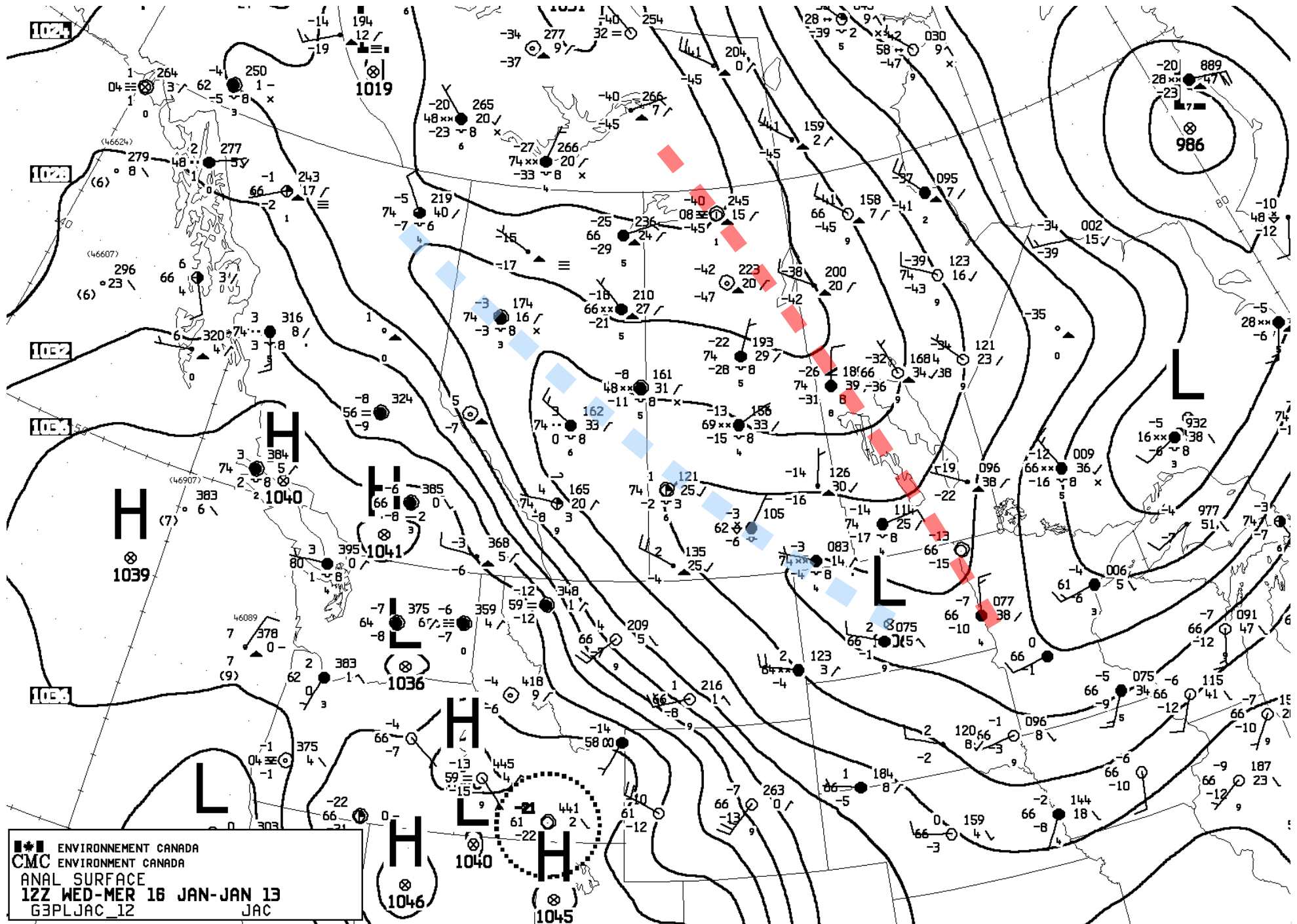


- review elements of Chapter 1 – notation; eqn of motion; geostr. wind; thermal wind
- weather briefing
- exercises (below)

