

# NATURAL & MAN-MADE DISASTERS

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# Tonight we will be discussing...

1. An overview of Natural & Man-Made Disasters
2. Different types of disasters
3. Response Phase
4. Recovery Phase
5. Role of the School Psychologist
6. Associated Tasks
7. Counseling and Intervention Strategies
8. Resources
9. & we will end with an Interactive Session with all of you!



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# Introduction



# INTRODUCTION

- Brief Overview of Natural and Man-made Disasters
  - Natural and man-made disasters pose significant threats to communities worldwide, often resulting in loss of life, destruction of property, and disruption of daily life. Understanding these events and the importance of preparedness and response is crucial for ensuring the safety and well-being of individuals and communities.



# NATURAL VS MAN-MADE



## NATURAL DISASTERS

Among the natural disasters are earthquakes, volcanoes, hurricanes, floods, and fires.



## MAN-MADE DISASTERS

Among the man-made disasters are war, pollution, nuclear explosions, fires, hazardous materials exposures, explosions, and transportation accidents.

# Well Known Natural Disasters

Natural disasters are events caused by natural forces and processes, often occurring suddenly and with little warning.

- Hurricane Sandy (2012): A powerful hurricane that struck the northeastern United States, causing widespread flooding, power outages, and property damage.
- Tsunami in Japan (2011): Triggered by a massive earthquake off the coast of Japan, this tsunami devastated coastal communities, resulting in thousands of deaths and extensive damage.
- Hurricane Katrina (2005): One of the most destructive hurricanes in U.S. history, Katrina caused catastrophic flooding in New Orleans and other Gulf Coast areas, leading to significant loss of life and displacement of residents.
- Wildfires in California (ongoing): California experiences frequent wildfires, fueled by dry conditions and high winds. These fires have destroyed homes, forests, and other property, posing a constant threat to communities across the state.
- COVID-19 (2020): The global pandemic that is widely believed to have stemmed from a natural source, specifically from bats. There are theories it was engineered purposely and then that would be man-made. The exact origin of the virus is still an ongoing investigation.

# ★ Well Known Man-Made Disasters ★

Man-made disasters are events caused by human actions or negligence, often resulting in widespread harm and devastation.

- 9/11 Terrorist Attacks (2001): Coordinated attacks by terrorists on the World Trade Center in New York City and the Pentagon in Washington, D.C., resulted in the deaths of thousands of people and profound impacts on national security and global politics.
- Flint Water Crisis (2014-2019): The contamination of the water supply in Flint, Michigan, with lead and other toxins exposed residents to serious health risks and sparked a public health emergency.
- Deepwater Horizon Oil Spill (2010): An explosion on the Deepwater Horizon oil rig in the Gulf of Mexico led to one of the largest oil spills in history, causing extensive environmental damage and economic losses for coastal communities.
- Chernobyl Nuclear Disaster (1986): A catastrophic nuclear accident at the Chernobyl Nuclear Power Plant in Ukraine released radioactive contamination into the atmosphere, resulting in long-term health and environmental consequences.

# Importance

- Importance of Preparedness and Response in Schools:
  - Given the potential impact of disasters on schools and the students, faculty, and staff within them, preparedness and response efforts are paramount. Schools must develop comprehensive emergency plans, conduct regular drills and training exercises, and ensure access to resources and support services to effectively respond to various types of disasters. By prioritizing preparedness and response, schools can mitigate risks, protect lives, and maintain continuity of learning in the face of adversity.





