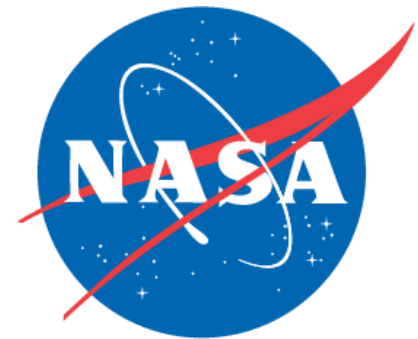


Weather and Air Quality: Reflection and Outlook During Smoke Conditions

Presenter: Megan Christiansen
Date: June 23, 2025

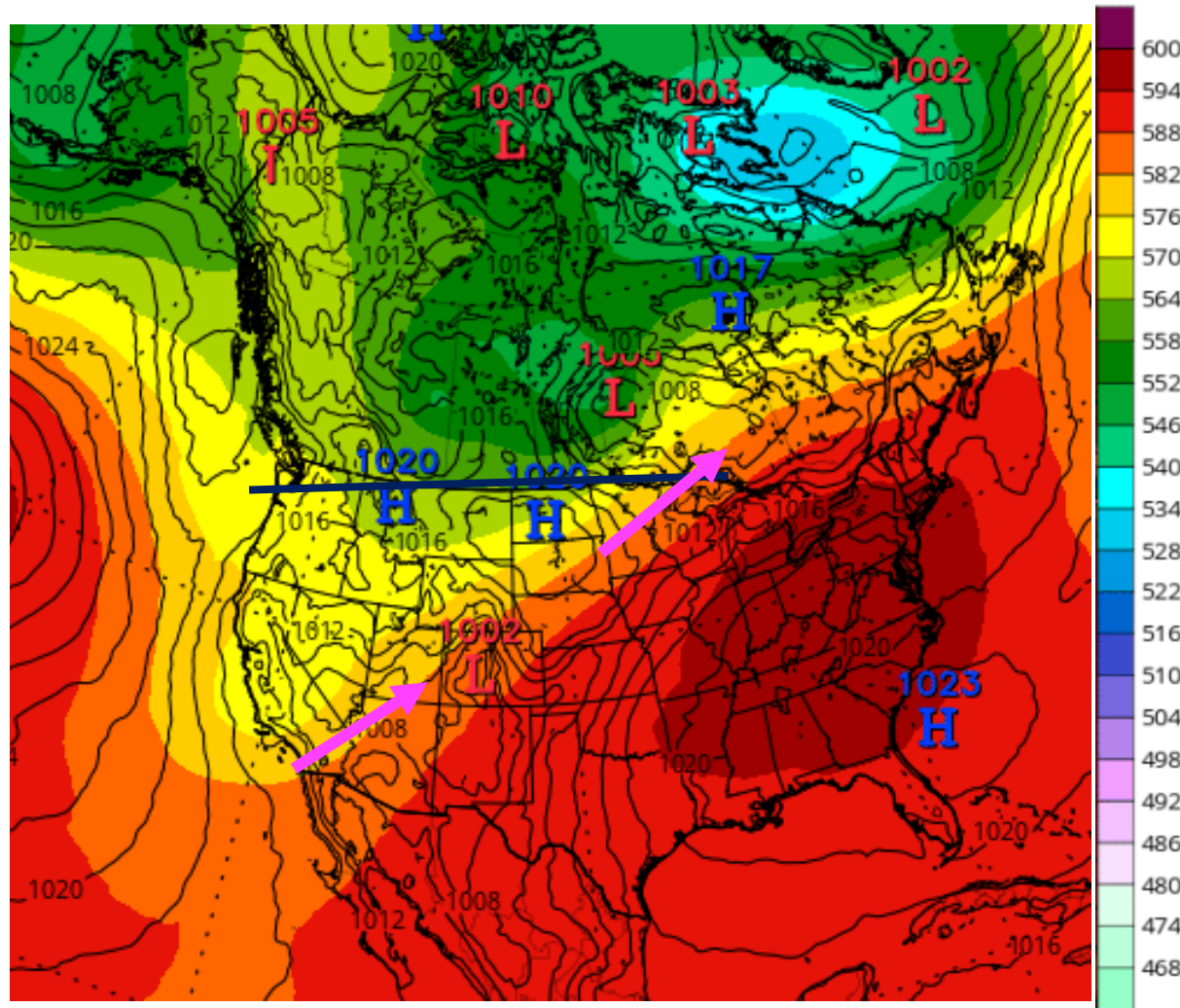


FireAQ is funded by NASA HAQ. We thank NASA GMAO and
NRL for the model data products.

EARTH SCIENCE
APPLIED SCIENCES

Current Status: June 23 , 2025

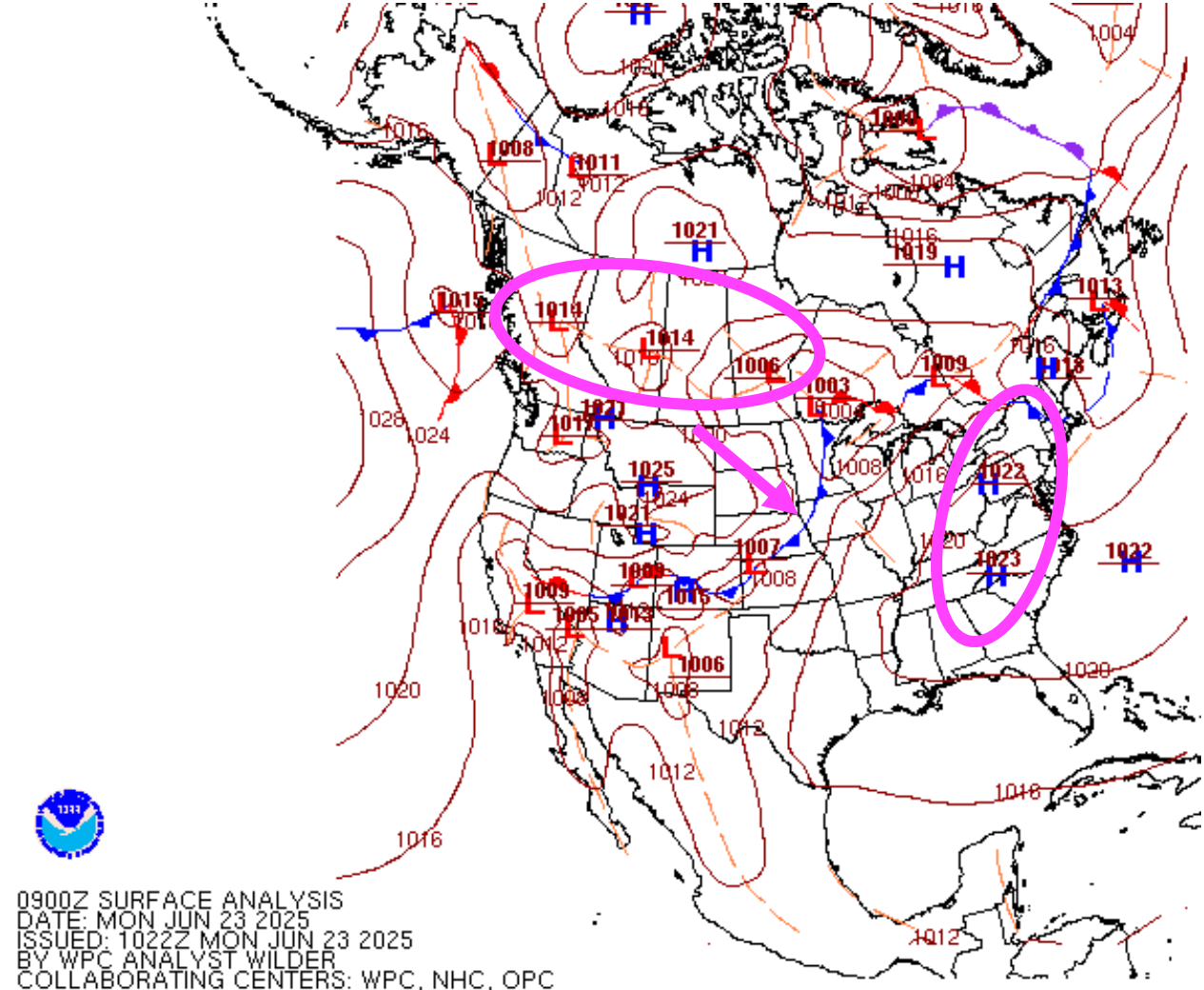
500 mb Contours



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

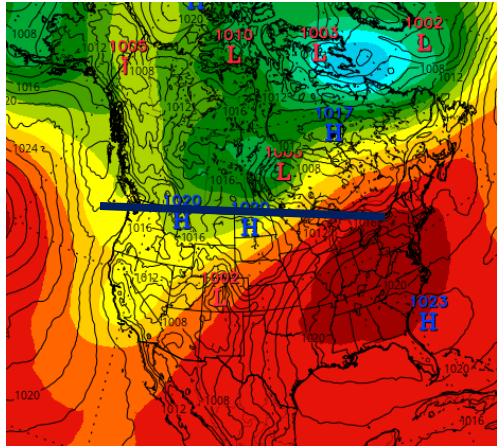
Init: 06z Jun 23 2025 Forecast Hour: [12] valid at 18z Mon, Jun 23 2025

