

Using GOES DPI on AWIPS to track instability on convective winter day (Feb 14, 2000)

Kevin J. Schrab

WR-SSD

This TA-lite will show how AWIPS can be used to track instability during a winter convective event. The GOES sounder data will be used to watch the trends of instability. [Figure 1](#) shows GOES LI at 12Z with the ETA LI overlain. Cloud cover obviously limits the usefulness of the GOES LI, however it appears that the region of negative LI in the ETA at 12Z (just north of SFO) may be a little to unstable. At [18Z](#) it appears that the axis of instability in the ETA is too far west (over northern California), while the GOES LI shows the axis of maximum instability to be over northwest Nevada. The GOES LI also indicates that the atmosphere is more unstable than predicted by the ETA. The ETA has LIs around 0C (over northern California), while the GOES LI shows LI in the -1C to -3C range (over northwest Nevada). At [21Z](#) the ETA is more in line with the GOES LI. This figure shows the 0Z ETA and the 21Z GOES LI. The axis of maximum instability in the ETA is a little east of what the GOES LI shows, but this is likely due to the 3 hour time difference. Both GOES and the ETA have LIs in the -1C to -3C range.

A [loop of GOES LI, TPW, CAPE, and VIS with lightning](#) shows that moisture was rather limited (less than 0.5" TPW). The GOES LI destabilizes from around 0C at 16Z to about -3C at 21Z. This is well correlated to the lightning activity that was seen during this time period. GOES CAPE values were somewhat marginal (up to about 300J/kg), but rather high for the winter season.

This brief summary shows that the GOES DPI (LI, TPW, CAPE) can be used to track trends of instability, even in the winter.

