DON’T WORRY,
USE MITIGATION

Johnny Mullens, CFM     El Paso, Arkansas
SUGGESTIONS ABOUT PRESENTATION

1. Think of how you can apply what is said to issues where you live or work.

2. Further research what is said today.
RAIN IN ARKANSAS

Seattle averages 226 cloudy days a year, Little Rock 147. Little Rock averages 51 inches of rain a year, Seattle 38.
Antlophobia is an abnormal fear of floods. The trigger of most mental health issues regarding floods is the reminder of or fear of *loss* of something valued.
Mitigation - the effort to reduce loss of life or property by lessening the impact of disasters (FEMA.gov)
Flood mitigation projects can help mitigate against mental health issues and costs after flood.

http://www.clintonarchamber.com/clinton-park-walking-track
Scott County, Arkansas Flood/ May 31, 2013
Scott County Sheriff Cody Carpenter and Arkansas Game and Fish Wildlife Officer Joel Campora were killed in the flood while trying to rescue two female residents from an imploded home near Y City, Arkansas.

Scott County Flood killed 6 people.
In 2004, the Scott County Quorum Court voted not to participate in the NFIP. The then-county judge and the members who voted “no” did not think the county had a flooding problem.

After the 2013 flood, Scott County Judge James Forbes noted many county residents had trouble sleeping during heavy rains.
Amie Carpenter, county tax collector, succeeded her husband as sheriff until the end of 2014.

“..like a nightmare that me and my kids haven’t woke up from.”

“It seems like you relive the flood on each anniversary date of every month.”
Fouche La Fave River/Scott County, Arkansas

“That flood changed everything. One night and it changed our world.”
Mill Creek/ Scott County, Arkansas

It’s not over for us. It’s every house that is on this river or near a creek. They have the same anxiety, the same fear, the same tension going to bed and they can’t sleep: What do I do? What do I do? What should I do?”
Harrison, Arkansas Flood (Crooked Creek)  
May 7, 1961  
Photo From Harrison Daily Times/ Boone County Historical Museum
HARRISON, ARKANSAS

Twelve feet of water from Crooked Creek flowed north and flooded the south end of the city square, killing four people and causing an estimated $5-10 million in damages.

Schools were closed after the flood for the semester partly because of the psychological effect of the flood on the teaching and learning process at school.

After flood, some survivors would walk the banks of Crooked Creek during rains watching for rising water.
HARRISON, ARKANSAS

One survivor had flashbacks to the flood whenever he heard a bathroom shower. It reminded him of the heavy rain before the flood. Another survivor was a former mayor and part-owner of a clothing store on the square. He said that if it started raining at night, he would “get scared and lay in bed and sweat”. He was moving clothes in his store as flood hit.
Lake Harrison  (http://www.sarahp3969.remaxarkansas.com)
MITIGATION ACTIONS IN HARRISON

-Widening of Crooked Creek’s Channel

-Moving Houses Out of Floodway

-Levee on north end of Crooked Creek

-Construction of a weir (small dam) across Crooked Creek that created Lake Harrison

-Creation of a park that replaced houses along Crooked Creek floodplain. The park has soccer fields and a walking trail around Lake Harrison and along part of Crooked Creek.
ANXIETY/STRESS ISSUES FROM FLOODS
ANXIETY/STRESS ISSUES FROM FLOODS

$2.5 million in taxpayer funds was spent for mental health support up to 16 months after 2010 Floods in Nashville, TN area (http://tennessee.watchdog.org September 27, 2011).

Lack of Understanding by Others (Not Everyone Going Through Trauma of Natural Disaster Has Same Issues) – Some many have genetic link to mental illness or may not have a strong social support system.

Diminished credit rating and increase of bankruptcy filings (floods compound problems for people living in poverty or that have a large amount of debt.)
ANXIETY/STRESS ISSUES FROM FLOODS

• Health issues related to stress from natural disasters (Takotsubo Cardiomyopathy / Stress-Induced Cardiomyopathy / “Broken Heart Syndrome” - a temporary enlargement and weakening of the heart muscle, which is often triggered by extreme physical or emotional stress) University of Arkansas for Medical Sciences research presented at the American College of Cardiology’s 63rd Annual Scientific Session in March.

• Suicides (Grand Forks Flood, 1997 [Judy Haney, Harlan Thompson] Red River Rising)
ANXIETY/STRESS ISSUES FROM FLOODS

Business owners may have stress-related issues if they are trying to rebuild a business after flood (What The River Took [YouTube]– Shanda Cool/ Minot, ND [Souris River “The Mouse” Flood 2011]) Key quote, “Starting a business is easy. Restarting a business is hard. Restarting a business after a disaster is madness.”

