大規模気候予測データベース利用手法の提案と影響評価研究への適用：八重山諸島における観光業への影響を例に

Development of a simple method to use massive climate projection datasets for impact assessments: an application to the climate change signals related to tourism

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A Simple method to use massive climate projection datasets is developed. The simplicity of the method enables application to various impact assessment studies. In this new method, rather than projecting directly the variables of interest, we project the change of probability. This probabilistic approach enables simple assessments for issues associated with climate change. The trends in change are evaluated without considering the detailed relationship between climate and a target of assessment. The applicability of the method developed is demonstrated for the climate change signals related to tourism in Yaeyama islands, Okinawa, Japan. For this assessment, we use the database of long-term high-resolution climate ensemble experiments and a questionnaire survey conducted by local governments. The result indicates that the occurrence of severe events like heavy precipitation or strong wind will decrease in summer, and the occurrence of fine day, which most tourist prefer, will increase in winter. This result can be useful for the impact assessment of climate change. The example of application shows that the developed method can effectively project the future main changes and uncertainty for the target of assessment considering the spread of projection derived from ensemble simulations.

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