Figure 1

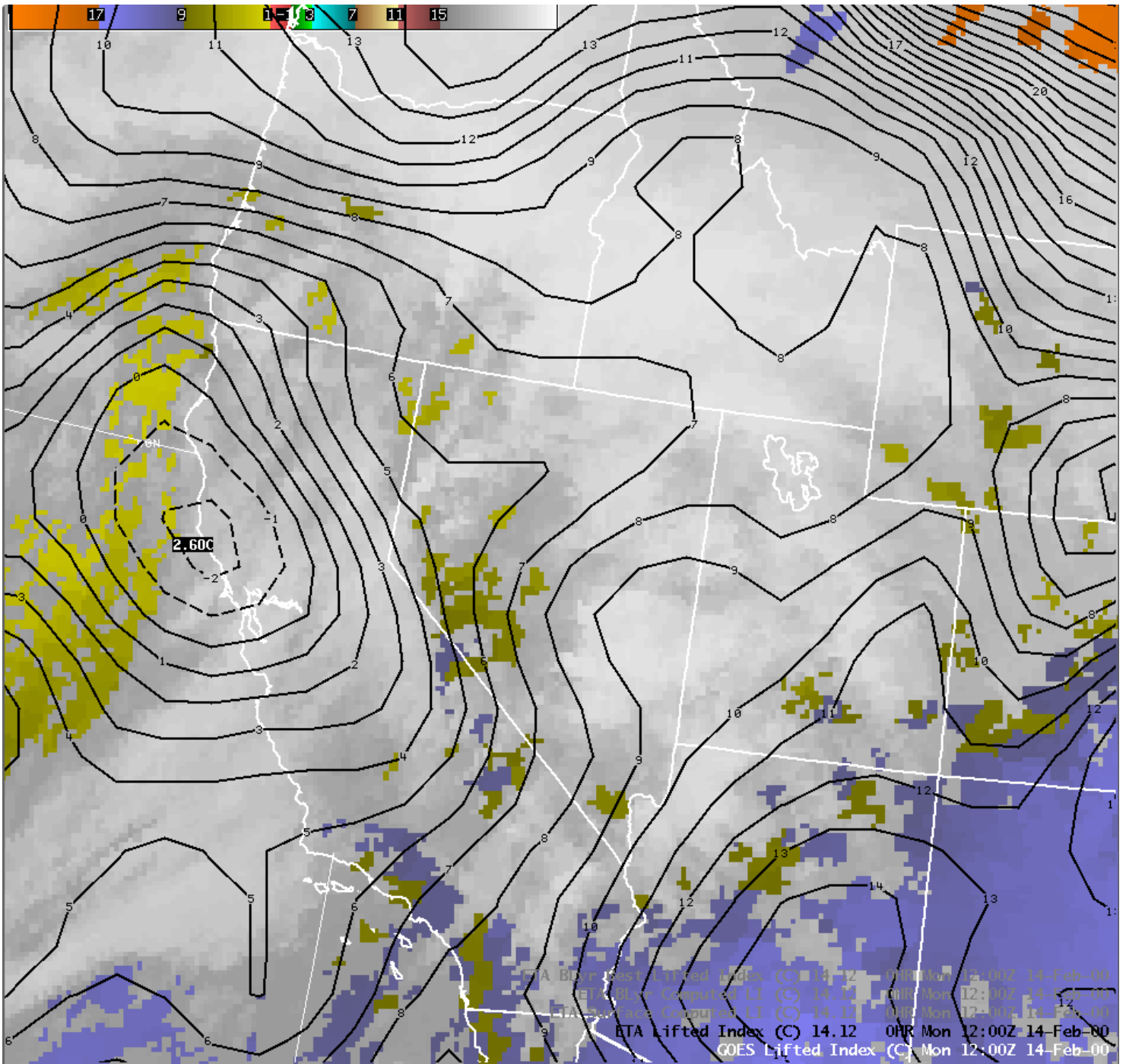


Figure 2

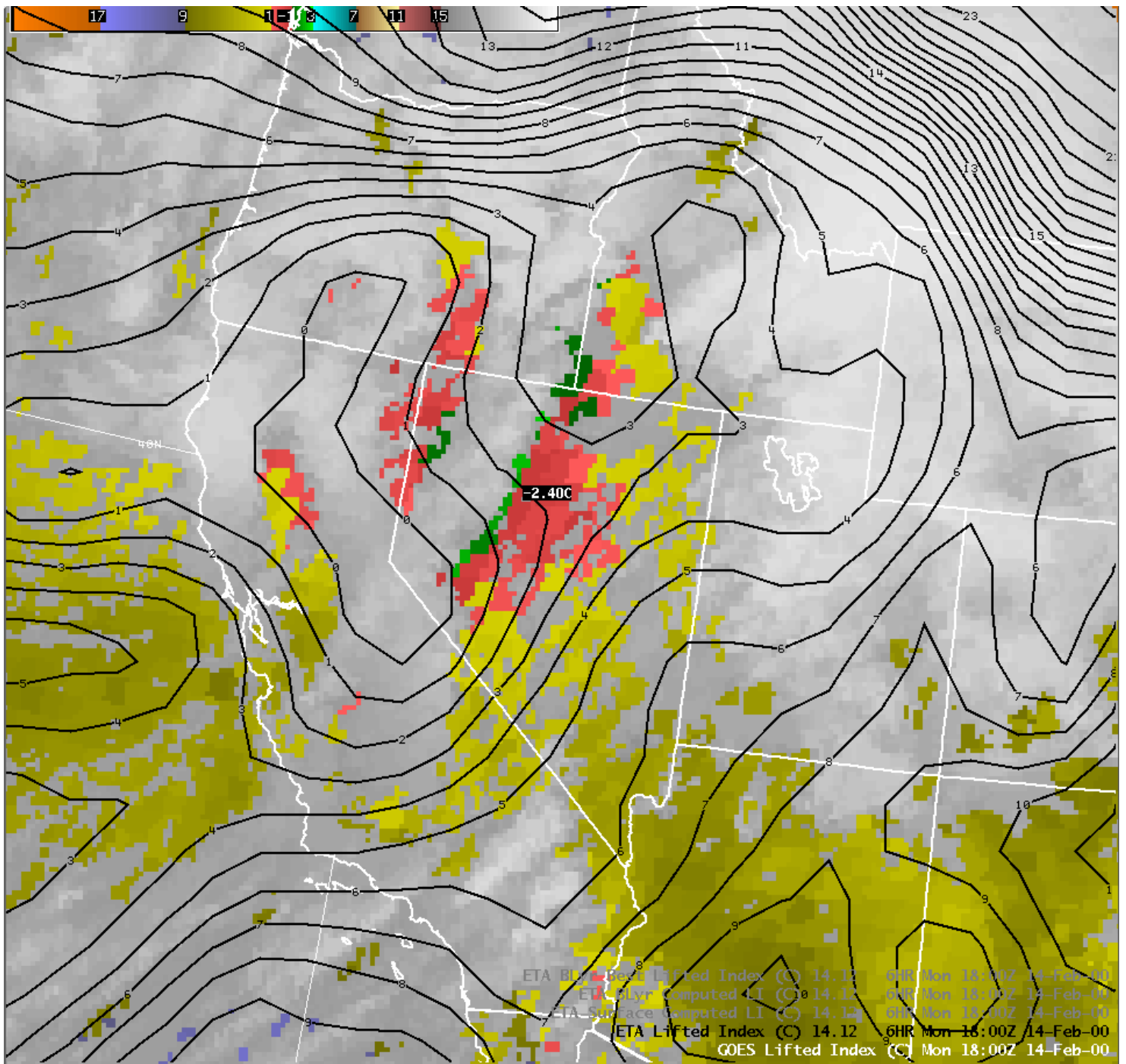
