

From: Bob Sharman [REDACTED]  
Sent: Monday, October 27, 2008 1:56 PM  
To: Salottolo Greg  
Cc: Larry Cornman  
Subject: Re: [Fwd: Wave Activity --- Fossett Accident]

Greg,

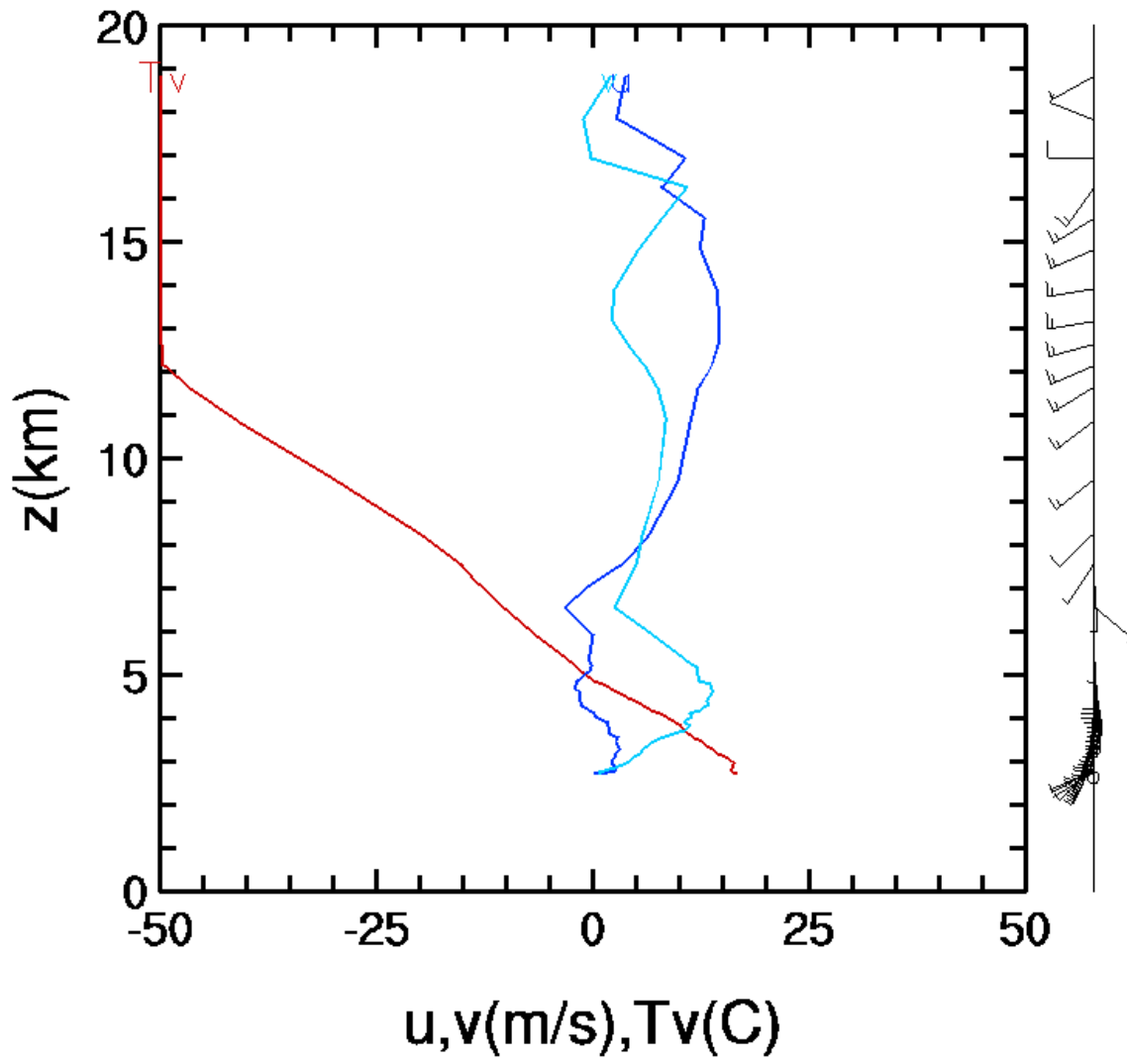
1) Well there certainly looks like there are waves, and steep ones at that.

