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Assessing the role of a priori user knowledge in climate services perception: An experiment with university students across Europe

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By definition a climate service (CS) is a provision of climate information to assist decision-making. Therefore, CS users are the crucial agent in the CS production chain. User role needs to go further than only making use of the CS, their function must be taken into account during CS design and implementation. This can be accomplished by creating a feedback loop, in which users interact with CS developers. Nevertheless, the a priori user knowledge (i.e. their background, expectations of CS, previous experiences with CS) can condition user role in this co-development process. Identifying this previous knowledge and how this can condition user perception about CS is not easy. On-line surveys and personal interviews which are the most extended technique to gather information about users, on the one hand, are not usually designed to dig into the user a priori knowledge, and on the other hand, can be influenced by many subjective aspects.

This work tries to assess the role of user previous knowledge and the perception that users have about CS. An experiment was designed and carried out with about 100 final year bachelor and master engineering students (agronomic, civil, forestry, geotechnical, hydraulic) across Europe (Germany, Austria, France and Spain) as potential CS users with similar initial knowledge. In the experiment the student population was split into two samples. Specific CS training was given to one, no training to the other. Therefore, users with and without a priori knowledge about CS were simulated. Then a role game, in which they become consultants hired by a water management authority to make a decision regarding the management of a lake, was played. Different levels of information (i.e. ensemble mean, ensemble spread, robustness of climate model) are provided to the students along the game to evaluate basic climate concepts.

Experiment results show that previous knowledge has a role in the decision taken by the users. Trained users required more complex information before being willing to make a decision, while non-trained ones trust less complex information. No significant differences were found between countries or the two educational levels.

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