Losses by farmers in floods can have economic and mental impact (i.e., loss of sense of self-worth, anxiety about overcoming financial loss) Hurricane Floyd Flood, NC, 1999, Midwest Floods 2008 - Some farmers lost all of cattle herd. Some pig farms owners lost most of their pigs.

ANXIETY/STRESS ISSUES FROM FLOODS

Someone may feel stress and anxiety because flood damaged or destroyed items they used in their work.

Brad Paisley had water-damaged guitars and equipment from the 2010 Nashville Flood before he and his band went on their H20 tour (“Much of the stuff we use everyday...is pretty much toast”).

Lorrie Morgan after losing wardrobe for her concerts, “It's been mentally draining for everybody. I know it’s material things, and compared to what a lot of other people have lost, it’s minute. But to me it’s how I made my living, and it’s how I made my career.”
Rebuilding the emotional/psychological infrastructure is equally as important as the physical infrastructure. Safety, belonging, and trust are unseen bonds necessary for long-term recovery.

Suicides or the "one-car accident" increased after the flood. This was thought to be a way for the man-of-the-house to provide for his family via life insurance.

Incidences of violence in the home increased, as well as violence among teenagers. In Grand Forks, ND, requests for temporary protection orders rose by 18% over the preceding year.

In a 1998 United Way Needs Assessment Survey of Health & Human Service needs, the number one issue was Stress, Anxiety & Depression.
FINDINGS AFTER 1997 FLOOD

Increase in Youth Truancy (schools)

Increases in Domestic Violence: 43%

Increase Driving Under Influence: 129%

Increase in Drug/Narcotic Violations: 275%

Increase in Mental Illness (Depression): 45%

Robert Wood Johnson Foundation funded a population-based study of health conditions associated with the 1997 flooding in Grand Forks, North Dakota.

Researcher: Larry Burd, PhD


Data from the Hospital, Clinics, and 35 Community Agencies
PSYCHOLOGICAL ISSUES
Acute Stress Disorder (ASD) and Post-Traumatic Stress Disorder (PTSD) are very similar with two main differences.

ASD occurs from two days to one month after traumatic event. PTSD occurs anytime after one month and can occur even years after traumatic event.

ASD has more distinct dissociative symptoms: a sense of detachment from bodies, an increased difficulty recalling specific details of the traumatic event, numbing, a reduction in awareness of their surroundings.
ASD/PTSD

Happens when the person experienced, witnessed, or was confronted with an event that involved actual or threatened death or serious injury. The person’s response involves intense fear, helplessness, or horror.

Individuals have decreased emotional responsiveness, often finding it difficult or impossible to experience pleasure in previously enjoyable activities, and frequently feel guilty about pursuing usual life tasks.

Recurring nightmares or night terrors about flood or events associated with flood.
POST-TRAUMATIC STRESS DISORDER

Hypervigilance: enhanced senses and awareness which leads to constant fear or paranoia that leads to overpreparation.

Hyperarousal: enhanced senses which lead to excessive startle responses, insomnia, irritability, and inability to concentrate, constant feeling of being in danger.
ACUTE STRESS DISORDER

Characterized by avoidance of stimuli that trigger recollections of the trauma (e.g., avoiding thoughts, feelings, conversations, activities, places, people).

The traumatic event is persistently re-experienced by recurrent images, thoughts, dreams, illusions, flashbacks, or a sense of reliving the event; or distress on exposure to reminders of the event (often triggered by sounds, smells, sights, touch).

Anxiety surrounding flood anniversary date (1972 Rapid City Flood/Book: “Come to the Water by Merlyn Magner)
Recurring intrusive thoughts related to trauma and aftermath Thoughts similar to “I’m cursed!”, “This is too much!”, “I can’t take this!”, “I’m a bad person!”. 

Intrusive thoughts include unwanted thoughts of harming themselves or other people.

People may have thought-action fusion and think they are acting on their thoughts when they aren’t.
POST-TRAUMATIC STRESS DISORDER

Easily triggered—this can be done by the senses or by seemingly daily items such as numbers that remind of the flood (Example: seeing the number 53 when there was a 53 foot crest in the flood may trigger emotional responses)

Survivor Guilt – “Why did I survive and they didn’t?”, “Why did I not flood and they did?”

PTSD Studies / Victims of 1972 Buffalo Creek Disaster
(University of Cincinnati College of Medicine, Cincinnati, OH)
Charleston psychologist Robert D. Kerns knocked on doors in the makeshift trailer camps, encouraging survivors to discuss their fears, anger and guilt. He reminisced about his Buffalo Creek role during a recent telephone interview with Gazette reporter Sandy Wells.

