THE NAO INFLUENCE ON THE SEASONAL PRECIPITATION IN THE IBERIAN PENINSULA

DATA
PRECEPITATION: Grid 2° lat x 2° lon standardized anomalies covering the Iberian Peninsula and Balearic Islands.
NAO INDEX: Gibraltar - Iceland for winter
Azores - Iceland for the other seasons
MEAN SEA LEVEL PRESSURE ANOMALIES: NCEP reanalysis 1959-97.

PCA regionalization:
Three regional patterns:
- Western and Interior
- Mediterranean area
- Northern coast
For winter, there four patterns: North-eastern and South Mediterranean area

WINTER:
PC1 series (western and interior) linearly correlated with NAO index (r=0.67)

SPRING:
PC1 series (western and interior) significantly correlated with NAO index (r=0.22)

SUMMER:
PC1 series (western and interior) significantly correlated with NAO index (r=0.31)

AUTUMN:
PC1 (western and interior) and PC2 (Northern Coast) series significantly correlated with NAO index (r=-0.19 and r=0.23 respectively).
Correlation (by 100) between PC1(a) and PC2(b) series and the mean sea level pressure field

CONCLUSIONS
- High influence of NAO on winter precipitation over Western and Interior.
- ± one standard deviation of NAO = 160 mm precipitation anomalies in Galicia, Portugal and Western Andalucía during winter.
- Only significant precipitation anomalies for extreme NAO events during the winter.
- No significant anomalies for summer due the weak circulation.