CHARACTERISTICS OF CLIMATE AND LARGE-CIRCULATION IN ARMENIA

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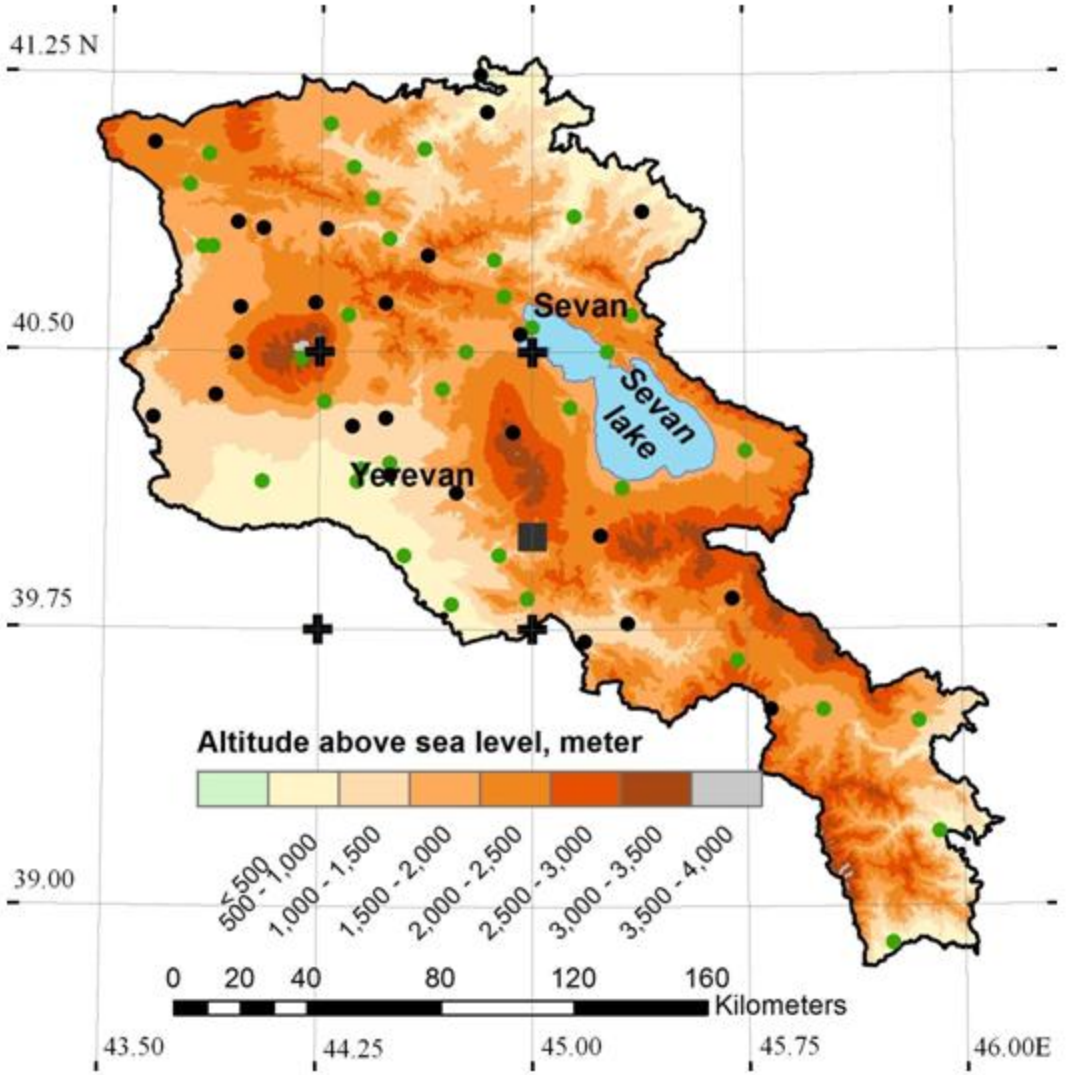
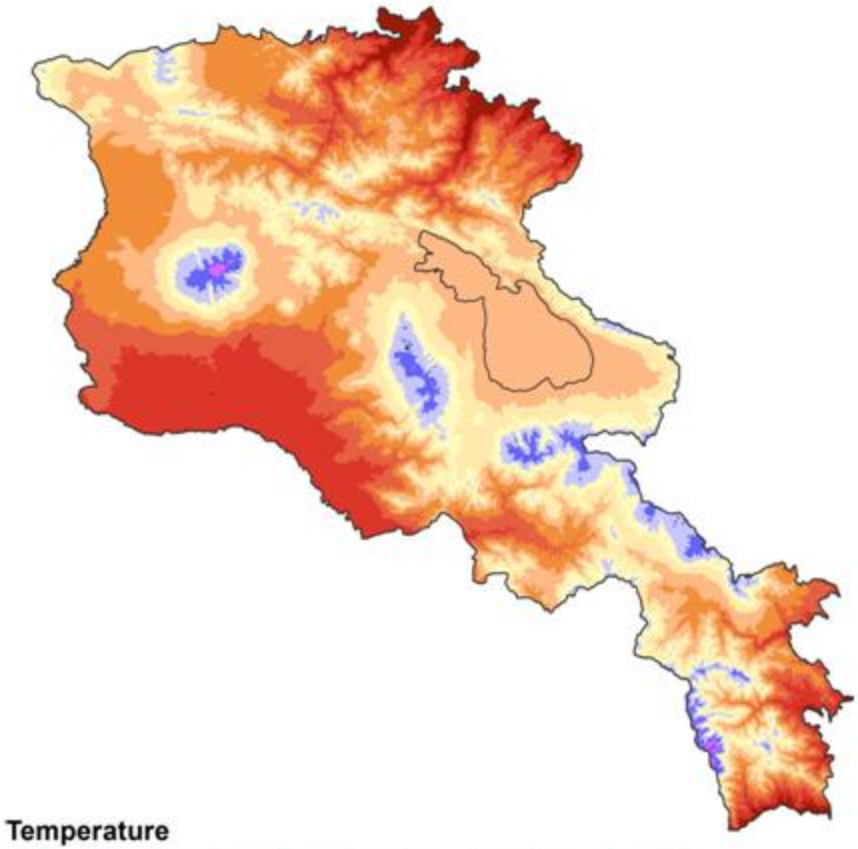
The distribution of meteorological stations with the topographical features in Armenia (temperature trends were estimated for stations indicated with green dots)