2) For what it's worth I've attached a word doc that contains figures from the output of the GTG run (based on RUC13 output) we did for this case. The plots are: The first 5 are vertical profiles from the nearest ruc13 point to the accident location you provided - plot1 is u,v, Tv, plot2 is wind speed (dark blue) and shear (light blue), plot3 is Ri (note relative low values near 3 km), plot4 is the Scorer parameter  $l^2 = N^2/U^2 - U_{zz}/U$  (if  $l^2$  decreases with height, wave trapping is likely, and in fact it does decrease rapidly from about 5 km upwards, before reversing again), plot5 is a skewT. The remainder of the plots are turbulence indicators on a horizontal MSL plane at 10,000 ft elevation. On each plot the location of the accident is a red dot. Available pIREPs are also indicated. Note we have only null reports in the vicinity of the accident. Plot 6 is -Ri, and is relatively low a little to the east of the incident; plot 7 is our latest GTG (GTG3.0) output, predicting light at the incident location, plot8 is mountain wave turbulence (MWT) climatology (MWTCLIMO) based on 15 years of pIREP data where the pilot specifically stated turbulence was associated with mountain waves (but I'm not sure we had enough data at 10,000 ft at that location for reliable estimates); plot9 is our MWT diagnostic (the incident is in the green area indicating perhaps light MWT activity); and the last two plots are probabilities of exceeding either moderate or severe turbulence, based on the consensus of the 12 current diagnostics within GTG. The probabilistic output is still experimental, but at the accident location we estimate about a 40% probability of moderate or greater turbulence and about a 10% probability of severe or greater turbulence.

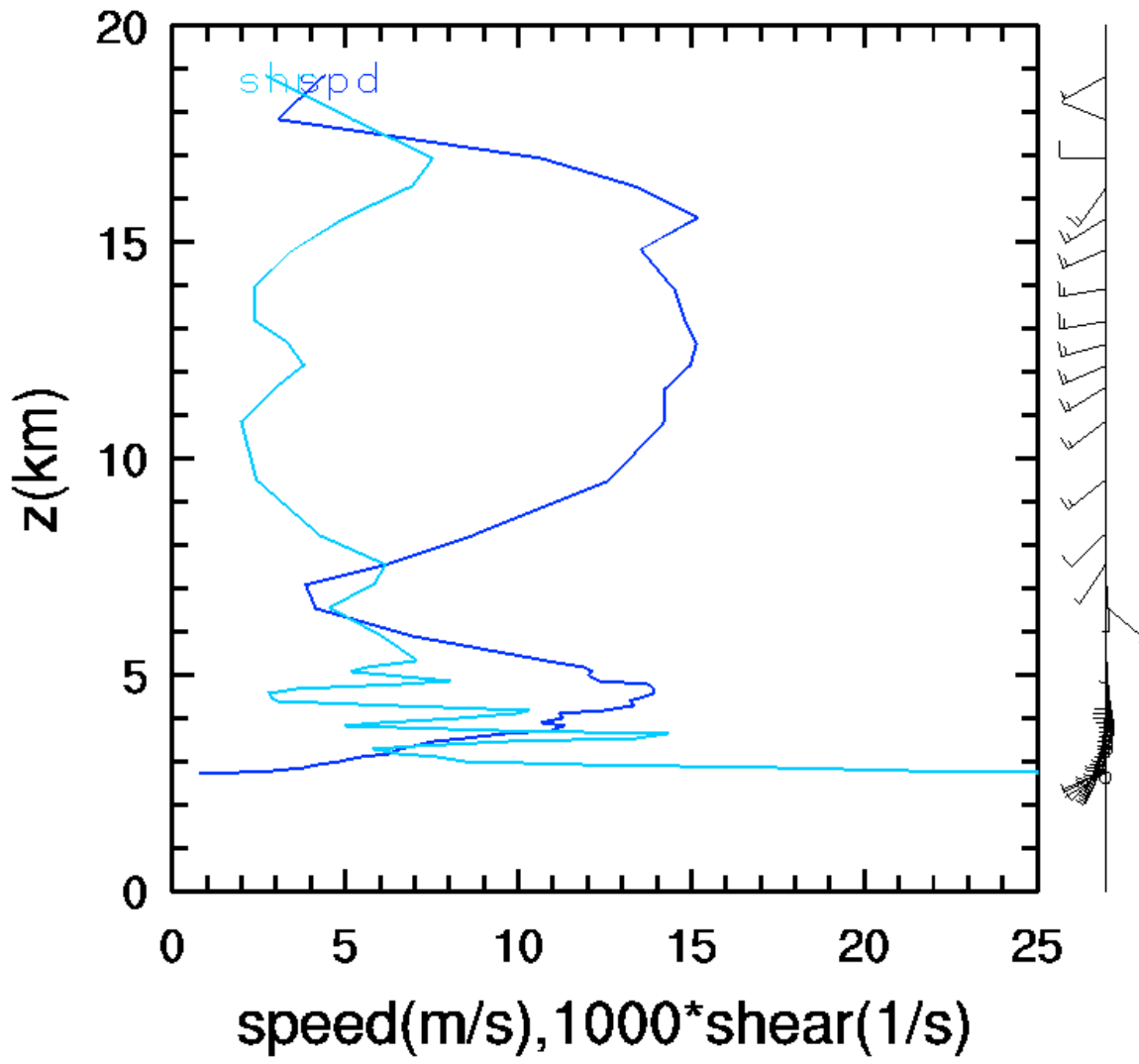
3) Let me know if you want to pursue a simulation.