Surface Analysis

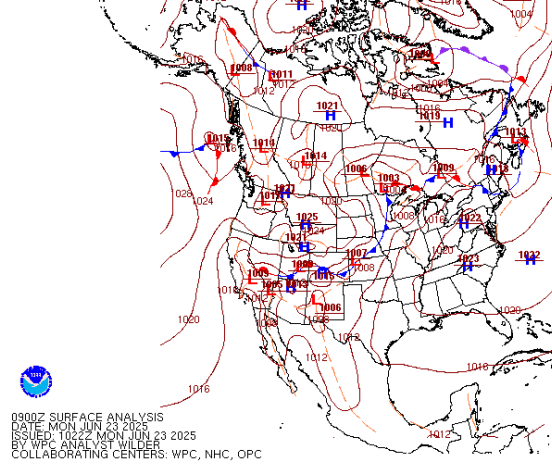


Current Status: June 23 , 2025

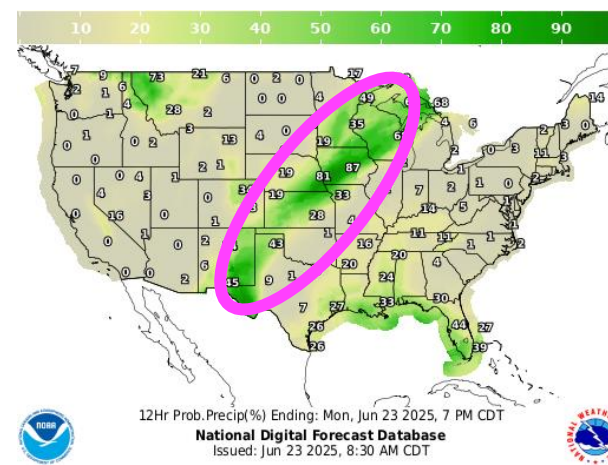
500 mb Contours



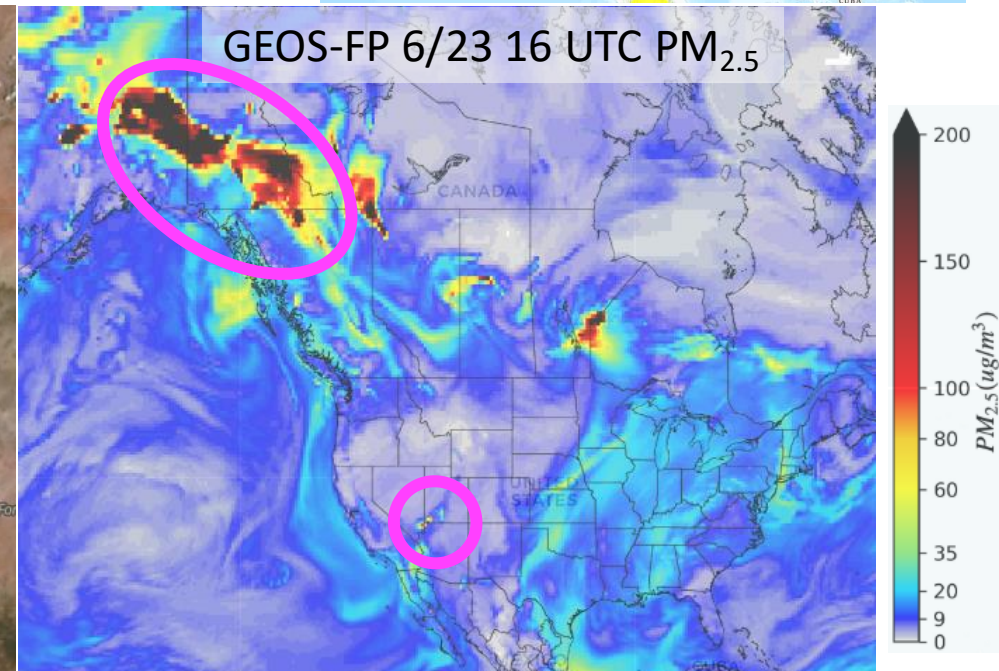
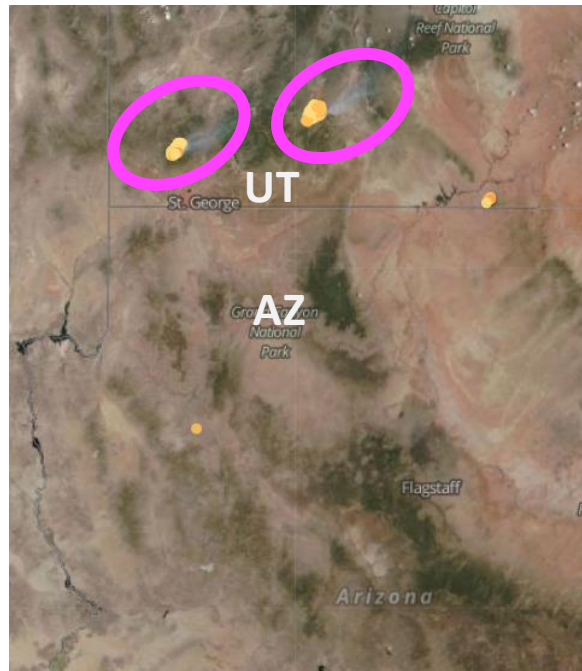
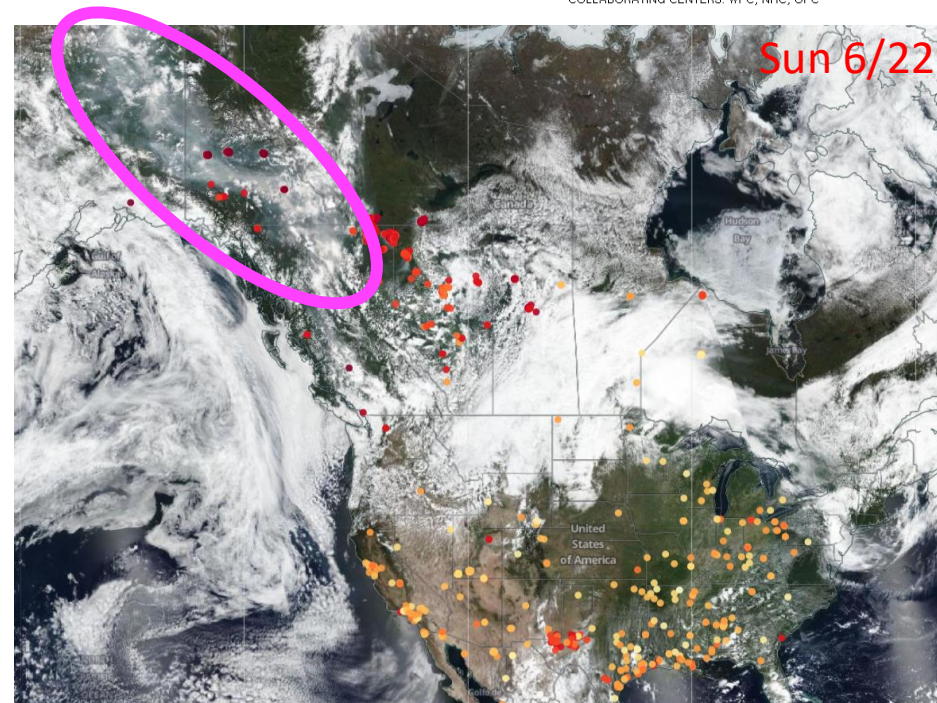
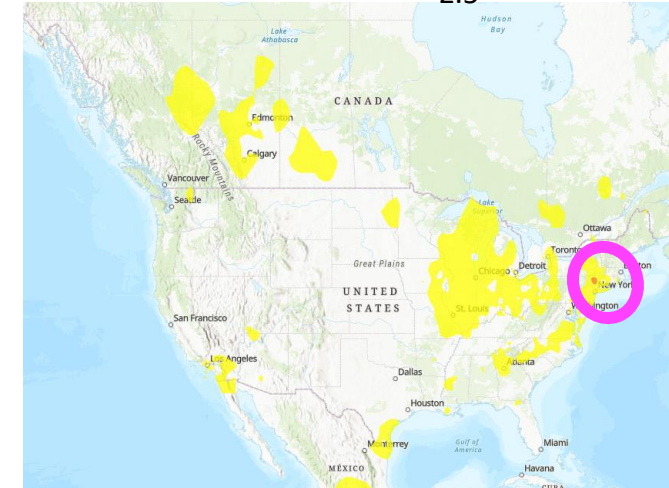
Surface Analysis