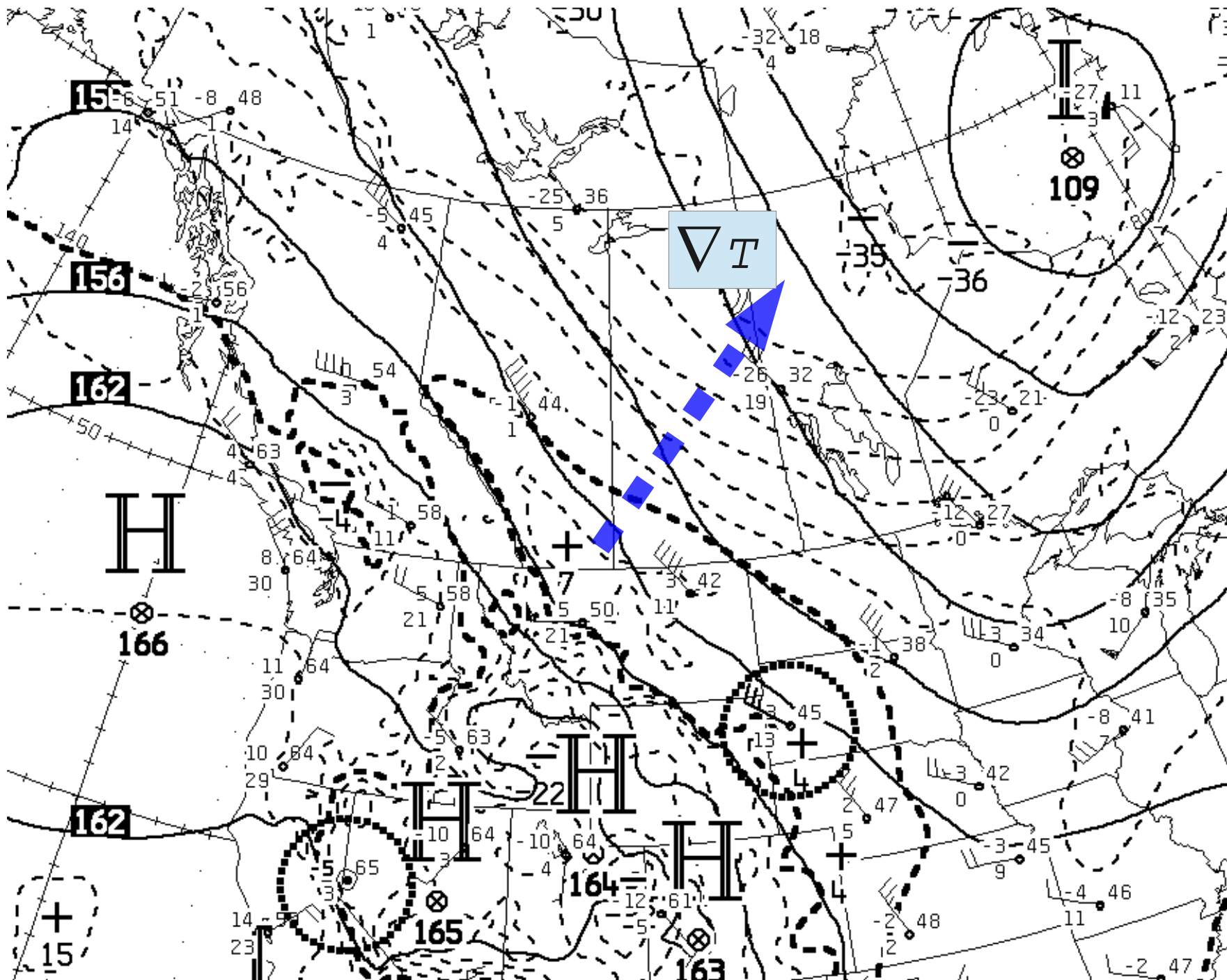
ENV. CDA 7:00 AM CST THURS. JAN. 17 2013... STRONG **FRONT** FROM N. BC ACROSS ALBERTA INTO SW SASK... A LOW IS EXPECTED TO FORM LATER TODAY OVER FAR N. BC AND SLIDE DOWN ALONG THE FRONT TO ABOUT DAUPHIN BY LATE FRIDAY EVENING... PATCHY FRZG RAIN MAY OCCUR NEAR THE FRONT ON THE BACK SIDE OF THE SNOW FROM C. ALBERTA THRU S. SASKATCHEWAN...

