

Playing to Survive: Communicating Climate Change in Computer and Board Games

Péter Kristóf Makai

My project is dedicated to answering the question, How do games simulate complex earth systems to communicate scientific knowledge of a changing Earth? More specifically, How do climate change games mediate deep time and the enmeshed structures of human and nonhuman agencies to help us realize humankind's ethical responsibility to mitigate our impact on earth systems? To do so, I analyze how games simulate scientific complexity in analog and digital narratives, how they reflect upon real-world discourses about earth systems, focusing on a critical evaluation of the players' agency to make meaningful changes to worlds in games.

To conduct my research, I use insights from the disciplines of game studies, science communication and intermedia theory to describe how earth systems games design game mechanics to make their simulations illustrative of real-world science. Within science communication, I pay particular attention to the emerging field of climate change communication. Studies of games have investigated the ideological assumptions behind design choices to explain how they create meaningful fun.

My work looks into how simulated organisms, environments, and human players interact, but I emphasize the influence of real-world scientific discourses on games. To track the transmission of scientific information, I employ intermedia theory (Elleström 2014, 2019), which helps to highlight how ecological theories and climate models are transmitted from nonfiction science to (science-) fictional games.

The project investigates commercial digital narratives dealing with the ecosystem and climate change, like *Civilization VI: Gathering Storm*, *SimEarth* and *SimLife*, *A New Beginning: Final Cut*, *Fate of the World*, *Cities: Skylines*, and *Frostpunk*, and analog games like *Evolution: Climate*, *Terraforming Mars*, *CO2: Second Chance*, but for those I focus on new releases from the Spiel-Messe 2021 in Essen. I intend to muster up a wide corpus to showcase several genres and different mechanics for interacting with earth systems.