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# Types of Disasters



# TYPES OF MAN-MADE DISASTERS



**Industrial Accidents**



**Transportation Accidents**



**Terrorist Attacks**

# TYPES OF NATURAL DISASTERS



**AIR DISASTERS**



**LAND DISASTERS**



**WATER DISASTERS**

# TYPES OF LAND DISASTERS



**EARTHQUAKE**



**LANDSLIDE**



**VOLCANISM**



**AVALANCHE**



**WILDFIRE**



**SINKHOLE**

# DIFFERENT WATER DISASTER TYPES

**DROUGHT**



**FLOODS**



**TSUNAMI**



# MOST COMMON NATURAL DISASTERS



**FLOODS**

**LANDSLIDE**

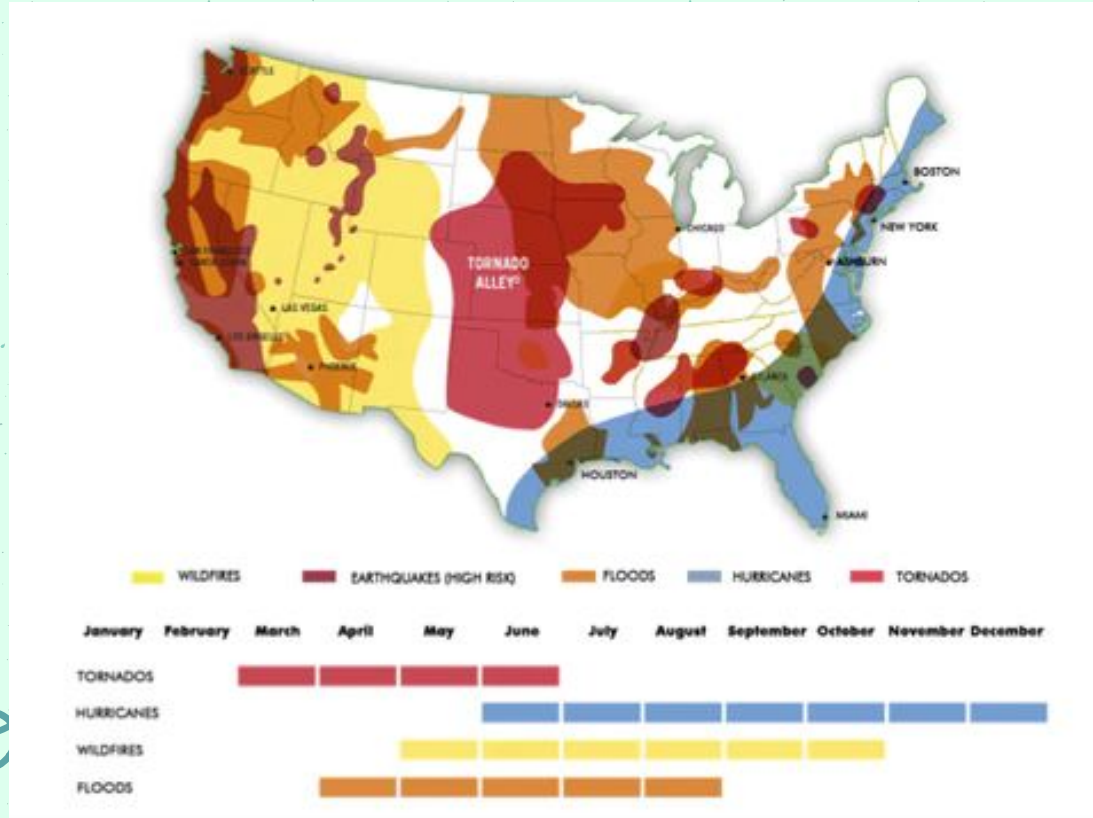


**EARTHQUAKE**

**DROUGHT**



# WHERE ARE NATURAL DISASTERS MORE LIKELY TO OCCUR?



**EARTHQUAKES** ●

**WILDFIRES** ●

**FLOODS** ●

**HURRICANES** ●

**TORNADOES** ●

[https://www.youtube.com/watch?v=EUy-C77L\\_Ho](https://www.youtube.com/watch?v=EUy-C77L_Ho)

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**Response Phase**







# Response Phase

- Immediate Actions During and After a Disaster
  - During and immediately after a disaster strikes, it's crucial to take swift and coordinated actions to ensure the safety and well-being of individuals and communities affected. The response phase involves implementing emergency protocols, activating crisis teams, and facilitating communication to effectively manage the situation.

# Response Phase cont.

- Immediate Actions During and After a Disaster:

- Evacuation and Sheltering:
  - Coordinate evacuation routes and designate safe locations for sheltering, ensuring access to essential supplies and services.
- Medical Assistance:
  - Provide medical assistance to those injured during the disaster. Mobilize emergency medical teams, set up triage areas, and transport patients to medical facilities for further treatment as needed.
- Search and Rescue Operations:
  - Deploy search and rescue teams to locate and assist individuals who may be trapped or in need of assistance. Prioritize areas with the highest risk of casualties and coordinate efforts to safely extricate survivors.
- Assessment of Damage:
  - Conduct rapid assessments to evaluate the extent of damage and identify immediate needs. Assess infrastructure, utilities, and critical facilities to prioritize response efforts and allocate resources effectively.
- Distribution of Supplies:
  - Distribute emergency supplies such as food, water, blankets, and hygiene kits to affected populations. Establish distribution points and coordinate logistics to ensure equitable access to essential resources.

