-point-8-earthquake-so-far>
 518 Kaikoura helicopter pilot takes supplies to earthquake victims," http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11752338
 519 Ships heading south to aid earthquake response," <http://www.voxo.co.nz/politics/5/268387>

Foreign military assets used:

United States: USS Sampson, P3-C Orion

Australia: HMAS Darwin

Canada: HMCS Vancouver

Japan: P-1 Surveillance Aircraft

In total, the foreign ships contributed about 660 sailors and four helicopters, while the NZDF had mobilized around 560 personnel, 11 aircraft and 4 vessels.⁵²⁰

U.S. Military Response

Following the earthquake, the U.S. immediately offered assistance to New Zealand, including the use of military assets. “American presence matters, as shown yet again today,” said Adm. Harry Harris, commander of U.S. Pacific Command. “Our prayers go out to our friends in New Zealand as they deal with another devastating earthquake on the South Island. But more than that, our help also goes out. At the request of the New Zealand government, the USS Sampson and her two embarked MH-60R Seahawk helicopters will join the U.S. P-3 (maritime patrol aircraft) that’s already on station there in support of the disaster relief effort in New Zealand.”⁵²¹

U.S. sailors assigned to the USS Sampson (DDG 102) flew ashore November 18, 2016 to support the NZDF in providing assistance to rural areas of Kaikoura. Eighteen members of the Sampson crew, with backgrounds in mechanical engineering, electrical engineering, damage control, and medical treatment provided assistance. U.S. Sailors set up a food distribution center in an elementary



The commanding Officer of HMAS Darwin Commander Phillip Henry (second from left) together with personnel from Canada and the United States, receives a briefing from New Zealand Defence Force member Colonel Glenn King, about support to the New Zealand earthquake recovery efforts at Kaikoura, New Zealand, November 17, 2016

New Zealand Defence Force photo by Cpl. Amanda McErlich

Source: <https://www.dvidshub.net/image/2997637/new-zealandearthquake-relief>

school, others delivered toilets with self-contained sewage systems to homes without plumbing. Sailors also went door-to-door with informational pamphlets to help residents understand what services were available. Additionally, one of the Sampson’s embarked MH-60R Seahawk helicopters took the Kaikoura Mayor for an aerial survey of the damage. The Sampson, originally scheduled to pull into Auckland’s Waitemata Harbor, diverted course at the request of the New Zealand government to render assistance to those affected by the earthquake. The Sampson had a total of two Seahawk helicopters embarked.⁵²²

⁵²⁰ International warships arrive to help with Kaikoura disaster relief after earthquakes,” http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11750203

⁵²¹ USS Sampson to support New Zealand-led forces responding to earthquake,” <https://www.c7f.navy.mil/Media/News/Display/Article/1005264/ussampson-to-support-new-zealand-led-forces-responding-to-earthquake/>

⁵²² USS Sampson Sailors Assist New Zealand Residents Affected by earthquake,” http://www.navy.mil/submit/display.asp?story_id=97761

The helicopters completed 14 flights lifting 11,000 pounds of equipment and supplies to the shore from the HMAS Canberra. The crew of the Sampson also supported transporting New Zealand citizens from Kaikoura to HMNZS Canterbury and 26 sailors went ashore and assisted in cleanup efforts, and brought food and care packages into Kaikoura.⁵²³

At the request of the New Zealand Ministry of Defence the U.S. Navy provided maritime patrol and reconnaissance aircraft to assist. A P-3C Orion assigned to Patrol Squadron (VP) 47 was participating in

Exercise Mahi Tangaroa as part of the New Zealand International Naval Review when the earthquake occurred and was tasked with assessing the area surrounding Kaikoura. The P-3C operated from Royal New Zealand Air Force Base Auckland located in Whenuapai. The VP-47 aircrew, accompanied by two Royal New Zealand Air Force airmen, identified impassable roads and assessed bridges that were damaged by the earthquake. The P-3C is based at Marine Corps Base Hawaii.^{524, 525}

While the U.S. Ambassador to New Zealand, Mark Gilbert, did not issue a disaster declaration, he did send out a statement of support to the people and Government of New Zealand. Because a formal disaster declaration was not issued, the U.S. Department of Defense funded the Kaikoura response from the Asia Pacific Regional Initiative (APRI), vice the Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) Budget. U.S. military support was provided to New Zealand from November 17–19, 2016.⁵²⁶



Kaikoura, New Zealand (Nov. 18, 2016) - Cmdr. Timothy LaBenz (right), commanding officer of Arleigh Burke-class guided-missile destroyer USS Sampson (DDG 102), and Kaikoura Mayor Winston Gray survey the damage to local infrastructure in a MH-60R Sea Hawk from the Battle Cats of Helicopter Maritime Strike (HSM) Squadron 73, attached to USS Sampson (DDG 102).

