Research Themes

- Reveal the true extent to which the U.S. and Canada remade Niagara Falls following the 1950 Niagara River Diversion Treaty
- The engineering objective was to ensure the appearance of an unbroken and satisfactory crestline and the sufficient “impression of volume” while reducing erosion (see Figure 1)
- Explore the pros and cons of relying on hydraulic scale models (see Figure 3)
- I combine approaches from environmental history, environmental studies, envirotech, historical geography, STS, political ecology

Hydraulic Models

Figure 1

Niagara Falls became a type of machine blending the organic and mechanical, a hybrid envirotechnical infrastructure that is as much artificial as natural

Figure 2

GIS Images by Jason Glatz & Daniel Macfarlane

Figure 3

Key Concepts:
- Disguised Design
- Flowing Façade
- Hydro Tourism
- Hydraulic Nationalism
- Environmental Diplomacy

Is Niagara Falls Fake?
Dr. Daniel Macfarlane
Institute of the Environment and Sustainability, Western Michigan University

Manipulating Niagara

- Since the 1950s, between half and three-quarters of the river is diverted for hydropower: it is turned “up” and “down” each morning and evening, and set at 50% of volume during winter
- The flanks of the Horseshoe Falls were excavated (88,000 cubic yards) while the crest was reinforced, reshaped, and shrunk by 355 feet (see Figure 2)
- Erosion was only partially decreased
- In 1969, the American Falls were shut off to study the removal of the talus at the base, which was ultimately left in place

Publications

- > 10 academic journal articles and chapters, as well as pieces in Slate, Toronto Star, and Washington Post