

Survivor/Responder Series



Emergencies come in all shapes and sizes. The one continuous thread, however, is the humanity. It is evident in the tremendous suffering that comes with surviving a catastrophe when a loved one did not. It is also evident in the compassion and tireless toil of responders who put aside their lives to be able to provide nourishment to the ones who've come through it all. It is two sides to one coin, as is life - heartbreak and elation, gratitude and grief.

In disasters, they are all wrapped into one complex package, inextricable from one another.

Captured are the stories of the often unsung heroes who work in emergency management and response. They share their observations and lessons from the many hours they've spent managing the aftermath of disasters.

THE HOLY DAY EARTHQUAKE WITH BIJAN

Creative Solutions and the Right Sense of Urgency Yield the Best Outcomes

Bijan Karimi
Assistant Deputy Director, San Francisco Department of Emergency Management
San Francisco, CA USA
9 Years of Emergency Management

Easter Sunday of 2010 was one to remember for many residents of Baja California, Mexico, and beyond. While families were gathered and celebrations well underway for the very holy day, a severe 7.2 magnitude temblor shook the region for almost 90 seconds, with an epicenter just south of the U.S. border near Mexicali.

With many buildings structurally damaged and power outages reported, cross-border emergency response teams convened to act. As part of my role within California’s emergency response system, I was asked to deploy to a poor, rural county to support relief efforts. This would be my first disaster response, and I was excited, but also hesitant - what was it that I didn’t know? I relied on this one thought - I will figure something out.

Once there, I reported initially to the documentation unit. But my function quickly changed upon arrival. Most responders in the area were checking in with their traditional jobs, not necessarily in emergency response roles, so a shuffle of responsibilities took place to meet needs best once there.

Because this quake spanned two countries of varying financial securities, the disparity in response between borders became quite evident. By the time I arrived, the things that could be put together were already sorted, so my view was of things that were broken. So, a component of my contribution became recommendations for improved systems. In short time, I became the Plans Section Chief.

My first job was to call to local hotels to see who might have rooms for displaced persons. When I asked how to catalog the information, local responders gave me a piece of paper and told me to write it down. Not ideal for knowledge transfer, I grabbed my laptop, created a document and then began with the phone book. The next day I made simple suggestions on how things might be adjusted for more efficient organization.

In the following days, I noticed there was no continuity of responders - people who came for half a day would work on their personal laptop and take their work home with them. So, I created a generic email account on Google, and it became our central repository for all our communications. It was straightforward fixes like this that had immense impact.

I was deployed in total for seven days, and in that time there were earthquakes most mornings and evenings. As I left, I was certainly ready to go home. On the one hand, I felt satisfied because my work helped to improve process inside the Emergency Operations Center, yet I knew as I left there was still much more to do.

Ultimately, the Baja Imperial quake crucially shaped my response framework

- I now know I have tools that will help me determine solutions to any issues at hand. The results may not be perfect, but it will work, and sometimes that's all that matters. And, as a manager, I learned to encourage flexibility. A question that now dwells in my mind is - how do I guide people to become creative problem solvers? Lastly, the impact of this response on my own emergency management skill set is all about tone - my efforts must always serve to alleviate the panic that can arise within times of disaster.

Beyond my response efforts, and the system I worked within, an evolving understanding of this disaster underscored the complexity of challenges that arise from such events. For example, the All-American Canal is an aqueduct that connects the U.S. and Mexico through a series of waterways. This canal system is used by manufacturing plants, called maquiladoras, that are primarily foreign-owned, to dispose of chemicals.

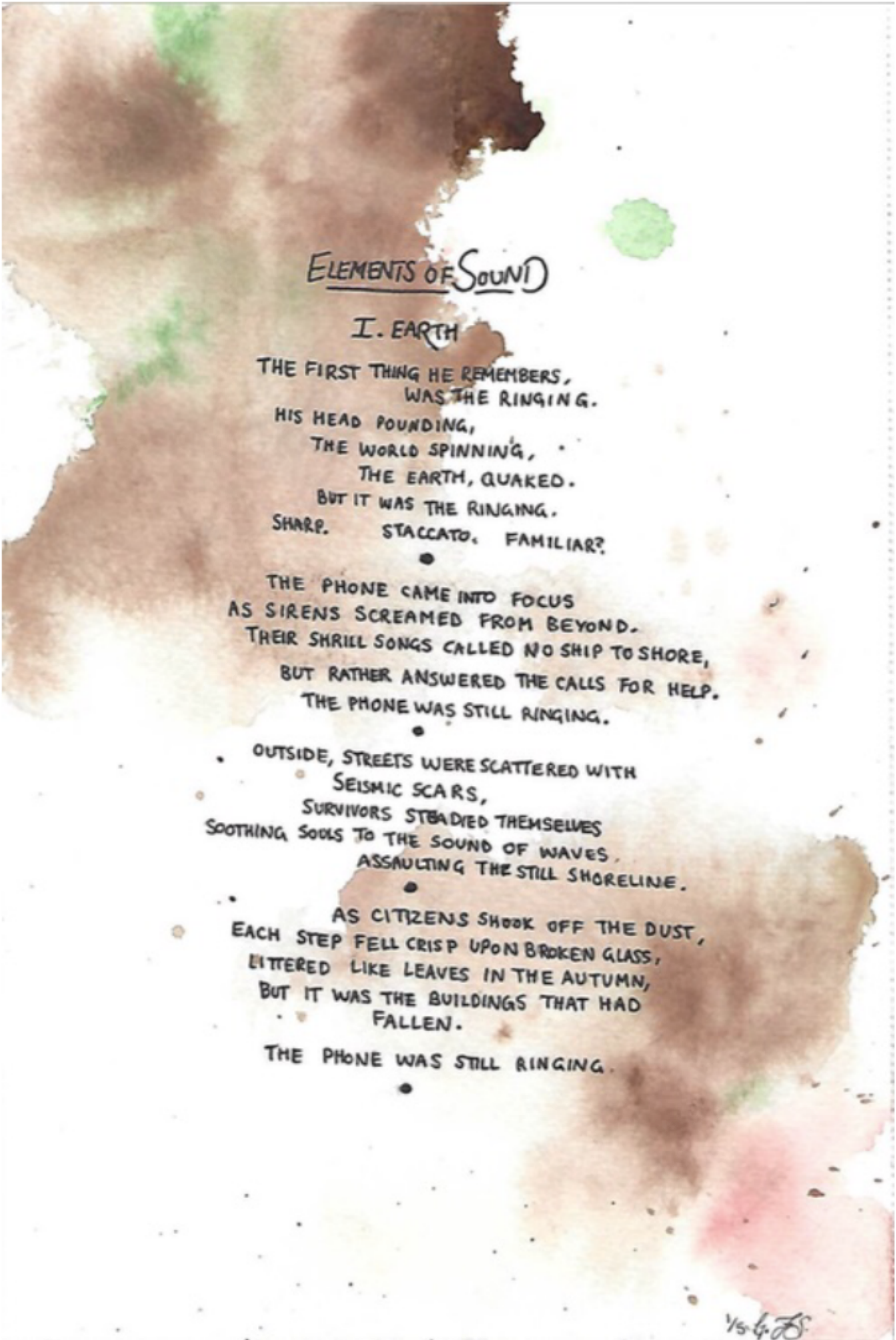
An important the All-American Canal siphon. The amount of water that flows through the siphon, which spans approximately .5 miles, is about one Olympic-sized pool each and every minute. This water is used to sustain 80,000 head of cattle, surrounding agricultural land and the nearby air force base.