"Some people who lived on the side of the creek that didn't get touched had guilt: 'My neighbor got washed away, and I never got touched.' Disaster victims will talk to each other, but they won't complain, because there's always somebody worse off."

"You can't complain about what God did to you when everybody else has the same problem. I may feel bad. I'm not sleeping well, I'm not eating well, I'm scared to death, and I have to run out constantly to make sure the creek's not coming up, but I'm doing better than some of my neighbors, so who do I complain to?"
I would ask some people, "Tell us about the shoes sitting beside the door." They said, "We keep them there so we can all run out if the water starts to come up again". Those people had said they weren’t affected.

"The wives would start talking about how they were feeling, and the husband typically would say, 'Why don't you go get these people a cup of coffee.' He would break in. He didn't want to have the women talking. It was too threatening. They didn't want their wives talking about it, because they could no longer deny that they were feeling frustrated, angry and frightened. A lot of people had nightmares, but the men wouldn't talk about them. There's the cultural thing, that men are supposed to be able to tolerate all kinds of stress.
Dr. Bonnie Kaplan, Faculty of Medicine at the University of Calgary, has lead a study of the relationship of nutrition to mental health. She is looking at how micronutrients can help people deal with stress from the June, 2013 flood.

Micronutrients were used following the 2010-2011 New Zealand earthquakes. Research found that people who took vitamin and mineral supplements had a 50% reduction in PTSD episodes. An article about the New Zealand study appeared in a 2012 issue of *Human Psychopharmacology: Clinical and Experimental*. 
The supplements being studied are a single vitamin (Vitamin D), a multi-vitamin (B complex) and a broad spectrum formula that contains both vitamins and minerals.

Dr. Kaplan says scientific research from a number of different sources shows that taking supplementary vitamins and minerals can help people with stress, depression, and anxiety - the things that happen after a natural disaster.
CATASTROPHIC THINKING

Thinking that a small event could lead to the worst event imaginable (1990 Hot Springs, Arkansas Flood (Carpenter Dam Road Bridge))

Thinking that clouds they see or rain will bring a future flood that will damage or destroy possessions or take the life of self or family. This can happen when rain is forecasted or occurs.

Others may annoy someone close to them with excessive talking while worrying.
ANTICIPATORY ANXIETY

Example: Fear of flood because snowpack melted too quickly (Ex: Mother fears missing daughter’s body may be washed away by flood caused by snowpack melting too quickly – Winter and Spring 2004, Red River of the North, Minnesota)
After Hurricane Andrew in Miami, spousal abuse calls to the local community helpline increased by 50% and over one-third of 1,400 surveyed residents reported that someone in their home had lost verbal or physical control in the two months since the hurricane.


Following the Missouri floods of 1993, the average state turn-away rate at shelters rose 111% versus 1992. A Federal grant was modified to increase funding to 35 flood-affected programs targeting substance abuse and domestic violence. These programs sheltered 400% more flood-impacted women and children than anticipated.
DOMESTIC VIOLENCE – KATRINA

The National Coalition Against Domestic Violence (NCADV) orchestrated a nationwide effort to relocate battered women and their children to shelters in other parts of the country with available space and resources after Hurricane Katrina. NCADV's website (www.ncadv.com) provided an opportunity for battered women’s shelters to announce existing beds for battered women after Hurricane Katrina. Programs from Alaska to Connecticut to Florida to Arizona provided a safe place for battered women and many were able to assist with transportation. The evacuation process adversely affected support systems for victims.

Tulane University paper, Domestic Violence and Hurricane Katrina
Pamela Jenkins and Brenda Phillips

“Every aspect of New Orleans’ criminal/civil legal system was disrupted.”

“Many resources were designated for ‘the head of the household’ and assumed the head to be male, placing control and decision making in men’s hands. Some remained with partners because they weren’t eligible for benefits on their own.”
DOMESTIC VIOLENCE- AUSTRALIA

Some field reports of social impacts include abuse, as in this account of the 1994 Charleville, Australian flood: “Human relations were laid bare and the strengths and weaknesses in relationships came more sharply into focus. Thus, socially isolated women became more isolated, domestic violence increased, and the core of relationships with family, friends and spouses were exposed.”


Welfare groups in parts of Queensland reported an increase in domestic violence made worse by a shortage of crisis accommodation caused by the 2011 floods. Phillipa Johnson from Ipswich Women’s Centre Against Domestic Violence said, “Statistics show 1 in 3 women will be exposed to violence from an intimate partner or family member. Often the stigma associated with domestic violence keeps people from seeking support or supporting and reaching out to others.”

