

# Weather and Air Quality: Reflection and Outlook During Smoke Conditions

Presenter: Megan Christiansen  
Date: July 27, 2026

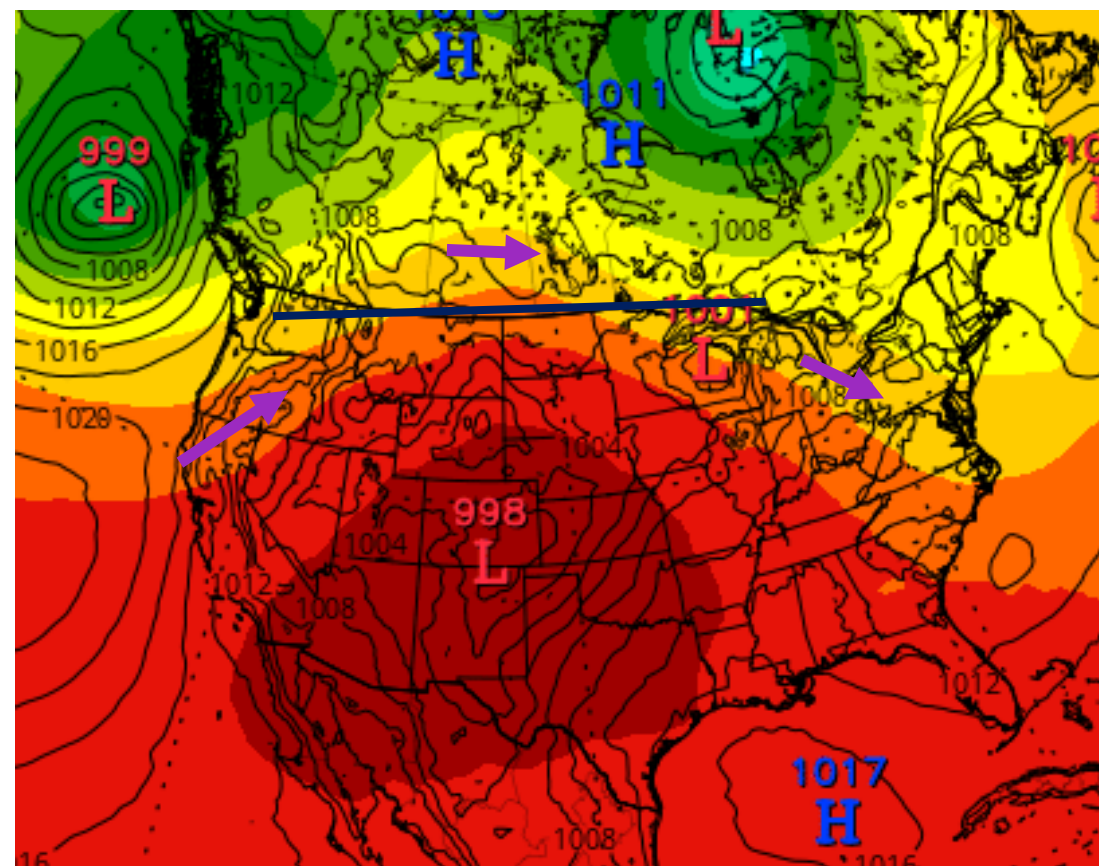


FireAQ is funded by NASA HAQ. We thank NASA GMAO and ECMWF for the model data products.

EARTH SCIENCE  
APPLIED SCIENCES

# Current Status: July 27, 2026

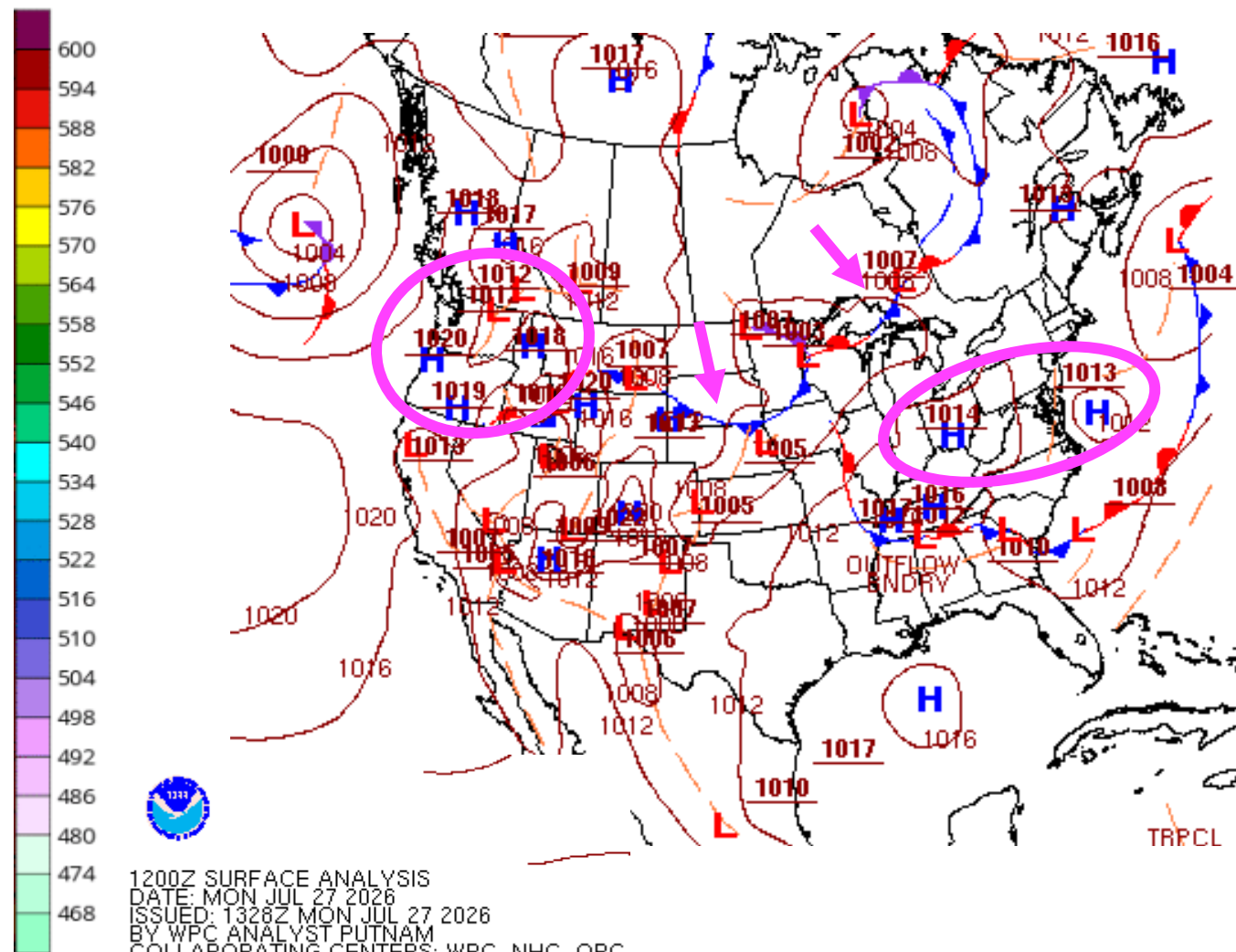
## 500 mb Contours



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

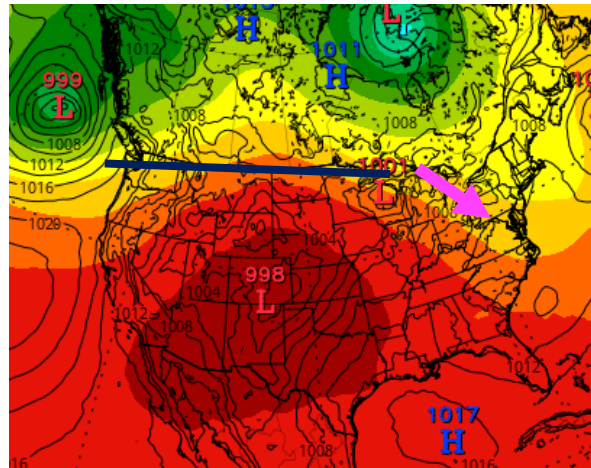
Init: 06z Jul 27 2026 Forecast Hour: [12] valid at 18z Mon, Jul 27 2026