# Response Phase cont.

- Establishing Safety Protocols and Emergency Procedures:
  - Safety Checks:
    - Conduct safety checks of buildings and facilities to assess structural integrity and identify hazards. Implement safety protocols to mitigate risks and ensure the safety of occupants and responders.
  - Emergency Procedures:
    - Activate emergency procedures and protocols outlined in school emergency plans. Ensure that staff and students are familiar with evacuation routes, assembly points, and procedures for responding to various types of emergencies.
  - Secure Facilities:
    - Secure facilities and prevent access to hazardous areas. Implement measures to safeguard equipment, supplies, and sensitive information to prevent further damage or loss.

# Response Phase cont.

- Activation of Crisis Teams and Communication Plans:
  - Crisis Team Activation:
    - Activate crisis management teams comprised of key personnel responsible for coordinating the response effort. Assign roles and responsibilities, establish command structures, and facilitate communication among team members.
  - Communication Plans:
    - Implement communication plans to disseminate critical information to stakeholders, including students, staff, families, and the broader community. Utilize multiple communication channels such as mass notification systems, social media, and traditional media to provide timely updates and instructions.
  - Coordination with Authorities:
    - Coordinate response efforts with local authorities, emergency services, and other relevant agencies. Share information, collaborate on response activities, and support mutual aid efforts to ensure a coordinated and effective response.

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# Recovery Phase



# Psychological Impact

- Effects on Students, Staff, and Community
  - Fear, anxiety, and stress levels heightened
  - Disruption of daily routines and sense of security
  - Emotional distress and trauma experienced by individuals of all ages
- Challenges Faced
  - Psychological scars affecting academic performance and work productivity
  - Increased vulnerability to mental health disorders like PTSD, depression, and anxiety
  - Strain on social relationships and community cohesion
- Immediate Response Needs
  - Crisis counseling and mental health support services
  - Psychoeducation on coping mechanisms and resilience-building strategies
  - Creating safe spaces for open dialogue and emotional expression



# Grief & Trauma Support Services

- Support Services Available
  - Counseling and therapy sessions tailored to individuals, groups, and families
  - Peer support groups for sharing experiences and fostering solidarity
  - Access to psychiatrists, psychologists, and social workers for specialized care
- Community Outreach and Engagement
  - Promoting awareness of available support services
  - Collaborating with community organizations and mental health professionals
  - Providing ongoing support to address long-term effects of grief and trauma
- Building Resilience and Recovery
  - Empowering individuals with coping skills and self-care strategies
  - Establishing long-term mental health programs within educational and community settings
  - Promoting resilience through education, community engagement, and fostering a sense of belonging



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## Role of the School Psychologist



# Providing Psychological First Aid in Disasters

- Understanding Psychological First Aid (PFA)
  - Immediate, practical assistance to individuals affected by disaster
  - Focus on addressing basic needs and providing emotional support
  - Utilizes principles of safety, calmness, connectedness, self-efficacy, and hope
- Components of PFA
  - Establishing safety and comfort for survivors
  - Assessing immediate needs and providing practical assistance
  - Offering compassionate listening and emotional support
  - Connecting individuals with appropriate resources for ongoing care
- Importance of Emotional Support
  - Acknowledging and validating emotions experienced by survivors
  - Providing non-judgmental support to promote healing and resilience
  - Empowering individuals to express feelings and seek help when needed



# Conducting Needs Assessments & Risk Evaluations

- Assessing Immediate Needs
  - Identifying physical, emotional, and psychological needs of survivors
  - Prioritizing assistance based on urgency and severity of impact
  - Collaborating with emergency responders to ensure comprehensive assessment
- Conducting Risk Evaluations
  - Identifying potential hazards and ongoing risks in the aftermath of disasters
  - Assessing vulnerabilities within the affected community, including infrastructure, social support systems, and mental health resources
  - Developing strategies for mitigating risks and enhancing resilience
- Collaboration with School Administration and Community Resources
  - Engaging school administrators in disaster preparedness and response planning
  - Leveraging existing community resources, such as mental health services, social services, and non-profit organizations
  - Facilitating coordination and communication among stakeholders to ensure a cohesive response effort



