San Francisco State University Name _____
Department of Earth & Climate Sciences Fall 2017

ERTH 465
Inclass Exercse 4: Thickness Contours, Fronts, Baroclinic and Barotropic States
Due Thursday 19 September (50 pts)

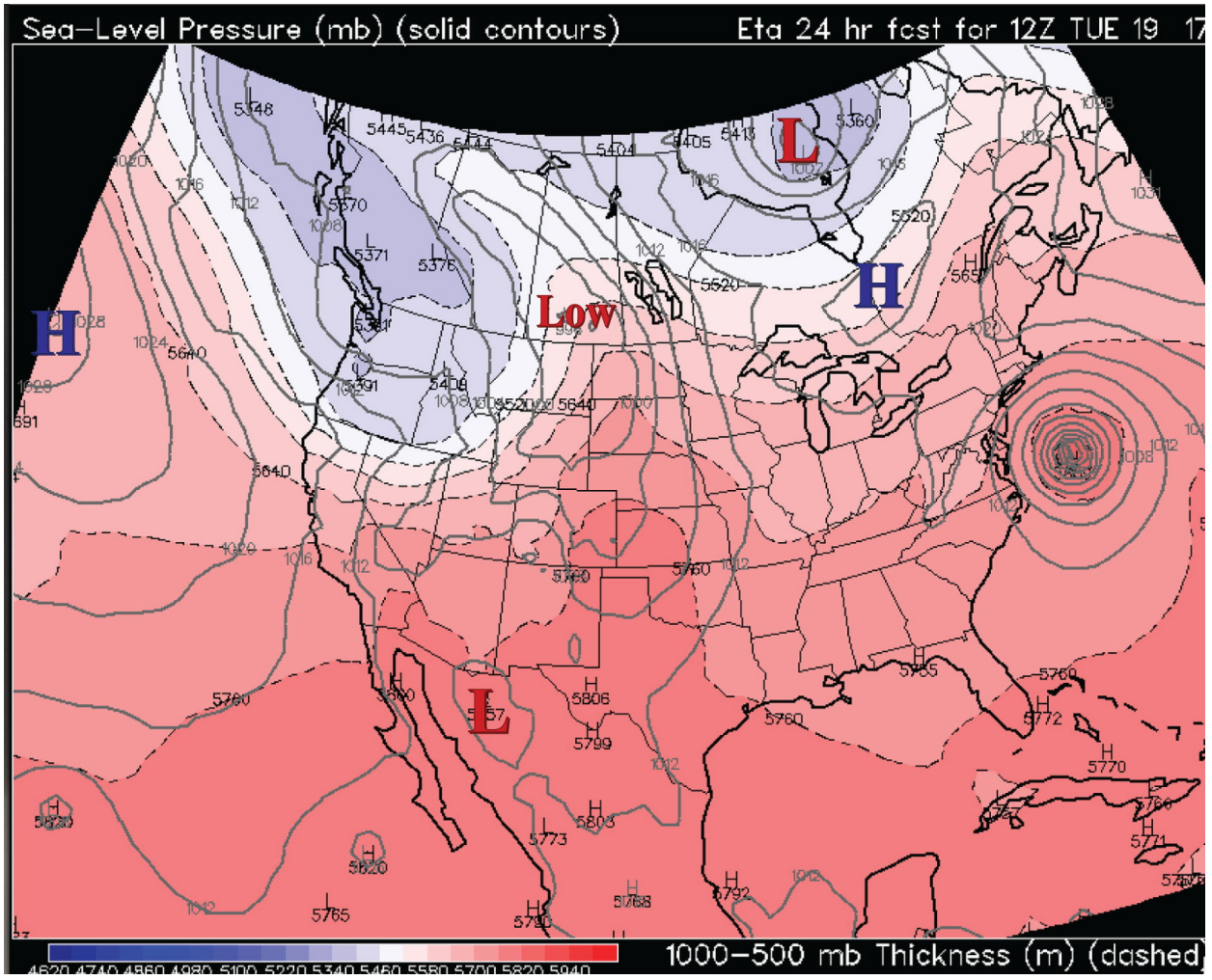
1. Print out two copies of yesterday's forecast (from 12 UTC) nam_thick for 12 UTC 17 September 2017. The map is reproduced below. The syntax for the command is:

   nam_maps nam_thick 17091612 –ft=h24 –p

2. On the first copy, draw in the position of the polar front across the United States, using the basic rule that the surface front's position can be estimated by placing it on the warm air side of the greatest packing of the thickness contours. (10 pts)

3. On the second copy, refine your frontal analysis by drawing red and blue advection arrows, as discussed in class. This will allow you to decide on frontal type as well as helping with the estimated position. (30 pts)

4. Examine the strong low pressure area over the northern Rockies and northern Great Plains, and the low pressure area associated with Maria off the East Coast. Contrast the strength (or presence) of temperature advection for the two. (10 pts)


Sea-Level Pressure (mb) (solid contours)
Eta 24 hr fcst for 12Z TUE 19
H
H
Low
L
L
1000-500 mb Thickness (m) (dashed)