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**Title:**

The Provision and Utility of Science to Decision-Makers in the Face of Uncertainty

**Abstract:**

The provision and utility of science to decision-makers is a primary end goal to any scientific investigation. Irrespective of whether the science is solicited or offered, a central component to the investigation focuses on the communication of the results (predictions and uncertainties) to the decision-maker, which in turn, leads to scientifically defensible decision-making.

Unfortunately, for many real world applications, these science explorations often end with a report or peer reviewed paper that leaves the decision-maker with the difficult task of interpreting the results in the presence of fiscal, cultural, political inputs, personal values and beliefs. Without proper communication of the findings to the decision-maker, the methods and results can have little influence on the decision-making process. Furthermore, the uncertainties that accompany the results can be rendered useless to a decision-maker when not presented in a palatable form.

Through a motivating spatio-temporal example of pollutant load modelling in the Great Barrier Reef, I will explore this topic, providing some insights into why the uptake of science is not typically the "norm", but an exception. I will further invoke a discussion on how we as researchers can better inform policy and decision-making in the face of uncertainty through active engagement with decision-makers, and the development of methodologies and visualisation tools that can better communicate uncertainty and facilitate risk based decision-making.

This work was supported by the 2016 *Theo Murphy High Flyers* Think Tank focusing on 'An Interdisciplinary Approach to Living in a Risky World', in which we contributed to a *Final Report*, and *Conversation* piece. A full paper and suite of case studies motivating this topic is forthcoming.

This research is joint with Mark C. Quigley, Luke Bennetts, Patricia Durance, Mark D. Lindsay, Keith G. Pembleton, Melanie E. Roberts, and Christopher J. White.