

PrepTalks Discussion Guides provide a framework for community leaders to translate insights from the PrepTalk into community planning and outreach. Community leaders can use the PrepTalks materials at meetings, workshops, and conferences to address critical emergency management topics with whole community partners.

## Claudine Jaenichen – Visual + Effective Communication for Emergency Information

Professor Jaenichen is an information designer specializing in the relationship between design and cognition. She is currently applying these principles to emergency management with [TsunamiClear](#). She prioritizes participatory design and the importance of benchmarking as methods to measure the success of a project and how it communicates to its intended audience.

She serves on the Board of Governors for the Communication Research Institute and on the Executive Board for the [Design Network for Emergency Management](#).

In her PrepTalk Jaenichen explains the cognitive biases that impede our ability to make the right decision when confronted with an emergency. She makes the case that using design standards to convey information in a visual format can overcome these biases and help more people “recall” safe routes during an evacuation.

### Partners for the Discussion

Evacuation planning is a collective effort among emergency managers, first responders, and whole community partners. Jaenichen suggests expanding this circle to include information and graphic designers. Designers can create evacuation plans and routes that effectively communicate key information to the everyday person. Research shows that simple, visual presentations of evacuation requirements improves recall of recommended actions when an evacuation is ordered. Watch Jaenichen’s PrepTalk, then discuss inclusive design standards, using personas to understand your audience, and ways to improve the communication of evacuation information to your community.

*This is about people, developing an improved cognitive map of their space and understanding the risk of where they're living.*

— Claudine Jaenichen



The views expressed in PrepTalk presentations and the Q&A sessions are solely those of the speaker and do not represent the views of their organization or any of the PrepTalks partners.

## Discussion Topics

### Topic 1: Human Psychology and Emergencies

Human psychology plays an important role in how people confront an emergency. Established research describes the cognitive processes of deciding under pressure and the cognitive phenomena that all humans exhibit when confronted with an emergency.

#### *Denial, Deliberate, Decide*

Jaenichen draws on a concept that Amanda Ripley describes in her PrepTalk, "[The Unthinkable: Lessons from Survivors](#)." Ripley presents personal stories to highlight the three phases that most people will go through in a disaster: denial, deliberate, and decide.

## The process of deciding under pressure



DENIAL



DELIBERATE



DECIDE

Source: Concept by Amanda Ripley, Image by Claudine Jaenichen

- **Denial:** Our brains want to normalize situations – to fit what is happening into previous experiences. If we don't have training or experience with a specific emergency, we create a non-disaster context that seems to make sense. The denial phase can include tunnel vision, only seeing limited cues, or temporary cognitive paralysis (freezing).
- **Deliberate:** In the deliberation, or "milling," phase, people want to confirm the danger and potential actions with others and seek more information. This is sometimes called crowd psychology or collective behavior. Having knowledge and training in how to respond to a hazard allows the brain to cognitively respond to the disaster much faster and reduce the time spent in deliberation.
- **Decide:** When individuals accept the reality of the situation and decide to act (or not).

Everyone goes through these three phases, but the time spent in each phase varies significantly. Some people stay in denial for a prolonged period and then move quickly through deliberation and decision making; some spend more time in deliberation; some move rapidly to decision and action.

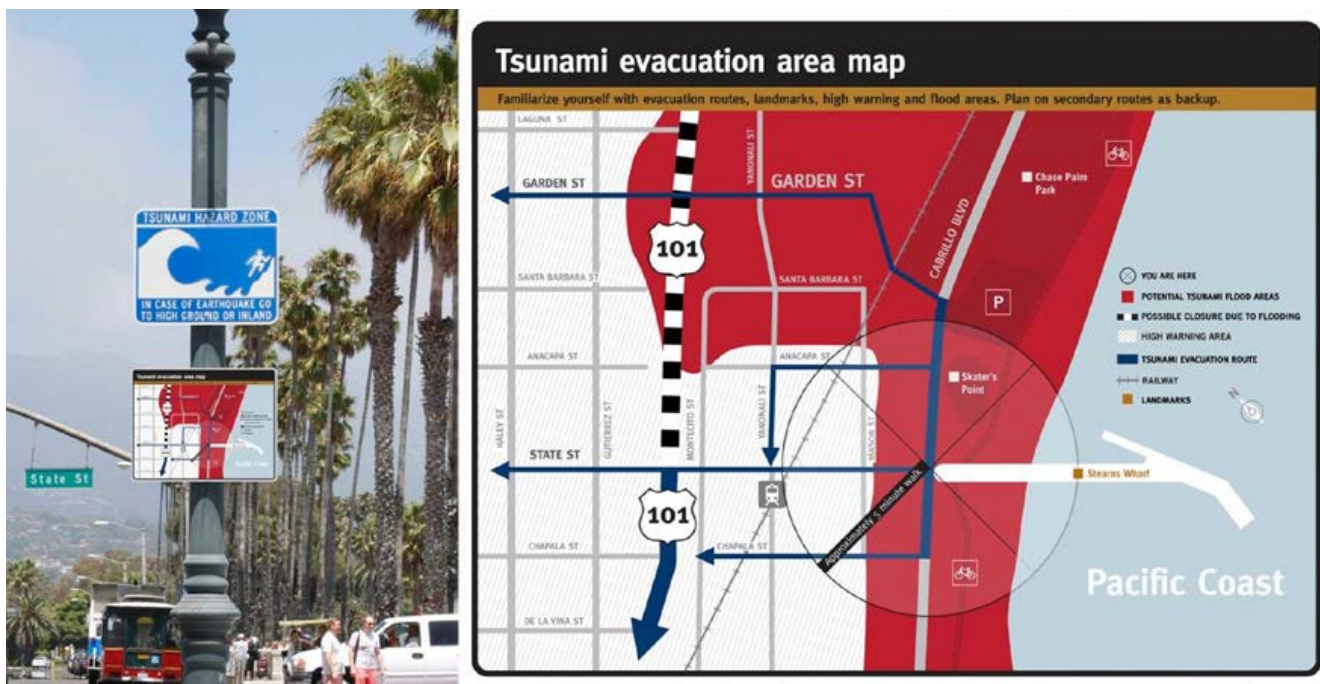
Like Jaenichen, Dr. Dennis Mileti focuses on designing public warning messages to help people quickly make the right evacuation decision in his PrepTalk, [“Modernizing Public Warning Messaging.”](#) These two experts show that the design of messages is critical to saving lives.