Exercises – focused on situation as of Wed 16 Jan. – please submit

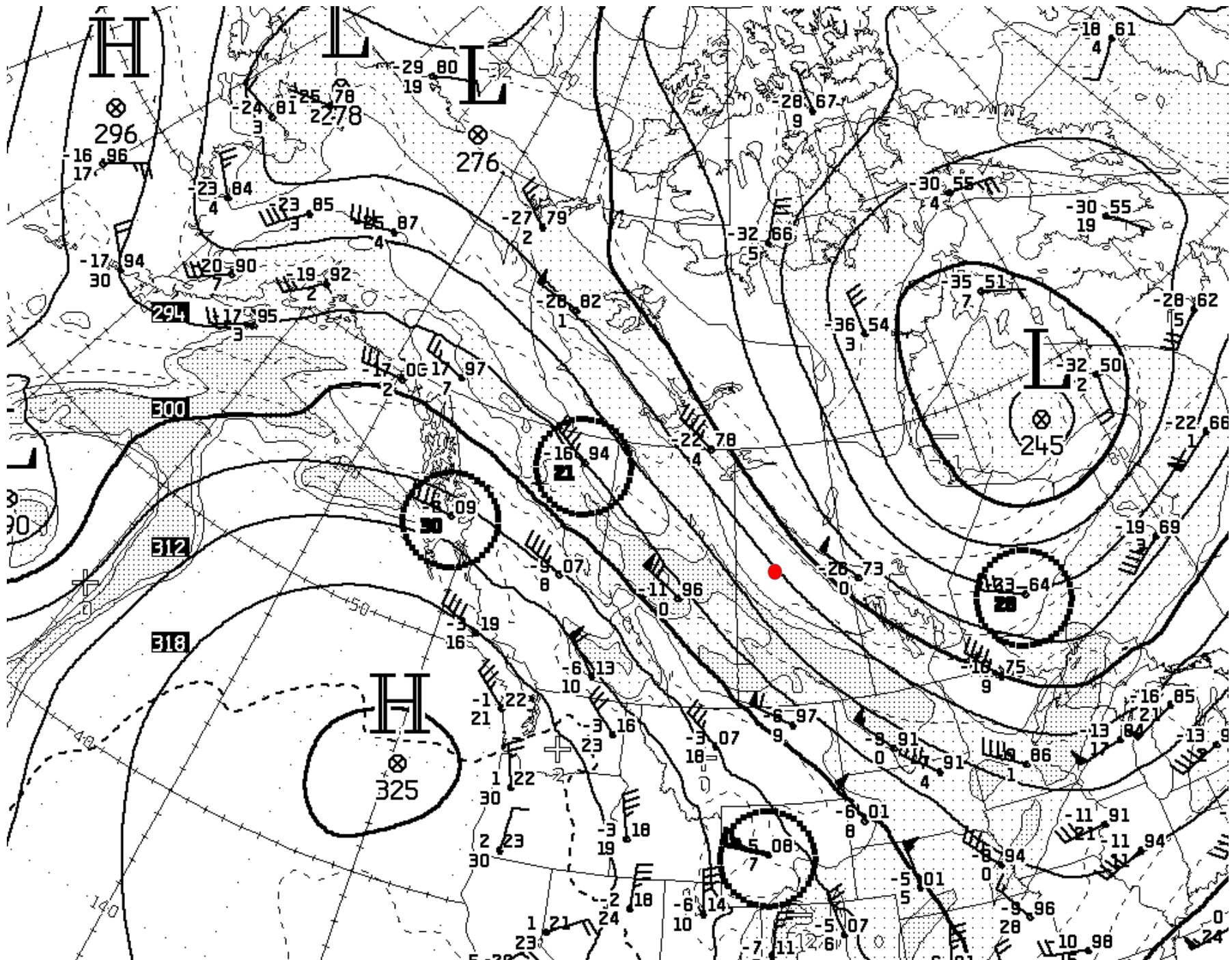
- using Eq. (1.39), compute the geostrophic wind speed at the 700 hPa level over central Saskatchewan (at the point marked by the red dot) at 12Z Wed 16 Jan. (over)
- compute the rate of temperature advection at the 850 hPa level over Pickle Lake (WPL) in N. Ontario, as of 12Z Wed. 16 Jan. 2013 (see 850 hPa analysis, over)
- ~~using vizaweb, access the GEM regional prog initialized at 12Z 16 Jan. Seek and describe features of the 0h prog correlate with the surface trough axis line highlighted (by JDW) on the sfc analysis~~



