

Weather and Air Quality: Reflection and Outlook During Smoke Conditions

Presenter: Megan Christiansen
Date: September 10, 2024

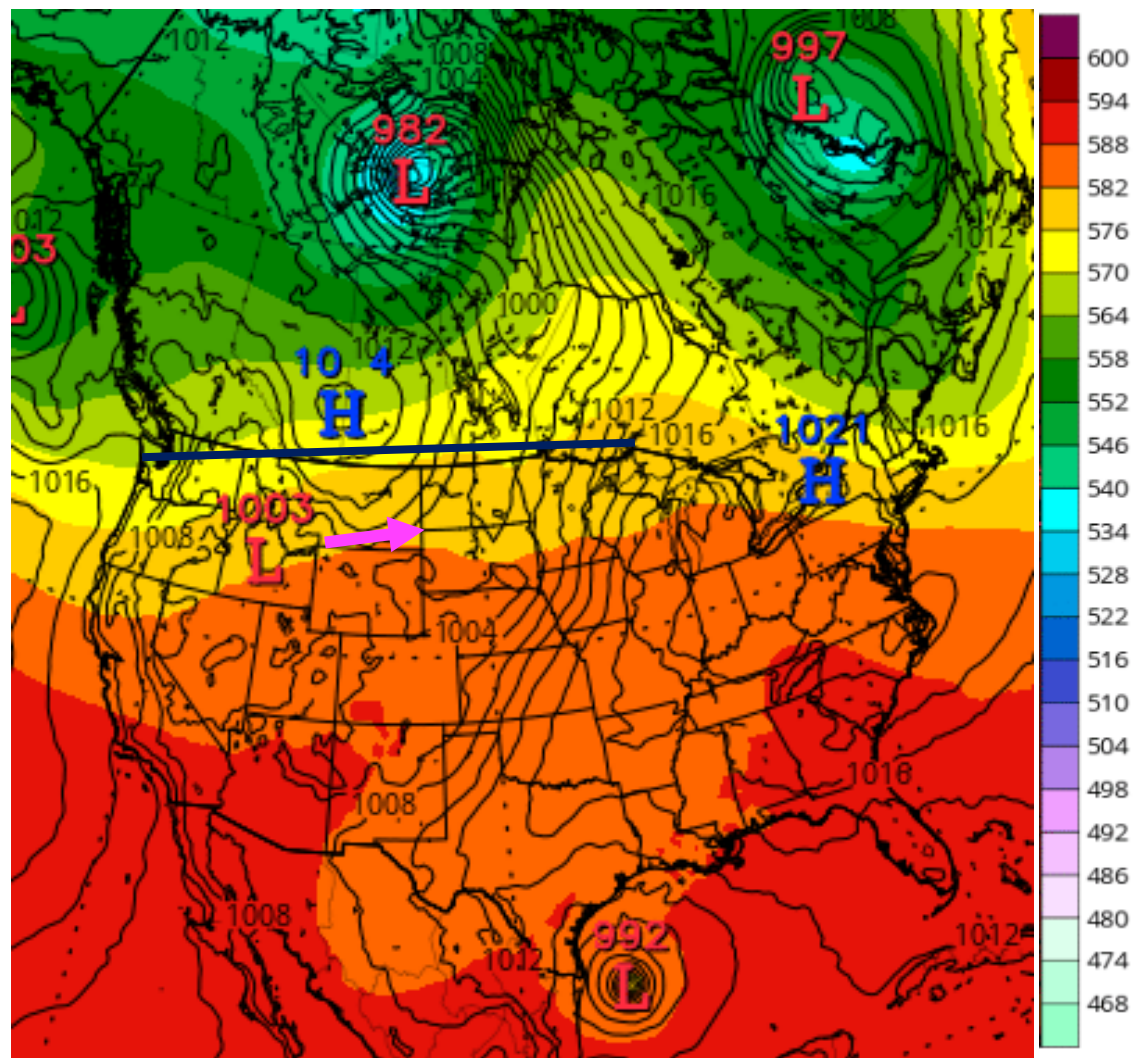


FireAQ is funded by NASA HAQ. We thank NASA GMAO and
NRL for the model data products.

