

Weather and Air Quality: Reflection and Outlook During Smoke Conditions

Presenter: Megan Christiansen
Date: August 5, 2024

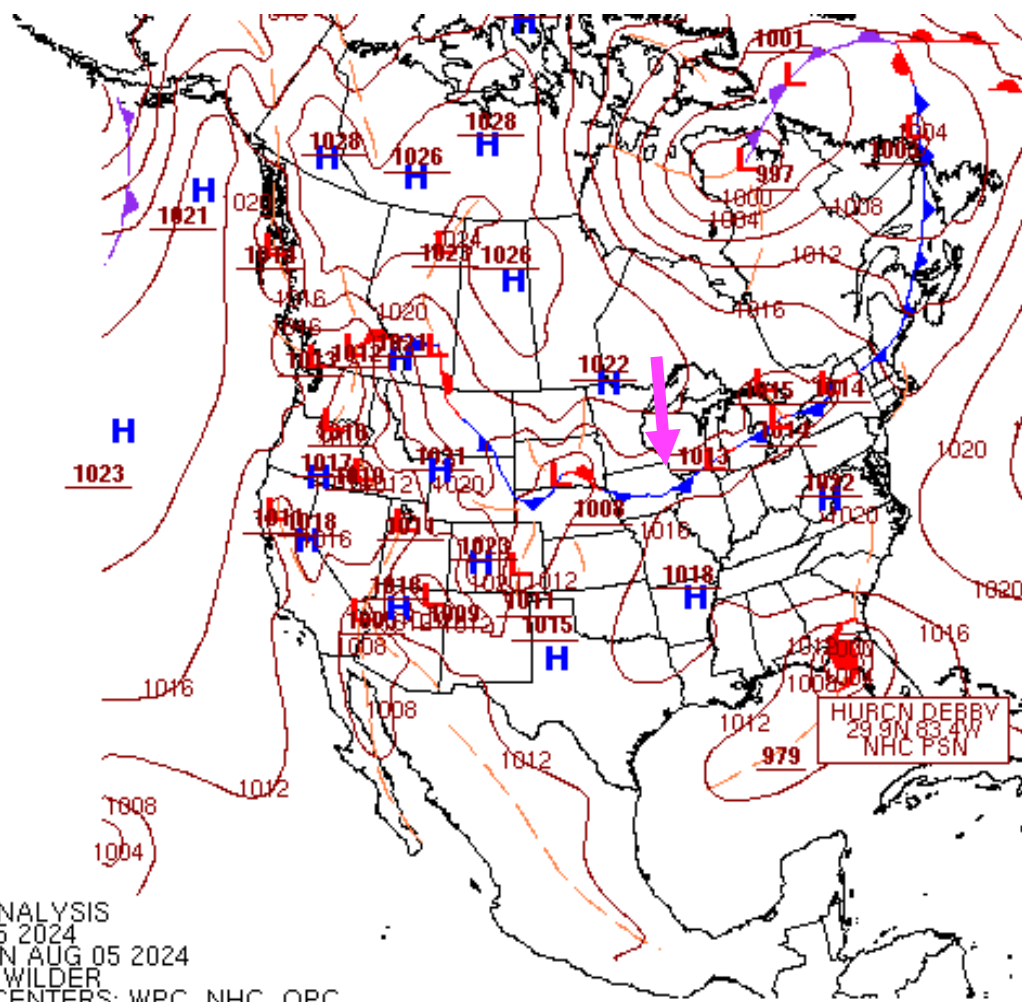


FireAQ is funded by NASA HAQ. We thank NASA GMAO and
NRL for the model data products.

EARTH SCIENCE
APPLIED SCIENCES

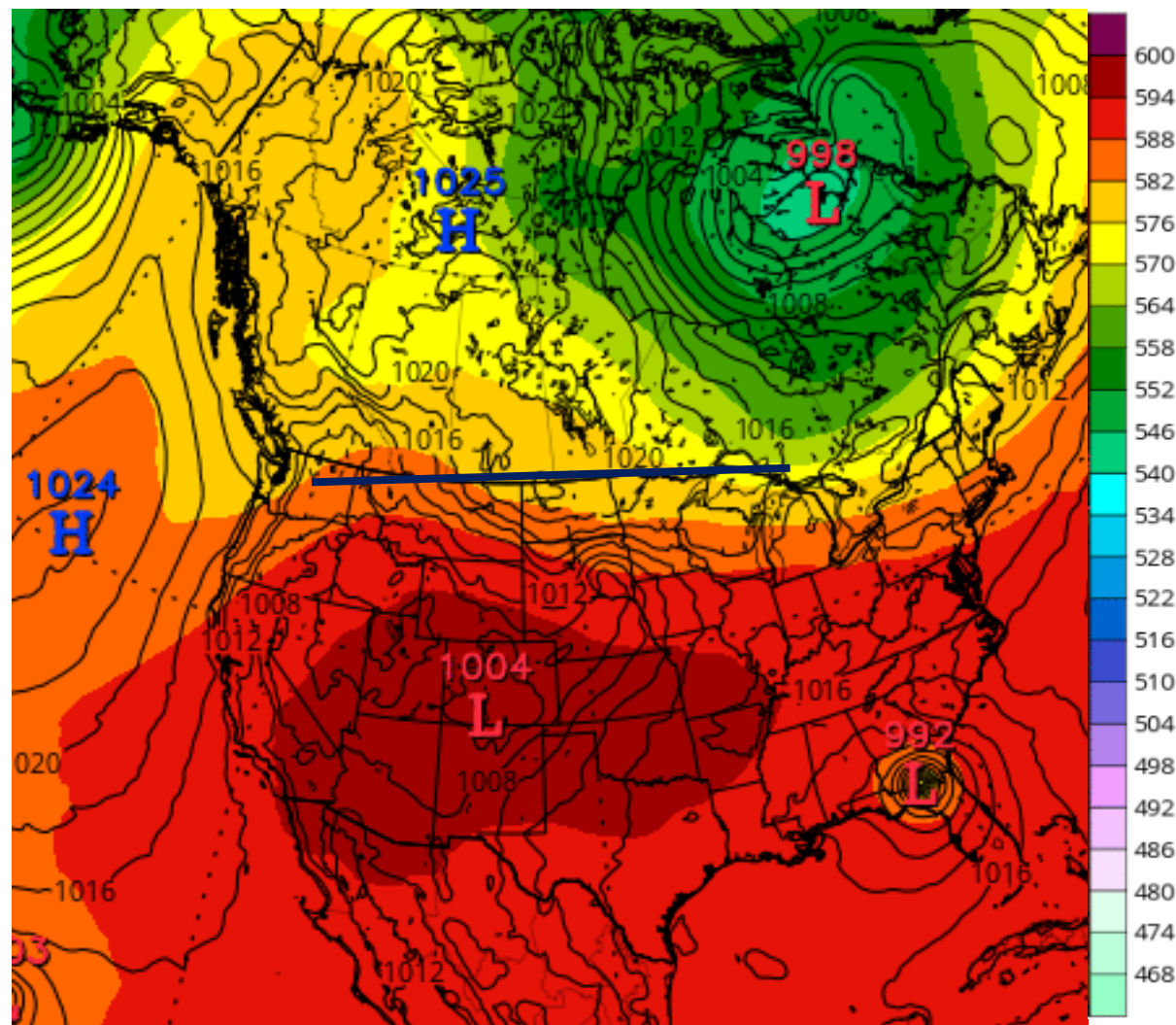
Current Status: August 5, 2024

Surface Analysis



1200Z SURFACE ANALYSIS
DATE: MON AUG 05 2024
ISSUED: 1327Z MON AUG 05 2024
BY WPC ANALYST WILDER
COLLABORATING CENTERS: WPC, NHC, OPC

500 mb Contours

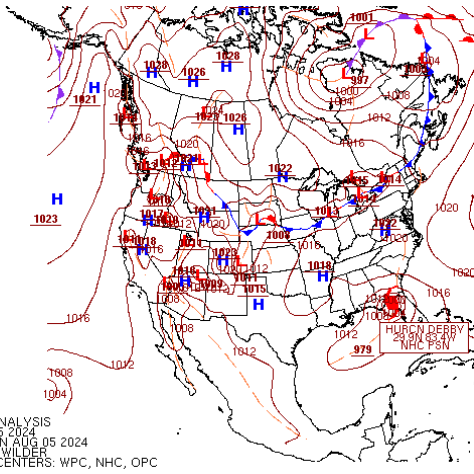


GFS 500mb Geopotential Height (dam) & MSLP (mb)

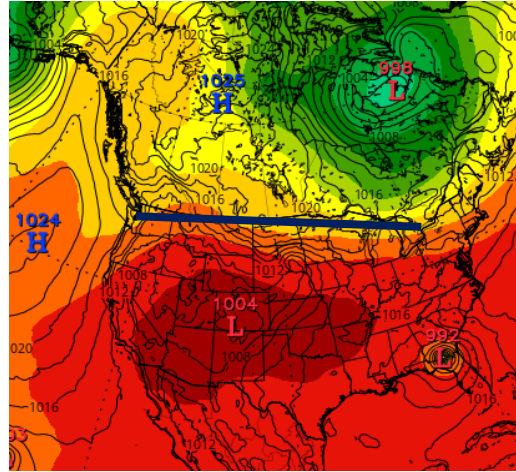
Init: 06z Aug 05 2024 Forecast Hour: [12] valid at 18z Mon, Aug 05 2024