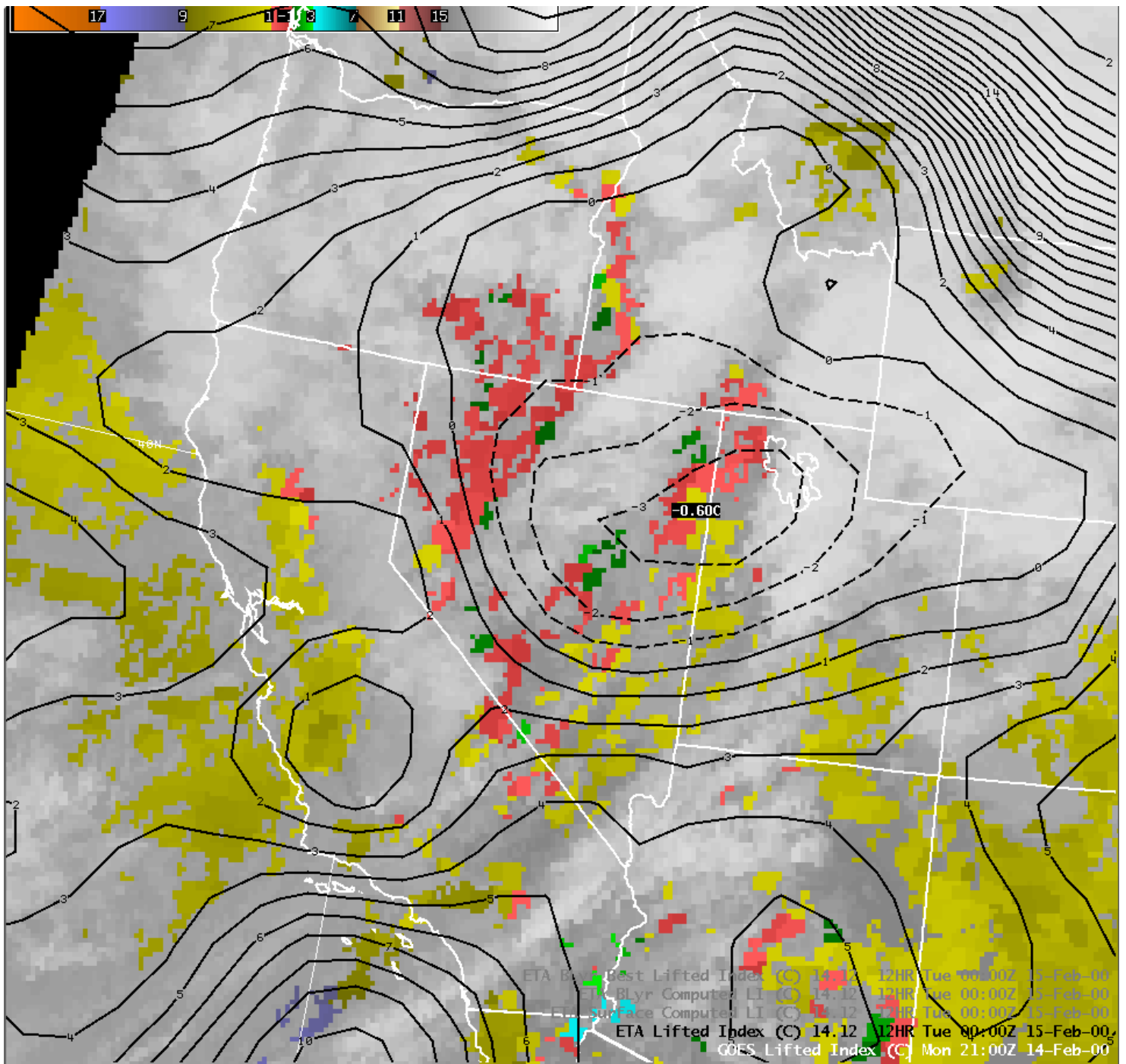
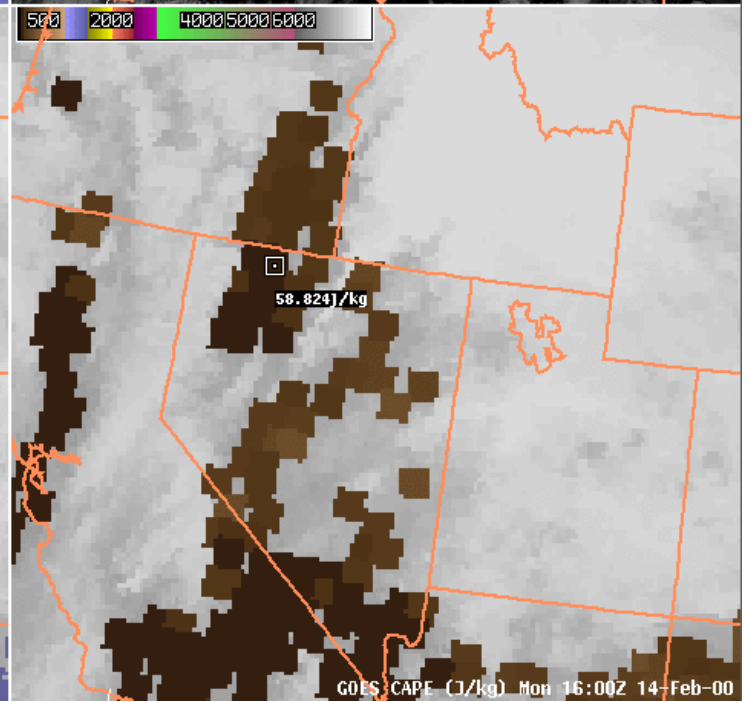
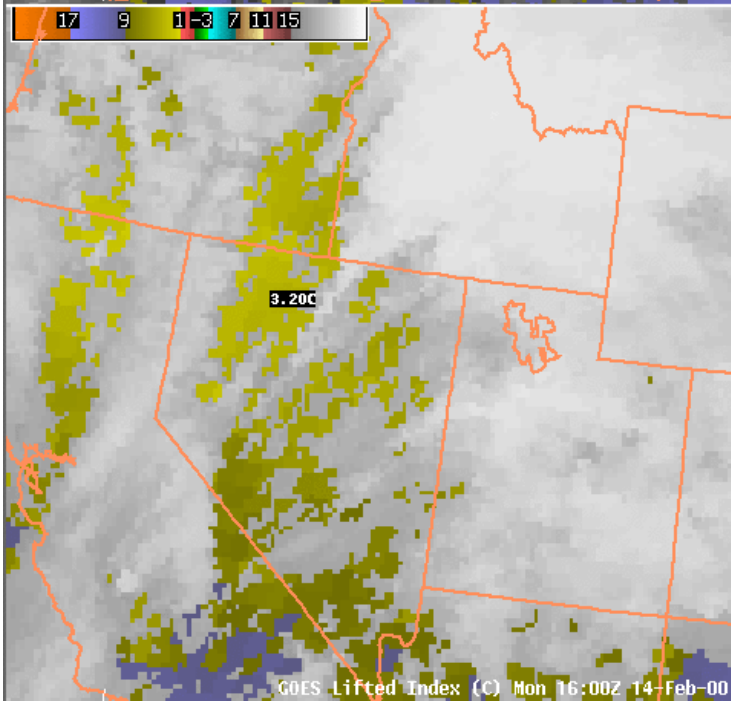
