



Open Source Update: October 2022

**Intelligence & Analysis Division
Open Source Update**

October 2022

www.RMCGlobal.com

This open source periodical is designed to provide an overview of relevant, publicly available information on threat and hazard events and analysis of potential impacts to the interests of the United States, both at home and abroad. This product is not intended to be a comprehensive overview of all threat and hazard news and inclusion in this product does not constitute a confirmation of credibility nor precedence by RMC.

Threats	Page
DoD Declines to Add New UCMJ Article for Extremism <i>Insider Threat</i>	2
Army Doctor and Johns Hopkins Doctor Spouse Charged with Conspiring to Provide Medical Information to Russia <i>Insider Threat</i>	3
Sabotage Suspected in Nord Stream Pipeline Leak <i>Foreign Nation-State Military</i>	4
Scientists Working at U.S. Nuclear Lab Recruited by China <i>Foreign Intelligence Entities (FIE)</i>	5
Anonymous Claims Credit for Moscow Traffic Jam <i>Cyber</i>	6
Reported Sexual Assaults in the Military Rose 13% in 2021 <i>Crime</i>	7
Deaths Following Indonesian Soccer Game <i>Civil Disturbance</i>	8
USMC Fields Small Unmanned Aerial Systems (sUAS) Threat Defense System <i>Unmanned Aircraft/Unmanned Aerial Systems (UA/UAS)</i>	9

Hazards	Page
Installations Unprepared for Tsunamis in Pacific Northwest <i>Natural Hazards (Geological)</i>	11
Nearly 100% of Hawaii in Drought <i>Natural Hazards (Meteorological)</i>	12
Largest Wildfires in New Mexico History in May-August 2022 <i>Natural Hazards (Meteorological)</i>	13
Flooding in Pakistan <i>Natural Hazards (Meteorological)</i>	14
U.S. Army Grounds Chinook Helicopter Fleet <i>Accidental Events</i>	15

On The Radar	17
---------------------	-----------

Threats

DoD Declines to Add New UCMJ Article for Extremism – *Insider Threat*

Summary

There is an ongoing controversy regarding the presence of extremism among DoD servicemembers. Approximately 80 of the rioters present at the events of 06 January 2021 were affiliated with the DoD, with at least five still serving at the time (one on active duty and four in the National Guard or Reserves). However, in a June 2022 report to the Senate Armed Services Committee, the services stated that there was no need to add a new article to the Uniform Code of Military Justice regarding extremism. As of a December 2021 policy update, virtually any activity carried out in support of extremism violates the UCMJ, from promoting groups and paying group membership dues, to social media posts, to even simple hand gestures.

The December 2021 policy prohibits extremist activity of any kind on social media. This was relevant in the case of a recently-discharged U.S. Army Soldier. He was discharged due to unrelated misconduct, but he is under federal investigation for allegedly lying on his security clearance application. The Soldier stated that he was not in contact with his biological father, and that his name was not on his birth certificate. The investigation revealed that the Soldier's father is a convicted felon with a lengthy criminal history, and that the two remained in contact via social media. The investigation also uncovered extremist writings by the Soldier using multiple social media accounts. In one case, he wrote that he enlisted to become more proficient at racially-motivated violence.

Analyst Comment

Because of the First Amendment, the DoD has had difficulty policing simple affiliation with extremist groups and/or deeply held personal beliefs. In some cases, servicemembers may be "found out," which occurred when the membership rolls of the right-wing Oath Keepers group were leaked to the media in early September 2022. The rolls included the names of more than 100 active duty servicemembers. However, the list included former members, some of whom misunderstood the nature of the group when they joined. The Oath Keepers have portrayed themselves as a patriotic civic organization in the past, attracting members unaware of the group's paramilitary tendencies. Others had allowed their membership to lapse years prior.

The Soldier whose extremist writings were found online was not a member of the Oath Keepers. However, he made minimal effort to conceal his personal racial animus online. He was only caught because of an ongoing, unrelated investigation. Neither his misconduct nor his relationship with his biological father appear to have any connection to extremism. He could have maintained anonymity online using simple precautionary measures. There are likely other servicemembers who understand this and have avoided detection. This demonstrates that the DoD faces a significant challenge in finding extremism in the ranks. Online anonymity allows extremists to promote their ideas and coordinate with likeminded individuals. The leak of the Oath Keepers' rolls shows that servicemembers intent on affiliating with extremists are likely to continue doing so. The DoD faces a similar problem

with gang members who join to learn military training. Avoiding detection without either overt, intentional signs or accidental discovery is not particularly difficult. How the DoD will proceed remains to be seen.