Current Status: August 5, 2024

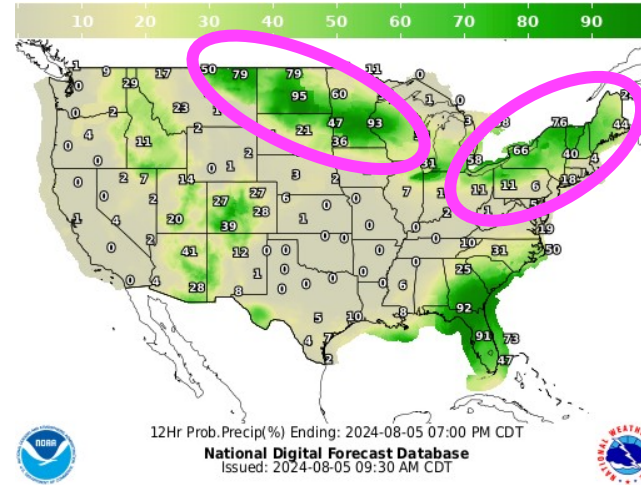
Surface Analysis



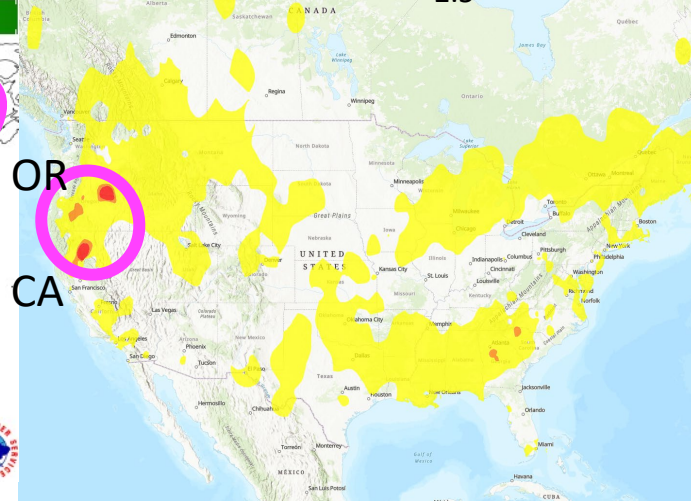
500 mb Contours



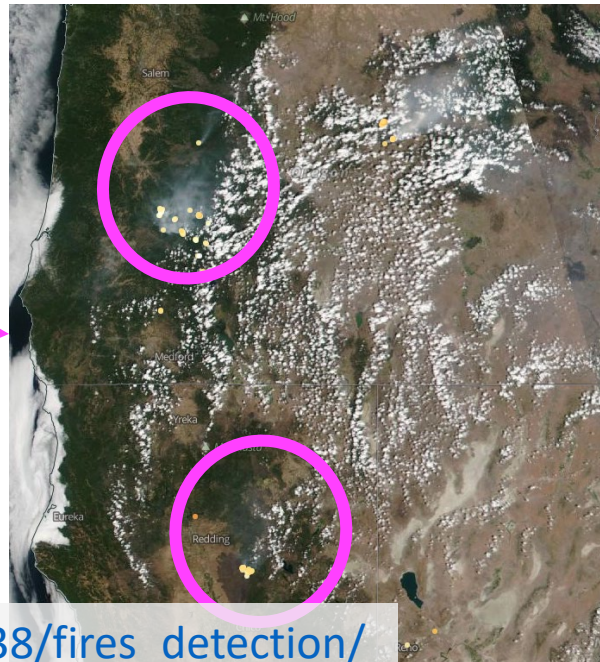
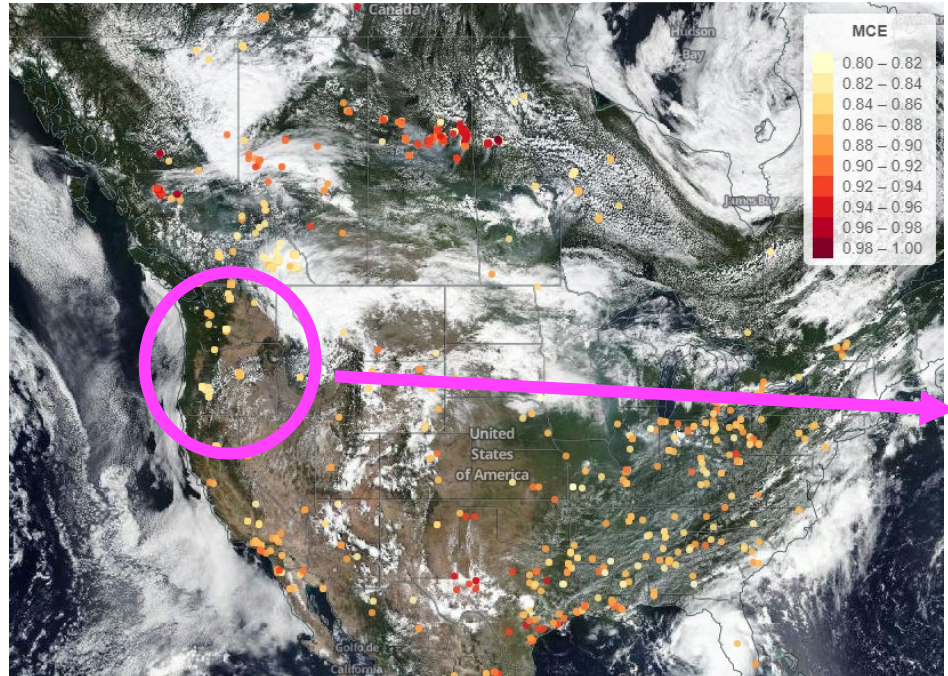
Precip. Prob.