Post-quake inspections noted leakage. In order to replace the siphon capabilities, it would take 30 truck-mounted pumps plus constant diesel fuel. This brought up all sorts of complicated questions - are we capable of such an effort, can the repair be completed, should the cattle die?

Additionally, the water treatment plant had ceased operation. New clarifiers were in Kansas and would require a circuitous route because they were not able to travel underneath overpasses. These temporary clarifiers were not approved by State Health Department. Clearly, a complex problem with no clear solution. I do not know how these two concerns were ultimately resolved, but I know it would have been a long length response effort.

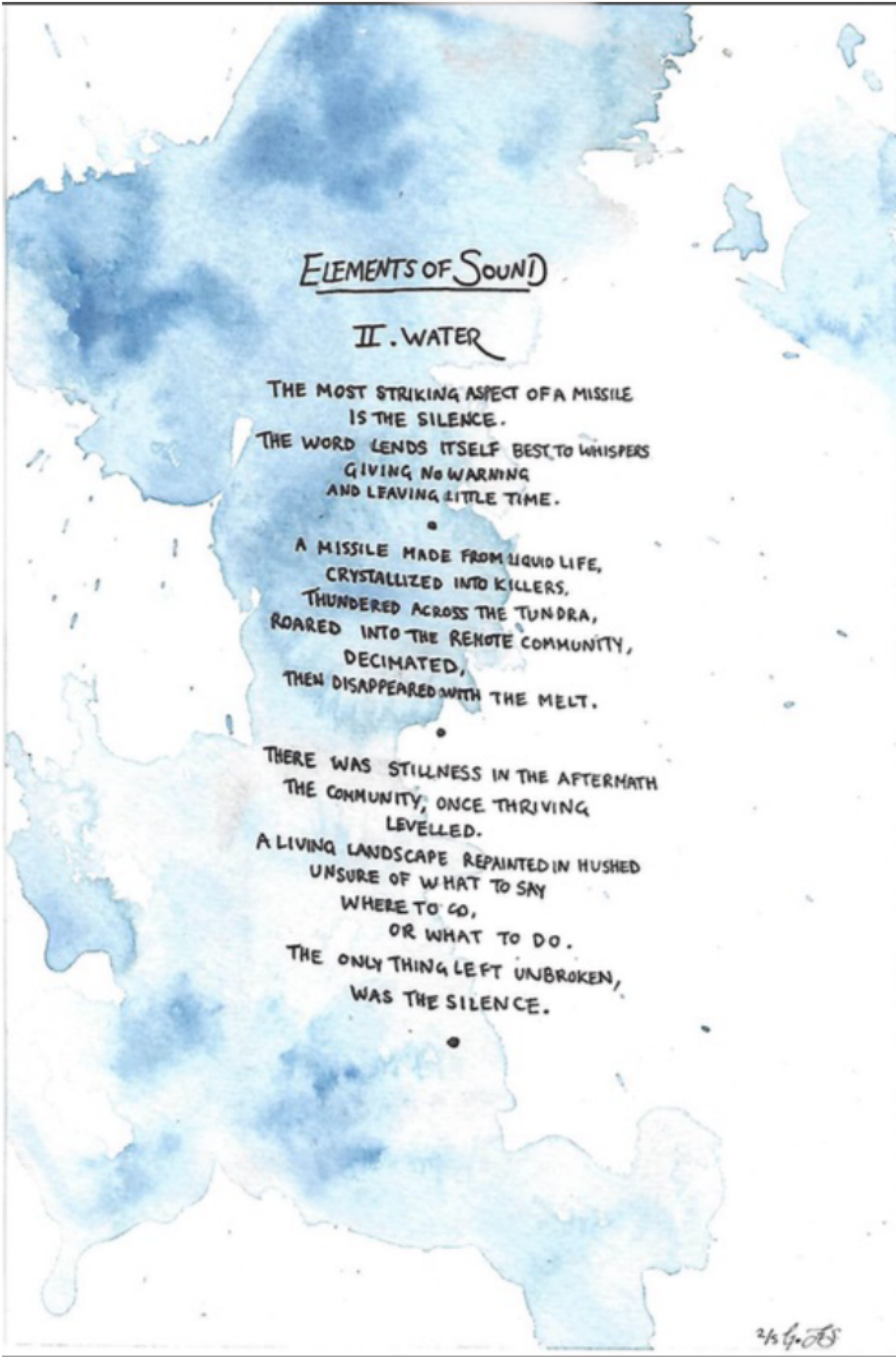
My last insight within disaster response is that we must always assess and understand the magnitude of the problems faced. This is key to engaging in the appropriate sense of urgency, and urgency may mean the difference between life and death.

- Bijan



ICE JAM WITH MIKE

OFF THE BEATEN PATH: We need to be better team builders- we can't do it alone.



A 20-mile long log jam of monster ice blocks, roared into the remote community, nestled on the north bank of the Yukon River, ripping up homes and rendering the hub utterly decimated. In Alaska, river ice can pose grave danger as it builds up in waters with no outlets, only dissipating through the melt initiated by the spring season's warmer temperatures. Such ice is dubbed "ballistic ice," being akin to a floating ballistic missile.

If only house-sized ice had been the sole concern; hazard is heightened when the community in crisis is, in fact, the designated emergency evacuation location - the 'hub community' - for the whole isolated region. Because in Alaska there are often no roadways for land vehicle evacuation, emergency response plans call for extraction by river via boat or by air via plane from the hub community.

Galena was one such designated hub; however, because it itself was devastated by disaster, it could not provide a safe location to extract its own evacuees. Thus, a massive, multi-agency search-and-rescue effort commenced involving the Governor, Adjutant Governor, National Guard and many other local and state emergency management agencies. Utilizing military transport C130 planes, designed for unprepared runways, a heroic support response and evacuation commenced moving the community from Galena to Anchorage and Fairbanks, Alaska.

'What is going to happen next,' evacuees asked. With destroyed homes and a now fractured, dispersed community, concern for the future and fear stemming from separation from families could be felt in their eyes. During the evacuation, some parents put children on boats and planes to remain to begin the cleanup process.

The remediation efforts entailed not only the removal of huge chunks of ice but also the dismantling of hundreds of freezers full of moose meat and fish. In fact, the food left behind posed an additional complication for responders. As the meat and fish began to spoil, it created a hazardous materials incident.

The recovery and mitigation projects in the once-devastated Galena are now wrapping up in 2016. With short building seasons due to weather conditions and the ability to transport materials, rebuilding takes time. In just three years, however, many of the buildings including the Community Center, Senior Citizen Center and Evacuation Shelters are raised up and rebuilt.

It was a great honor to help this tight-knit community. When I looked into the eyes of the Galena survivors, I saw a spirit of resilience. Many of them lost their homes, but they found a way to support each other, becoming a different type of "hub" - one where we recovered together.