U.S. Navy photo by Petty Officer 2nd Class Bryan Jackson/Released
Source: "U.S. Navy Joins New Zealand Earthquake Relief," <http://navylive.dodlive.mil/2016/11/17/u-s-navy-joins-new-zealandearthquake-relief/earthquake-relief/>

523 USS Sampson concludes relief effort support to NZ," <https://www.maritimeprofessional.com/news/sampson-concludes-relief-effort-support-298501>

524 USS Sampson CO: Crew fully prepared for New Zealand earthquake response," <http://navylive.dodlive.mil/2016/11/15/uss-sampson-co-crew-fully-prepared-for-new-zealand-earthquake-response/>

525 U.S. Navy joins New Zealand earthquake relief," <http://navylive.dodlive.mil/2016/11/17/u-s-navy-joins-new-zealand-earthquake-relief/>

526 USS Sampson concludes relief effort support to NZ," <https://www.maritimeprofessional.com/news/sampson-concludes-relief-effort-support-298501>

May 2017 – Sri Lanka: Floods

Background

Starting on May 25, 2017, heavier than usual southwestern monsoon rains resulted in flooding and landslides across Sri Lanka, affecting more than 630,000 people in 15 of the 25 districts in the country. As of May 31, 2017, the Government of Sri Lanka (GoSL) said that there were more than 200 deaths, nearly 100 missing persons, and significant damage to agriculture and property due to the floods and landslides. The rains were reportedly the worst since 2003 and came after two months of drought. The wettest time of the year in the country's south is usually from May to September.^{527, 528}

According to the United Nations in Sri Lanka seven districts were the most affected by floods and landslides, including Gampaha, Galle, Hambantota, Kalutara, Kegalle, Matara and Ratnapura districts. Galle, Kalutara, Matara and Ratnapura were the worst affected districts. The most severely impacted district was southern Galle district, where some 142,149 people (36,314 families) were initially affected. On May 26, the GoSL made an initial request for international support, particularly for search and rescue operations. The Humanitarian Country Team (HCT) responded to the request and mobilized relief supplies for distribution. The situation in the country worsened over the next few weeks. On June 21, the UN Resident Coordinator's (UNRC) Office estimated that 415,600 people were affected in 12 districts. Over 3,000 houses were reported destroyed and 21,000 were damaged.⁵²⁹

Military spokesperson Brigadier Roshan Senevirathne said that, in total, more than 2,000 military personnel, including members of the Army, Navy and Air Force, had been deployed to help police and civilian agencies in relief efforts. The troops belonged to 16 battalions and utilized 45 troop transport vehicles for rescue and relief operations in coordination with the Disaster Management Centre (DMC) and district and divisional secretariats. Army troops cleared roadways, including the 26km stretch of the Ratnapura–Kalawana road, and strengthened the flood retaining wall of the Nilwala River in the Thihagoda area.^{530, 531}

The Sri Lankan Army deployed a total of 1,600 personnel belonging to Security Force Headquarters – West (SFHQ-West). Army personnel deployed with troop carriers and army boats. Additionally, Army Health Services dispatched five army medical teams to affected areas. Army personnel had rescued more than 2,600 flood victims within the first 24 hours of relief efforts.⁵³²

Starting May 26, the Sri Lanka Air Force (SLAF) deployed its Mi-17, Bell-212 and Bell-412 helicopters for emergency rescue operations, medical evacuation, cargo and troop transport, and B200 Beachcraft for airborne reconnaissance in Colombo, Galle, Rathnapura and Kalutara. The SLAF supplied rations to the affected populations, from SLAF Base Ratmalana and SLAF Koggala. SLAF personnel also set up a special relief supply collection center at the Air Movement Section of SLAF Base Ratmalana to assist flood victims.⁵³³

527 Sri Lanka: Floods and Landslides Emergency Response Plan (June – October 2018)," <https://reliefweb.int/report/sri-lanka/sri-lanka-floods-and-landslides-emergency-response-plan-june-october-2017>

528 Sri Lankan landslides, flooding kills 122, as nation appeals for international help," <https://www.abc.net.au/news/2017-05-28/sri-lanka-flooding-death-toll-climbs-un-appeal-for-help/8566538>

529 Sri Lanka: Floods and Landslides Emergency Response Plan (June – October 2018)," <https://reliefweb.int/report/sri-lanka/sri-lanka-floods-and-landslides-emergency-response-plan-june-october-2017>

530 Sri Lanka seeks international help after deadly flooding, landslides," <https://www.reuters.com/article/us-sri-lanka-disaster-idUSKBN18NOLT>

531 Sri Lanka Army continues with rescue and relief operations," May 29 2017, http://www.defence.lk/new.asp?fname=Sri_Lanka_Army_continues_with_rescue_and_relief_operations_20170529_01

532 Army continues with relief work," May 28, 2017, http://www.defence.lk/new.asp?fname=Army_continues_with_relief_work_20170528_03

533 SLAF assists flood victims," May 28, 2017, http://www.defence.lk/new.asp?fname=SLAF_assists_flood_victims_20170528_04



Fire Controlman 2nd Class Jason McEntire from the Ticonderoga-class guided-missile cruiser USS Lake Erie (CG 70) works with Sri Lankan Marines to repair levees in Matara, Sri Lanka, June 12, 2017 during humanitarian assistance operations in the wake of severe flooding and landslides that devastated many regions of the country.

