

## Environmental Risks and Hazards



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## Important Definitions

- **Hazard** – a thing, a condition, or a process that threatens individuals and society in terms of production (making a living) or reproduction (being alive)
- **Risk** – the known ( or estimated) probability that a hazard-related decision will have a negative consequence



## Important Definitions

- **Vulnerability** = the capacity to be harmed, based on exposure to a hazard and sensitivity level
- **Adaptation** = Actions taken to adjust to risks or hazards to lessen the impact
- **Maladaptation** = potential for adaptation measures to unexpectedly/inadvertently increase vulnerability
- **Adaptive Capacity** = the ability of a group to prepare for risks and cope with hazards when they do occur

## Cultural theory of Risk

- Preferred risk management strategies depend on views of the environment
  - Mary Douglas’s “cultural perspectives of risk”

Approach	View of nature	Action
<b>Trial and error</b>	Nature is resilient, disturbances are temporary	Experiment, continue until proven harmful
<b>Precautionary principle</b>	Nature is fragile, disturbances may be permanently damaging	Exercise caution until proven safe

## Role of Uncertainty

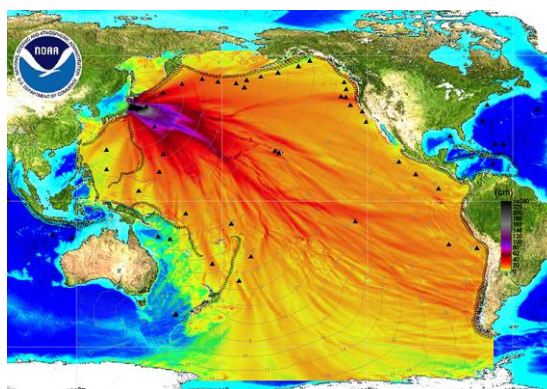
- **Uncertainty** – the degree to which the outcomes of a decision or situation are unknown
- 3 conditions of knowledge:
  - Know what you know (known knowns)
  - Know what you don't know (known unknowns)
  - Don't know what you don't know (unknown unknowns)

*How do we make decisions  
when there is so much  
uncertainty?*



## Unknown Unknowns

- Highly complex behavior of environmental and technological systems
- First encounters with new hazards
- The more we advance technologically, the more uncertain risks become
  - Ulrich Beck's theory of the "Risk Society"



## Risk is augmented by a number of factors, including:

- “physical” = living in a hazardous area
- “personal” = your age/gender/education/race influences your risk
- “economic” = poverty reduces your options
- “structural” = poor quality buildings and lifelines
- “political” = limited access to information and/or resources
- “institutional” - your local, state or national government does not enforce regulations

## What does this mean in terms of environmental justice?

- Risk is at the intersection of complex, interrelated social processes
- In order to understand risk and the natural hazards, we also need to understand the social and political systems that govern peoples lives
- Once again, science and the humanities are inextricable

## Disasters Through the Lens of Disparities: Elevate Community Resilience as an Essential Public Health Service

-- *Maureen Lichtveld*

Claim	Explain	Respond
"Protecting the most vulnerable is the proven strategy to protect all."		
"The degree to which a community endures disparities and environmental health threats is directly related to its ability to prepare adequately and recover effectively from disasters."		
"The root causes of poor disaster recovery can be stopped only by countering the devastating impacts of acute as well as chronic stressors."		