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Title: The Subseasonal to Seasonal Operational Forecast Systems Developed at CWB Taiwan
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Abstract:
The weather and climate in Taiwan are mainly influenced by the monsoons over East Asia and West Pacific. Tropical cyclones, monsoon surges, intrusions of mid-latitude front and abnormal western Pacific subtropical high are the major influential factors that directly result in weather and climate extremes. The long-range predictions of the rainfall patterns during late winter and early spring (Spring rains) and the onset stage of East Asian summer monsoon in May and June (Mei-yu), typhoons, winter cold surges and prolonged dry spells are highly demanded for raising the awareness of weather and climate hazards and disaster risk reduction. This paper presents the structure and products of the backbone system CWB Climate Forecast System (CWB-CFS) that generates the subseasonal to seasonal forecast information on the global and local scales. CWB-CFS is a two-tier forecast system formed by 4 suites of forecasted SST and AGCM consists of 3 major components: statistical-dynamical SST forecast module, global atmosphere forecast system, and statistical downscaling module. Each suit has 10 members. In addition, the statistical seasonal forecast models for Mei-yu rains and typhoons in Taiwan area are also introduced. A new version of the CFS (CWB-CFSv2) is under development with an operational scheduled in 2016. The total ensemble members of CWB-CFSv2 will increase from 40 to 120. The target stations of statistical downscaling will increase from 9 to 24. The new system marks one step closer to the goal of objective seamless forecast service from daily weather forecasts to seasonal outlooks at CWB.
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