Hawaii False Missile Alert Incident

SI 523 Group G

University of Michigan School of Information

April 2018

Entrance

Lani woke with a start to a jarring alert coming from her iPhone. She rolled over groggily. *Not another flash flood*, she mumbled, thinking of her brunch plans with her girlfriends. As she squinted at the bright screen, she realized it was an emergency alert, but not for a flash-flood. It was far worse.

BALLISTIC MISSILE THREAT INBOUT TO HAWAII.
SEEK IMMEDIATE SHELTER. THIS IS NOT A DRILL.

(See Figure 1 in Appendix for screenshot)

She sat up in disbelief and looked at the screen again, just to be sure she read it right. She had, but what now? She didn't know of another place that provided more shelter than her apartment, not that her apartment would hold up to a ballistic missile. She decided to stay calm and call her parents. They had seen the alert on the television while watching the morning news. The missile was likely from North Korea, they hypothesized, given the disconcerting sparring between President Trump and Kim Jong Un about nuclear weapon "buttons" earlier in the month.

Stay home, they told her. *It's safer than fighting Honolulu traffic*. She agreed, told them she loved them, and said goodbye. She walked shakily to the living room and opened the door to her porch. Shouts and sounds of furious traffic reached the young woman, but one thing was noticeably absent: the sound of warning sirens.

Lani put on a pot of coffee and sat down to think. Something felt strange about the warning, given that the sirens hadn't sounded. She decided to stay busy while she waited, an instinct she

developed while in college at the University of Hawaii. She pulled out her laptop and began to search.

The Cold War

The Potsdam Conference, which began in July 1945, marked the end of WWII and the beginning of serious differences between the United States and the Soviet Union as to the future development of Germany and other Eastern European countries. At this conference, Harry Truman told Stalin of a powerful weapon the United States had developed. A week later, the United States bombed Hiroshima and Nagasaki, Japan. After these bombings, Stalin became frustrated by Truman's refusal to allow Soviet influence in occupied Japan.

The Cold War was the first geopolitical systems war experienced globally. It was waged between Eastern and Western Bloc powers, primarily through a nuclear arms race in which the Soviet Union attempted to catch up with, and surpass American stockpiles. The Space Race had origins in the arms race, and was symbolically important for both the United States and Soviet Union as a display of technological and ideological superiority.

The arms race resulted in mutual-assured destruction, a form of Nash equilibrium in which neither side had incentive to initiate or disarm; however state of high tension was maintained.

The arms race necessitated parallel development and deployment of defense and warning systems. The Ballistic Missile Early Warning System (BMEWS) was a radar-based detection system deployed and operated by the United States Air Force (USAF) beginning in 1961. The radars were sited in the northern North American continent and were capable of tracking intercontinental ballistic missiles (ICBMs), unlike the Distant Early Warning Line (DEW Line), which was only able to track bombers. (See Figures 2 and 3 for sketches of the radar station and lines).

At the same time, the United States developed the Missile Defense Alarm System (MIDAS) to work in conjunction with BMEWS to provide a complete strategic early warning defense system for the country. MIDAS was composed of twelve early-warning satellites that used infrared to detect Soviet-launched ICBMs. Though MIDAS eventually failed due to high cost and reliability issues (three of the twelve satellites crashed), it was seen as the first generation of US reconnaissance satellite technology, and paved the way for the Defense Support Program (DSP).

In the 1970's, BMEWS and MIDAS were replaced by DSP reconnaissance satellites, which form the primary component of the United States' Satellite Early Warning System (SEWS), currently in use and operated by the USAF. Though DSP is currently in operation, it will be phased out and replaced by the Space-Based Infrared System (SBIRS).

Back to Reality

Lani checked the clock. It was 8:45 a.m. People on Twitter were saying that a missile could travel from North Korea to Hawaii in twenty minutes. It had been longer than that, and no missile. She got up to pour herself some coffee. Just then, her phone emitted another alert tone. Lani almost spilled her coffee in her hurry to look. It was a new emergency alert.

THERE IS NO MISSILE THREAT OR DANGER TO THE STATE OF HAWAII. REPEAT. FALSE ALARM.

(See Figure 4 in Appendix for screenshot)

Lani sank wearily back upon the sofa and breathed a shaky sigh of relief. The oddity of the event had kept her from any real panic, but it had still been terrifying. She picked up her phone and postponed her plans for the day. Instead, she would stay home and wait to see what on earth had gone wrong.

HI-EMA

Located in Diamond Head Crater, the Hawaii Emergency Management Agency (HI-EMA) serves as the State Warning Point for the state of Hawaii. In accordance with the National Incident Management System (NIMS), they respond to county-level disaster response requests with supplemental state assistance, and can escalate incidents to the office of the Governor, if necessary.

