

WHEN GOOD GUIDANCE GOES BAD

Prepared by
Ashley Brooks

Guidance Discussion

-Guidance Goes IFR-

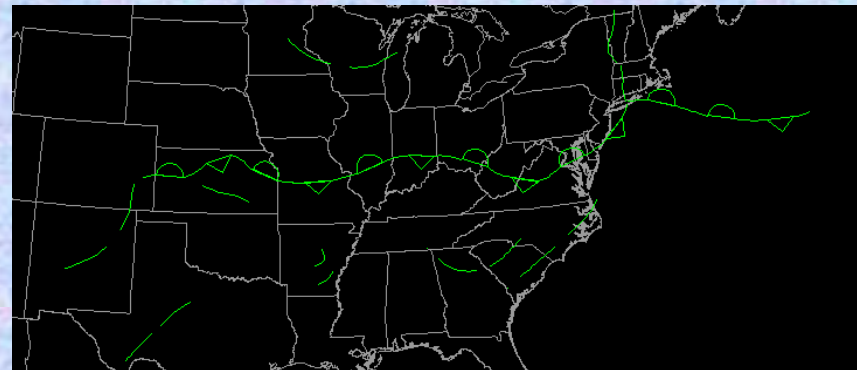
- ❑ **GFS MOS Guidance**-Indicates reduced visibilities throughout overnight and morning hours with lowest visibilities from 1 to <2 miles (IFR)
 - ❑ -has light winds overnight
 - ❑ -has clouds overnight with clearing towards morning
 - ❑ -keeps higher dewpoints around however, slightly lower than ETA MOS

- ❑ **ETA MOS Guidance**-Indicates reduced visibilities around sunrise with lowest visibilities 3-5 miles (MVFR)
 - ❑ -has light winds overnight
 - ❑ -keeps clouds around longer and trough the overnight period
 - ❑ -keeps higher dewpoints around through morning

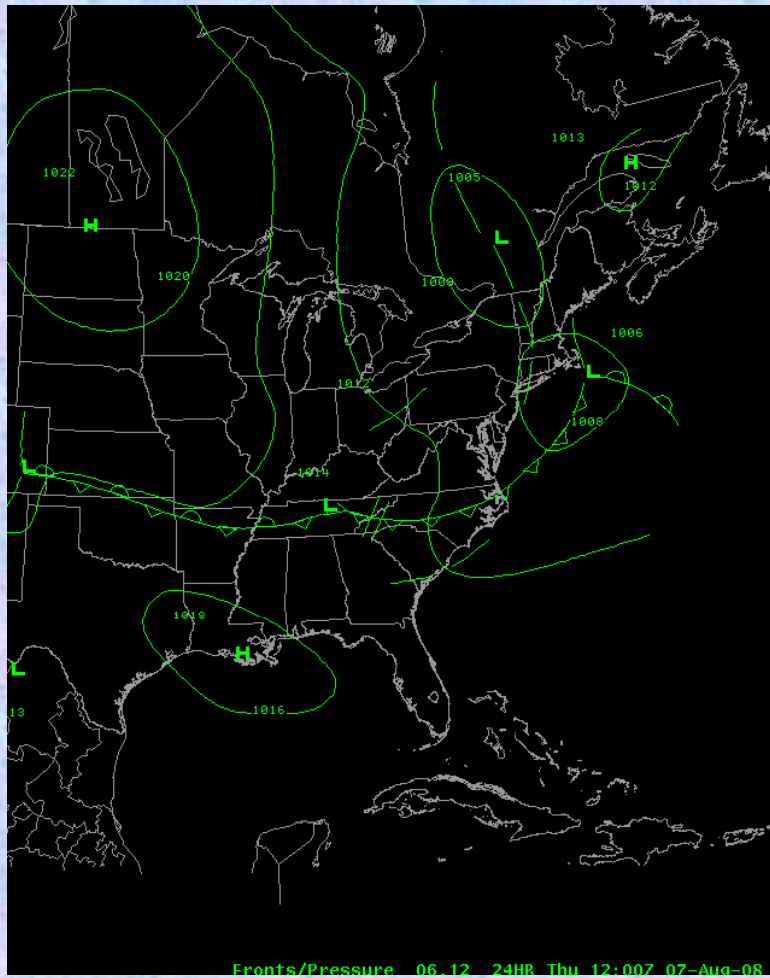
18Z TAF KBMG

- KBMG 061720Z 061818 22003KT P6SM OVC007
TEMPO 1819 SCT015
FM1900 30004KT P6SM SCT040
FM0000 32003KT P6SM SCT130
FM0700 00000KT 3SM BR SKC
FM1400 33005KT P6SM FEW070

