Use of multiple lines of evidence to bridge the science-society gap by improving communication and tailored products.

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Increasingly the availability of climate change data opens up the possibility of using single lines of evidence for decision making, with potentially dangerous consequences. At the same time there is an imperative for decision making in response to climate change, without the luxury of waiting for many more years of research. There is thus an increasing pressure for scientists to respond to the current context in a responsible manner, drawing on all lines of evidence to build robust messages. This poster explores the need to integrate multiple lines of evidence to create a better understanding and stronger interpretation of regional and local responses to climate change. In doing so, this will enable the development of defensible and actionable messages of projected future change in climate at the scales of importance. Multiple lines of evidence reduces the uncertainly held in only communicating and responding to one method of projecting future climate states. Climate change messages become more robust when consideration and integration of four principle information sources are utilized namely a) the past record, b) the controlling large scale circulation, c) the indications of change from multi-model GCM simulations, and d) the detail of local scale projected change derived through downscaling methods (Hewitson et al. in submission; Executive Summary AR4 Ch11). By synthesizing multiple lines of evidence and using this information to communicate stronger and more defensible messages to the user, this will facilitate the development of adaptation response strategies specific to their vulnerability and geographical location. To date the lack of the use of multiple lines of evidence for climate change has produced less defensible and actionable messages for the user. A case example is used to show how a multiple lines of evidence approach can greatly increase a regional understanding of change. Reference Hewitson, B.C., Gutowski, W., Tadross, M. & Crane, R. In preparation. Developing defensible messages of regional and local-scale climate change.