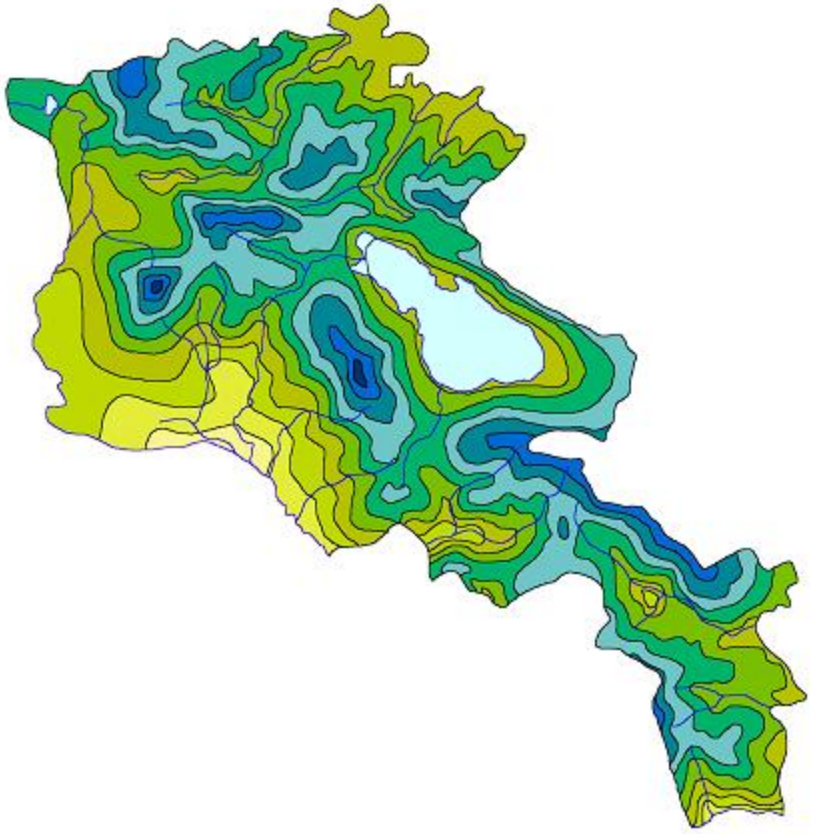


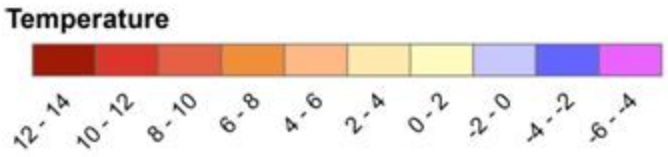
Mean temperature (a) and precipitation (b) climatology in Armenia (1961-1990)

(a)

(b)