Sources

<https://www.militarytimes.com/news/pentagon-congress/2022/07/26/why-the-pentagon-would-rather-not-create-a-specific-military-law-against-extremism/>

<https://tjaglcs.army.mil/tal/extremism-in-the-military-an-application-of-the-new-extremism-framework-and-the-way-ahead>

<https://www.nbcnews.com/news/amp/rcna46900>

<https://www.adl.org/resources/report/oath-keepers-data-leak-unmasking-extremism-public-life>

<https://apnews.com/article/oath-keepers-leaked-membership-rolls-2ca4195ed3a10e45dd189bf98f3e5a26>

Army Doctor and Johns Hopkins Doctor Spouse Charged with Conspiring to Provide Medical Information to Russia – Insider Threat

Summary

On 29 September 2022, an anesthesiologist at Johns Hopkins Medicine and her spouse, a U.S. Army doctor, were federally indicted for attempting to offer medical information about U.S. military personnel to the Russian government. According to the indictment, the U.S. Army doctor was a major with secret security clearance at Fort Bragg, North Carolina. Her role at Fort Bragg gave her access to medical information, insight into how U.S. Army hospitals are established in wartime, and knowledge about the U.S. military's training of Ukrainian military personnel. During meetings with an undercover FBI agent, who pretended to represent the Russian embassy, the couple provided sensitive medical information about military personnel and their families. According to the indictment, the Johns Hopkins doctor provided information about a medical issue of a military member's spouse that Russia could exploit, and the U.S. Army doctor offered information about five patients at Fort Bragg. The U.S. Army doctor also mentioned to the undercover agent that she had contemplated volunteering for the Russian Army after the conflict in Ukraine commenced. Furthermore, the indictment indicates that the Johns Hopkins doctor emailed and called the Russian Embassy to offer Russia their support. In her exchange with the agent, she stated that she was "motivated by patriotism toward Russia" despite facing strict consequences such as being fired or incarcerated. Ultimately, the indictment charges the couple with conspiracy and wrongful disclosure of individually identifiable health information.

Analyst Comment

Insider threats, such as the recently indicted couple, threaten the security of DoD personnel and facilities. As highlighted by the couple's actions seeking to assist Russia, personal factors, including divided loyalty, could inspire insiders to engage in conspiracy and other malicious actions against the U.S. Presenting valuable training and medical information to Russia, which is currently in an armed conflict with U.S. ally Ukraine, could potentially put military personnel and their families at risk and jeopardize national security and strategic

planning decisions. Furthermore, insider threat actors with access to strategic information, such as how Army hospitals are formed during wartime, could have similar impacts.

Sources

<https://www.thebaltimorebanner.com/community/criminal-justice/johns-hopkins-doctor-and-spouse-an-army-doctor-indicted-for-trying-to-leak-medical-information-to-russia-TVCKU2TGUJB7JIH7M6D4GKMHZ4/>

<https://www.nbcnews.com/politics/national-security/johns-hopkins-doctor-army-doctor-spouse-charged-conspiring-give-us-sol-rcna50015>

<https://www.wsj.com/articles/russias-annexation-of-ukraine-territories-what-to-know-11664554990>

<https://www.pbs.org/newshour/world/u-s-announces-new-625-million-military-aid-package-for-ukraine>

Sabotage Suspected in Nord Stream Pipeline Leak – Foreign Nation-State Military

Summary

The Nord Stream pipes that run under the Baltic Sea sprang multiple large leaks within hours of each other during the week of 26 September 2022. European Union (EU) and North Atlantic Treaty Organization (NATO) officials labeled the event sabotage. Pipeline officials initially detected significant drops in pressure in the Nord Stream 2 pipeline on 26 September, followed by another pressure drop on the Nord Stream 1 pipeline, which were eventually determined to have been caused by three separate leaks following underwater explosions. U.S. officials also called the event deliberate, as the pipelines are associated with geopolitical tensions amid the war in Ukraine. The leaks also occurred in the same timeframe as the inauguration of the Baltic Pipe, a new gas route from Norway to Poland. However, neither the U.S., the EU, nor NATO have directly named suspects, though there have been numerous unofficial accusations against Russia as the perpetrator of the sabotage. Gazprom, a Russian state-owned gas company was the majority shareholder of Nord Stream 1's operating company, Nord Stream AG, while Nord Stream 2 was intended to be operated by Nord Stream 2 AG, a subsidiary of Gazprom. Though Russia has significant investments in the pipelines, some open source reporting suggests that attacking infrastructure operated by a state-owned company may have been a strategic move allowing for plausible deniability, while levying a threat against the nearby Baltic Pipe. Meanwhile, Russia has made counteraccusations against the U.S. and its allies. The EU has promised a "robust and united response" to the party responsible for the infrastructure disruption following investigations.