However, as the State Warning Point, HI-EMA has the capability to broadcast statewide emergency messages to and from the state's Emergency Operations Center (EOC) and each county's warning point using the Hawaii Warning System (HAWAS). HAWAS is a component of the National Warning System (NAWAS), which connects to the National Weather Service and thousands of emergency managers.

In Hawaii, HAWAS warnings sent by HI-EMA are not uncommon, but typically pertain to weather-related issues, such as flash floods, tsunamis, and tropical storms, which frequently batter the islands. Residents are familiar with the alerts and how to respond to them; however, most had not received a missile alert before.

Most missile warning systems became dormant after the Cold War's end in the 1990s. The period of high alert subsided, as both countries began to focus on economic progress instead of the arms race. As of 2017, the nuclear threat has been reignited, this time between the United States and North Korea. North Korea tested multiple ICBMs in 2017, enhancing its strike range capabilities. Hawaii, located roughly 4,600 miles (7,400 km) from North Korea, is well within range of an ICBM strike from Korea. The tensions between the two countries escalated further in

January 2018, when Kim Jong Un stated that the "nuclear button was on his desk at all times." Donald Trump tweeted a reply:

> *North Korean Leader Kim Jong Un just stated that the "Nuclear Button is on his desk at all times." Will someone from his depleted and food starved regime please inform him that I too have a Nuclear Button, but it is a much bigger & more powerful one that his, and my Button works!*

(See Figure 5 in Appendix for screenshot)

Meanwhile, U.S. military branches, FBI, and law enforcement have been training personnel for weapons of mass destruction first responder training. HI-EMA was one of the first emergency management agencies to re-equip a missile warning system since the Cold War. This inexperience became evident at the beginning of 2018.

The Incident

HI-EMA is staffed 24/7, 365 days a year. The shift change between third and first shifts hands off at 0800 local time. On January 13, 2018, the third shift supervisor decided to initiate an unscheduled drill. Posing as a U.S. Pacific Command officer, he broadcast the following message to HI-EMA staff:

> *Exercise, exercise, exercise!*
>
> *Attention Hawaiian State Warning Point – this is the U.S. Pacific Command. Ballistic missile inbound…This is not a drill…*
>
> *Exercise, exercise, exercise!*

The three instances of "exercise" opening and closing the message is standard agency protocol to identify a test rather than a real emergency. However, the supervisor deviated from the test script, and erroneously said "this is not a drill," despite including the standard exercise indications. One HI-EMA employee interpreted the broadcast as an actual emergency. He

clicked the button to release an emergency warning through HAWAS, then proceeded through the second confirmation screen intended as the system's safeguard. The alarm had been sounded. There was no going back.

The Aftermath

By 0810, the Hawaii National Guard had contacted U.S. Pacific Command to confirm the absence of a North Korean missile launch. At this time, state law enforcement and military agencies were notified of the false alarm. The alert was canceled by HI-EMA at 0813, however, there was no automatic way to issue a retraction. Officials used HI-EMA social media accounts such as Twitter and Facebook to broadcast retractions, urging citizens to disregard the alert. Meanwhile, HI-EMA had to obtain authorization from the Federal Emergency Management Agency (FEMA) to issue a manual retraction alert through the HAWAS system. Finally, at 0845, a follow-up alert was broadcast to identify the false alarm.

HI-EMA had some explaining to do. They had just mistakenly terrified the 1.5 million people in the state of Hawaii. An error of this magnitude would not rectify itself. Initially, the agency attributed the failure to poor interface design. The employee, they said, had meant to select the test option from a drop-down menu, but accidentally selected the real option. It was a system interface design flaw they could easily fix.

The fired employee's statement was different. He said he had been "100 percent sure" there was a real missile threat, based on the supervisor's broadcast. He did his duty in the face of an incoming missile and warned the Hawaiian people. His coworkers said this was not the first time he had made a mistake. At least twice before this incident, he had "confused real life events and drills" and his work history had "been a source of concern…for over 10 years[1]." Every other employee in the building at the time correctly identified the broadcast as an impromptu drill.

Conclusion

It was Sunday now, and the full story had developed. Lani realized she still didn't quite understand how a mistake this catastrophic had been able to happen. The HI-EMA press release and employee statements didn't quite line up. Officials didn't seem to know what exactly had gone wrong. She, and the rest of the Hawaiian people, wanted a clear explanation. She doubted one would come. One thing was for sure: the emergency management system had broken its constituents' trust. Could that trust ever be repaired?