Bob

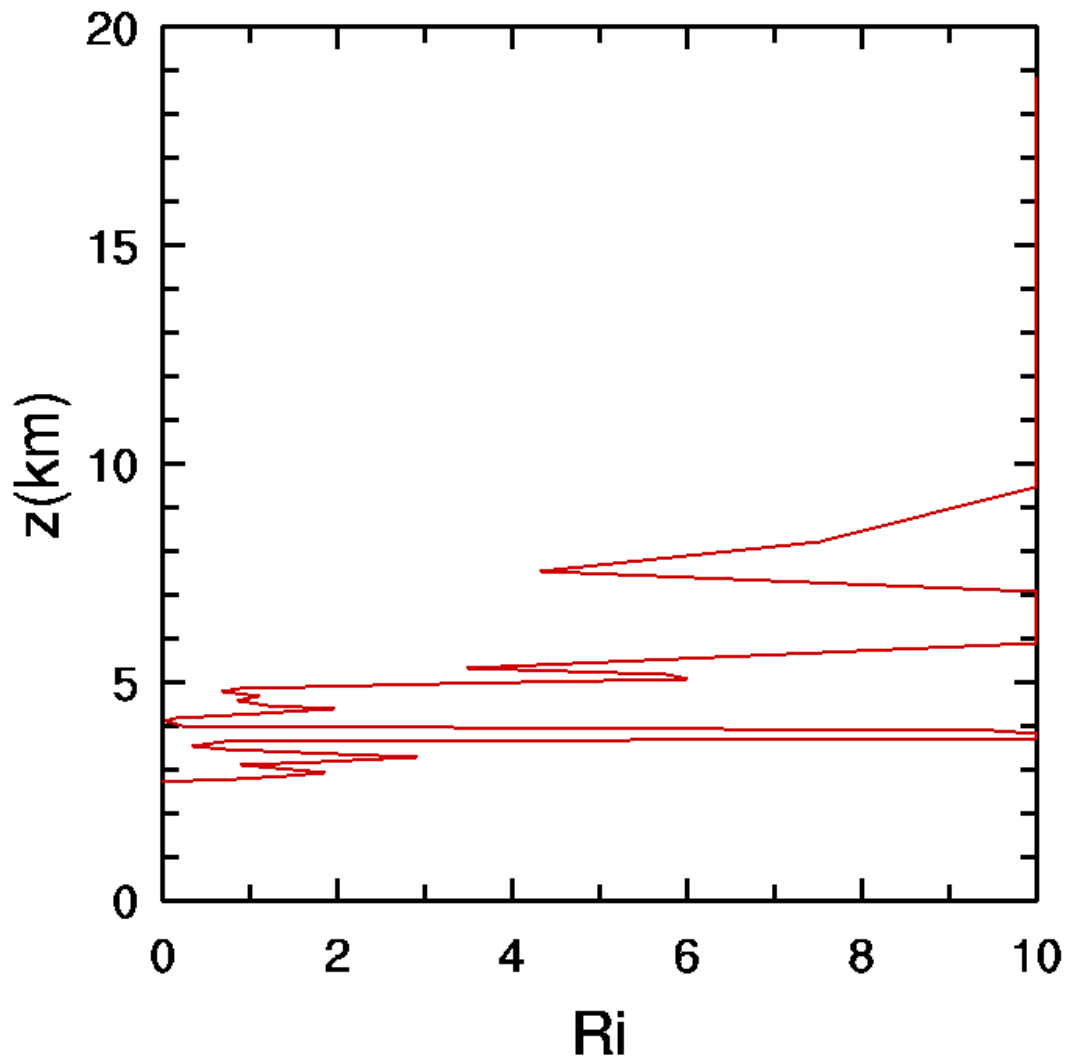
vertical profile at lat,lon= 37.67 -119.13