U.S. Navy photo by Mass Communication Specialist 2nd Class Joshua Fulton
 Source: <https://www.pacom.mil/Media/News/News-Article-View/Article/1211414/uss-lake-erie-us-servicemembers-render-assistance-in-sri-lanka-after-devastati/>

Sri Lankan Navy personnel helped remove debris blocking Wakwella Bridge at Baddegama, Galle district. Additionally, naval personnel also refurbished an embankment in Baddegama town due to water leakage. In total, the navy deployed over 109 relief, search and rescue teams comprised of 643 personnel and 109 boats in affected Southern and Western provinces. Aside from the distribution of food rations, Navy members rescued thousands affected by the floods.⁵³⁴

Foreign military support was provided by the Indian and U.S. militaries. India sent three navy ships with medical teams and relief

supplies: These included the INS Shardul, INS Kirch and the INS Jalashwa. The INS Kirch arrived first (May 27) with a crew of 120 and relief supplies and began helping the Sri Lankan Navy in relief operations at Udugama and Galapatha in Kalutara district. The INS Shardul arrived in the port of Colombo on May 28 carrying 4 small boats, 127 crew members, a medical team, divers and rescue teams, and relief supplies.^{535, 536, 537, 538, 539}

U.S. Military Response

On May 27, 2017, U.S. Ambassador to Sri Lanka, Atul Keshap, declared a disaster. In June 2017, U.S. military personnel assisted the Sri Lankan government and military in the response to the floods and landslides. The USS Lake Erie (CG 70) arrived in Sri Lanka on June 11, 2017 to assist with disaster relief operations. More than 400 U.S. Sailors from the ship participated in the mission. The sailors spent a week working alongside local government agencies and the Sri Lanka Red Cross (SLRC) to assist communities with cleanup, food distribution, and dewatering of wells. Major projects included a three day irrigation repair in Matara Province and a groundwater well rehabilitation in Kalutara. A total of 125 wells were repaired in Colombo and Galle.⁵⁴⁰

The United States Agency for International Development (USAID)/Office of Foreign Disaster Assistance (OFDA) and the Civil-Military Support Element (CMSE) attached to the U.S Embassy

534 Navy assists to remove debris clogged in Wakwella bridge," May 28, 2017, http://www.defence.lk/new.asp?fname=Navy_assists_to_remove_debris_clogged_in_Wakwella_Bridg_20170528_06

535 Sri Lanka floods: Nearly 500,000 displaced as death toll rises," <https://www.bbc.com/news/world-asia-40070660>

536 Sri Lanka seeks international help after deadly flooding, landslides," <https://www.reuters.com/article/us-sri-lanka-disaster-idUSKBN18N0LT>

537 Sri Lanka floods: Battle to rescue stranded as death toll tops 180," <https://www.cnn.com/2017/05/29/asia/sri-lanka-floods/index.html>

538 Second Indian ship, INS 'Shardul' arrives for flood relief operations," May 28, 2017, http://www.defence.lk/new.asp?fname=Second_Indian_ship_INS_Shardul_arrives_for_flood_relief_operations_20170528_05

539 Indian naval ship 'Kirch' arrives with relief assistance," May 27, 2017, http://www.defence.lk/new.asp?fname=Indian_Naval_Ship_Kirch_arrives_with_relief_assistance_20170528_01

540 U.S. Service Members Aid Sri Lanka after devastating floods," <https://dod.defense.gov/News/Article/Article/1211928/us-service-members-aid-sri-lanka-after-devastating-floods/>

helped organize U.S. response efforts and conducted assessments.⁵⁴¹

The sailors worked alongside the newly established Sri Lankan Marine Corps, and Sri Lankan Navy liaison elements coordinated efforts with local officials. The sailors from the Lake Erie completed their disaster response mission on June 17, 2017. A small group of military specialists remained in Sri Lanka for a while to assist the U.S. Embassy and government agencies with the final phases of relief operations.⁵⁴²

The USPACOM Augmentation Team (PAT)

also helped coordinate and provide support to the GoSL. The PAT is comprised of six U.S. military personnel. The Civil-Military Support Element (CMSE), comprised of the civil affairs soldiers, took the lead of the PAT. The CMSE leveraged their network of military leaders, government officials, and UN and NGOs in Sri Lanka for the response. The PAT began assessing where they could best assist Sri Lankan military forces and eventually decided to focus on local schools because it was decided that it was the best way to locate families and to see who was missing. Additionally, the PAT linked up with Sri Lankan military forces, in particular, the Sri Lankan Marines.⁵⁴³

Meanwhile, the CMSE coordinated with the Sri Lankan Disaster Management Centre and de-conflicted relief efforts with the Humanitarian Country Team. Additionally, team members reached out to other DOD assets visiting in the country and found an annual multi-lateral Joint Combined Exchange Training (JCET) ongoing. This enabled the PAT team to link up with Special Forces Soldiers who were involved as well as Reserve Officer Training Corps (ROTC) candidates. The team began making their way through the local community and cleaned more than 1,000 wells and refurbished five major irrigation systems. Additionally, the PAT, along with the Special Forces team, conducted assessments. The PAT also worked with Sri Lankan emergency management officials to begin a project on improving emergency communications.⁵⁴⁴

A unique part of the response occurred when U.S. Army Reserve Officer Training Corps (ROTC)



Matara, Sri Lanka (June 13, 2017)- Quartermaster 2nd Class Andrew Bowers assigned to the Ticonderoga-class guided missile cruiser USS Lake Erie (CG 70) displaces dirt to rebuild roads with the Sri Lankan Marine Corps to support humanitarian assistance operations in the wake of severe flooding and landslides that devastated many regions of the country.