## Surface Analysis

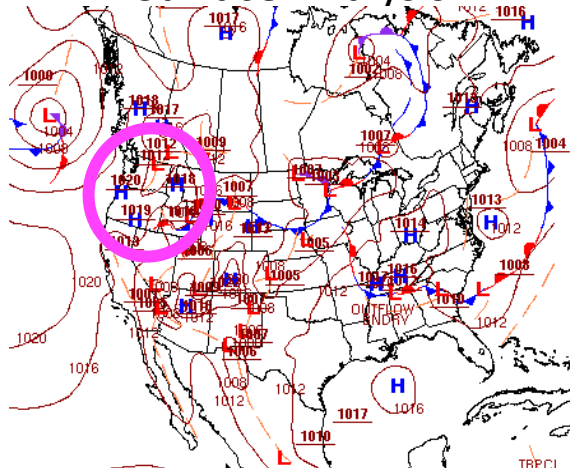


# Current Status: July 27, 2026

500 mb Contours

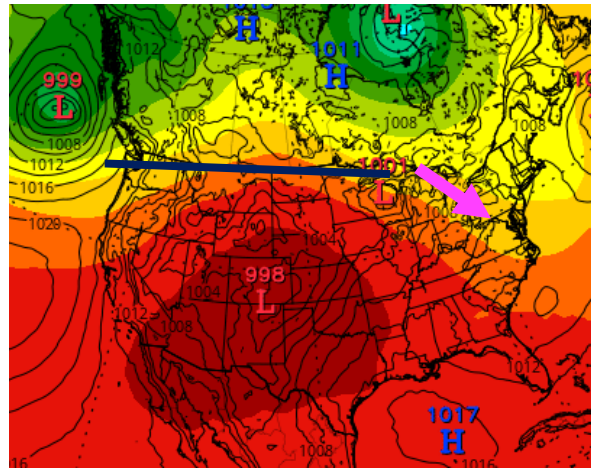


Surface Analysis

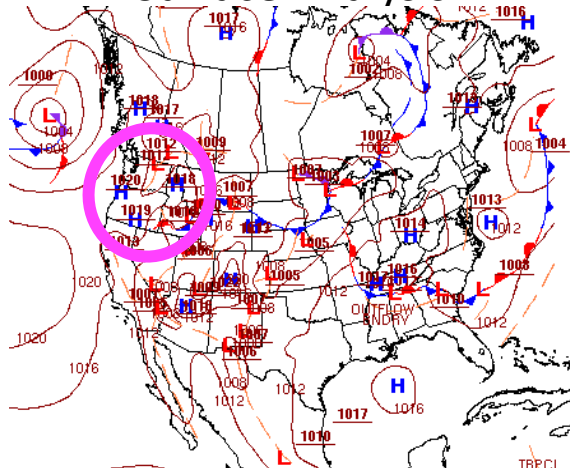


# Current Status: July 27, 2026

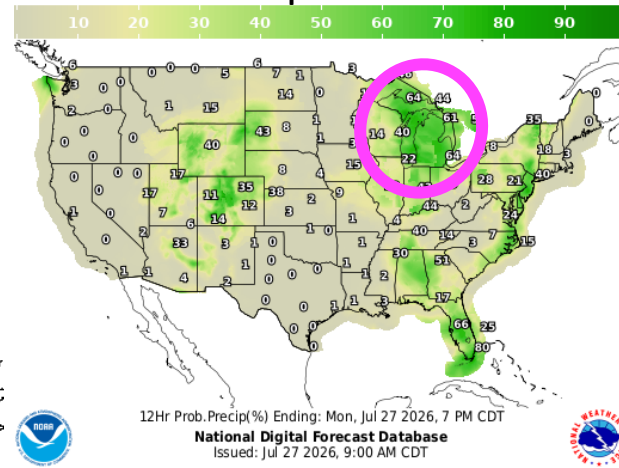
500 mb Contours



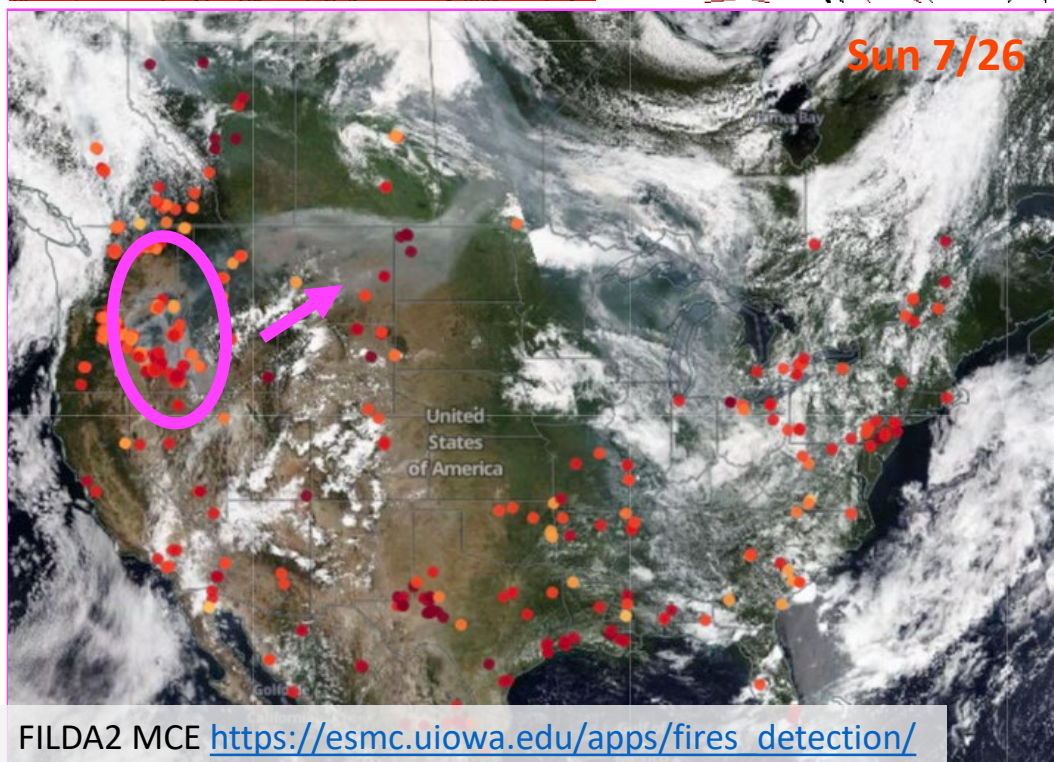
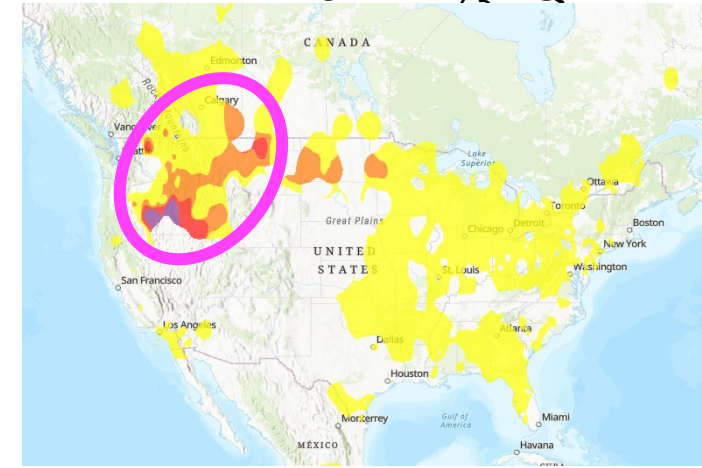
Surface Analysis



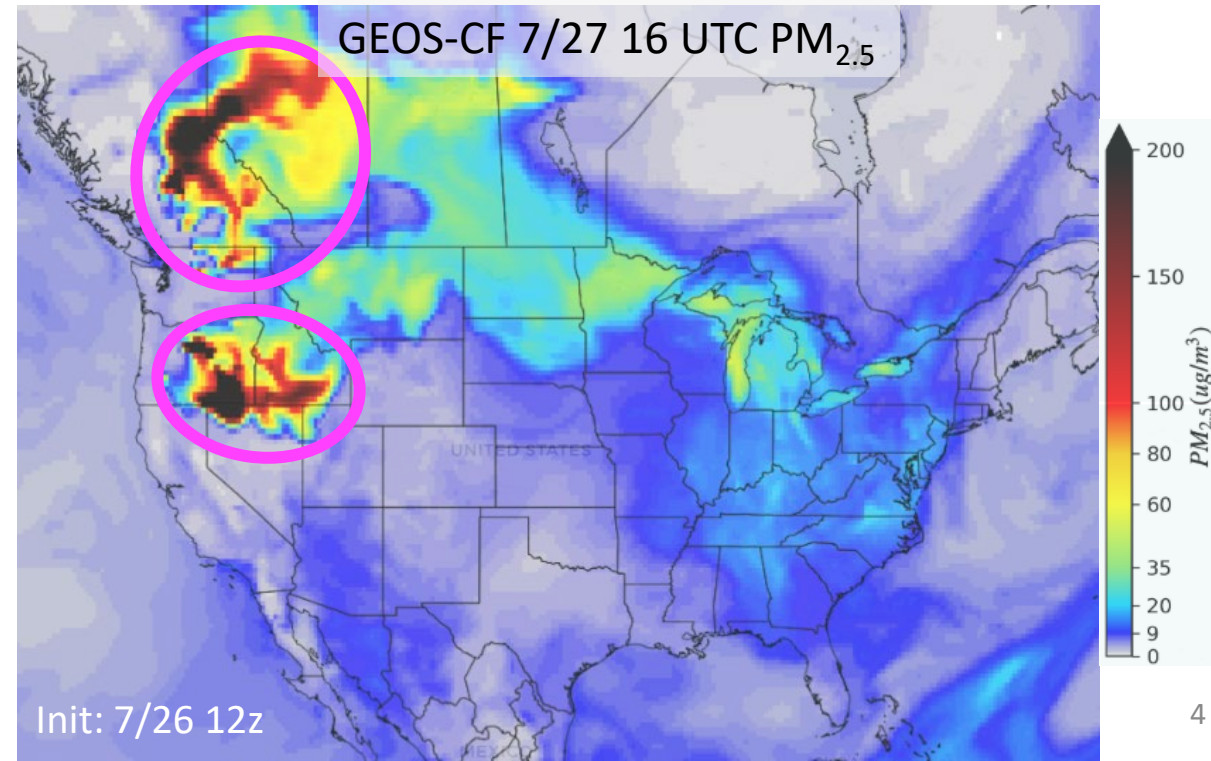
Precip. Prob.



AirNow PM<sub>2.5</sub> AQI



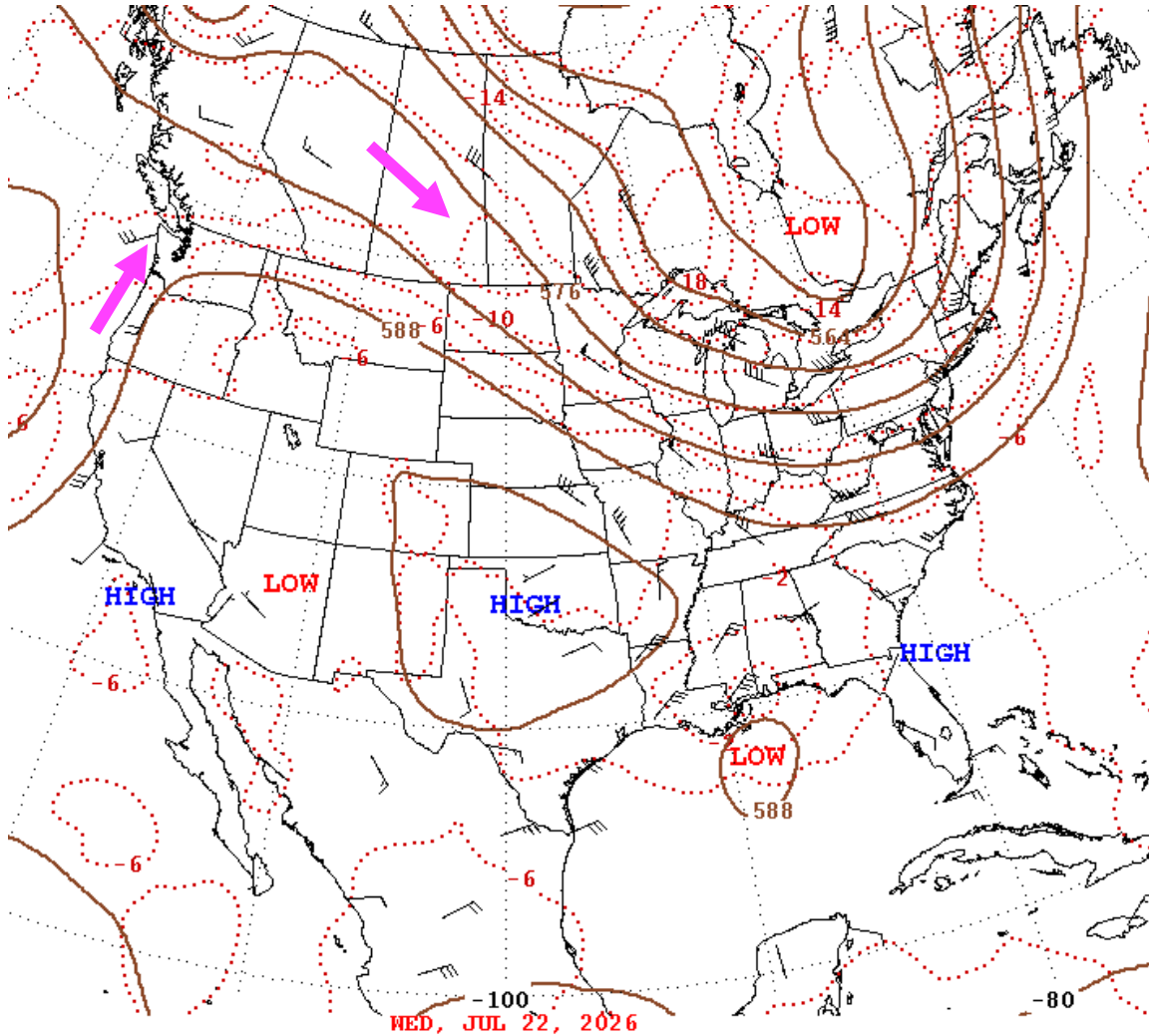
GEOS-CF 7/27 16 UTC PM<sub>2.5</sub>



Init: 7/26 12z

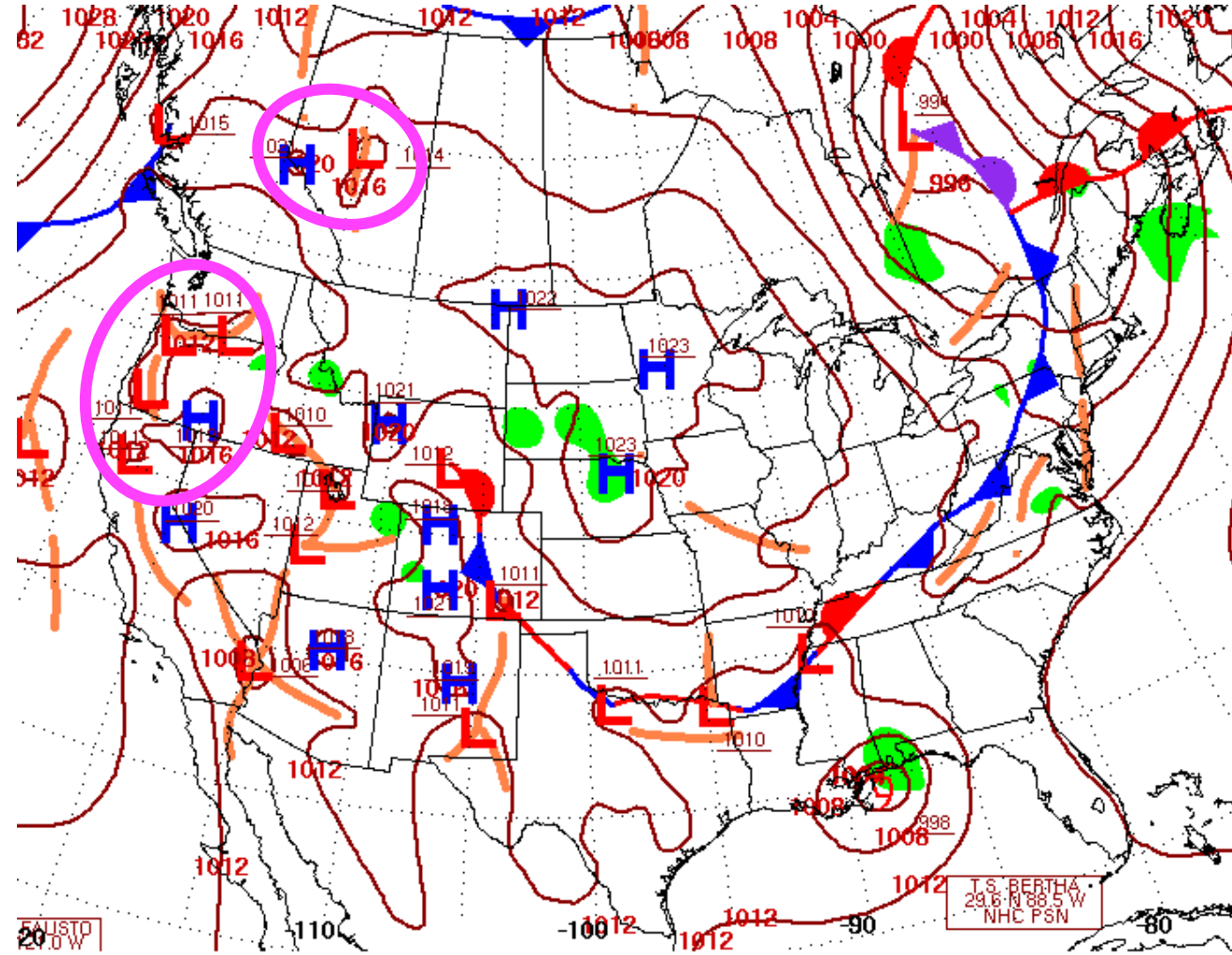
# Air Quality Reflection: Wed July 22, 2026

