

<b>Name-Surname</b>	<b>Eleni Preka</b>
<b>Thesis Title</b>	<i>Dynamics of the teleconnection pattern between the Indian monsoon and eastern Mediterranean during summer</i>
<b>Supervisor</b>	H. Flocas, Associate Professor
<b>Summary</b>	<p>The objective of this study is to examine the propagation and characteristics of the Rossby wave trains responding to the convection forcing and extending to the eastern Mediterranean during the years of strong and weak activity of Indian Summer Monsoon (ISM).</p> <p>Daily NCEP/NCAR reanalysis datasets on a 2.5°x2.5° grid are employed for the period 1948-2013. The forcing of the Rossby waves is examined with the aid the Rossby wave source (RWS), which is divided in two terms: the generation of vorticity by divergence (<math>S_1</math>) and the advection of absolute vorticity by divergent flow (<math>S_2</math>). Monthly composite means and anomalies for strong and weak years are calculated. Furthermore, correlation maps between Rossby waves and All India Rainfall Index (AIRI) were constructed to identify the relationship pattern of Rossby waves with the monsoon rainfall.</p> <p>It was found that an intense Rossby wave structure forms during the strong ISM years, which becomes more determined in July and August. This train seems to derive from subtropics, south of the westerly subtropical jet. The train seems to propagate westwards towards the Middle East and the Mediterranean during specific periods of the strong years.</p>
<b>Key words</b>	Indian Monsoon , teleconnection , East Mediterranean summer , Rossby waves
<b>Evaluation committee</b>	H. Flocas, Associate Professor D. Deligiorgi, Associate Professor C. Tzanis, Lecturer