Photo credit: U.S. Navy photo by Mass Communication Specialist 3rd Class Lucas T. Hans/Released

Source: <https://www.dvidshub.net/image/3479553/uss-lake-erie-cg-70-rebuild-sri-lank>

541 American People Contribute LKR 350 Million for Sri Lanka Flood Relief," <https://lk.usembassy.gov/american-people-contribute-lkr-350-million-srilanka-flood-relief/>

542 USS Lake Erie Sailors, Personnel Complete Relief Mission in Sri Lanka," <https://www.pacom.mil/Media/News/News-Article-View/Article/1218907/uss-lake-erie-sailors-personnel-complete-relief-mission-insri-lanka/>

543 Crisis Response in Sri Lanka," October –December 2017, Special Warfare, pgs. 54-55, https://www.soc.mil/SWCS/SWmag/archive/SW3004/30-4_Oct_Dec_2017_vWeb.pdf

544 Crisis Response in Sri Lanka," October –December 2017, Special Warfare, pgs. 54-55, https://www.soc.mil/SWCS/SWmag/archive/SW3004/30-4_Oct_Dec_2017_vWeb.pdf

cadets teamed up with the U.S. Embassy's Pacific Command (PACOM) Augmentation Team and cleaned and repaired flood damage at schools in the Kalutara district in coordination with CMSE and local officials.⁵⁴⁵

Special Forces Operational Detachments-Alpha (ODA) was in Sri Lanka, participating in the JCET when heavy rains triggered the widespread flooding. Major Joseph Quinn, Special Operations Command Pacific (SOCPAC), coordinated with the 1st SFG (A) Command Team, SOCPAC, and the U.S. Embassy for ODA. The ODA partnered with the CAT and the MIST, and split into two elements and assisted in restoring essential services such as re-opening a school and refurbishing drinking wells with the Sri Lankan Red Cross. The team began addressing areas away from population centers and beyond the operational reach of many aid agencies due to the team's ability to operate with minimal external support. The teams conducted assessments, and surveyed local medical facilities, and potential helicopter landing zones.⁵⁴⁶

Just a few months earlier, in March, U.S. Navy doctors and civil engineers aboard USNS Fall River (T-EPF 4) visited Hambantota, Sri Lanka for "Pacific Partnership," a two week humanitarian and disaster relief preparedness mission. This served to establish key relationships with the Sri Lankan Navy and civil service agencies in the country. Officials say the established relationships helped U.S. military personnel integrate into the disaster response mission.⁵⁴⁷



Colombo, Sri Lanka (June 12, 2017)- Sailors assigned to the Ticonderoga-class guided missile cruiser USS Lake Erie (CG 70)work in conjunction with Sri Lankan citizens to pump water wells to support humanitarian assistance operations. U.S. Navy photo by Mass Communication Specialist 3rd Class Lucas T. Hans/RELEASED
Source: <https://www.dvidshub.net/image/3474418/uss-lakeerie-cg-70-pumps-well-sri-lanka>

⁵⁴⁵ American People Contribute LKR 350 Million for Sri Lanka Flood Relief," <https://lk.usembassy.gov/american-people-contribute-lkr-350-million-srilanka-flood-relief/>

⁵⁴⁶ Flood Response," October-December 2017, Special Warfare, pgs. 56-57, www.soc.mil/swcs/specialwarfare

⁵⁴⁷ U.S. service members aid Sri Lanka after devastating floods," <https://dod.defense.gov/News/Article/Article/1211928/us-service-members-aid-sri-lanka-after-devastating-floods/>

June 2018 – Thailand: Cave Rescue

Background

In mid-2018, the world's attention was drawn to the mountainous region of northern Thailand where a boys' soccer team went missing deep inside a flooded cave complex. On June 23, 2018, 12 members of the Wild Boar soccer team (aged 11-16) went missing, along with their coach, in Chiang Rai Province after a flash flood. Based on past adventures of the team, rescuers wound up at a cave complex in a mountain shaped like a reclining woman. Named after the mountain, the cave's full name is Tham Luang Khun Nam Nang Non - "the great cave and water source of the sleeping lady mountain." The event would eventually be known simply as the Tham Luang cave rescue. On July 2, it was reported that a United Kingdom dive team successfully found all 13 members of the soccer team. By July 10, all members of the soccer team had been rescued.⁵⁴⁸

On June 25, Royal Thai Navy (RTN) SEAL divers began to search the cave after rescuers found evidence of the team in the cave the day before. On June 26, the Royal Thai Government (RTG) asked the U.S. Government for assistance, by way of the embassy in Bangkok. That same day, US Embassy Bangkok Deputy Chief of Mission (DCM) Mr. Peter Haymond, contacted the Senior Defense Official (SDO) COL Wayne Turnbull for initial, informal Department of Defense (DOD) - Department of State (DOS) coordination. Following that, COL Turnbull coordinated with the PACOM Augmentation Team (PAT) in country to facilitate communications with Special Operations Command (SOCPAC) in Hawaii for a possible response effort. The SDO also contacted the INDOPACOM J3 Joint Operations Center (JOC) and



Airmen from the U.S. Indo-Pacific Command meet with Royal Thai military officials and a Thai engineering company to advise and assist in the rescue operation June 30, 2018, at Chiang Rai, Thailand. A search and rescue team was sent to Tham Luang cave in Northern Thailand at the request of the Royal Thai government to assist in the rescue of the missing Thai soccer players and their coach. U.S. Air Force photo by Capt. Jessica Tait
Source: <https://www.stripes.com/okinawa-based-special-operations-airmen-involved-in-thai-cave-rescue-1.536912#gallery>



Airmen visit Tham Luang Cave in northern Thailand to meet with Royal Thai military officials and authorities to assess conditions June 28, 2018. Air Force photo by Capt. Jessica Tait
Source: <http://www.dodlive.mil/2018/08/23/no-room-for-error-thats-how-these-pjs-remember-the-thai-cave-rescue/>

⁵⁴⁸ Case Study No. 4: A Review of the U.S. Military's response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

