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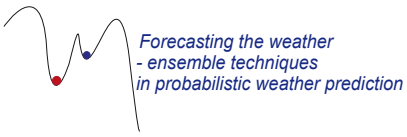

Communication of uncertainty in weather forecasts

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Weather forecasts are uncertain due to the chaotic nature of the atmosphere. By incorporating uncertainty information there is potential to ensure that users make more informed and better decisions. Through the use of ensemble forecasting, the Met office is capable of providing forecasts which include uncertainty information. To make sure that the information is being communicated effectively to users in a way that will allow them to make better decisions it is desirable that methods of presenting the information are objectively evaluated. Do individuals understand and interpret effectively the information conveyed to them in weather forecasts? Does including uncertainty information in weather forecasts help individuals make better decisions? In what formats do individuals understand best? To answer these questions, experimental economics was used to assess public understanding of information in weather forecasts and test whether the participants were able to make better decisions using the probabilistic information than if they are presented with a simpler forecast excluding the probabilistic information. Undergraduate students from the University of Exeter were asked to choose the most probable temperature outcome between a set of "lotteries" based on the temperature up to five days ahead. If the 'most likely' outcome was chosen participants were rewarded with some cash reward. Preliminary results indicate that on average participants provided with uncertainty information make better decisions than those without.