Analyst Comment

Pipeline experts have stated that the scale of the damage sustained by the pipelines and the fact that the leaks were located far from one another on two separate pipelines indicate that the event was an intentional and well-orchestrated act of sabotage. Some analysts have said that the damage sustained by the pipelines was likely inflicted by devices that are available on the commercial market. However, the explosions were likely carried out by an entity with more sophisticated technology, which suggests an attack on behalf of a nation rather than

a terrorist organization or an individual threat actor. Fortunately, as Nord Stream 1 has been closed since the beginning of the Russian invasion of Ukraine in February 2022, and Nord Stream 2 never opened, the Nord Stream pipeline leaks are predicted to have little impact on the already precarious energy situation in Europe. Prior to the war in Ukraine, Russia supplied over 40% of Europe's natural gas. Today, the figure is closer to 9%. Additionally, though Nord Stream 1 was closed for months prior to the leaks, it had been operating at between 10% and 20% of its capacity for much longer. The pipeline was also used to make political statements previously, both indirectly and explicitly, as recently as July of 2022, when Russia halted Nord Stream 1 service due to Western sanctions. Though specific, official accusations against a nation have yet to be levied, the Nord Stream event serves as an example of the vulnerability of infrastructure and the relevance of hybrid warfare when analyzing the threat environment.

Sources

<https://www.reuters.com/business/energy/mystery-gas-leaks-hit-major-russian-undersea-gas-pipelines-europe-2022-09-27/>

<https://www.reuters.com/world/europe/qa-nord-stream-gas-sabotage-whos-being-blamed-why-2022-09-30/>

<https://www.motherjones.com/environment/2022/09/nord-stream-gas-pipeline-sabotage-climate-catastrophe/>

<https://www.vox.com/world/2022/9/28/23376356/nord-stream-pipeline-russia-explosions-sabotage>

<https://www.euronews.com/my-europe/2022/09/07/russia-has-turned-off-nord-stream-1-heres-what-it-means-for-the-eu>

Scientists Working at U.S. Nuclear Lab Recruited by China – Foreign Intelligence Entities (FIE)

Summary

A recently-published report by Strider Technologies indicated that between 1987 and 2021, an estimated 162 Chinese scientists have been recruited to work in China after working on government-sponsored research at Los Alamos National Laboratory, the U.S.'s foremost national security laboratory, in New Mexico. The Strider report describes this recruitment method as a "systemic effort by the government of China to place Chinese scientists at Los Alamos National Laboratory, where nuclear weapons were first developed." Scientists were paid up to \$1 million to participate in government talent programs designed to recruit Chinese scientists to return to China. Thirteen were recruited as part of these "talent" programs that hired overseas experts. Such initiatives began in the 1980s and involved sending young Chinese citizens to the U.S. for study, which later evolved into a coordinated effort to recruit these students for military and civilian programs. The scientists in question worked in the development of military technology, including, but not limited to, deep-earth-penetrating warheads, hypersonic missiles, quiet submarines, and drones. U.S. intelligence officials have stated that such talent recruitment programs pose a significant threat to national security. Since 2018, the U.S. Department of Justice (DOJ) has prosecuted about 12 U.S. academics recruited under the talent program for hiding Chinese funding. In addition, at

least one of the returning scientists in the “Los Alamos Club” held a top-secret clearance granted to those with access to nuclear secrets, indicating a direct foreign intelligence and insider threat to U.S. nuclear programs.

Analyst Comment

Reports note that 15 of the Chinese scientists at Los Alamos National Laboratory were permanent staff members that carried high level security clearances. That suggests the potential for significant intellectual property (IP) theft. Chinese scientists have been able to use their insider access, field experience, and knowledge of U.S. technology, military projects, and weapons systems to enable China to advance their own military capabilities. Reports support this by noting the PRC has seen a “significant return on their investment with advances in critical military technologies”. For example, one Los Alamos scientist developed a hypersonic missile (DF-17) for China, and another helped China develop more stealth-like submarines capable of evading detection. Navy officials have stated that China’s submarines have grown quieter and harder to track in recent years, which may be a result of a former Los Alamos scientist and his expertise gained at the national laboratory. The U.S. government and intelligence community has long been aware of Chinese espionage and talent recruitment programs seeking to commit IP theft. As a response, the U.S. Department of Energy and the DOJ have responded with various vetting processes, counterintelligence reviews, and restrictions on participation in foreign talent programs to mitigate the risk of espionage by China, Russia, Iran, and North Korea, all of whom seek to advance their military capabilities at the expense of the U.S.

Sources

<https://www.nbcnews.com/news/world/scientists-americas-top-nuclear-lab-recruited-china-design-missiles-dr-rcna48834>

<https://www.washingtontimes.com/news/2022/sep/22/former-los-alamos-nuclear-scientists-aid-chinas-ad/>

<https://eurasianimes.com/china-recruited-top-us-scientists-to-gain-military-edge-over/>

Anonymous Claims Credit for Moscow Traffic Jam – Cyber

Summary

On 01 September 2022, Moscow’s Fili district experienced a significant traffic jam after hackers from the collective Anonymous used Russia’s Yandex Taxi app to simultaneously order cars at the Kutuzovsky Prospekt thoroughfare. The traffic caused a standstill for approximately 40 minutes. Yandex reportedly updated its routing algorithm to prevent similar incidents. This is one of the first known instances of hackers exploiting a ride-hailing app to create a traffic jam. Several Twitter accounts that self-reported connections with Anonymous claimed responsibility. One stated that the group worked with the IT Army of Ukraine, which is a volunteer hacker group formed at the start of the country’s ongoing invasion by Russia. At the start of the war, Anonymous reportedly launched cyberattacks against multiple Russian government websites, including those belonging to the Kremlin and the Ministry of Defence.