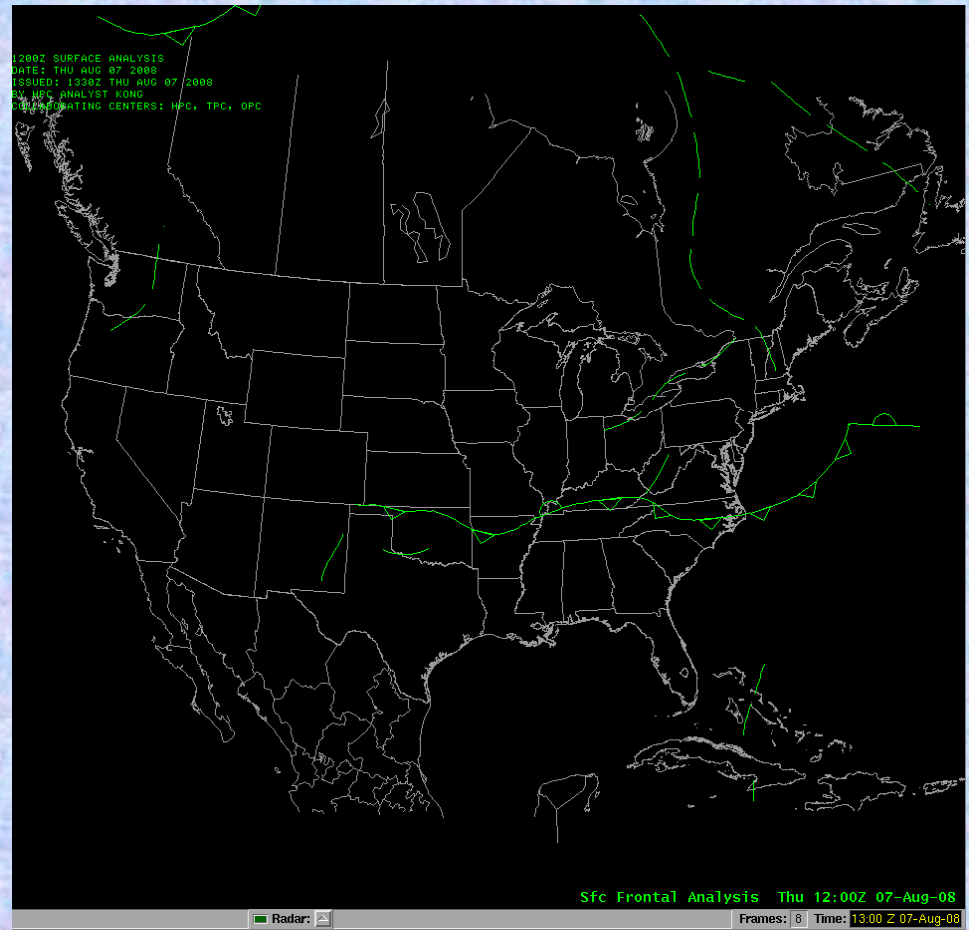
Frontal Position at 21Z Aug 6th



HPC Forecast Fronts 12Z Aug 7th (Similar to NAM)



