Geophysical Research Abstracts,
Vol. 11, EGU2009-6600-1, 2009
EGU General Assembly 2009

South Hemispheric Teleconnection to Eastern Mediterranean synoptic systems

I. Osetinsky (1) and P. Alpert (2)

(1) ISRAEL METEOROLOGICAL SERVICE, Bet Dagan, Israel (isabella@cyclone.tau.ac.il), (2) TEL AVIV UNIVERSITY, Tel Aviv, Israel (pinhas@post.tau.ac.il)

The teleconnections between the Eastern Mediterranean regional climate and large-scaled tropical and midlatitudinal global indices are becoming widely recognized due to the recent publications. We will present the unexpectedly high correlations between the Eastern Mediterranean synoptic system of the Red Sea Trough and global and hemispheric temperature indices. The Red Sea Trough is the pressure pattern originated from the Sudanese Low and stretched over the warm surface of the Red Sea northward, sometimes reaching up to the Western Turkey. We calculated the correlations between the annual number of the Red Sea Trough days over the Eastern Mediterranean region (RST thereafter), and anomalies of the global and northern and southern hemispheric annual temperatures (TG, TNH, TSH, respectively), for 1948-2000. The annual data, both for the RST and for temperatures, were taken unsmoothed. We got the following remarkable correlations: 0.61 between the RST and TG, 0.51 – between RST and TNH, and 0.65 – between RST and TSH. The lower correlation for the Northern Hemisphere (NH), as compared to the Southern Hemisphere (SH), may be explained considering a distribution of continents and oceans. This carries, on the one hand side, a higher NH than SH mankind activity influencing the natural connections, and on the other - an enhanced SH than NH atmospheric circulation.