

# Interactive Water Resources Programs for Planetariums in Minnesota

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## Introduction

Most water used in Minnesota flows out in one of three directions, so the personal and public choices we make about water use have impacts within our state and far beyond our borders.

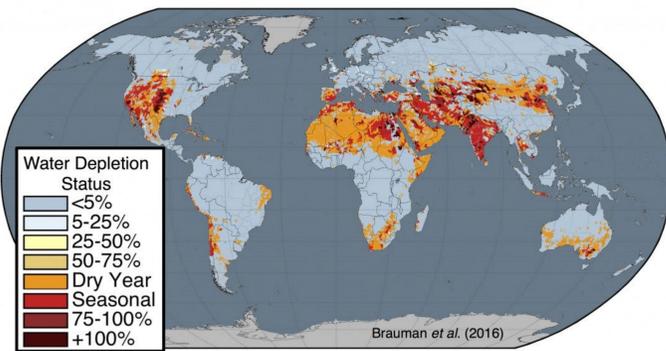


But how will the citizens of our state make meaning of these issues unless we introduce them in an engaging way?

## Production

The show includes live action and animation supporting issues in the major watersheds:

- Global: water depletion
- Mississippi River: nutrient runoff and precision agriculture
- Lake Superior: climate change and warming lakes
- Red River: flooding, prevention, and mitigation



## Minnesota Water Stories in the Planetarium



Planetariums use the latest video technology to guide audiences through visualizations of the universe and the world around us, and feature programming in many more disciplines beyond astronomy. Put the latest technology in a planetarium theater with an experienced educator, and the result is engaging, interactive programming—which can then be customized for the local audience. *Minnesota Water Stories* will be available for planetariums statewide.



## Goals for Minnesota audiences

1. Understand water issues globally and in Minnesota
2. Understand how choices about water use make an impact
3. Feel empowered to make a difference

## Formative Evaluation, 2018

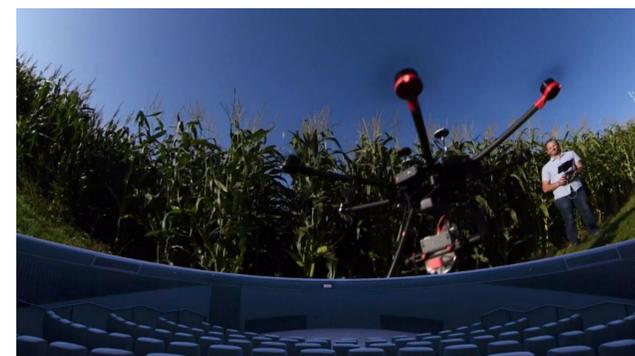
Gathered feedback from school and public audiences to inform revisions for the final production.

### Results:

- Audiences valued local perspective about Minnesota water issues.
- Audiences showed increased knowledge and awareness of social-ecological issues around water.

### Recommendations:

- Mobilize people toward action.
- Connect Minnesota's water challenges to global concerns.



## Project Activities

- Pilot planetarium program in the Twin Cities, Duluth, and Moorhead (May 2018)
- Audience testing and evaluation of pilot and web-based version
- Final program production

## Adjustments due to the pandemic

- Premier at the Bell Museum delayed from April 2020 to June 2021
- Created a web-based version to reach visitors when planetariums statewide are closed or at low capacity [z.umn.edu/MinnesotaWaterStories](https://z.umn.edu/MinnesotaWaterStories)
- Statewide presentations starting in spring 2022: Brainerd, Champlin, Duluth, Hibbing, Mankato, Marshall, Moorhead, Rochester, St. Paul



**Summative evaluation, 2021** Due to time constraints and pandemic closures, CAREI conducted the summative evaluation on the web based-version with students, teachers, and community members. Findings suggest that the web-based program facilitated awareness and new learning regarding Minnesota waters and its relation to social-ecological concerns. Evaluation results indicate an overall positive response to the program and teachers reported that it was easy for students to navigate and would consider using it again in the future. *Evaluation conducted by the Center for Applied Research and Educational Improvement, University of Minnesota (CAREI)*

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