



Co-Weather

We can weather it together

Theme: **Design for Crisis**
Rebuild and heal the world with design

July 17-Aug 28 / United States

Team Elevate



Name : **Elise Kim**

Title: Lead Product Designer, UX
Researcher



Name : **Erin Carty**

Title: Lead Product Designer, UX
Researcher, & UX Content
Writer



Name : **Lena Le**

Title: Product Designer &
Project Manager



Dr. Sarah Belkhamssa

Team Mentor

“The most immediate threats to humankind relate to increased variability in the intensity and frequency of storms and other extreme weather- and climate-related events such as floods and droughts, heat waves in major urban areas and the impact of sea-level rise on low-lying coastal regions.”

- Professor Obasi, Secretary General, World Meteorological Organization, 23 March 2003



Problem Identified

Due to climate change, natural disasters are increasing in scale and intensity. What can individuals do to adapt and be more resilient to the imminent increase in natural disasters and how can we connect communities to work together in the face of these disasters? How can we make sure the most vulnerable and disproportionately affected have access to basic necessities when government aid and structure are unavailable?

Urgency/Importance



Impacts of weather-related disaster expand beyond mortality

Impacts include **physical injuries, mental issues, spread of disease, food and water insecurity**, and **limited access to healthcare** and basic services.



Climate change hits vulnerable communities the hardest

Children and women, older adults, underserved and impoverished communities, persons with disabilities, and persons with chronic medical conditions are at a **greater risk**.

Urgency/Importance



Forced climate displacement

Average of **21.5 million** people have been forcibly displaced by weather-related events every year. Environmental disasters have displaced 3x more people than violence and armed conflict.



Lack of scientific certainty is not an excuse for inaction

Climate scientists warn the world is largely **underprepared** with few government initiatives and not enough spending.



5 User Interviews*



22 Online Survey Participants*

*All participants had experienced a natural disaster.

User Research

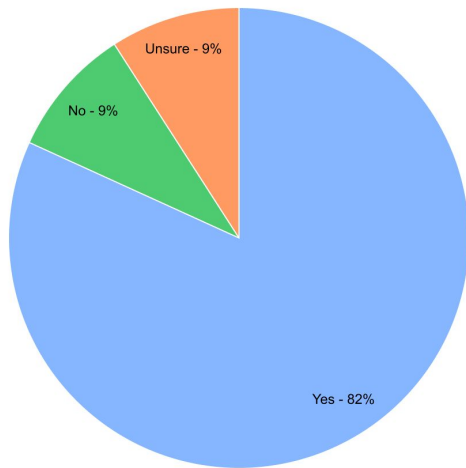
Key Insights:

- Both survey and interview participants have mixed feelings towards their government's response post-disaster.
- In both the survey and interviews, experience and preparation correlate to a more stable emotional state before, during, and after a natural disaster.
- In the survey, **68%** of research participants stated that their communities come together during natural disasters.
- Natural Disaster is not a solitary experience
 - **70%** of participants stated that their community came together to help each other
 - Examples include organized cleans ups, relief funds, neighbors staying at each other's homes, giving food and water, etc.

"If you saw someone that needed, you helped them." -
Participant Comment

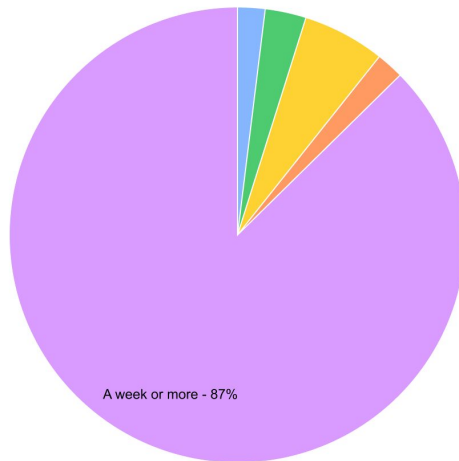
User Survey Data

Do you currently live in an area that experiences frequent natural disasters?



