

AI technology to boost climate change adaptation

*Noriko N Ishizaki¹, Alessandro Damiani¹

1. National Institute for Environmental Studies

Climate change will affect many sectors of our lives, including not only the occurrence of severe weather disasters, but also the disruption to rice cultivation due to high temperatures, the impact on crops and marine products, changes in the biological seasons and fluctuations in energy demand. Many of these changes are already a reality. Six years have passed since the Climate Change Adaptation Act came into force. While local communities are working to understand the impacts and develop adaptation plans, action to prepare for the future impacts seems to be not sufficient yet.

Center for Climate Change Adaptation of the National Institute for Environmental Studies provides support for local adaptation measures and has recently been focusing on initiatives that use AI technology. One such initiative is the development of future climate scenarios that realistically reflect the topographical characteristics of the region. Climate scenarios play an important role in understanding regional climate change and its impacts, and in leading appropriate adaptation strategy. There is an increasing need to verify their validity as climate data and to ensure their reliability. In this presentation, the development of AI-based climate scenarios and future challenges will be presented.

Keywords: climate change adaptation, climate scenario, downscaling, impact assessment for climate change