

When Might a Climate Model Prove Fit-for-Purpose?

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Abstract

The scientific value of climate simulation models is little doubted. Claims that their output is of value in quantitative decision support and risk management are, on the other hand, much more dubious. The claim that quantitative output from "the best available model" is always of value is difficult to justify if not irrational. A methodology to determine whether or not a given generation of climate models is likely to provide robust information for quantitative decision support is sketched. The conclusion will, of course, depend on the question being asked, the lead time, the historical archive and at times the available computer power, among other things. The approach, in brief, is to identify a set of necessary conditions regarding the meteorological performance of the model, conditions which must hold for rational belief that the model might yield robust decision relevant information. Several questions of interest for disaster risk management and in the insurance sector are discussed in this context.