CMC sfc analysis 12Z Wed 16 Jan. 2013 – intrstg trough/ridge juxtapos'n



CMC 850 hPa analysis 12Z Wed 16 Jan. 2013

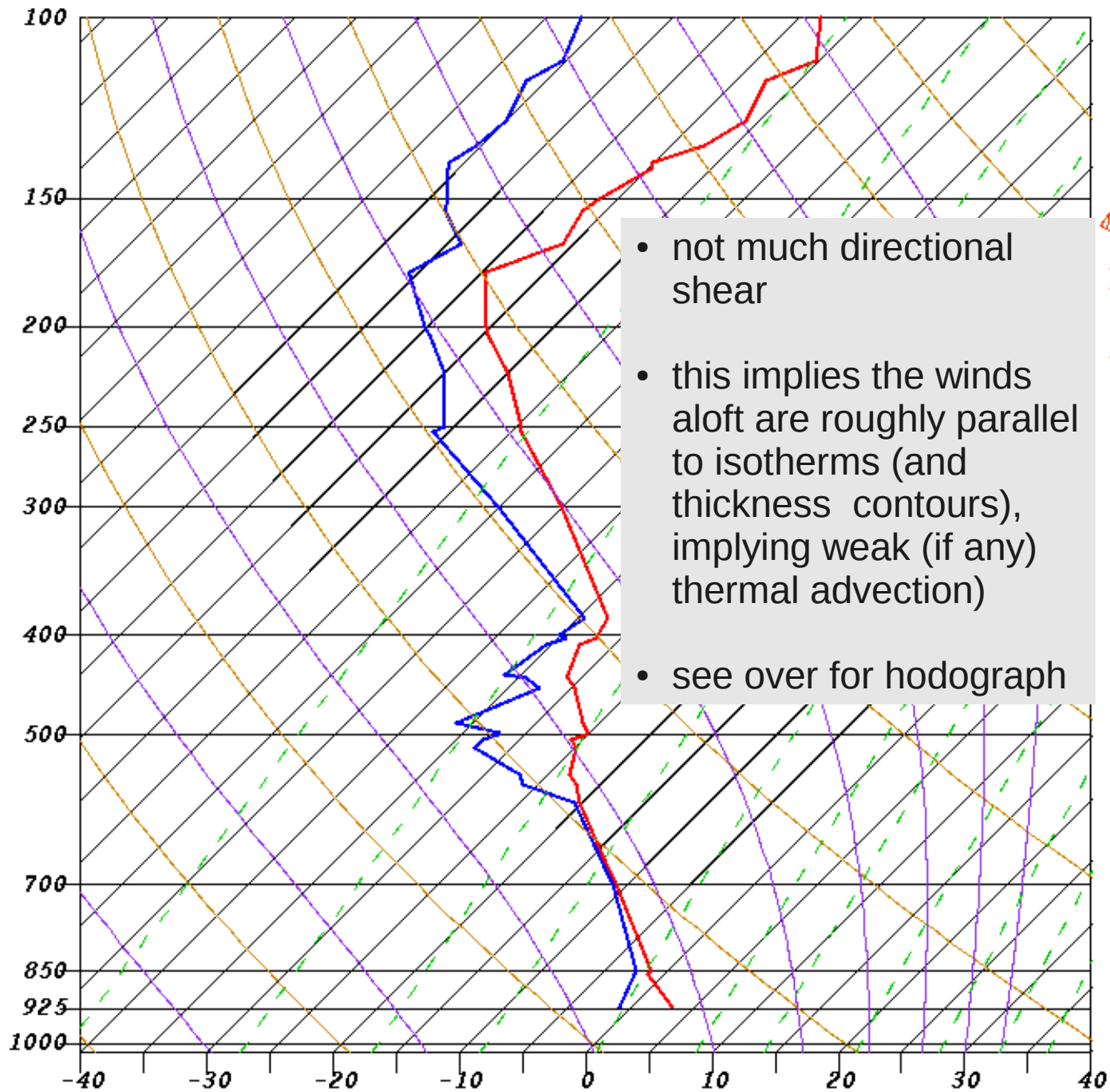


CMC 700 hPa analysis 12Z Wed 16 Jan. 2013

130116/1200 71119

WSE

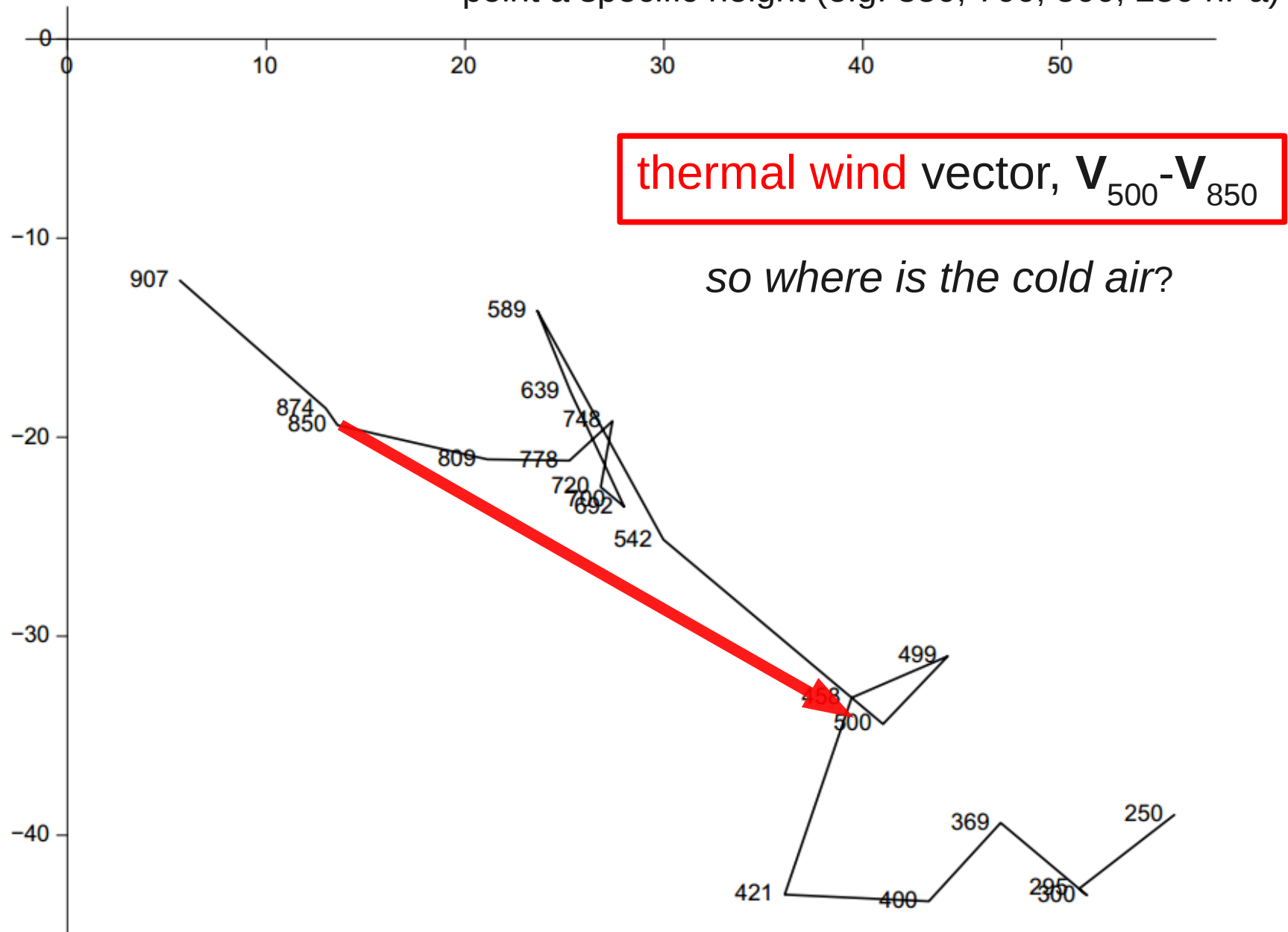
SHOW: 7 LIFT: 8 SHET: 196 VTOT: 24
CAPE: 0 EQLV: -9999 SELV: 766 CINS: 0
LCLT: 271 LCLP: 866