Precip. Prob.

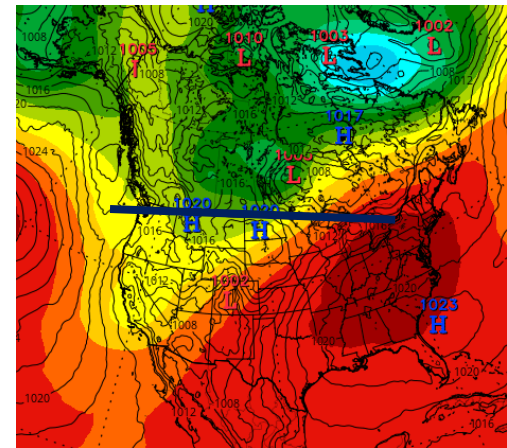


AirNow PM_{2.5} AQI

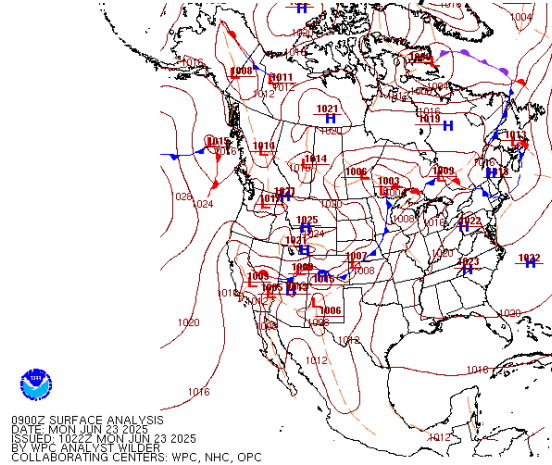


Current Status: June 23 , 2025

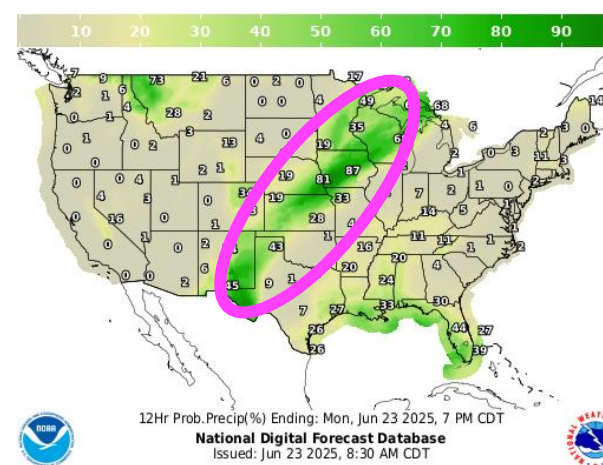
500 mb Contours



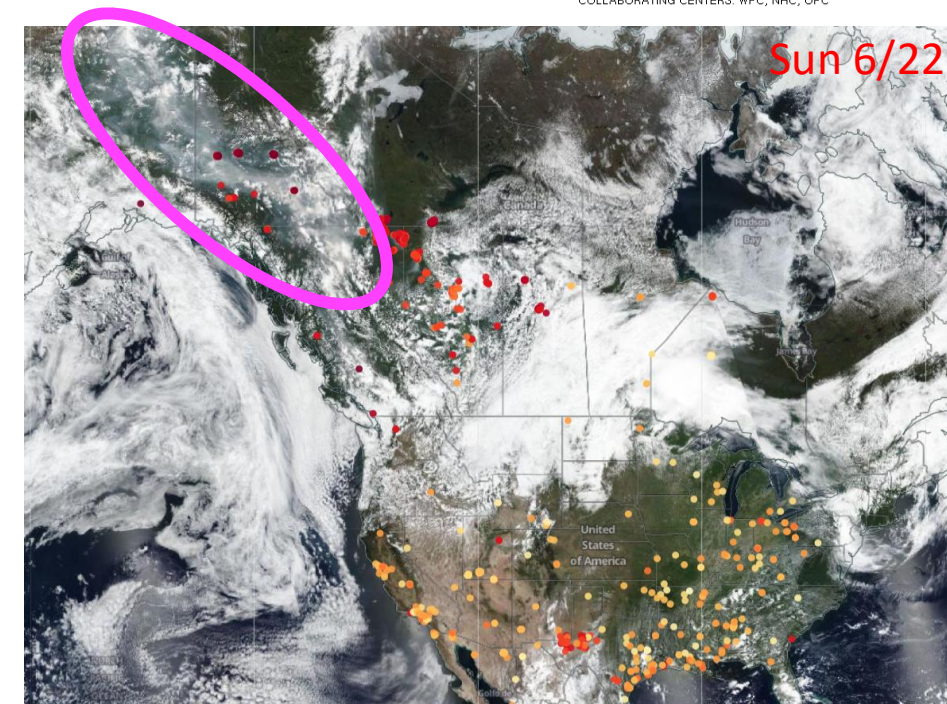
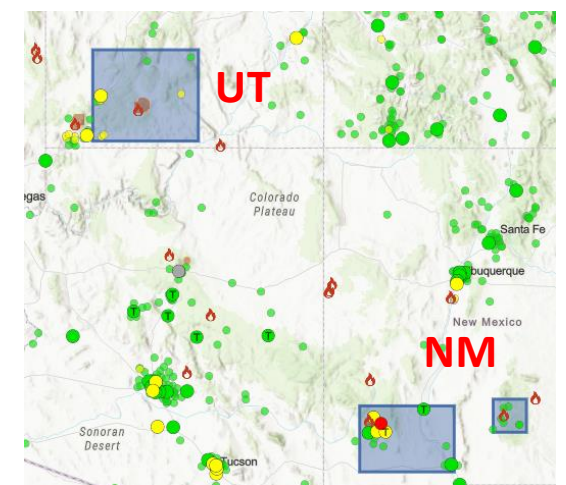
Surface Analysis



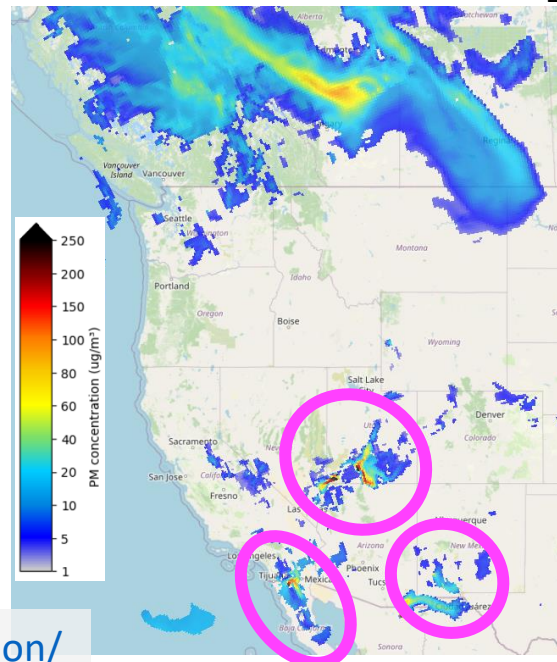
Precip. Prob.