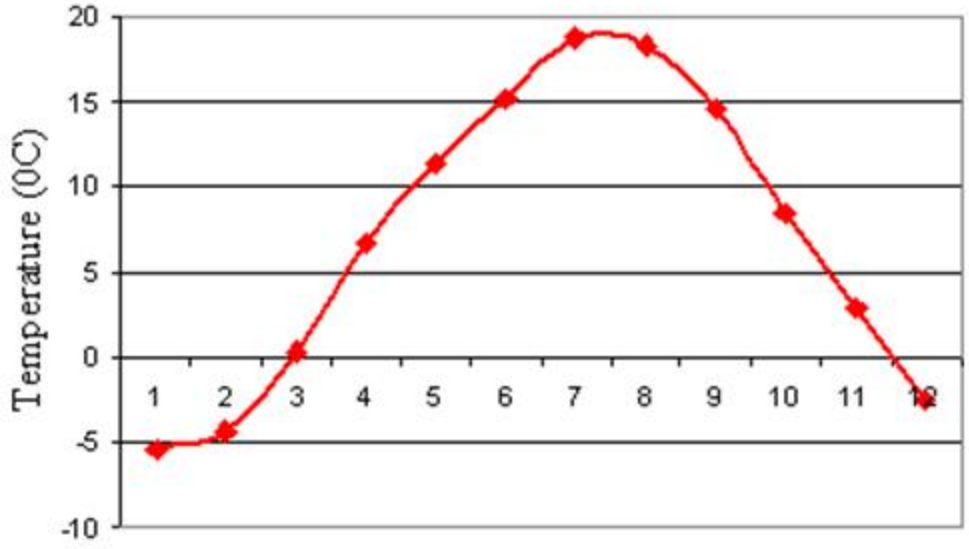




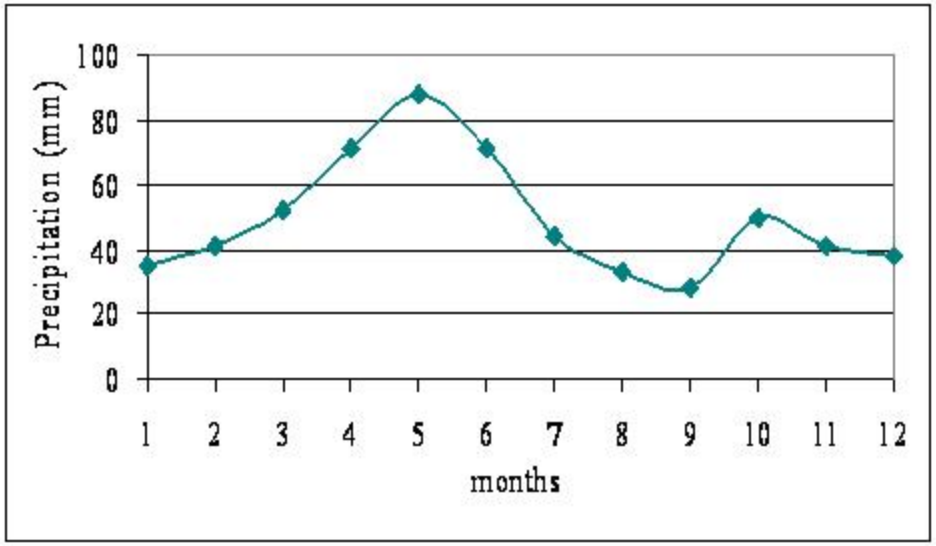


Annual cycle in mean temperature (a) and precipitation (b) averaged over the entire Armenia (1961-1990)

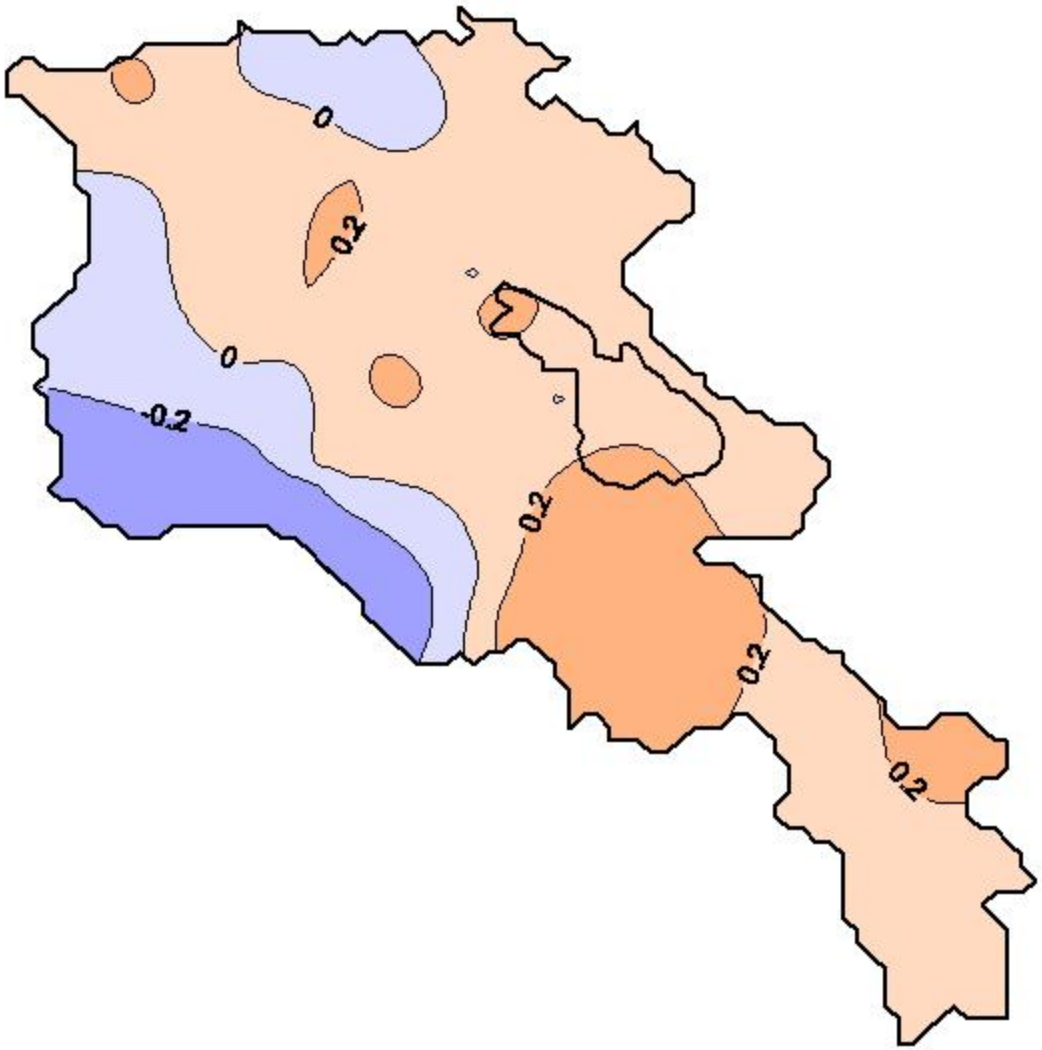
(a)