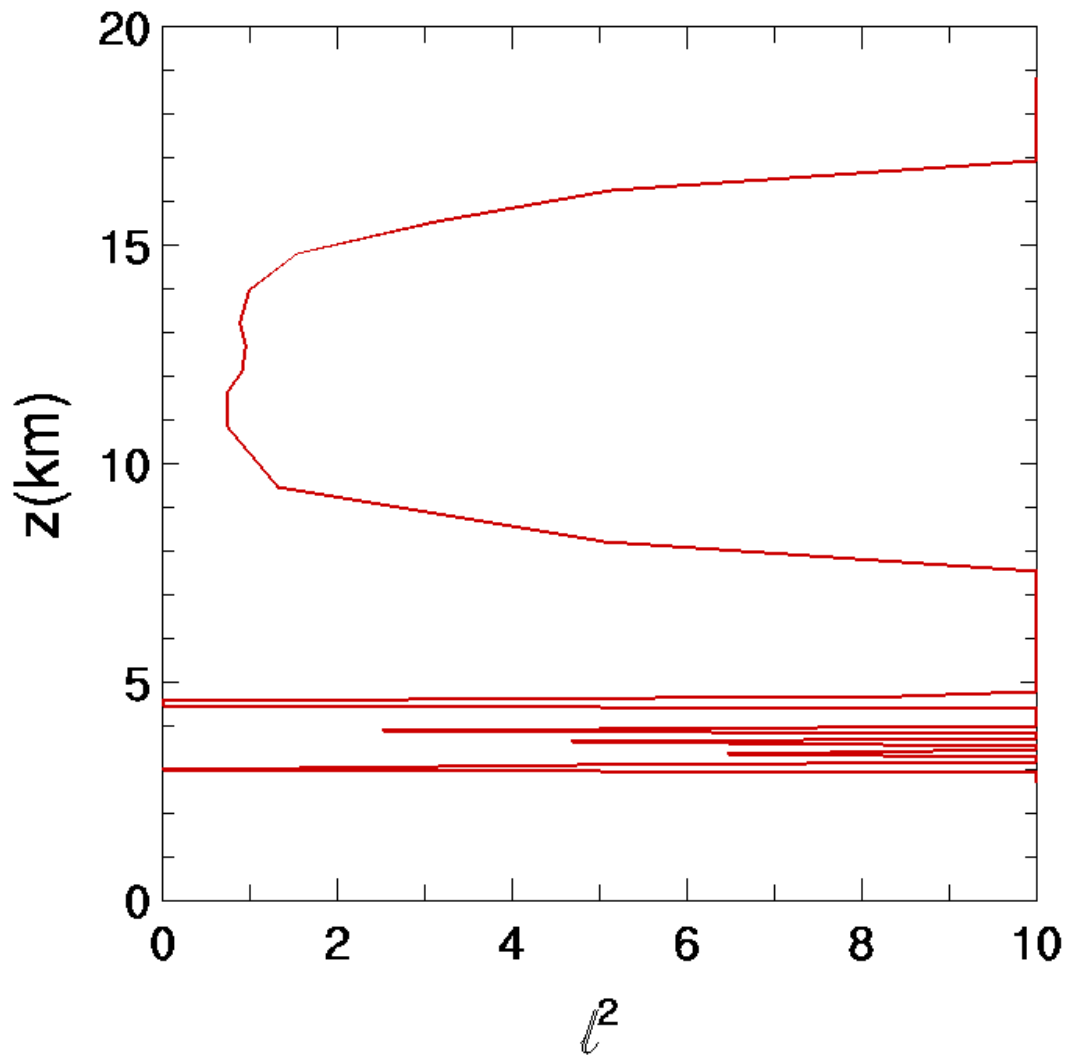
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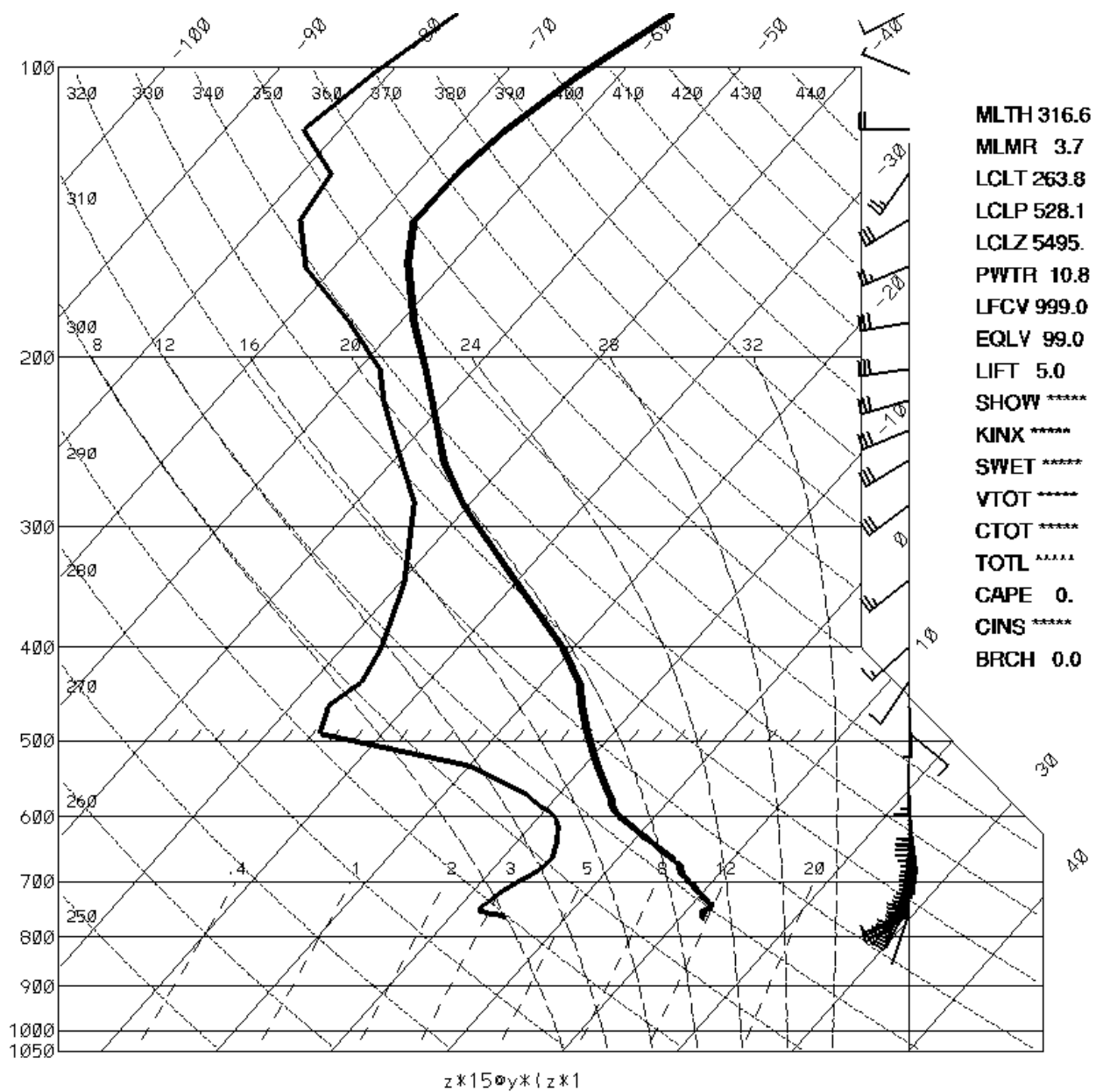