EARTH SCIENCE
APPLIED SCIENCES

Current Status: September 10, 2024

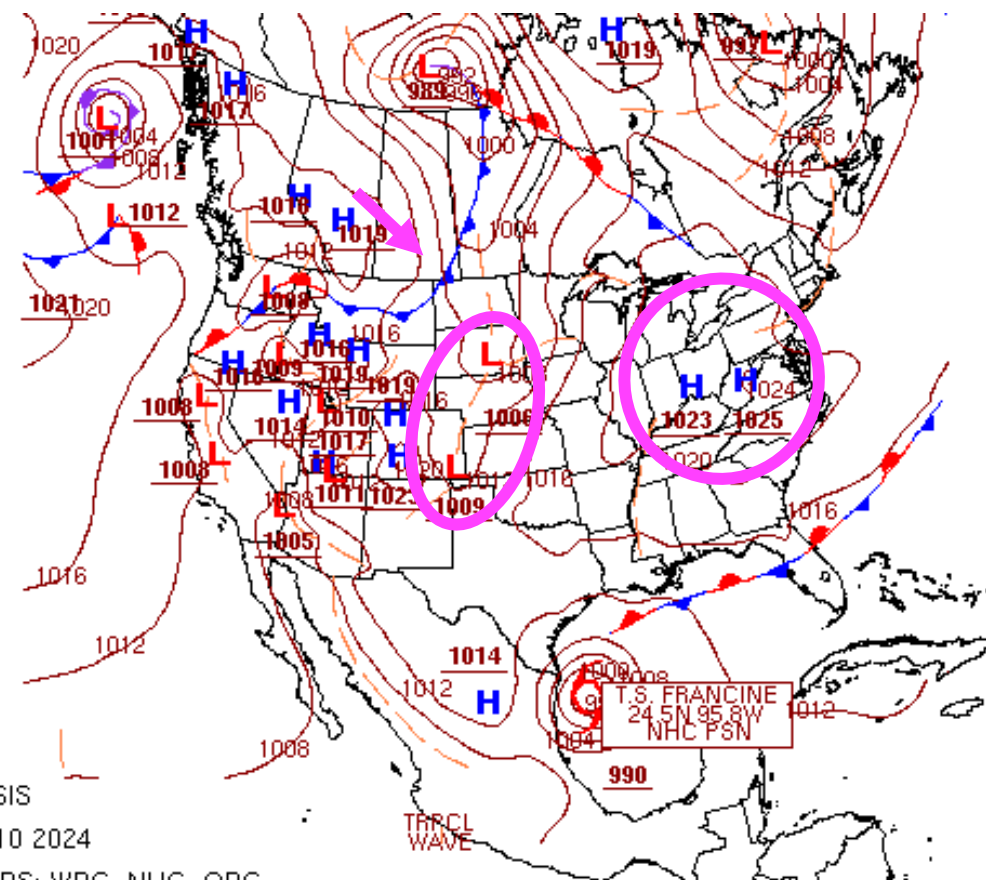
500 mb Contours



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

Init: 06z Sep 10 2024 Forecast Hour: f121 valid at 18z Tue. Sep 10 2024

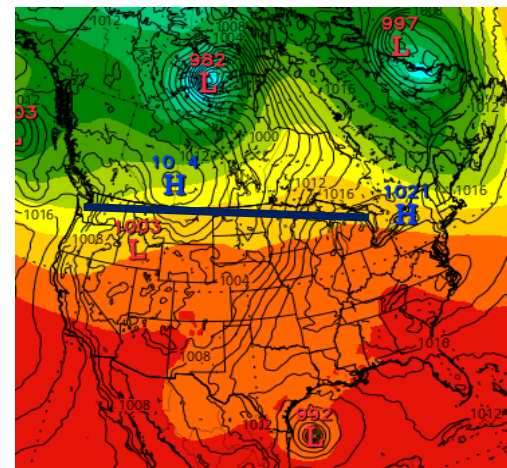
Surface Analysis



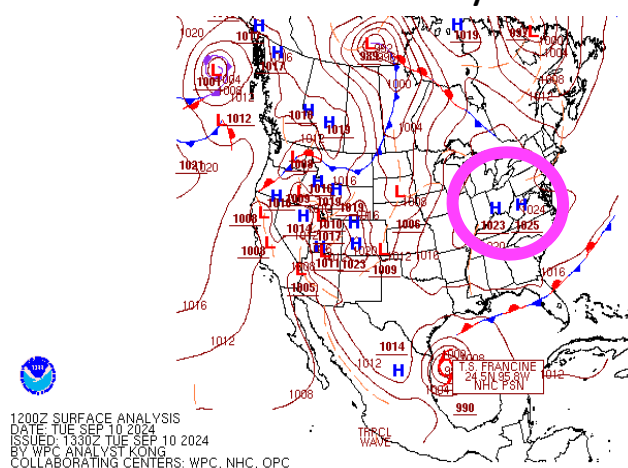
1200Z SURFACE ANALYSIS
DATE: TUE SEP 10 2024
ISSUED: 1330Z TUE SEP 10 2024
BY WPC ANALYST KONG
COLLABORATING CENTERS: WPC, NHC, OPC

Current Status: September 10, 2024

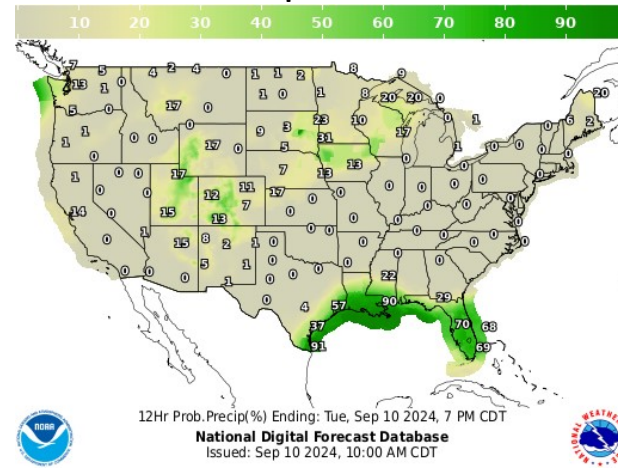
500 mb Contours



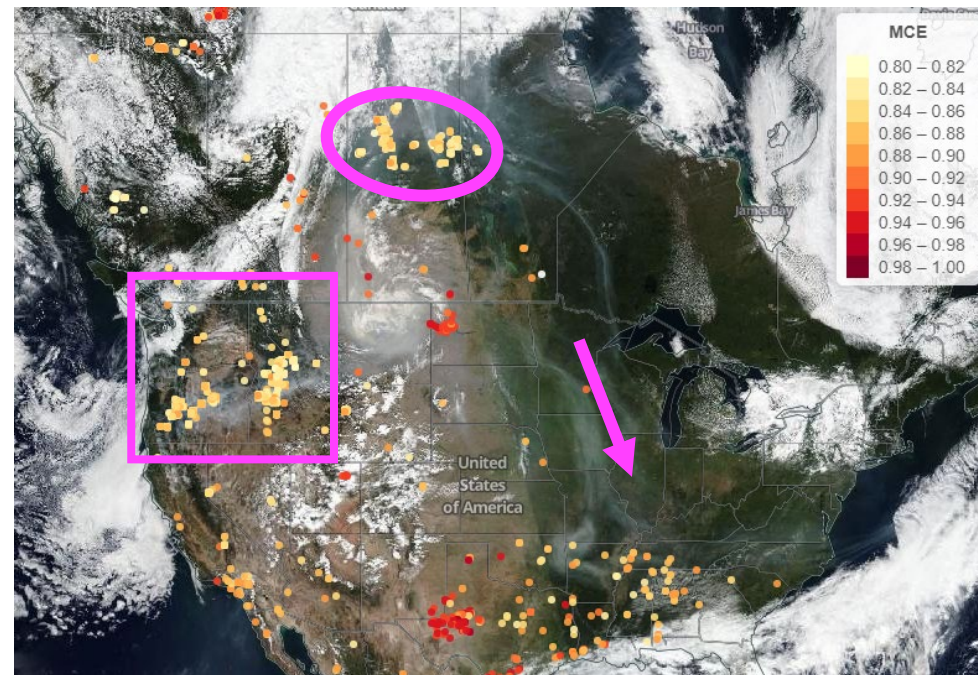
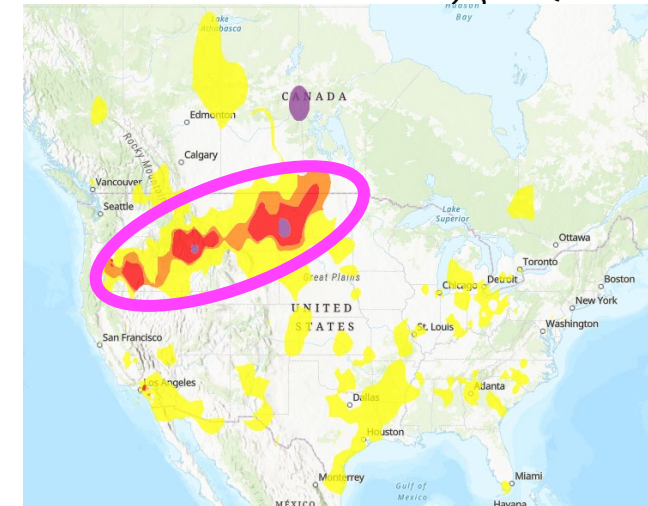
Surface Analysis



Precip. Prob.

