

# **Downscaling the seasonal forecasting information : The example of New Caledonia**

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Because seasonal forecasting issued a large scale information, one generally need some adaptations of these forecasts both in space and in time. This adaptations are known as downscaling and are generally crucial for the application domains. A general method has been developed for New Caledonia and the main results are presented. First, using local observations of rainfall and temperatures, the influence of the large scale forcing is highlighted including the ENSO and other relevant indices. Then, the quality of the forecasts over the region of interest are addressed using 3 models of the Demeter experience; namely the models from the CEPMMT, Met Office and Météo-France. Notably, different ways to merge these informations are tested. A zoning is proposed for the New Caledonia and the 3 studied parameters (rainfall, Maximum temperature and Minimum temperature). The improvements and added values brought by the downscaling are issued. Finally different methods of downscaling (linear vs non linear) are compared. Some conclusions seem to be general while some other are specific to New Caledonia.