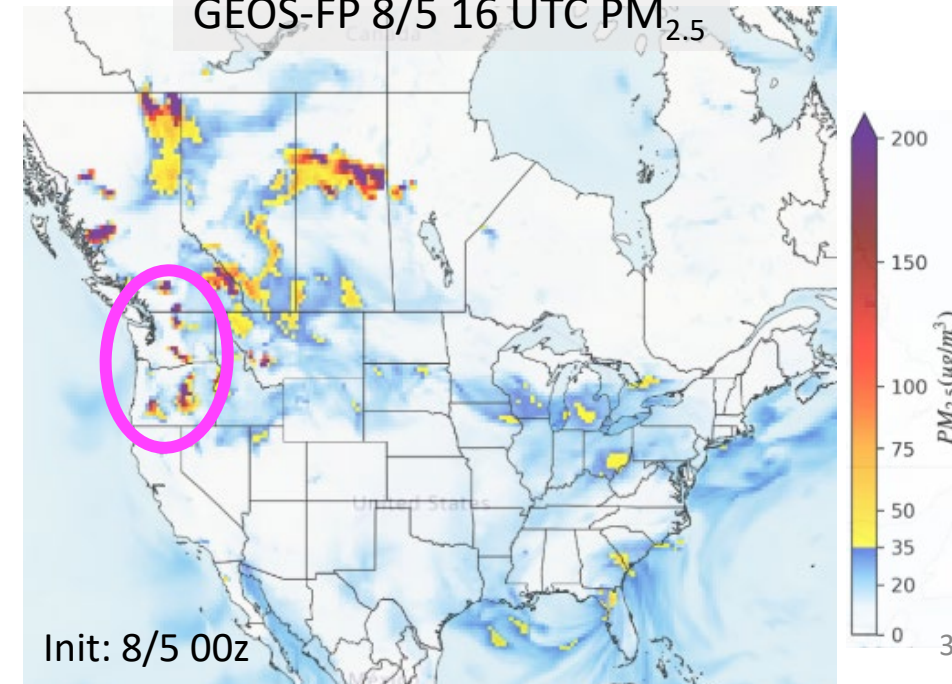
AirNow PM_{2.5} AQI



Sun 8/4



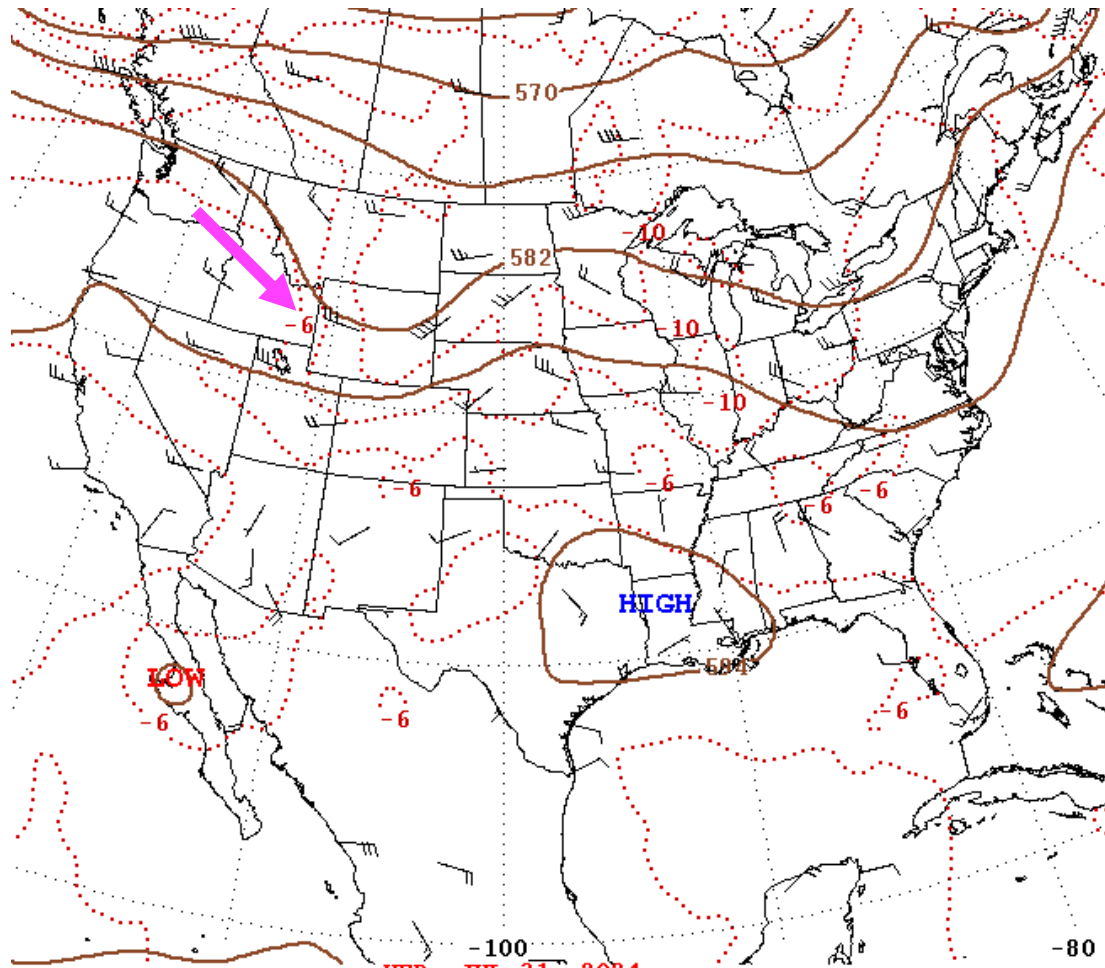
GEOS-FP 8/5 16 UTC PM_{2.5}



FILDA2 MCE http://esmc.uiowa.edu:3838/fires_detection/

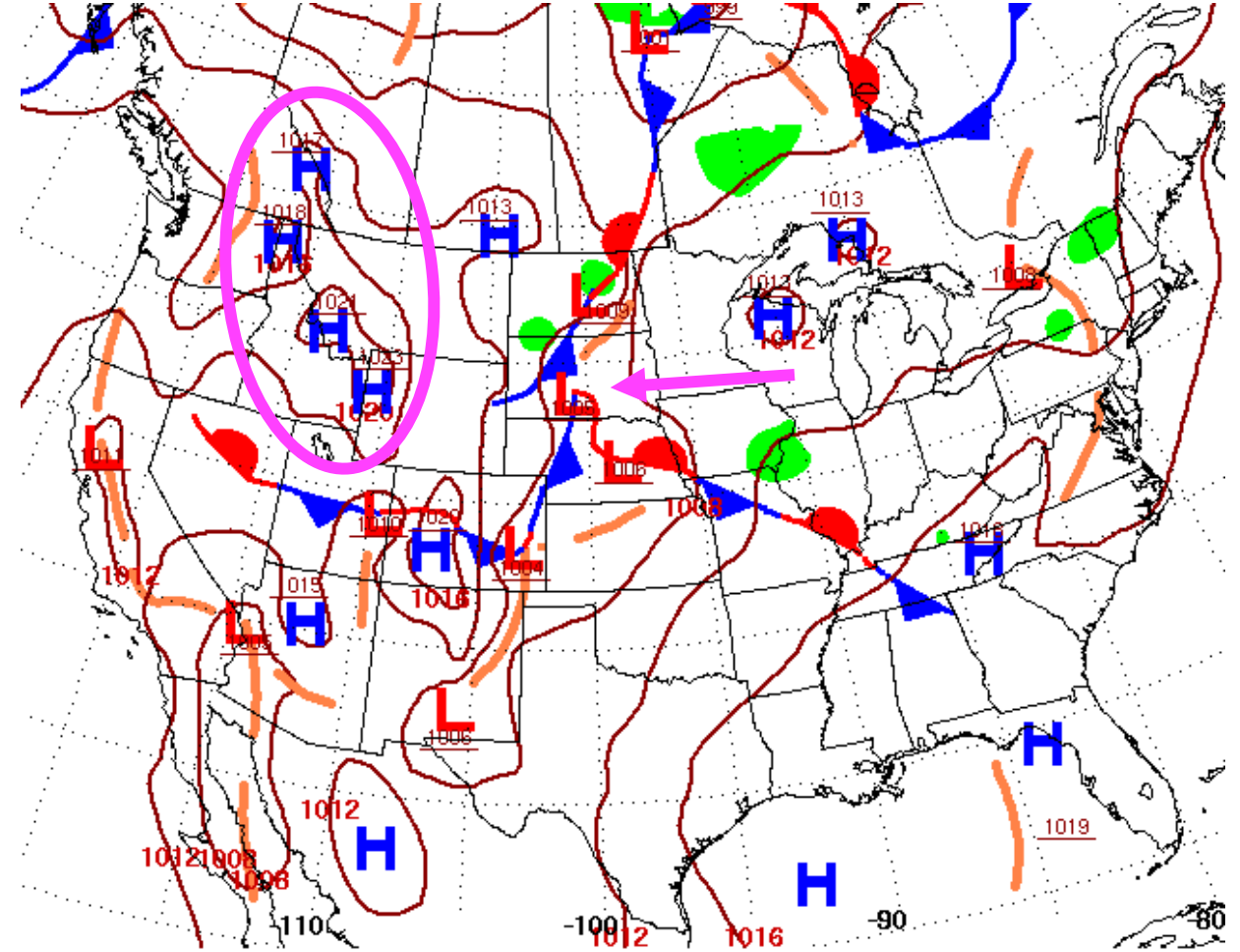
Air Quality Reflection: Wednesday July 31, 2024

500 mb Contours



500-Millibar Height Contours at 7:00 A.M. E.S.T.

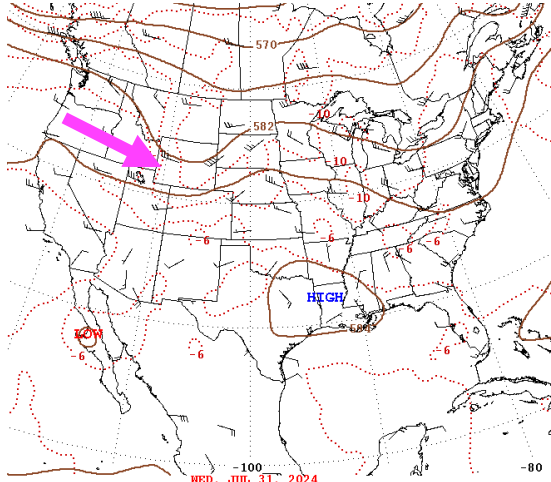
Surface Weather



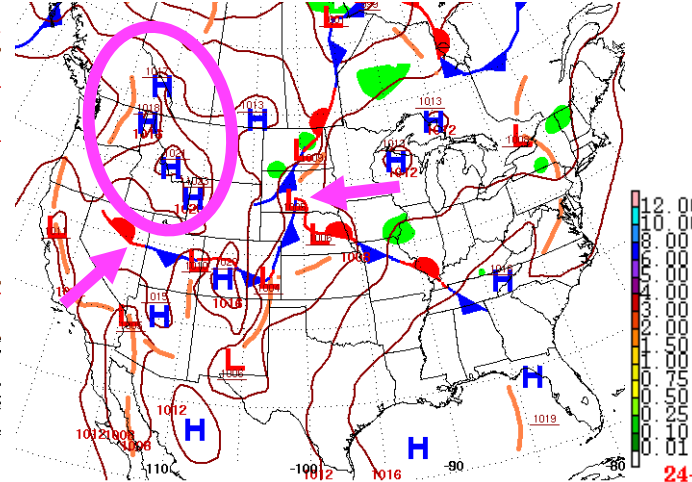
Surface Weather Map at 7:00 A.M. E.S.T.