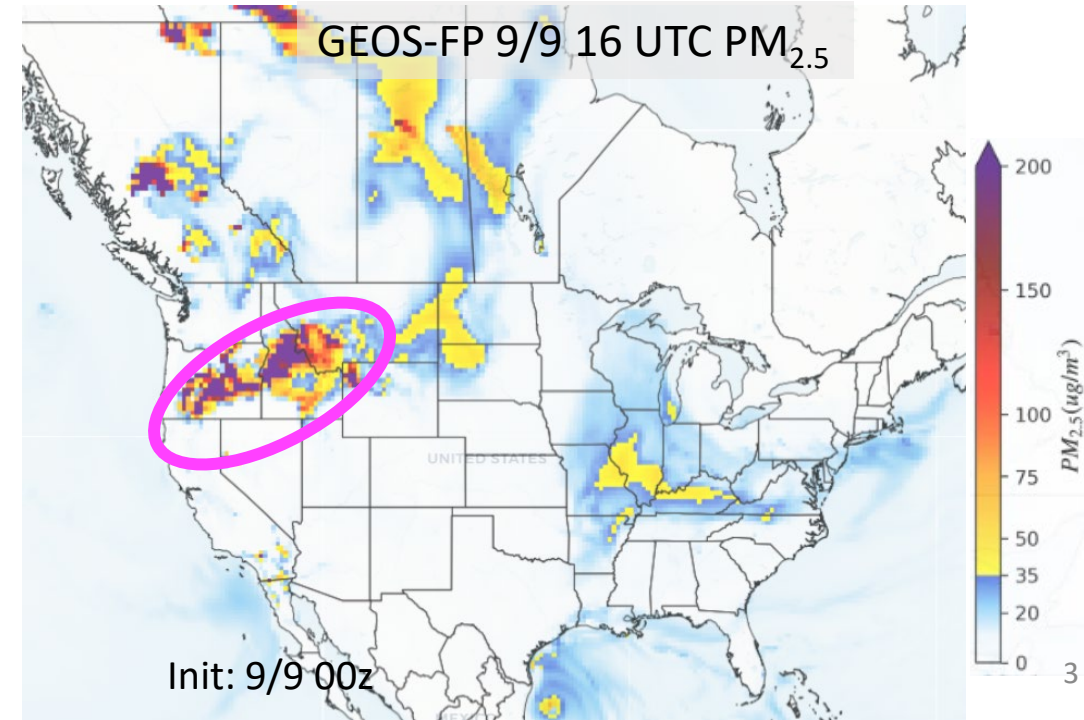


AirNow PM_{2.5} AQI



Mon 9/9

GEOS-FP 9/9 16 UTC PM_{2.5}



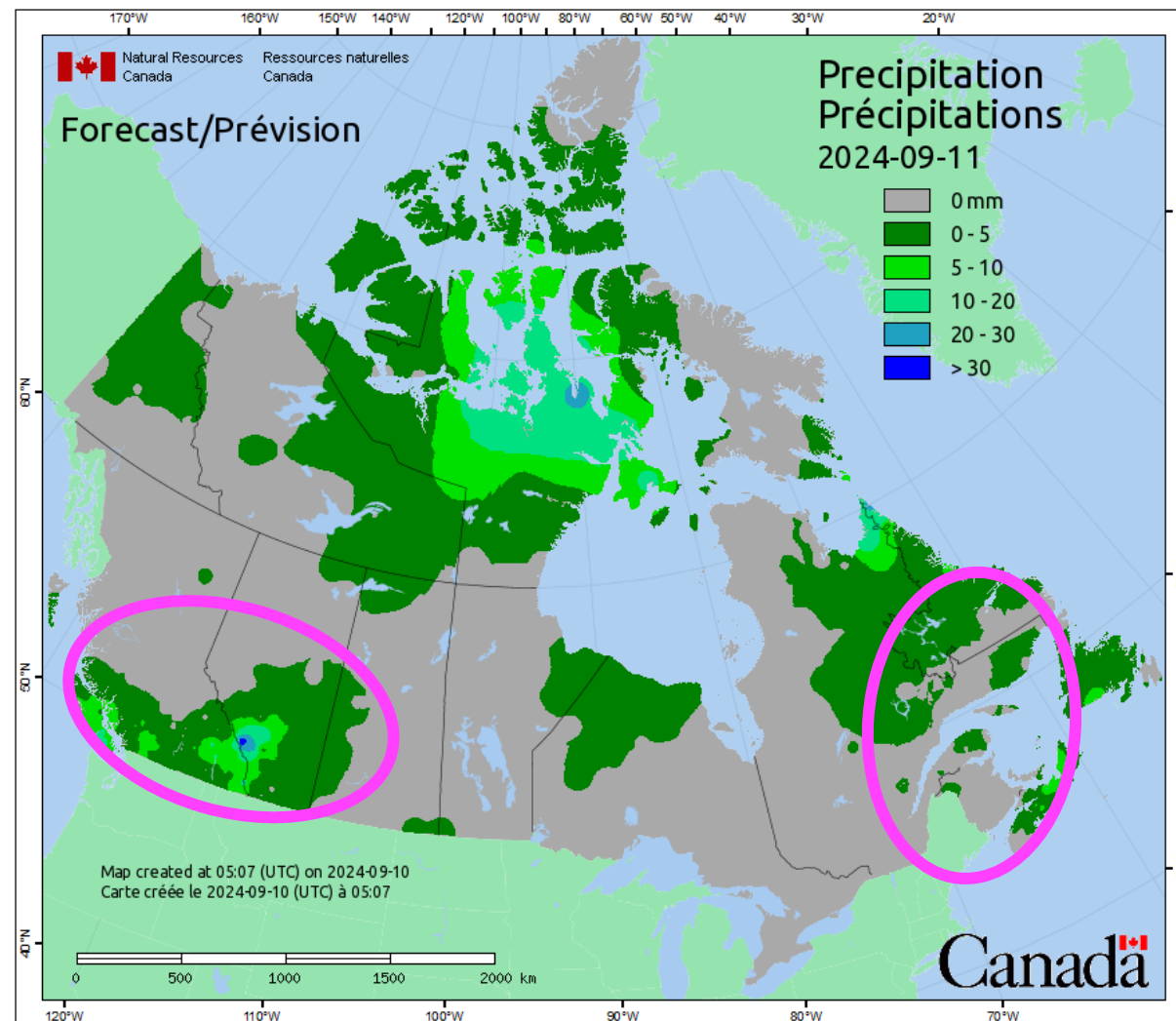
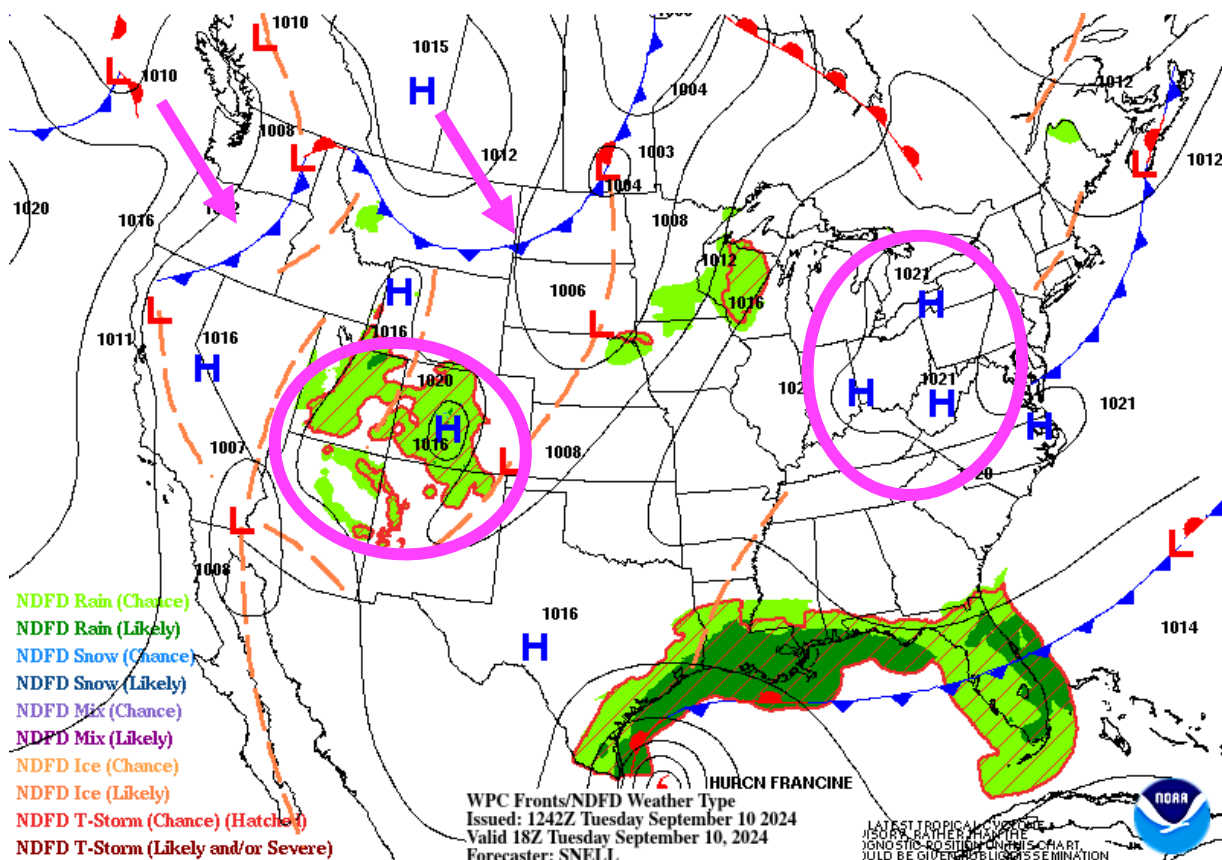
FILDA2 MCE http://esmc.uiowa.edu:3838/fires_detection/