My biggest lesson-learned and takeaway? Team building. The work responders did in Galena, and have done in other communities, has solidified my belief that we need to be better team builders - we can't do it alone.

We need to work harder to develop partnerships with communities, tribes, faith-based institutions, NGOs, state, local and federal agencies. Better preparation leads to better response and recovery from disasters. These collaborative efforts create unity, a fabric for stronger resilience for us all.

- Mike O'Hare

Mike O'Hare
Director Division of Homeland Security and Emergency Management of Alaska
Anchorage, Alaska, USA
9 Years in Emergency Management

The bold, breathtaking state of Alaska derives its name from "Alyeska," an Aleut native term meaning "The Great Land." And while bountiful in beauty, the land also presents a plethora of disasters; take your pick: earthquakes, volcanic eruptions, climate change complications, floods and coastal erosion — all within an Arctic region.

In the face of such treacherous challenges, building community resiliency is absolutely critical, but not always easy. In essence, we have one road system that stretches north to the Arctic Ocean and south through Canada and into the lower 48. With the breadth of our emerald and glacial state, a significant percentage of communities here are therefore off-the-road and often utterly remote. Meaning, a land vehicle will not suffice - you either fly or float in.

Tucked away from the world, these rural Alaskan communities are used to being on their own. Extended power and communication outages are not considered an emergency. Nor is being cut off from a food supply. These scenarios are calculated, and countermeasures are baked into rural resiliency efforts. What is considered an 'emergency' is relative to the effectiveness of resiliency strategies and foreplanned resources.

However, even with the best-laid plans, mother nature's (and man's) powerful forces continue to issue a multitude of threats, and climate change is the driver of many of them. In the past 60 years, scientists have shown the average temperature in Alaska has increased by 3°F, more than twice the rate of warming in the rest of the United States. This has had devastating effects on ice, which is an integral actor in our state's ecosystem.

For example, sea ice protects communities from the brunt of harsh winter storms. A diminishing of ice due to melting can mean year-round storm exposure for coastal communities. This disintegration can be devastating both to the communities and the land itself, with battered homes and infrastructure and severe coastal erosion resulting.

Exacerbating matters, global warming is degrading Alaska's permafrost, which consists of frozen layers of soil or bedrock. Top permafrost layers thaw seasonally, while deeper layers remain frozen throughout the year. Much of these deeper layers are tens of thousands of years old and exist below about 85% of Alaska's land. Yet, slowly, these once-permanent layers are melting causing terrible effects. It is eroding the coast and resulting in sinkholes as the ground becomes less stable, causing flooding as it empties into rivers, and threatening critical winter food storage.

As an emergency manager in Alaska, I have been acutely involved in the mitigation of these effects. In such an unpredictable environment, I have become an expert at almost everything in a very short period. I have had no choice. The diverse range of disasters in our beautiful, complex state has taught us to roll up our sleeves, understand the threat and the community we are working with in order to make sure everyone has a plan and is working towards resilience the ever-shifting demands of our environment.

Caveat: "Ballistic ice" is a term used by the Alaskan Emergency Management community, in other regions it is referred to as an ice jam.

What would it be like to watch gargantuan buoyant ice formations, some as large as homes, rush towards your tiny riverfront town, surrounded by wildlife refuge land and inaccessible by roads? In the early spring of 2013, Galena, Alaska, residents came to know the answer.

TORNADOS WITH GREG

Become the voice for the people – you never know whose life it could save.



Gregory Adams
DaVita Emergency Coordinator
Oklahoma City, Oklahoma USA
5 Years in Emergency Management

The noise was haunted; it sounded like what I’d imagine laying underneath a train might be like – thunderous thuds, screeching metal, with relentless, piercing pressure. I was in ninth grade, it was May 3rd, 1999, and an F-5 tornado was ripping through my otherwise serene suburb of Oklahoma City.

Earlier that day, my family and I had gathered in our living room to watch the news. I recall being excited; the meteorologists have a way of getting your adrenaline pumping. But, that initial buzz quickly slipped to fear as I noticed my parents’ demeanor shift to panic as they realized the tornado’s path was projected straight over us.

With urgent haste, we dragged the queen-sized mattress from my parent's bed and barricaded ourselves in a tight huddle in the central bathroom of our home. As the monster barreled towards us, I remember my mom squeezing my arm harder than was comfortable. And the rest was a blur.

When the cacophonous wind finally ceased, I blinked open my eyes to utter darkness. The bathtub I had been laying in had flipped, flinging me into our hallway. I heard my dad, in a fear-drenched voice, screaming my name as he peeled drywall from my body. I was okay. As we surveyed our broken home and littered front yard, it was snowing fluffy white insulation ripped from the swath of homes that had been sucked into the sky.

I remember the weight of the situation finally setting in - I was lucky to be alive, and that's a difficult, intense thought for a 13-year-old. Our bodies were intact, but our home had been utterly destroyed. This was a heavy-hitting first disaster experience.

Coincidentally, almost 14 years to the day, I lost another home (this time one that I owned) on May 20th, 2013 from another F-5 tornado that struck Moore, OK. After losing my second home, I decided to relocate to Colorado. Better to combat bears than tornados, in my opinion.

These weighty experiences impacted my professional practice. And, I have carried the events of May 3, 1999, with me - I want to ensure that families have a safer option than a mattress in a bathtub. And so, while working for the Oklahoma City Emergency Management, I applied for and subsequently administered a FEMA hazard mitigation grant of more than 1.3 million dollars. The funding allowed homeowners to install storm shelters in their homes and be reimbursed 75% of the cost up to a \$2,000 maximum.

If I were to impart any words of encouragement and advice gleaned from my experiences, I would encourage everyone to simply be aware of what emergency situations or disasters are possible in their community. Research historical data, keep up-to-date on local news stories and be proactive in pushing for the local government to explain what they've done, and are actively doing, to mitigate these risks. If your officials are not acting substantially, become a lobbyist for preparedness. Write letters to mayors, representatives, city council and beyond.

Become the voice for the people – you never know whose life it could save.

-Greg

Greg Adams is the Emergency Management Coordinator at DaVita's Denver headquarters, where he plans for, mitigates, and coordinates disaster scenarios for 4k+ dialysis facilities in the United States. He graduated from Oklahoma State University, with a Bachelor's degree in Emergency Response Administration in 2011. After graduation, he stayed in Oklahoma for another four years before moving to Colorado with his partner, two cats, & two dogs.



A BLAZE FOR THE BOOKS WITH ANDREA

Small Responses make big differences, But Responders Must Start with Themselves

Andrea Jorgensen
Disaster Corps Volunteer Coordinator, Planner
Fire Department and Department of Emergency Management
San Francisco, CA
6 Years in Emergency Management

Growing up in the midwest, I was no stranger to disasters - I have impactful, early memories of both tornadoes and blizzards. These experiences offered me a level of empathy for disaster survivors and crystallized an interest in preparedness. While in college, I remember walking from my dorm to a home nearby and it took nearly 30 minutes to simply cross the street because of the blanket of snow - one small example of how extreme conditions create human hardship.