Air Quality Reflection: Wednesday July 31, 2024

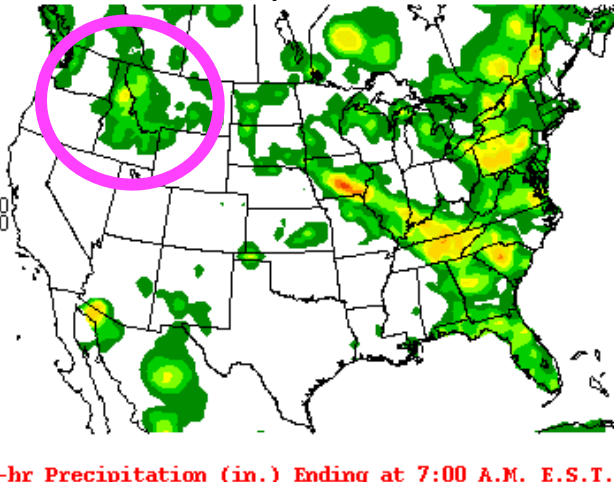
500 mb Contours



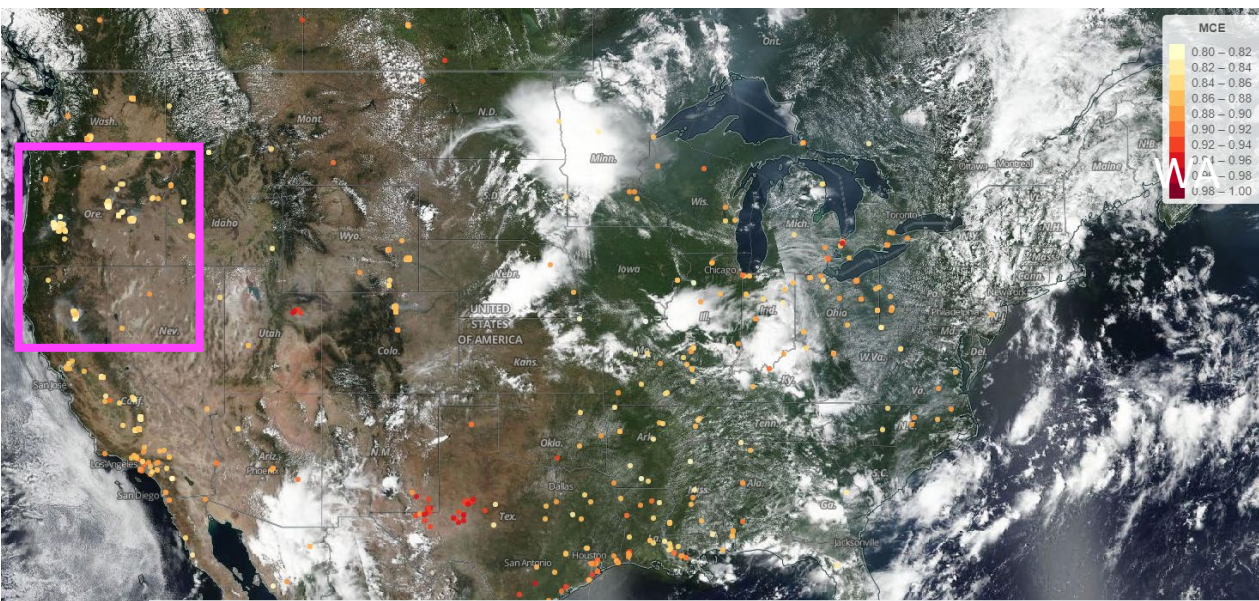
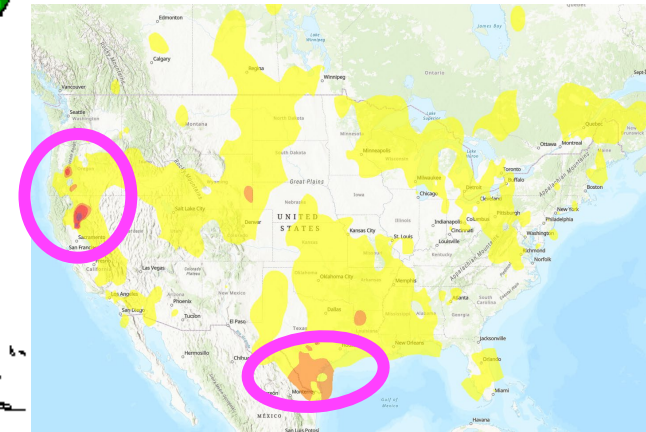
Surface Weather



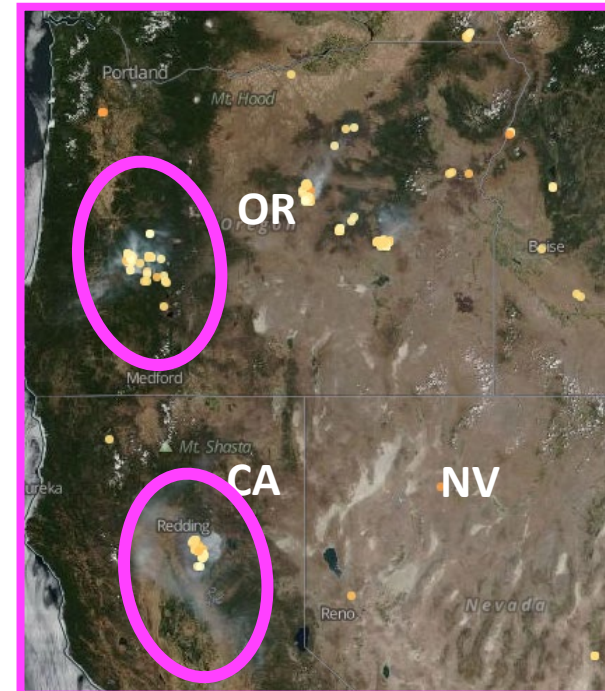
Precipitation



AirNow AQI

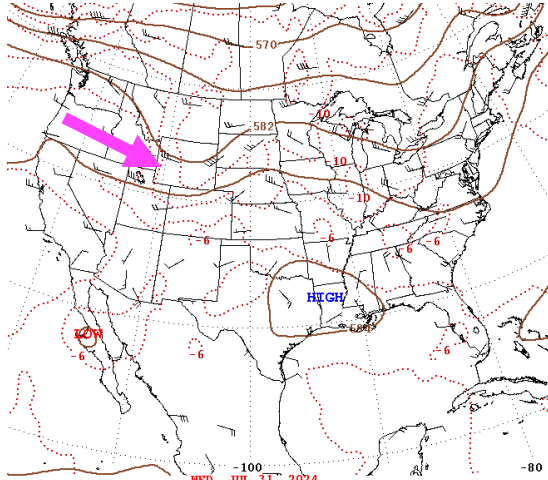


http://esmc.uiowa.edu:3838/fires_detection/



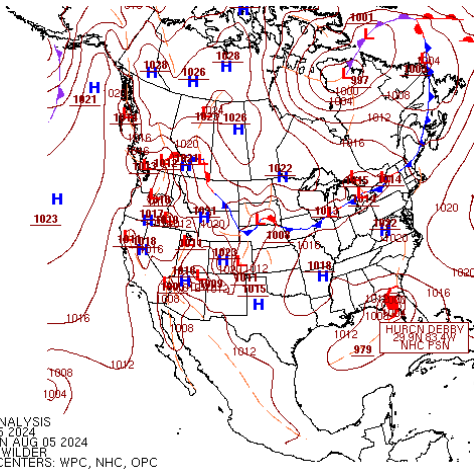
Air Quality Reflection: Wednesday July 31, 2024

