



Examining the Interface between Policy Makers and Scientists

Meredith Gartin¹ and Timothy Lant²

¹School of Human Evolution and Social Change, ²Department of Mathematics and Statistics, Arizona State University
Decision Center for a Desert City



OVERVIEW

The Decision Center for a Desert City (DCDC) has developed an interactive model designed to facilitate decision-maker interactions around long-term water supply and demand in Maricopa County, Arizona.

Study Objectives

- (1) Determine the extent to which stakeholders can use the model for decision-making
- (2) Elicit feedback from stakeholders to reincorporate in the model
- (3) Examine stakeholder discourses around Arizona water decisions and decision-making
- (4) Examine the decision-making dynamics that foster the expression of dissent and the building of consensus.

Conceptual Framework

Cash et al. Framework; Knowledge Systems for Sustainability

Key variables

- (1) Saliency: How relevant is the model to your needs as a decision-maker (or the needs of decision-makers) in your workplace?
- (2) Credibility: What is your opinion of the scientific adequacy and the technical information presented in this model?
- (3) Legitimacy: Do you think that the information presented here is fair, unbiased, and respectful of stakeholder values?

RESEARCH DESIGN

Sample, 14 Focus Group Interviews

Includes Water Scientist, Water Law and Consultants, and Water Policy Experts

Design

- (1) Presentation of Model (see Figure 1 and 2)
- (2) Individual Survey and Group Discussion on 'How to improve the model's saliency, credibility, and legitimacy.'

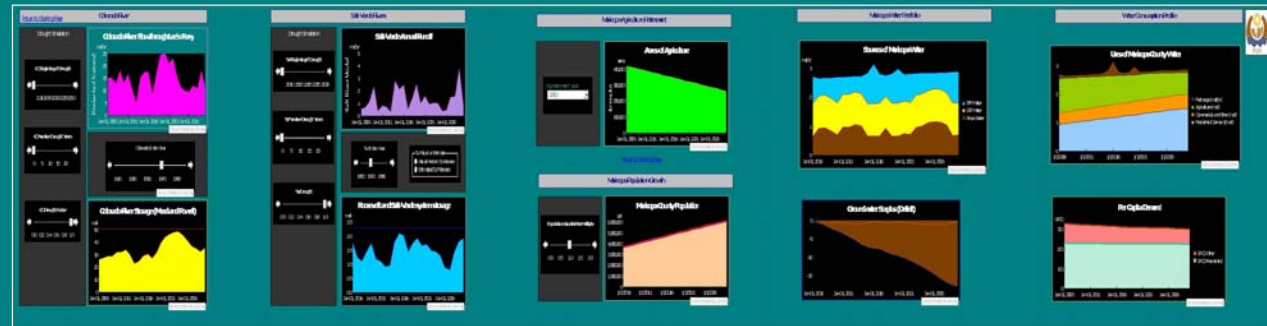


Figure 1. Sets the system with a Base Case. The scenario assumes that the watershed historical record from 1970 will repeat itself in 2006.

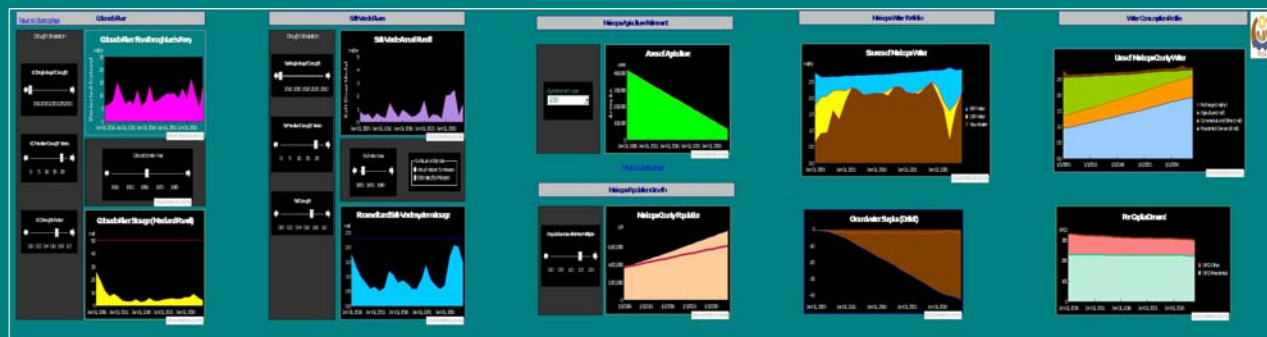


Figure 2: Examines a drought on the Base Case. The historical parameters are changed and a historically dry year is chosen to run the model (yr. 1957). In addition, the demands are changed (agricultural demand and population demand).

A comparison between Figure 1 and Figure 2 shows the changes in the supply system.

PRELIMINARY FINDING

While decision makers gave very detailed responses to our questions about credibility and saliency, they did not recognize (or were unwilling to acknowledge) that the model could be biased, unfair, or disrespectful of stakeholder beliefs. This result that decision makers' attitudes toward legitimacy (i.e. the role of bias and neutrality in scientific findings) may be more complex than Cash et al. suggests.