Outlook: Short Range (1-3 days)

US NWS Surface Forecast

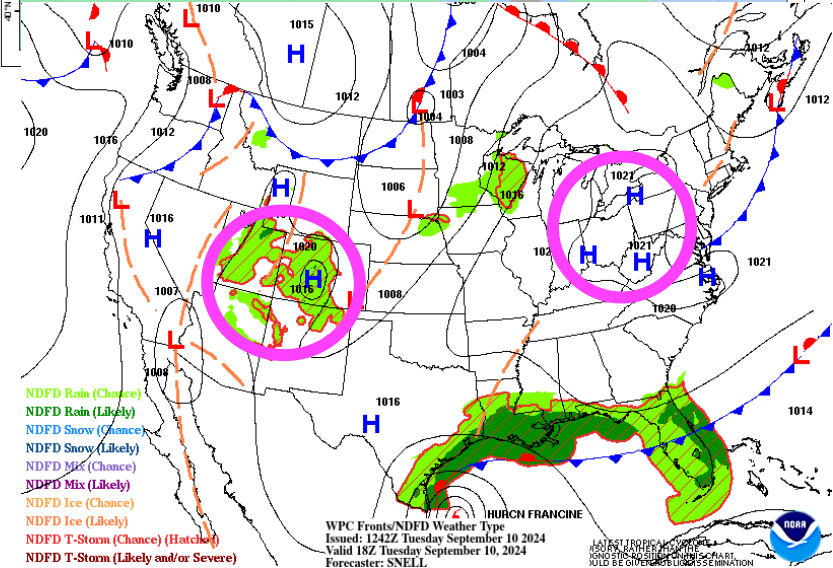
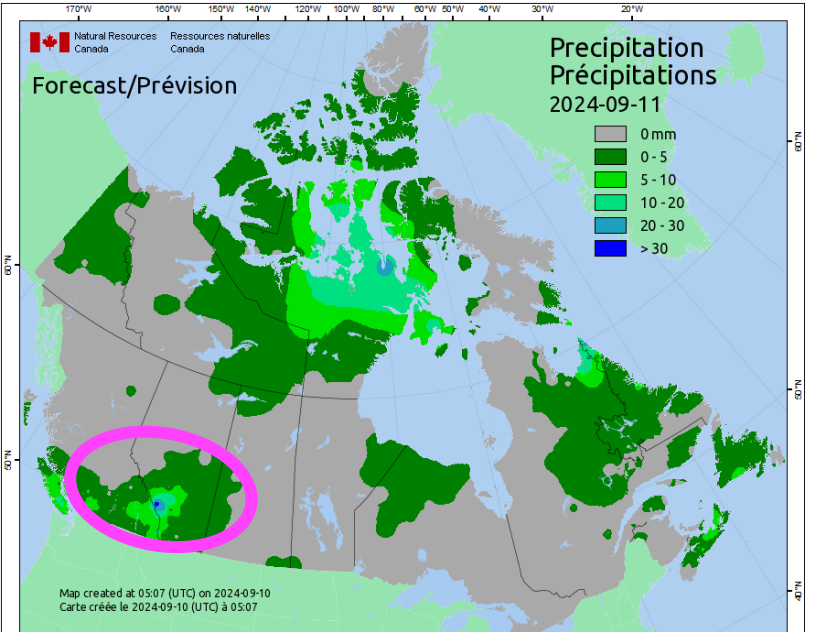
Wednesday 9/11

Environment Canada Forecast



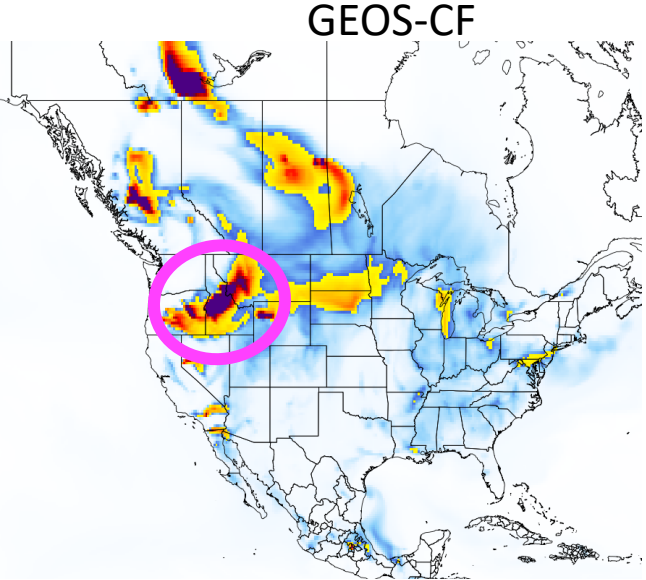
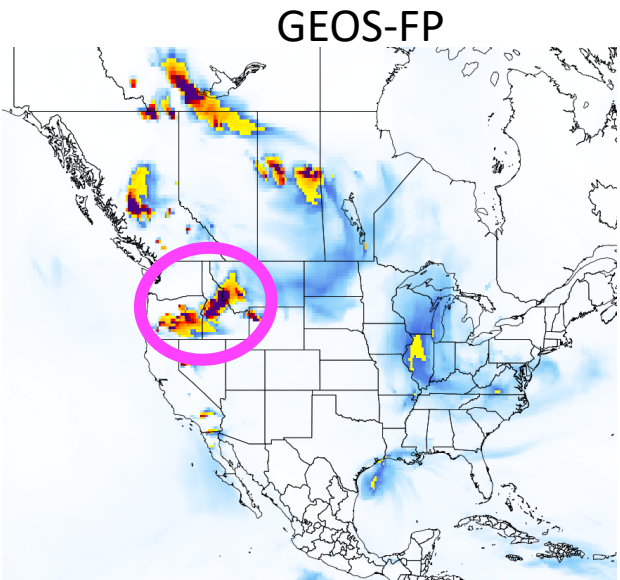
Outlook: Short Range (1–3 days)

