

Participatory modelling and mental models

Description

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These are the topics covered by two papers I have come across today, courtesy of Peter Barbrook-Johnson, of Surrey University. Both papers provide good overviews of their respective fields.

Moon, K., Adams, V. M., Dickinson, H., Guerrero, A. M., Biggs, D., Craven, L., & Ross, H. (2019). **Mental models for conservation research and practice.** Conservation Letters, 11(1).

Abstract: Conservation practice requires an understanding of complex social-ecological processes of a system and the different meanings and values that people attach to them. Mental models research offers a suite of methods that can be used to reveal these understandings and how they might affect conservation outcomes. Mental models are representations in people's minds of how parts of the world work. We seek to demonstrate their value to conservation and assist practitioners and researchers in navigating the choices of methods available to elicit them. We begin by explaining some of the dominant applications of mental models in conservation: revealing individual assumptions about a system, developing a stakeholder-based model of the system, and creating a shared pathway to conservation. We then provide a framework to 'walk through' the stepwise decisions in mental models research, with a focus on diagram based methods. Finally, we discuss some of the limitations of mental models research and application that are important to consider. This work extends the use of mental models research in improving our ability to understand social-ecological systems, creating a powerful set of tools to inform and shape conservation initiatives.

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Voinov, A. (2018). **Tools and methods in participatory modeling: Selecting the right tool for the job.** Environmental Modelling and Software, 109, 232-255.

Abstract: Various tools and methods are used in participatory modelling, at different stages of the process and for different purposes. The diversity of tools and methods can create challenges for stakeholders and modelers when selecting the ones most appropriate for their projects. We offer a systematic overview, assessment, and categorization of methods to assist modelers and stakeholders with their choices and decisions. Most available literature provides little justification or information on the reasons for the use of particular methods or tools in a given study. In most of the cases, it seems that the prior experience and skills of the modelers had a dominant effect on the selection of the methods used. While we have not found any real evidence of this approach being wrong, we do think that putting more thought into the method selection process and choosing the most appropriate method for the project can produce better results. Based on expert opinion and a survey of modelers engaged in participatory processes, we offer practical guidelines to improve decisions about method selection at different stages of the participatory modeling process

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1. Uncategorized

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