

SIO 217B Atmospheric and Climate Sciences II

Exercise #20

1. Download the file containing Z_{250} for 1993 March 14 00Z. Plot Z_{250} in the domain 20-50°N, 270-310°E using the conventional units of geopotential decameters (dkm) with a contour interval of 6 (e.g., 996, 1002, 1008, etc. dkm). The 250-hPa surface is near the level of the jet stream (region of fastest winds in the lower half of the atmosphere).
2. Download the files containing u_{250} and v_{250} for 1993 March 14 00Z. Calculate the scalar speed of wind₂₅₀ and add it to the plot using a contour interval of 10 m s⁻¹. Note how the jet stream goes parallel to and slightly behind the surface cold front, crosses over the surface low center, and then goes parallel to and slightly ahead of the surface warm front.