Surface Forecast

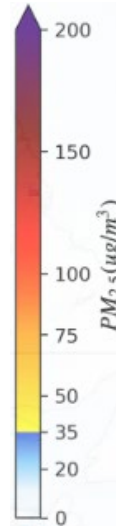
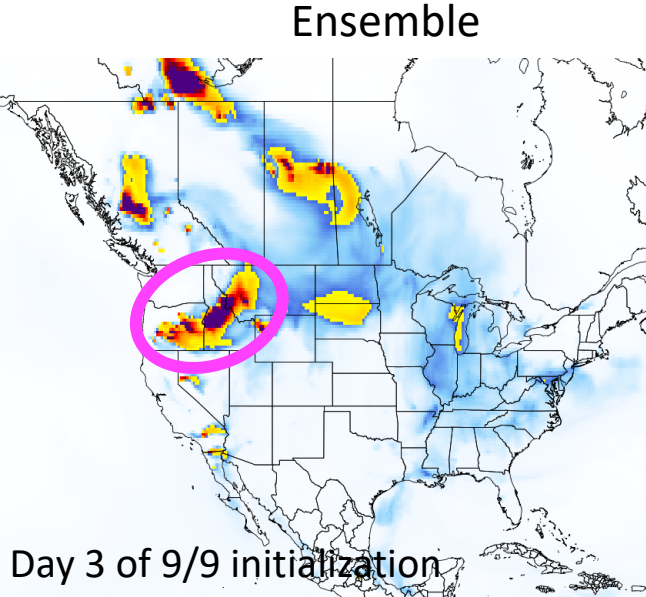
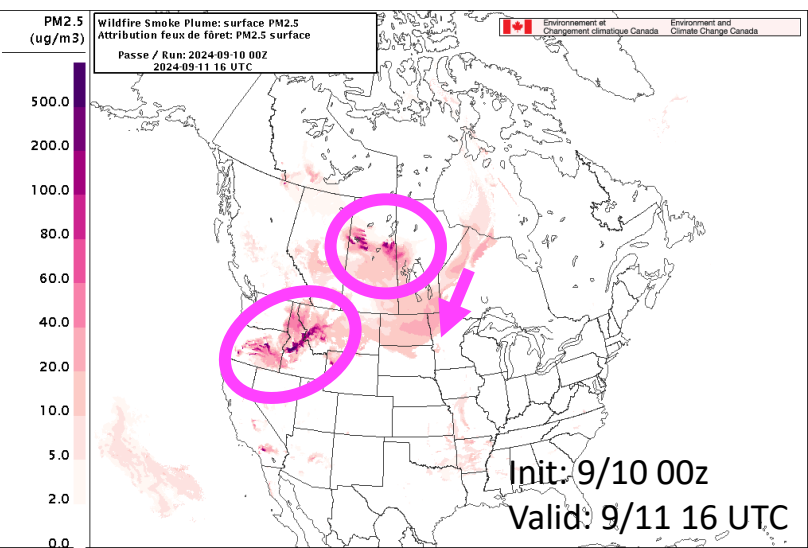