Appendix

[1] Berman, Mark, and Brian Fung. "Hawaii's false missile alert sent by troubled worker who thought an attack was imminent, officials say." *The Washington Post*, 30 Jan. 2018. https://www.washingtonpost.com/news/the-switch/wp/2018/01/30/heres-what-went-wrong-with-that-hawaii-missile-alert-the-fcc-says/?utm_term=.114b9e4f080d

Figure 1: screenshot of alert broadcast to cellular devices in Hawaii

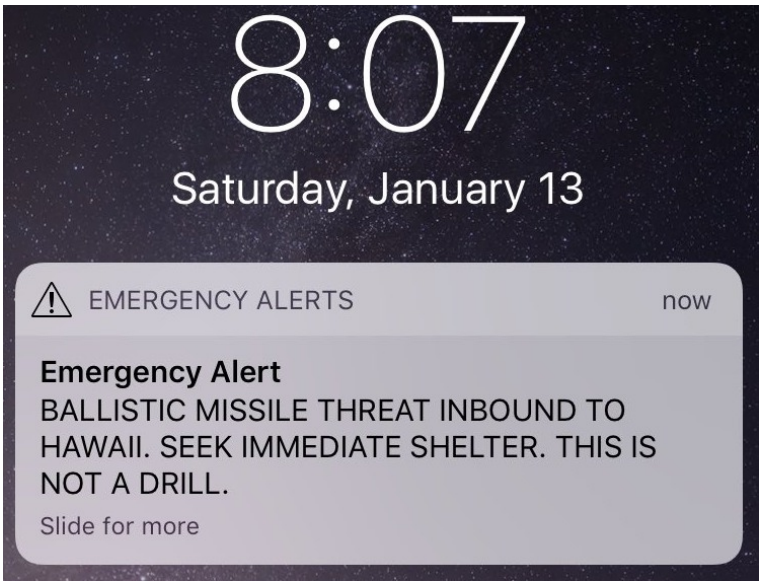

Figure 2: Sketch of Clear Air Force Station BMEWS radars

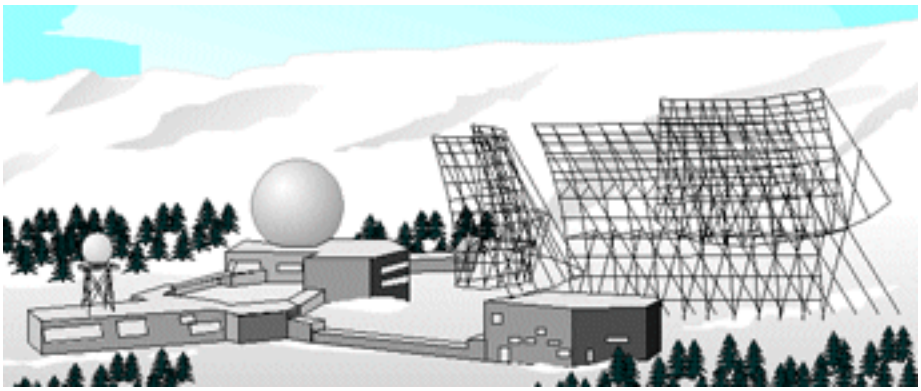

Figure 3: DEW Line and BMEWS locations

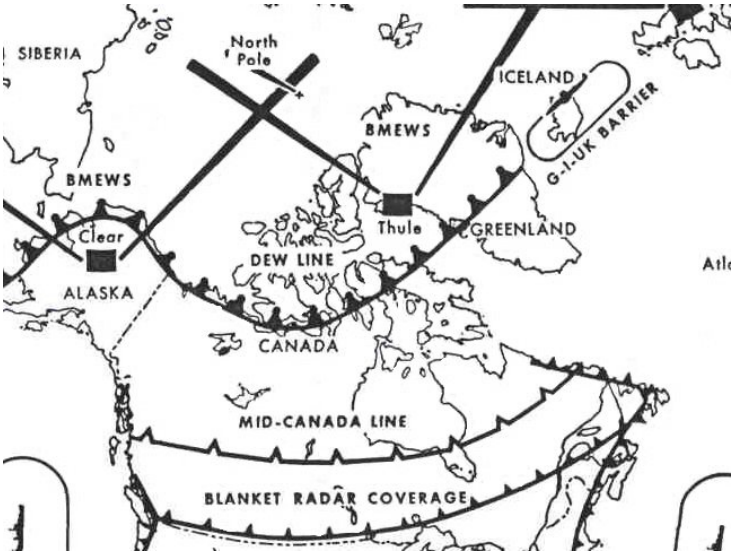

Figure 4: screenshot of false alarm retraction broadcast to cellular devices in Hawaii

Figure 5: tweet by Donald J. Trump regarding nuclear "buttons"

Donald J. Trump
@realDonaldTrump

Following

North Korean Leader Kim Jong Un just stated that the “Nuclear Button is on his desk at all times.” Will someone from his depleted and food starved regime please inform him that I too have a Nuclear Button, but it is a much bigger & more powerful one than his, and my Button works!

6:49 PM - 2 Jan 2018