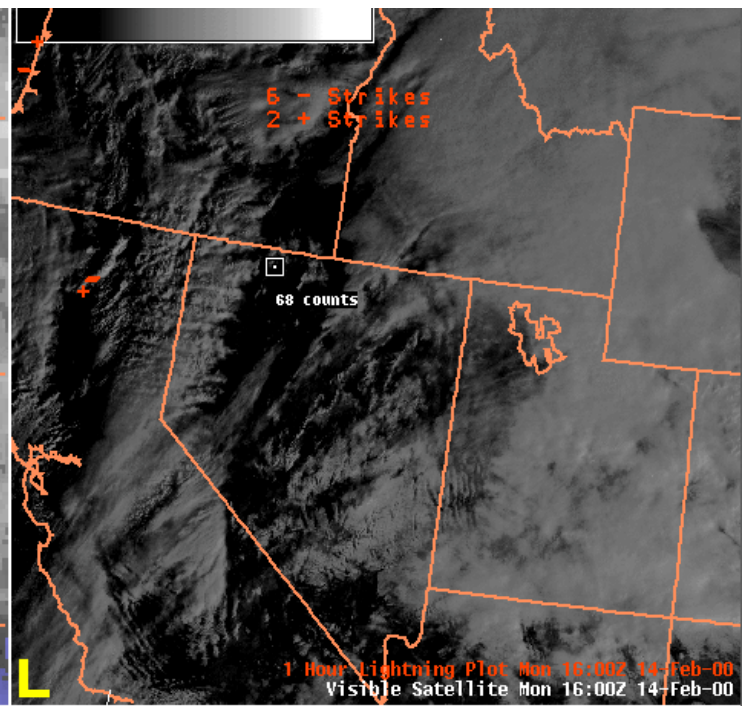
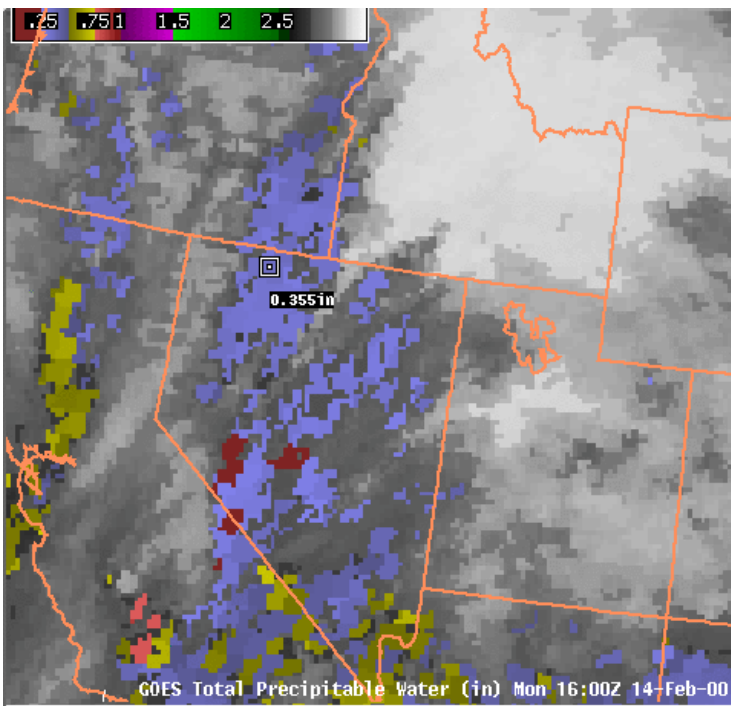