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# Associated Tasks

# Crisis Debriefings & Support Groups

- Purpose of Crisis Debriefings
  - Providing structured opportunities for individuals to process their experiences
  - Promoting emotional healing and resilience in the aftermath of disasters
  - Facilitating peer support and normalization of reactions to trauma
- Components of Crisis Debriefings
  - Creating a safe and supportive environment for participants
  - Allowing individuals to share their experiences and emotions
  - Providing psychoeducation on common reactions to trauma
  - Offering coping strategies and resources for ongoing support
- Importance of Support Groups
  - Fostering a sense of community and belonging among survivors
  - Encouraging mutual support and empathy among group members
  - Providing ongoing emotional support and validation of experiences



# Intervention Plans & Long-Term Recovery



- Individualized Intervention Plans

- Assessing the unique needs and strengths of each individual affected by the disaster
- Collaborating with mental health professionals to develop personalized treatment plans
- Incorporating evidence-based interventions tailored to the individual's specific challenges and goals



- Monitoring Long-Term Recovery Efforts

- Tracking progress and adjusting intervention strategies as needed
- Evaluating the effectiveness of support services and interventions over time
- Identifying barriers to recovery and addressing them proactively
- Ensuring continuity of care and support as individuals navigate the challenges of long-term recovery



- Importance of Evaluating Procedures

- Assessing the impact of interventions on mental health outcomes and quality of life
- Identifying areas for improvement and innovation in disaster response and recovery efforts



# Academic Recovery

- Understanding Academic Recovery in Disaster Contexts
  - Recognizing the critical role education plays in post-disaster recovery.
  - Highlighting the unique challenges students face in resuming their academic journey.
  - Drawing upon research-backed methodologies to facilitate academic resilience.
- Monitoring and Evaluating Academic Progress
  - Establishing mechanisms to track students' academic recovery journey.
  - Assessing the effectiveness of interventions and adjusting strategies as needed.
- Ensuring Equity and Access
  - Addressing disparities in access to educational resources and support services.
  - Promoting inclusivity to ensure all students have the opportunity to thrive academically post-disaster.



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## Counseling & Intervention Strategies



# Counseling for Different Needs

## Populations to address:

- Students
  - Individuals
  - Certain groups
  - Whole school
- Staff
- Families

## Formats of support:

- Classroom-based
- School-wide
- Therapy (individual vs group)
- Community-based

Disasters can impact pockets of communities to varying degrees.

### Consider those with:

Low resources (financial, social)  
Health vulnerabilities  
Geographic vulnerabilities  
Family abroad  
High global awareness

Take cultural customs, communicative needs into account

Find a balance between these and the usual school schedule



# Counseling for Different Needs

30-40% of direct survivors are at risk for developing new disorders

A core goal should be to build a trauma-sensitive school.

**ALL** school staff need to be educated on these issues as well as how to recognize AND respond to them!

## Possible emotional impacts:

- Grief
  - Loss of loved ones, homes, belongings, and security/normalcy
- Anxiety/Depression
  - Separation anxiety
- PTSD (most common)
  - 30-45-day sensitivity window for intervention

## What to look for:

- Sudden changes in behavior
- Disinterest in usual preferred activities
- Changes in self-care

# Counseling for Different Needs

## Post-disaster therapies:

- CBT
- EMDR
- Narrative exposure therapy
- Classroom activities

All of these options show a similar effect size across studies

## Themes to incorporate:

- Living with grief (and guilt)
- Resiliency
- Safety
- Self-efficacy
- Growth mindset
- Overall psychoeducation

- Time in nature
- Artistic projects
- Structured conversations
- Guided journaling
- Therapeutic worksheets

Some may require teacher training!

# General Strategies

## To support students:

- Create consistent routines with clear expectations
- Continue availability of counseling/support services
- Provide nurturing while re-establishing learning and rigor
  - Prioritizes crucial student-faculty relationships
- Build independence in self-regulation skills
  - High-guidance intervention may be needed at first, but then taper back

## To support staff:

- Continue availability of counseling/support services
- Promote self-care and related resources
- Provide relief resources (substitutes, planning support, etc.)