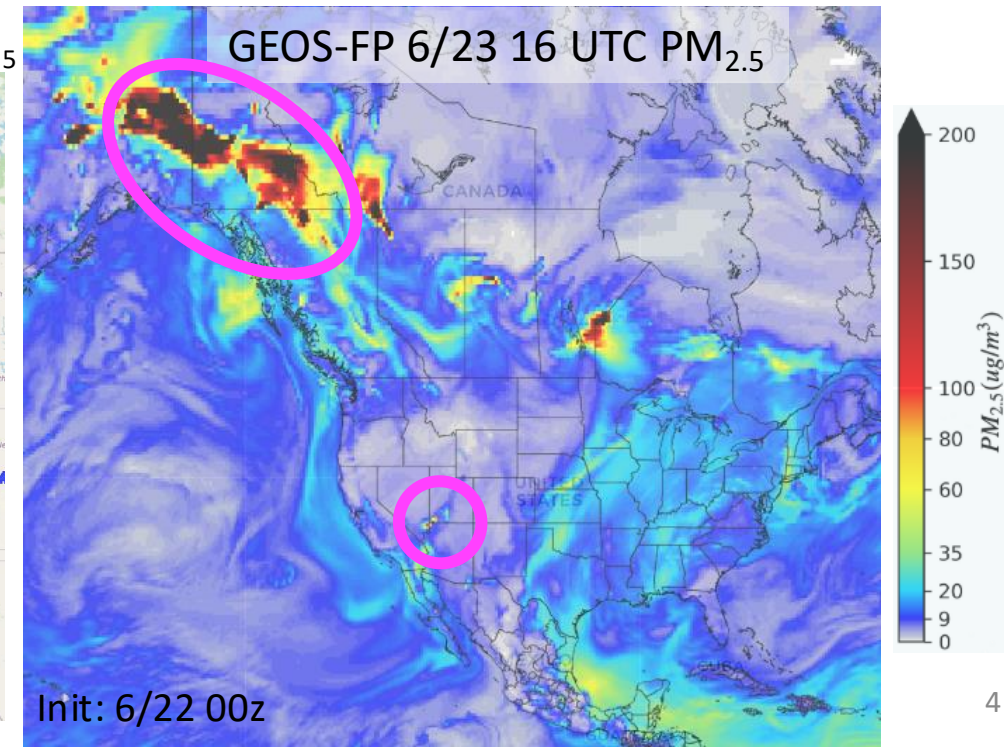
AirNow Fire and Smoke



MSC AniMET 6/23 16 UTC PM_{2.5}



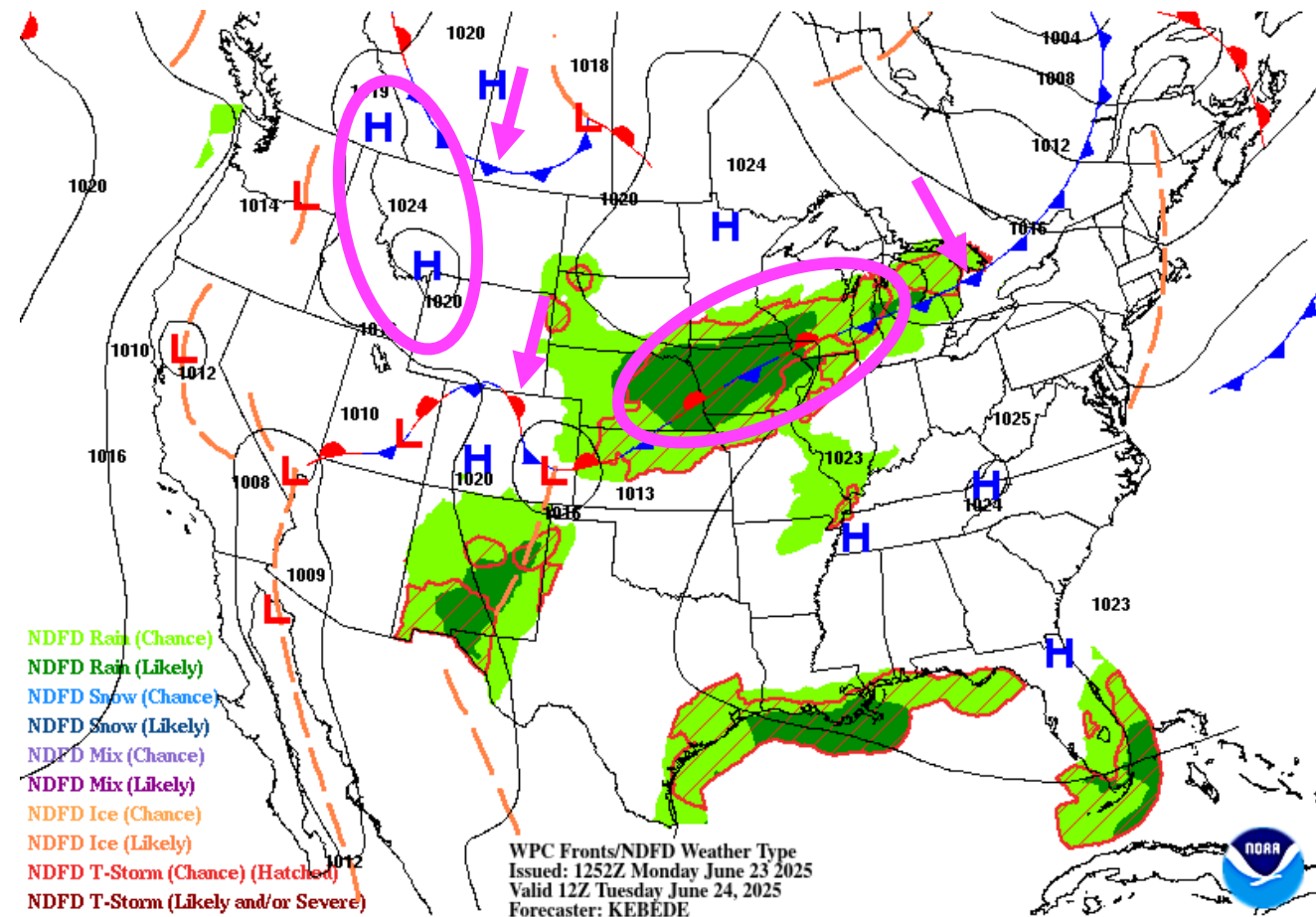
GEOS-FP 6/23 16 UTC PM_{2.5}



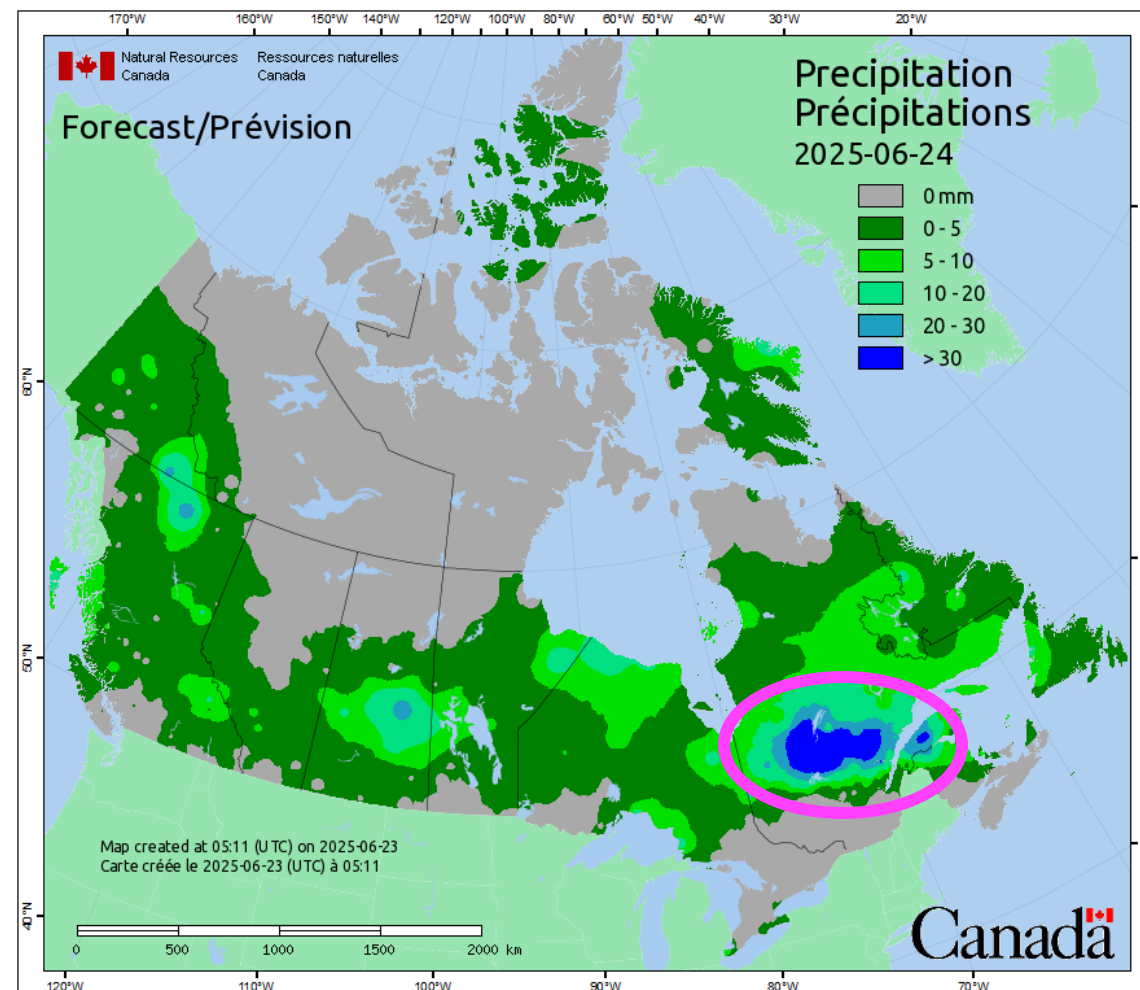
Outlook: Short Range (1–3 days)

Surface Forecast (**Tuesday 6/24**)

US NWS Forecast

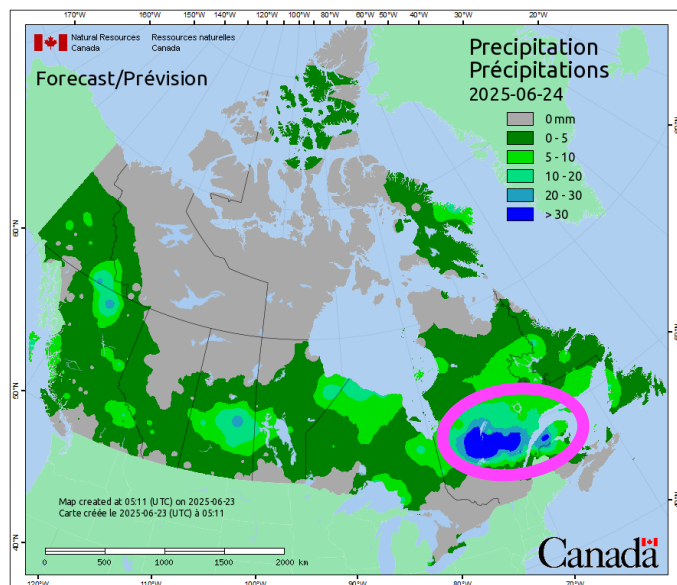