500 mb Contours

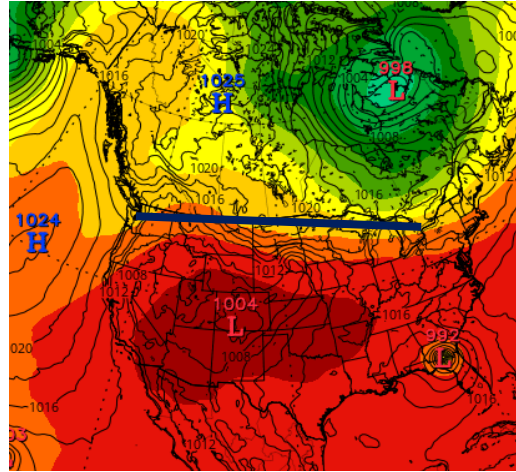


Current Status: August 5, 2024

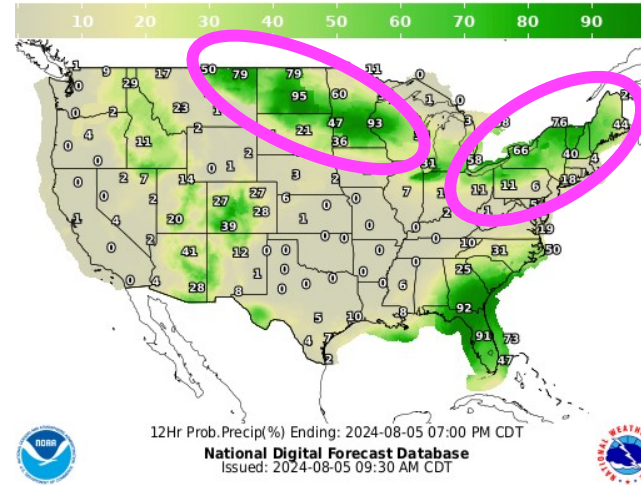
Surface Analysis



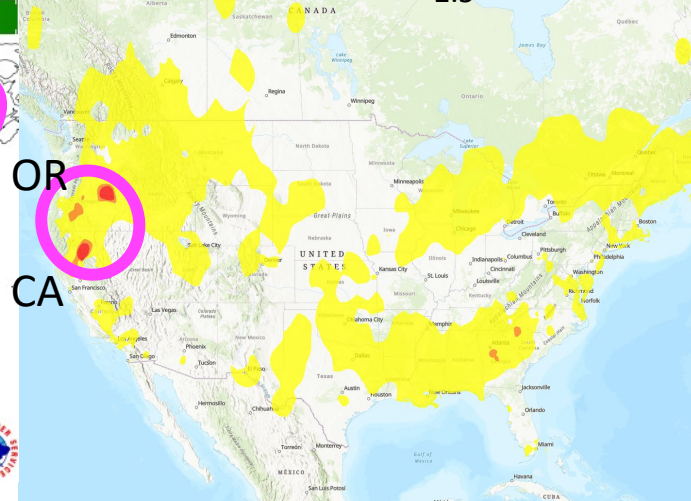
500 mb Contours



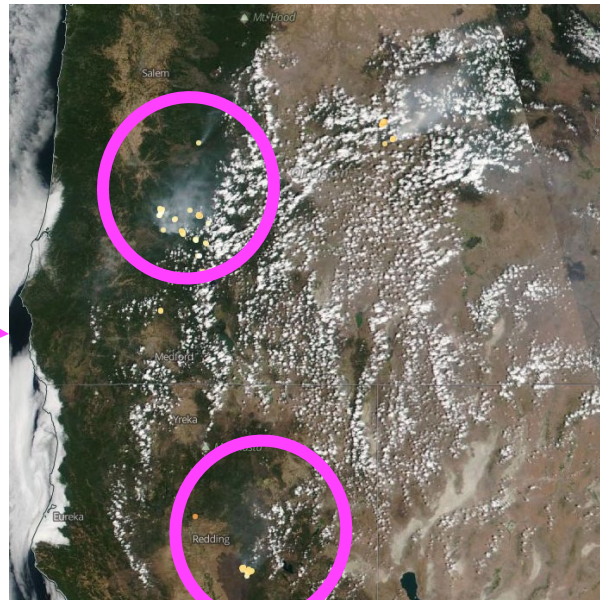
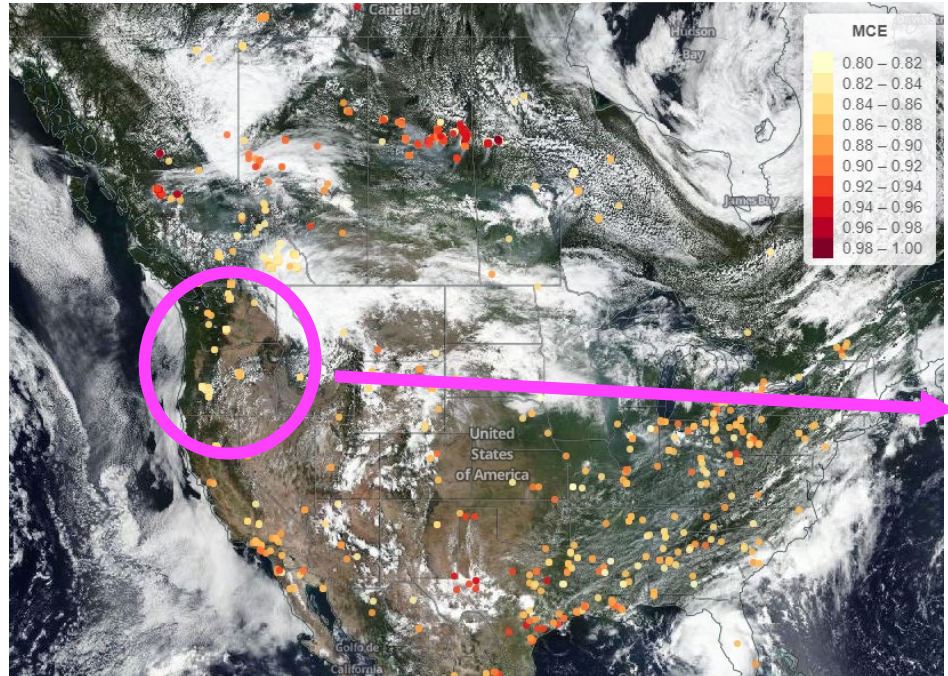
Precip. Prob.



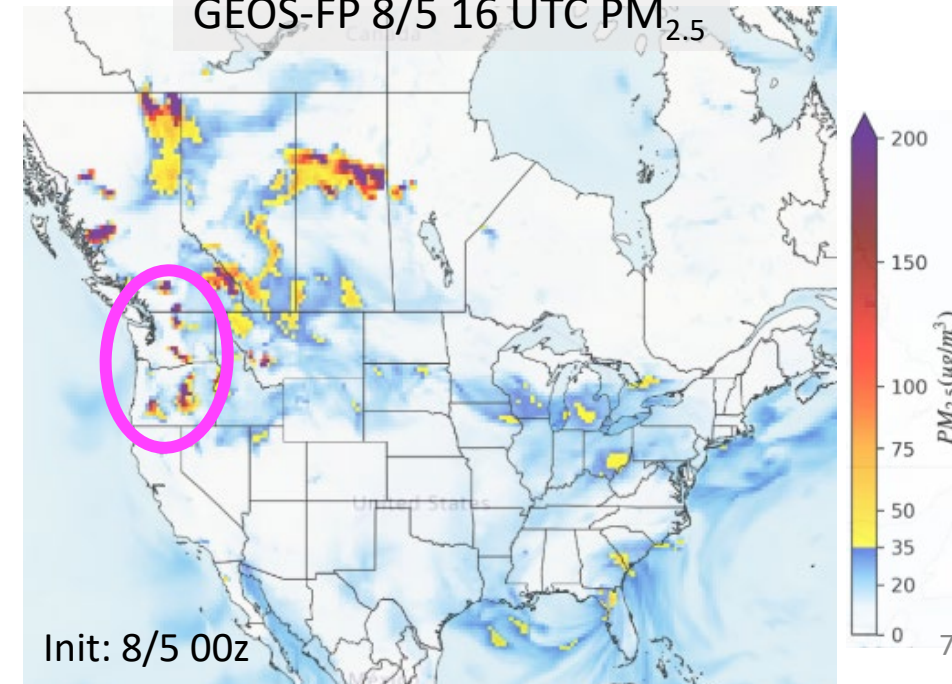
AirNow PM_{2.5} AQI



Sun 8/4



GEOS-FP 8/5 16 UTC PM_{2.5}

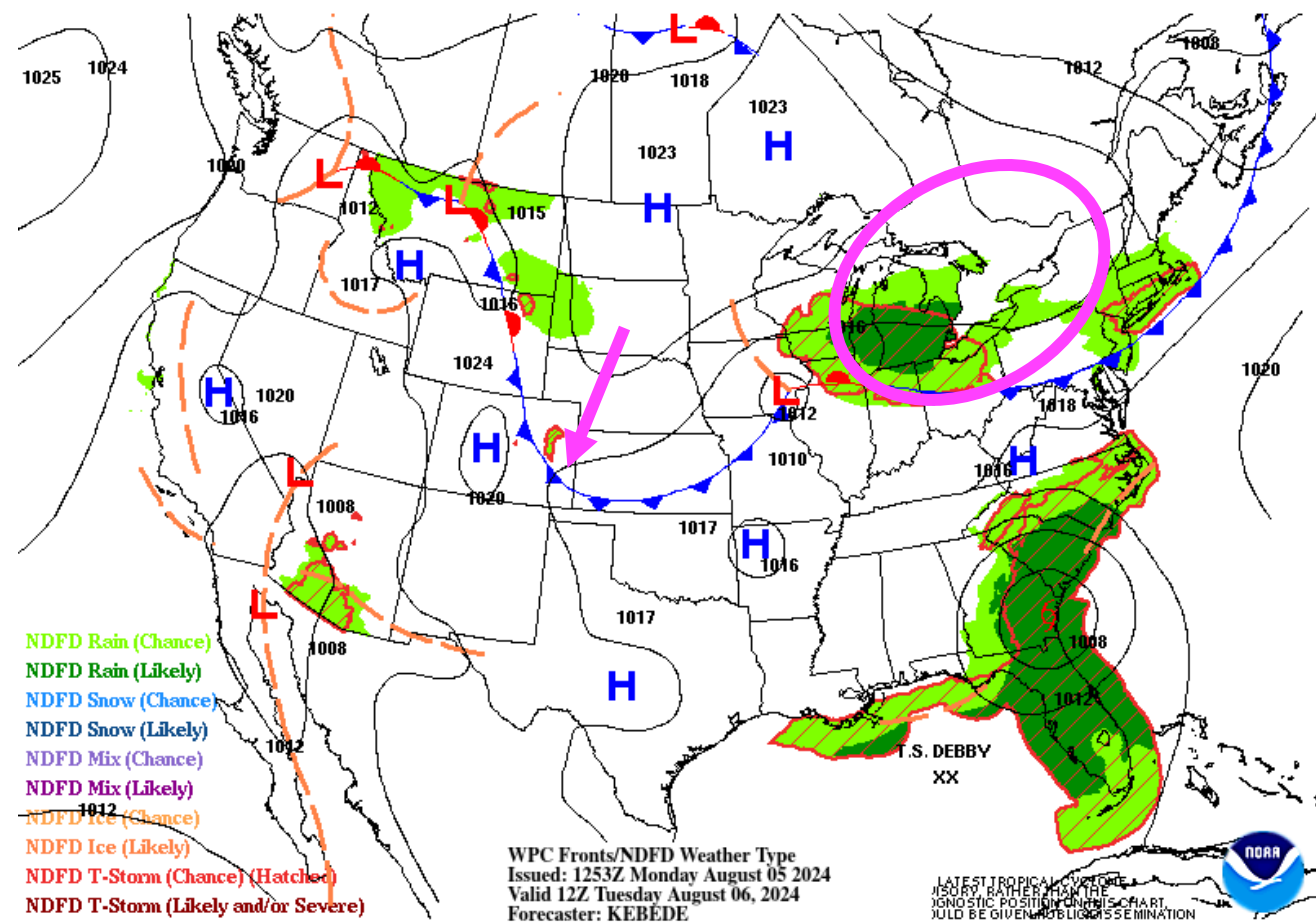


FILDA2 MCE http://esmc.uiowa.edu:3838/fires_detection/

Outlook: Short Range (1-3 days)

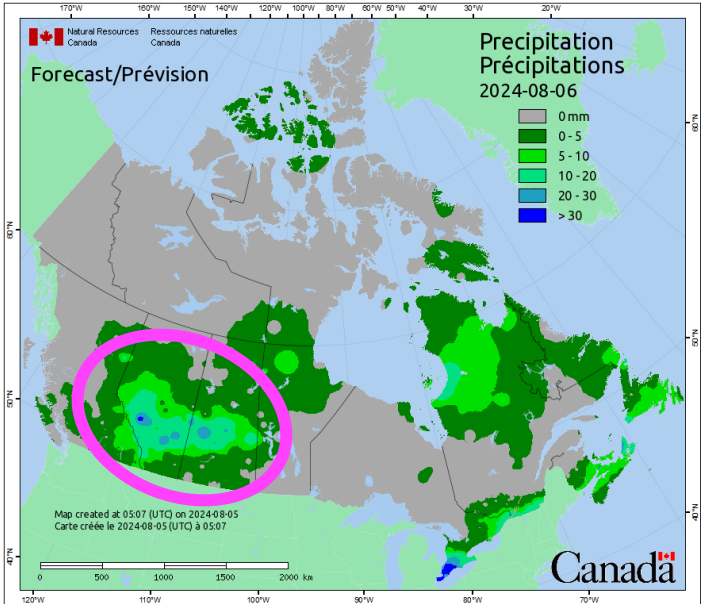
Surface Forecast (Tuesday 8/6)

US NWS Forecast



Outlook: Short Range (1–3 days)