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# Resources



# School-Based Resources

Childcare

Counseling

Meals

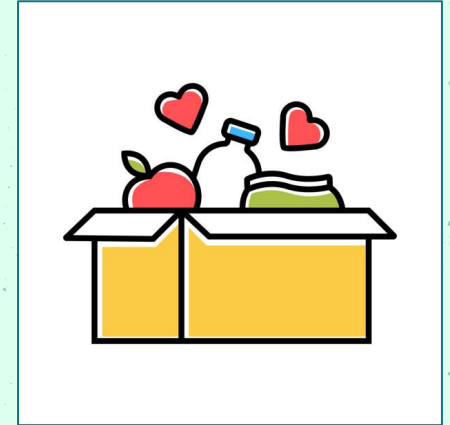
(including on weekends and days off)

Collection and distribution of needed  
items

Responsive transportation support

Referral to community resources

*All resources must be highly accessible, which  
requires schools to be ready to support  
individual access.*



# Community Resources



Community Emergency Response  
Teams (CERT)

YMCA

Red Cross

Federal Health Insurance

Food pantries

Counseling centers

(ex: Good Grief)

Religious centers



# Text and Online Resources

## A Text For Educators

Supporting Students and Staff After COVID-19 : Your Trauma-Sensitive Back-to-School Transition Plan

- This book includes guidelines and worksheets for staff and students

## Online For All

National Child Traumatic Stress Network [disaster resources](#)

American Red Cross [disaster-related materials](#)

[Post-Disaster Student Support Outline](#) from Melbourne, AU

# Research-Informed Approaches to Supporting Student Wellbeing Post-Disaster

Emphasis on SEL and long-term recovery

Increased instances of family violence

Regional needs to prepare students and faculty for disasters common to the area

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# Interactive Session

What would you do?

## SCENARIO #1: NATURAL DISASTER

You are a school psychologist in California. It is a dry Monday morning, and there have been warnings of wildfires in the surrounding area. The experts say the fires should not affect you, as the wind is blowing the other way. Students and staff have reported to school already. All of a sudden, the wind shifts and your school is in sudden danger. There is approximately two hours until the fires reach the building...

What would you do?

# Immediate Response (Response Phase)

- ❑ Activate the Crisis Team immediately
- ❑ Assign roles and responsibilities, establish command structures, and facilitate communication among team members
- ❑ Implement communication plans to teachers, staff, parents, and the broader community
  - ❑ Utilize multiple communication channels such as mass notification systems, social media, and traditional media to provide timely updates and instructions.
- ❑ Coordinate with the authorities and emergency services
- ❑ Evacuate all students and staff to a safe place that has necessary supplies and equipment
- ❑ Provide medical assistance to any students who require it

# Long-Term Response (Recovery Phase)

- ❑ Provide counseling and mental health support services tailored to individuals, groups, staff, and families
- ❑ Psychoeducation on coping mechanisms and resilience-building strategies
- ❑ Creating safe spaces that allow for open dialogue
- ❑ Community outreach and engagement
- ❑ Promoting awareness of available support services
- ❑ Providing ongoing support to address long-term effects of grief and trauma
- ❑ Establishing long-term mental health programs within educational and community settings
- ❑ Conduct risk evaluations and needs assessments
- ❑ Tracking progress and adjusting intervention strategies as needed
- ❑ Evaluating the effectiveness of support services and interventions over time




## SCENARIO #2: MAN-MADE DISASTER

You are a psychologist in an elementary school. At the beginning of the day, the Student Resource Officer in your school gets word of a school bus accident on their way to school. Their conditions are currently unknown. Only staff has arrived to school thus far...

What would you do?






# Immediate Response

- ❑ Activate the Crisis Team immediately
  - ❑ Assign roles and responsibilities and facilitate communication among team members
  - ❑ Coordinate with the authorities and emergency services
  - ❑ Gather information about the situation to get a full picture
  - ❑ Implement communication plans to teachers, staff, parents, and the broader community
    - ❑ Utilize multiple communication channels such as mass notification systems, social media, and traditional media to provide timely updates and instructions.
    - ❑ Make communication age appropriate and fitting for the intended audience
- 
- 
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# Long-Term Response



- ❑ Needs assessments and risk evaluations
  - ❑ Focus on addressing basic needs and providing emotional support to all affected by the accident
  - ❑ Establish safety and comfort for survivors
  - ❑ Connecting individuals with appropriate resources for ongoing care
  - ❑ Acknowledging and validating emotions experienced by survivors
  - ❑ Empowering individuals to express feelings and seek help when needed
  - ❑ Fostering a sense of community and belonging among survivors
  - ❑ Offering coping strategies and resources for ongoing support
  - ❑ Facilitating peer support and normalization of reactions to trauma
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# Time to show what you know...