INDOPACOM Deputy Director J3 for official notification procedures. Other notifications from US Embassy Bangkok went out to the DOS Bureau of East Asian and Pacific Affairs (EAP) and Office of the Secretary of Defense (OSD) to request Overseas Humanitarian, Disaster Assistance and Civic Aid (OHDACA) funding.⁵⁴⁹

As the search continued, roughly 1,000 Thai army and navy personnel, along with volunteers, joined the effort while international interest and involvement expanded. On June 26, then-US Ambassador to Thailand, Glyn Davies, declared a disaster. The Department of State issued an Executive Secretary (EXECSEC) Memo to the Department of Defense asking for assistance. DOD responded to DOS, approving assistance. USINDOPACOM then directed Special Operations Command Pacific (SOCPAC) to assist. SOCPAC issued a TASKORD to USAF 353rd Special Operations Group (SOG) in Okinawa, Japan, to prepare to respond.⁵⁵⁰

U.S. Military Response

In addition to cave rescue experts from around the world traveling to Thailand to assist, US military personnel from Indo-Pacific Command deployed at the request of the Thai government to support rescue efforts. The U.S. Embassy Bangkok and DOD personnel were critical to mission planning, international coordination, logistics, strategic communication, public affairs, advise and



assist, and civil-military liaison at the cave site. It must be acknowledged, however, that this was a Thai-led rescue and it was the cave rescue divers from the UK and Australia who brought the technical cave diving expertise and equipment necessary to ultimately rescue the Wild Boars soccer team.^{551, 552}

At the request of the Royal Thai government, the U.S. sent a search and rescue team to assist Thai rescue authorities in finding 12 young soccer players and their coach. Air Force photo by Capt. Jessica Tait
Source: <http://www.dodlive.mil/2018/08/23/no-room-for-error-thats-how-these-pjs-remember-the-thai-cave-rescue/>

On June 27, the 353rd SOG designated the Mission Commander as Major Charles Hodges and the Non-Commissioned Officer in Charge (NCOIC) was MSG Derek Anderson. A rescue team was put together and included communications, a Public Affairs Officer (PAO), and logistics support. An MC-130 aircraft with the team on board departed Kadena Air Base, Okinawa, Japan, for Thailand.⁵⁵³ The 353rd includes more than 800 airmen stationed at Kadena Air Base, Okinawa, Japan and is the only Air Force Special Operations unit in the Pacific.⁵⁵⁴

On June 28, the 353rd SOG team arrived at the rescue site – approximately 28 hours after receiving the RTG’s request for assistance – and conducted

⁵⁴⁹ Ibid.

⁵⁵⁰ Case Study No. 4: A Review of the U.S. Military’s response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

⁵⁵¹ Ibid.

⁵⁵² Statement on cooperation with Thai authorities at Tham Luang Cave, <https://th.usembassy.gov/statement-on-cooperation-with-thai-authorities-at-tham-luang-cave/>

⁵⁵³ Case Study No. 4: A Review of the U.S. Military’s response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

⁵⁵⁴ Okinawa-based Special Operations airmen involved in Thai cave rescue, <https://www.stripes.com/news/pacific/okinawa-based-special-operations-airmen-involved-in-thai-cave-rescue-1.536912>

an initial assessment of the situation. The team establish a Mission Support Site (MSS) at Wat Ban Chong, a local Buddhist Temple in Mae Sai vacated by local monks in support of the rescue operation. The team began working closely with and under the leadership of the Thai military, and also began working with other international teams on site.⁵⁵⁵

Locals and military personnel began searching for alternate “chimney” systems into the cave complex, and also considered drilling into the cave. An aerial assessment was conducted of the mountain range/external cave system utilizing Thai helicopters with the combined Thai/U.S. Rescue team. The Royal Thai navy established an Operations Center near the entrance of the cave. The British Cave Rescue Council (BCRC), a United Kingdom-based private group of highly experienced divers/cavers with previous knowledge of the cave, assessed conditions at the cave. Members of the 353d SOG Team met with the Thai Military, BCRC, and various other NGOs/commercial organizations who were aiding in the search efforts in an effort to establish an organized and integrated approach.⁵⁵⁶

On June 30, SDO Col Turnbull contacted Five Eyes (FVEY) (an alliance among the U.S., UK, Australia, Canada and New Zealand) partner Attache Offices in Bangkok to coordinate support efforts. An Australian C-17A with military personnel and equipment arrived in Chiang Mai. On July 1, Thailand requested help from the 353rd SOG in staging SCUBA cylinders in the cave chambers. Australian Federal Police also arrived on site to join the effort and began conducting dive operations to assess conditions in the cave.⁵⁵⁷

On July 2, RTN SEALS, U.S., Australian and Chinese teams collaborated on staging SCUBA tanks, food, water and medical supplies in the cave. At roughly 2230L reports indicate that the U.K. dive team was successful in finding all 13 members of the Wild Boars soccer team.⁵⁵⁸

On July 3, five additional INDOPACOM personnel (Civil Military Support Element (CMSE) and Regional Information Support Team (RIST) from SOCPAC Headquarters) arrived at site. Five hundred pounds of Meals Ready-to-Eat (MREs) from INDOPACOM were delivered to the rescue site by the U.S. Defense Attache Service’s C-12 aircraft. Additionally, a second 353rd SOG MC-130 arrived in Chiang Rai with additional gear, then continued to U-Tapao where it switched out with the original MC-130A.^{559, 560}

