Monetizing the impacts of climate change on river uses towards effective adaptation strategies

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\textbf{ABSTRACT}

This paper examines public preferences for adaptation to climate change of ecosystem services provided by the Piave River in Italy, using the choice experiment method. Climate change projections indicate a considerable precipitation decrease in the broader basin area leading to river discharge loss the forthcoming decades. The study design accounted for preservation of current levels of different river services such as: irrigation, rafting activities, hydroelectricity power and ecological services. Our estimation strategy consisted in estimating a conditional logit model and a random parameters logit, together with their extended forms with census and attitudinal interacted variables. Results from all models present a tendency towards the selection of adaptation alternatives, showing that people are willing to pay for all river services except for rafting activities. Preferences’ heterogeneity proves to be present and determinant, illustrating the choice patterns. The policy implications of these results may assist in developing more robust adaptation practises to cope with the socio-economic impacts of climate change on water resources.

\textit{Keywords:} Climate change; River uses; Choice experiment