## 500 mb Contours



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

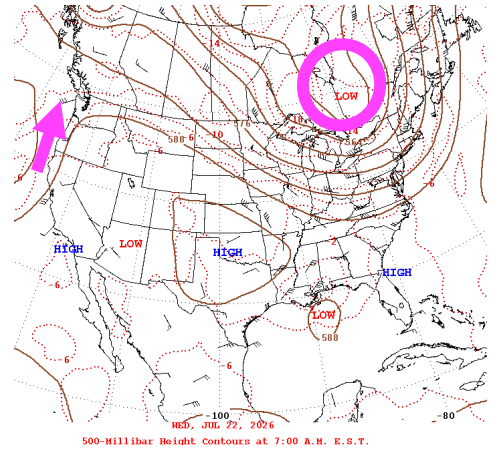
## Surface Weather



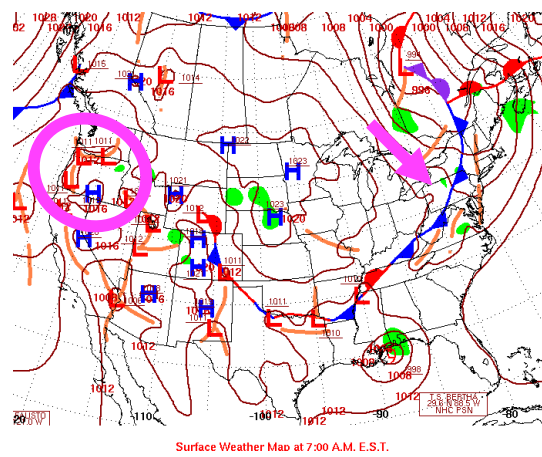
Surface Weather Map at 7:00 A.M. E.S.T.

# Air Quality Reflection: Wed July 22, 2026

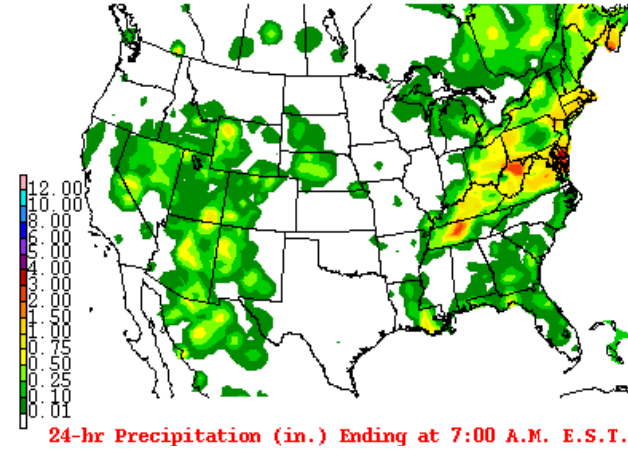
## 500 mb Contours



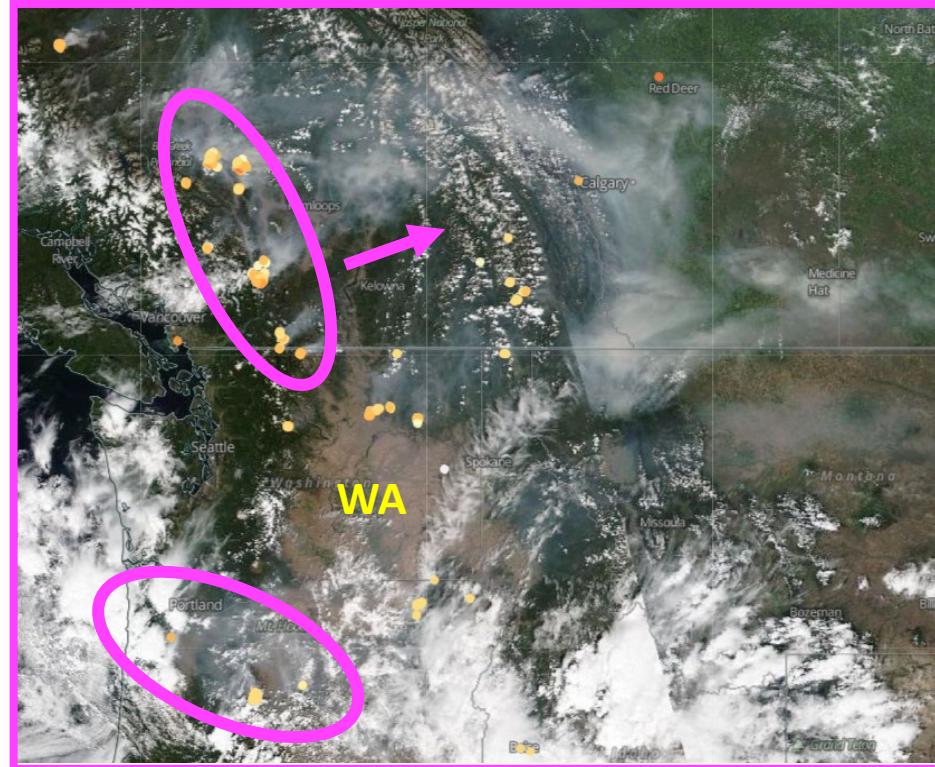
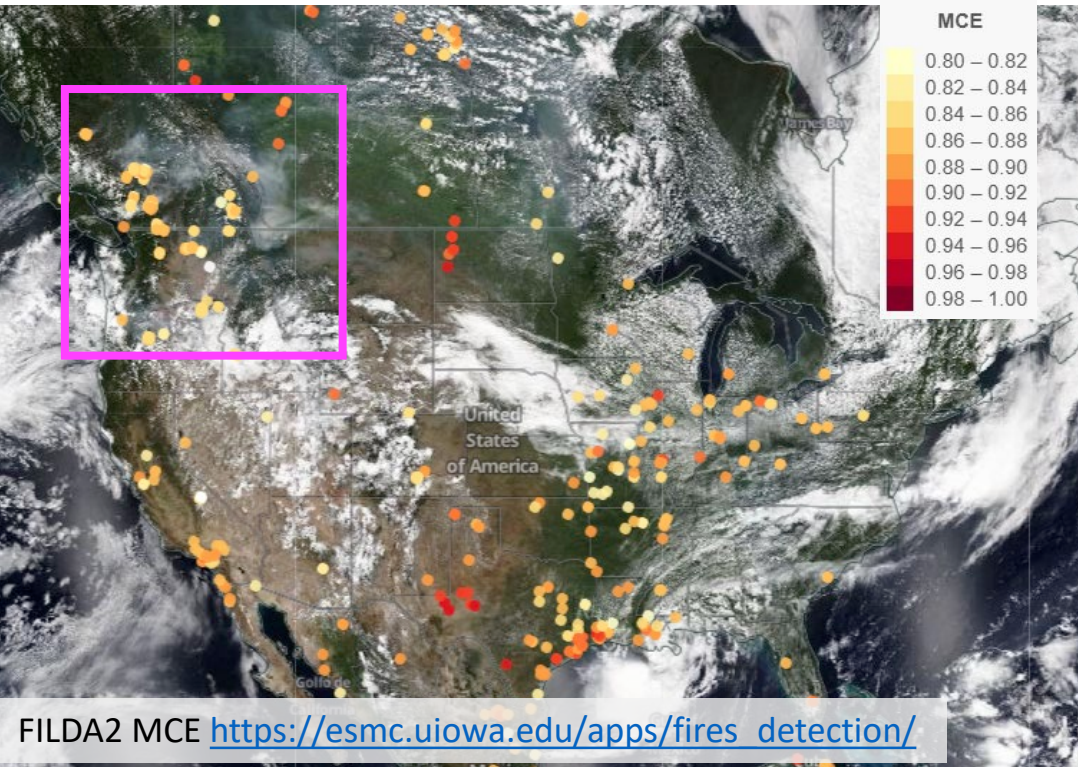
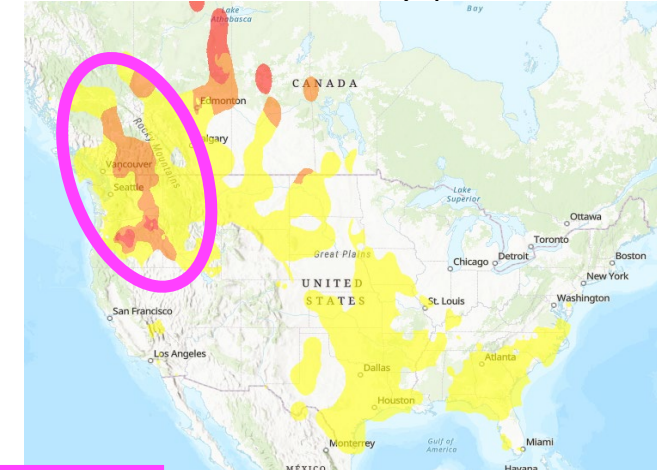
## Surface Weather