HPC Analyzed Fronts 12Z Aug 7th



The Thought Process

Aviation Discussion 18/00/06 Z TAFS

- 18Z-TAF sites will become MVFR overnight however fog should dissipate after sunrise on Thursday. Conditions at TAF sites are improving as a cold front slowly moves south through southern Indiana. High pressure and drier air will begin to move into the TAF sites with only SCT CU development this afternoon, however light winds and some lingering low level moisture may allow for fog development late tonight. Biggest concerns are for KBMG and KHUF since they are closer to the front and have higher dewpoints. At this point have put 3SM in at KBMG and KHUF, however these sites will have to be monitored closely as they may briefly drop into the IFR category Thursday around sunrise. With mid-level clouds possible part of the night and drier air trying to work in, have not mentioned IFR conditions at this point.
- 00Z-Cold front extends from near HUF to just south of IND. Higher dewpoints and light winds south of the front will lead to isolated to SCT TSRA this evening south of I-70. MVFR VIS conditions will also drop into the IFR range later tonight at BMG. Expect HUF to see frontal passage with light NW winds so visibility conditions may stay above IFR there. Lift will persist through 06Z tonight, however with sunset expect weakening instability to counteract forcing from the wave across WI.
- 06Z-Cold front is drifting south while lift along the frontal zone is aiding in mid lvl clds which has inhibited fog formation at BMG for the time being. Decreasing instability should counteract lift and should keep any precip coverage isolated in nature tonight and will thus keep the fcst dry. Mid cld should delay any fog formation for a time however still expect some clearing later tonight which could still lead to a period of IFR Vis conditions at KBMG as mid cld thins out toward 09z and dry air still lags behind the front.

What Occurred?