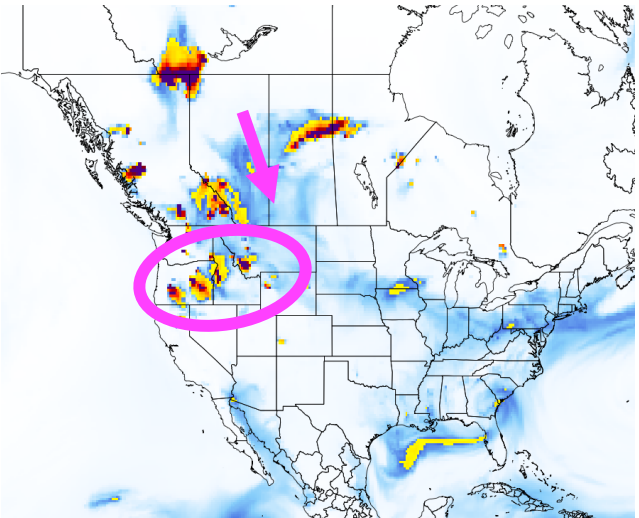
Surface Forecast



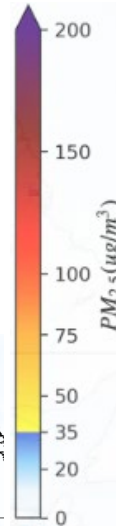
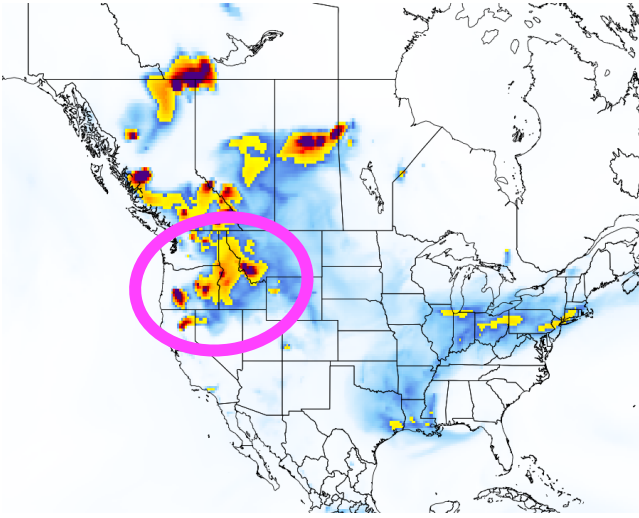
(Tuesday 8/6)