Analyst Comment

There is mounting concern among cybersecurity experts and national leadership regarding cyberattacks that lead to damage in the “real world.” Cyberattacks have always had very tangible consequences, if only financial or bureaucratic. Attacks that cause networked systems and machinery to crash (sometimes literally) are also not new. The 2010 Stuxnet attack on the Iranian nuclear facility at Natanz used malware to destroy uranium centrifuges. In 2014, hackers infiltrated a German steel mill’s network, which damaged a blast furnace. More recently, a cyberattack on a steel maker in Iran in June 2022 caused a machine to spew molten steel and fire. Virtually all utilities and critical infrastructure systems are networked, making these attacks an unavoidable consideration in cybersecurity. However, attacks like the one in the Fili district that leverage publicly accessible, commercial apps are likely easier for non-expert users and “script kiddies” to launch or participate in. Script kiddies are amateur hackers using off-the-shelf tools. While cyberattacks on the Russian government will elicit little sympathy from most Western users, the Yandex attack of 01 September 2022 likely did nothing but inconvenience drivers in the Fili district. Furthermore, these sorts of attacks, however well-intentioned, may provoke bad faith actors seeking to cause mischief for its own sake. In the worst-case scenario, such an attack can result in injury or death among civilians in the wrong place at the wrong time. For example, an induced traffic jam would affect the ability of law enforcement, fire services, and emergency medical services to respond to their respective calls.

Sources

<https://news.yahoo.com/anonymous-claims-responsibility-yandex-moscow-taxi-exploit-200422959.html>

<https://www.nytimes.com/2021/04/11/world/middleeast/iran-nuclear-natanz.html>

<https://www.trendmicro.com/vinfo/fr/security/news/cyber-attacks/german-steel-plant-suffers-significant-damage-from-targeted-attack>

<https://apnews.com/article/technology-middle-east-iran-dubai-b0404963ae23e5008439a0b607952de1>

Reported Sexual Assaults in the Military Rose 13% in 2021 – *Crime*

Summary

According to a report made available to Congress in August 2022 by the Pentagon, sexual assault reports in the military in 2021 increased by 13% compared to the previous year. Nearly 36,000 servicemembers said in a survey that they had experienced unwanted sexual contact, which was double the number collected in 2018. 8.4% of female servicemembers reported experiencing unwanted sexual contact in 2021, which was the highest rate since the Department of Defense (DoD) began tracking sexual assault figures in 2006. For male servicemembers, the rate of unwanted sexual contact was 1.5%, the second highest rate reported for the demographic since 2006. Additionally, only 39% of female servicemember survey respondents said that they trust those in their chain of command “to treat them with dignity and respect” after an incident of unwanted sexual contact, compared to 66% in 2018. Figures for male servicemembers’ confidence in their fair treatment after an incident also decreased in 2021 to 63%, compared to 82% in 2018. According to reporting from The Hill in

September 2022 after the 2021 survey responses were released, the reduction in confidence may be linked to a decrease in prosecutions for sexual assaults, as only 42% of the 1,974 sexual assault cases that ended in discipline in 2021 included court martial proceedings.

Analyst Comment

The 2021 survey results are reflective of a longstanding battle the DoD has fought against sexual assault within its ranks. Prior to the release of the survey results, DoD leadership continued to take steps to address the issue. Defense Secretary Lloyd Austin directed an Independent Review Commission to give the department recommendations to combat the issue, and in September of 2021, the Pentagon adopted the Independent Review Commission's 80 recommendations into a plan. Meanwhile, in December 2021, Congress voted to strip military commanders of their authority to prosecute sexual assaults, among other criminal cases, in favor of independent military prosecutors. Unwanted sexual contact within the military is an example of a violent crime perpetrated by insiders within the organization. It continues to be a threat to the health and safety of personnel and the cohesion of units within the military. If the health and safety of DoD personnel is not guaranteed and a majority of service members do not feel confident in the ability of their commanders to handle incidents, units' cohesion and their ability to accomplish missions may be negatively impacted.

Sources

<https://web.archive.org/web/20220910205438/https://www.nytimes.com/2022/08/31/us/politics/sexual-assault-military.html>

<https://thehill.com/policy/defense/3624802-reported-sexual-assaults-in-us-military-up-13/amp/>

Deaths Following Indonesian Soccer Game – Civil Disturbance

Summary

Six people, including police and match organizers, are facing criminal charges in Indonesia over a stampede at a soccer game on 01 October 2022 that killed at least 131 people. The stampede was in the Malang region of East Java, and it ranks among the world's worst sporting disasters. Hundreds of soccer fans tried to flee a stadium riot amid tear gas fired by police, leading to a crush reportedly worsened by multiple locked exits. Police said the club's officials had not complied with safety requirements and had allowed a crowd larger than the stadium's capacity, while stewards had abandoned exits.