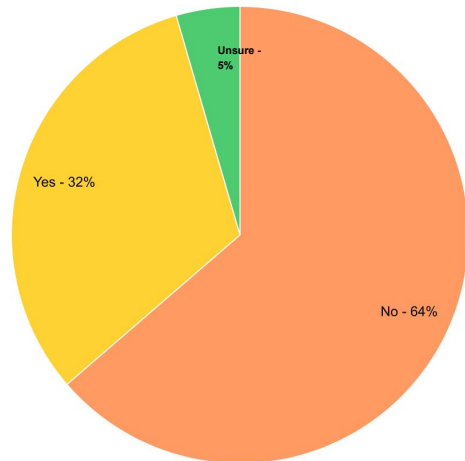
Yes - 81.8%
No - 9.1%
Unsure - 9.1%

How early do you prepare for natural disasters when you learn of an oncoming disaster?



A week or more - 40.9%
3 - 4 Days - 27.3%
1 - 2 Days - 13.6%
5 Days - 9.1%
I don't prepare - 9.1%

Did you seek any resources (physical or mental) from your community before, during, or after the disaster?



No - 63.6%
Yes - 31.8%
Unsure - 4.5%

Victoria Hanson (the Veteran)



PROFILE & DEMOGRAPHICS

Age: 32

Job Title: Conservation Scientists

Location: New Orleans, Louisiana

Household Number: 2 humans, 2 pets

Income: \$60,000

BIO

Victoria is a person who brings work home and in her free time she is involved in her community and volunteers. She has lived in the Gulf Coast for all of her life and is experienced with annual hurricanes. She is concerned about the safety of her community. Victoria recognizes that climate change will increase the intensity and frequency of storms in her area.

GOALS & VALUES

Goals: Strengthen her community; Become CPR certified; Make sure she goes through next hurricane with minimum losses

Values: Taking care of her loved ones; Sustainable environmental practices; Community

PAIN POINTS

Fears: New Orleans will be completely underwater in the future; Losing her home; Her loved ones will get severely injured due to a disaster

Challenges: Supply and utility shortages; People's indifference towards the climate crisis; Lack of long-term support for communities

Nathan Bailey (the Novice)



PROFILE & DEMOGRAPHICS

Age: 26

Job Title: IT Specialist

Location: New Orleans, Louisiana

Household Number: 1

Income: \$90,000

BIO

Nathan is from the northeast and does not have any experience with natural disasters. He just moved to New Orleans for his job a month ago and is unfamiliar with the area and its weather patterns. He doesn't have established relationships with anyone nearby yet. Nathan's mindset about planning is more relaxed because of his lack of experience.

GOALS & VALUES

Goals: Build network in his new town; Establish himself permanently in New Orleans; To build knowledge of emergency preparation

Values: Friendships in his community; Experienced opinions; His personal health and wellbeing

PAIN POINTS

Fears: Getting stranded in an unfamiliar area; Isolation and loneliness in times of need; Bodily harm or injury

Challenges: Not knowing where to find resources; inexperienced with natural disasters; Accessing reliable and consistent information in an emergency situation

Explorations


Through a combination of surveys, user interviews, and secondary research we learned that people needed resources before, during, and after a natural disaster and that they sought community in times of need. Thus we explored possible ways for people to help themselves and each other.





Adapting to a New Reality

We must face the reality that our actions have irrevocably changed
our climate and now we must learn to adapt.



Final Solution & Innovation

Meet Co-Weather

- Our final solution: a community-based app in which users can connect and help each other throughout natural disasters.
- Our goal with Co-Weather is to remember that communities are one of our greatest strengths and that society is best when we come together
- Users can also ensure that the most vulnerable members of their community are taken care of and have their needs met such as food, water, utilities, and medicine.
- While there are apps that help with natural disasters such as the FEMA app and the Red Cross App and apps that are social (Facebook, Instagram, Reddit, etc.), Co-Weather is the only app that combines both natural disaster aid and community help



User Experience

Youtube demo link:

<https://youtu.be/YluWVy5i9B4>

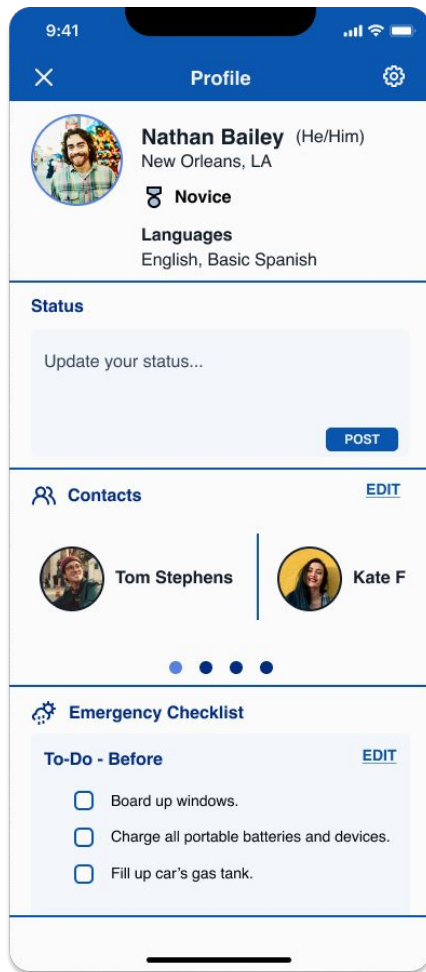
Google drive demo link:

<https://drive.google.com/file/d/1qMln6acLfDyD5ACefBT5ck11x9y5sl8O/view?usp=sharing>

No matter the age or experience level of the user, they are able to communicate, receive valuable information, and help throughout a natural disaster.


In the onboarding experience, users are able to add their location, primary language, and experience level.


On the profile page, users can update status, add contacts, and create an emergency checklist based on the app's template.



9:41

Profile

 **Nathan Bailey** (He/Him)
New Orleans, LA


 **Novice**



Languages
English, Basic Spanish


Status

Update your status...

POST

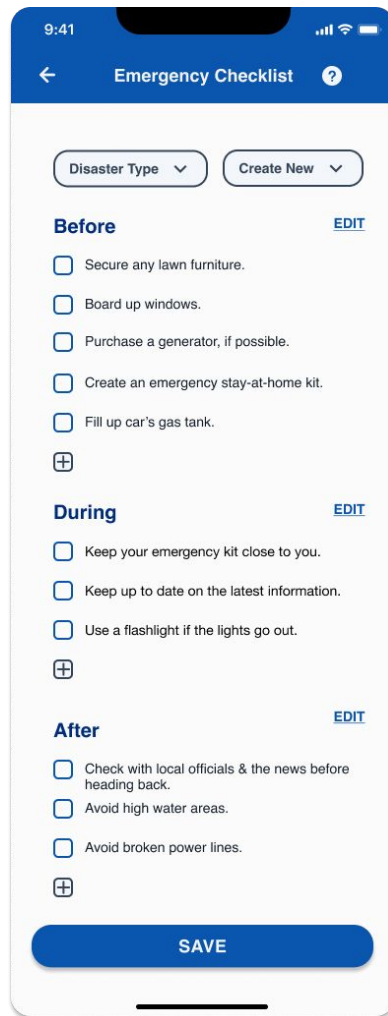
 **Contacts** [EDIT](#)

 **Tom Stephens** |  **Kate F**

 **Emergency Checklist** [EDIT](#)



To-Do - Before

- ☐ Board up windows.
- ☐ Charge all portable batteries and devices.
- ☐ Fill up car's gas tank.




9:41


Emergency Checklist [?](#)

Disaster Type  Create New 


Before [EDIT](#)

- ☐ Secure any lawn furniture.
- ☐ Board up windows.
- ☐ Purchase a generator, if possible.
- ☐ Create an emergency stay-at-home kit.
- ☐ Fill up car's gas tank.
- 

During [EDIT](#)

- ☐ Keep your emergency kit close to you.
- ☐ Keep up to date on the latest information.
- ☐ Use a flashlight if the lights go out.
- 

After [EDIT](#)