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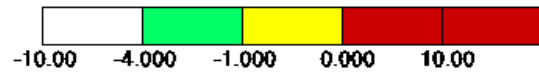
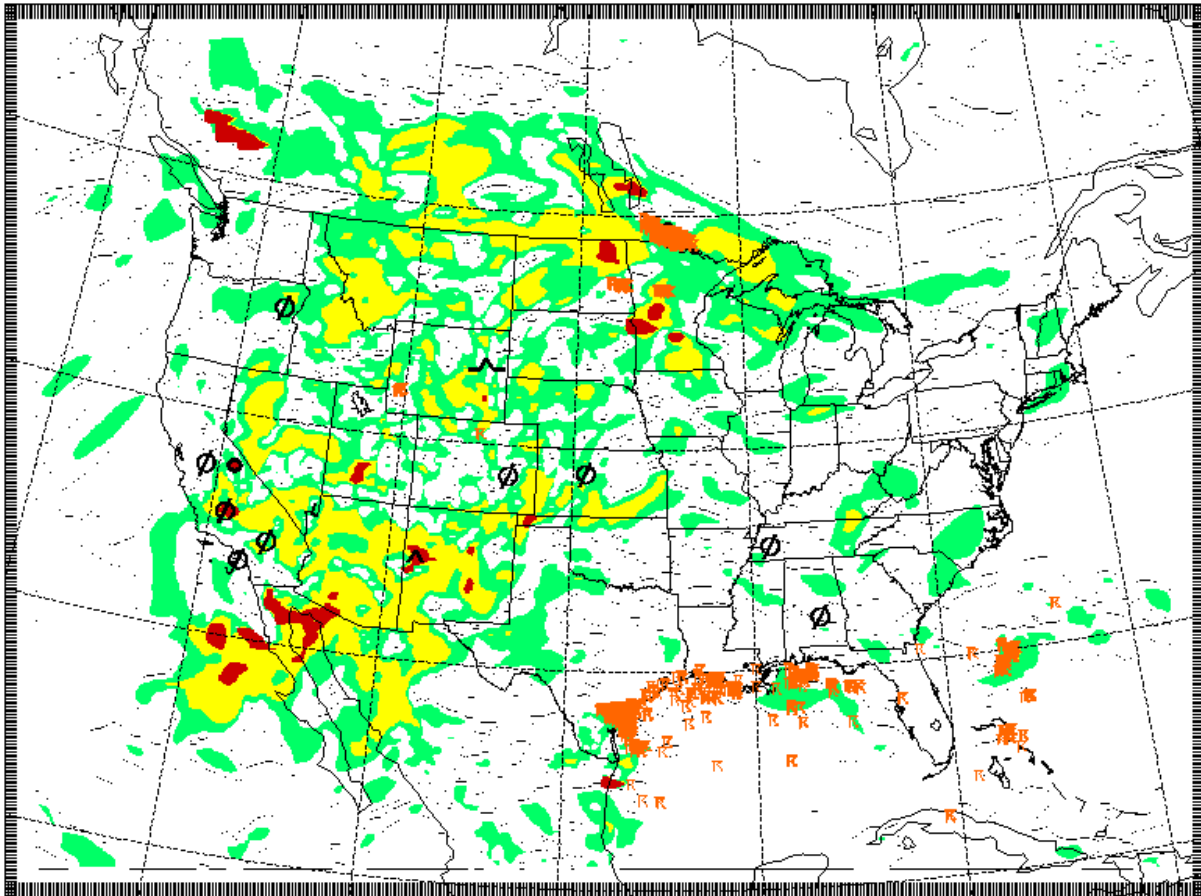