## Precipitation

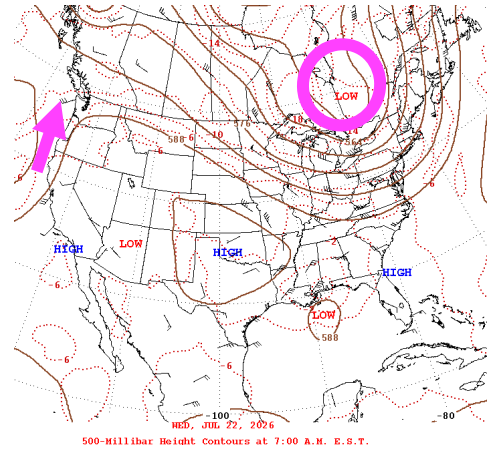


## AirNow PM<sub>2.5</sub> AQI

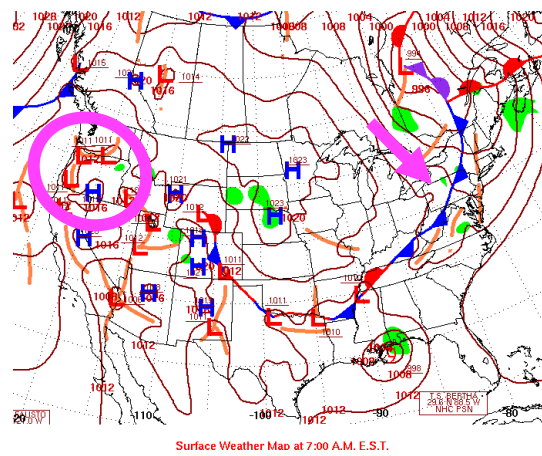


# Air Quality Reflection: Wed July 22, 2026

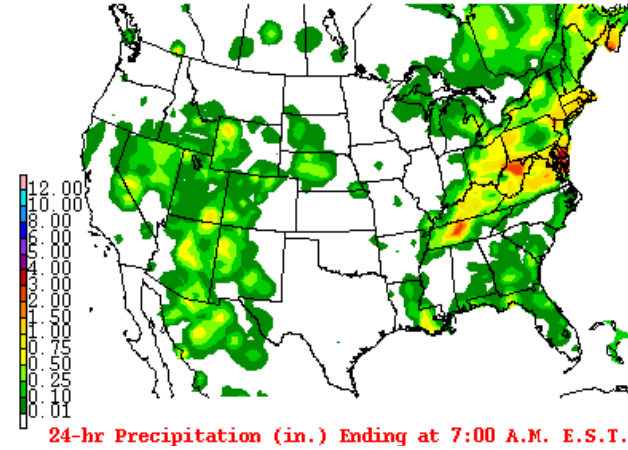
500 mb Contours



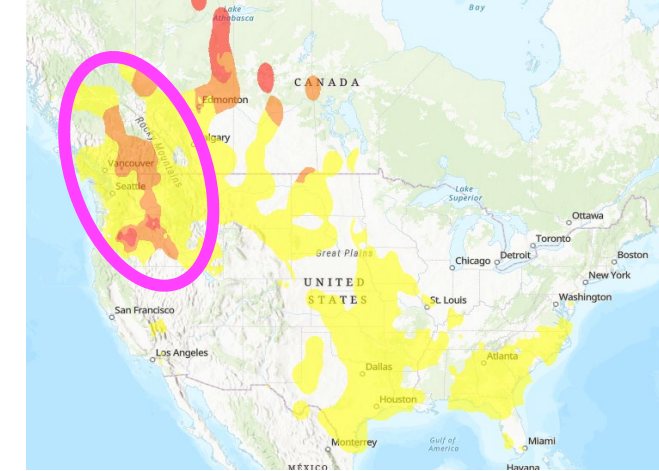
Surface Weather



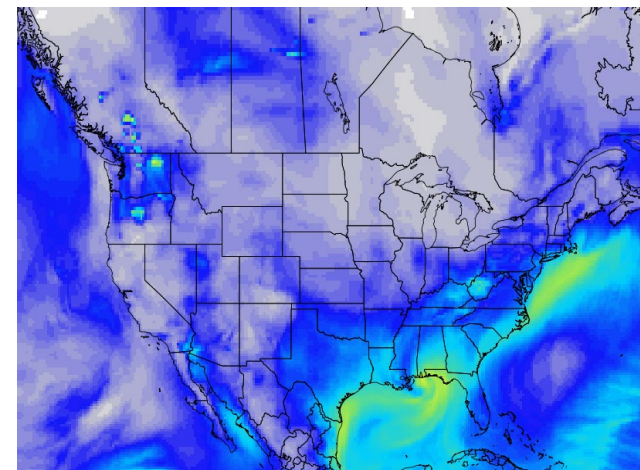
Precipitation



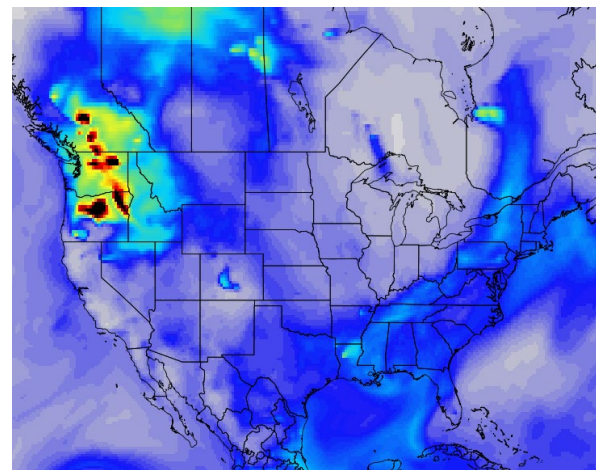
AirNow PM<sub>2.5</sub> AQI



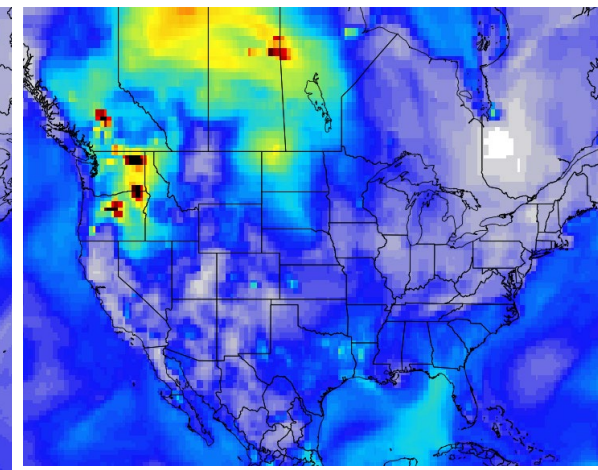
GEOS-FP



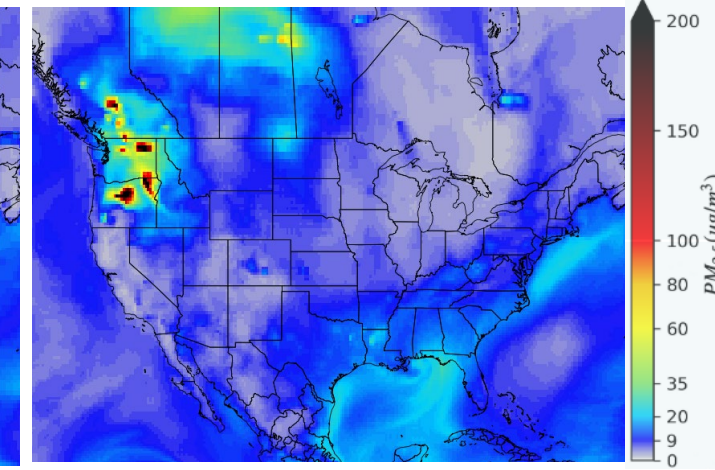
GEOS-CF



CAMS

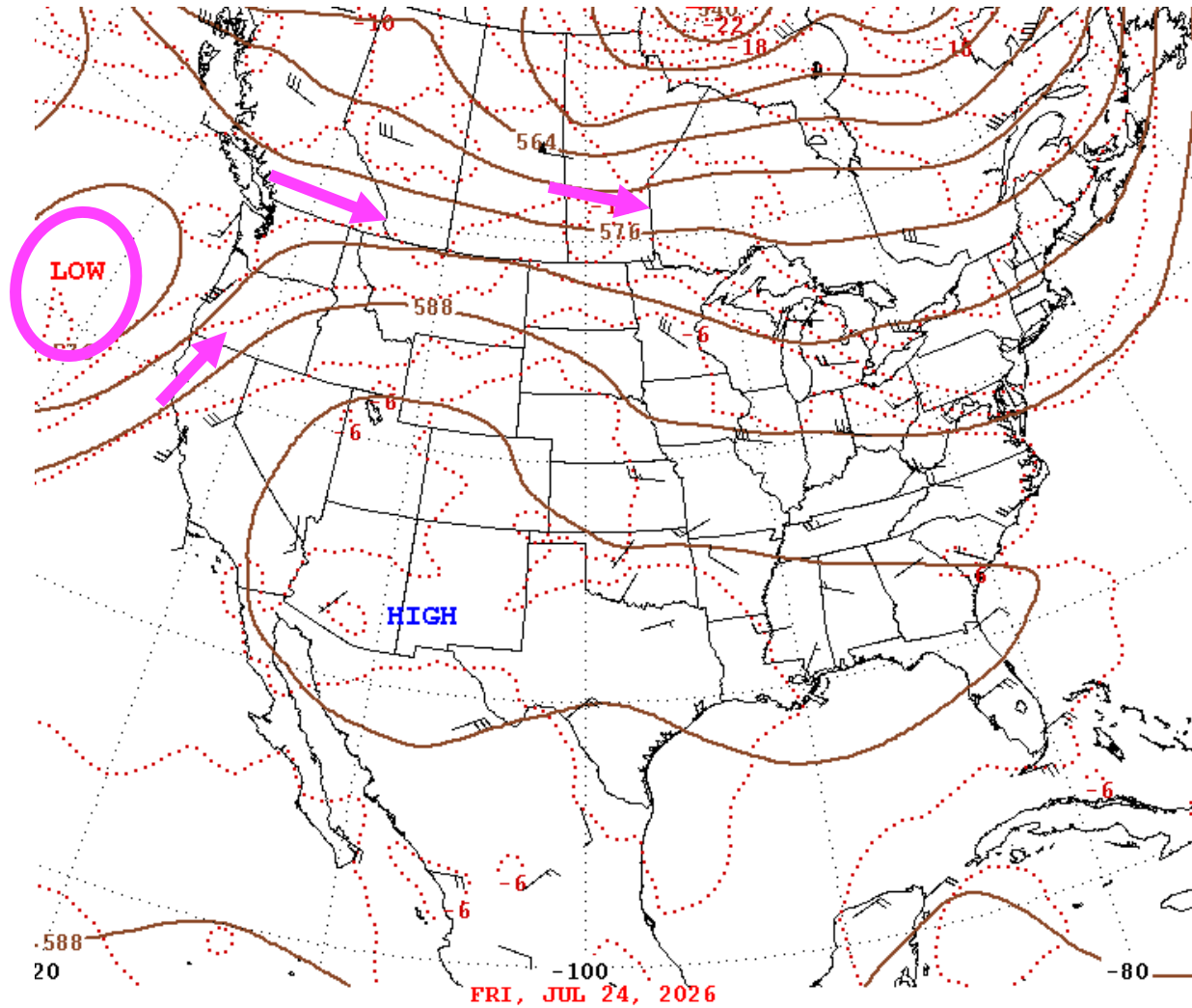


Ensemble



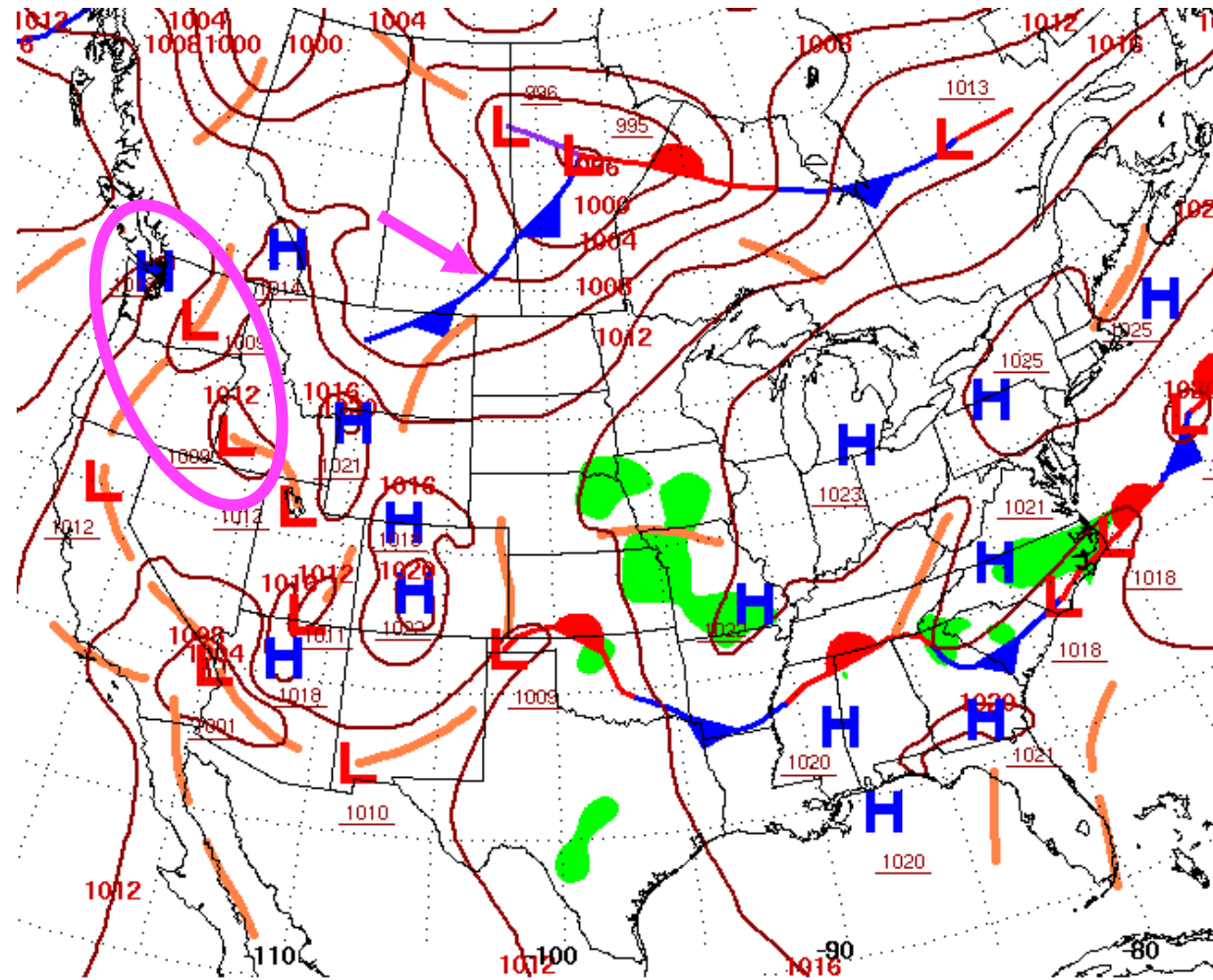
# Air Quality Reflection: Friday July 24, 2026

## 500 mb Contours



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

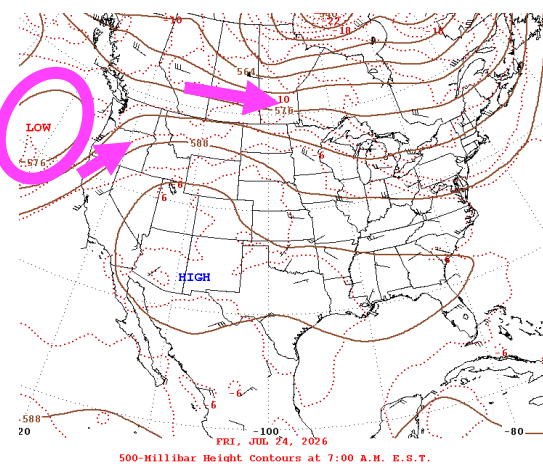
## Surface Weather



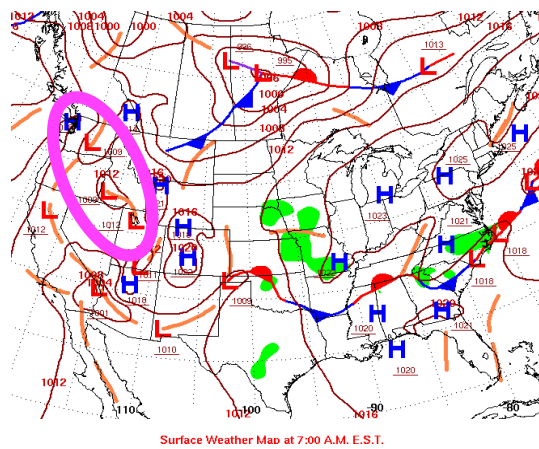
Surface Weather Map at 7:00 A.M. E.S.T.

