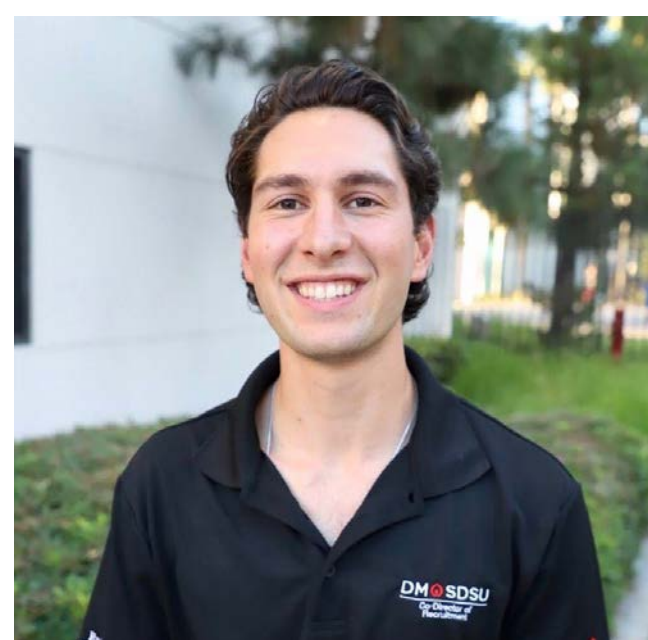


### Meet the Team



Matt Kersman



Nick Feiner



Jason Waas



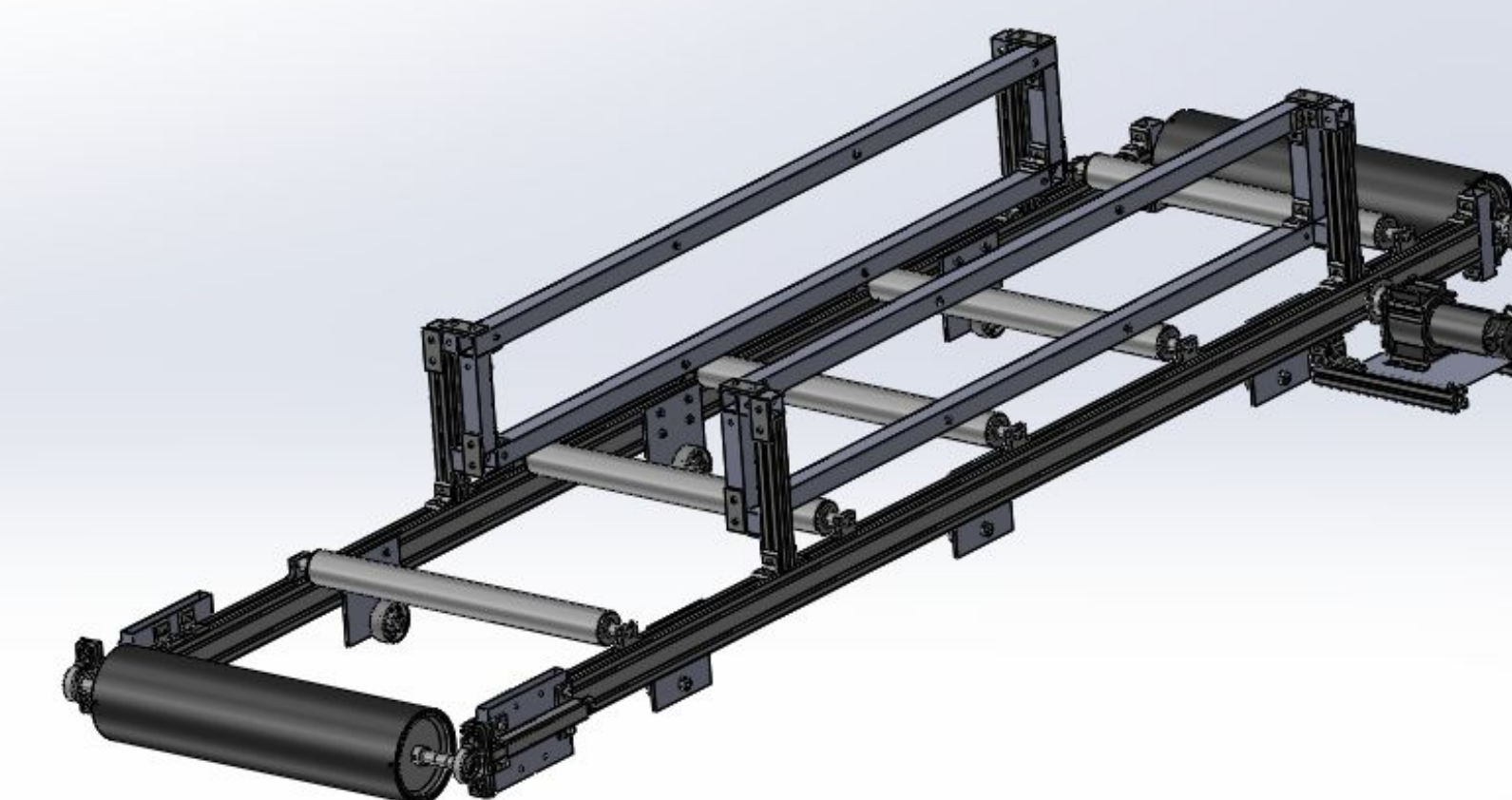
Calvin Dixon

### FRED in Action

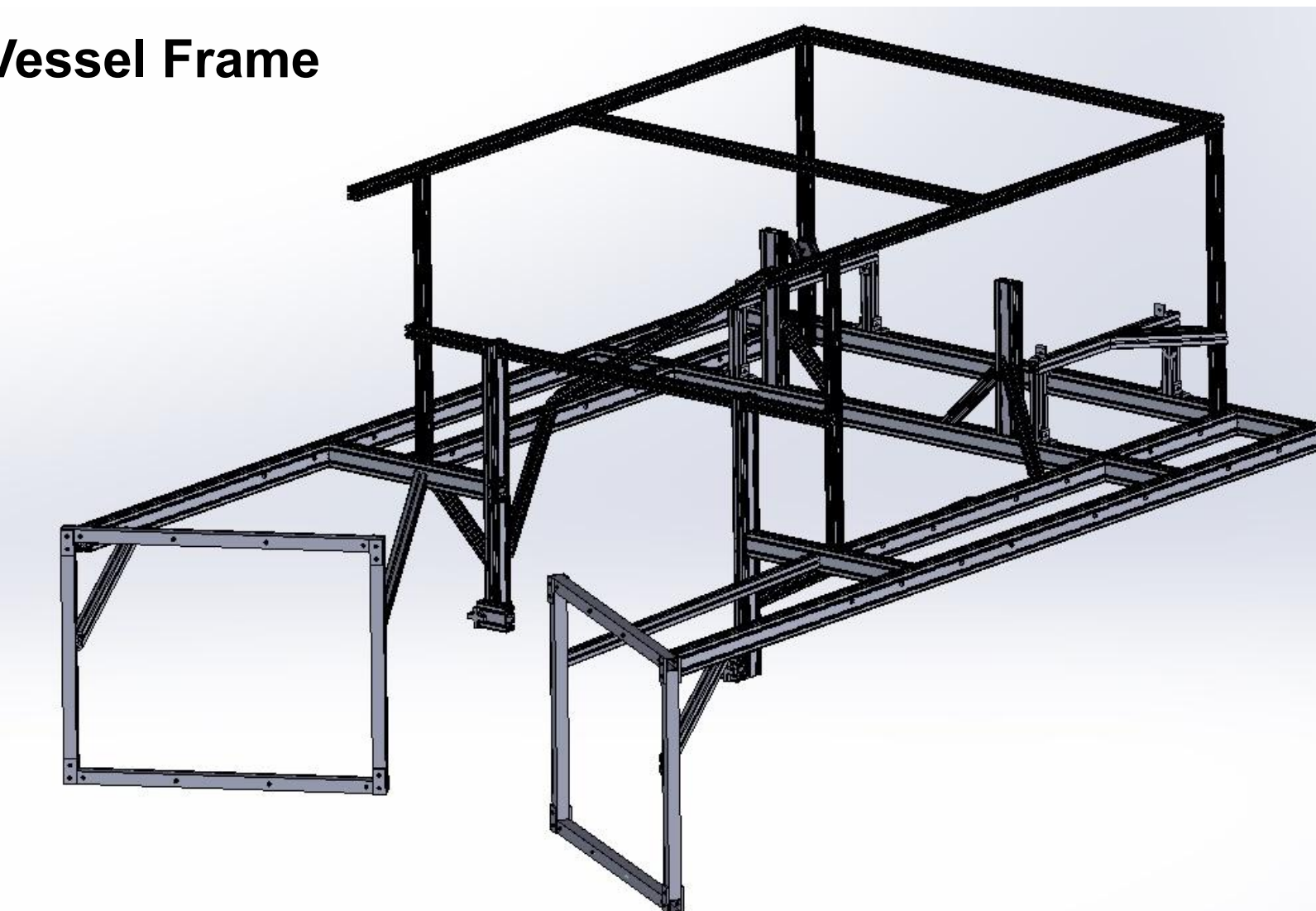


### Sub Assemblies

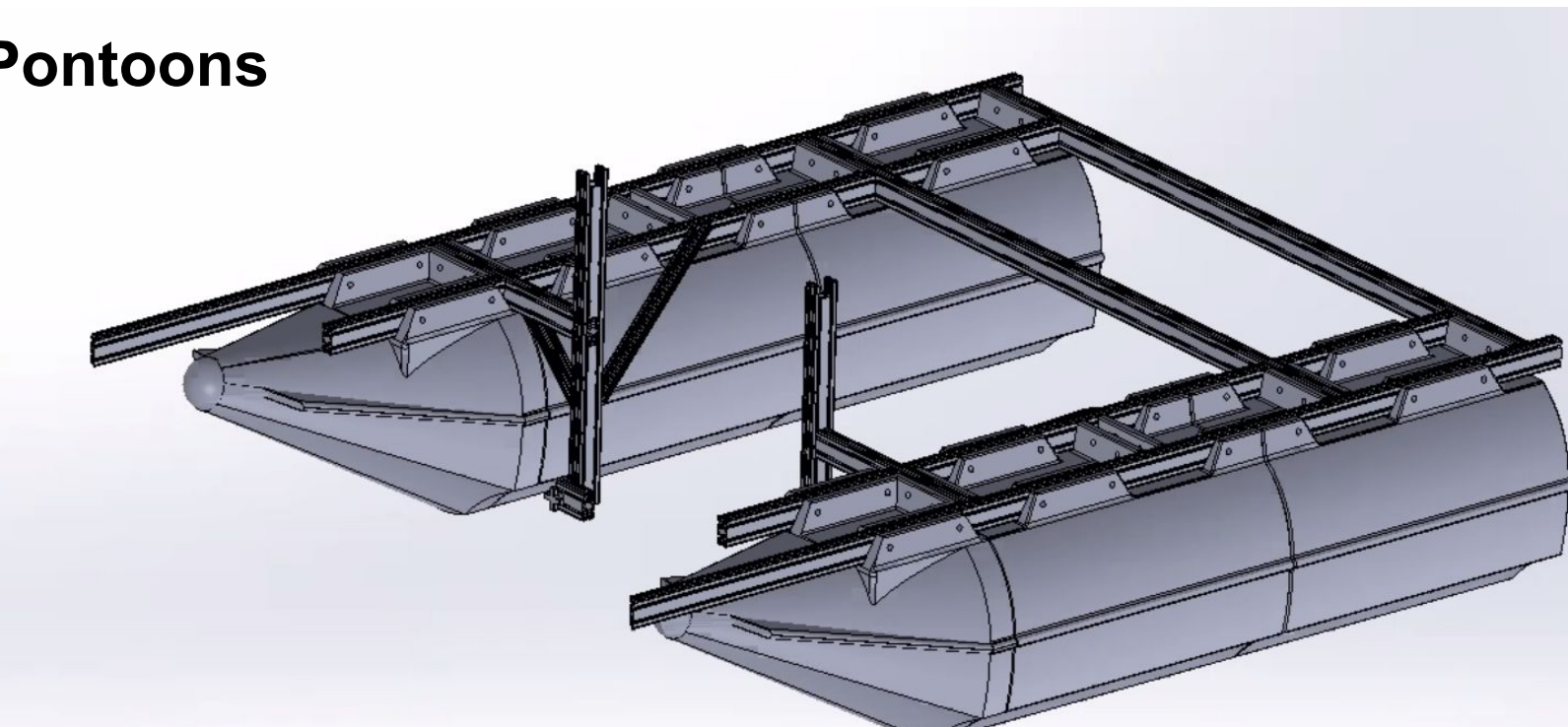
Conveyor Belt



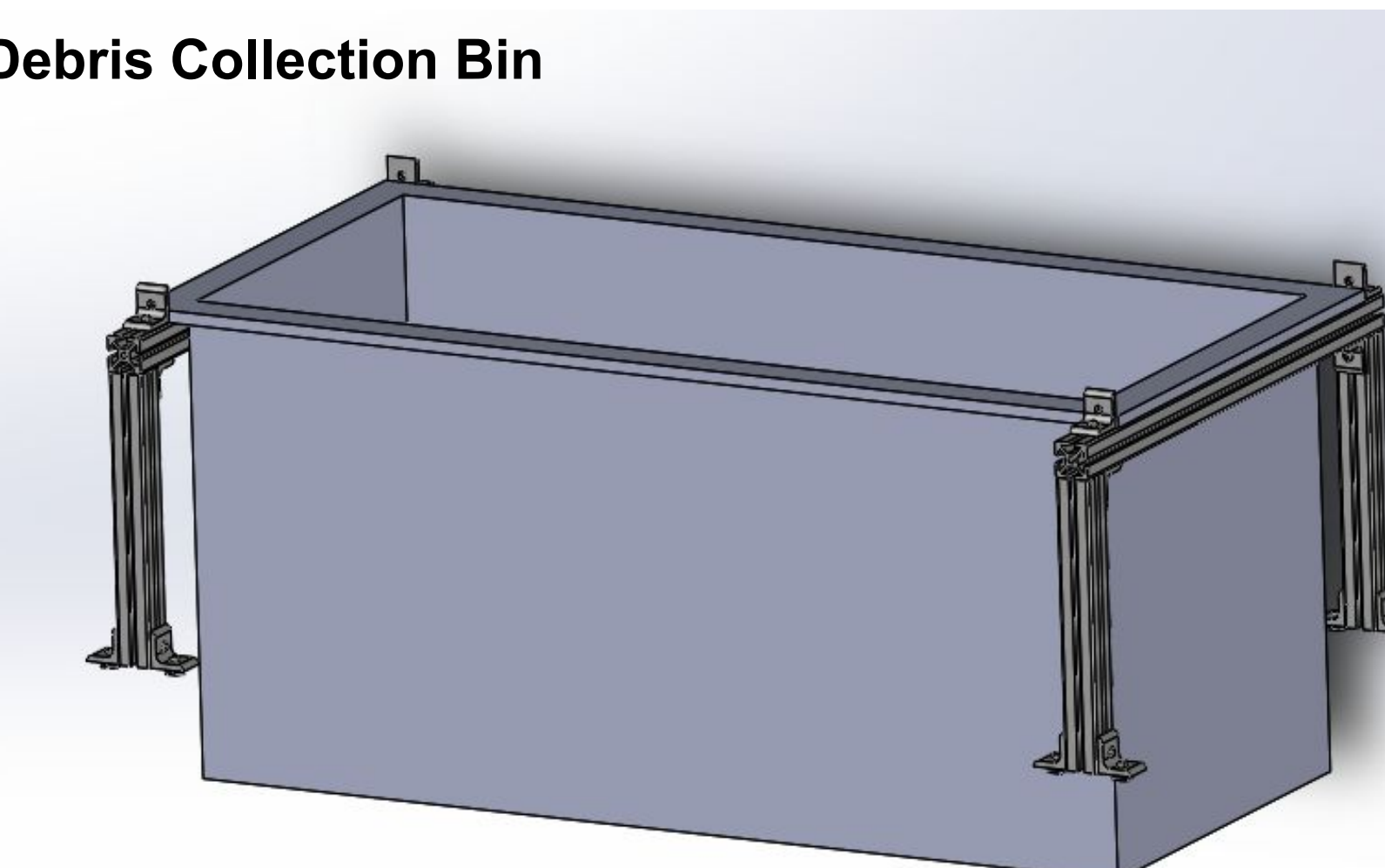
