



The role of land-atmosphere interaction in North Atlantic Oscillation variability

R. Bojariu (1), R. Garcia - Herrera (2), T. Zhang (3) and O. W. Frauenfeld (3)

(1) Administratia Nationala de Meteorologie, Bucharest, Romania (2) Universidad Complutense de Madrid, Madrid, Spain (3) CIRES/National Snow and Ice Data Center, University of Colorado, Boulder, CO, USA (bojariu@meteo.inmh.ro/Fax +40 21 3167762)

In this study we investigate the role of land-atmosphere interaction in the relationship which links North Atlantic Oscillation (NAO) in winter (December-March) and Eurasian snow cover in the previous warm season (April-October). In this context, we used cyclostationary empirical orthogonal function (CEOF) analysis to identify seasonally-locked signals in soil temperature, snow frequency and atmospheric data from selected regions of Northern Hemisphere, in the interval 1973-2000. CEOF analysis reveals coupled cryosphere - atmosphere patterns which can be related to NAO variability.