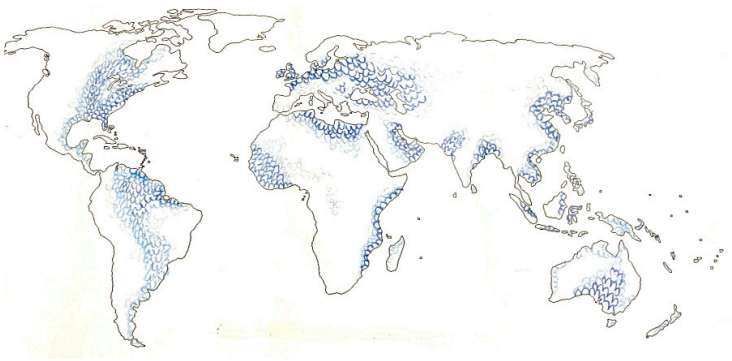
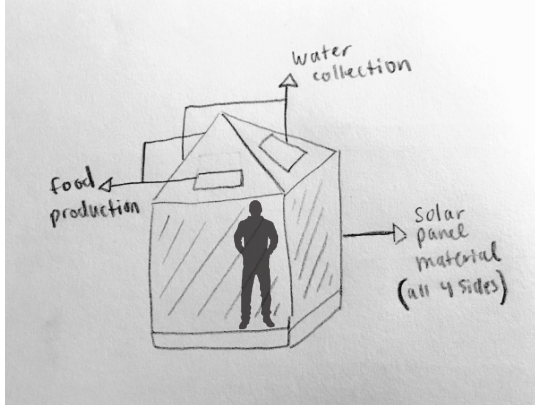


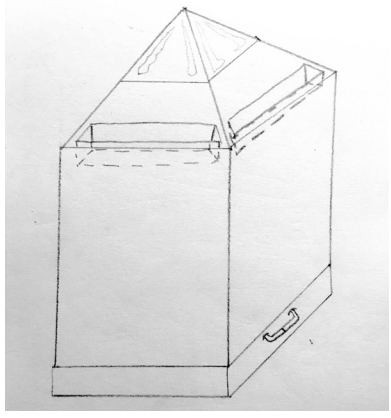
World Map of Extreme Flood Conditinos Around the World

We were given an extreme climate condition, either flood or heat. I was given extreme flood conditions. Firstly I labeled out a map of where in the world, areas were affected by this condition. The dark blue marks are where it is currently affected, and the light blue marks are where the conidion will spread to within the next several years.
I created a protection shelter for one person to live in, to be able to use in extreme floods.
Below are various sketches and drawings of my procces and final product. Once I had a concrete idea of my shelter, I constructed a 3D model out of bristol paper and brads.

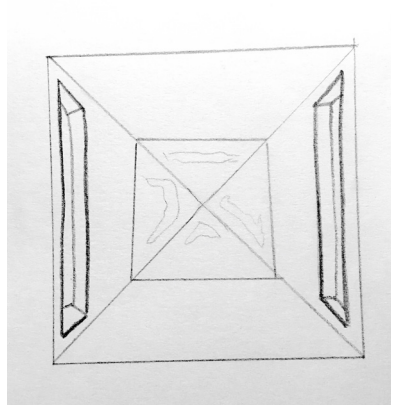
The base of the shelter is inflatable and will float the whole shelter above water, so when a flood happens it is easily adaptive to the situation. It has two compartments to collect water in the roof. Two of the triangular shaped sides of the roof, have containers that are able to open and close to capture rainfall water, that would provide clean drinking water to the person. The other two sides of the roof are for food production. Those two drawers are for growing food and sliding it out to grow and slide back in to harvest. For energy production, this shelter has four sided wall that's material is made out of thin solar panel material used for energy production.



