

Games for Our Future: **Surviving Climate Change** Research Mentor

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Research Goal/Passion

- Infrastructure (e.g., roads, powerlines) resilience to impacts from climate change
- Landslides – modeling and predicting change risks over time
- Hydrologic shifts (i.e., water systems) as a result of changing climate

I care about these topics because they affect the built, natural, and social resources that sustain our communities. We have built our infrastructure based on historical climate and these old designs may not function as desired in a new climate. There are also an important cascading effects stemming from warming temperatures: less snowfall, increased downpours, shrinking glaciers, saturated soil, increased landslides, more sediment in streams, increased flooding, ... damage to built and natural resources, costing billions.

Problem to be addressed & Potential Solutions

Problem: As climate shifts, how will we keep roads open and the power on?

We need to “adapt” our power and transportation systems to the expected new climate and the resulting changes in climate-related consequences (e.g., more severe storms, landslides).

Solutions include climate adapted infrastructure: wider culverts and higher bridges, redundant roads/powerlines, stormwater management, setbacks from shorelines, stronger materials, increased funding, telecommuting (i.e., work from home), distributed (i.e., dispersed) power generation, more maintenance...

What should a player learn from playing this game?

How changing 1 thing has a cascading effect ‘downstream’ (e.g., downpour → landslide → road washout). Climate disruption of power and transportation means you can’t get to soccer practice, charge your phone...

More resources for game makers

Adapting Infrastructure to a Changing Climate

<https://www.infrastructurereportcard.org/>

Climate Change, Extreme Weather Events, and the

Highway System - TRB, NCHRP Report 750

Climate Change and the Electricity Sector

<https://www.energy.gov/>

Rising to the Challenge, Together

<https://kresge.org/>

(Search key words for each)



Photo – Sam Martinson