Police have said the exits where fleeing people escaped were too narrow to pass through, while the country's soccer association said some exits were locked.

Analyst Comment

Civil disturbances come in many forms. More commonly recognized forms include disruptive protest activity and riots. One of the less frequent civil disturbances is known as mass hysteria. Instances of mass hysteria can be characterized by widespread escalation in panic, fear, celebration, or protest leading to instances of looting, rioting, violence, and other crimes. They can be triggered by natural disasters, pandemics, terror attacks, major sporting events, and other threats and hazards.

A combination of variables triggered this situation, including a stadium riot, the firing of tear gas, panic due to the stampede's occurrence, and infrastructure restricting movement. The tear gas was initially fired to drive away fans upset with their home team's loss. The team's loss was the first time in 23 years it had lost to that particular opponent in a home game. Thousands of disappointed fans threw objects at players and flooded the pitch. After the tear gas was fired, steep stairs, closed exits, and lack of staff contributed to the stampede. The resulting event left at least 131 dead, primarily due to trampling or suffocation. An investigation is underway by authorities, and more information may come to light.

Sources

<https://www.reuters.com/world/asia-pacific/indonesia-police-say-6-people-facing-criminal-charges-over-soccer-stampede-2022-10-06/>

<https://www.npr.org/2022/10/01/1126439213/indonesia-soccer-riot-fans-dead>

<https://www.nbcnews.com/news/sports/least-129-people-killed-stampede-soccer-match-indonesia-authorities-sa-rcna50345>

<https://www.wsbtv.com/news/trending/least-129-dead-following-stampede-indonesian-soccer-match/Y43ULXDY45EJHP2K5LKNKKOO2U/>

USMC Fields Small Unmanned Aerial Systems (sUAS) Threat Defense System – Unmanned Aircraft/Unmanned Aerial Systems (UA/UAS)

Summary

The U.S. Marine Corps (USMC) has started to field an artificial intelligence-based system for service personnel to detect, identify, and track drones that pose a threat to military bases. The USMC's Installation-Counter small Unmanned Aircraft Systems (I-CsUAS) protects installations by using radar and an optical sensor through the Long-Range Sentry Tower, along with a radio frequency detector that works to help the operator visualize the flight path of drones. The platform can use machine learning and artificial intelligence, which constantly analyze the sensor data faster and more accurately than a human operator. The I-CsUAS will also automatically alert the user if suspicious activity is determined. The platform is also built to defend against commercial off-the-shelf drones that belong to the Group 1 and Group 2 categories. The fielding of this platform is timely in that drones are growing in popularity and can be modified to be used as weapons of war.

Analyst Comment

The proliferation and weaponization of UA/UAS has become a critical concern. The USMC continues to lean forward with establishing improved capabilities upon existing platforms to better counter these future threats. Drones are now frequently used as weapons in the Russia-Ukraine conflict. The USMC will continue to draw lessons from this conflict to adapt and develop ways to counter these emerging threats. The I-CsUAS will continue to be delivered to CONUS locations, especially to those installations that have been deemed critical to national security.

Sources

<https://executivegov.com/2022/07/marine-corps-deploys-uas-threat-defense-system-to-installations/>

<https://www.marines.mil/News/News-Display/Article/3093556/detect-track-identify-defeat-i-csuas-works-to-defend-against-drones-small-unman/>

Hazards

Installations Unprepared for Tsunamis in Pacific Northwest –

Natural Hazards (Geological)

Summary

The Pacific Northwest of the U.S. is home to the Cascadia Subduction Zone. This large fault is 50-100 miles offshore and is known to produce large earthquakes and tsunamis that would require the rapid evacuation of residents. The last tsunami to have a minor impact to the Pacific Northwest, though an ocean away, was on 11 March 2011, when a magnitude 9.0 earthquake struck Japan. The devastating tsunami that followed killed 20,000 there. Estimates indicated 200,000 people on the island might have been killed were it not for Japan's earthquake planning and drills.

Open source media recently identified two areas of great concern for military base planners stationed in the Pacific Northwest. These areas have inadequate tsunami evacuation preparedness. The U.S. Government Accountability Office (GAO), a government watchdog agency, reported a lack of preparedness for 19 of the 39 U.S. Coast Guard units at risk in this region for not having a written tsunami evacuation plan for personnel and their dependents. The report, which was provided to Congressional Committees in early September, further revealed that only four plans had a map with evacuation routes, while 19 units with plans had not practiced them. The agency could only recommend that those units create location-specific evacuation plans, provide tsunami evacuation planning guidance with protocols, and test existing plans to check if they were feasible or needed adjustments.