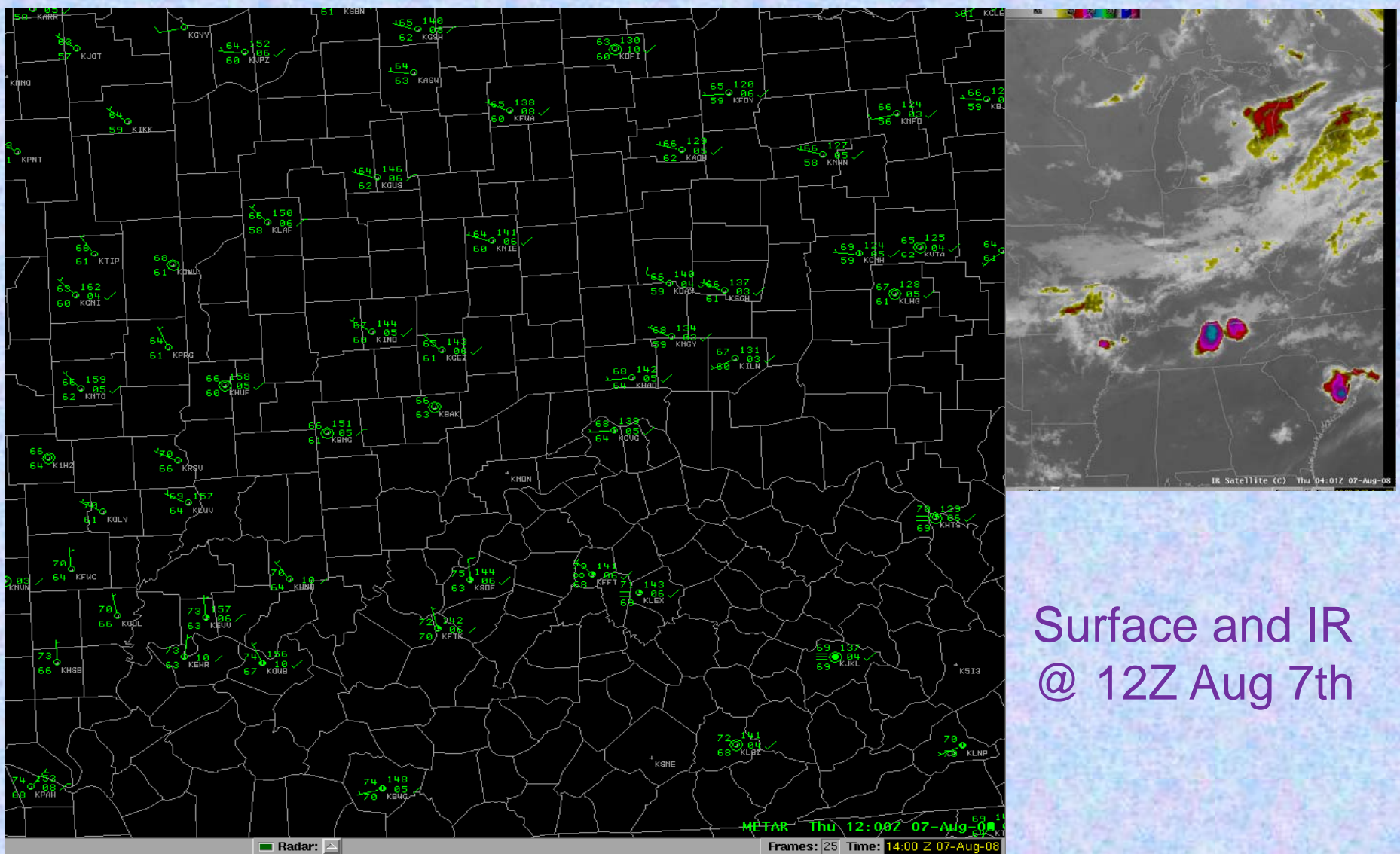
NOTHING

The End

