Geophysical Research Abstracts,
Vol. 10, EGU2008-A-02875, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-02875
EGU General Assembly 2008

Links between the north hemisphere teleconnection patterns and the significant wave height in the Mediterranean Sea

P.Lionello and M.B.Galati
University of Salento, Lecce, Italy (piero.lionello@unile.it)

This study analyzes the link between the SWH (Significant Wave Height) distribution in the Mediterranean Sea during the second half of the 20th century and the Northern Hemisphere teleconnection patterns. The SWH distribution is computed using the WAM (WAve Model) forced by the surface wind fields provided by the ERA-40 reanalysis for the period 1958-2001. The time series of mid-latitude teleconnection patterns are downloaded from the NOAA web site. This study shows that several mid-latitude patterns are linked to the SWH field in the Mediterranean, especially for the cold season and its western part: East Atlantic Pattern (EA), Scandinavia Pattern (SCA), North Atlantic Oscillation (NAO), East Atlantic/West Russia Pattern (EA/WR) and East Pacific/ North Pacific Pattern (EP/NP). Though the East Atlantic pattern exerts the largest influence, it is not sufficient to characterize the dominant variability. NAO, though relevant, has an effect smaller than EA and comparable to other patterns. Some link results from possibly spurious structures and show the shortcomings of this. Moreover, patterns which have a very different global structure are associated to similar features of regional wave variability in the Mediterranean Sea