Floods make life tougher for Queensland domestic violence victims (Ipswich Queensland Times April 20, 2011)
In an article in the International Journal of Mass Emergencies and Disasters, based on research supported by the National Institute of Mental Health, researchers found that after such life-changing disasters as flooding, women were more likely to internalize what had happened causing depression and anxiety, while men were more likely to externalize the outcomes with belligerence and alcohol abuse. (http://guardianlv.com/2013/09/mental-recovery-after-a-flood-researchers-say-its-a-matter-of-control/)
DEPRESSION

• Depression relates to the flood, rebuilding after flood and returning to normal life in aftermath.

• It also relates to ability or inability to get help (being treated rudely by volunteer service or government agencies can worsen depression).

• The lawsuit process for survivors can be depressing because it can serve as a continuous reminder of flood.
DEPRESSION

• Major Depression – interferes with ability to eat, sleep, study, work or enjoy life

• Dysthymia – chronic feelings of sadness and emptiness, fatigue, difficulty concentrating. Changes in appetite may occur.

• Agitated Depression – exhibit hopelessness, anger irritability, racing thoughts and suicidal thoughts.
• Situational Depression – triggered by life-changing event (excessive sadness, worry, and nervousness that won’t go away)

• Atypical Depression – severe heaviness in arms and legs (mental paralysis) overeating and oversleeping issues. People with this may be irritable and have relationship issues.
OBSESSIVE COMPULSIVE DISORDER

• Flood Causes Obsessive Thoughts or Recurring Intrusive Thoughts That Often Lead to Compulsive Behaviors to Relieve Obsessions (Alcohol/Drug Use, Shopping Therapy, Domestic Violence)

• Hoarders May Hoard Because They Are Afraid to Lose Things or Lose Them Again (They May Hoard Either New, Recovered or Saved Items)
OBSESSIVE-COMPULSIVE DISORDER

Magical Thinking – Because I Did Something (Really Unrelated to Flood), I Caused Flood. If I Do This Ritual (Cross Fingers, Good Luck Clothes, Go to a Good Luck Spot, Hold Good Luck Charm) Flood Won’t Happen.
OTHER ANXIETY ISSUES

Anorexia – don’t eat to help family save money

Binge Eating or Other Types of Binging – “self-therapy coping mechanism that is done because the person thinks it will help them feel better.

Possible Mood Swings - up and down, good and bad moods

Many disorders may be co-occurring.
THEOPHOBIA

• Theophobia is an abnormal fear of God punishing them. How trauma victims view God before flood will influence how they view flood and aftermath.

• Acts of God – Denying of Responsibility for Flood by Claiming It is an “Act of God” (Buffalo Creek Disaster, West Virginia-1972/Pittston Coal Company)

• End-of-World Experience – Patricia Owens, Grand Forks Mayor, 1997 “You read in the Bible ‘the end of the world’? That’s how I felt!”

• “MAJOR FLOODING/FLASH FLOODING EVENT AT THIS TIME WITH BIBLICAL RAINFALL AMOUNTS” National Weather Service / Boulder, Colorado 2013 Flood
THEOPHOBIA

Scrupulosity (Survivors have a fear of doing something, even if it is not wrong, because they fear it may bring flood to punish them for what they did)

Some flood victims may feel betrayed by God and may fear that God used flood to punish them or others. (Perception based on Genesis Flood in the Bible)
Westboro Baptist Church Protests After Floods

Fargo, 2009

The Westboro Baptist Church, whose members tour the country protesting at military funerals because they claim America is tolerant of homosexuality, is thanking God for record flooding in North Dakota.

“God sent the flood waters to cover the evil people of Bismarck and Fargo, ND, where you flipped off God and raised your hands against His anointed by criminalizing WBC’s gospel preaching against gays and their supporters”, declared a statement released Wednesday by the church, which is in Topeka, Kansas.

The statement referred to House Bill 1040, a North Dakota state law passed in January 2007 that bars protestors from getting within 300 feet of a funeral. That law was aimed at the Westboro Baptists and its members, who protest at funerals of U.S. soldiers because they believe their deaths are God’s punishment for America’s support of gays.
Westboro Baptist Church Protests After Floods

Boulder, 2013

WBC will picket in Boulder, Colorado -- if there's anything left. #godsentthefloods #GodAvengesHisWord #GodIsDismantlingU— Westboro Baptist (@WBCSays) September 12, 2013

The English language fails when it comes to describing the evil filth making up the population of Boulder, Colorado! #godsentthefloods — Westboro Baptist (@WBCSays) September 12, 2013
KEEP WESTBORO
CULT
AWAY FROM THIS BOYS
FUNERAL

Nicolas Scott McCabe. He was in 3rd grade when the tornado hit Moore Oklahoma.