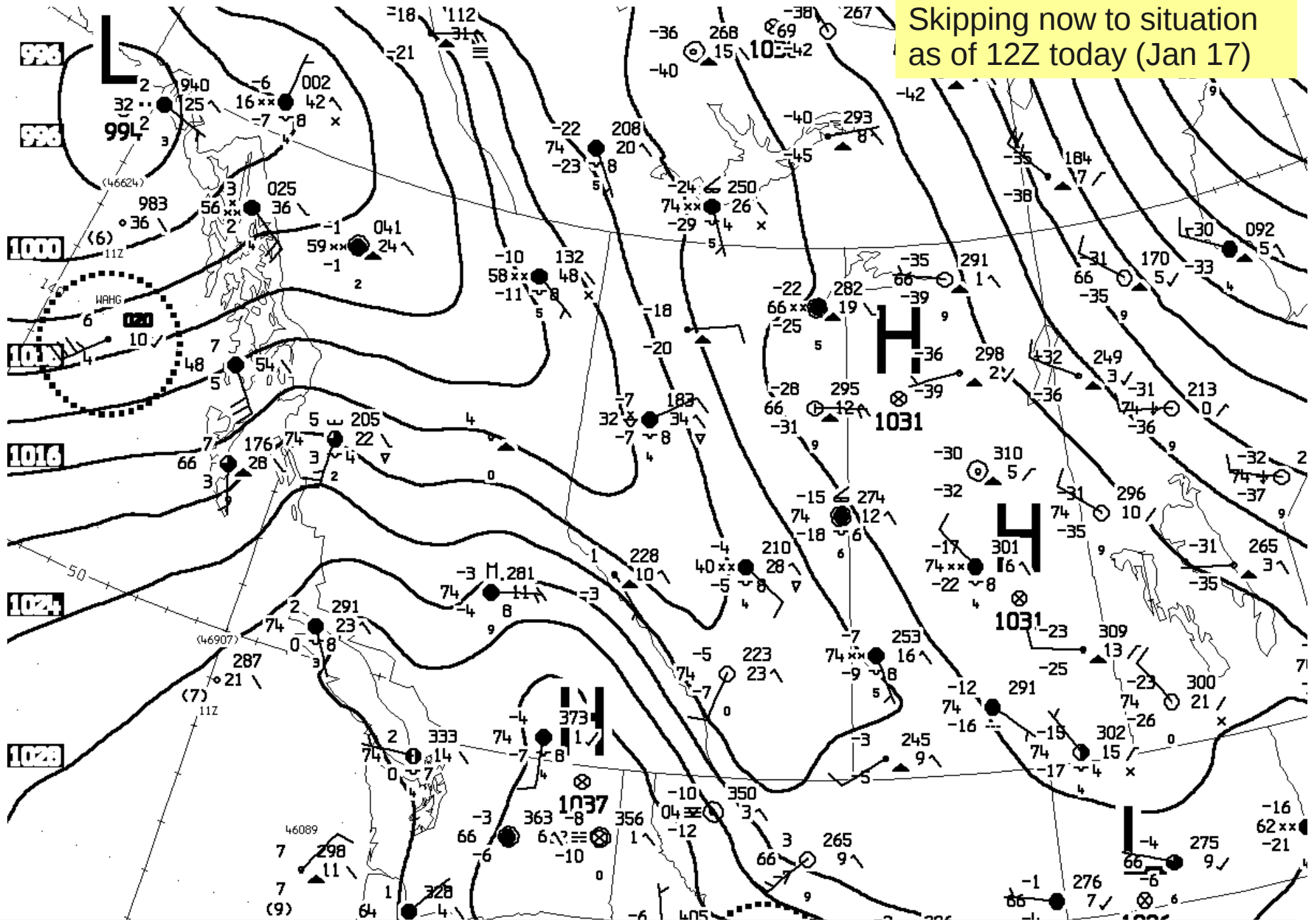
- not much directional shear
- this implies the winds aloft are roughly parallel to isotherms (and thickness contours), implying weak (if any) thermal advection
- see over for hodograph



Hodograph a polar plot of wind speed & direction, each point a specific height (e.g. 850, 700, 500, 250 hPa)