Since then, my career has spanned several industries - from hospitality management to interior design - but I'd always been drawn to emergency response and being in service to those affected. Now, I passionately work in emergency response and coordination of critical supplies.

On September 12 in the mild, early autumn days of 2015, a raging wildfire sprang up in the typically tranquil Lake County, Calif. The flames from this 'Valley Fire' quickly spread, engulfing 10,000 acres within 5 hours, and 50,000 acres within just days. State and local emergency response agencies swiftly kicked into gear, and a tightly orchestrated cooperative effort ensued.

Rather than coordinating from behind the scenes, the Valley Fire disaster became my first direct response. Through California Volunteers, I worked in volunteer and donation management including running a Commodity Point of Distribution. C-PODs, for short, are crucial pop-up centers distribute life-sustaining commodities to local communities during and following a catastrophic event.

The mega Valley Fire was devastating - thousands were evacuated across two counties, almost 2,000 structures were demolished, including more than 1,200 homes, and four people lost their lives. It ultimately became the third worst fire in California history based on total structures burned.

The fire's aftermath was also utterly shocking for survivors, as whole neighborhoods were turned to ashes. Within my C-POD manager role, I was the first point of contact for many evacuees who had been outside the area for more than a week. Faced with the loss of their homes, emotions were high, and many people were crying. And, the unpredictable nature of such a fire - the taking of one home but not another - was tough for survivors to wrap their heads around.

The experience also created such a melding of emotions within me - it was both very taxing and very gratifying all at once. As a volunteer, I felt anxiety and anticipation for the evacuees, about what they might see. It was heartbreaking, but I was glad to be there with them at such uncertain times.

More than 12 months later, I feel very privileged to have been part of the volunteer response. I am now so cognizant of both the emotional and physical toll and the sacrifice that goes into disaster response. I am so thankful we had been trained well; we knew how to handle the heavy emotions of those returning to the area.

This experience has helped me understand how small responses make big differences. I feel the Valley Fire disaster survivors will always remember the comprehensive and compassionate efforts of the government and volunteer agencies, to have recovery, we must start in a very basic way - the first step to recovery is simply facing the disaster. Together, healing and rebuilding can begin from that point.

I cannot underestimate the importance of psychological training and support. When I returned to my life in San Francisco, the California Volunteers psychological support team was invaluable. This layer of disaster volunteering is often overlooked; yet, it was vital to my mental health, and I believe for others as well.

The lessons I learned from Valley Fire volunteer effort were multifold. Perpetual training is vital to sharpen skills, and psychological training and support are utterly critical the success of response.

Finally, responding to Lake County gave me confidence that I could do this - be embedded in highly charged emergency environments, provide crucial support while maintaining my own necessary wellbeing.

- Andrea



OFF THE BEATEN PATH WITH MIKE:

Roll Up Your Sleeves, Understand the Threat and Plan for Resilience.

Mike O'Hare
Director Division of Homeland Security and Emergency
Management of Alaska
Anchorage, Alaska, USA
9 Years in Emergency Management

FINDING HIGHER GROUND



Climate change creates refugees. This global trend might be a little-known fact, but true, and especially salient for coastal Alaskan communities. Debilitating coastal erosion has been hastened by rising sea levels eating away at land, melting permafrost destabilizing infrastructure and diminishing sea ice once protecting coastline from storm surge.

With coastal erosion quickening, it's at times deemed necessary to relocate entire towns to higher ground. In 2008, such was the case, with a total of six communities in peril from erosion complications. State officials determined they would have to either relocate or find solutions that would allow the residents to stay in their besieged communities.

One of these villages - Shishmaref, a remote island community located near the Bering Strait -had decided it was time. Rising sea levels had been slowly eroding the Inupiat Eskimo village for decades. Shishmaref native and Arctic Youth Ambassador Esau Sinnok observed his community had lost 2,500 to 3,000 feet of land to coastal erosion and had been forced to move from one end of the island to the other because of loss of land.

However, relocation is a complicated, expensive and painful proposition. Village residents are facing a reality in which the homes they have grown up in, spanning generations of family life, will soon be underwater. History and traditions tied to the land are uprooted and even lost with such a move. As Esau shared in an essay, he wrote about this experience, "It is more than a loss of place, it is a loss of identity."

Aside from emotional expense, the hard cost of relocation in Alaska is exorbitant due to the remote nature of most villages, reaching beyond 150 million dollars per community. The burden of such steep financial outlay is compounded by the poverty many communities face.

Despite such challenges, the commitment to care for these communities deepens. Over the past ten years, local, state, federal, nongovernmental and private sector partners have worked hand-in-hand to identify sustainable new locations and complete the complex relocation of whole communities.

As for those that plan to stay, emergency management must work collaboratively with the residents on how to survive by creating robust mitigation plans. This includes elevation of infrastructure, dissemination of carefully crafted emergency plans, and a thoughtful coordination of partners to support each effort along the way.

No agency stands alone in community relocation. The associated costs, resources, and collaboration required cannot be encumbered by one organization; it is a collaborative effort led by the community.

- Mike

KILLER FLU MUTATION WITH TOM

Transparent, consistent and compassionate public health responses matter

Tom Chin
Emergency Services Planner, San Francisco Department of Emergency Management
San Francisco, California USA
10 Years of Emergency Management

Influenza pandemics have humble and deceptive beginnings. Somewhere in the world a viral mutation occurs, one person gets sick and then a few more. Those infected and their loved ones assume it's a regular flu. But, due to a universal lack of immunity to this new strain, or targeted vaccine to prevent it, a localized set of cases begins to multiply exponentially and spread across borders creating a global threat. The World Health Organization classifies a pandemic as "the worldwide spread of a new disease." And such was the case in the spring of 2009 with a particularly powerful new strain of the H1N1 virus - 'H1N1/09'.

At the time, I worked in a county-level health department. From a health provider lens, watching this virus proliferate around the world was disturbing. When the general public has little to no immunity, the number of infected can overwhelm care institutions. And, this strain appeared to unproportionately effect children.

On June 11, 2009, when the World Health Organization officially categorized H1N1/09 as a pandemic virus, there were thousands of cases worldwide with more than 70 countries reporting cases. Public information was now urgent to both alleviate the spread of the virus and quell panic-inducing misinformation.

And, panic was already manifesting. We learned of people breaking into pharmacies for Tamiflu, antiviral medication that blocks the actions of influenza. With heightened emotions and mounting cases, a chief concern at my county health department, therefore, became about the distribution of vaccinations and the potential for medical surge, the rapid expansion of medical services due to an event that exceeds existing infrastructure.

As we watched the numbers rise in the Southern Hemisphere, we understood the potential, detrimental impact on these regions, but we also realized this outbreak did not appear to have the same voracity or volume of fatal cases as historical pandemics like the Spanish Influenza, which killed as many as 25 million people in its first 25 weeks.

