

Creative Challenges at the intersection between climate science and visualization

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Effective communication with policymakers is of great importance to climate scientists, in particular the authors of the Intergovernmental Panel on Climate Change (IPCC) publications. This community of scientists need to be aware of the unintentionally issues that can arise when using visual mediums to communicate their science. Without such knowledge climate scientists will remain ignorant to the shortcomings in their communication approach and this is a serious concern for the decision making process. Our publication “The unseen uncertainties in climate change: reviewing comprehension of an IPCC scenario graph” published in the journal of Climatic Change illustrates the creative challenges that can arise when using visuals. It shows how novice readers, even highly educated ones, are unable to identify the scenario uncertainty in a central IPCC figure without substantial guidance, despite large efforts by the authors who produced the summaries for policymakers. Instead, readers saw a great deal of uncertainty but falsely attributed it to the climate model(s) and ignored the scenario uncertainties. This work was further expanded in a second publication “The scientific veneer of IPCC visuals” in the journal of Climatic Change. This study aims to seek new ways of communicating climate facts to policy makers through appropriate visual devices without impacting the integrity of the science. The use of visual aids (graphs, maps or infographics) in the IPCC publication is not intended to provoke a certain response (as might be the case in art based design) but as a tool to provide legitimate information in the simplest way possible. Both these studies supports IPCC authors in their design choices and are a vital contribution to climate communication research. We hope our discussion highlights the importance of research in climate communication and the need for further work in this area.