# Air Quality Reflection: Friday July 24, 2026

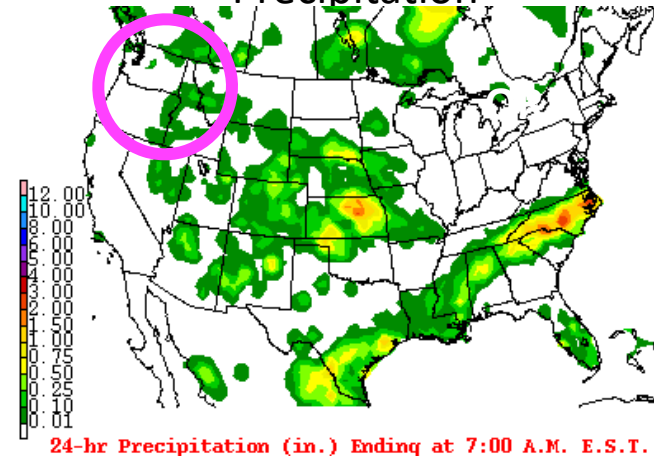
500 mb Contours



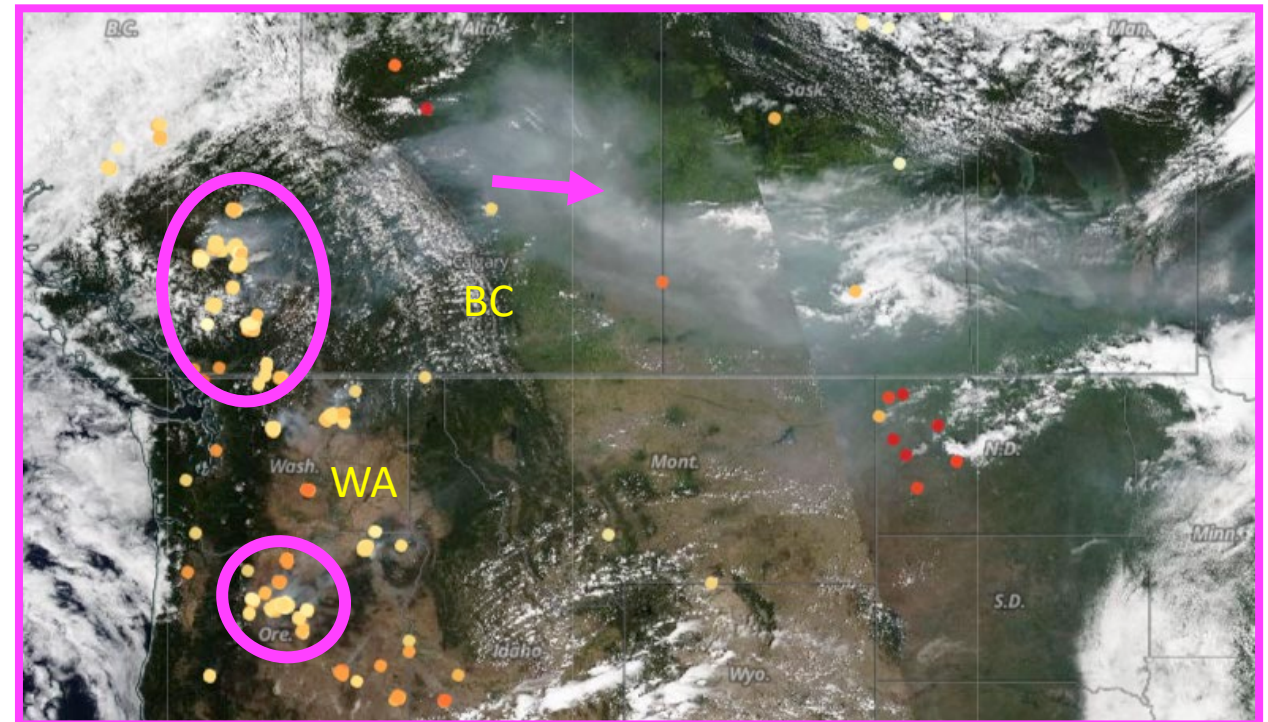
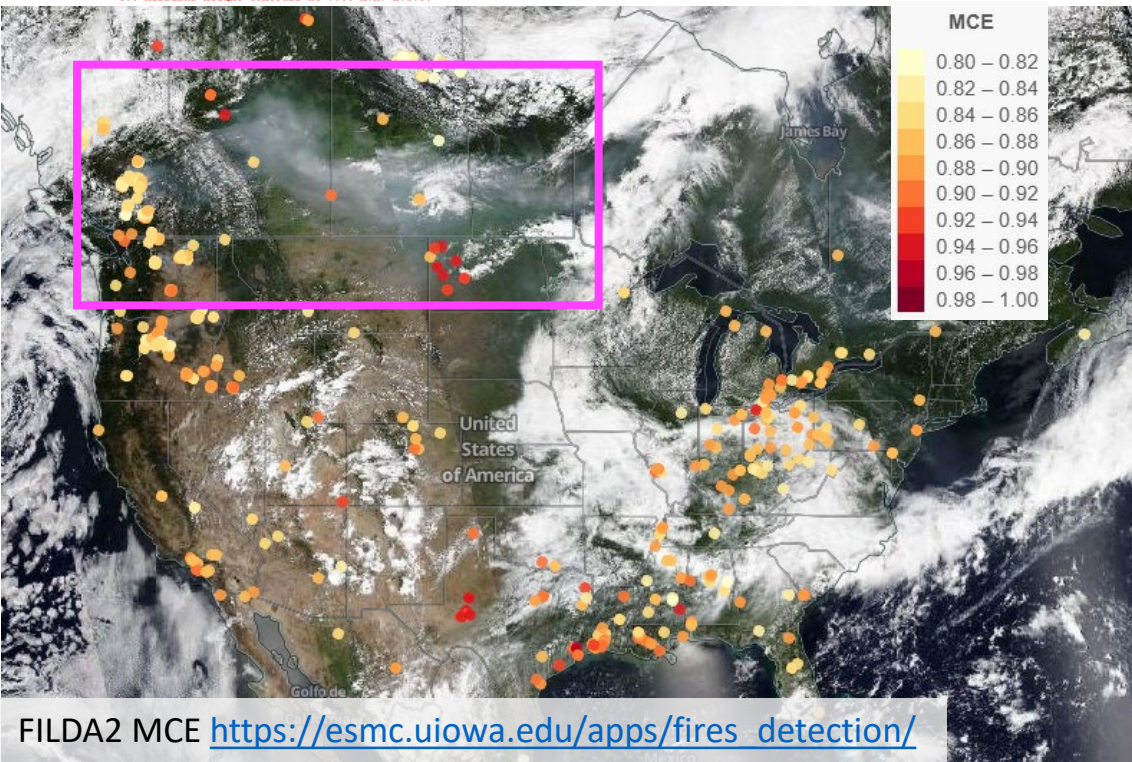
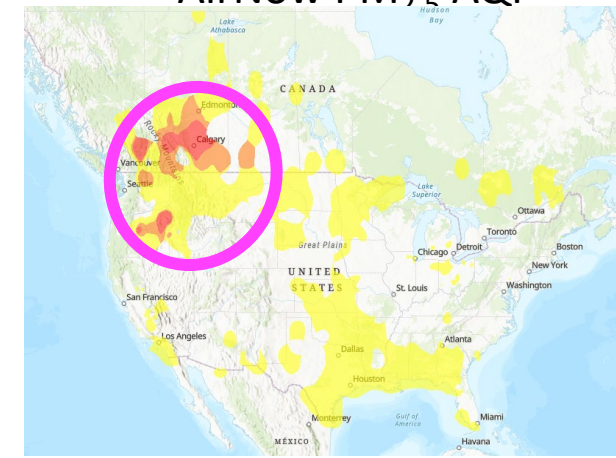
Surface Weather