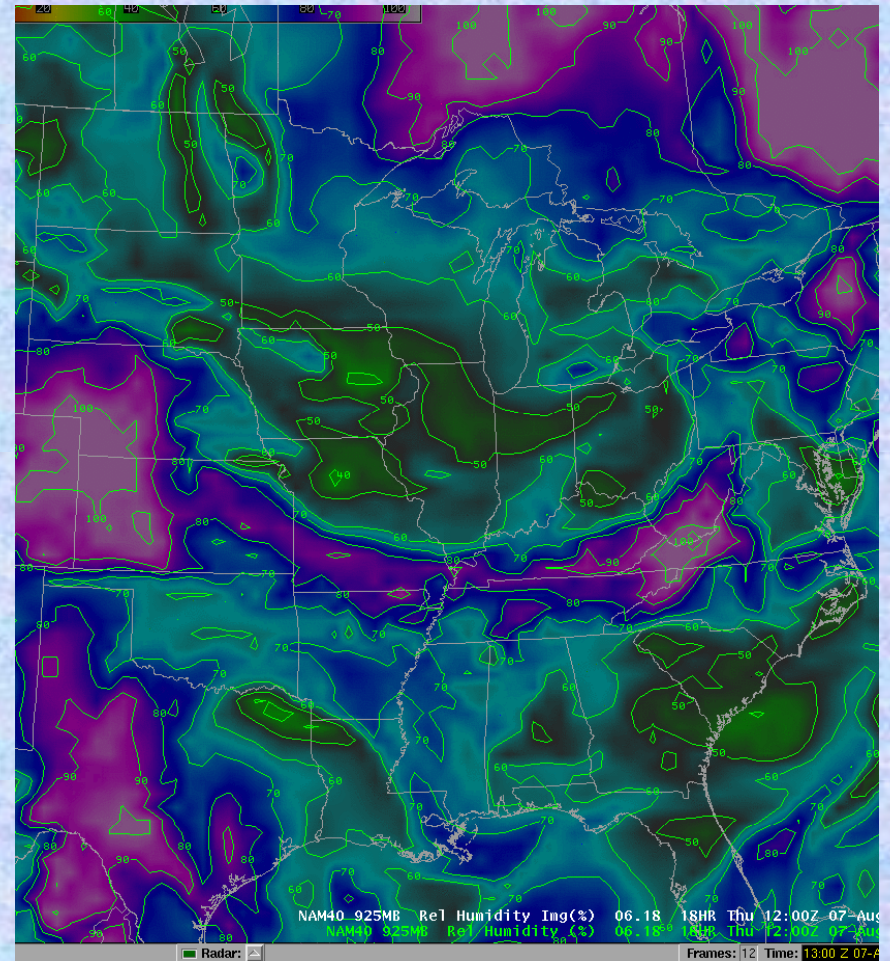
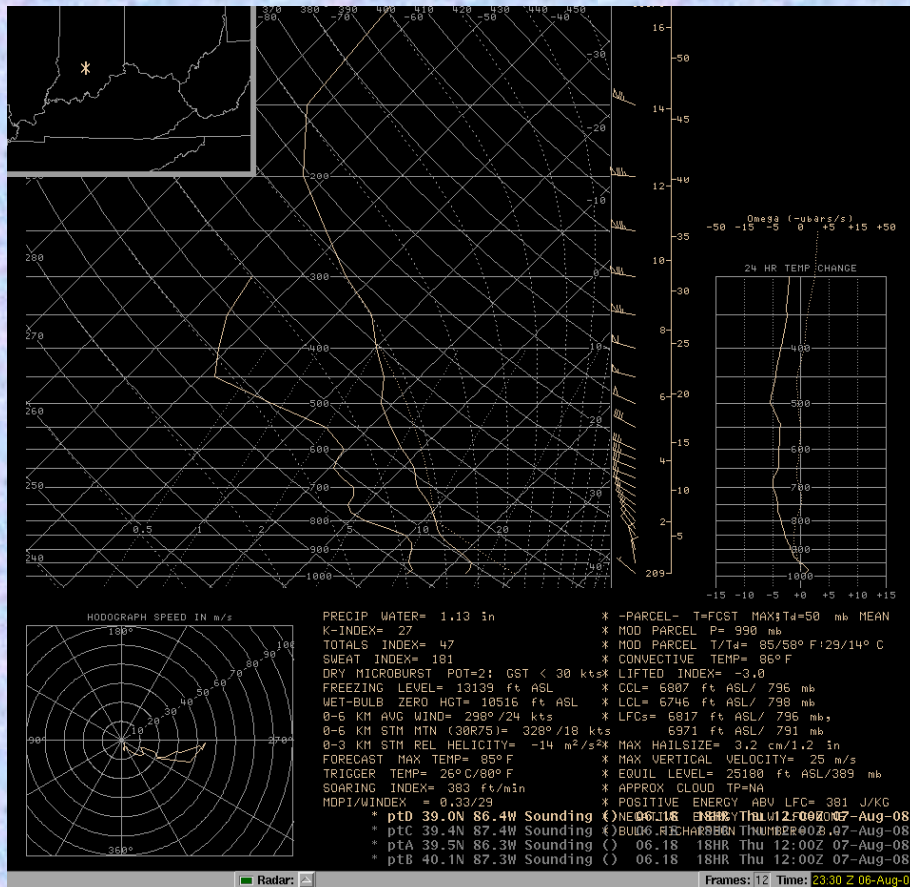
...OR NOT...