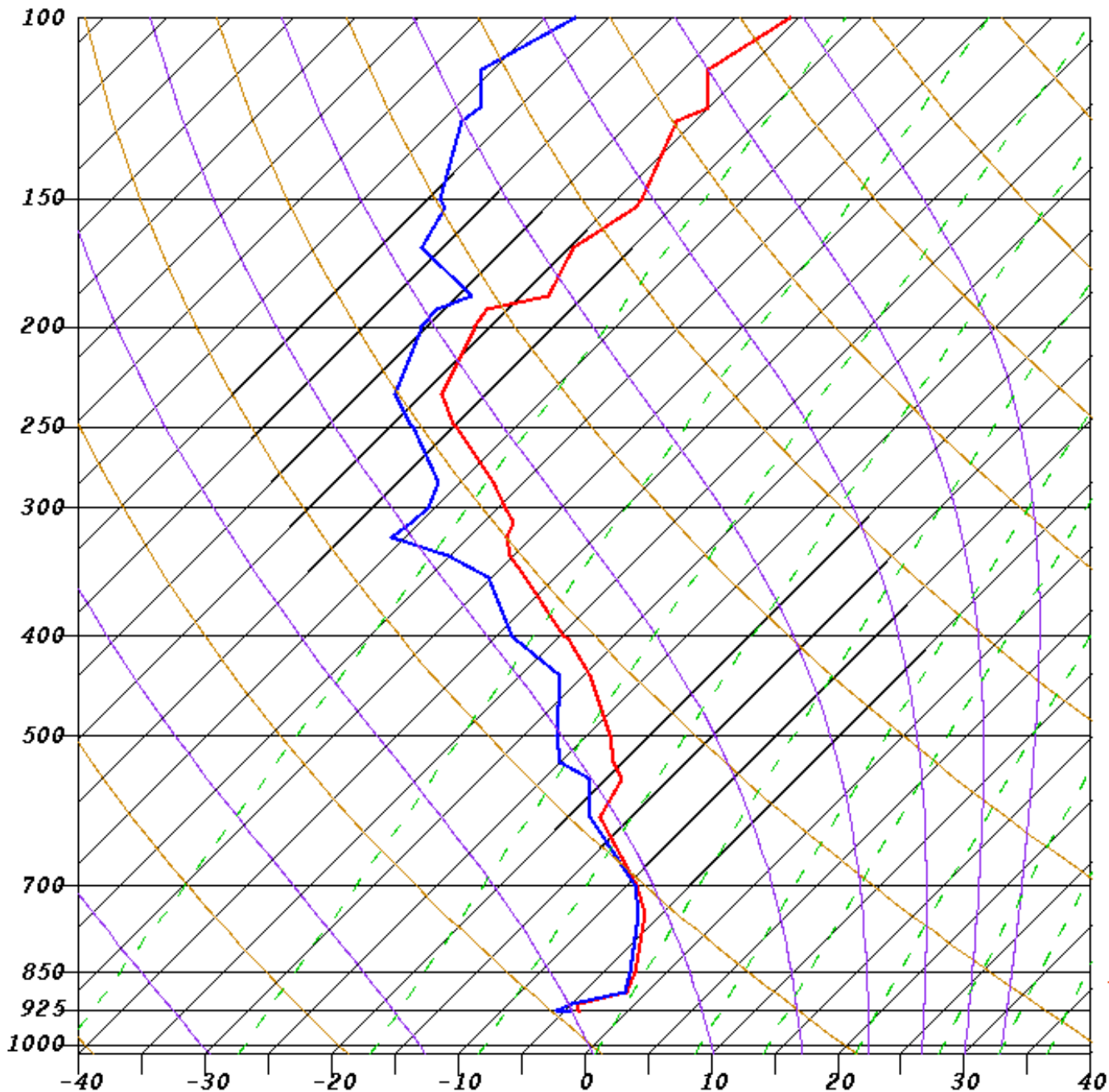


Skipping now to situation as of 12Z today (Jan 17)



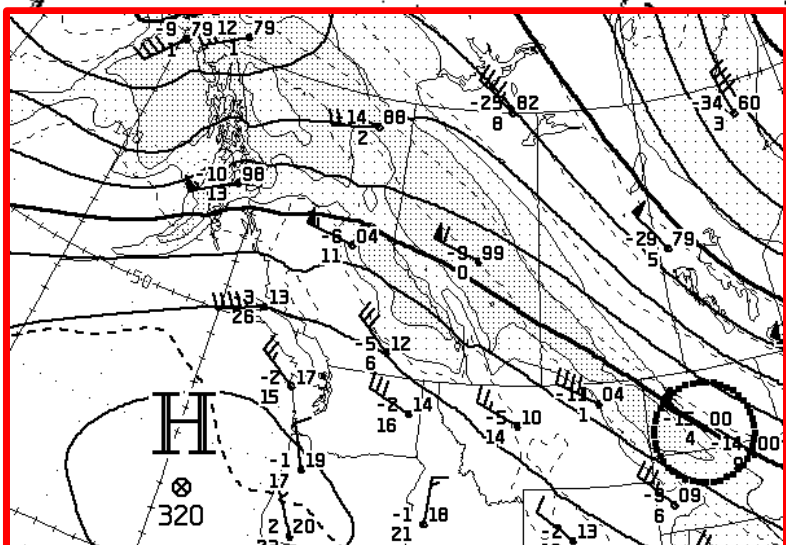