vertical profile at lat,lon= 37.67 -119.13

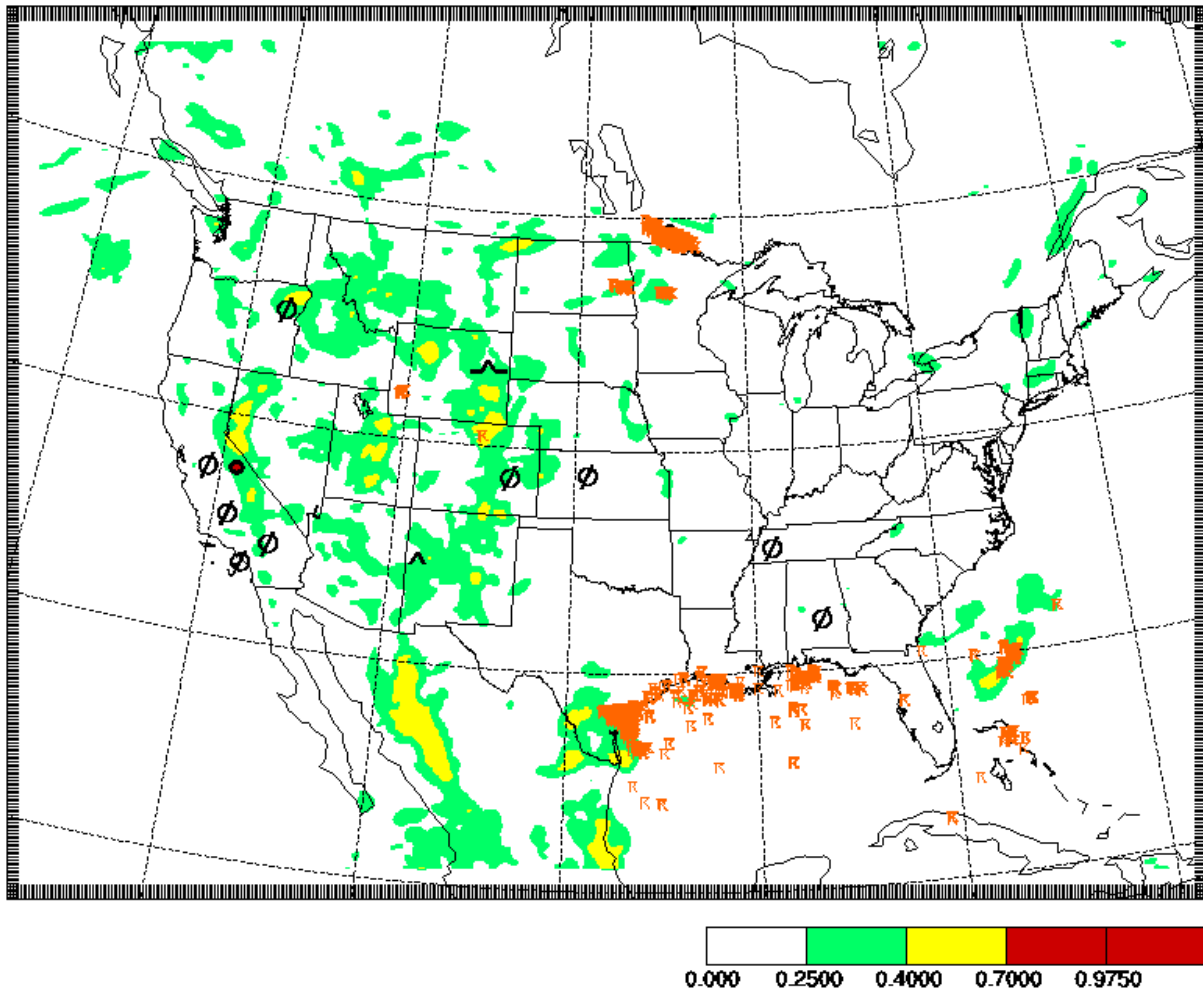




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