We have been informed that Westboro Baptist Cult Plans on Protesting at this innocent child’s funeral. The family of the boy has asked friends and family to come together and work to prevent this from happening. This child and his family deserve respect in this difficult time. Stand with us to insure that this is guaranteed.

REST HAVEN FUNERAL HOME
FUNERAL IS SCHEDULED FOR FRIDAY MAY 24TH
301 NE 27TH MOORE OK 73160
ARRIVE AT 9am Funeral is at 10am

CALL 405.326.3106
FOR MORE INFORMATION
MOORE WESTBORO 1 0
COME BACK WHEN YOU CAN'T STAY SO LONG.
DEALING WITH GRIEF FROM LOSING FAMILY MEMBERS

Cathy Ann Holder-Byers/Scott County, Arkansas Flood, 2013

West Fork, Ark., April 25, 2011

Jordan Rice, January, 2011- Queensland, Australia (Blake Rice)

Camp Albert Pike, Ark. June 11, 2010
CONSUELO SANTILLANO STRICKLER, ARKANSAS

She was a naturalized citizen from Mexico, drowned Monday, April 25, 2011 when her minivan got stuck in floodwater on Arkansas 265 in south Washington County near Strickler.

Steve Harrison, assistant chief for Central Emergency Medical Service, said poor phone reception and a language barrier prevented emergency operators from knowing Santillano’s exact location. “We knew she was on 265, but not where on 265,” he said.
The brother of the Queensland flood hero Jordan Rice was bullied and bashed by other youths apparently because of the media attention his family received after the disaster. Ten-year-old Blake Rice's mother, Donna, and brother, Jordan, were swept to their deaths in the flash flood that swamped Toowoomba on January 10, 2011. Jordan, 13, was hailed a hero after he told rescuers to save his brother first although he had a fear of water. The bullies thought Blake had “Tall Poppy Syndrome”.
Blake's father, John Tyson, said that his son was later assaulted by up to six youths, aged 13 to 22, at a skate park in Toowoomba. The youths bashed Blake with sticks and threatened to shoot up his family and burn his house as they beat him. He broke his collar bone jumping a fence to escape them. The youths created a Facebook page titled "We Bashed Blake Rice". They were repeatedly harassed, bullied, abused and picked on since the floods. Some "laughed in our face about Jordan's death". They moved to the Australian Gold Coast because John wanted to give Blake a chance to start a new life. “On the Coast, he’ll just be another blond kid on the beach.”
Kerri Basinger (right) and Candace Smith (left) both lost their husbands and two youngest children in 2010 Camp Albert Pike Flood. Candace’s children were Joey, 5, and Katelynn, 2. Both of their stepsons survived. Kerri was rescued when Umpire-Athens volunteer firefighter Cohen Davis tied himself to utility lines strung between two sweet gum trees and hand-over-hand, worked his way to her to pull her off of a utility pole and rescue her. Candace survived by climbing into a tree.
Kerri Basinger’s children were Jadyn, 8, and Kinsley, 6. The current ripped both girls from her arms. She saw through the darkness Jadyn trying to dogpaddle against the flood current. She heard Kinsley say, “Mommy, come get me, please come get me, Mommy please!” Kerri said "You'd grab something and that tree would break and you could hear your kids hollering to come get them and you couldn't get them because the current was so strong."
Candace Smith’s five-year-old son’s body was found by her stepson. Smith was found sitting by him by first responders. When a volunteer fireman said they needed to evacuate the campground, she did not want to leave her “little Joe Joe”. She left after he promised to return for him. As they were leaving, the fireman told her, “I just signed up to shoot a water hose. I never knew I’d have to do anything like this!”
They struggled to understand why they were left behind since their husbands were so much stronger than they were. They finally concluded that Shane (Basinger) and Anthony (Smith) expended all of their energy helping others.

After the flood, neither woman could imagine returning to the homes they once shared with their families. They are each staying with relatives until the house they plan to share is completed.
Christy Pugh Basinger filed a suit on behalf of her son, Kyler. She says Kyler still suffers from post-traumatic stress, nightmares, anger rages and insomnia after the flood.

Kyler and his father Shane sought refuge in the bed of a truck as water entered their tents. The rapidly rising waters pulled Shane into the river, and his last words to Kyler were to "save himself," according to the complaint. Anthony Smith boosted Kyler into tree branches above the water and Kyler watched as he was also swept to his death. As he clung to the tree, Kyler saw dead bodies passing below him and heard the cries of victims echoing through the campground, according to the complaint. After the waters subsided, he helped recover the body of one of his friends.
CAMP ALBERT PIKE FLOOD LAWSUITS

The loss of family members was stressful, more so if family thinks family member’s death was impacted by neglectful actions.