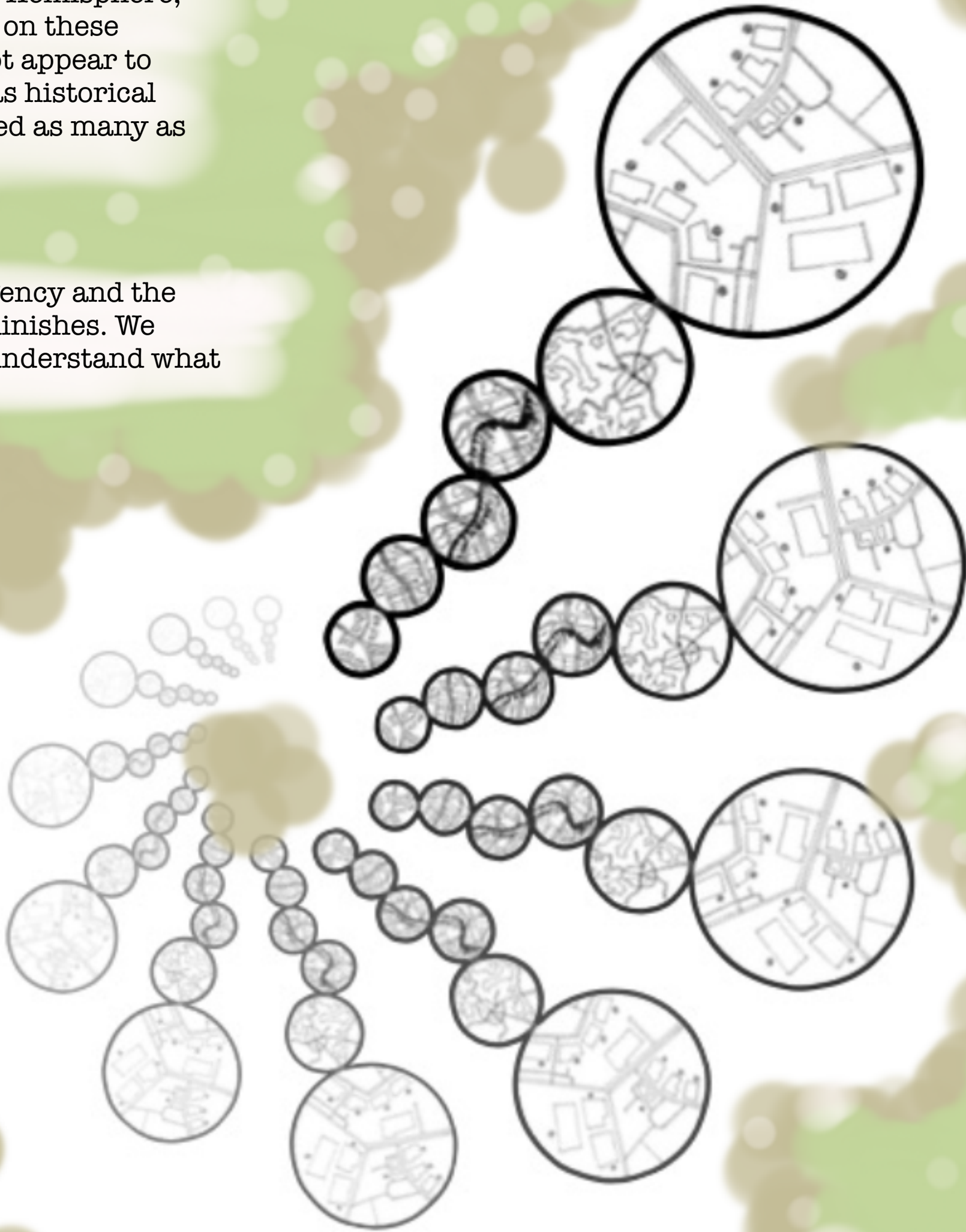
In the time between this particular health emergency and the current day, I've noticed how the experience diminishes. We have a modern baseline now which is helpful to understand what it would take to stop the spread of a pandemic.

The H1N1/09 epidemic significantly impacted my practice of emergency management. I was offered a unique view into the difference between department operations and county-level field operations. I learned that the ability to understanding the needs of field personnel is critical as a responder.

For my work, I now believe every emergency is a public health emergency. We need to be vigilant and consider things like medical surge, countermeasures, and environmental hazards like air particulates from a five-alarm fire. Even with our meticulous strategies and intelligent resources, I still compulsively wash my hands.

Ultimately, my learnings yield advice for future responders: don't discount the critical nature of well-informed, compassionate and carefully disseminated public information. Giving assurances and providing transparent, consistent information is paramount to more optimal outcomes.

- Tom



EARTHQUAKE > TSUNAMI > HEARTBREAK WITH MIKE

When Disasters Strike, Treat Everyone Like Your Neighbor or Relative

Mike Dayton
Deputy Director, City and County of San Francisco
San Francisco, CA USA
17 years in emergency management

On March 11, 2011, at 2:46 PM JST, a violent, magnitude 9.1 earthquake ripped through northeastern Japan. Centered about 43 miles offshore from Tōhoku, it toppled buildings and crippled infrastructure. And, with earthquakes centered undersea, one disaster often begets another as tsunami waves are triggered from the force. Such was the case on this day, as deadly waves as high as 133 feet besieged the northern Japanese coast.

We got the call in the middle of the night - this dangerous disaster was now on our horizon with vast tsunami warnings issued across coastal areas of the Pacific Ocean. As acting Secretary of California Emergency Management Agency (CalEMA, now CalOES), the California response was my domain.

With no time to lose, we quickly ramped up the State Warning Center and began calls to the impacted counties. With tsunami warnings, there is no perfect science to predict trajectory or strength of waves. As such, local officials had different views of the potential impacts, but we were significantly concerned about the Crescent City area. Situated 20 miles south of the Oregon border, the topography of the sea floor surrounding the small city has the effect of focusing tsunamis.

We had a new Governor, Jerry Brown, at the time and he called our Press Office to request a briefing. This inquiry, in fact, helped us realize we misunderstood the nature of tsunamis. There can be up to 24 hours of waves, not just one. This awareness heightened our vigilance and our urgency for preparedness.

As we saw the reports from Japan, our hearts broke open. Beyond the initial, critical earthquake and tsunami impacts, a Level 7 nuclear emergency was also declared at Fukushima Daiichi nuclear power plant due to damage sustained from tsunami waves. This series of events in Japan was catastrophic. All tolled, more than 20,000 deaths would be reported, caused by the initial earthquake and tsunami and by post-disaster health conditions.

The disaster impact was widespread, sending powerful storm surge across the Pacific, which would cause millions of dollars in damage across California, and claim one life in Crescent City. The greatest emotion for me was driving to the city the next day, on March 12. All disasters have a human face, and when we entered into the impacted area, we experienced that damage viscerally.

I remember walking into one of the city’s cafe when we arrived, dressed in our CalEMA gear, and a patron ambled over to hand me \$20 and said, “I know people are hurting, can you give this to people who need it?” I found the Chief of Police and asked him to donate the money to the leading aid agency. These types of small acts of compassion were touching.

Now, more than five years later, I can feel this experience profoundly impacted me. In moments of crisis, we have to remember the human element. For emergency responders, it's vital to be in the community as soon as possible post-event. People want to have the human connection and be reassured that government is doing all that is possible.

The tsunami response came directly after a winter storm response; I noticed the same thing with that response - community mattered, and the human connection was paramount. Mission-tasking state agencies are vital because they allow connections to new and novel resources that can expedite community recovery.

