

Springtime large-scale sea level pressure-wind gusts interactions over the Iberian Peninsula

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The purpose of this work is to study the springtime relationships between the mean sea level pressure field over the North Atlantic and the regional wind gusts over the Iberian Peninsula. The Singular Value Decomposition analysis is used to identify the main atmospheric circulation patterns linked to gust wind speed anomaly configurations. After applied a Monte Carlo procedure, the statistical significance of the modes is investigated, obtaining two first leading modes. Iberian above-normal gust wind speeds is related in the first covariability mode to the Scandinavian pattern. Positive (negative) wind gust correlations over the northern (southern) Iberia are related to reinforced spring NAO pattern in the second covariability mode. True relationships between large-scale atmospheric field and gust wind speeds are studied by means of composite maps, giving average atmospheric circulation associated with coherent wind gust variability over Iberia.