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## EarthGames

### Making Games Centered Around Climate Change

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#### Abstract

EarthGames develops games and other interactive experiences with the aim of increasing public awareness of environmental issues such as climate change. Interactive digital experiences are an important part of the future of education, and environmental science is particularly lacking in this area. We believe that the playful nature of games can also counter the typical “gloom-and-doom” tone of the environmental movement, giving students a sense of agency while they learn. We hope to use the power of games as an educational tool to inspire action and more sustainable habits.

#### The State of Climate Change Education

The problem climate change has existed for decades, but the American public still struggles with understanding the basic facts (Leiserowitz et al, 2013). And although there have been some successes, there has been much unsuccessful communication about climate change (Boykoff, 2011, O’Neill & Nicholson-Cole, 2009).

It is not necessarily the information that is presented that is the problem, rather, it is—at least in part—the way it is presented and who is presenting it. Climate scientists, activists, and the environmental community need new messages and new messengers (Kahan, 2012). Video games provide a medium that can effectively deliver these messages in classrooms and other environments, providing opportunities for active learning in a playful context.

#### Developing Games for Change

EarthGames is working on projects for game mediums ranging from table-top games to mobile platforms. Some projects have been in the making for over a year while some were recently conceptualized, but each one is currently a work in progress, being designed with hopes of being implemented into museums, classroom lesson plans, and other environmental education related activities.

In addition to our overall development goals, we participate in and use our status as a subsidy of

the University of Washington to host Game Jams and other events that bring together gaming and environmental study enthusiasts alike.

## Climate Quest

In Climate Quest, climate disasters are occurring across the United States, but your 4 heroes have the skills to save countless lives and protect fragile ecosystems! Forecasts of climate disruptions appear all across the map, each based on real impacts selected from the US National Climate Assessment. The player must choose which scientist-hero is best suited to prepare against the disaster: the urban planner, the ecologist, the agricultural scientist, or the climate scientist. Only the swiftest player will be able to prepare for all the events and earn the top score!



Figure 1. A screenshot of Climate Quest gameplay.

Climate Quest is for ages 8 and up, and is designed to be played in a museum or classroom setting, or at home. It takes approximately 10 minutes to play through the game. It is available to download for free on Mac and PC, and we are currently working on ports for both android and iOS devices.

## AdaptNation

AdaptNation is a cooperative tabletop game for 3-6 players. Each player leads a fictional city and together they form a nation. Players must work together through trade, preparation, and investment to balance resources and keep their cities running in the face of progressively severe climate change over the next 30 years.

## Smogtown: A Pretty Gritty City

Smogtown is a city-building simulation game that allows players to manage and improve upon a city that is, at its start, not optimized for sustainability. Using real life carbon footprint and economic data, players are encouraged to upgrade their buildings to not only reduce their carbon emissions, but also to save money. Players can then use the money saved for further in-game upgrades. Since the game uses real-world data, we hope that their explorations of the most efficient and cost-effective strategies will allow them to apply this knowledge in their own homes as well.

## Life of Pika

Life of Pika is a runner that teaches players about the lives of the pika (an inhabitant of the Pacific Northwest that is threatened by global warming). Pikas cannot survive above a specific temperature, and this is used as the main survival mechanic for the game, in which players run to collect food, but must stay in the shade to keep their temperature low.



*Figure 2. A screenshot of Run Pika Run! Gameplay.*

In addition to these games we are also developing a trivia game and a sustainable building simulator. Both will pool in real data to provide information on global warming and environmental change.

## References

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