Model Means PM_{2.5}

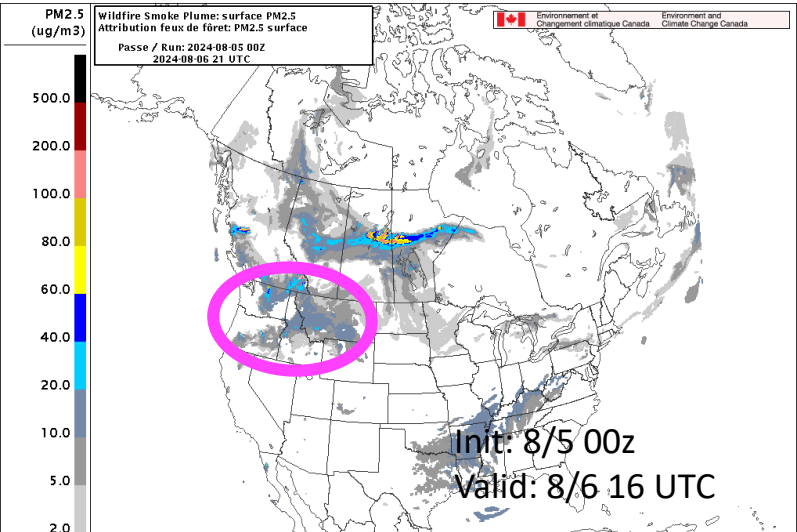
GEOS-FP



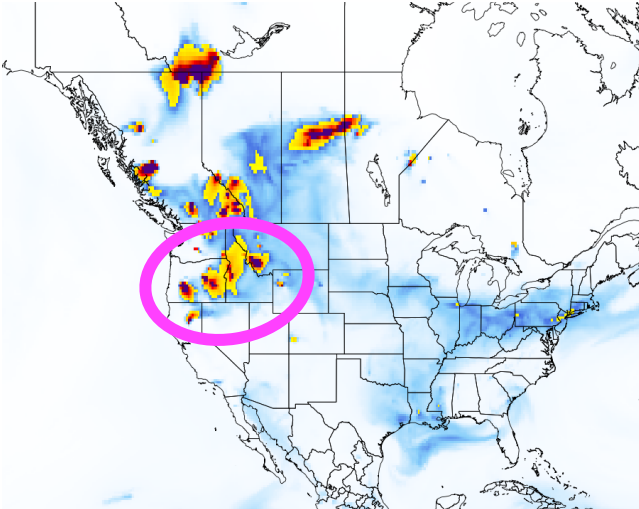
GEOS-CF



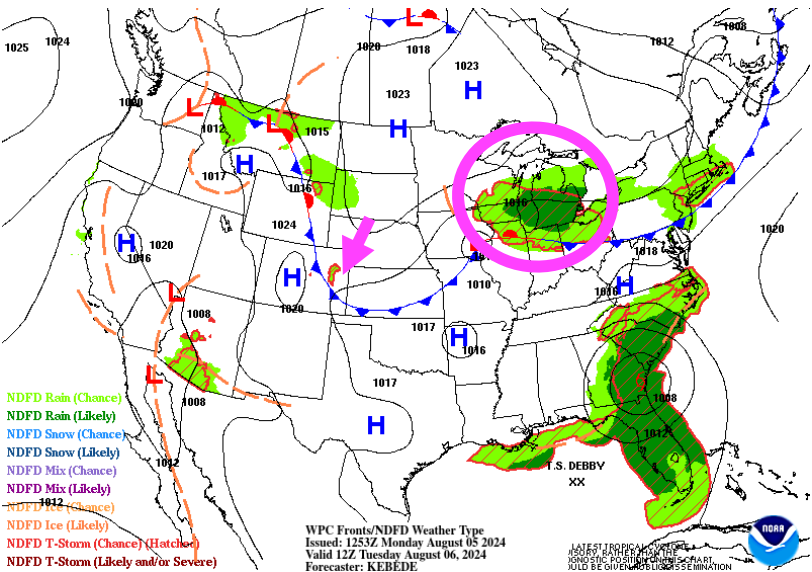
Canada Firework



Ensemble



Day 3 of 7/28 initialization

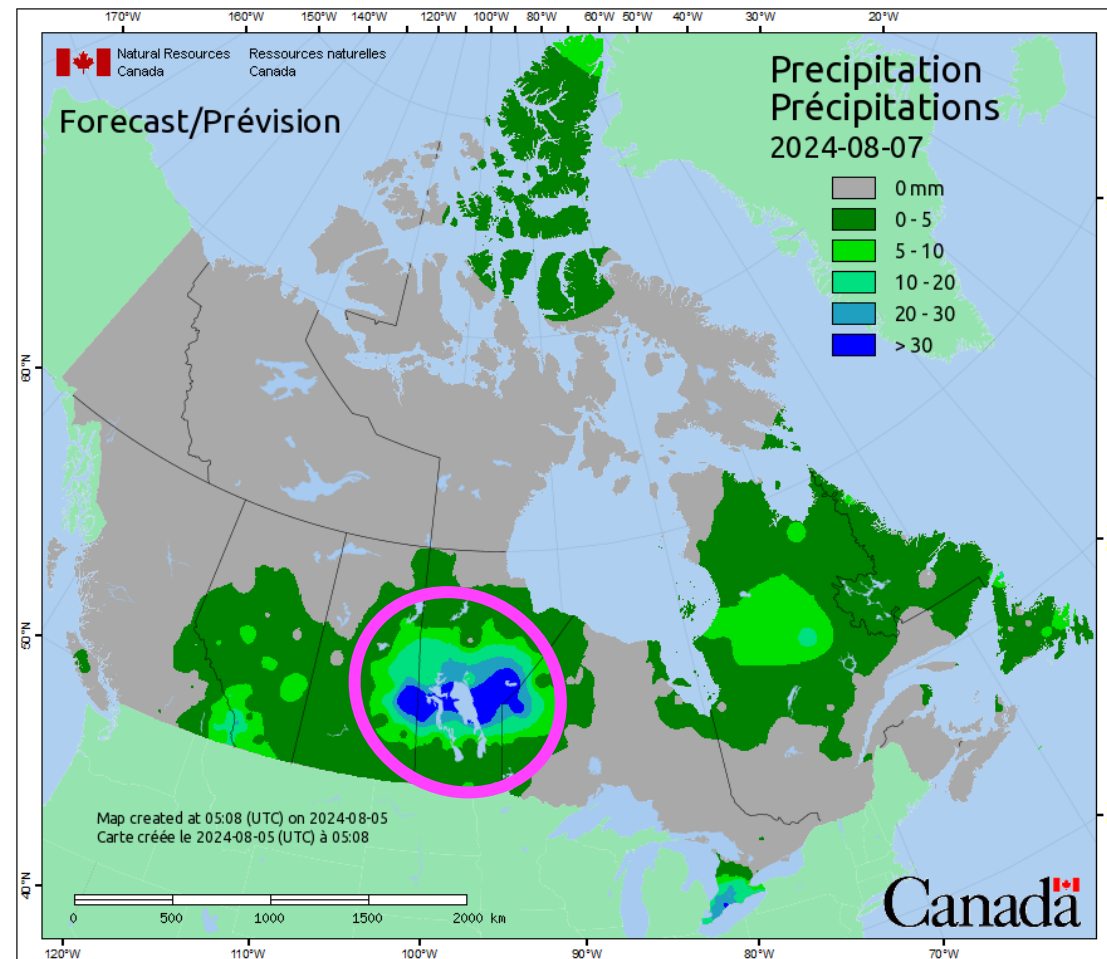
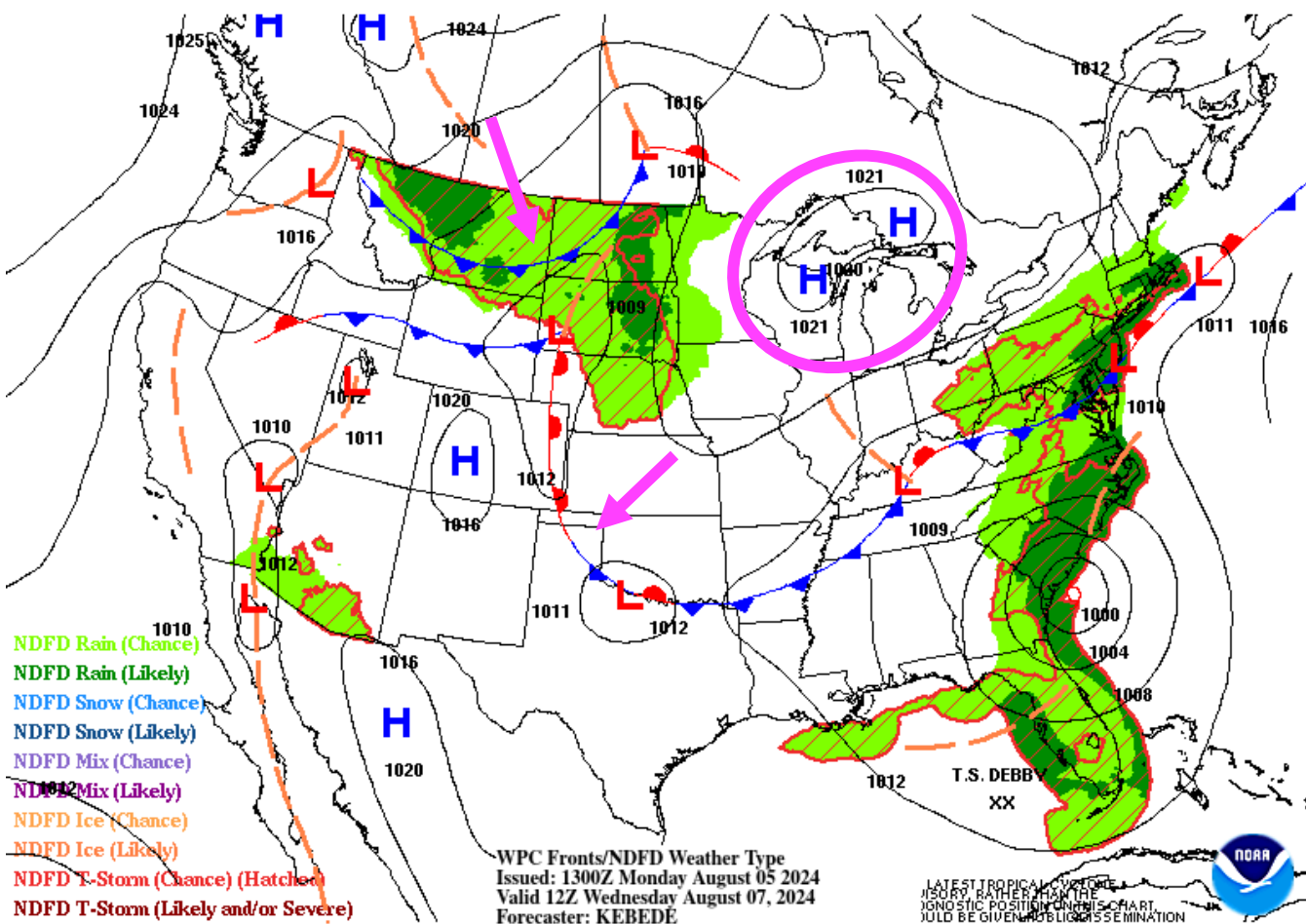


Outlook: Short Range (1–3 days)

Surface Forecast (**Wednesday 8/7**)

US NWS Forecast

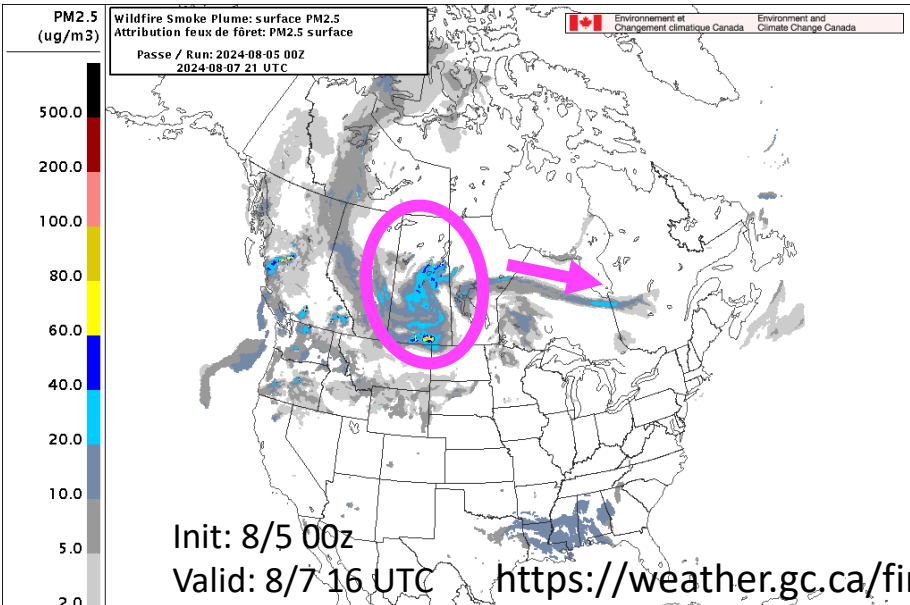
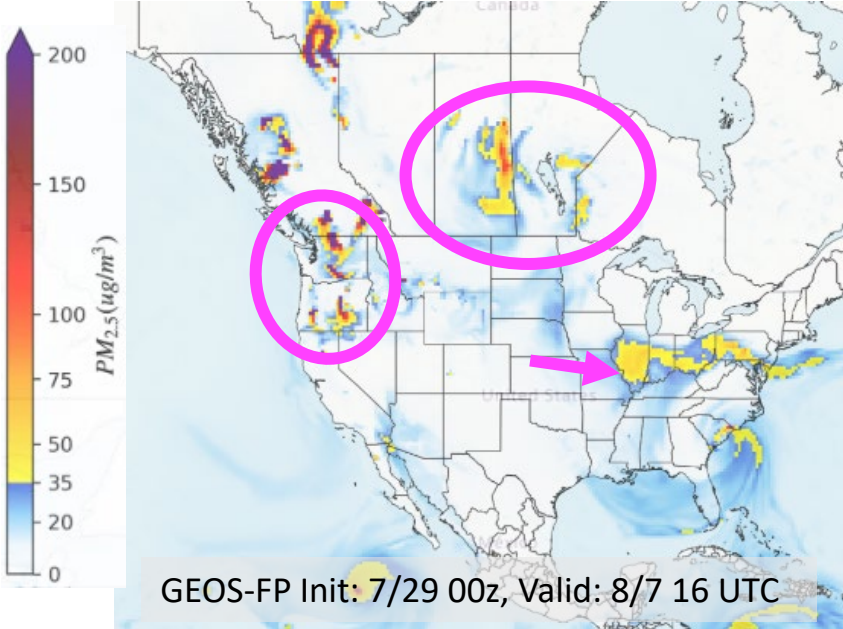
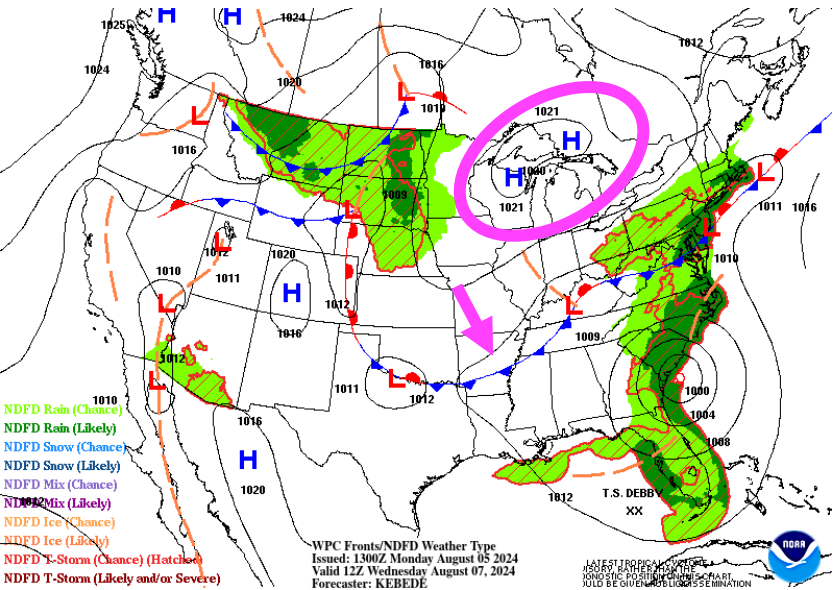
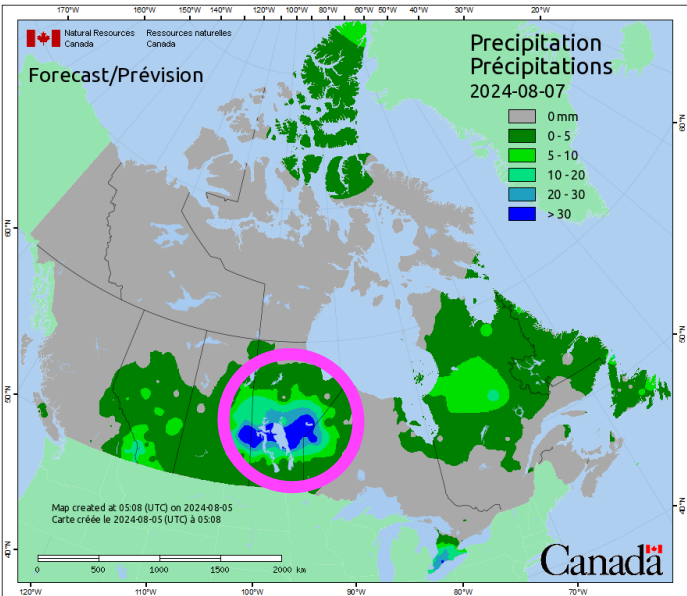
Environment Canada Forecast