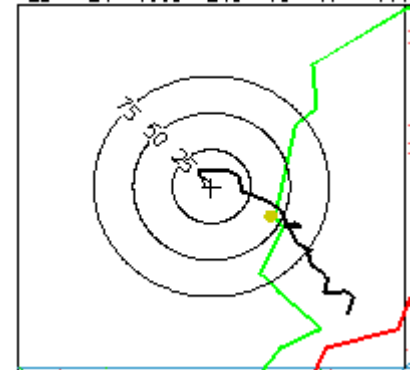
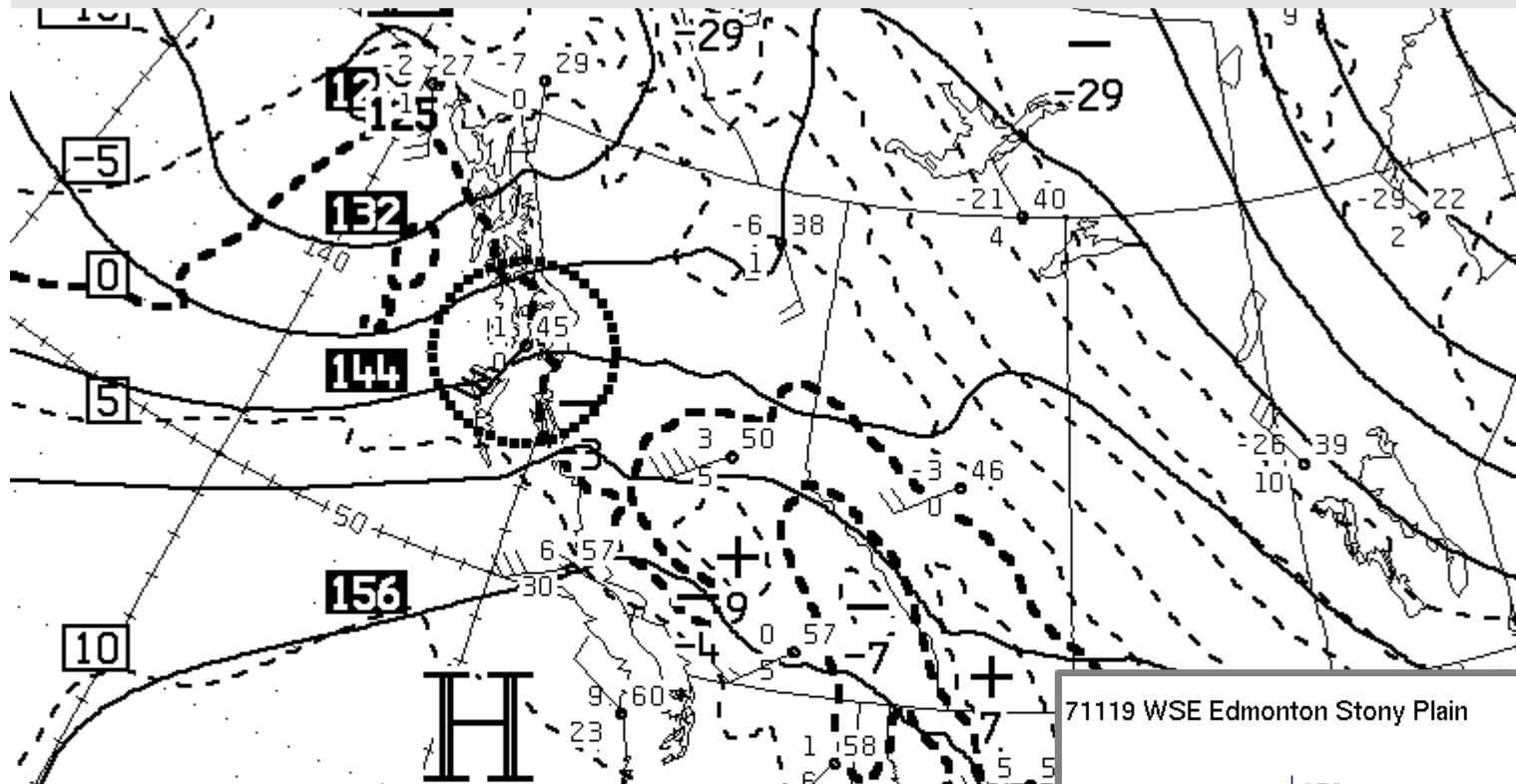
CMC sfc analysis 12Z Thurs 17 Jan. 2013 – note temp. contrasts in Ab.