Analyst Comment

A study from Earth-Science Reviews suggests current preparations for tsunami zones near the Cascadia Subduction Zone may be inadequate. Though scientists have long predicted a giant 9.0-magnitude earthquake from the Cascadia fault, plans on the shelf have only prepared for 30-meter tsunami waves, not a potential 60-meter wave that could result from a near-shoreline earthquake event. Such a tsunami prediction is a worst-case scenario, but it not being planned for in the Pacific Northwest as it is in Japan. If this event occurs, the estimated time to evacuate would be only tens of minutes.

Tsunamis can impact coastal regions and originate from oceans, though some lakes are large enough to permit a tsunami to form. Tsunamis may affect vessels at port or at sea. The force of the wave can cause structural failures, impacting a variety of critical infrastructure in the area. Additionally, the sudden flooding brought by a tsunami can damage buildings and potentially devastate power and communication paths. Tsunamis may also result in injuries and deaths if evacuation efforts fail.

Sources

<https://www.military.com/daily-news/2022/09/14/coast-guard-unprepared-tsunamis-watchdog-warns.html>

<https://www.livescience.com/31282-japan-tsunami-lessons-pacific-northwest.html>

<https://www.theguardian.com/world/2022/jun/07/tsunami-earthquake-pacific-northwest-coast-us-study>

<https://www.gao.gov/products/gao-22-105220>

Nearly 100% of Hawaii in Drought – Natural Hazards (Meteorological)

Summary

Per open source reports, as of 08 September 2022, 94% of Hawaii is currently experiencing some level of drought. Drought can be defined as a period of abnormally dry weather sufficiently prolonged for the lack of water to cause a hydrologic imbalance in the affected area. Over the last three months, drought conditions have increased significantly. The latest information provided by the Hawaii Emergency Management Agency indicates that about one-third of the state is facing “severe drought or worse” and that federal agricultural disasters have been declared in every county across Hawaii. In June 2022, drought conditions were limited to under half of the state’s area per the U.S. Drought Monitor, and only increased throughout the summer months, as expected. The U.S. Drought Monitor has indicated that approximately 964,613 people in Hawaii are affected by drought as of 07 October 2022, and all five Hawaiian counties are currently under USDA disaster designations.

Additionally, the NOAA Climate Prediction Center anticipates that the leeward areas in the state will be impacted the most by drought conditions. The National Weather Service (NWS) has provided a summary of impacts and conditions for each Hawaiian county in a drought information statement. It is important to note that the NWS rates conditions based on the U.S. Drought Monitor’s drought ratings which are as followed: D0 (abnormally dry), D1 (moderate drought), D2 (severe drought), D3 (extreme drought), and D4 (exceptional drought). Dry conditions continued for many areas of the state during the summer months, especially in the eastern region of Hawaii. Drought conditions worsened over west Molokai with extreme drought and breaching exceptional drought levels in parts of the island. On the island of Maui, exceptional drought remained consistent in the central valley region. However, severe drought impacted leeward Haleakala and most of Lanai on the Island of Maui. Drought also worsened on Oahu throughout the summer as extreme drought developed over the lower leeward slopes of the Waianae Range. Severe drought also increased in size and covered the eastern region of the island. On Kauai, extreme drought remained in place throughout the majority of the island, and severe drought covered the rest of the island due to low rainfall and very low streamflow levels.

Analyst Comment

Drought can negatively impact U.S. military installations, Hawaiian citizens, critical infrastructure, and ranchers in a variety of ways, especially in drier climate areas as seen in Hawaii and the southwest region of the U.S. The State of Hawaii has reported certain impacts that recent drought conditions have produced across the state, such as dry and degraded pastures, low streamflow levels, dried vegetation, low water supply, and low rainfall. Droughts can impact the water supply in DoD installations and housing communities that are dependent on surface water. Additionally, droughts have the potential to dry out vegetation, which increases the potential for wildfires to occur. This may put key

infrastructure-supporting communities and operations at risk. Drought occurrences throughout the State of Hawaii have broad implications for base infrastructure, may disrupt training and testing activities, and can lead to heat related illnesses. Should drought conditions continue to develop and occur throughout Hawaii, such conditions may further influence critical infrastructure, by, for example, affecting electrical power generation which may contribute to power outages. The Island of Oahu and Schofield Barracks have recently experienced power outages that have forced the installation to shut down for a weekend in August. Drought may further affect critical infrastructure in the form of water shortages, public health, and transportation systems located in Hawaii.