Environment Canada Forecast



Outlook: Short Range (1–3 days)

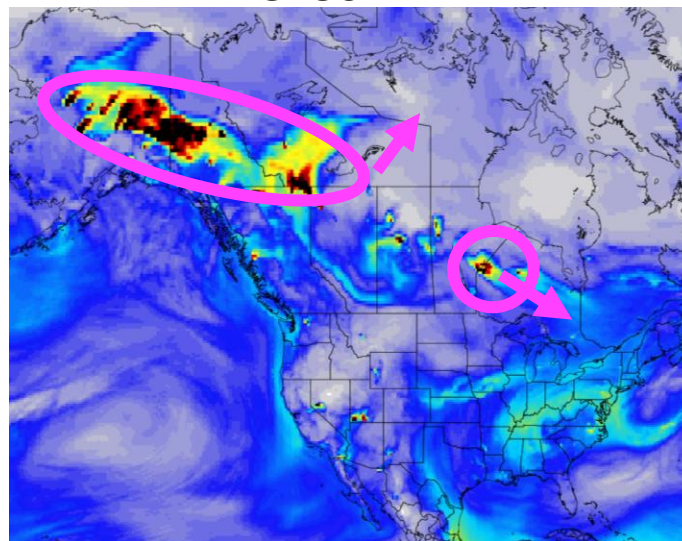
Surface Forecast



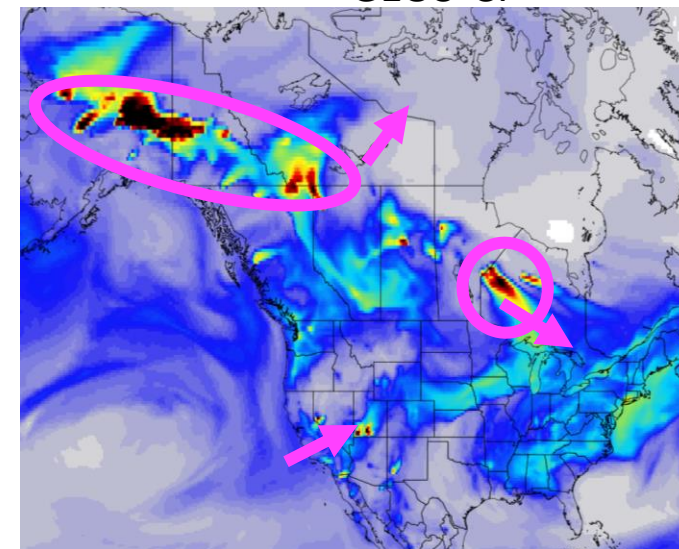
(Tuesday 6/24)

Model Means $PM_{2.5}$

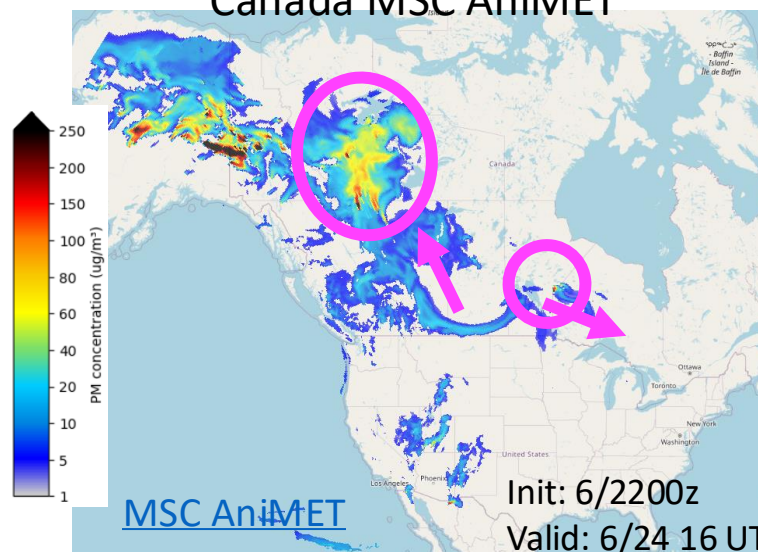
GEOS-FP



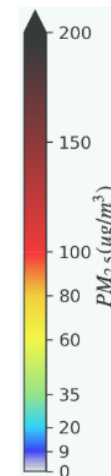
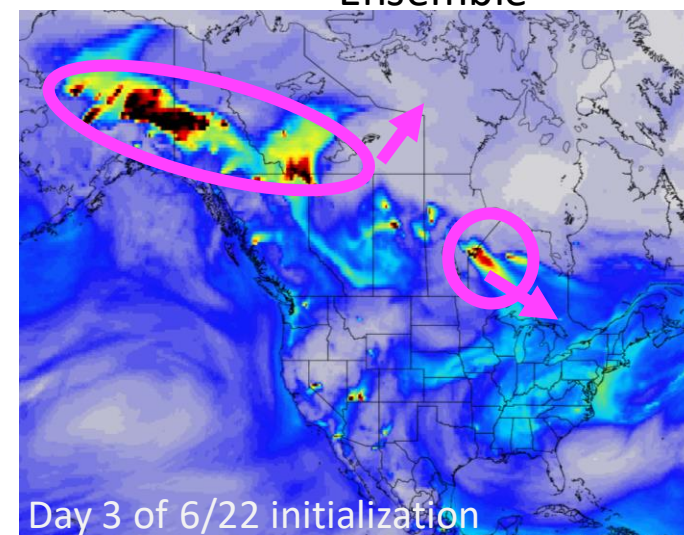
GEOS-CF