EDPS 570: Natural and Man-Made  
Disasters Kahoot





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# Conclusion



# Conclusions

- Natural disasters and man-made disasters **pose significant threats** to communities worldwide and often result in loss of life, destruction of property, and disruption of daily life
- It is crucial to understand these events and **the importance of being prepared** in order to ensure the safety and well-being of individuals and communities
- By **prioritizing preparedness and response**, schools can mitigate risks, protect lives, and maintain continuity of learning in the face of adversity.
- **Disaster response** focuses on immediate procedures following a disaster, and **disaster recovery** focuses on long-term support and returning to normalcy
- **The role of the psychologist** is an important one, and it includes providing support, conducting assessments and evaluations, collaboration, counseling, referral when necessary, creating individual intervention plans, and monitoring and evaluating long-term recovery efforts.
- There are national, local, mental health, and online **resources to help** navigate and recover from natural and man-made disasters for anyone who has been affected by them
- It is crucial to **continue training and preparedness efforts** in the event of a future disaster

THANK YOU!



# References

- Alexander, J. (2021). *Supporting Students and Staff After COVID-19 : Your Trauma-Sensitive Back-to-School Transition Plan*. Brookes Publishing.
- Baxter, P. J. (2009). Catastrophes - Natural and man-made disasters. In *Conflict and Catastrophe Medicine* (pp. 27–48). Springer. [https://doi.org/10.1007/978-1-4471-0215-1\\_3](https://doi.org/10.1007/978-1-4471-0215-1_3)
- Brown, R. C., Witt, A., Fegert, J. M., Keller, F., Rassenhofer, M., & Plener, P. L. (2017). *Psychosocial interventions for children and adolescents after man-made and natural disasters: A meta-analysis and systematic review*. Published online by Cambridge University Press, 11 April 2017.
- Cahill, H., Shlezinger, K., Romei, K. & Dadvand, B. (2020). Research-Informed Approaches to Supporting Student Wellbeing Post-Disaster. Published online by Youth Research Centre, Melbourne Graduate School of Education, The University of Melbourne, January 2020.
- Coleman, L. (2006). Frequency of man-made disasters in the 20th century. *Journal of Contingencies and Crisis Management*. Advance online publication. <https://doi.org/10.1111/j.1468-5973.2006.00476.x>
- Feinberg, T. (1998). *Natural disasters, crisis intervention and school psychology: Melding human needs and professional roles*. National Association of School Psychologists. Retrieved from <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1035.8994&rep=rep1&type=pdf>

# References

- Gardoni, P., & Murphy, C. (2008). Recovery from natural and man-made disasters as capabilities restoration and enhancement. *International Journal of Sustainable Development and Planning*, 3(4), 317-333. <https://doi.org/10.2495/SDP-V3-N4-317-333>
- Hargreaves, A. & Shirley, D. (2022). *Well-Being in Schools: Three Forces That Will Uplift Your Students in a Volatile World*. ASCD.
- Institute of Medicine, Board on Health Sciences Policy, Forum on Medical and Public Health Preparedness for Catastrophic Events, Bruce M. Altevogt, Megan Reeve, & Theresa Wizemann. (2014). *Preparedness, Response, and Recovery Considerations for Children and Families: Workshop Summary*. National Academies Press.
- Reddy, P., Coombe, J., Munro, R., Perkins, D., Hazell, T., & Mackenzie, L. (2016). Teacher-Mediated Interventions to Support Child Mental Health Following a Disaster: A Systematic Review. *PLoS Currents*, 7. <https://doi.org/10.1371/currents.dis.466c8c96d879e2663a1e5e274978965d>
- Shaluf, I. M. (2007). An overview on disasters. *Disaster Prevention and Management*, 16(5), 687-703. <https://doi.org/10.1108/09653560710837000>