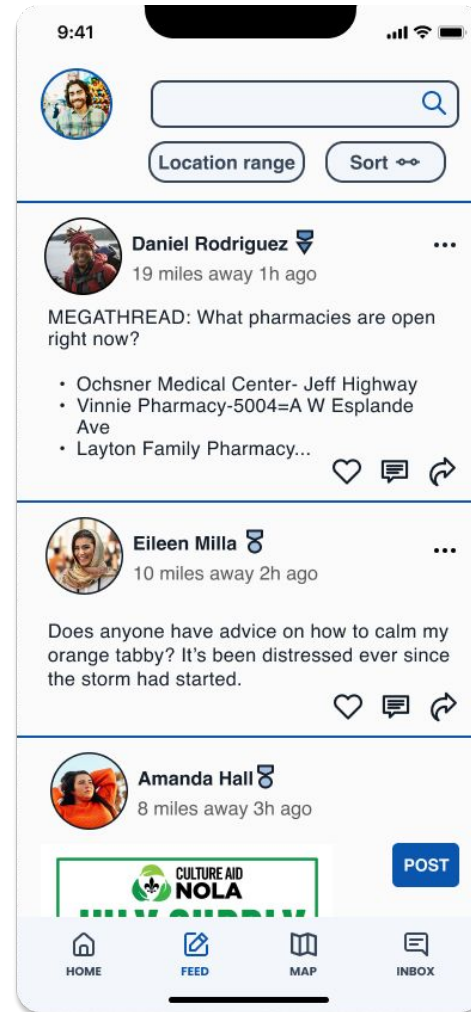
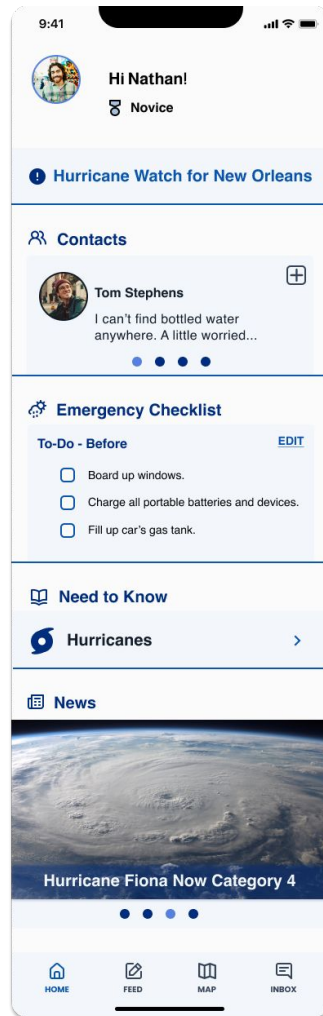
- ☐ Check with local officials & the news before heading back.
- ☐ Avoid high water areas.
- ☐ Avoid broken power lines.
- 