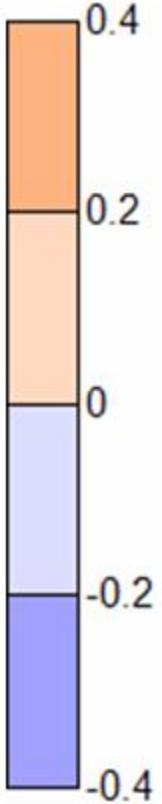


(b)



Trends in mean winter (DJF) temperatures in Armenia over 1979-2012 period. Units are 0C decade -1

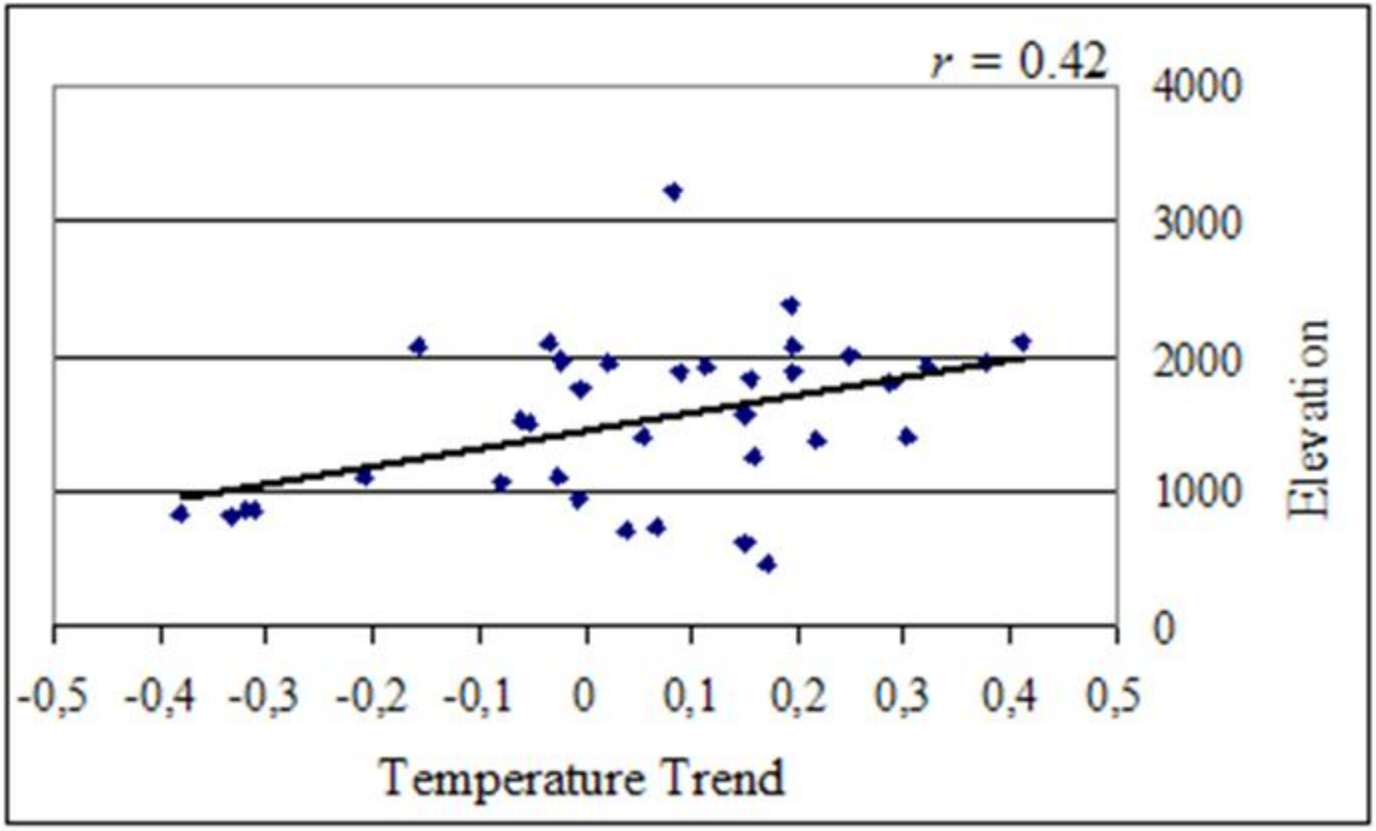




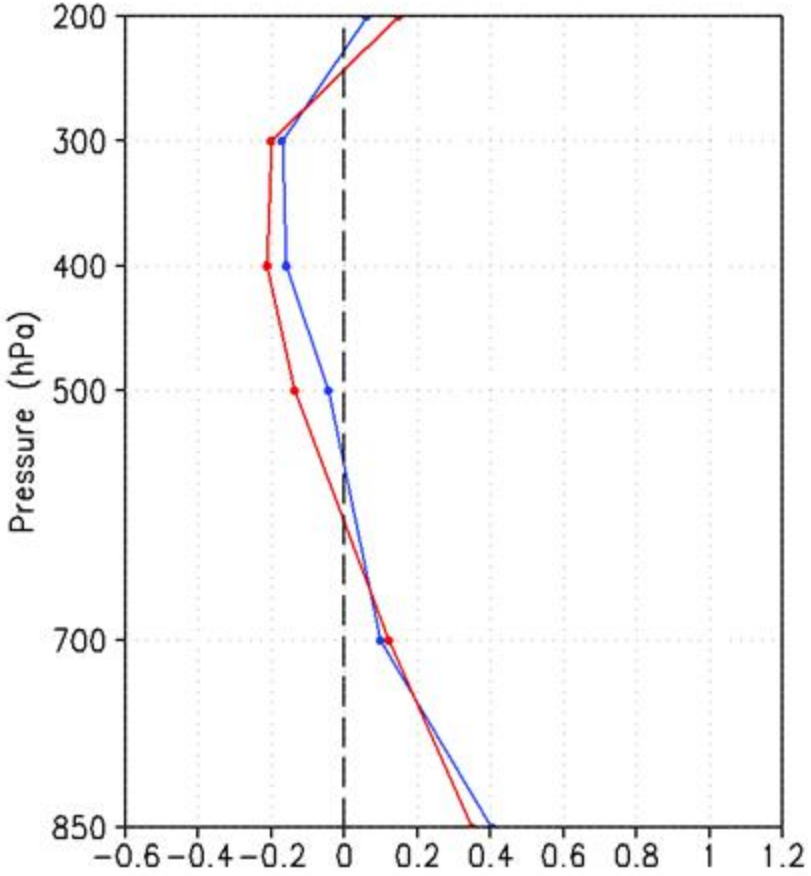
0C/decade