Canada MSC AniMET



Ensemble

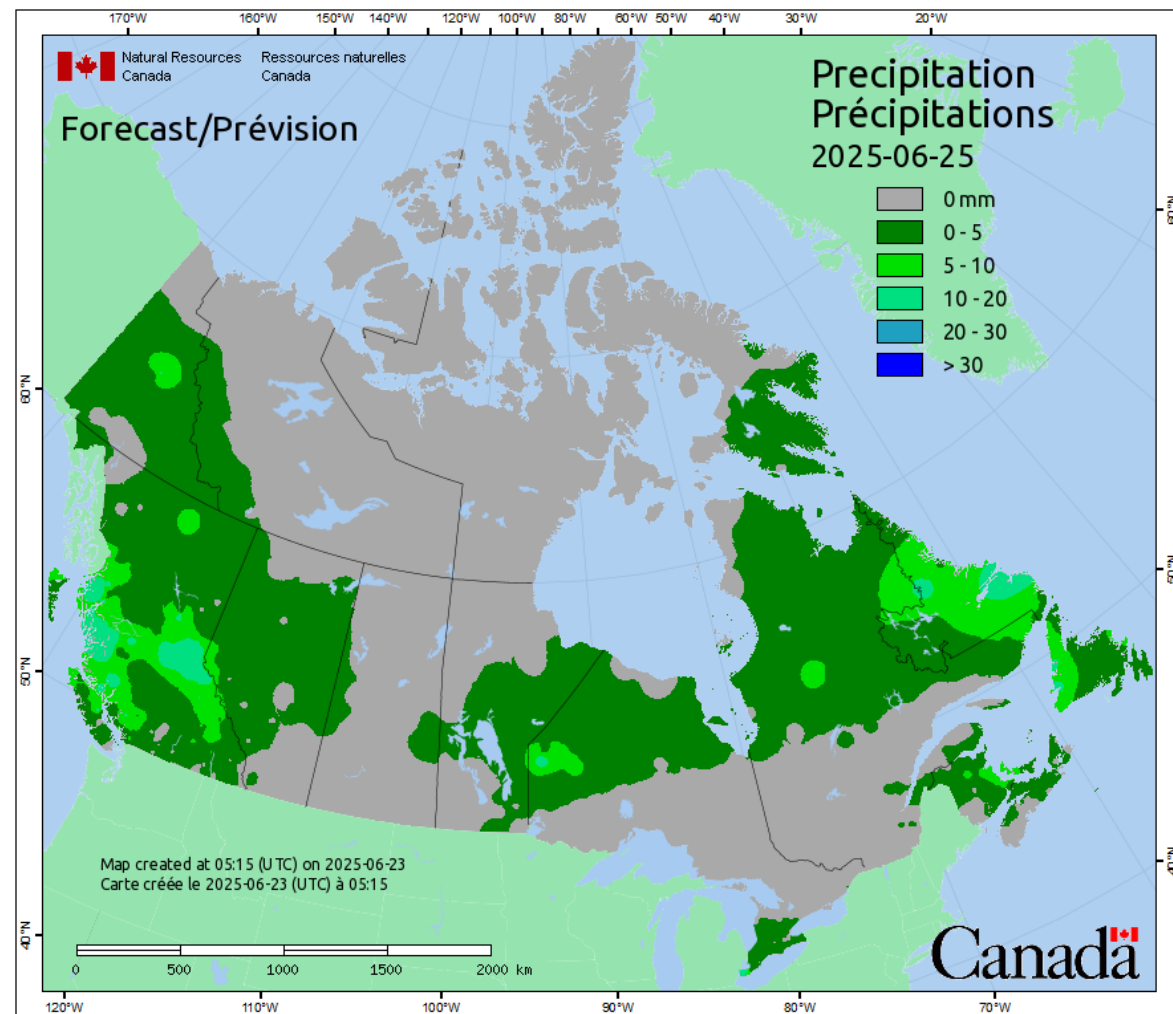
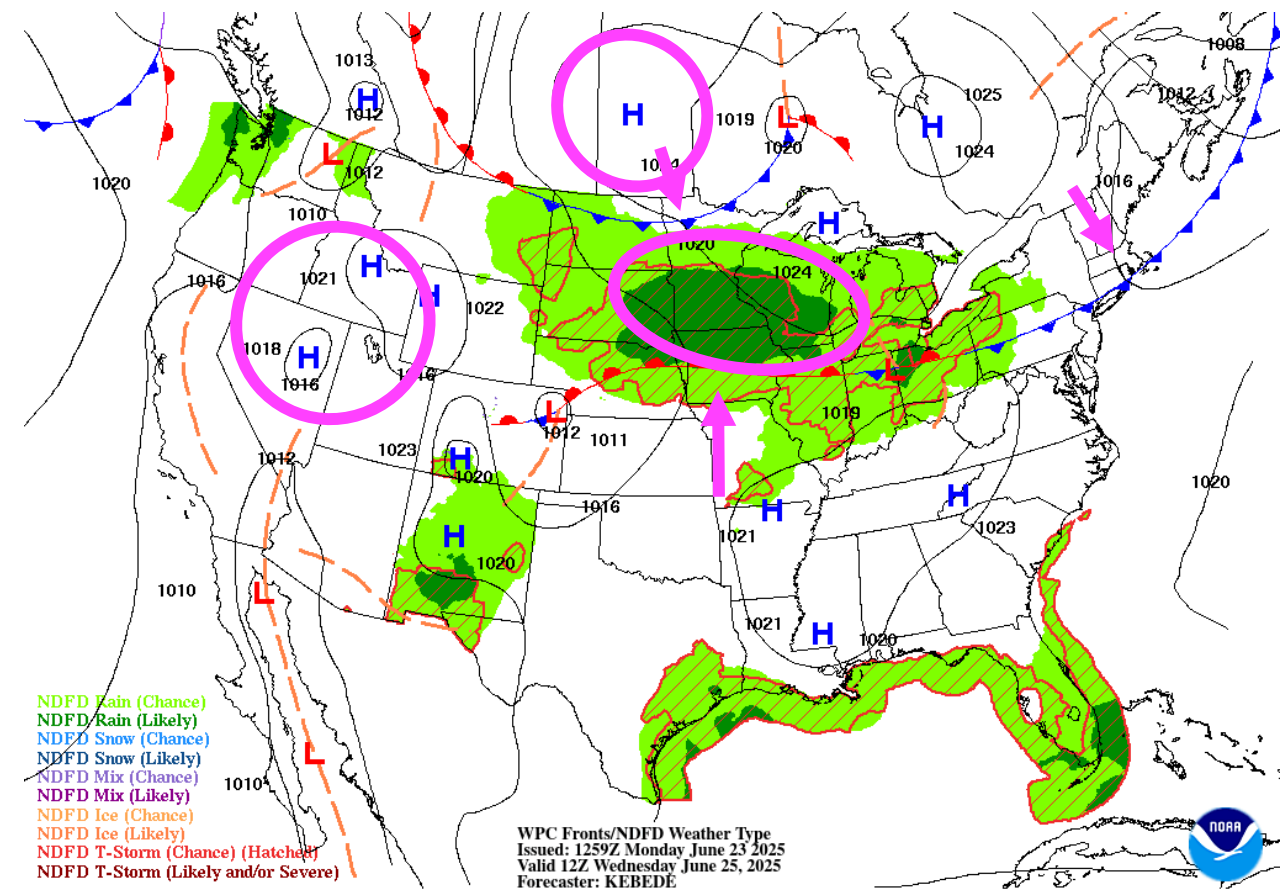


Outlook: Short Range (1-3 days)