**Questions for Discussion**

- How can community leaders provide opportunities for people to practice evacuation plans?
- If schools are conducting drills, how are students encouraged to have their families talk about and practice drills?
- How do your messages and your outreach encourage individuals’ belief that they are empowered to act and a belief that those actions can save their lives?

**Topic 2: Visual Design Basics**

Visual design uses rules for images, colors, fonts, and other elements to successfully, consistently, and repeatedly communicate with a purpose. Jaenichen uses visual design to simplify and focus on the key information the maps need to convey, improving cognition and retention of emergency information. For example, the [Design Network for Emergency Management](#) established visual standards to promote the use of a “brand” for evacuation information across the world.



Source: Claudine Jaenichen's PrepTalk Presentation

Emergency managers do not have to become graphic designers—but they should understand some basic design elements. These basic elements, described by [Usability.gov](http://Usability.gov), include:

- **Lines** connect two points. They define shapes, make divisions, and create textures. All lines have a length, width, and orientation. Lines with arrows are important, because arrows show immediate direction and tell the reader “I want you to do something”.
- **Shapes** are self-contained areas defined by lines, color, and/or texture.
- **Color palettes** differentiate items, create depth, add emphasis, and/or help organize information. Different color choices have different psychological impacts (examined in color theory).

The following design principles combine these elements to form an image, map, or other visual product:

- **Unity:** the elements appear to belong together, either visually or conceptually. Visual design strikes a balance between unity and variety to avoid a dull or overwhelming design.
- **Gestalt:** helps users perceive the overall design as well as individual elements. If the design elements are arranged properly, the Gestalt of the overall design will be very clear.
- **Space:** is “defined when something is placed in it,” according to [Alex White in his book, The Elements of Graphic Design](#). Space helps reduce “visual noise,” increase readability, and/or create illusion. White space is an important part of your layout strategy.

## Questions for Discussion

- Emergency management offices do not generally staff information or graphic designers. How are your evacuation maps, infographics, and other visual communication materials developed?
- Could you onboard an intern or partner with an organization that has information and graphic design expertise? Reach out to the [Design Network for Emergency Management](#) for a job description specifically designed for a position in this specialized field.
- Identify ways that to include the visual standards adopted by the [Design Network for Emergency Management](#) in your communication materials.

## Topic 3: Improve Evacuation Information with Personas

Evacuation maps often focus on zones and routes to move a population of people. These zones are often predefined school districts, fire/police districts, zip codes, or U.S. Army Corps of Engineers hurricane evacuation zones. However, the people that live in these zones are not pre-defined. They are diverse, and their ability or willingness to comply with an evacuation order will depend on their circumstances.


*[Personas represent] people... You'll see different social economics ... encompassing the fabric of the community being served.*

— Claudine Jaenichen

## Personas Represent a Diverse Population

Jaenichen suggests better understanding your community by developing “personas”—composite representations of the diverse people that live in your community. Personas help you bring your community (your audience) into the design process. By reviewing your communications materials through the lens of different personas, you can examine their effectiveness from many perspectives.

**“Joe”—the retiree**



Persona Joe, 79 years old, has been living in the same city since his early twenties. He is married of 51 years and have shared the births of seven grandchildren. Joe and his spouse are retired and live in a residential home for active seniors. Their adult children live other states and rely on medical transport to get them to-and-from errands, outdoor activities and doctor appointments. Joe requires a cane to walk due to a permanent knee disability. Ten years ago they had to evacuate their home due to a wild fire.