Outlook: Short Range (1–3 days)

Surface Forecast

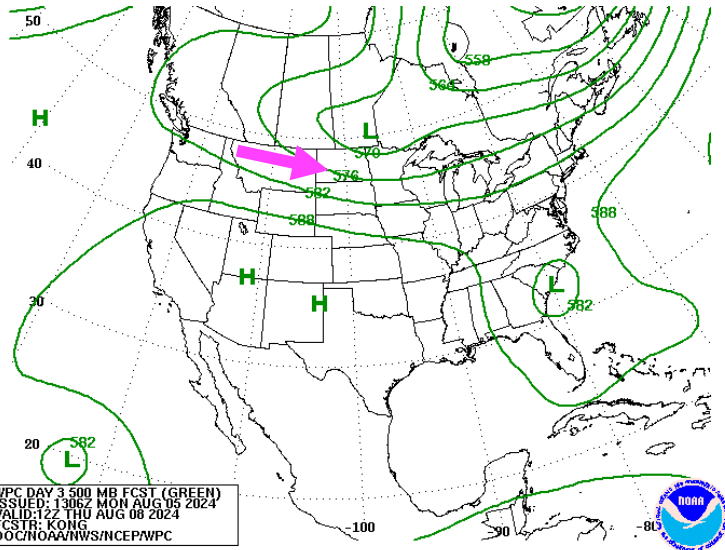
(Wednesday 8/7)



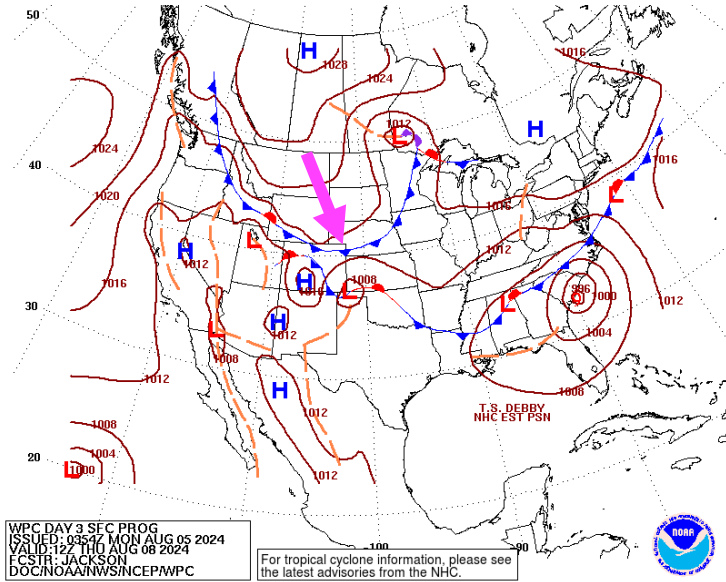
<https://weather.gc.ca/firework>

Outlook: Medium Range

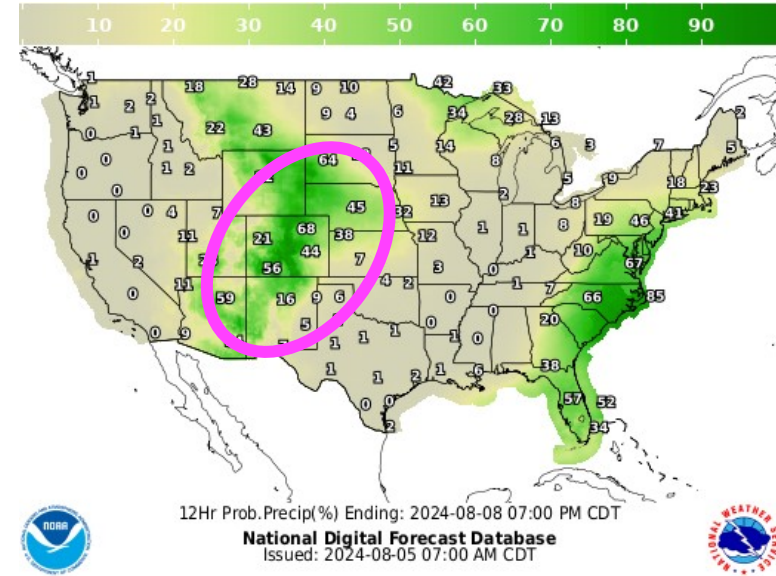
500 mb Contours



Sea Level

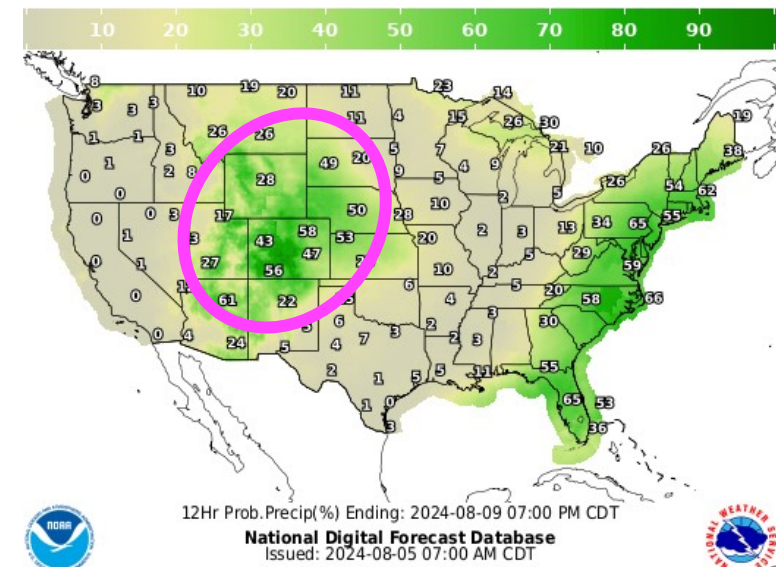
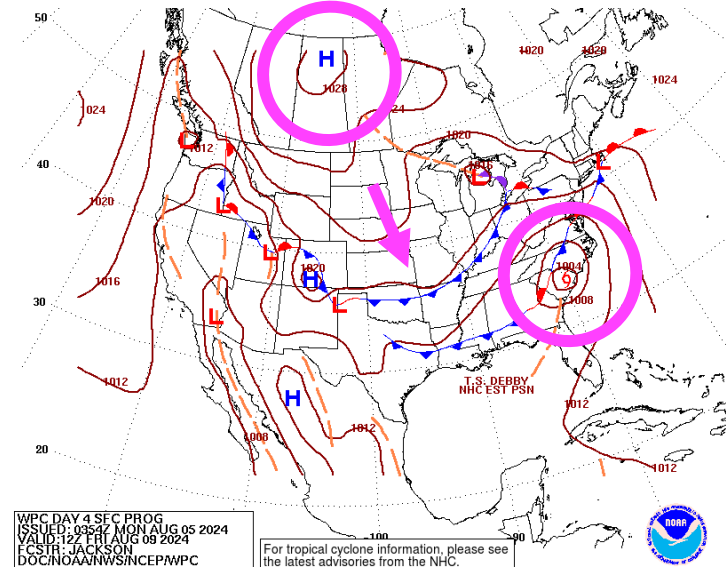
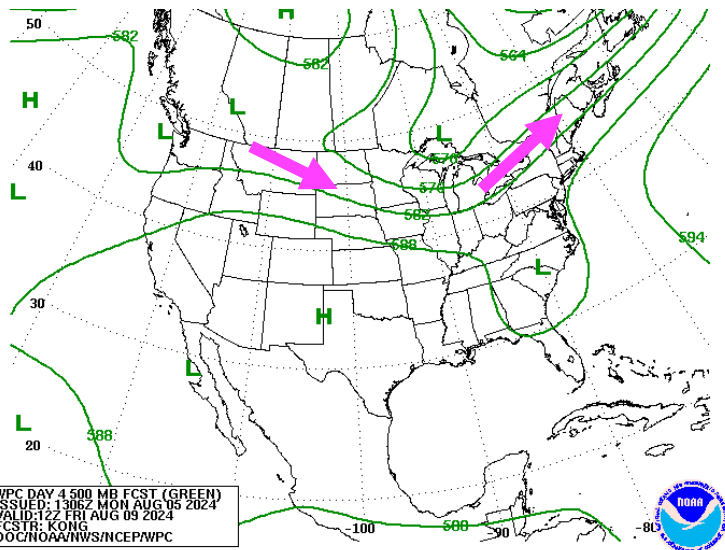


Precip Prob.



Thurs
8/8

Friday
8/9



Summary

Monday : CA and OR wildfires continue to contribute to local unhealthy AQ. Wildfire smoke is not contributing to moderate AQ in much of the US.

T → W : Canadian wildfire smoke will have minimal, if any, impact to AQ in US.

Th → F: CA and OR wildfires will continue to have regional AQ impacts. Canadian wildfire smoke is not likely to be transported to the US, but will need to keep an eye on aged smoke impact.

