Lightning probability forecast in Mainland Portugal

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SUMMARY

The lightning probability forecast at IPMA is obtained using a logistic regression model. Four stability indices, computed from ECMWF forecasts are used as predictors. The probability forecasts are available up to 6 days, in 6 hour periods and are computed only for Mainland Portugal. Thunderstorms are among the weather events that may cause local severe damage and disruption to the power-grid network, telecommunications and air traffic, hence forecasting the areas where lightning may occur is of major importance.

KEY WORDS: lightning probability; ECMWF forecast; stability indices; logistic regression.