130117/1200 71119 NSE SHOW: 10 LIFT: 13 SWET: 243 VTOT: 21 T
 CAPE: 0 EQLV: -9999 SELV: 766 CINS: 0 L
 LCLT: 269 LCLP: 918



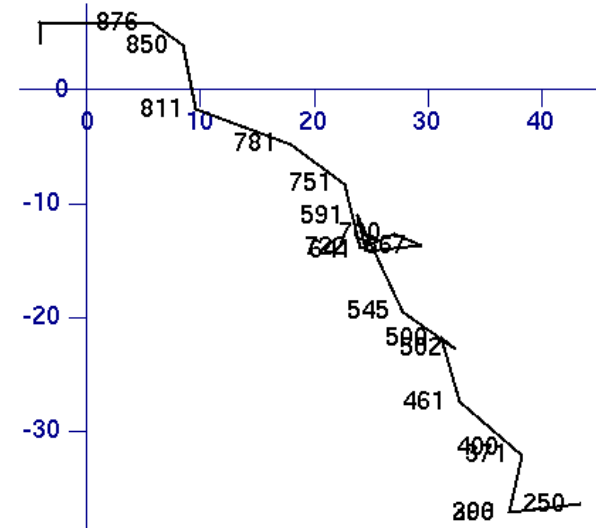
- same general orientation of the thermal wind today (12Z Thurs)
- but stronger *directional* shear (veering wind)
- implying warm advection
- confirmed by 850 hPa analysis (over)

CMC 850 hPa and 700 hPa (inset) analyses 12Z Thus 17 Jan. 2013



same general scenario, ridge has flattened

71119 WSE Edmonton Stony Plain



12Z 17 Jan 2013

Pertaining to the exercise that has been stuck out – for lack of time. The following few slides have been included in case you're curious as to the GEM 0hr prog referred to

