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Towards a Medium-Range Coastal Station Fog Forecasting System

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Abstract

An empirical downscaling technique to predict daily fog occurrence at Cape Town International Airport from low-level atmospheric circulation is developed by using the Principal Component Regression option of the Climate Predictability Tool. NCEP 12UTC sea-level pressure data fields are the predictors in the empirical model and the occurrence of fog the next day the predictand. Probabilistic fog predictions are tested over an independent 365 day period and the skill is represented by the ability of the model to discriminate fog days from non-fog days and also to test the reliability of the forecasts.