Sources

<https://www.khon2.com/local-news/100-hawaii-is-in-drought-and-its-expected-to-get-worse/>

<https://www.drought.gov/drought-information-statements?wfo=HFO>

<https://www.drought.gov/states/hawaii>

Largest Wildfires in New Mexico History in May-August 2022 –

Natural Hazards (Meteorological)

Summary

The largest wildfires in New Mexico history occurred this summer after two U.S. Forest Service-prescribed burns grew out of control in April. The wildfires, the Hermits Peak/Calf Canyon Fire northeast of Santa Fe, and the Black Fire in the Gila National Forest, burned at a historic pace and were not declared 100% under control until late August. The Hermits Peak/Calf Canyon Fire burned 341,735 acres, while the Black Fire burned 325,136 acres. The previous wildfire record for the state was the Whitewater-Baldy Fire of 2012, which burned 297,845 acres. According to National Interagency Fire Center, fire conditions were worsened by the combination of an abnormally dry and windy spring in New Mexico, with the wildfires occurring during another year of severe drought in the Southwest. Though New Mexico's summer wildfires are notable, 2022's wildfire activity has not been confined to New Mexico. As of June 2022, there were 16 large fires burning in four states, including Arizona, Colorado, and Alaska, with a total of 28,000 wildfires consuming more than two million acres. Per National Interagency Fire Center data, 2022 has had the second most year-to-date acres burned over the past decade.

Analyst Comment

New Mexico's recent wildfires reflect a greater trend in the American Southwest as the impacts of a changing climate manifest. Though the Hermits Peak/Calf Canyon and the Black Fire were ignited as prescribed burns, the intensity of the fires and their rapid growth may be attributed to yet another year of severe drought in the Southwest, with 50% of New Mexico experiencing exceptional drought at the time of the fires. With the region experiencing growing aridity, the National Interagency Fire Center has noted that wildfire season in the area is occurring earlier in the year, while seasonal rains that typically aid in wildfire control are occurring later in the year, allowing for prolonged burns. As New Mexico is home to four DoD installations, all of which are Air Force bases, with the exception of the

U.S. Army's large White Sands Missile Range and portions of Fort Bliss, the changes in wildfire activity in the region are of increasing importance as wildfires degrade training conditions and air quality. Wildfires also pose physical dangers to installations and personnel living and working on and off base. Fortunately, New Mexico's military installations were not located in the vicinity of the burned areas. However, the wildfires have had widespread impacts in air quality, while the extreme heat associated with the intensity of the fires pose health risks to servicemembers and personnel.

Sources

<https://www.npr.org/2022/05/11/1098150691/the-largest-wildfire-in-the-u-s-has-burned-an-area-bigger-than-new-york-city>

<https://www.cnn.com/2022/06/09/weather/historic-simultaneous-new-mexico-wildfires-weekend/index.html>

<https://inciweb.nwcg.gov/incident/8103/>

<https://inciweb.nwcg.gov/incident/8104/>

Flooding in Pakistan – Natural Hazards (Meteorological)

Summary

Devastating floods have inundated hundreds of villages across much of Pakistan. In Sindh Province in the south, the floodwater has effectively transformed what was once farmland into two large lakes that have engulfed entire villages and turned others into fragile islands. The flooding is the country's worst in recent history, according to Pakistani officials. They warn that it may take three to six months for the floodwaters to recede. Thus far, around 1,500 people have died, nearly half of whom are children, and more than 33 million have been displaced from their homes by the floods, which were caused by heavier-than-usual monsoon rains and glacial melt. Scientists say that global warming caused by greenhouse gas emissions is escalating the likelihood of extreme rain in South Asia, home to a quarter of humanity. And they say there is little doubt that it made this year's monsoon season more destructive.

Analyst Comment

Monsoon season has brought devastating floods to Pakistan. Most recent estimates put the death toll at 1,700. One-third of the entire country has been submerged in these floods. One in seven people have been affected by the devastation of unprecedented rainfall and flash floods. The wide scale of this disaster in Pakistan has led the country to expend the entirety of its recovery funds. With months left to go before floodwaters recede, the UN increased its humanitarian aid appeal for Pakistan five-fold to from \$160 million to \$816 million. Reports show that the floods compound existing challenges for many communities in Pakistan, such as increased food prices and malnutrition. The price of vegetables has tripled since the flooding began. Furthermore, the UN has already warned that vector borne diseases, namely malaria, will likely experience a sharp increase due to these floods. The spread of other waterborne diseases is on the rise: cases of malaria, typhoid, diarrhea, skin diseases, and eye infections have increased within camps for the displaced. Per the World Bank and Asian

Development Bank, the country's topography and poor infrastructure make it "one of the most climate-vulnerable countries in the world."