Relationship between station warming rates (0C decade -1) and station altitudes (m) in Armenia for winter (DJF) over

1979-2012 period



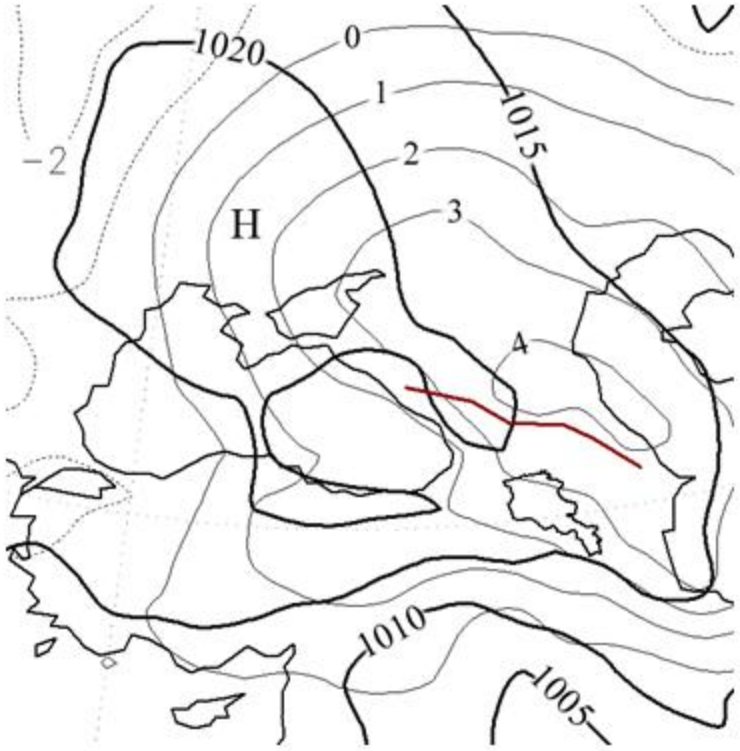
Vertical profiles of trends in winter (DJF) tropospheric temperature over Yerevan for 1979–2012. Units are 0C decade -1



