

Synoptic Meteorology II: Geostrophic Relative Vorticity Inversion Exercise

Due: 17 February 2015, at the start of class

The figure below depicts the 500 hPa geostrophic relative vorticity (ζ_g ; units: $\times 10^{-5} \text{ s}^{-1}$) across the United States. Warm colors depict cyclonic geostrophic relative vorticity, whereas cool colors depict anticyclonic geostrophic relative vorticity. On this figure, based off of this distribution of geostrophic relative vorticity, please draw *three* geopotential height contours. Label each one Φ_1 , Φ_2 , or Φ_3 , where Φ_1 is the lowest and Φ_3 is the highest geopotential height contour. Focus on synoptic-scale structures in the geostrophic relative vorticity field and ensure that your contours accurately depict the amplitude and tilt, if any, of the synoptic-scale pattern. Briefly, please describe why you answered as you did. No quantitative discussion is necessary, but if you believe that it would improve your answer, please do feel free to include one.