Precipitation

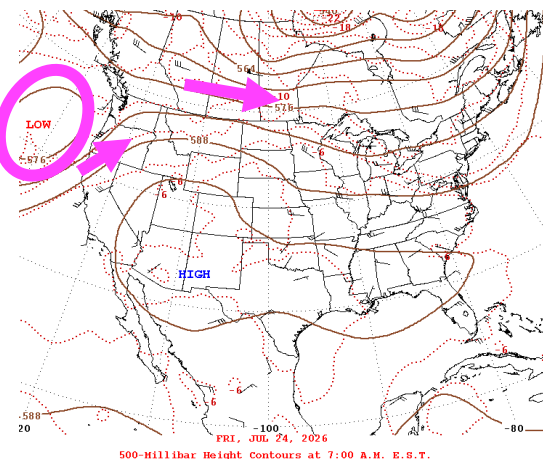


AirNow PM<sub>2.5</sub> AQI



# Air Quality Reflection: Friday July 24, 2026

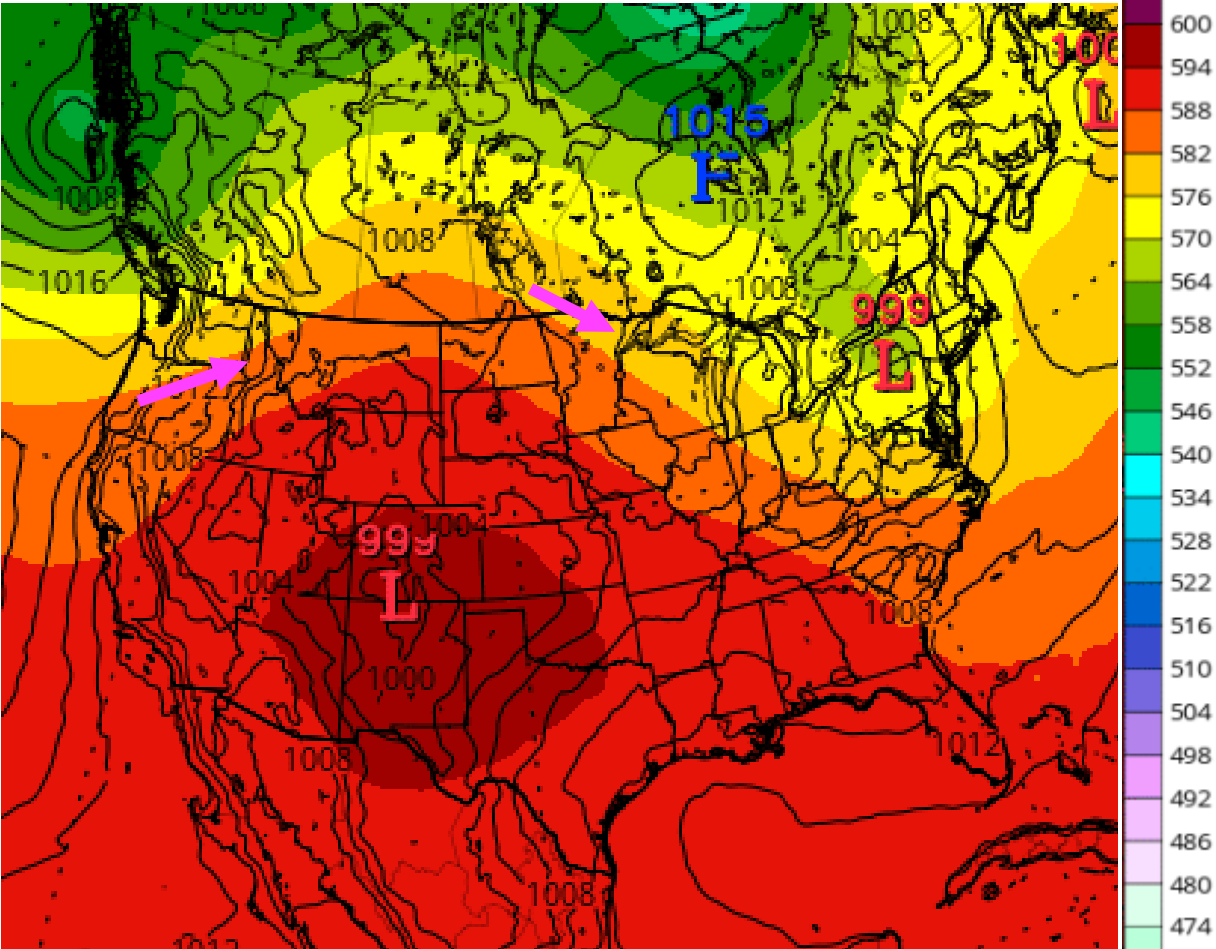
500 mb Contours



# Outlook: Short Range (1–3 days)

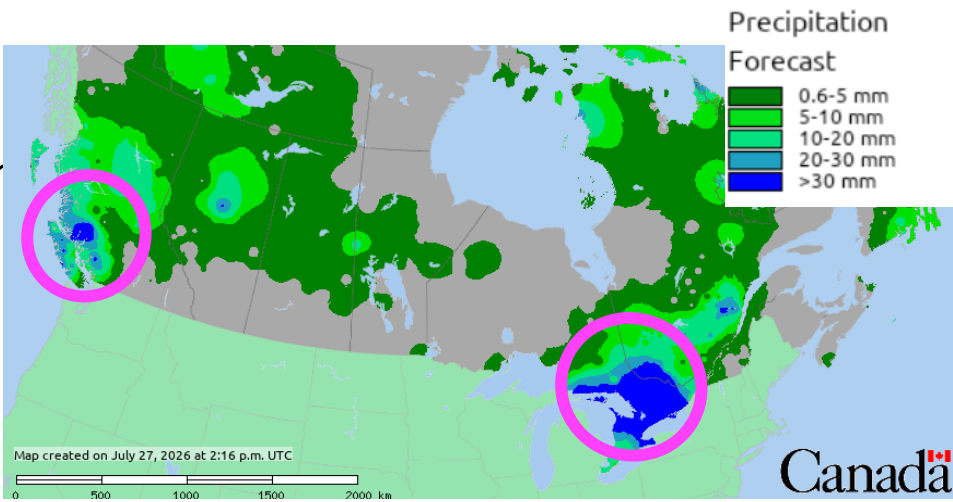
(Forecast **Tuesday 7/28**)

GFS 500 mb

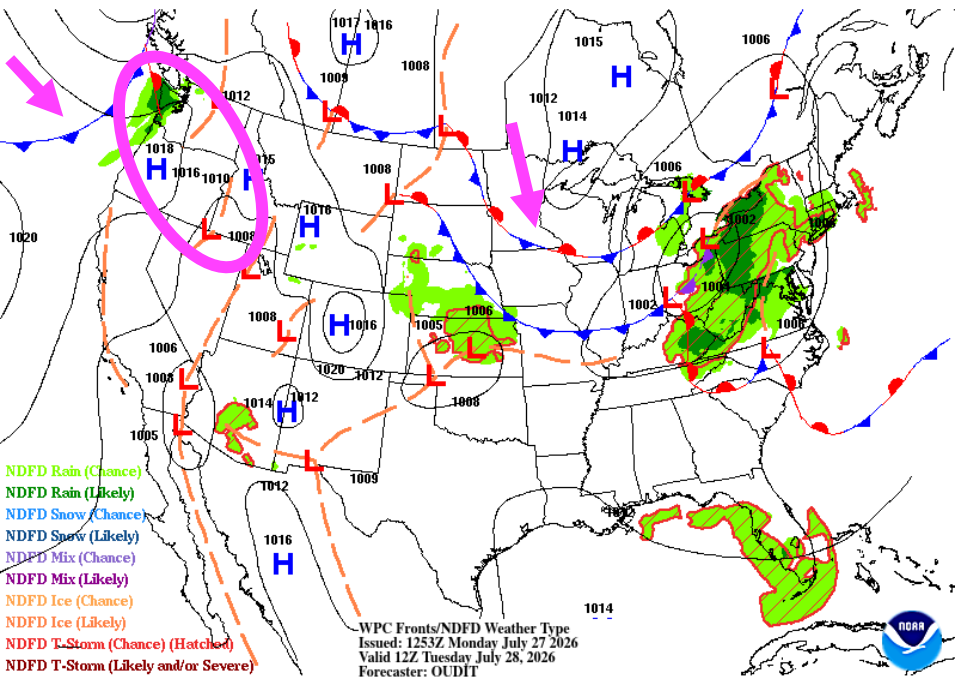


GFS 500mb Geopotential Height (dam) & MSLP (mb)  
Init: 06z Jul 27 2026 Forecast Hour: [36] valid at 18z Tue, Jul 28 2026

Environment  
Canada  
Forecast

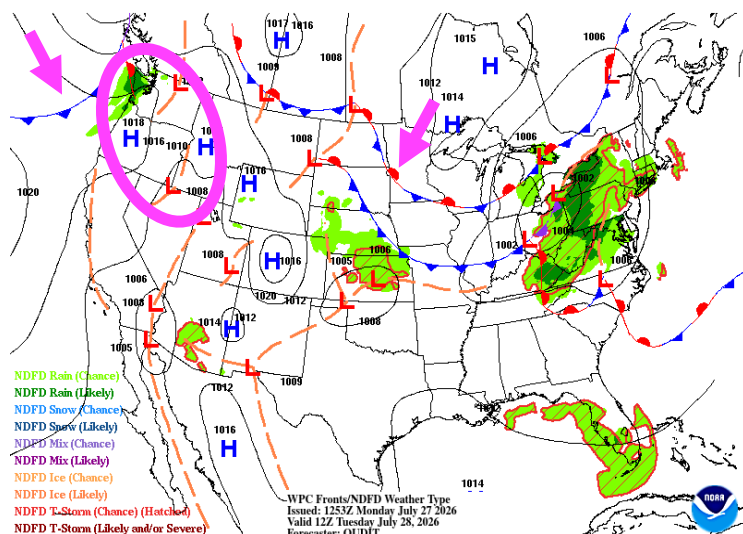


US NWS  
Forecast



# Outlook: Short Range (1–3 days)

## Surface Forecast

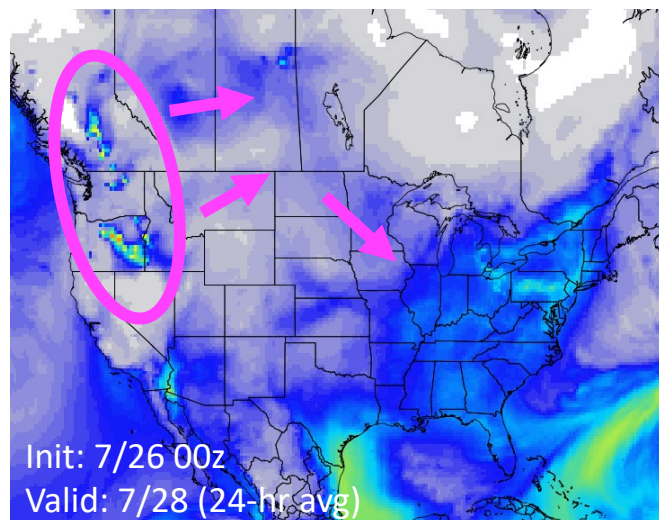


Canada MSC AniMET

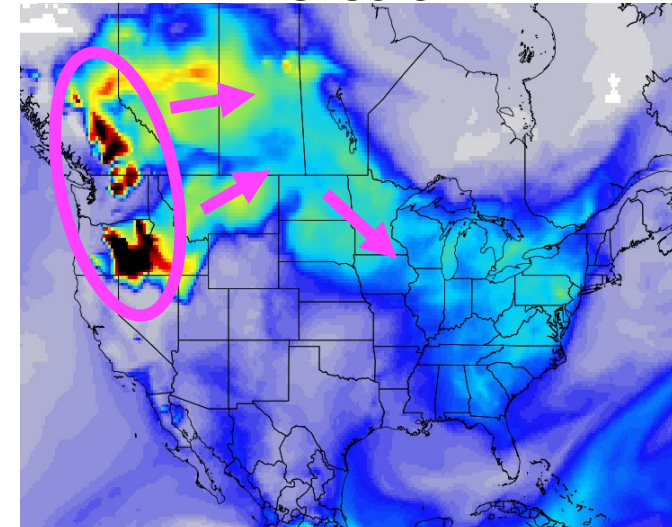
(Tuesday 7/28)

Model Means  $PM_{2.5}$

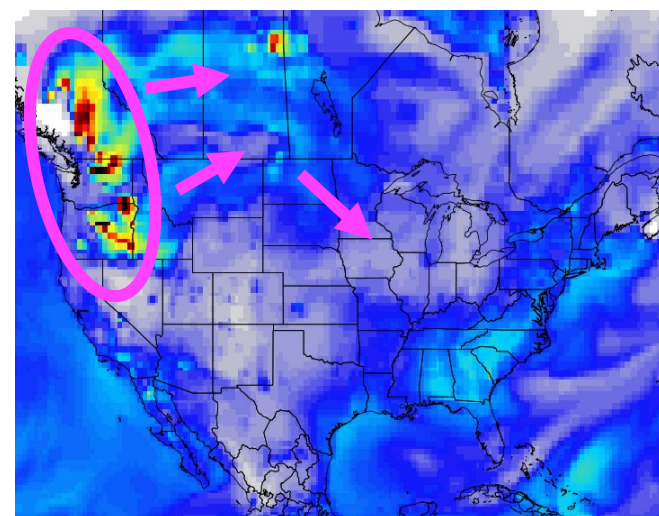
GEOS-FP



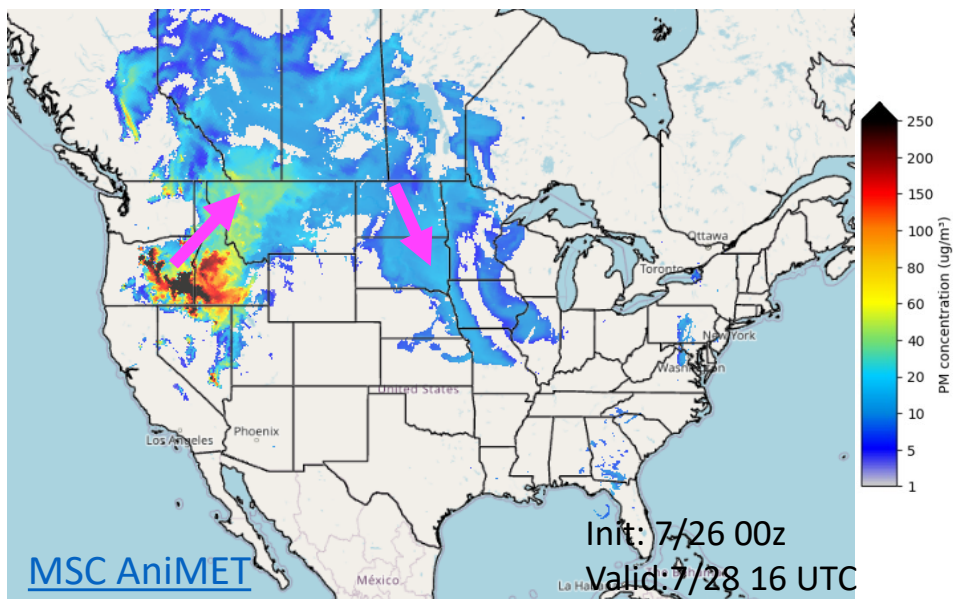
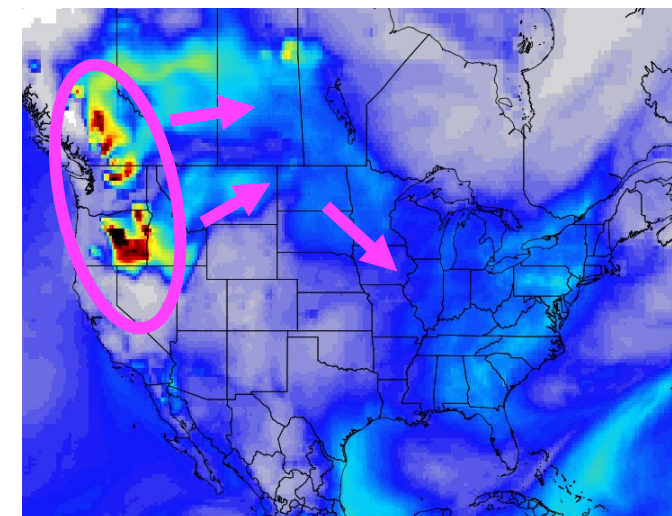
GEOS-CF