The tsunami recovery has created lasting impact on our disaster response efforts. It goes beyond infrastructure and commerce; it's also about people's homes and livelihoods. This experience taught me that recovery must be approached in creative ways. Individual assistance only covers so much. And, this experience has prompted me personally to focus on how to keep San Franciscans in San Francisco. I find myself asking, "What does rebuilding looking like in those circumstances?"

Ultimately, my advice - treat everyone like they are your neighbor or your relative. Even if you don’t have the answer, approach survivors with empathy and a willingness to find solutions.



Do not take ‘no’ for an answer - you must be relentless and seek solutions.

- Mike

SURVIVOR STORIES Hurricane Sandy, New York WITH DARIS, JOCELYN & STEPHANIE

The 4th anniversary of Hurricane Sandy recently passed, so we decided to revisit "Rebuilt and Recovered? Sandy Stories from Rockaway", a project we did last year with Rockaway Waterfront Alliance RWA and The Moth. Storytelling is a vital tool for recovery, and "Sandy Stories" featured stories from Far Rockaway survivors.

Thank you to all of the Sandy Stories participants, including storytellers Daris, Jocelyn, Lynnette, Stephanie, and Evontie, who each gave their unique perspectives. We also thank Judah Asimov, Callie Thuma, Jeanne DuPont and Asher Novek. It was an amazing experience working with you all!

Daris' Story

Daris grew up in Brooklyn. There, she would bird watch, peruse libraries and visit museums, including the Brooklyn Botanical Garden, where she would look up at the sky and meditate. When Daris moved to Far Rockaway and became a first-time homeowner, she knew she'd made it. Along with being a new homeowner, she worked hard and did overtime to get herself a Gucci bag for her birthday. She loved the bag and wore it only on special occasions.

Like many others, Daris evacuated when Hurricane Sandy hit the Rockaway. When she returned, she found her home overwhelmed by sand and flooding. Disheartened, she left. When she returned a second time, she inspected the house anew and noticed that the closet was empty except for two hangers. Boxes were busted. Her shoes were missing except for two that didn't match. The TV and her clothes were gone.

And...her prized Gucci bag was gone! Her new house had not only faced hurricane damage; it had been looted as well. She felt like everything she worked so hard to have had been taken from her.

Though bereft of her belongings, fortunately, Daris did have her neighbors. They gave her much-needed emotional support, and she returned the favor. The disaster had devastated them, but they had each other to help stay strong. Daris is back to enjoying nature, whether it's bird watching or hanging out at the park. Along the way, she's found calm and a certain inner peace. The American dream looks much different to her now.

Jocelyn's Story

Jocelyn started at the Scholars Academy High School as a freshman before the storm, and that is where she met Bianca. Jocelyn was comfortable with her friends and saw no need to make an effort in establishing new connections. Thus their connection remained limited to saying hello to each other in passing. Everything changed for Jocelyn when Hurricane Sandy left their school with significant water damage and their lives shifted unexpectedly.

Jocelyn, Bianca, and their classmates were relocated to another school to continue their education. Beyond the change in venue, others were in store - like having the teachers rotate classrooms instead of the students. Plus, the layout of gym class changed and Jocelyn found herself occasionally shooting hoops with friends. One day, Bianca asked Jocelyn to shoot hoops with her instead. Reluctantly, she accepted and over time found herself spending every gym class playing basketball with Bianca. At first, they played without speaking, but gradually a friendship grew between them. Jocelyn realized that although the hurricane upended her daily life, it wasn't all storms and trials. It brought her a friendship she never thought she'd have. Life shifts unexpectedly and with the destruction of Hurricane Sandy blossomed a beautiful friendship between two survivors.

Stephanie's Story

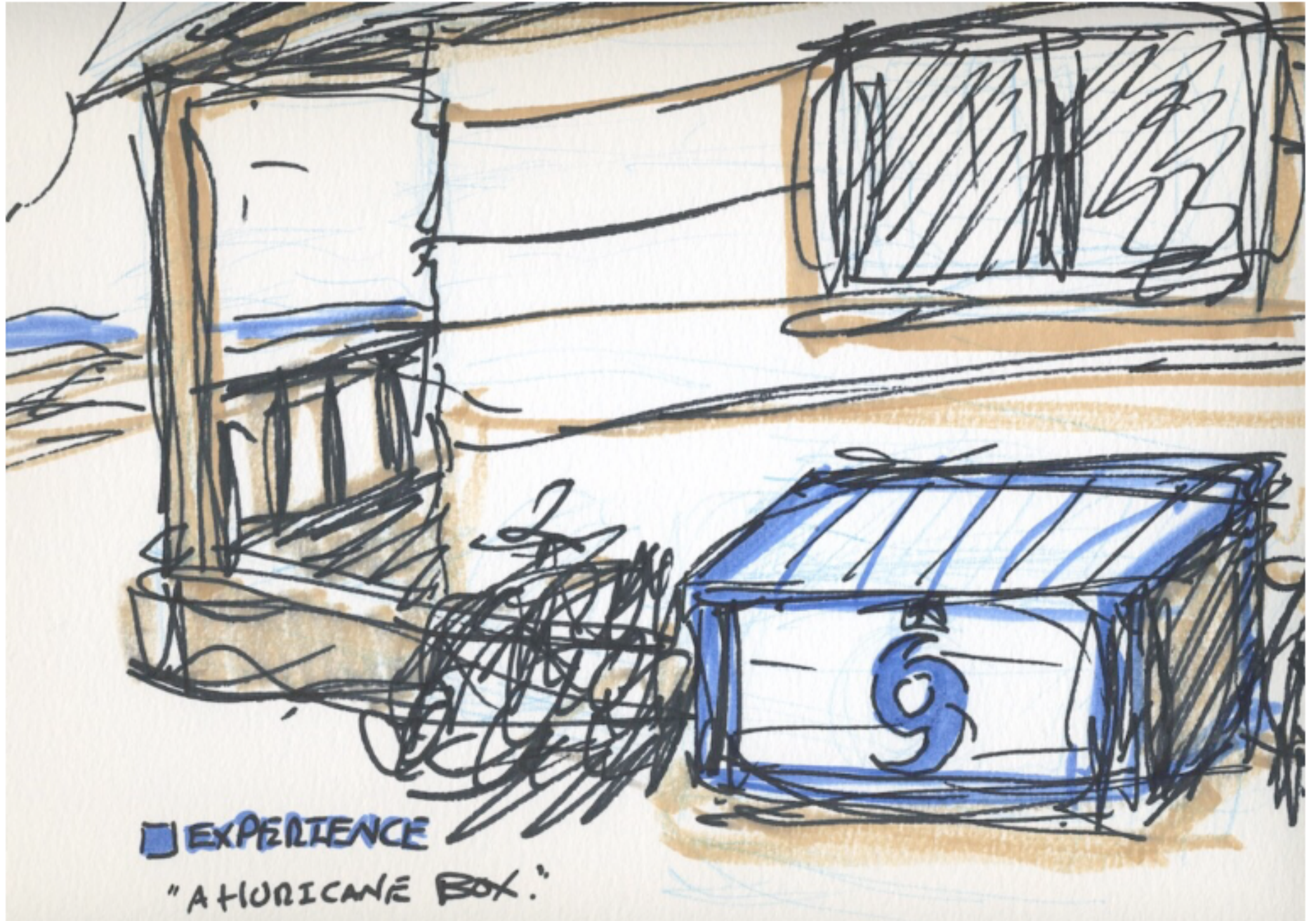
Stephanie started a new job in mid-October, 2012. Life was good, and she was excited about the possibilities. Just a week or so later, she discovered the hurricane was coming. Having once called Florida home, she's no stranger to hurricanes, and the toil they entail. So, in anticipation of the torrent, she packed up the car and filled its tank. At the top of a hill in Brooklyn, to where she eventually evacuated, she could see that the storm had swept savagely from one side of the Island to the other.