Figure 3

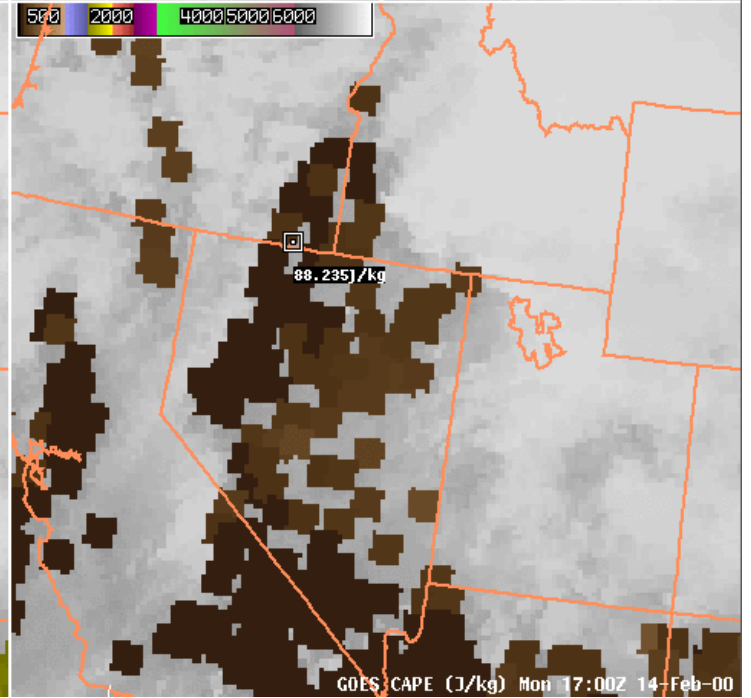
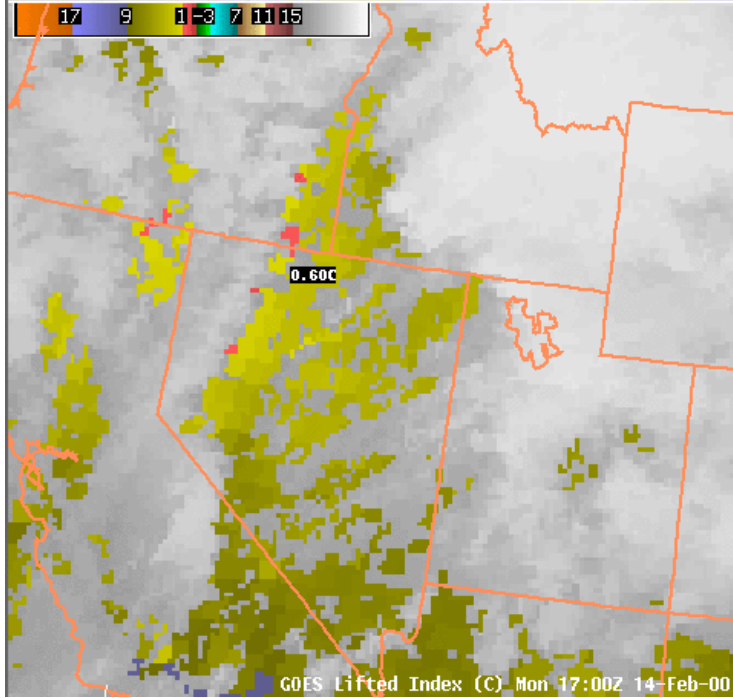
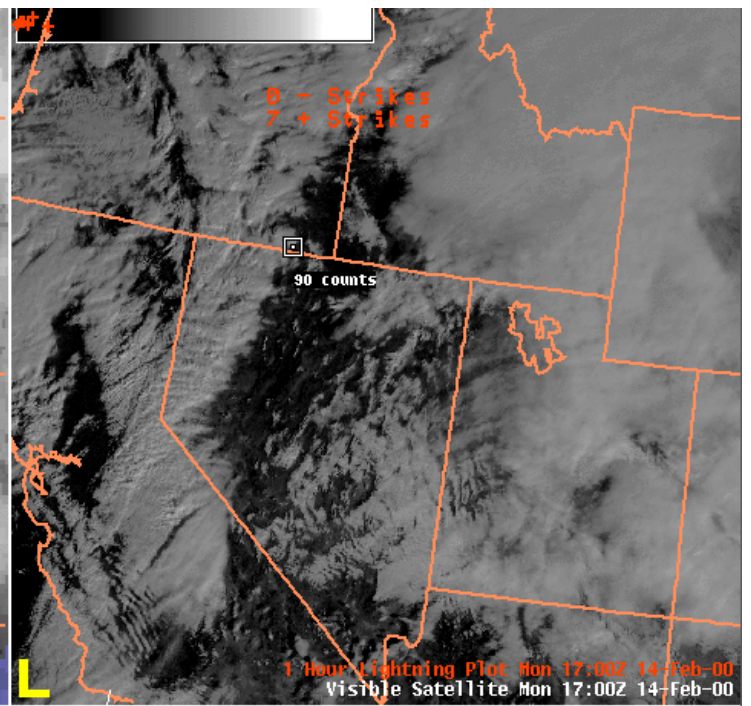
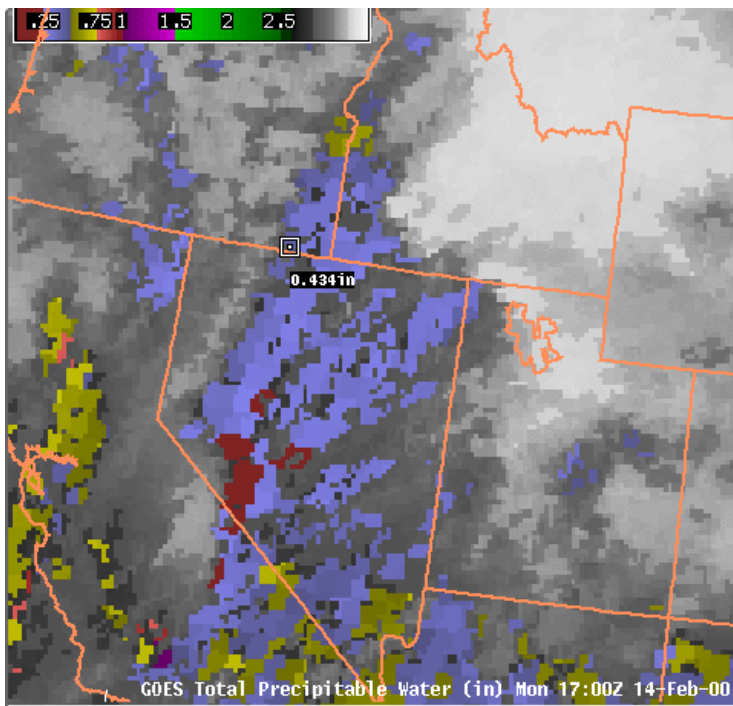


Images used within the Loops are:

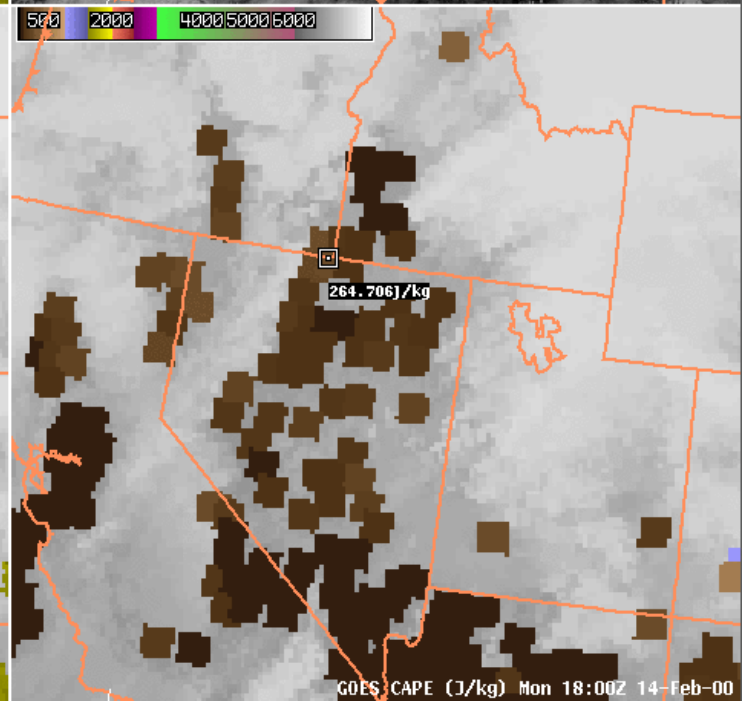
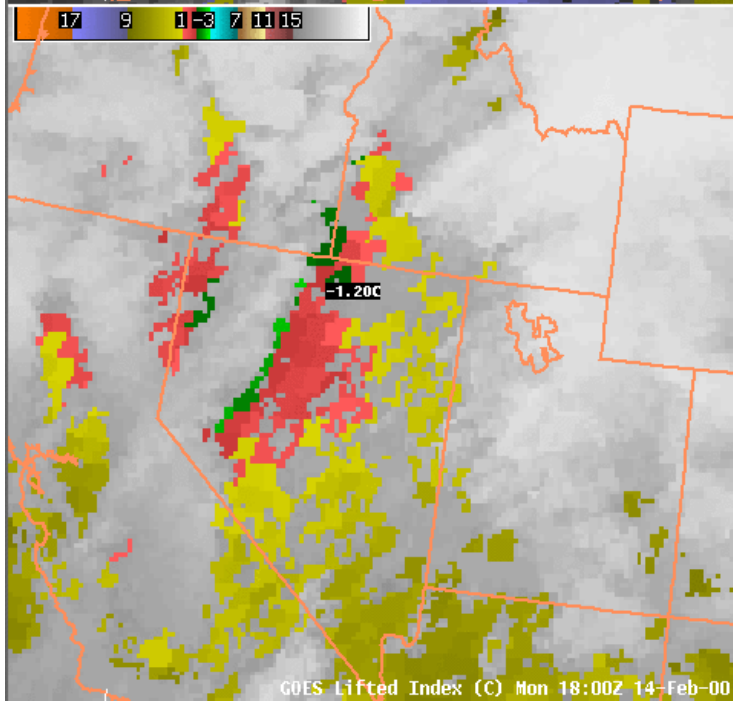
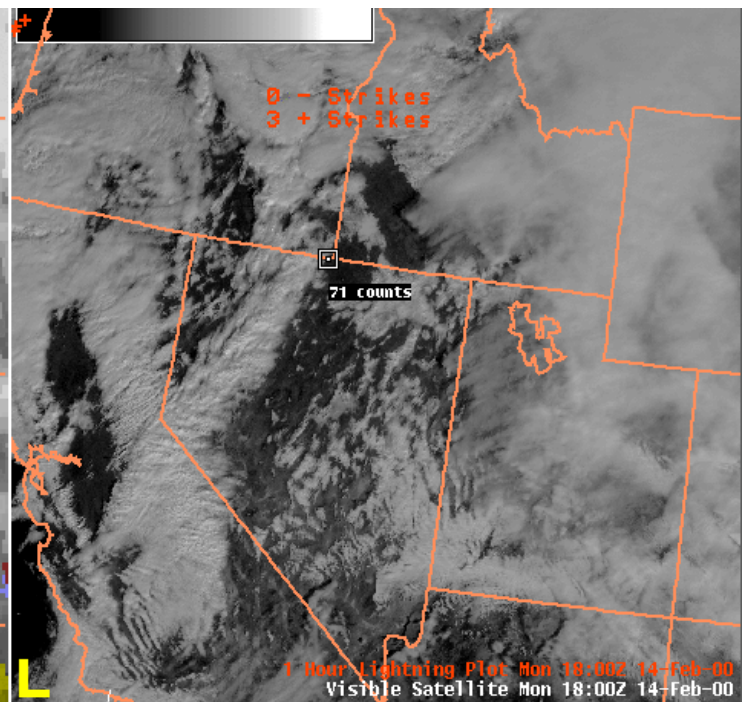
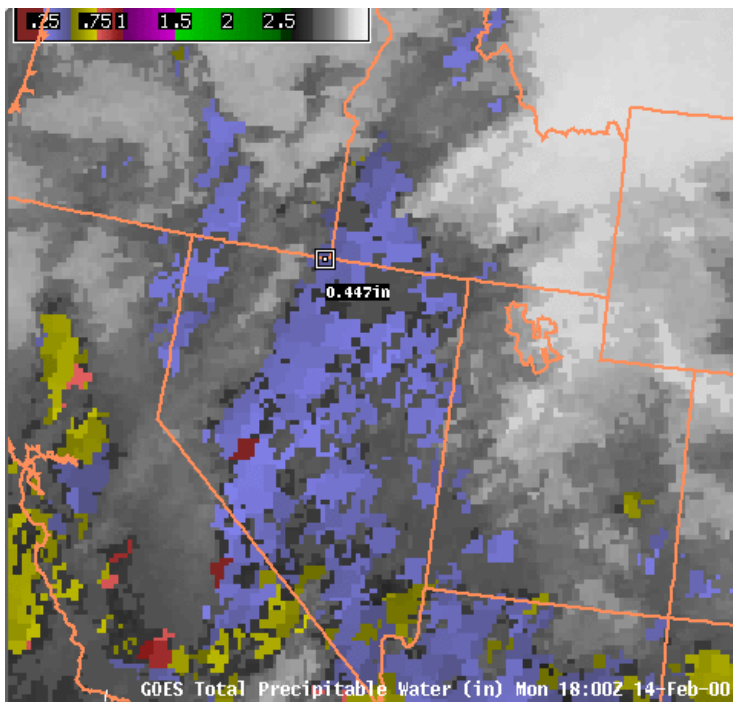