CAMS



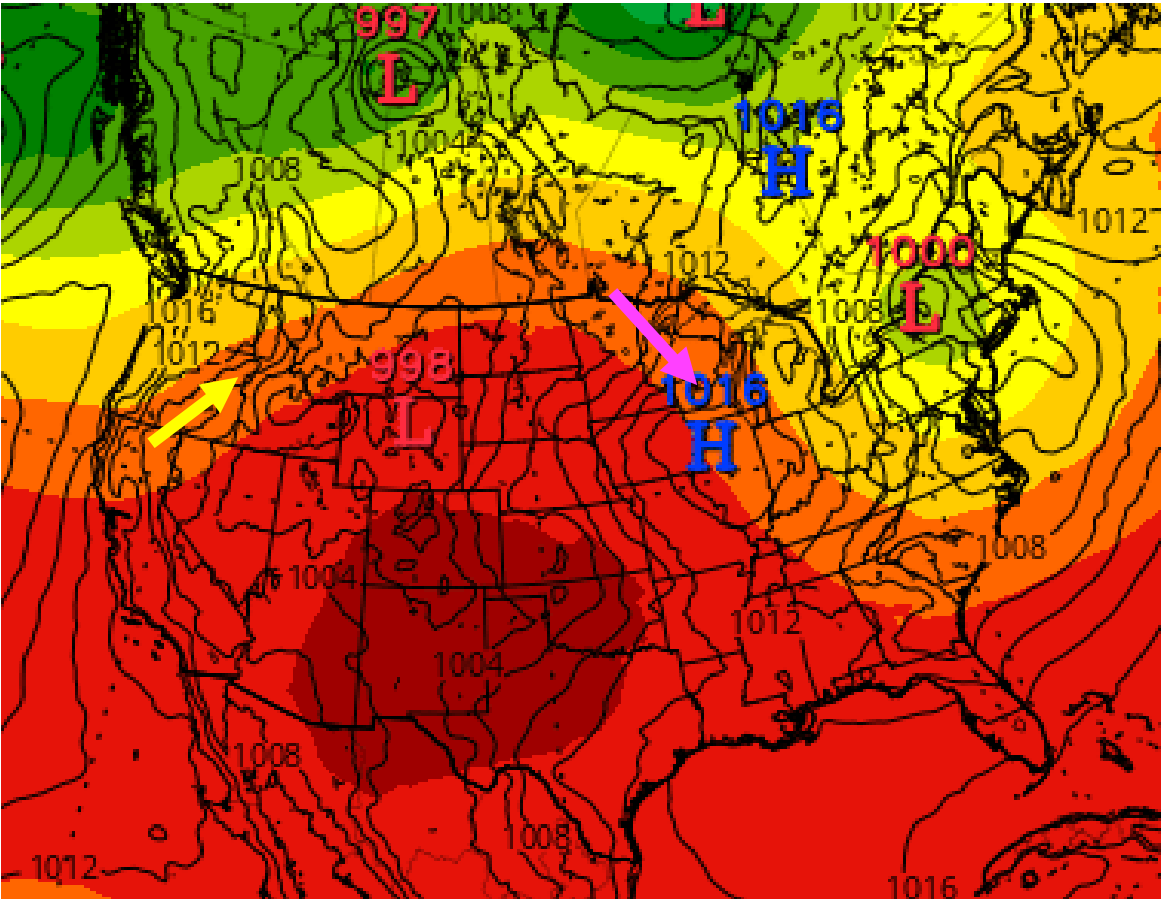
Ensemble



# Outlook: Short Range (1–3 days)

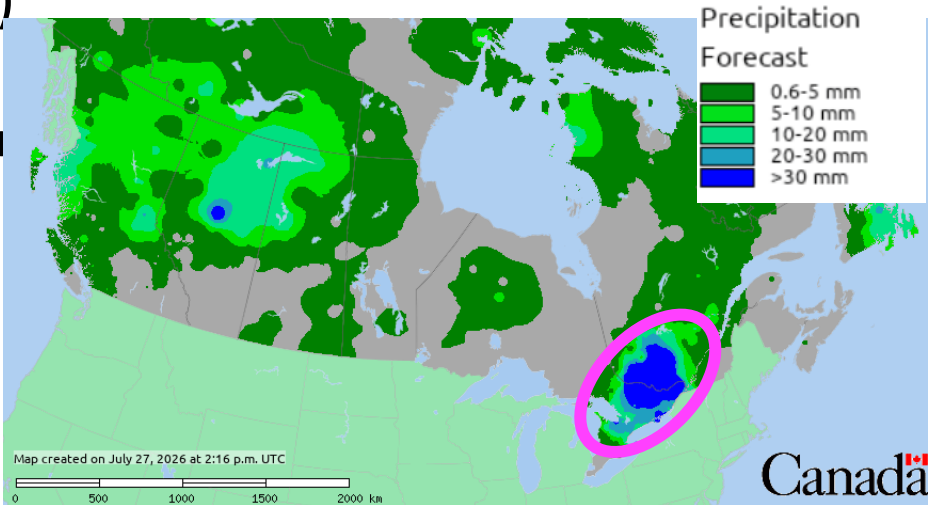
(Forecast **Wednesday 7/29**)

GFS 500 mb

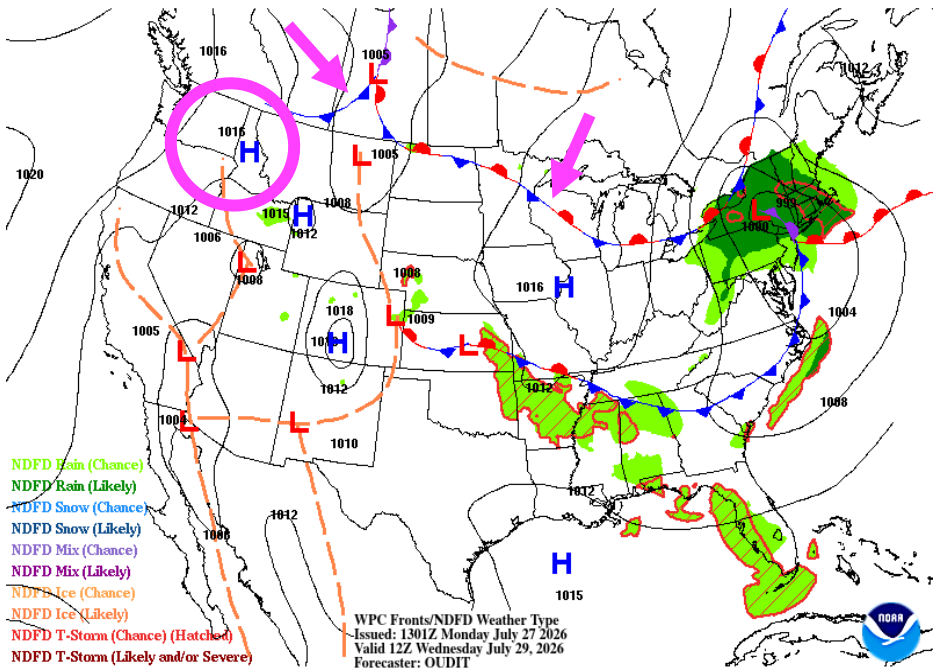


GFS 500mb Geopotential Height (dam) & MSLP (mb)  
Init: 06z Jul 27 2026 Forecast Hour: [60] valid at 18z Wed, Jul 29 2026