Sources

<https://www.msn.com/en-in/news/world/pakistan-floods-death-toll-climbs-to-1-700-country-suffers-economic-loss-of-around-usd-40-billion/ar-AA12IBBI>

<https://www.reuters.com/world/asia-pacific/pakistan-says-no-space-give-economy-any-stimulus-2022-10-04/>

<https://www.cbsnews.com/news/pakistan-floods-mohenjo-daro-damage-death-toll-latest-news/>

<https://www.mercycorps.org/blog/pakistan-deadly-floods-displace-millions>

<https://www.nytimes.com/2022/09/14/world/asia/pakistan-floods.html>

U.S. Army Grounds Chinook Helicopter Fleet – Accidental Events

Summary

On 30 August 2022, the Army confirmed that an undisclosed number of engine fires caused the service to ground its entire CH-47 Chinook helicopter fleet. Open source reporting indicates that the Army encountered at least seven incidents of fuel leaks, four of which involved engine fires. Reports suggest that officials looked at more than 70 aircraft that contained a part believed to be connected to the issue. After evaluating the helicopters, the Army found that a maintenance error resulted in the incorrect installation of O-ring components in the aircraft, which are types of seals. According to the Army, an O-ring that did not meet the necessary heat specifications was assigned to an incorrect part number, leading to the maintenance error on some Chinook helicopters. While the Chinooks have been sold to American allies, open source reporting suggests that the aircraft are not believed to have the O-ring installation issue unless they underwent maintenance at an Army facility in Corpus Christi, Texas. As of 13 September 2022, approximately 60% of the Army's Chinook helicopters returned to service and are supporting missions and training. As the Army reviewed records and conducted maintenance checks, the number of Chinooks returning to service increased.

Analyst Comment

The U.S. Army's Chinook helicopter, which debuted in 1961, can carry more than four dozen troops or 26,000 pounds of cargo and move at speeds of up to 160 knots. Furthermore, the helicopter is the Army's only heavy-lift cargo chopper to support combat operations and is used by both regular and special Army forces. Reports indicate that Boeing, the manufacturer of the Chinook helicopter, delivered nine new Chinooks and an additional four refurbished and overhauled helicopters in the first half of 2022. According to open source research, the U.S. Army has more than 400 Chinook helicopters at its disposal.

Aircraft mishaps impact DoD personnel and military installations' operations with fatalities, injuries, mission delays, and significant repair costs. For instance, while officials stated that there were no injuries or deaths due to the Chinook engine incidents, there have been aviation mishaps involving Chinook helicopters over the last few years. In July 2022, two pilots died

battling a wildfire in Idaho after their Chinook helicopters crashed. Furthermore, in September 2020, a “possible engine fire” caused a National Guard Chinook to make an emergency landing at Rochester International Airport. Increased aircraft mishaps related to Chinooks or other aircraft could impact training schedules and cause additional readiness measures and safety stand-downs. According to open sources, aviation crashes and malfunctions in the military could be partially attributed to budget cuts. Decreased funds could lead to insufficient training for troops and poor equipment maintenance.

Sources

<https://www.wsj.com/articles/u-s-army-grounds-entire-fleet-of-chinook-helicopters-11661894466>

<https://www.armytimes.com/news/your-army/2022/08/31/army-grounds-entire-ch-47-chinook-helicopter-fleet-over-engine-fires/>

<https://americanmilitarynews.com/2022/08/us-army-grounds-all-chinook-helicopters-worldwide-report/>

<https://www.wsj.com/articles/u-s-army-maintenance-error-led-to-chinook-helicopter-grounding-11662154212?page=1>

<https://www.wsj.com/articles/u-s-army-chinooks-return-to-service-following-grounding-11663110161?page=1>

<https://www.militarytimes.com/news/pentagon-congress/2022/07/19/funding-shortfalls-could-cause-major-readiness-problems-leaders-warn/>

<https://thehill.com/policy/defense/3642575-us-army-returns-most-chinook-helicopters-to-service-following-grounding/>

On the Radar

- *North Korea recently test launched its furthest traveling missile on 04 October 2022, which flew over the Tohoku region of Japan, prompting the first J-Alert since 2017. 2022 has been a record-breaking year for North Korean missile launches, with a spike in tests occurring as the U.S. and its Pacific allies conduct joint training operations in the Sea of Japan. The successful 04 October launch, combined with the missile's range of 4,600 km, underscores North Korea's rapidly advancing nuclear arsenal with long-range capabilities to strike Guam and even the U.S. mainland.*
- *In September 2022, at the American Society of Naval Engineers' annual Fleet Maintenance and Modernization Symposium conference, Naval Sea Systems Command (NAVSEA) leaders addressed the ongoing concern about submarine maintenance availability and material delays. Open source reports indicate that just 20% to 30% of submarine maintenance availabilities have been completed on time. The problem has intensified as Virginia-class submarines make up an increasing percentage of the undersea fleet. Increasing production days required to complete submarine availability could be attributed to global supply chain issues, lack of investment in the rotatable pool of spare parts, and difficulties in submarine planning and project management.*
- *The 2022 FIFA World Cup is set to take place from 20 November 2022 to 18 December 2022 in Qatar. Several nations across the world have openly protested alleged human rights abuses and the exploitation of migrant workers building new stadiums to host matches. Denmark will be wearing team jerseys at the World Cup that protest Qatar's alleged human rights violations. Although some countries have sought to cancel public viewing of matches in their own states, it is worth monitoring potential protests in (or relating to) Qatar as possible predecessors to civil disturbance.*