SAVE

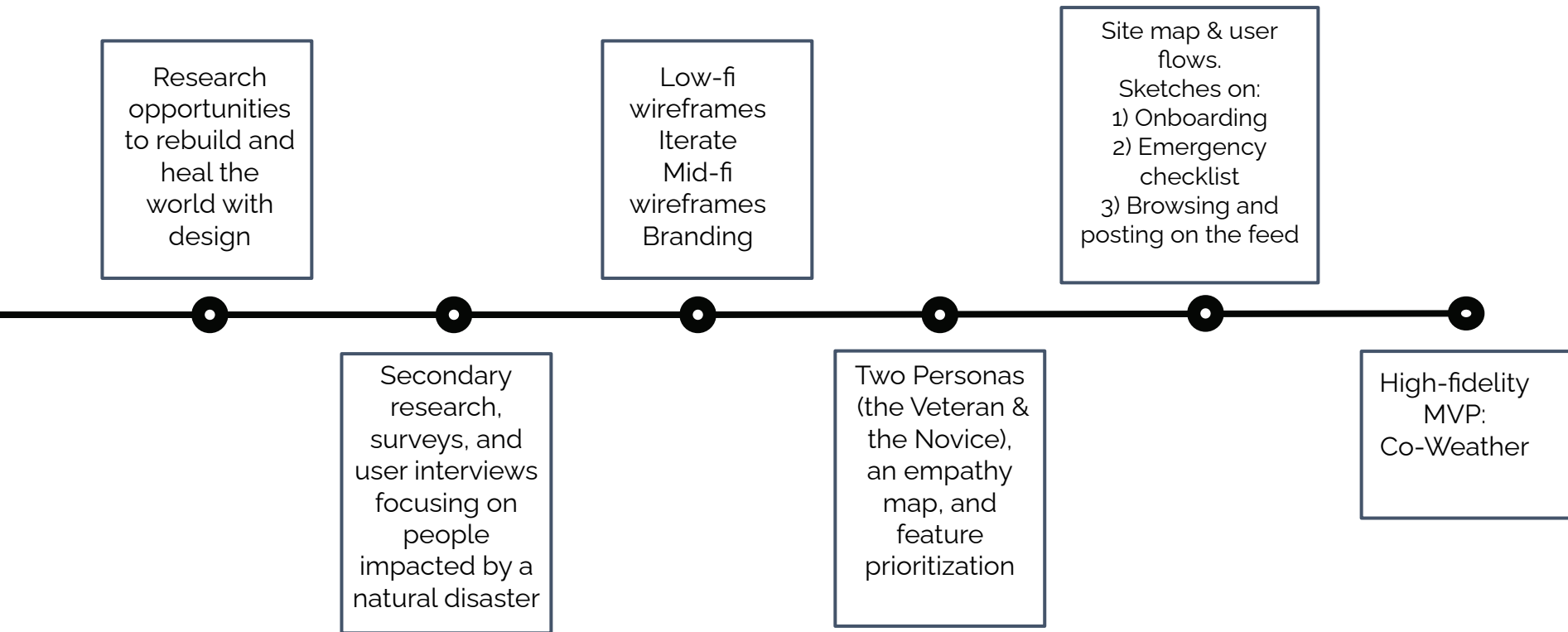
On the dashboard they can view alerts, contacts' status updates, overview their checklist, preparation tips, and news.

Even in the case of evacuation, users are always kept up to date.

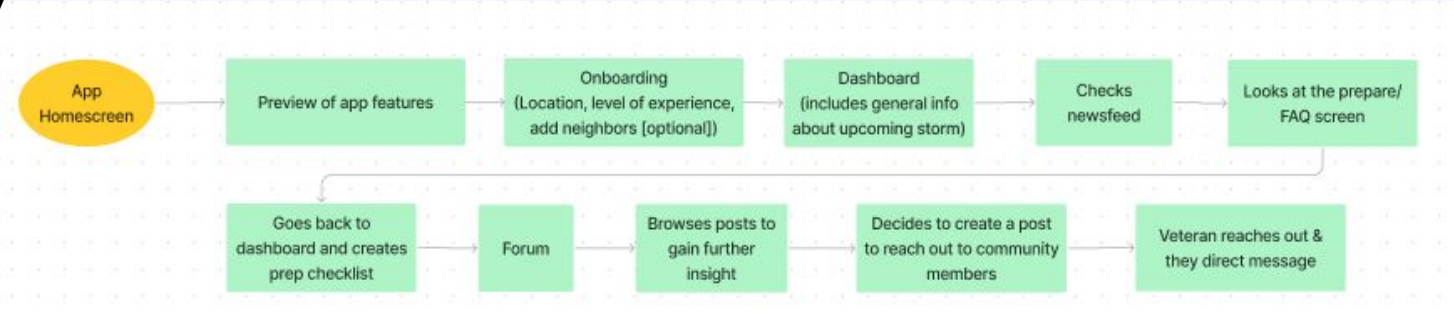
The forum ensure that users are always up to date on what's available in their community during a natural disaster and how they can help.