Not one to stand still, Stephanie worked to load up a few vans with supplies. She knew a lot of people must have lost their homes, so she beelined to the beach to distribute what she could. When she arrived, what she saw was so much worse than she could have imagined. The once vibrant, storied beachfront now looked like a haphazard urban desert. Sand - much like blankets of freshly fallen snow - was everywhere over everything. And, the surrounding coastal neighborhoods were like a scene out of a movie - beds, cribs and even washing machines were strewn on lawns and toppled forlornly in streets.

Fall's early sunsets meant by 5 PM it would be dark. Fear penetrated the area. Without power and in the dark of the night, safety was not certain. Social media even reported that someone carried a bow and arrow for protection from exploitative looting. Yet, gems of kindness can offset such negativity. With a full tank of gas, Stephanie thought, 'let's contribute!' From the beach, she moved to Sunset Park and then completed rotations at the church and nearby community centers. The lack of light meant shops were closing early for safety, and access to life's daily supplies was, therefore, scarce.

In times of tribulation, inventive solutions arise. Stephanie's friends made cobbled together a solar push cart, and together they made their way to the Rockaway Beach Surf Club, which had become an impromptu relief center. While donated gas generators sat idle due to lack of accessible gasoline, these friends - a team of designers and engineers - crafted an ingenious effort to bring solar generators to power relief efforts across the devastated community. This auspicious effort eventually became a movement with momentum, successfully completing an Indiegogo crowdfunding campaign bringing renewable energy to many. Amid frigid winter temperatures, these solar generators were literally life-saving.

For Stephanie, it was incredible to see the community rally together to supply and deliver what was needed to those who most needed it. From this unimaginable journey, she learned a great deal - everything from installing solar panels to the nuances of acting as a team while under duress. She felt part of something bigger than herself and was incredibly proud to have contributed to 'Power Rockaway Resilience.'



ELEMENTS OF SOUND

I. EARTH

THE FIRST THING HE REMEMBERS,
WAS THE RINGING.
HIS HEAD POUNDING,
THE WORLD SPINNING,
THE EARTH, QUAKED.
BUT IT WAS THE RINGING.
SHARP. STACCATO. FAMILIAR?

THE PHONE CAME INTO FOCUS
AS SIRENS SCREAMED FROM BEYOND.
THEIR SHRILL SONGS CALLED NO SHIP TO SHORE,
BUT RATHER ANSWERED THE CALLS FOR HELP.
THE PHONE WAS STILL RINGING.

OUTSIDE, STREETS WERE SCATTERED WITH
SEISMIC SCARS,
SURVIVORS STEADIED THEMSELVES
SOOTHING SOULS TO THE SOUND OF WAVES
ASSAULTING THE STILL SHORELINE.

AS CITIZENS SHOOK OFF THE DUST,
EACH STEP FELL CRISP UPON BROKEN GLASS,
LITTERED LIKE LEAVES IN THE AUTUMN,
BUT IT WAS THE BUILDINGS THAT HAD
FALLEN.

THE PHONE WAS STILL RINGING.

ELEMENTS OF SOUND

IV. FIRE

THE FAMILIAR CRACKLE OF A DYING FIRE
BRINGS NO WARM MEMORIES
TO THE VALLEY.
SHE CHOKES ON THAT CAMPFIRE SMOEL
TRADED TRANQUILITY FOR TEARDROPS.

ELEMENTS OF SOUND

III. AIR

THE NOISE WAS HAUNTED.
METAL MADE MALLEABLE,
SCREECHING WITH SERIAL INTENT
AS HAMMER AND ANVIL
STRUCK TYMPANIC THUNDER.
THE CACOPHANY COUPLED WITH PIERCING PRESSURE
AS THE AIR IN HIS LUNGS WAS TWISTED,
AND TORN AWAY.

THE NOISE STILL HAUNTS HIM.
FEAR-DRENCHED AND FADED,
FATHER'S YELL.
MUTED,
MOTHER TOO.

ELEMENTS OF SOUND

II. WATER

THE MOST STRIKING ASPECT OF A MISSILE,
IS THE SILENCE.
THE WORD LENDS ITSELF BEST TO WHISPERS
GIVING NO WARNING
AND LEAVING LITTLE TIME.

A MISSILE MADE FROM LIQUID LIFE,
CRYSTALLIZED INTO KILLERS,
THUNDERED ACROSS THE TUNDRA,
ROARED INTO THE REMOTE COMMUNITY,
DECIMATED,
THEN DISAPPEARED WITH THE MELT.

THERE WAS STILLNESS IN THE AFTERMATH
THE COMMUNITY, ONCE THRIVING
LEVELLED.

A LIVING LANDSCAPE REPAINTED IN HUSHED
UNSURE OF WHAT TO SAY
WHERE TO GO,
OR WHAT TO DO.

THE ONLY THING LEFT UNBROKEN,
WAS THE SILENCE.

III. AIR

THE NOISE WAS HAUNTED.
METAL MADE MALLEABLE,
SCREECHING WITH SERIAL INTENT,
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BRINGS NO WARM MEMORIES TO THE VALLEY.
SHE CHOKED ON THAT CAMPFIRE SMOEL,
TRADED TRANQUILITY FOR TEARDROPS.

V. RE: SOUNDS

AND WHEN THE GROUND HAS STAYED,
THE ICE RETREATED,
THE DUST HAD SETTLED
AND THE EMBERS FAINT,

THEY ROSE
THEY RESPONDED
RESILIENT AND READY
RESOLVED NOT TO REST
UNTIL YOU WERE SAFE,
AND ONLY HOPE
RESOUNDS.

ELEMENTS OF SOUND

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WAS THE RINGING.
HIS HEAD POUNDING,
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THE PHONE WAS STILL RINGING.

II. WATER

THE MOST STRIKING ASPECT OF A MISSILE
IS THE SILENCE.
THE WORD LENDS ITSELF BEST TO A WHISPER
GIVING NO WARNING, LEAVING LITTLE TIME.

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A MISSILE MADE FROM LIQUID LIFE,
CRYSTALLIZED INTO A KILLER
THUNDERED ACROSS THE TUNDRA
ROARED INTO THE REMOTE COMMUNITY
DECIMATED, THEN DISAPPEARED WITH THE MELT.