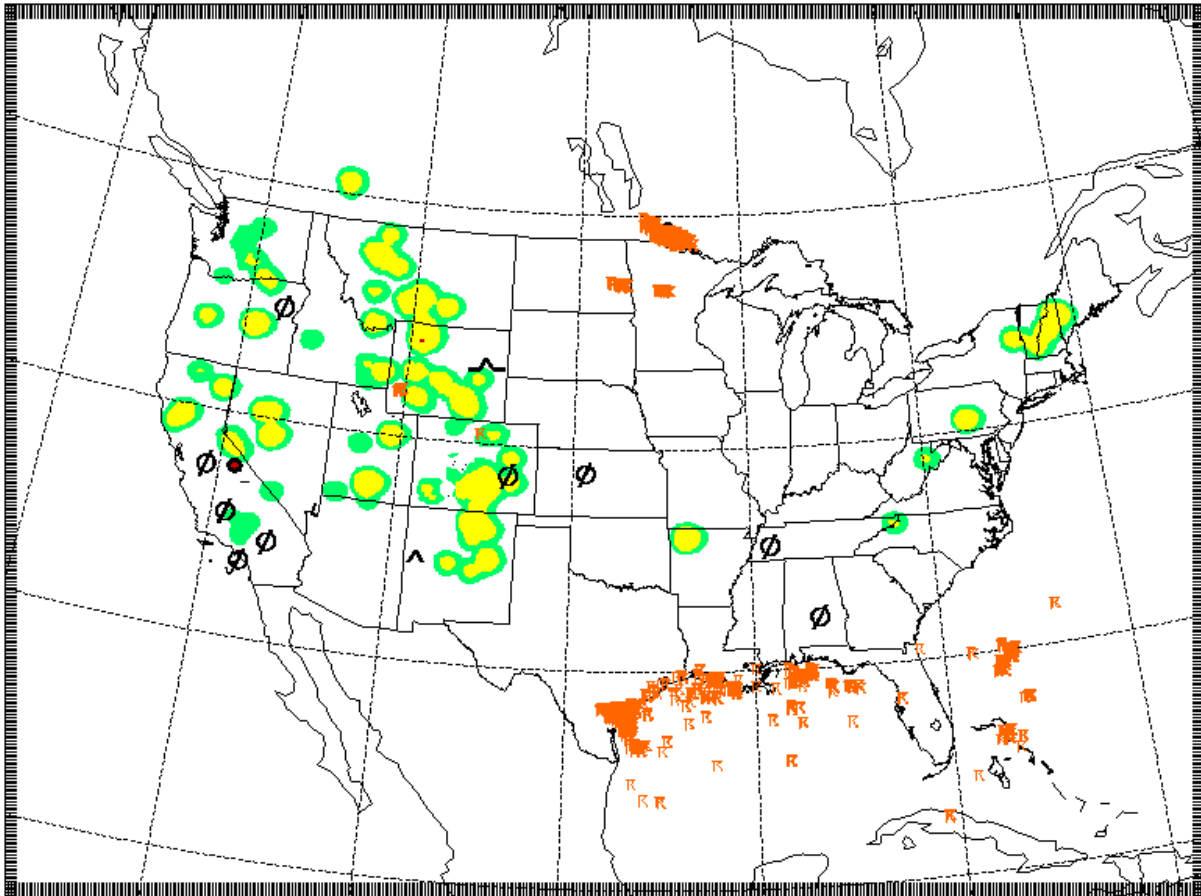


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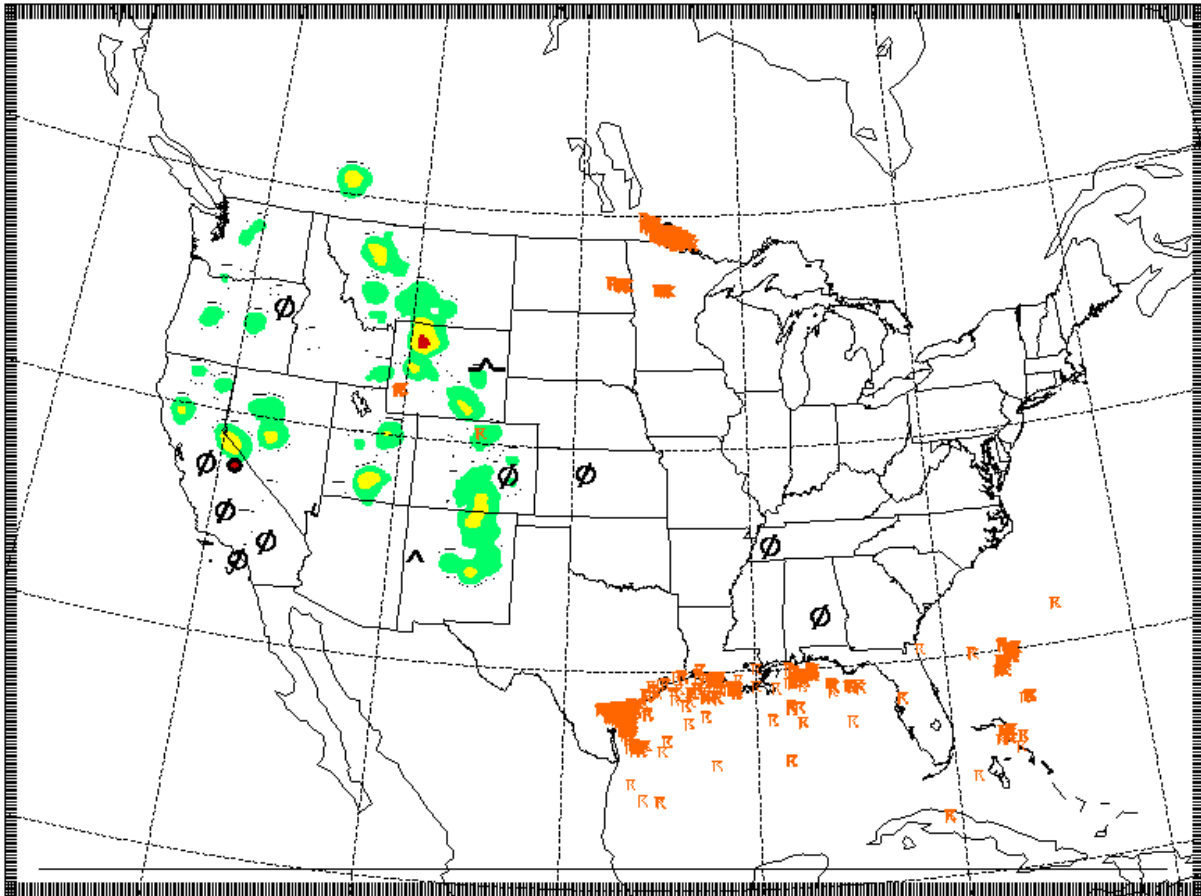