The stress of lawsuit process and reminders of flood during that process are stressful, but can provide some healing.

Eleven separate negligence lawsuits have been filed against the U.S. Forest Service (USFS) on behalf of family members of flood victims. The lawsuits claim the USFS was negligent in placing the campsite on a flood plain with a history of flooding based on a USDA Report; failing to warn campers of flooding danger; failing to prepare USFS and campsite employees for emergency situations; and failing to rescue campers when the danger happened.
No one from U.S. Forest Service was monitoring storm. Their stated priority was forest fires, not floods. USFS employees only monitored weather 24 hours a day during dry spells. It’s focus was threat of forest fires.

USFS did not relay warnings to campers. Forest Service employees never relayed news of the watches to the camp hosts or campers at Albert Pike. District Ranger said that she was not required to notify anyone of flood watches because they were often issued and of little consequence. And the closest tower that would have carried the information to weather radios had fallen down nearly two years before.
USFS, as a Federal agency, claims it has sovereign immunity and cannot be sued. It claimed the Arkansas Recreational Use Statute provides immunity to Arkansas landowners who don’t charge a fee for someone to be on their land.

The Statute makes an exception if the landowner “maliciously” fails to warn about conditions or activities known to be dangerous.

On April 11, 2014, the Arkansas Supreme Court sided with the plaintiffs on the interpretation of “malicious” as used by the Statute. That allows the civil suits to proceed.
Kylee Sullivan - Camp Albert Pike Flood – “Now I can see she was a true child of God. She wasn’t mine.” Amanda Willis, her mother said after flood. Kylee was killed in flood with her grandmother, Julie Freeman and friend, Gayble Moss. Kylie and Gayble were both seven years old.
Kylee Laine Sullivan
09-30-02 ~ 06-11-10

Kylee lost her life in the early morning hours of June 11, 2010 in the flood at Albert Pike.

She leaves behind a legacy of Love for animals that knows no bounds.
Others Who Grieve Because They Lost Someone With Whom They Felt Close (Janice McRae, Lowery’s Camp Albert Pike RV Park and Cabins/ Many of campers she had known for years).

Friends and Other Family Who Have to Take In Flood Victims Rescue Personnel – Mark Kempton, 2011 Queensland Flood

Blake Rice’s Rescuer Warren McErlean

John Tyson said: “I knew he might be plagued by a few demons. In fact, he was shattered by everything. I said that I knew he had done the best he could and that I could be mourning three people. He is taking it very hard.”
Floods May Impact People Who Weren’t At The Flood

Medical Personnel Who Treat Victims or Survivors

Mental Health Professionals/Volunteers/Ministers

Media Who Cover Natural Disasters

Viewers of Pictures in Newspapers or on Television and the Internet

People Who Lost Someone Who Impacted Their Life
Debra McMaster Co-workers said that during the flood, she helped her husband Jerry place their daughters in a tree and then helped a mother and young child get to safety before being hit by floodwaters that swept her away. She was so well-respected as a teacher that many of her former students were so deeply grieved at her death that they had to have counseling.
John Lewis, Overnight Meteorologist, National Weather Service (NWS), North Little Rock

Lewis spent night of storm tracking storm system that caused Camp Albert Pike flooding.

He issued two flash flood watches before midnight.

At 2:00 a.m. on June 11, Lewis issued a Flash Flood Warning for four counties near camp. Montgomery County dispatcher dismissed his warnings by saying flooding is normal at campground.

Over next two hours, he also called sheriff’s offices in Howard, Pike, and Polk counties. Dispatchers said they were responding. Another meteorologist placed a call to Montgomery County dispatcher at 4:45 a.m.
When Lewis got home, he turned on KARK-TV’s morning newscast and saw a report of the flooding. He called his supervisor, John Robinson, and said to him; “I knew it! I knew this was going to happen!” Lewis felt like nothing he’d done in the hours before dawn had made a difference.

Months after the flood, he’d say “I would have liked to be the guy to drive down there with a bullhorn and woke those people up”.

Co-workers and family afterward reassured Lewis, telling him he had done everything to warn the campers, but he couldn’t be consoled.

