

Synoptic Meteorology I: Assignment #7

Due: 20 November 2018

The figure below depicts the 500 hPa geostrophic relative vorticity (ζ_g ; units: $\times 10^{-5} \text{ s}^{-1}$) across the United States and southern Canada. Positive values denote cyclonic geostrophic relative vorticity and negative values denote anticyclonic geostrophic relative vorticity.

Based on these data, please use your knowledge of the relationship between ζ_g and geopotential height Φ to draw three geopotential height contours on the figure below. Label the contours as Φ_1 , Φ_2 , or Φ_3 , with Φ_1 having the lowest and Φ_3 the largest value. Focus on synoptic-scale structures in the geostrophic relative vorticity field when determining where your contours should be placed. Ensure that contours are appropriately spaced and accurately reflect the orientation (i.e., amplitude and horizontal tilt) of the synoptic-scale pattern.

Briefly describe why you answered as you did. No *quantitative* discussion is necessary.