Characteristics	Modality	Daily demands	Evacuation event	
<b>FAMILY</b> <input type="checkbox"/> Parent/Guardian <input type="checkbox"/> Single parent <input checked="" type="checkbox"/> Grandparent <input type="checkbox"/> Caretaker <input type="checkbox"/> Dependent <b>PROFESSION</b> <input type="checkbox"/> Student <input type="checkbox"/> Employed <input type="checkbox"/> Self-employed <input type="checkbox"/> Unemployed <input checked="" type="checkbox"/> Retired <b>Demand Group</b> <input checked="" type="checkbox"/> Permanent resident <input type="checkbox"/> Employee—live in another city <input type="checkbox"/> Living in city less than 6 months <input type="checkbox"/> Visitor/Tourist	<b>TRANSPORT NEEDS</b> <input type="checkbox"/> Personal car <input type="checkbox"/> Shared household car <input type="checkbox"/> Public transport <input type="checkbox"/> Walk/Bike <input checked="" type="checkbox"/> Medical transport <b>DAILY ACTIVITIES</b> <input type="checkbox"/> Drop-off/Pick-up schoolchildren <input type="checkbox"/> Carpool <input type="checkbox"/> Commute to school or office <input type="checkbox"/> Public transport to school or office <input checked="" type="checkbox"/> Other	<b>50% OF THE DAY I AM...</b> <input type="checkbox"/> Driving <input checked="" type="checkbox"/> At home/errands <input type="checkbox"/> At work <input type="checkbox"/> At school <input type="checkbox"/> Other <b>25% OF THE DAY I AM...</b> <input type="checkbox"/> Driving <input checked="" type="checkbox"/> At home/errands <input type="checkbox"/> At work <input type="checkbox"/> At school <input type="checkbox"/> Other <b>25% OF THE DAY I AM...</b> <input type="checkbox"/> Driving <input checked="" type="checkbox"/> At home/errands <input type="checkbox"/> At work <input type="checkbox"/> At school <input type="checkbox"/> Other	<b>NOTIFICATION</b> <input checked="" type="checkbox"/> I <i>do know</i> how I would be notified to evacuate if I were not at home <input type="checkbox"/> I <i>do know</i> how I would be notified to evacuate if I were at home <input type="checkbox"/> I <i>don't know</i> how I would be notified to evacuate my home <input type="checkbox"/> I would call the police/fire dept for more information <input checked="" type="checkbox"/> I would rely on the news/radio <input checked="" type="checkbox"/> I would rely on neighbors <b>LIMITATIONS</b> <input type="checkbox"/> There is a language barrier if I was given verbal evacuation instructions only in English (this also includes sign language) <input type="checkbox"/> I am visiting, or just moved, and unfamiliar with the city <input checked="" type="checkbox"/> Myself or a family member has special medical/physical needs <input checked="" type="checkbox"/> I don't have access to a cell phone or the internet	<b>FAMILY WHEREABOUTS</b> <input type="checkbox"/> I <i>do know</i> the evacuation process at my child/children's school <input checked="" type="checkbox"/> I <i>do know</i> the evacuation process at my own, or spouse's, workplace <input type="checkbox"/> I <i>don't know</i> the evacuation process at my child/children's school <input type="checkbox"/> I <i>don't know</i> the evacuation process at my own, or spouse's, workplace <input type="checkbox"/> I would not evacuate until I pick-up my child/children from school <input type="checkbox"/> I would not evacuate until I pick-up my aging parent(s) from the convalescent home/hospice <b>EXPERIENCE/TRAINING</b> <input checked="" type="checkbox"/> I have evacuated before <input type="checkbox"/> I have not evacuated before

Source: Claudine Jaenichen's PrepTalk Presentation

Develop personas based on quantitative data (available from the [U.S. Census](#)) and qualitative user research, including surveys or other instruments. When creating personas, be sure to cover the following questions to understand different segments of the population in your community and how each persona will likely confront an evacuation order:

- What are the socioeconomic characteristics of this persona?
- What is their access to different types of transportation?
- Where are they during the day?
- What is their access to alerts and warnings?
- To what extent are they aware of the evacuation plans of their children's schools and/or caregivers?
- What is their prior experience or training?

Remember that a persona is a composite representation of a segment of the population and will not exactly match a specific person or comprehensively describe the full diversity of a group.

## Questions for Discussion

- Identify if another government office in your jurisdiction developed personas for your community.
- Consider a project to create, or expand on existing, personas for use in your emergency management planning. Jaenichen demonstrates how personas are useful in evacuation information design, but they are also useful in shelter, wireless emergency alert, and points of distribution planning, to name a few.

**For the companion Facilitator Slides and Resource List for this PrepTalk, visit:**

<https://www.fema.gov/blog/preptalks-claudine-jaenichen-visual-effective-communication-emergency-information>