

Complexity, uncertainty and urgency: Elements of the climate-change issue

Graeme Pearman, Monash University

Abstract

The climate-change issue is “diabolical” for several reasons. The issue is complex both in its biogeophysical makeup, and because its cause and resolution relates to human activities, economic, social, political and behavioral. It is uncertain because each component of the issue has yet to be described rigorously let alone is there sufficient understanding of interaction of each component with the other. The demand for an holistic assessment challenges the way we conduct Science and the way Science is interpreted.

But there is an ongoing urgency related to the need for action both adaptive and mitigative that relates to observed changes, the potential impacts and the timescales associated with the climate system. Management of the risk requires both the assessment of the probability of certain potential outcomes and of the magnitude of the impact if they occur. This is not a matter for waiting for scientific certainty, but prudent response to what we know with the intent of building resilience.