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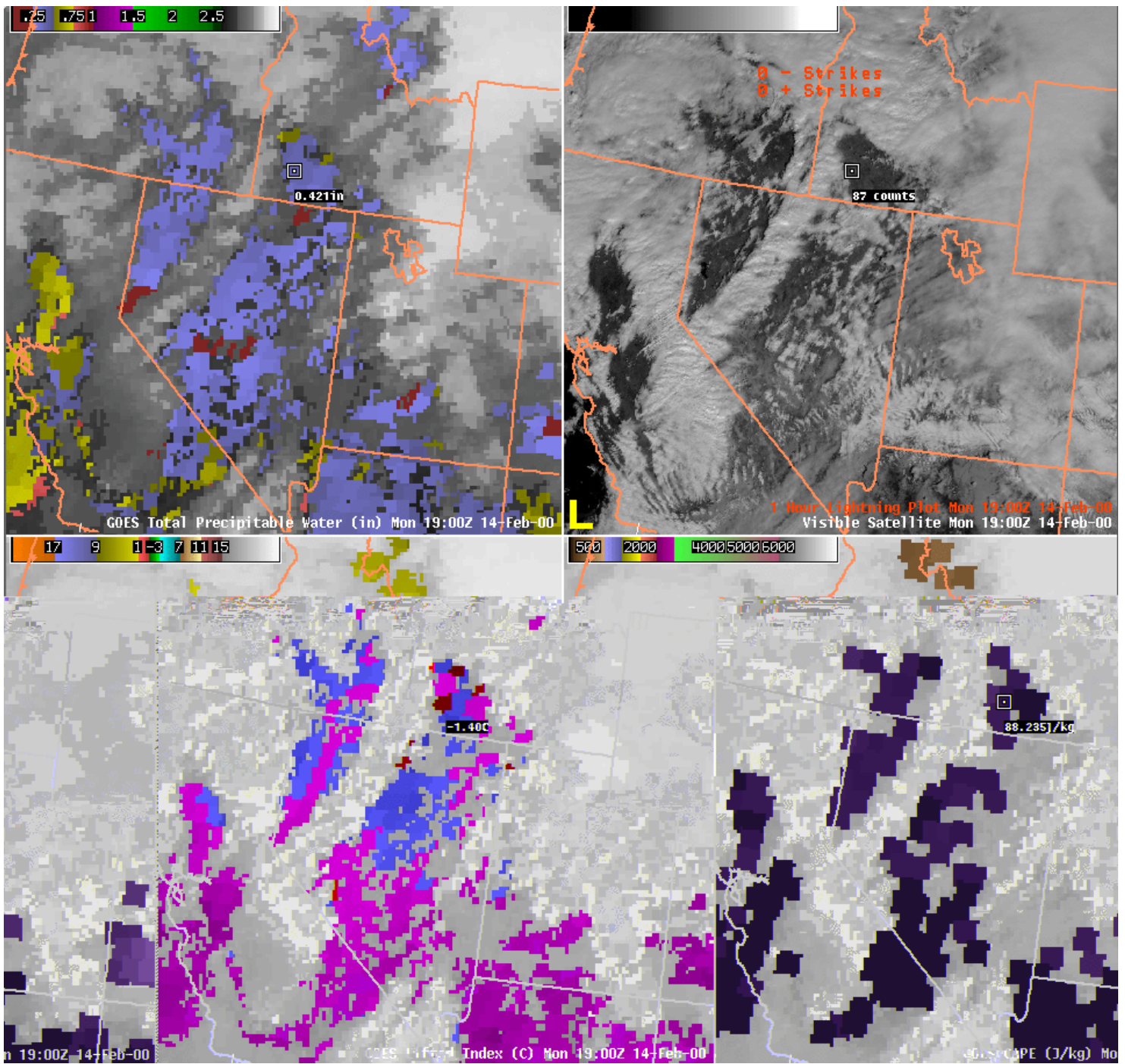
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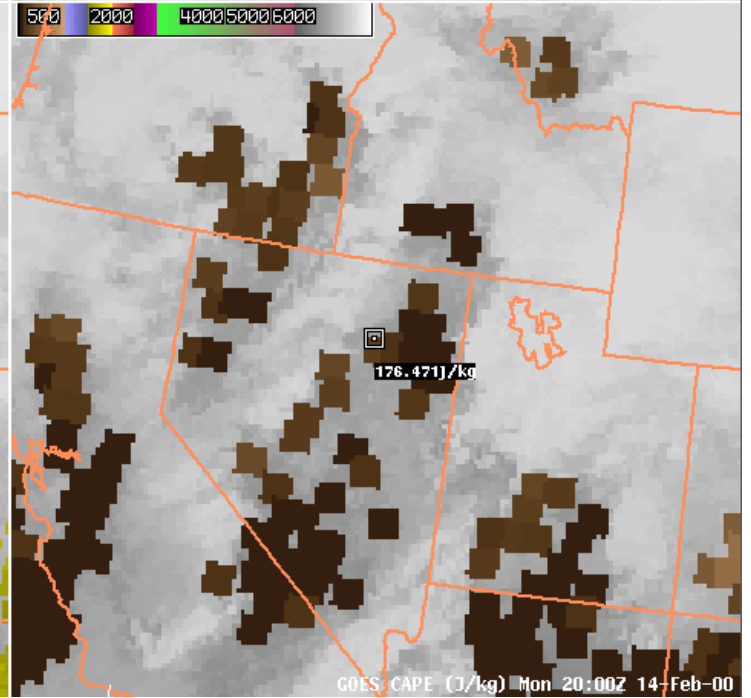
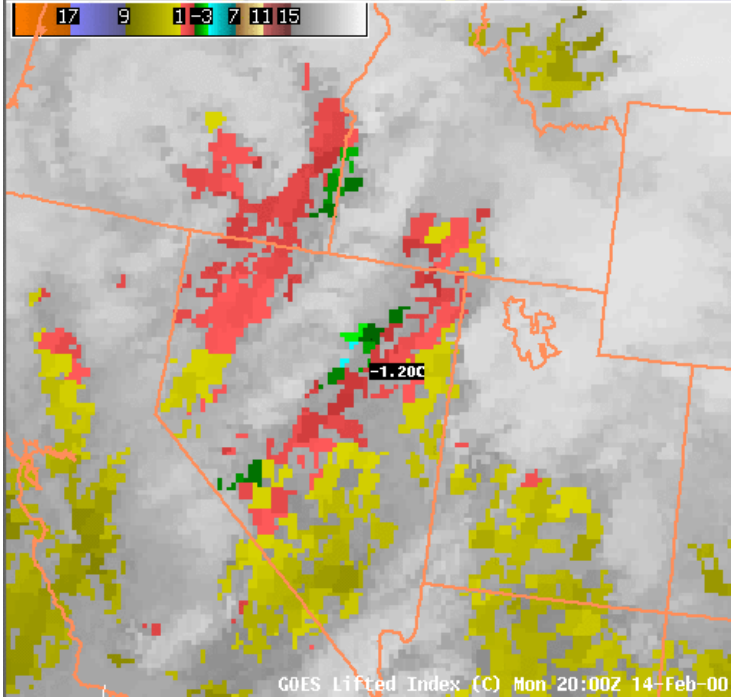