Wednesday 9/11

Model Means PM_{2.5}



Canada Firework

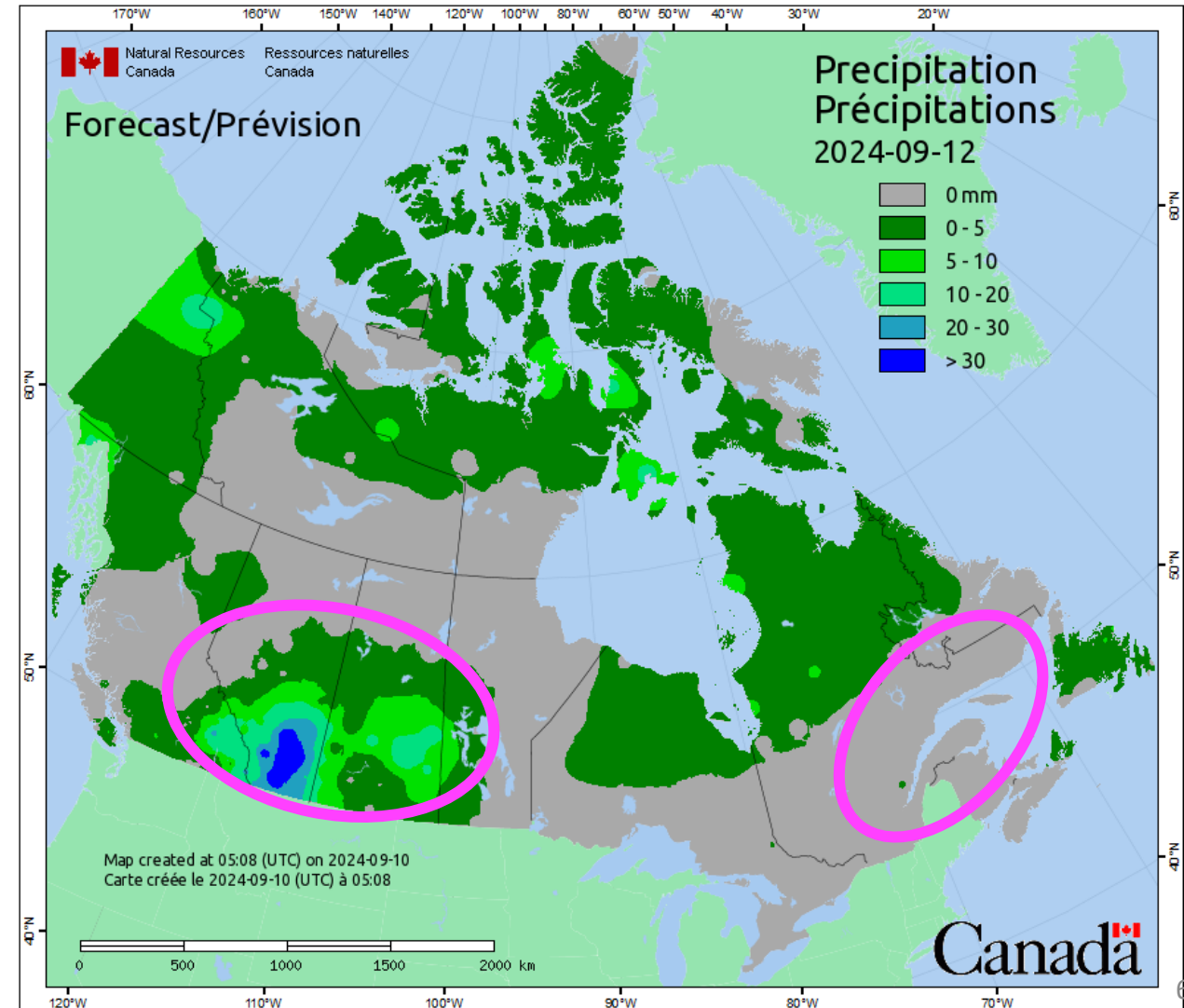
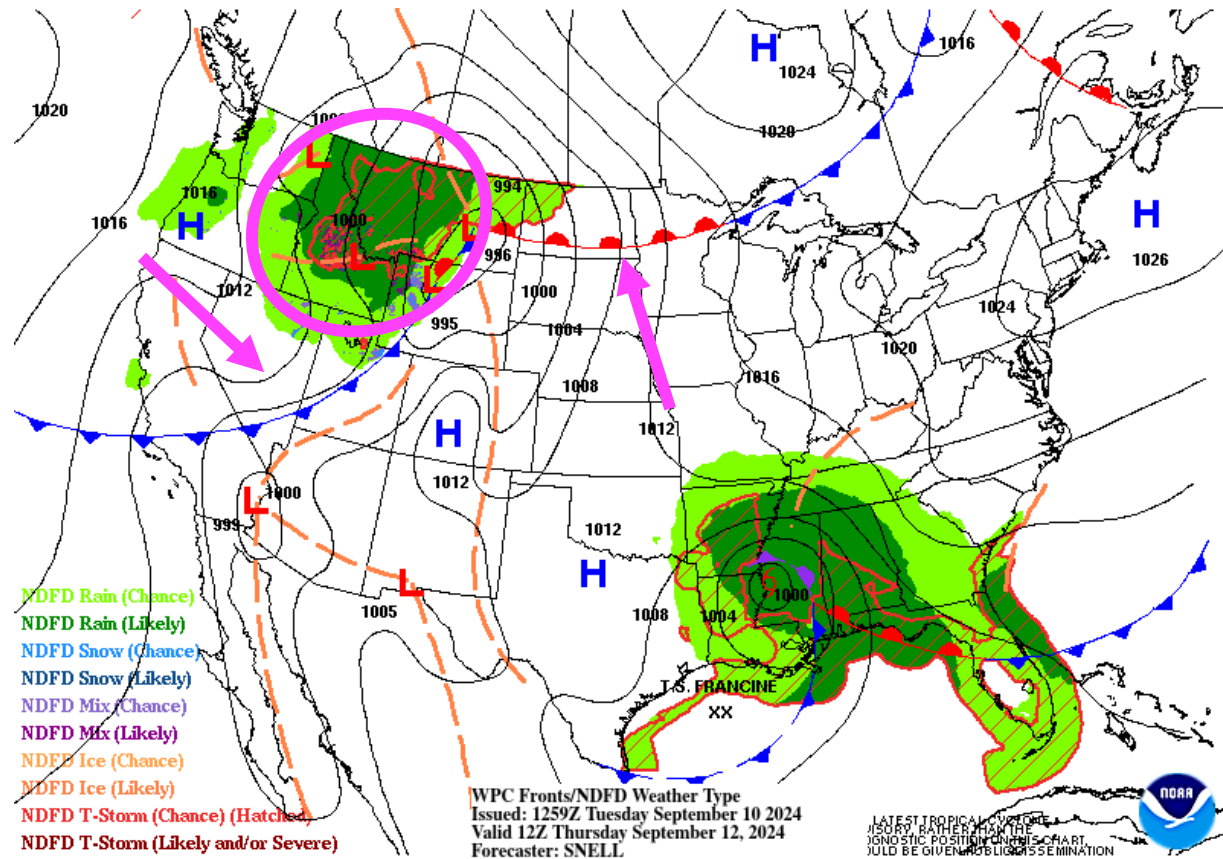


Outlook: Short Range (1-3 days)