(observed vertical trend profile is indicated with red line (Haimberger *et al.*, 2012), ERA-40 and ERA-Interim vertical trend profile is indicated with blue line)

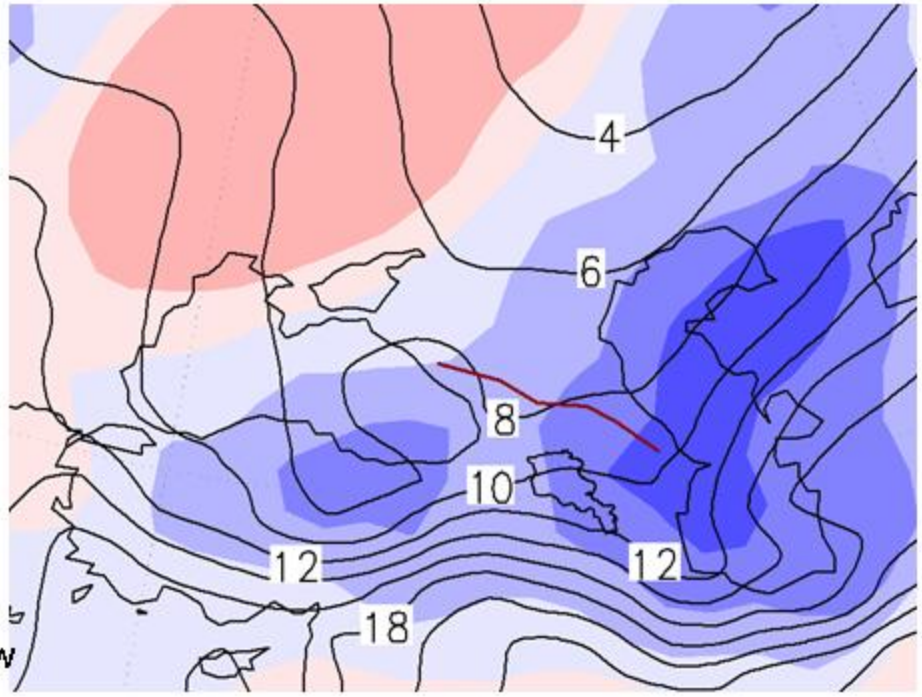
Passage of cold fronts over Armenia from the north-west and the north-east simultaneously, orographic occlusion generating heavy precipitation events in Armenia (average maps over 2001-2009 period, ERA-Interim reanalysis)

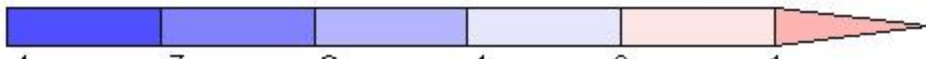
Mean sea-level pressure (SLP) map (hPa),



thickened solid contours are isobars, solid contours show positive values (or zero)average daily SLP changes, dotted contours show negative average daily SLP change
The Caucasian ridge with peaks exceeding 3000 m above sea level is indicated with brown line

Mean T850 (contours) and mean daily T850 changes (colored) map (0C)





(0C),

Thanks for attention !