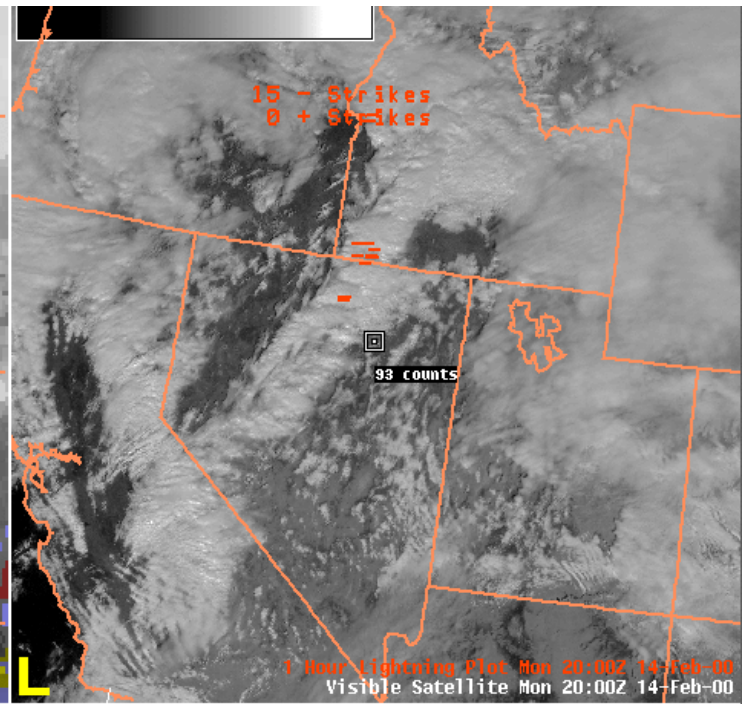
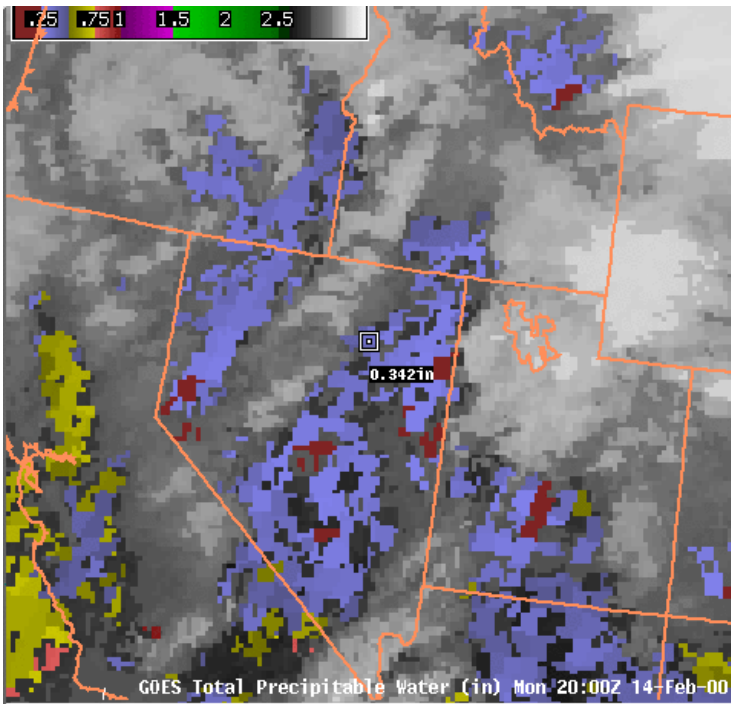
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4pan4.gif



4pan5.gif



4pan6.gif

