Experimental multi-model seasonal prediction of the APEC climate network

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A major objective of the APEC climate network (APCN) is the development of a multi-model ensemble system (MMES) for seasonal climate prediction for Asian Pacific Economic Cooperation (APEC) member economies. The forecast system uses global model outputs produced by different climate centers in APEC. An experimental prediction for the 2002 summer season has been performed using the dynamical seasonal model outputs from the five institutes: the National Centers for Environmental Prediction, Korea Meteorological Administration, Seoul National University, Taiwan Weather Bureau, and NASA.

The MMES utilizes the super-ensemble method and is developed based on 20 year hindcast seasonal prediction data of the five models. For a regional prediction, a statistical downscaling based on a pattern project method is applied to each model output, and the super-ensemble is applied after the downscaling. The predictability of each prediction system and the MMES are evaluated using the cross validation method, and the economic value of the MMES is assessed as a function of cost/loss ratio. In the final, the APCN science plan will be overviewed in the presentation.

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