Surface Forecast (**Wednesday 6/25**)

US NWS Forecast

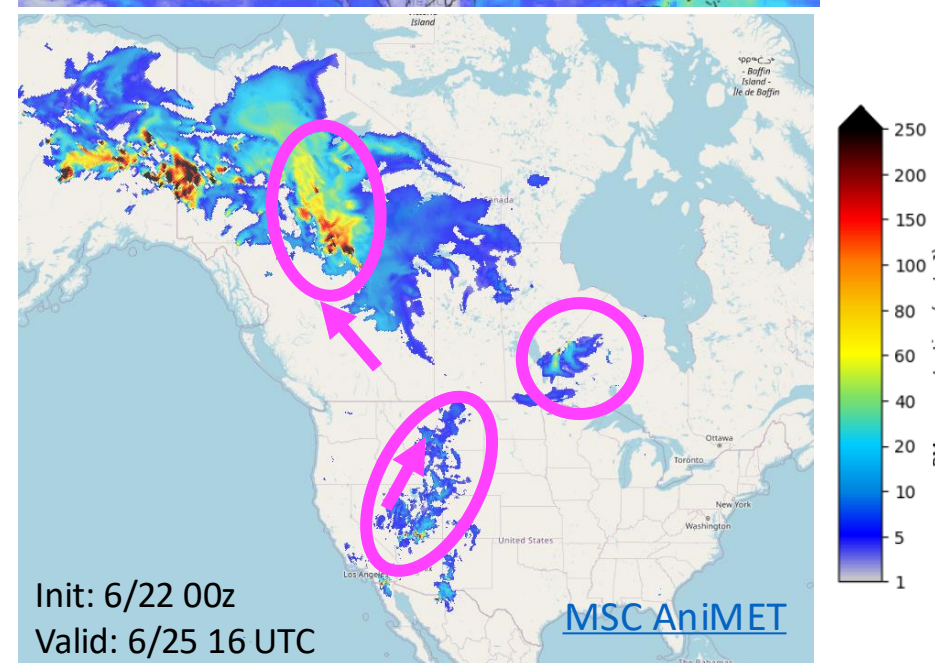
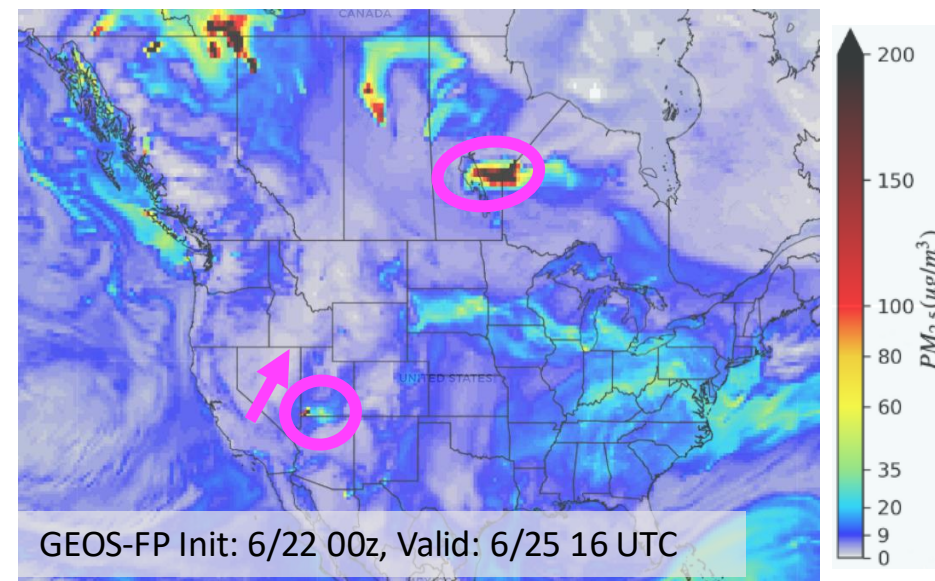
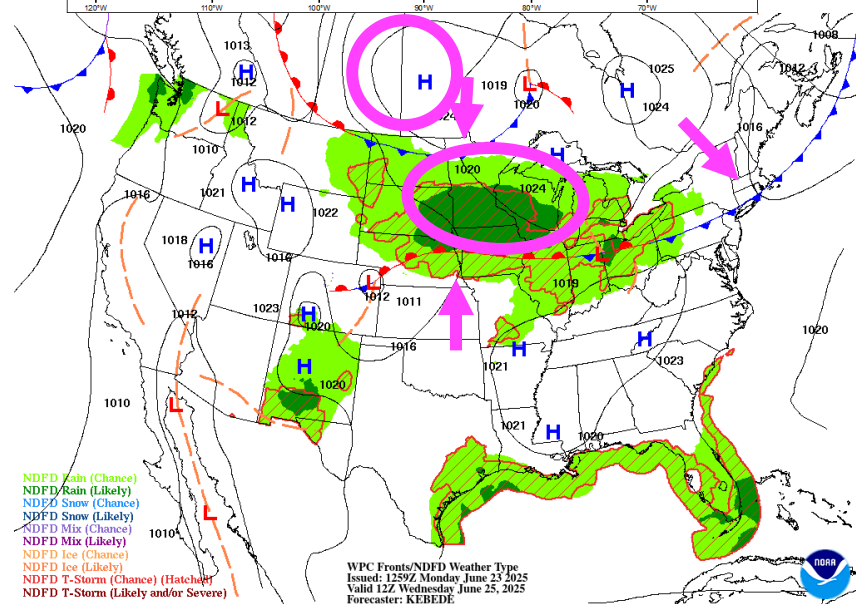
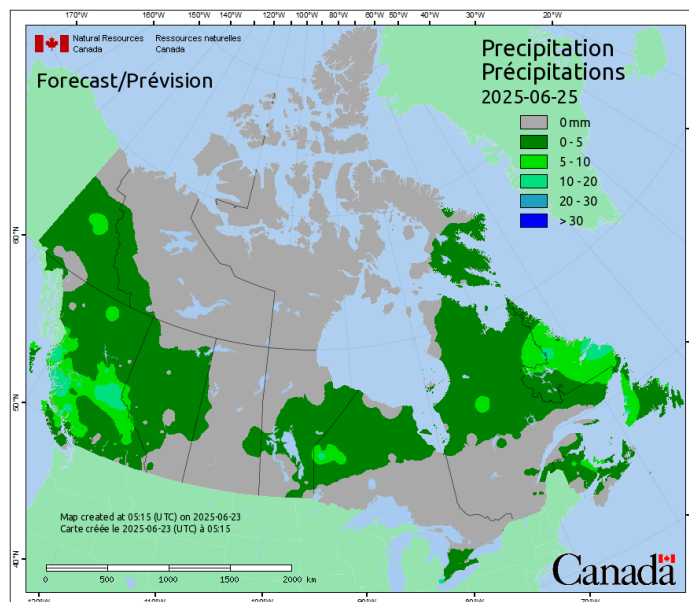
Environment Canada Forecast



Outlook: Short Range (1–3 days)

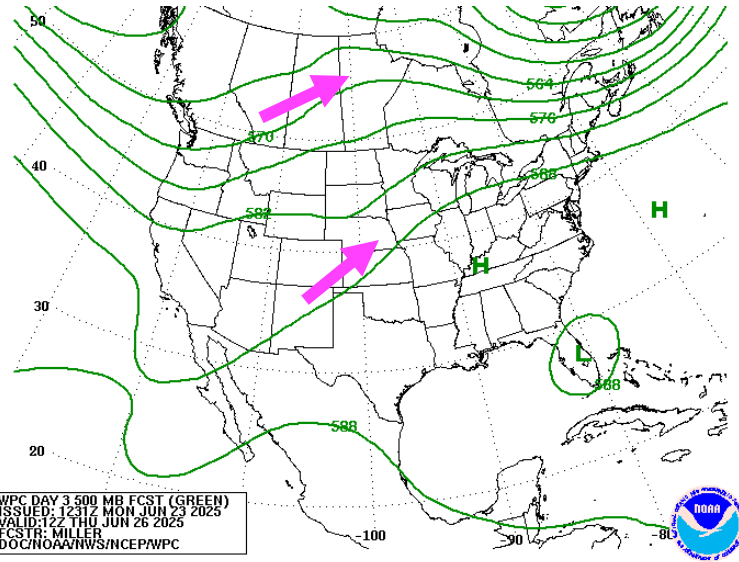
Surface Forecast

(Wednesday 6/25)