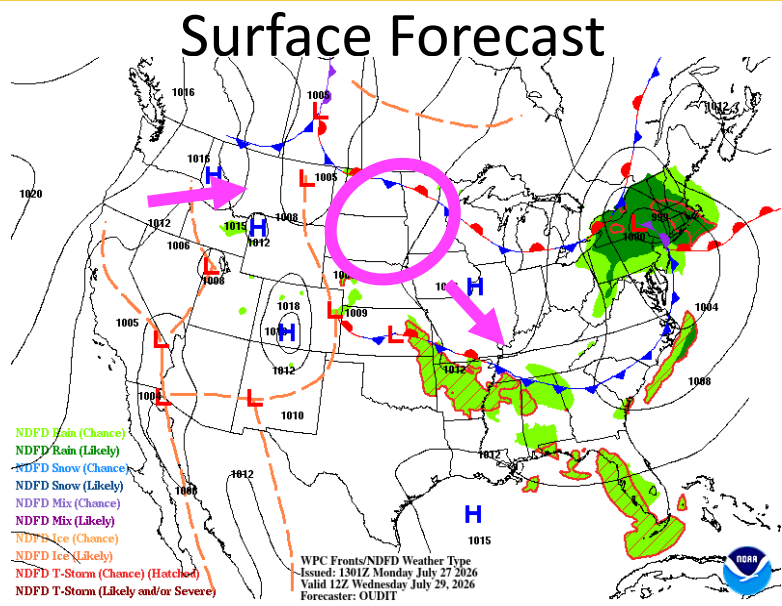
Environment Canada  
Forecast



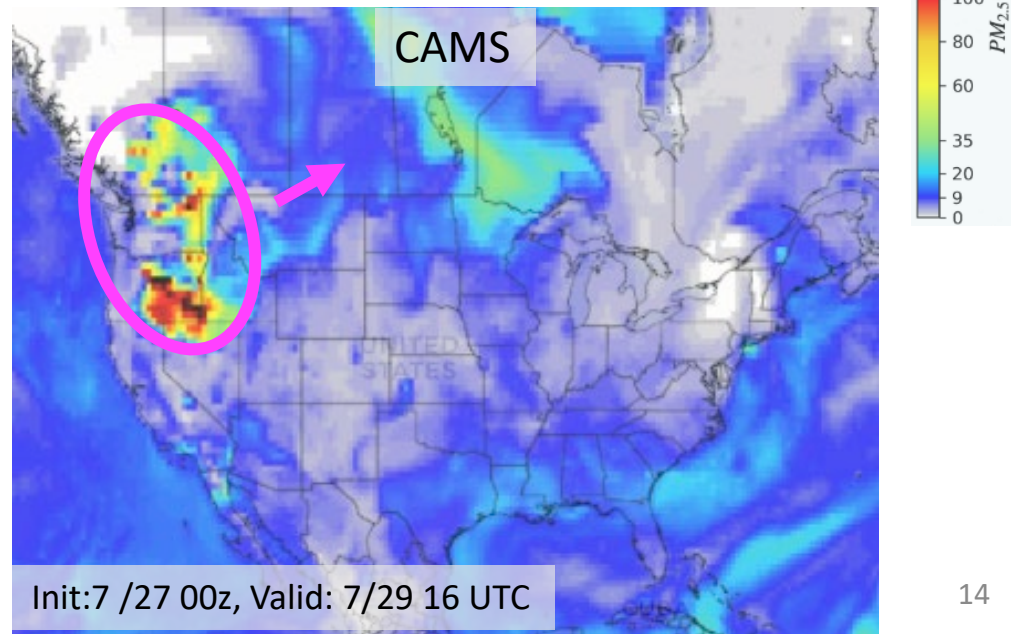
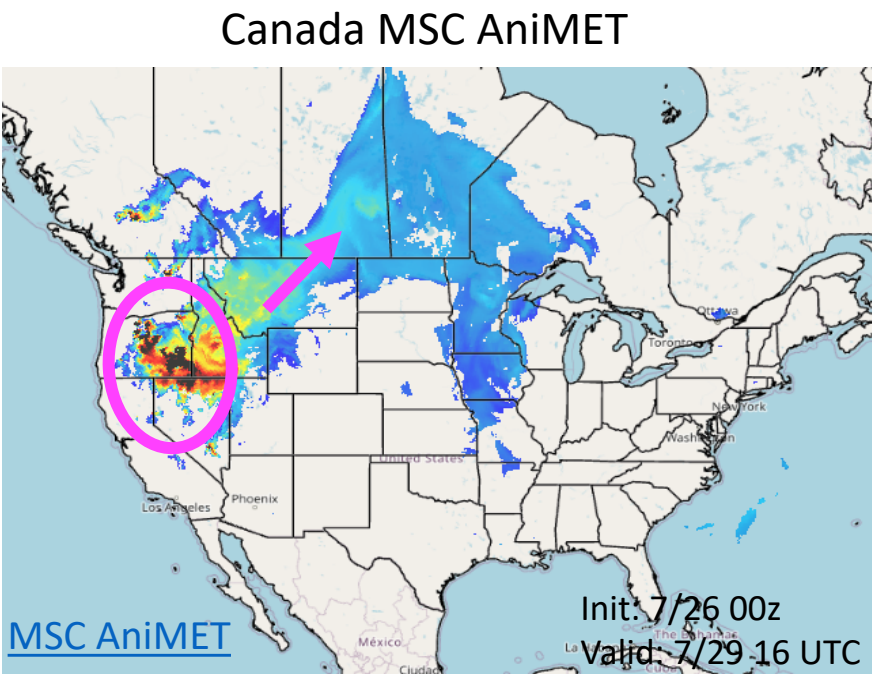
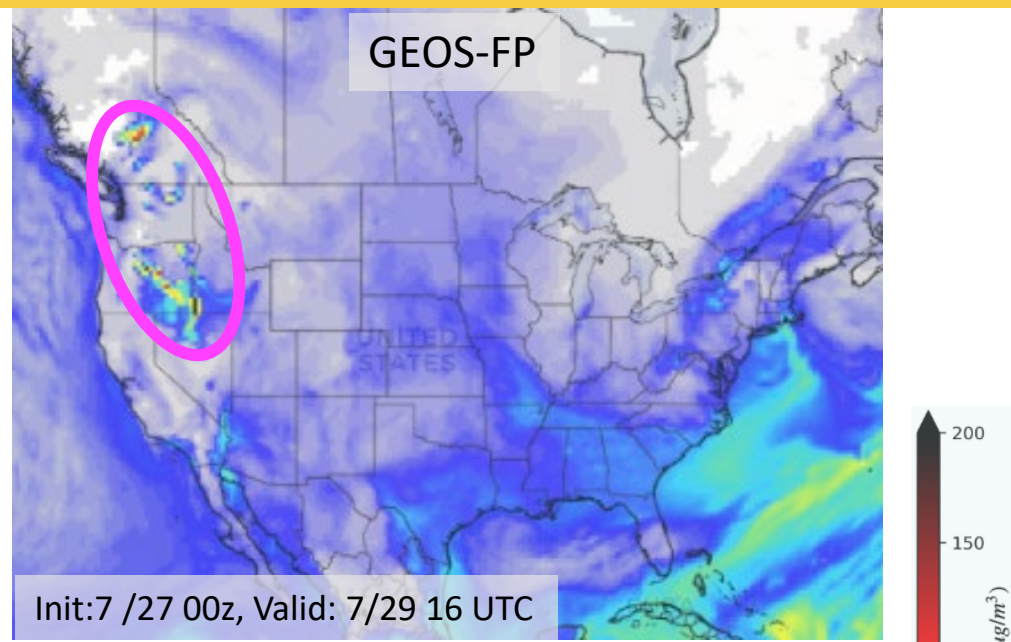
US NWS  
Forecast



# Outlook: Short Range (1–3 days)

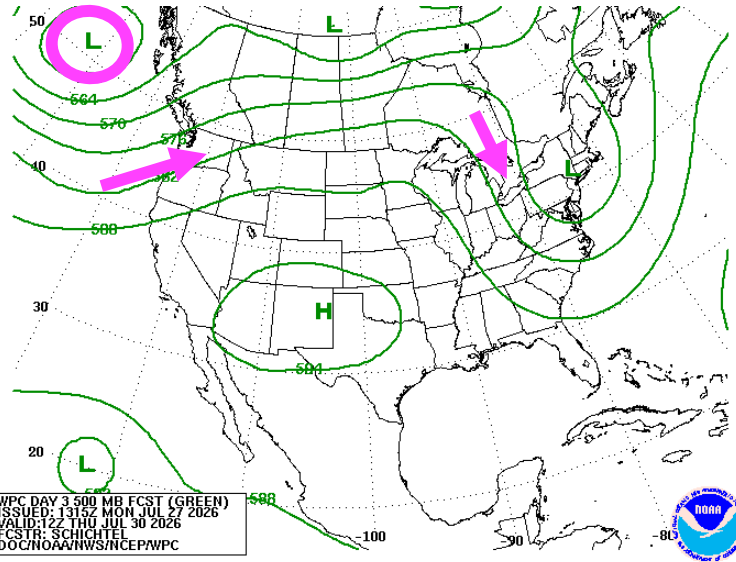


(Wednesday 7/29)

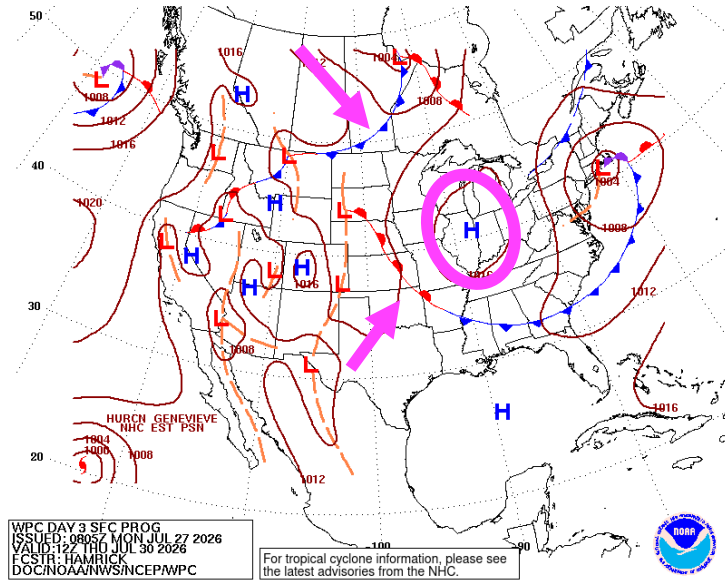


# Outlook: Medium Range

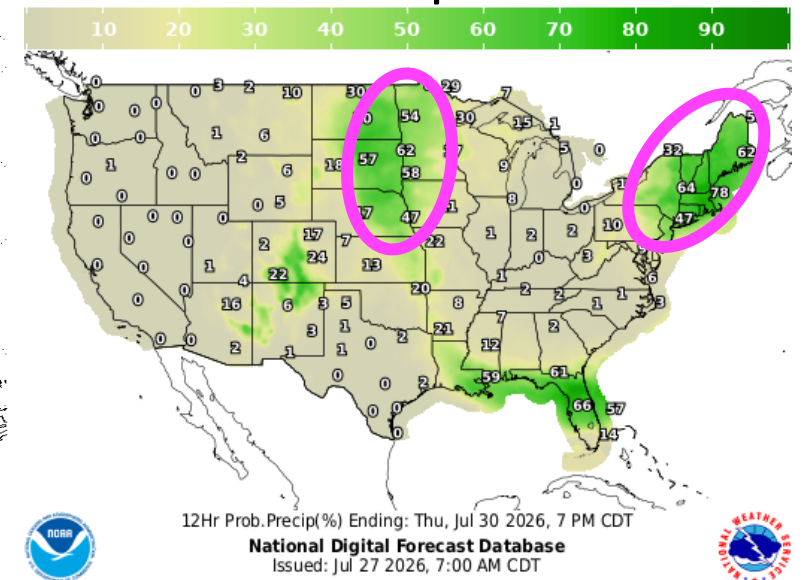
## 500 mb Contours



## Sea Level

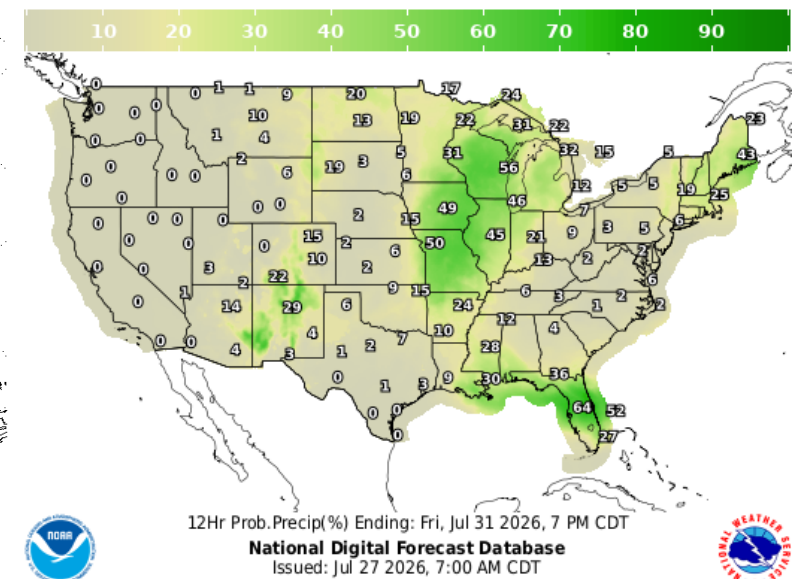
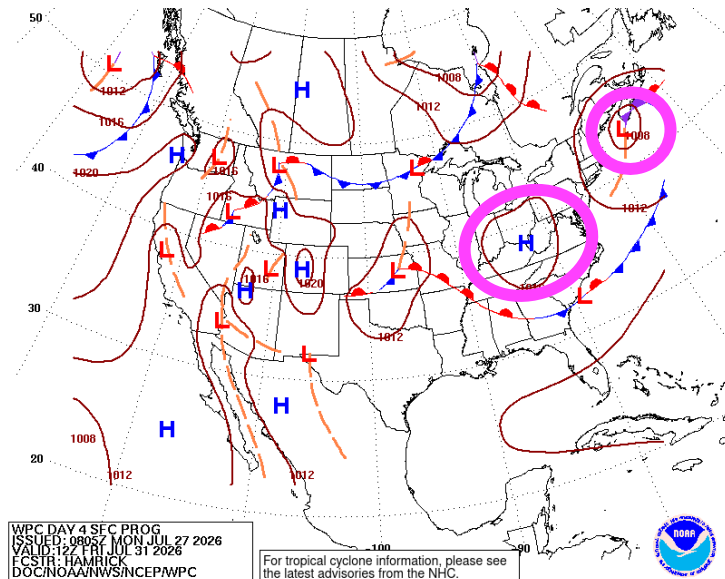
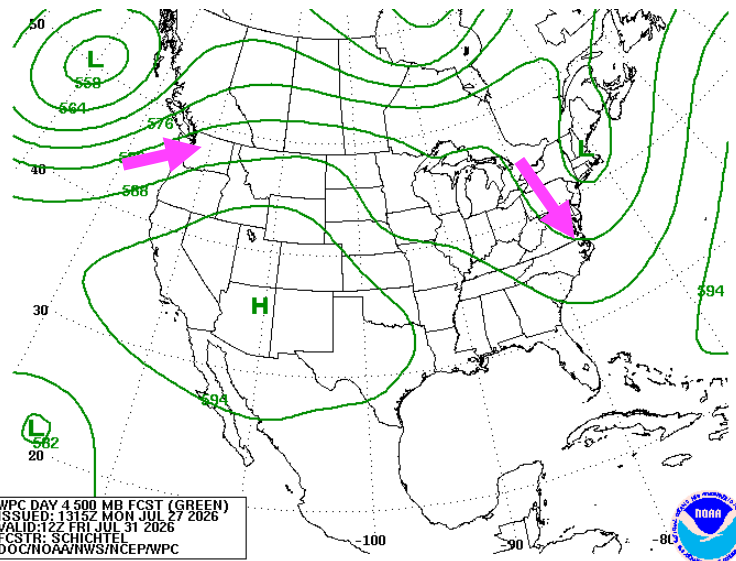


## Precip Prob.



Thurs  
7/30

Friday  
7/31



# Summary

**Monday : OR and WA wildfires are contributing to PNW and parts of the upper Midwest poor AQI up to hazardous near the source. Smoke from BC Canada fires transported towards the Midwest US and potential entrainment towards the surface.**

**T → W: BC Canada and PNW wildfires persist. A stationary front sets into Midwest US and extends towards the PNW that will inhibit clearing of smoke present at the surface. Upper atmosphere contours support easterly transport of smoke aloft.**

**Th → F: A trough sets up over Northeastern US aloft that would promote smoke transport towards the Midwest and Northeastern US. A cold front moves into the Midwest from Canada that could bring in smoke at the surface if fires develop in southern MB or SK Canada.**