On July 4, the U.K. dive team and a team of divers from the 353rd SOG rescue team traveled to chamber three of the cave with equipment for the children (100 x field dressed MREs, a camera, and an atmospheric monitor). The U.K. divers then continued on with gear to reassess the route and provide an accurate assessment of what a dive rescue operation will require.⁵⁶¹

On July 6, the RTN SEAL team, the U.S. military team and the UK Cave Rescue Council come up with a joint rescue plan that is presented to Thai Prime Minister Prayut who sees and approves the rescue plan on July 7. On July 8, dive teams rescue the first four children from the cave. The rescued children are transported via ambulance to a Helicopter Landing Zone (HLZ) near the Mission Support Site (MSS), then via Royal Thai Army and Royal Thai Police (RTA and RTP) medevac

555 Case Study No. 4: A Review of the U.S. Military’s response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

556 Case Study No. 4: A Review of the U.S. Military’s response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

557 Ibid.

558 Ibid.

559 Ibid.

560 DIA’s Bangkok Defense Attaché Office Aids Thai Soccer Team Rescue, <https://www.dia.mil/News/Articles/Article-View/Article/1574178/dias-bangkok-defense-attach-office-aids-thai-soccer-team-rescue/>

561 Case Study No. 4: A Review of the U.S. Military’s response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

helicopters to a civilian hospital in Chiang Rai. On July 9, another four children are rescued. On July 10, the remaining four children and coach of the team were rescued.⁵⁶²

The U.S. military team consolidated personnel and equipment and prepared for redeployment over the next few days. On July 14, the 353d SOG team departed Thailand for Okinawa. Rescue operations for the team lasted from June 26 to July 14, 2018.⁵⁶³

Profile of US rescue effort team:

- US Aircraft Generated:
 - 2x MH-130J (from the 17th Special Operations Squadron)
 - 1x NSAV aircraft (SOCPAC asset)
 - 1 x C-12 aircraft (US Embassy Bangkok DAO asset) – delivered MREs to rescue site
- Personnel Deployed: 42 total including 353rd SOG, Air Force Special Operations pararescuemen from the 320th Special tactics Squadron, US Embassy, and SOCPAC. Plus one member from the Joint U.S. Military Advisory Group Thailand.⁵⁶⁴
- Cargo Deployed from 353rd SOG:
 - 2x STS Internal Stability Unit (ISU) containers
 - 1x medical / communications package
- Locations of personnel and equipment:
 - Chiang Rai
 - U-tapao
 - U.S. Embassy, Bangkok^{565, 566}

An interesting aspect of the Thai cave rescue is the internal USG decision and authority process that occurred in the initial hours of the response. While standard EXECSEC procedures were completed in the first 1-2 days of the operation, initial movement of forces happened prior to the EXECSEC process being finalized. This is both permissible and legal under DOD Directive 5100.46 authority governing Foreign Disaster Response, which states that nothing shall prevent a military commander with assigned forces at or near the immediate scene of a foreign disaster from taking prompt action to save human lives.⁵⁶⁷

562 Ibid.

563 Ibid.

564 DoD Personnel Assist in Thai Cave Rescue Operations, <https://dod.defense.gov/News/Article/Article/1569955/dod-personnel-assist-in-thai-cave-rescue-operations/>

565 Case Study No. 4: A Review of the U.S. Military's response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

566 'No Room for Error': That's How These PJs Remember the Thai Cave Rescue, <http://www.dodlive.mil/2018/08/23/no-room-for-error-thats-how-these-pjs-remember-the-thai-cave-rescue/>

567 Case Study No. 4: A Review of the U.S. Military's response in support of the 2018 Thailand Cave Rescue: A U.S. Indo-Pacific Command Perspective, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=PX6SL_xZLm0%3d&portalid=0

September 2018 – Indonesia: Sulawesi Earthquake and Tsunami

Background

On September 28, 2018, a series of earthquakes struck Indonesia's Central Sulawesi province. The initial earthquake was a 6.1 magnitude earthquake that was later joined by subsequent aftershocks. Around three hours later, the strongest quake measuring 7.4 magnitude struck at only 10 km beneath the surface and with its epicenter close (48 miles north) to the provincial capital, Palu. The earthquake triggered a tsunami that struck Talise beach in Palu and Donggala. The earthquakes, tsunami and resulting liquefaction and landslides caused significant damage and loss of life. At least 2,227 deaths were reported, and some 211,000 people were displaced by the disaster.^{568, 569} Overall, some 1.5 million people were affected.⁵⁷⁰ The disaster cut off much of Palu and Donggala for several days. The airport runway and control tower were both badly damaged and the seaport, which the region relied upon for fuel supplies, lost its crane for cargo.^{571, 572}

On October 1, the Government of Indonesia (GoI), through the Ministry of Foreign Affairs and the national disaster management organization (BNPB), welcomed specific offers of international



U.S. Air Force Lt. Col. Aaron Lane, 36th Mobility Response Squadron commander, Maj. Sean Conley, 36th MRS operations officer, both assigned to the 36th Contingency Response Group Andersen Air Force Base, Guam, are greeted by an Indonesian military member in Palu, Indonesia Oct. 6, 2018.