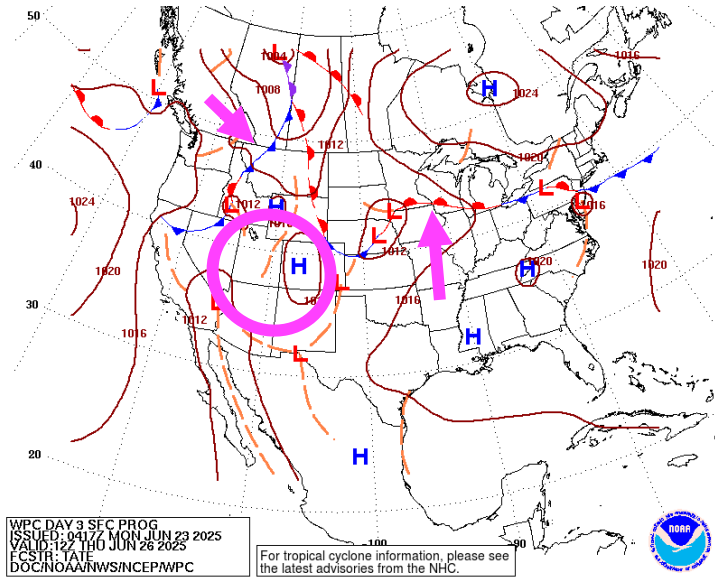


Outlook: Medium Range

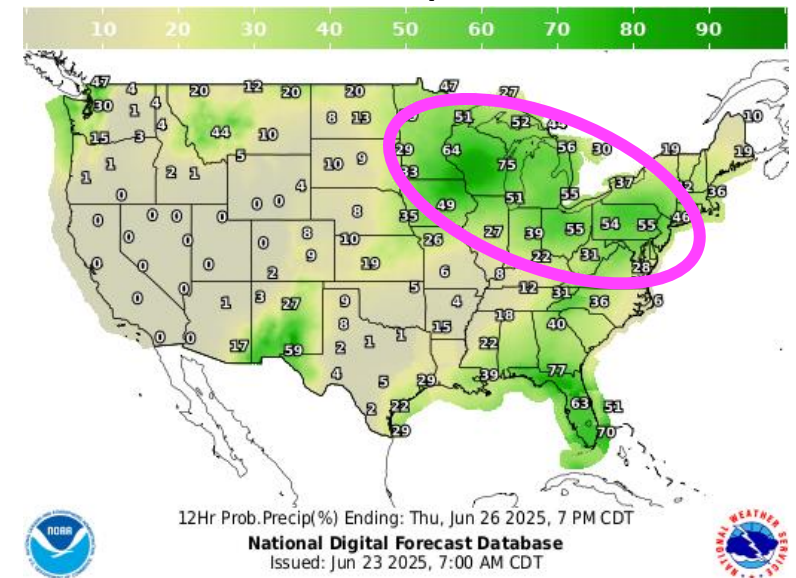
500 mb Contours



Sea Level

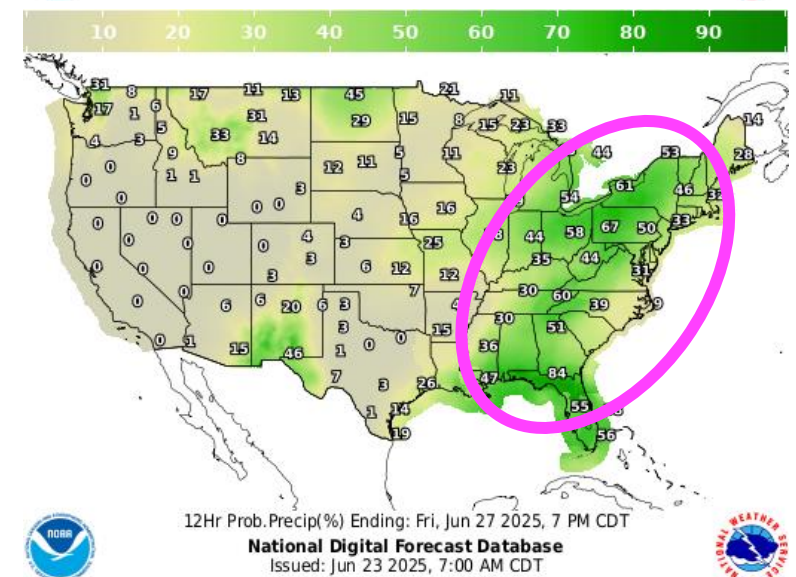
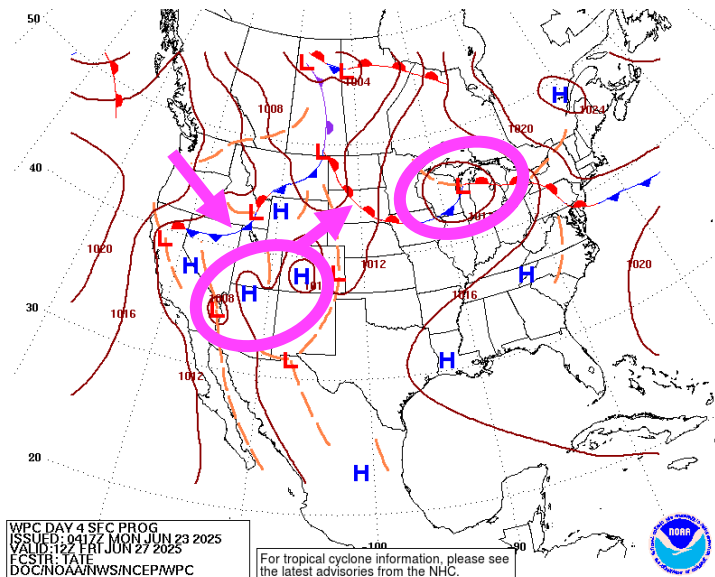
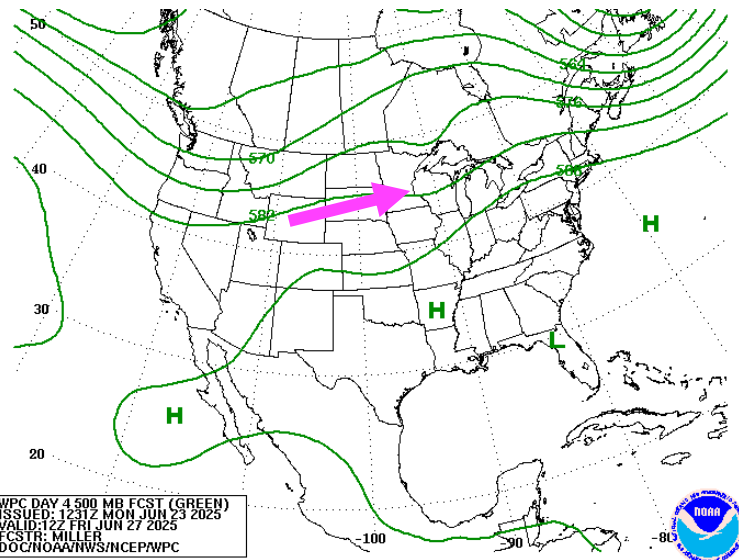


Precip Prob.



Thurs
6/26

Friday
6/27



Summary

Monday : So. UT and NM fires continue to impact the local PM_{2.5} AQI. AK and Canadian fires have minimal to no impact on the Midwest PM_{2.5} AQI.

T → W : UT and NM wildfire smoke are predicted to impact local PM_{2.5} AQI with northerly transport of aged smoke. Models are predicting high PM_{2.5} concentrations (likely fires) developing in Man/Ont, with easterly transport. and surface low pressure systems would promote smoke transport aloft. Northern Canadian and AK wildfire smoke are not likely to impact the conus US AQI, but keep an eye on aged smoke transport later in the week.

Th → F: Should Man/Ont fires continue, or grow, 500 mb winds would support any smoke aloft to be transported easterly with a warm front setting up over the upper Midwest. Southwestern/western US predicted to experience minor impact to AQI from the southern UT fires.