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THERE WAS STILLNESS IN THE AFTERMATH,
THE COMMUNITY ONCE THRIVING, LEVELLED.
A LIVING LANDSCAPE REPAINTED IN MUSHED TONES,
UNSURE OF WHAT TO SAY,
WHERE TO GO, WHAT TO DO.
THE ONLY THING LEFT UNBROKEN,
WAS THE SILENCE.

Team Behind the Scenes:

Alicia Johnson a natural-born problem solver with a super power for getting it done, Alicia Johnson has a penchant for civic innovation. An Emergency Manager by trade, Alicia can count Hurricane Sandy, Super Bowl 50 and an earthquake or two in her portfolio of responses. She has changed the culture of emergency preparedness with the creation of SF72.org and disaster operations at the City of San Francisco. Alicia knows how to make change happen from within. Curiosity is her jam and her favorite question is... How might we?

Katherine Lewis grew up in a Japanese sect of Buddhism in Boston and she credits this as an anomalous primer for many decisions in her life. From a career in advocacy for neglected youth to her current work with Singularity University at the intersection of tech and social impact, she's always sought ways to be in service and embody compassion. She believes deeply in the power (and responsibility) of business innovation to solve the world's grandest challenges. And, her successful MBA endeavor strengthened that resolve. With a serious YOLO attitude, Katherine is a stellar community builder, an ardent logophile, a trail conqueror and avid border crosser.

Gautham Krishnaraj is a Canadian spoken word poet currently pursuing his MSc Global Health at McMaster University in Hamilton, Ontario. He is passionately engaged at the intersection of health, innovation, and humanitarian response, and seeks to explore and share the realities of emergency response and responders both domestically and internationally.

Fiona Sarazin is visual artist and third year Microbiology student, currently pursuing her BSc at McGill University in Montreal, Quebec. She was born and raised in the nation's capital, but has made a second home of the art laden streets of Montreal. Her hobbies include oil painting, listening to podcasts on investigative journalism, and filling her apartment with tiny

Nikhita Singh is a graduate researcher in the Personal Robots Group at the MIT Media Lab where she focuses on designing how humans and robots interact. Her research integrates methodologies from robotics, artificial intelligence, design and human social psychology to develop socially

Storm shelters in every home

intelligent robots for deployment in human systems. In her spare time, she loves to

create art with digital fabrication tools and photograph her travels.

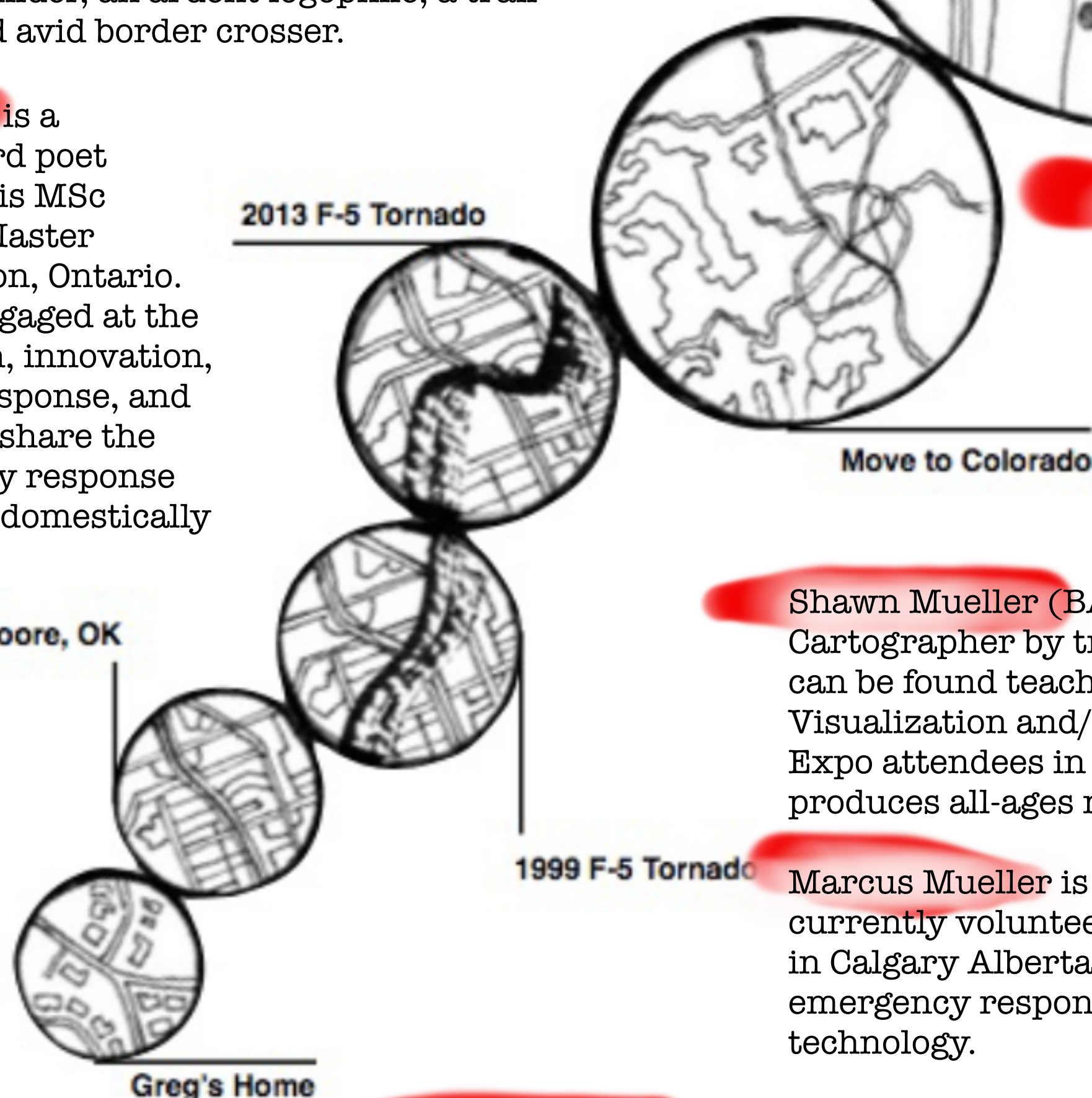


Donna Dupont is an emergency management professional with over 20 years experience working in the health care sector. Her interests include design-thinking, strategic foresight, innovation and urban disaster risk reduction. Her mission is to work with communities and organizations to support local capacity building and disaster resilience.

Shawn Mueller (BA, BSc, MES, PhD) is a Geographer and Cartographer by training and an artist by inclination. He can be found teaching courses in Communications and Visualization and/or drawing fantastic creatures for Comic Expo attendees in Calgary, Alberta, Canada. He also produces all-ages novels and graphic novels.

Marcus Mueller is a homeschooled high school student currently volunteering on Junior Ski Patrol with Winsport in Calgary Alberta. He has interests in disaster and emergency response, photography, filmmaking, and technology.

Desi Matel-Anderson is the Field Innovation Team's Chief Wrangler. She is the former Chief Innovation Advisor at FEMA and spends most of her time deploying into disasters to work directly with communities or run Do Tanks around the world. She's best known for her cowboy boots, vibrant yoga pants & colorful wrangler lifestyle.



Interested in telling your story? Contact us at
info@fieldinnovationteam.org