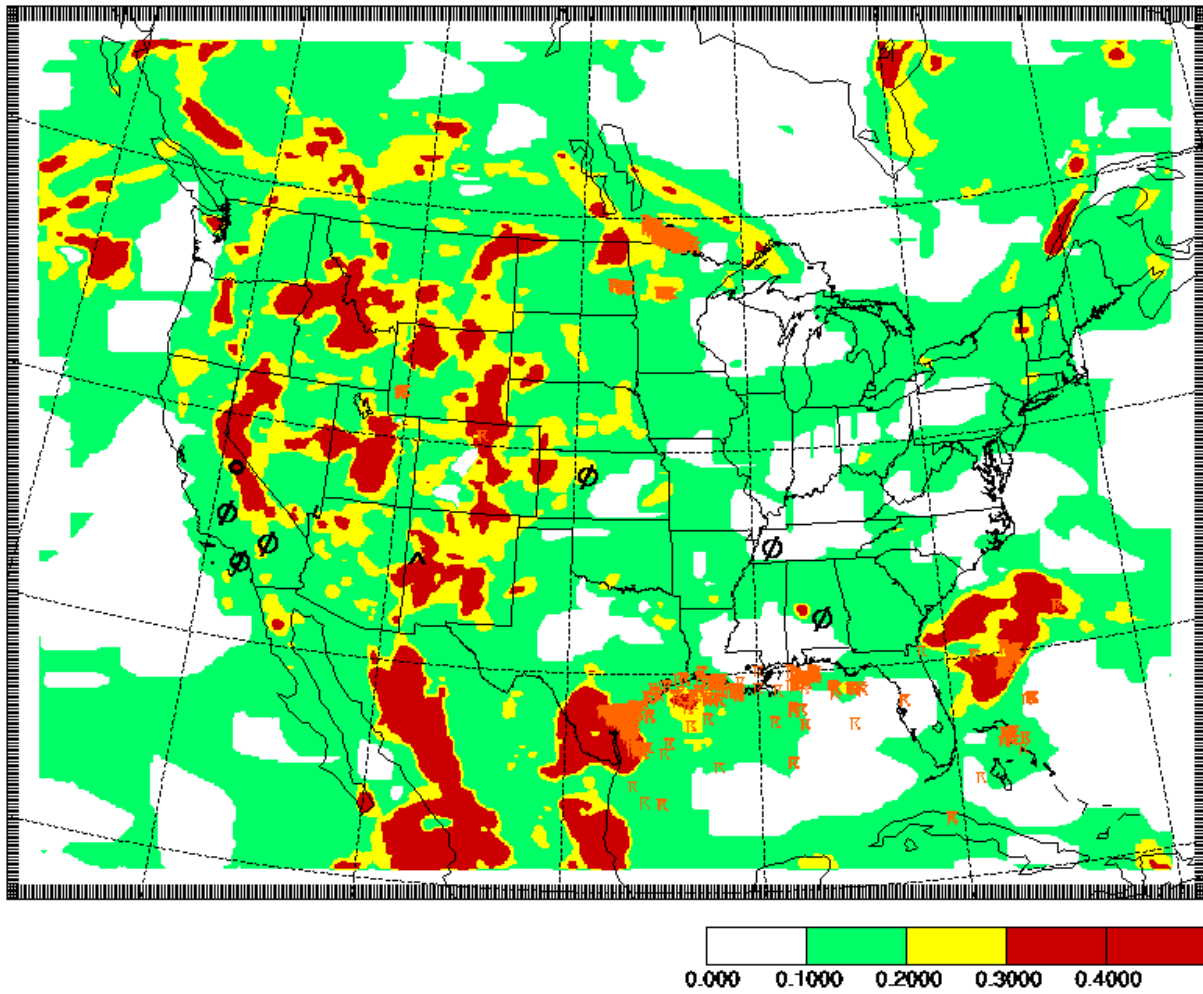
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CWEDR  
flight level(ft) =10000.



20070903\_i16\_f000\_RUC13kmDEV2b  
prob >= moderate nitfa = 10  
flight level(ft) =10000.



20070903\_i16\_f000\_RUC13kmDEV2b  
prob >= severe nitfa = 10  
flight levell(ft) =10000.