U.S. Air Force photo by Master Sgt. JT May III

Source: <https://www.pacom.mil/Media/News/News-Article-View/Article/1659037/4-ways-the-us-is-responding-to-the-indonesia-earthquake-and-tsunami/>

568 Indonesia: Humanitarian snapshot central Sulawesi (as of 20 Dec 2018) https://reliefweb.int/sites/reliefweb.int/files/resources/revised_file_v2_final_pal_u_infographics_english_0.pdf

569 Central Sulawesi earthquake and tsunami, https://reliefweb.int/sites/reliefweb.int/files/resources/Sulawesi_EQ_021118.pdf

570 Central Sulawesi Earthquake Response Plan (Oct 2018 - Dec 2018), <https://reliefweb.int/report/indonesia/central-sulawesi-earthquake-response-plan-oct-2018-dec-2018>

571 Central Sulawesi earthquake response (Oct 2018 – Dec 2018), <https://reliefweb.int/sites/reliefweb.int/files/resources/SULAWESI%20RP%20051018%20FINAL.PDF>

572 USAID: Indonesia, <https://www.usaid.gov/crisis/indonesia>

573 Ibid.

assistance. The BNPB and the regional disaster management agency coordinated the response to the disaster under the overall leadership of the Coordinating Minister for Political and Security Affairs. Additionally, the GoI requested the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) serve as a conduit for offers of international assistance for the response. The Humanitarian Country Team worked closely with the AHA Centre, while the AHA Centre's Emergency Response and Assessment Team (ERAT) worked with the BNPB's National Assisting Post (Pospenas) to coordinate international assistance.⁵⁷³

On October 26, the GoI closed operations at the humanitarian staging

area in Balikpapan, initiating a shift to early recovery activities.

The Indonesian military (TNI) provided two C-130s and a Hanggar Cn235 aircraft to respond to the disaster. The TNI also appointed a dedicated Commander Officer for the coordination of foreign military assets (FMA) in Balikpapan, the designated operations hub for the response. A total of 18 foreign militaries provided 28 aircraft to support the response. These were:

Australia: 2 x C-130

China: 1 x B747

Denmark: 1 x Antonov An-12

France: 1 x Ilyushin II-96

Germany: 1 x Antonov An-12

India: 1 x C-130

Japan: 1 x C-130

Malaysia: 2 x C-130, 1x airbus A400, 1x Eurocopter

New Zealand: 1 x C-130

Philippines: 1 x C-130

Qatar: 1 x C-17

Republic of Korea: 2 x C-130

Russia: 1 x Ilyushin II-76

Singapore: 2 x C-130

Spain: 1 x Antonov An-12

Switzerland: 1 x Dassault Falcon 900, 1 x B757

United Kingdom: 1 x Airbus A400M, 1 x Ilyushin II-76

United States: 3 x C-130s⁵⁷⁴

U.S. Military Response

On October 1, U.S. Ambassador to Indonesia Joseph R. Donovan Jr., declared a disaster and in response, USAID/OFDA provided an initial US\$100,000 in emergency relief funding to the NGO, World Vision, and mobilized a regional advisory team to coordinate response with the GoI, relief organizations and the DOD.⁵⁷⁵

Additionally, USAID/OFDA deployed a team of disaster experts to coordinate U.S. response efforts, conduct damage assessments, and work closely with local authorities, the GoI and humanitarian organizations.⁵⁷⁶

USAID/OFDA requested the unique



U.S. Air Force C-130 Hercules from the 374th Airlift Wing at Yokota Air Base, Japan flies over while 36th Mobility Response Squadron aerial porters, from Andersen Air Force Base, Guam load humanitarian supplies in Balikpapan, Indonesia Oct. 14, 2018. Photo by Master Sgt. James May
Source: <https://www.pacom.mil/Media/News/News-Article-View/Article/1668481/us-bolsters-indonesian-partnership-by-extending-troops-stay/>

⁵⁷⁴ "Central Sulawesi earthquake: International Deployed Assets (as of 10 October 2018)," <https://reliefweb.int/report/indonesia/central-sulawesi-earthquake-international-deployed-assets-10-october-2018>

⁵⁷⁵ Indonesia – Earthquakes and Tsunami, Fact Sheet #2, Fiscal year (FY) 2019, https://www.usaid.gov/sites/default/files/documents/1866/indonesia_eq_fs02_10-26-2018.pdf

⁵⁷⁶ 4 Ways the U.S. is Responding to the Indonesia Earthquake and Tsunami, <https://www.pacom.mil/Media/News/News-Article-View/Article/1659037/4-ways-the-us-is-responding-to-the-indonesia-earthquake-and-tsunami/>



The U.S. Government announced that it would implement 3 million USD in new funding through the United States Agency for International Development's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) in support of relief efforts for the Central Sulawesi earthquake and tsunami response.

Courtesy photo

Source: <https://www.pacom.mil/Media/News/News-Article-View/Article/1669696/us-announces-additional-3-million-usd-for-central-sulawesi-earthquake-and-tsunami/>

capabilities of the U.S. military to support its response by providing transportation and logistics assistance. U.S. Indo-Pacific Command deployed three C-130 Hercules cargo aircraft, which delivered over 594 metric tons of relief supplies, along with transporting USAID's disaster assistance response team and nearly 80 aid workers.^{577, 578}

Supplies distributed included emergency shelter kits, blankets, hygiene kits, solar-powered lamps, and other critical relief supplies. Close to 30 airmen from the 36th Contingency Response Group at Andersen Air Force Base, Guam, and the 374th Airlift Wing at Yokota Air Base, Japan with three C-130J Super Hercules aircraft, arrived in Balikpapan, Indonesia, on October 5.^{579, 580}