After seeing the KARK report, for the first time in his career, he cried.
CO-OCCURING PHOBIAS

Fear of Rivers or Running Water - Potamophobia
Fear of Water - Aquaphobia
Fear of Oceans or Large Water Bodies - Thalassophobia
Fear of Thunderstorms - Astraphobia, Brontophobia
Fear of Hurricanes/Tornadoes - Lilapsophobia
Fear of Wind - Anemophobia
Fear of Snow (melting snowpack) - Chionophobia
CO-OCCURRING PHOBIAS

Fear of Ice (ice jams) - Pagophobias

Fear of Cold (eventual melting) – Cryophobia

Fear of Snakes (Cottonmouths/Hurricane Audrey, 1957) - Ophidiophobia

Fear of Mud - Mud Phobia, Borborosophobia

Fear of Driving - no official name

Fear of Wildlife (Deer, Bears, Wild Hogs) – Agrizoophobia

Fear of Reptiles (Alligators, Frogs/Hurricane Katrina) – Herpetophobia
CALGARY ALBERTA (2013 ALBERTA FLOODS)
HIGH RIVER, ALBERTA (2013 ALBERTA FLOOD)
Calgary Counseling Centre counselor McKenzie Whalley said many people don’t realize the emotional and mental issues they are suffering stem from the flood.

“People are coming in with depression, PTSD relationship problems, anxiety, stress, or feeling like ‘I can’t focus,’ .. a lot of it is a result from the flood and they might not be able to connect…. [They] don’t realize that it is a loss and there is a grieving process.”
Dr. Michael Trew, psychiatrist/Alberta’s chief mental health officer, coordinated response to the mental and emotional stresses victims were expected to suffer.

Under Trew’s guidance, the government worked closely with organizations such as the Calgary Counseling Centre and the Distress Centre to help flood victims address their mental and emotional issues.
Dr. Trew said, “Younger children seem to be more at risk for fears and anxieties they’re having trouble coping with.... They haven’t developed some of the intellectual ways that we use to deal with difficult situations. We’ve heard stories about kids becoming very anxious it started to rain outside. They’re connecting it with the last time it rained, or it rained and there was a flood.”

Months later, when stress and depression over the disaster started to sink in, Trew said, “We’re starting to see some people who... the effects of the flood continues to effect their day to day life and emotional well-being,” People really are coming to terms that they can’t avoid the reality that there are going to be many things that are just never quite the same”.
Mental Health Partners in Boulder also opened Drop-in Help Centers in Lyons and Longmont to aid residents there who are coping with emotional distress related to the September flooding. Lyons was extremely hard hit by the 2013 Colorado flood. No appointments were necessary to visit the Drop-in Help Centers and the first three visits were free.

Each Drop-in Help Center has been staffed with a case manager and trained crisis clinicians and disaster interventionists. The case manager assisted people with finding resources, such as housing and rental assistance, food, clothing and the replacement of lost articles. The clinician and interventionist provide emotional support and help people normalize their feelings.
2013 COLORADO FLOODS

Eight Colorado community mental health centers received a FEMA grant to assess need in community for ongoing crisis counseling and support.

“People are exhausted and drained,” said Janine D’Anniballe, MHP’s Director of Emergency and Community Services. “When a catastrophic event like this flooding occurs, people often experience a wide range of distressing emotions”.

Three emotional issues mentioned were worry, sadness and hypervigilance.
In the initial days following the Colorado floods, the Red Cross worked with Save the Children to provide a "Child-Friendly Spaces" program in five evacuation shelters to help ease the trauma of the recent floods on local children and help them return to a sense of normalcy.
Emmett Wiser, Save the Children volunteer from Pennsylvania said, “Our main task with Save the Children has been to set up ‘child friendly spaces’ in these shelters. This was challenging, as the makeshift sites were static with stress and anxiety. Numerous threats to the health and safety of the children met and continue to meet us daily: unsafe drinking water, power outages, public sleeping areas and several arrests of shelter residents. After a couple of days of arts and crafts and simple group games, children who came in traumatized by ‘the water’ began to open up and interact with Save the Children staff and their peers.
"The terrifying floods of the past week have been hard on adults, let alone the children. The stress of fleeing homes amid raging floodwaters can take a heavy toll on children’s emotional well-being," said Jeanne-Aimee De Marrais, Senior Director of U.S. Emergencies for Save the Children. "Children can make new friends, play and begin to recover and heal after their lives were turned upside down."
WHAT CAN BE DONE

Be aware that anxiety or other issues may not be obvious to others. **It is easier to see a broken leg than a broken heart.**

People benefit psychologically when they have a strong social network of support after a flood. Volunteer support groups can be beneficial to survivors.

Incorporate public in refining flood mitigation plans. Their ideas may come from ways they coped successfully with their fears and worries of a flood. A survivor has eyes to see and memories to recall of the flood more than any study.
WHAT CAN BE DONE

Part of mitigation is flood resilience, *the ability to prepare for, go through, recover from, and successfully adapt and help others before and during the flood and its aftermath.* It is easier for people to avoid a flood through pre-disaster mitigation than survive one.

Any preparedness plan should include resilience plans to help community cope with and grow from flood trauma.