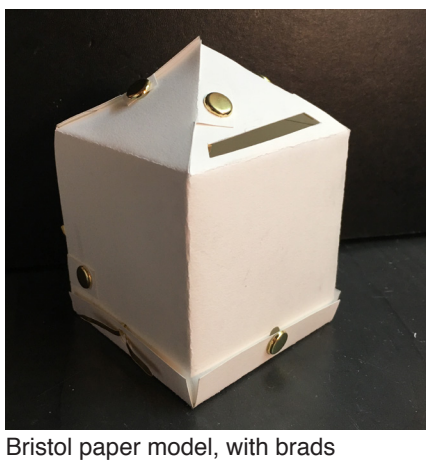
Sketch of the final details and modifications of the extreme flood condition shelter



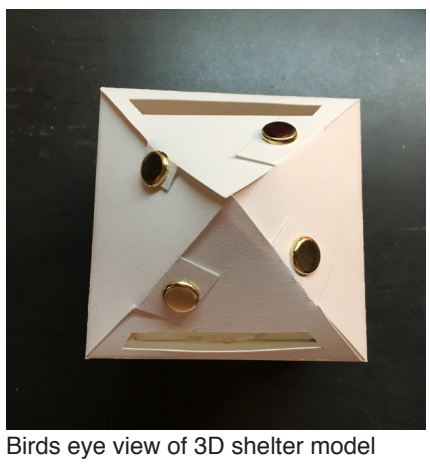
First draft sketch of shelter



First draft sketch of the roof of shelter

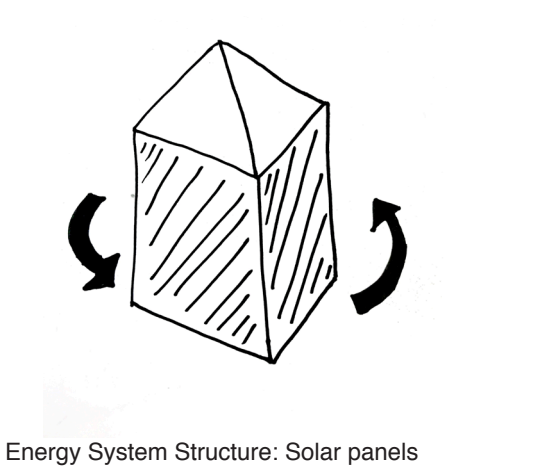


Bristol paper model, with brads



Birds eye view of 3D shelter model

3rd angle view of 3D shelter model



Energy System Structure: Solar panels

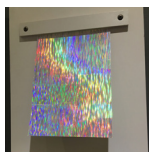
This is a diagram that highlights just the energy system of this protection shelter. All four sides of this structure will have a thin and flexible solar panel material that absorbs energy from sunlight. This energy will then produce electricity for lights inside the shelter. It will have all four sides made of this material because on water you can't be sure what side you will face the sun, nor will the sun stay in the same place throughout the day.

Food Production Process and Water Collection

These drawings on the left explain the process of food production in the protection shelter.
One side of the roof has a garden drawer that slides in and out for use.
If the person wants to tend the garden, they would pull it in. Then when they want for it to get water or sun, they push it out to grow.
The other side of the roof has a water collector. It's a different shape of drawer but contains the same principles as the food drawer.

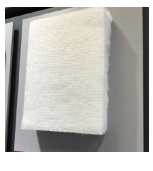
- Flexible
- Waterproof
- High strength property
- Biodegradable
- Waterproof material
- Lightweight
- Low toxicity
- Low carbon footprint

- Water proofing
- Water collection
- Highly durable
- Abrasion resistant
- Water repellent
- Lightweight
- Biodegradable
- Compostable



- Solar energy reflection
- Lightweight
- Flexible
- Biodegradable
- Low toxicity

- Food production
- Flexible
- Damping capacity and acoustic insulation
- Planting
- Light weight



- Thermic insulation
- Lightweight
- Breathability
- Recyclable

Life Size Preserver

Ellie Dlouha

DESIGNING FOR RESILIENT SUSTAINABLE SYSTEMS, PARSONS THE NEW SCHOOL FOR DESIGN, FALL 2016, INSTRUCTOR: CAROLIN MEES