What Went Wrong!?

- Low level moisture further south, too dry near surface
- Mid-level clouds stuck around too long and limited fog formation



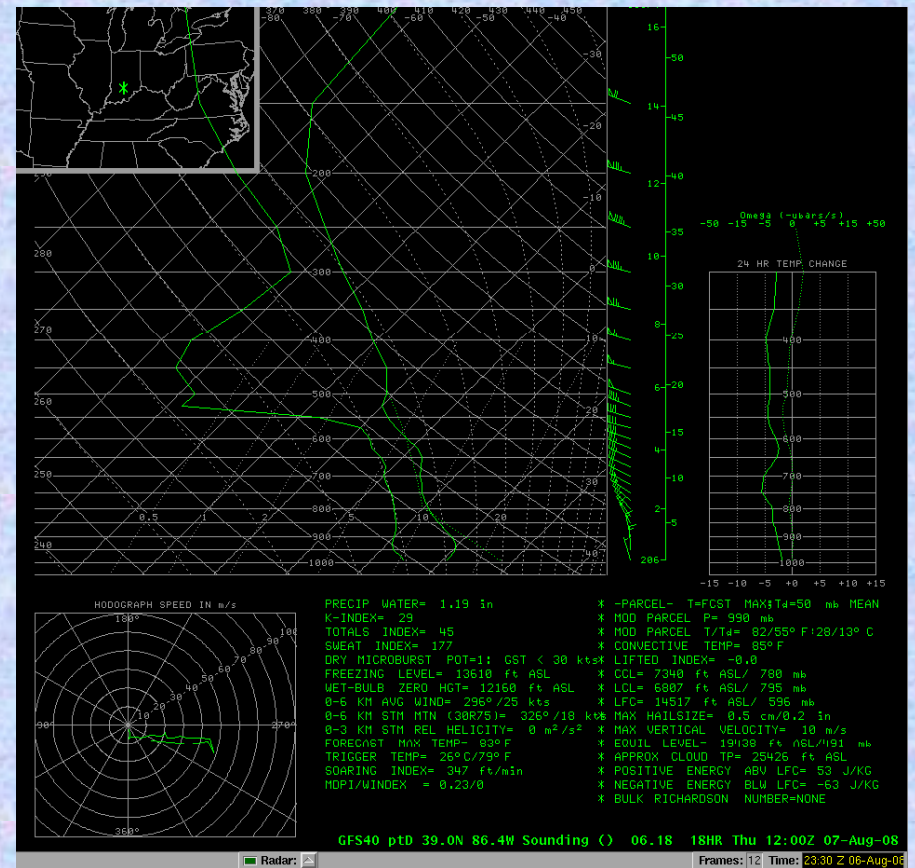
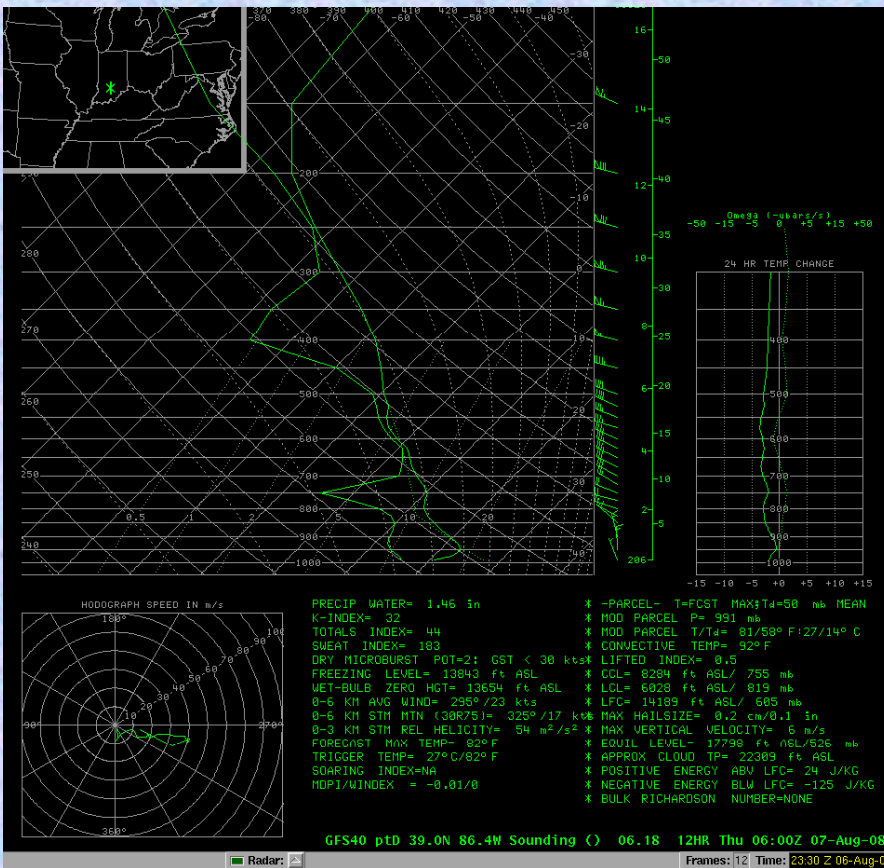
What should have carried more weight in the forecast



NAM Forecast Sounding and 925 RH forecast for 12Z August 7th, both showing low level dry air

