

## **Reduction of Uncertainties in Projection of the Change in Future Tropical Cyclones**

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AESTO/MRI/JMA KYO-SEI project team conducted an experiment using a 20-km resolution AGCM, and made a detailed projection of future climate change. In the experiment, tropical cyclones have been simulated much more realistically than lower resolution models. It has been shown that global number of tropical cyclones will decrease but number of intense tropical cyclones will increase. With this result, together with the results of lower resolution models from other groups, IPCC AR4 concluded that tropical cyclones become more intense and global number of tropical cyclone decrease in the future. However, there remains a considerable uncertainty in the projection of the future tropical cyclone change, particularly in the future regional frequencies. To reduce the uncertainties, we need a large number of ensemble experiments with longer period. We also need to understand the mechanism of tropical cyclone formation, and improved interpretation of the GCM experiment results based on the understanding. Toward this goal, AESTO/MRI/JMA KAKUSHIN program team is now working.