US NWS Surface Forecast

Thursday 9/12

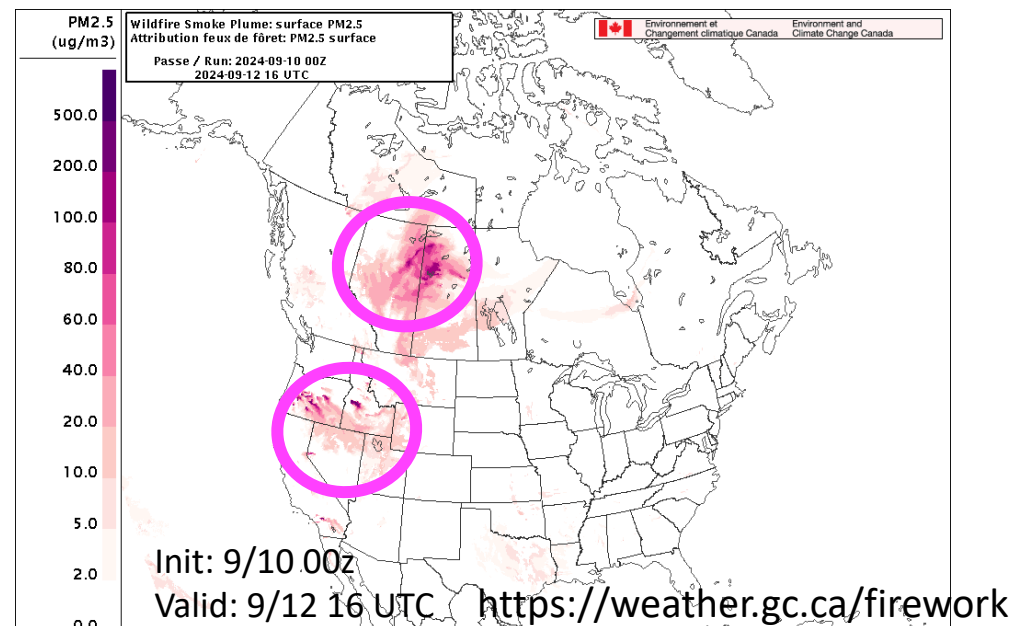
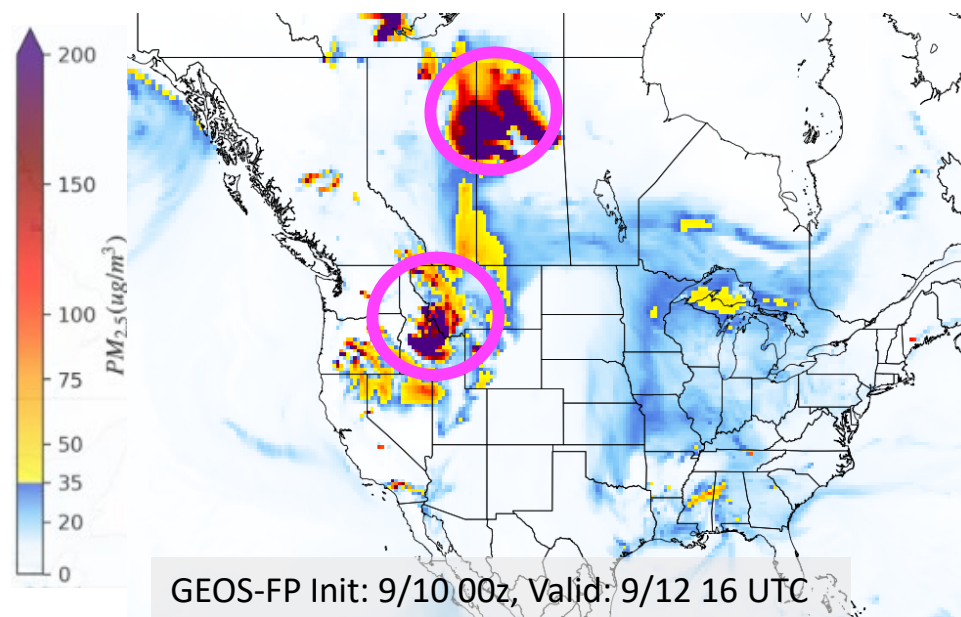
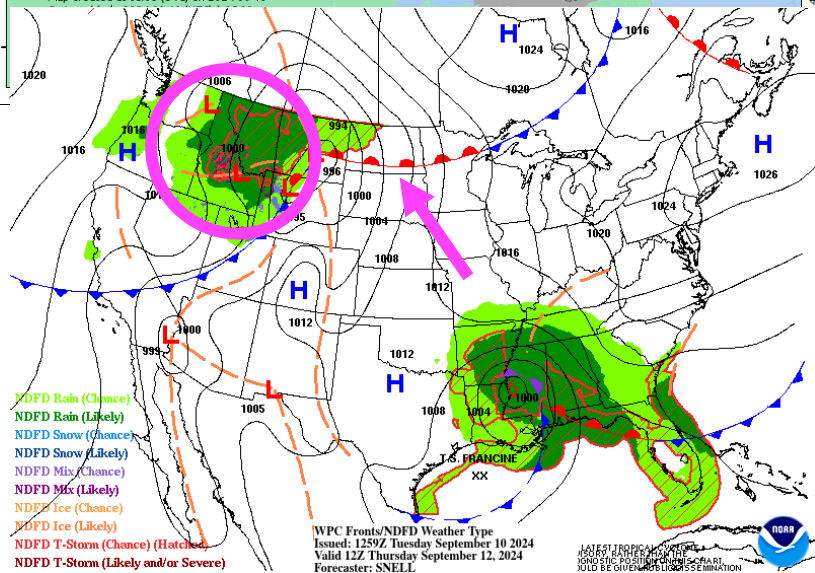
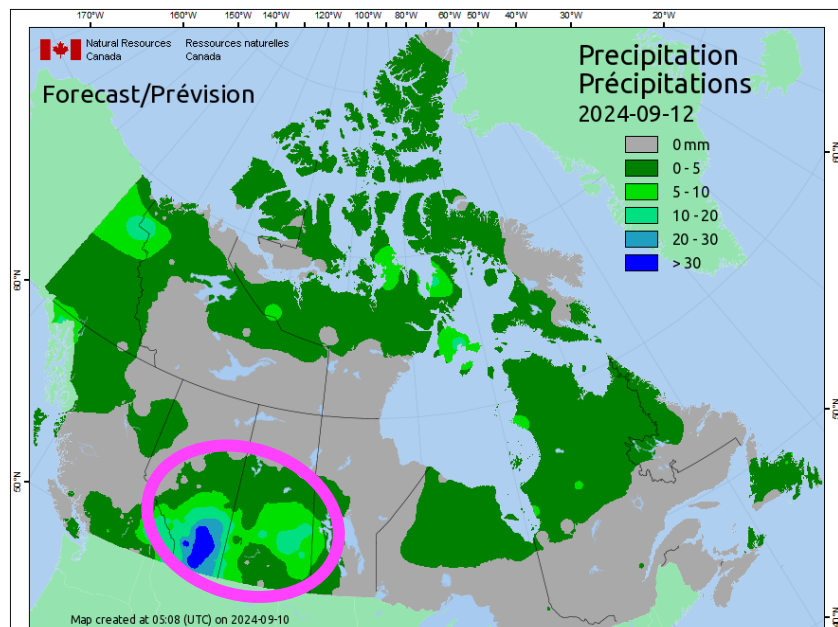
Environment Canada Forecast



Outlook: Short Range (1–3 days)