GFS Forecast Sounding near KBMG for 06Z and 12Z

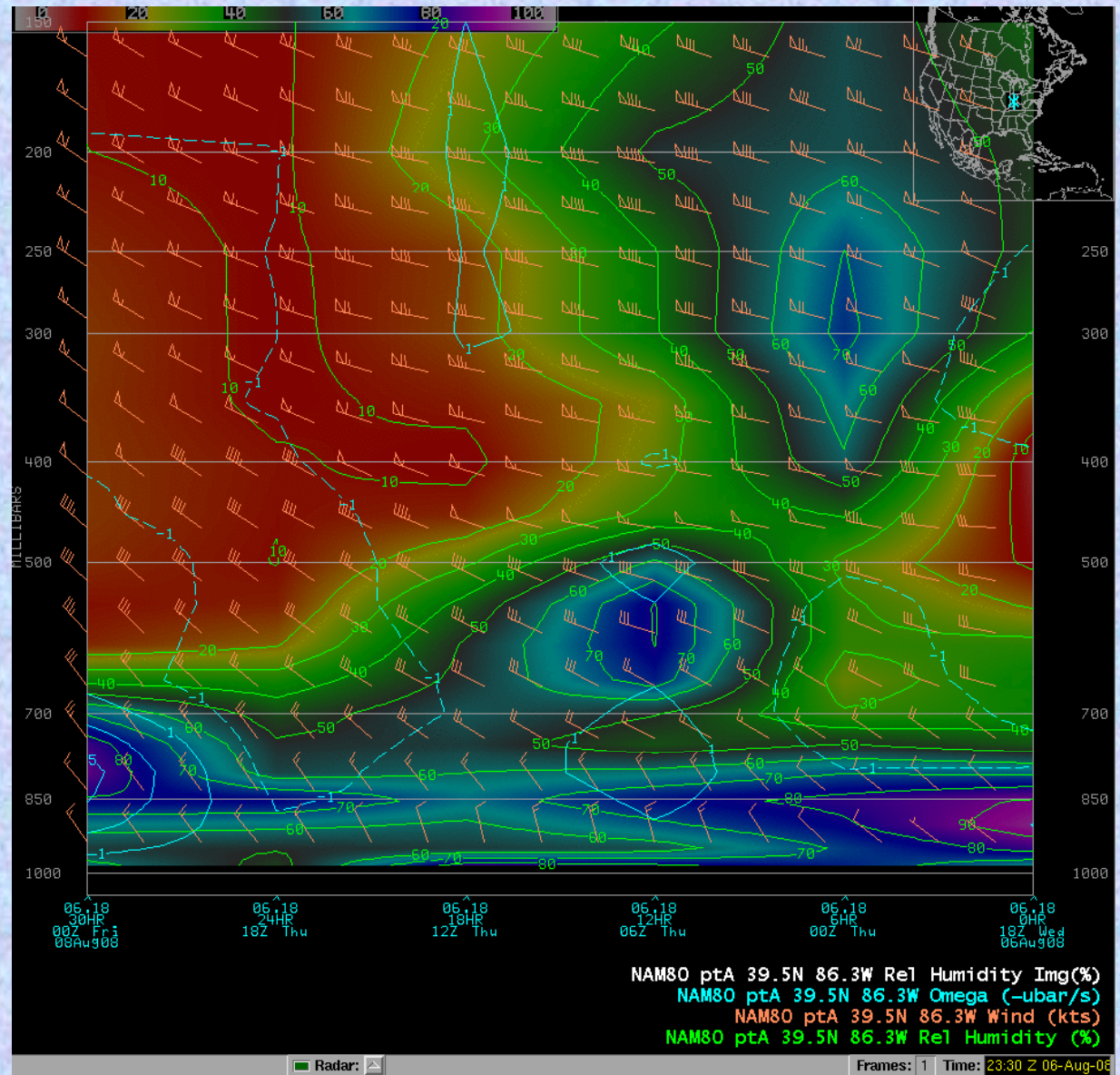
Showing mid-level clouds and then low level dry air as well



Time-Height NAM for near KBMG

NAM had indicated mid-level clouds for most of the night, however also showed moisture near surface

The forecaster writing the 18Z TAFs was skeptical of the IFR conditions forecast by guidance due to the mid-level clouds, however went with MVFR b/c of the thought that there would be some clearing before sunrise and some residual moisture since KBMG would be closer to the front.



What to watch out for

- ❑ Mid-level clouds-Guidance, time-height, and soundings all indicated clouds most of the night which would inhibit fog start time or any fog formation
- ❑ Speed of frontal boundary-whether clouds associated with front would clear the area and when and also when drier low level air would move in

Thank You!