Check with people in days, months and years after flood. Some people may get over mental health issues in time. Others may not. *The person checked on may have had an unspoken need at that moment. Don’t ever say. “You should be over this by now!”*
WHAT CAN BE DONE

People who maintain a sense of purpose in their life improve their psychological well-being faster than others after a flood. Their resolve helps maintain their focus.

People benefit in long-term when they think they have some sense of control (They can’t control Mother Nature, but they can control how they react to whatever is thrown at them).
Study in Lincoln, Nebraska states that the cost-benefit ratio of bicycle/pedestrian trails, a flood mitigation measure, is 2.94. For every dollar spent on that trail, they found a $2.94 savings in medical costs. *Preventive Medicine* 38 (2004) 237-242.
KEY POINTS

Some flood survivors (*not victims*) may not be able to afford or be aware that they need cognitive-behavioral therapy, medication or other forms of treatment that are intended for trauma victims. (Note: Cognitive Behavioral Therapy is therapy that challenges negative patterns of thought about the flood, the aftermath and what happens to survivors. It is used to alter unwanted thought and behavior patterns that can worsen affects of coping efforts.)
KEY POINTS

• A flood or any other disaster will affect each survivor differently. Some may have issues and others may not. Timeframes also vary by individual.

• What someone loses in a flood often causes more problems than the flood (sentimental items).

• Being informed of possible mental health issues and crime statistics of your community may help Floodplain Administrators understand how mitigation measures can mitigate against the effect of those issues affecting their community after a flood.
QUESTIONS ARE WELCOME

http://ar.water.usgs.gov/floo/March2008%20033.jpg

mullensjohnny@gmail.com
1. Simple PTSD – Single Event Post-Traumatic Stress Disorder (can affect survivors, people who heard cries for help, people who saw slide, people who saw someone get hurt or killed, rescuers or viewers of news reports)

2. Triggers - People Could Be Triggered by Noises, Sights, or Smells Similar to Slide (Mud, Cries for Help, Seeing Someone’s Home Destroyed)

3. Depression – Missing or Lost Family Members, Financial Setbacks

4. Anticipatory Anxiety – Knowing That Future Slides Can Happen

5. Catastrophic Thinking – Rains or Future Snows May Cause Future Slides, People May Fear Cumulonimbus or Cirrostratus Cloud

6. Possible Lack of Closure Anxiety Regarding Missing
Aberfan Disaster, Pantglas Junior School, Aberfan, Wales; October 21, 1996

Family Members Who Survived Felt Guilty
One child said he did not go outside to play for a long time because families who lost children couldn’t bear to see them play and he felt guilty that he lived. Parents felt guilty for sending children to school. Health problems worsened for those with pre-existing illnesses.

Insensitivity to Survivors Makes Things Worse
A rescue worker recalled hearing a press photographer tell a child to cry for her dead friends because it would make a good picture.
RECOMMENDED READING/VIEWING

Scott County, Arkansas
KFSM-TV – Fort Smith, Arkansas  http://www.kfsm.com
KHBS/KHOG-TV Fort Smith/Fayetteville, Arkansas  http://www.4029tv.com
Southwest Times-Record – Fort Smith, Arkansas  http://swtimes.com
YouTube “KATV Scott County Floods 2013” KATV – Little Rock

Boone County, Arkansas
Boone County Historical Museum  http://www.bchrs.org

Calgary Flood 2013
Calgary Sun
Calgary Herald
Come Hell or High Water, published by the Calgary Herald
High River Online
http://www.highriveronline.com/index.php?option=com_content&task=view&id=23508&Itemid=344#sthash.nxr1LcGV.dpuf
**Colorado Flood 2013**
Mental Health Partners  [http://www.mhpcolorado.org](http://www.mhpcolorado.org)
KUSA-TV
KCNC-TV
KMGH-TV
KDVR-TV
Denver Post
Boulder Damily Camera

**1997 Grand Forks Flood**
[http://www.grandforksgov.com/gfgov/home.nsf/Pages/Flood+Recovery](http://www.grandforksgov.com/gfgov/home.nsf/Pages/Flood+Recovery)

Applied Behavioral Science Review, Volume 7, Number 2, 1999

Consuelo and Alex Santillano
Sydney Morning Herald; Sydney, Australia


Swept Away: The Camp Albert Pike Series Arkansas Democrat-Gazette


From Harm’s Way: Flood Mitigation in Tulsa, Oklahoma


2010 Central Tennessee Flood

http://www.tennessean.com
http://www.state.tn.us/tsla/exhibits/disasters/floods2.htm

Aberfans Landslide

The Aberfan disaster: 33-year follow-up of survivors

http://bjp.rcpsych.org/content/182/6/532.full