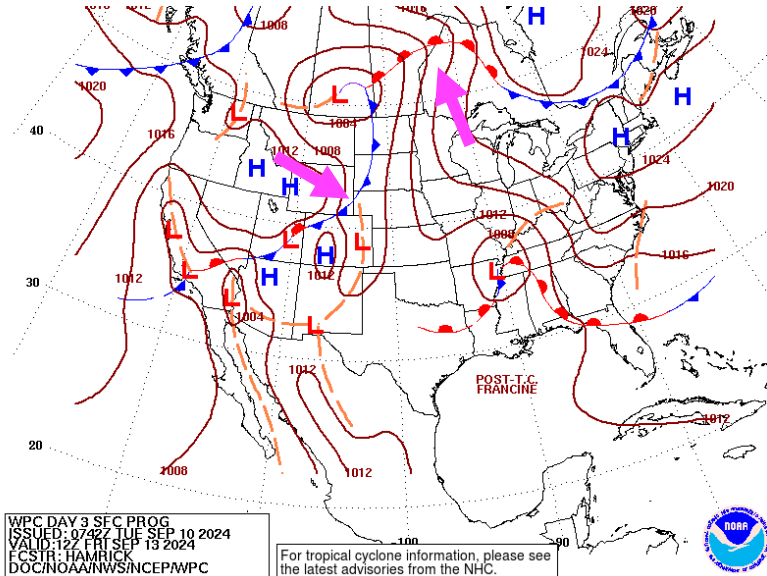
Surface Forecast

Thursday 9/12

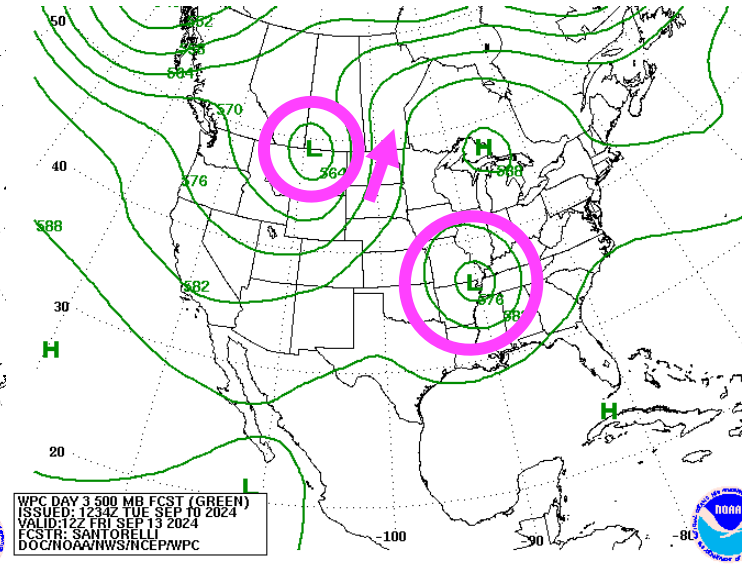


Outlook: Medium Range

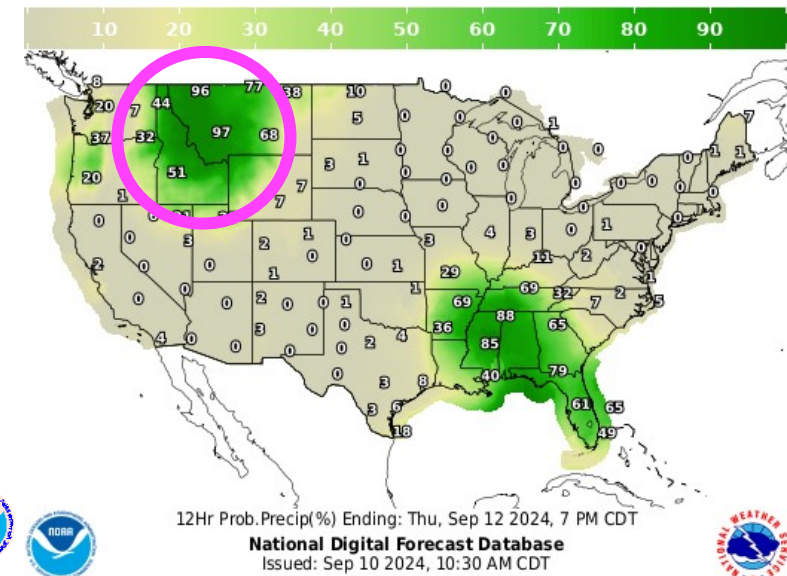
500 mb Contours



Sea Level

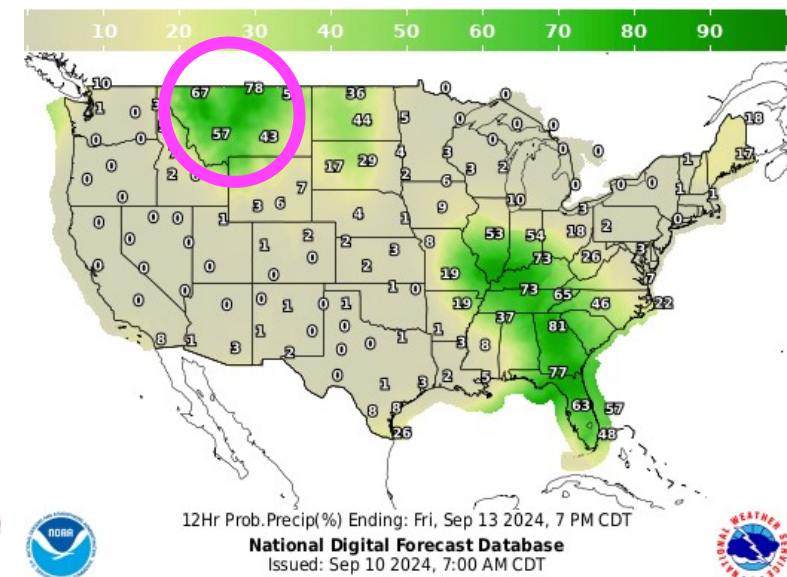
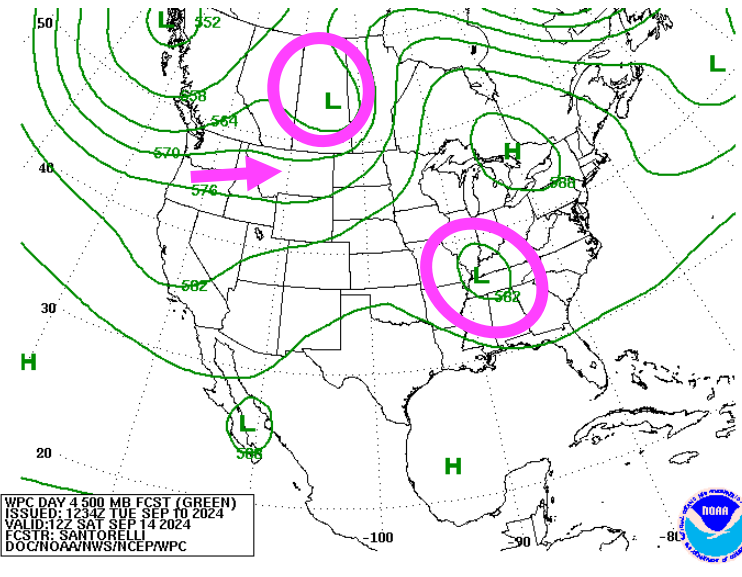
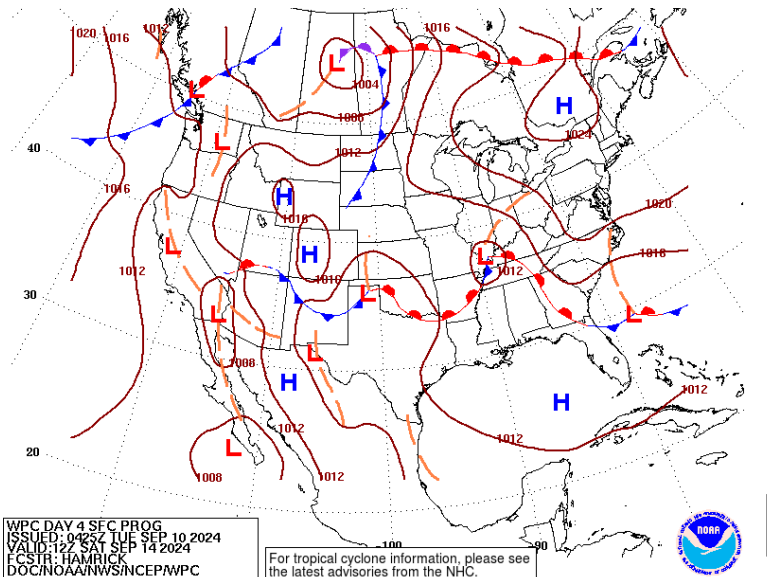


Precip Prob.



Friday
9/13

Sat
9/14



Summary

Tuesday : OR and ID wildfire smoke is impacting poor $\text{PM}_{2.5}$ AQI in several northern US states. Aged smoke from earlier B.C. and Sask. wildfires remain visible aloft over the Midwest US, with minor impact to the surface AQI.

W → Th: OR and ID wildfire smoke transport will continue to impact the northern US AQI. Aged smoke aloft could potentially be transported to the surface with the high pressure system over the Midwest.

F → Sa: Low pressure systems in the PNW and Sask. will promote wildfire smoke transport aloft and 500mb low pressure to continue the transport easterly from the wildfire sources.