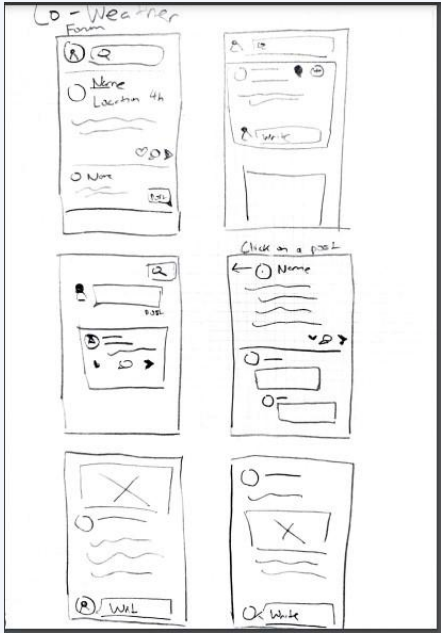
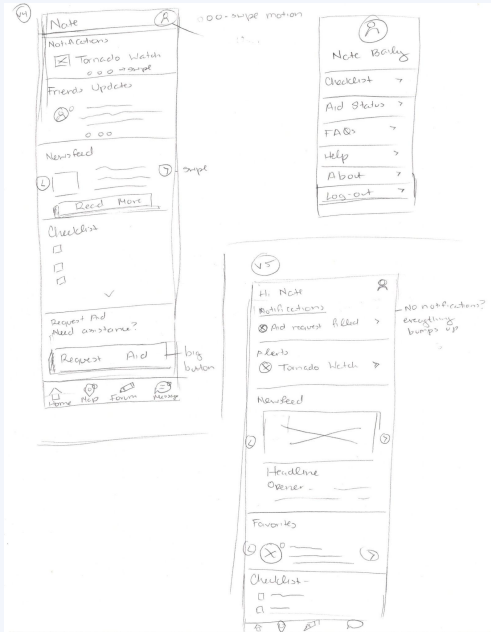
Design Process



User Flow



Sketches



Impact on the Society

*ND= Natural Disaster

#1

Users have a range of experience. Some never went through a ND and were confused on where to begin, how to get help, and received conflicting information.

Solution:

Co-weather connects users w/ each other. A novice can interact with experts who have experienced multiple NDs and learn from them.

#2

Users were already seeking community help esp in poorer regions

Opportunity:

Co-Weathers capitalizes on this and gives users ease & efficiency to seek and receive community help

#3

NDs are not stagnant; they are unpredictable.

Solution:

There is no better way to stay up to date than through each other on the app feed. Word of mouth has been a powerful tool since the beginning of human history.

#4

NDs are a journey. Users go through various actions with different needs and obstacles before, during, and after a disaster.

Solution:

Co-Weather gives them resources that will aid users through this journey and allow them to incorporate preparedness, mitigation, response and recovery

Practicality & Business Viability



On an individual level and community level, we must have resilience planning and allocate resources equitably.



As a community-driven app, local businesses and organizations will be able to establish their own profiles and aid in the community.



Co-Weather targets the 3 key principles of resilience building: robustness (strong design), redundancy (extra capacity in systems to act as fail-safe networks), and resourcefulness (citizen empowerment).

Sustainability

The **frequency and intensity** of natural disasters will only **increase**. 14 of the 15 warmest years on record have all occurred in the 21st century.

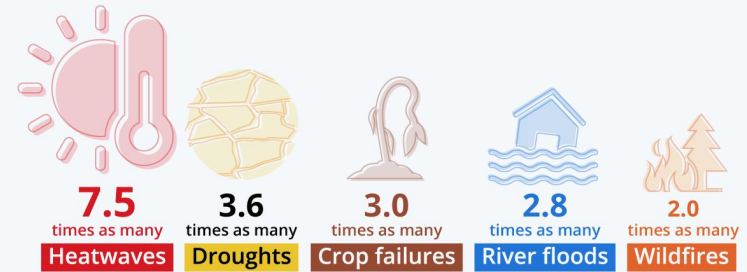
For a challenge as big as climate disasters, we need continuous action and everyone's involvement. *EDIT

Co-Weather has a clear growth path with future features that allow for even more community involvement, such as a community resource map, offline mode in case of power loss, and political engagement through crowdsourcing and group petitioning.

The design of the app allows for the global society to connect and help support themselves now and well into the future. Preparedness and resilience are the foundations for sustainability.

Number of Climate Disasters to Triple for New Generation

Frequency of climate disasters experienced in a lifetime for a person born in 2020 compared to one born in 1960



All climate disasters
~3 times as many

Based on NDC scenario (following Paris Agreement) of 2.7 °C/4.9 °F warming until 2100
Source: Thiery et al. Intergenerational Inequities in Exposure to Climate Change. Science (2021) via media reports



statista

Thank you!