Vessel Frame



Pontoons



Debris Collection Bin



### Sponsor

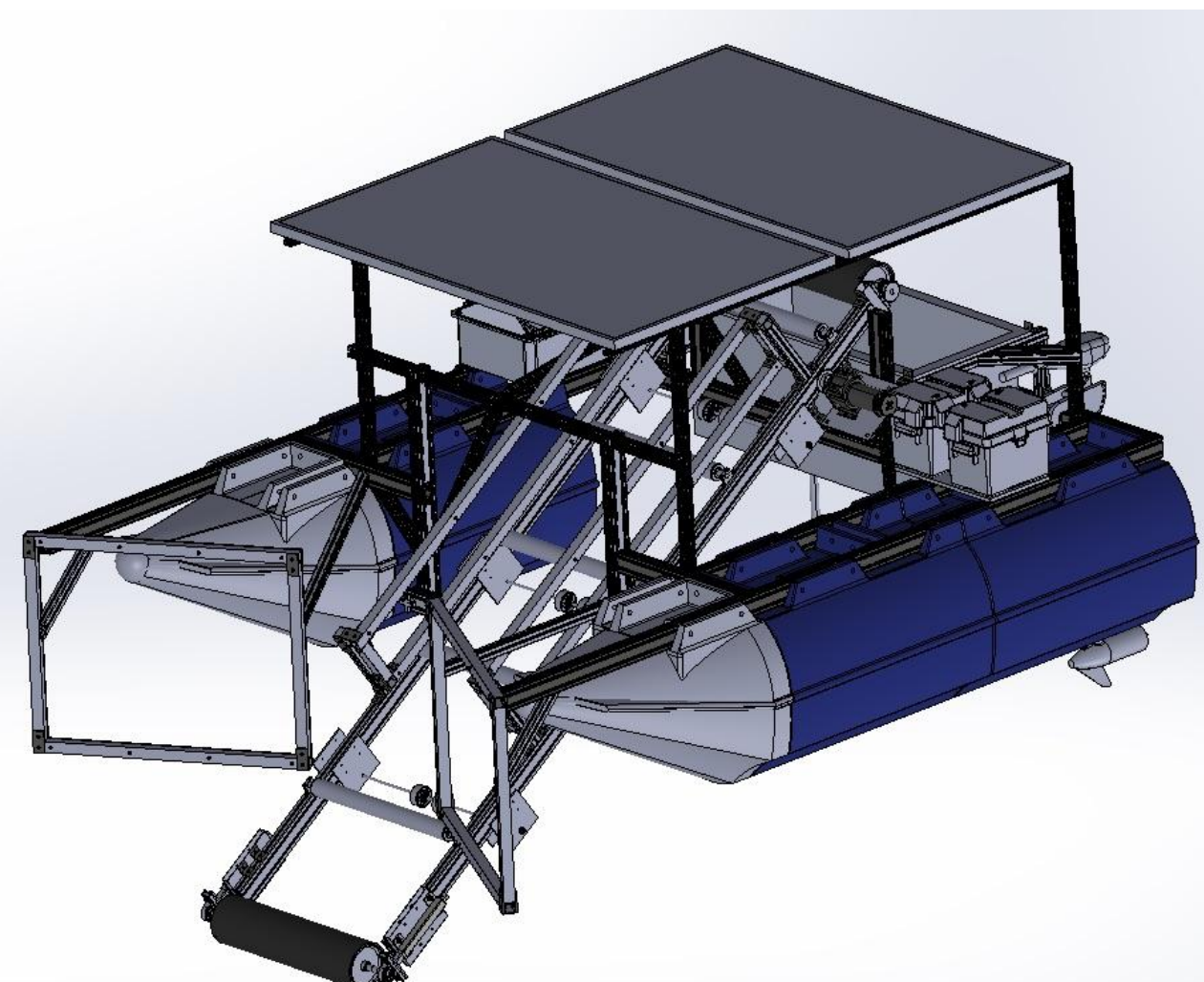
Clear Blue Sea is a 501(c)3 nonprofit located in San Diego. Together with government, private companies, other nonprofits, and the public, we believe in implementing solutions to fighting the problem of ocean plastic pollution.

Website: <https://www.clearblueseas.org/>

### Objective

To design and build a production version of **FRED** (Floating Robot for Eliminating Debris) to be published in the public domain. This would enable marine conservationists to reproduce FRED in order to cleanse plastic debris from the world's bays, estuaries, and smaller bodies of water.

### CAD Model



### FRED in Action

- Must collect marine debris size of 5mm-30cm
- Must capture and retain 90% of incoming trash
- Must be able to detach trash storage unit from FRED within one hour by two people
- Must remotely control FRED's navigation from a minimum range of half of a mile from shore
- Must be solar powered
- Must propel at a speed of 1.5 knots or more
- Must be able to drain water collected with trash
- Must have a hull between a length of 8-10 ft.
- Must be able to run for a minimum of 4 hours
- Must be able to fully function in water with a two on the Beaufort Wind Scale

### System Block Diagram

