



Should we communicate uncertainty?

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The society may have a question – can science provide an answer? In some cases, the experts may have valuable knowledge which can provide some guidance, however, the understanding is never complete. Different expectations of the level of precision lead to conditional statements from a scientist that is difficult to act on for decision makers. They would be pleased to know that phrase “we need to communicate uncertainty” is not uncommon in climate research.

Scientists and the general public have different expectations and focus on knowledge: scientists study the unknown whereas the society is interested in what we know. The term “uncertainty” has a specific meaning to scientists: it’s the knowledge about what we don’t know. In general, “uncertainty” can have many meanings; it is not a good term, as itself is shrouded in uncertainty.

It is important that the message from the experts is both credible and honest, in addition to being understood correctly. Furthermore, we want the attention from the recipients, and therefore need to understand their position and their expectations.

All knowledge has a history, and we can tell the story behind the conclusions that conveys both the knowns and the unknowns. The difficult part may be to address the question of how this piece of knowledge is going to answer your question. Furthermore, what else may be important? What are the chances for unknown unknowns?

It is hard to have a complete view of climatology. The flow of knowledge from climate sciences to the general society has become increasingly complicated as it has advanced and the number of published papers has accelerated. It is strongly cross-disciplinary, and spans over subjects such as physics, chemistry, geography, meteorology, oceanography, hydrology, statistics, computer science, mathematics, and statistics.

Some examples will be provided that can serve as an input to discussions about ways to explain complicated and incomplete knowledge, and how to make use of such information. A new experiment will also be presented: ‘agnology – learning from mistakes’. There is some additional public confusion about climate change that may not be merited from a scientific standpoint, and is it possible to tackle this by examining key papers and replicate the results?