The U.S. DOD primarily transported humanitarian commodities for the relief effort. The U.S. military flew 49 missions and delivered almost 600 metric tons of relief. The military also transported USAID/OFDA experts, more than 110 aid workers and more than 300 Indonesians displaced by the earthquake. The U.S. military helped expedite the offloading of relief supplies at Balikpapan and Palu and offloaded some 1,570 MT of humanitarian commodities for onward transport on 115 aircraft.⁵⁸¹

The U.S. military essentially oversaw the air-bridge operations between Balikpapan and Palu. U.S. Air Force personnel from the 36th Contingency Response Group (CRG) Guam and 374th Airlift Wing at Yokota Air Base, Japan extended their mission until October 25, when the GoI decided to end the air bridge operations between Palu and Balikpapan.^{582, 583}

577 "4 Ways the U.S. is Responding to the Indonesia Earthquake and Tsunami," <https://www.pacom.mil/Media/News/News-Article-View/Article/1659037/4-ways-the-us-is-responding-to-the-indonesia-earthquake-and-tsunami/>

578 "U.S. Response to Indonesia Earthquake and Tsunami," https://www.usaid.gov/sites/default/files/documents/1866/11.19.18_Indonesia_Infographic.pdf

579 US delivering \$3.7 million in aid to Indonesia earthquake, tsunami victims, <https://www.stripes.com/news/pacific/us-delivering-3-7-million-in-aid-to-indonesia-earthquake-tsunami-victims-1.551119>

580 U.S. and Indonesian relief efforts provide hope, future, <https://www.pacaf.af.mil/News/Article-Display/Article/1657552/us-and-indonesian-relief-efforts-provide-hope-future/>

581 Indonesia – Earthquakes and Tsunami, Fact Sheet #2, Fiscal year (FY) 2019, https://www.usaid.gov/sites/default/files/documents/1866/indonesia_eq_fs02_10-26-2018.pdf

582 U.S. Bolsters Indonesian Partnership by Extending Troops' Stay <https://www.pacom.mil/Media/News/News-Article-View/Article/1668481/us-bolsters-indonesian-partnership-by-extending-troops-stay/>

583 U.S. Announces Additional 3 Million USD for Central Sulawesi Earthquake and Tsunami Response, <https://www.pacom.mil/Media/News/News-Article-View/Article/1669696/us-announces-additional-3-million-usd-for-central-sulawesi-earthquake-and-tsunami/>

Appendix I: Other USINDOPACOM Foreign Disaster Response (FDR) Support

Due to a lack of open source information on these USINDOPACOM responses a simple list and brief summary is provided:

- **July 1990 - Philippines: earthquake**
MAGTF-4-90 and 13th MEU assisted in search and rescue missions and emergency relief operations to victims of a 7.8 magnitude earthquake in Central Luzon. Marines conducted 313 sorties, lifted 627,000 pounds of cargo and flew more than 1,800 persons in Baguio City, Cabanatuan. Military personnel from Clark Air Force Base also assisted in response operations.^{584, 585}
- **September 1990 - Philippines: Heavy Rains and Mudslides**
MAGTF-4-90 responded to victims of torrential downpours and mudslides, which blocked roads causing Marines to airlift 98,600 pounds of food and clothing, evacuate 447 villagers and conduct 6 medevac extractions from 24 isolated villages and Baguio City.⁵⁸⁶
- **January 1995 – Japan: Great Hanshin Earthquake (also known as the Kobe Earthquake)**
III MEF Marines provided disaster relief following the quake.⁵⁸⁷ C-130s of the 374th Airlift Wing, based in Japan, delivered relief supplies.⁵⁸⁸
- **January 1998 – Hebei Province, China: Earthquake**
A 437th Airlift Wing C-17 delivered 40 tons of medical supplies, sleeping bags, blankets, cold weather clothing and rations from Kadena Air Base, Japan to Beijing.⁵⁸⁹
- **November 1999 – Vietnam: Floods**
Two C-130s from 353d Special Operations Group, based in Japan, airlifted almost 22,000 pounds of plastic sheeting, 3,600 blankets, and 5,000 water containers from Guam to Hue, Vietnam.⁵⁹⁰
- **December 2004 – Luzon, Philippines: Typhoons and Tropical Storms**
The USS Fort McHenry provided humanitarian assistance after a series of December 2004 typhoons and tropical storms caused massive flooding and landslides on the Philippine island of Luzon. The Fort McHenry delivered 30,000 pounds of supplies and helped treat 100 patients.⁵⁹¹
- **2007 – Philippines: Legazpi Typhoon Recovery**
III MEF Marines assisted with this response.^{592, 593}

584 Selected Marine Corps Humanitarian Operations: 1970 to 2007, <https://www.usmcu.edu/Research/Marine-Corps-History-Division/Information-for-Units/-Marine-Corps-Humanitarian-Operations/>

585 Air Force History: The January, 1995 Evacuation of Clark Air Force Base, <https://www.tinker.af.mil/News/Article-Display/Article/1218915/air-force-history-the-evacuation-of-clark-air-force-base/>

586 Ibid.

587 History of III MEF, <https://www.iiimef.marines.mil/About/History/>

588 Wings of Hope, <https://www.amc.af.mil/Portals/12/documents/AFD-131018-056.pdf>

589 Ibid.

590 Ibid.

591 Joint military response to mudslide continues in Philippines 20 Feb 2006 ,<https://reliefweb.int/report/philippines/joint-military-response-mudslide-continues-philippines-20-feb-2006>

592 "Humanitarian Assistance & Disaster Relief Efforts We are here for you!," (III MEF/MCIPAC informational sheet)

593 "III MEF HA/DR Vignette," PowerPoint brief



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