

The background of the slide is a photograph of an outdoor basketball court. The court is dark asphalt with white lines. In the distance, there is a green field and a clear sky with a light gradient from blue to orange, suggesting sunset or sunrise. A person's shadow is visible on the court in the foreground.

Examples of ozone transport during the first CABOTS IOP (May 29 – June 18, 2016)

A.O. Langford, C.S. Senff, R. J. Alvarez II, and G. Kirgis
NOAA ESRL/CSD and CIRES, U. of CO

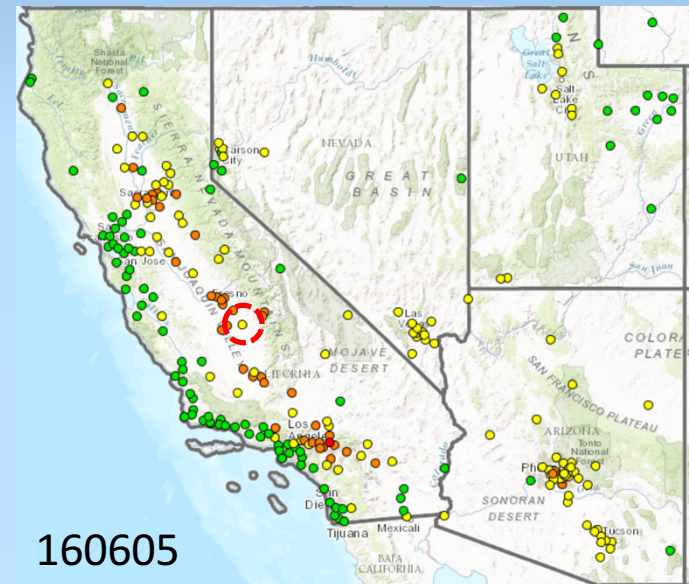
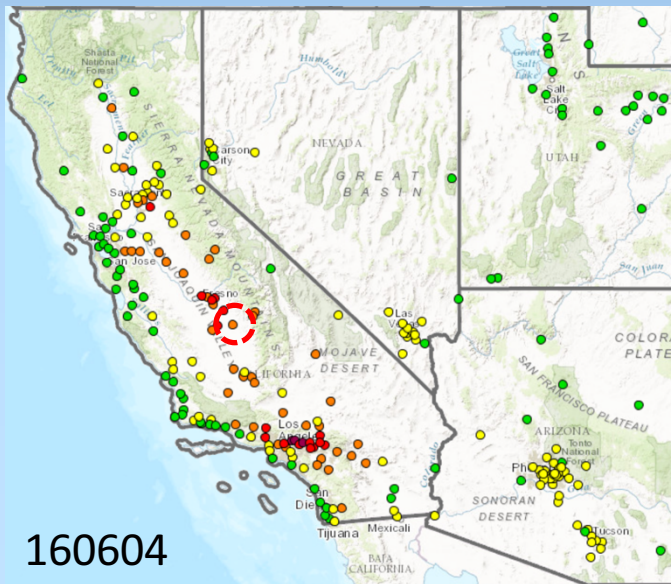
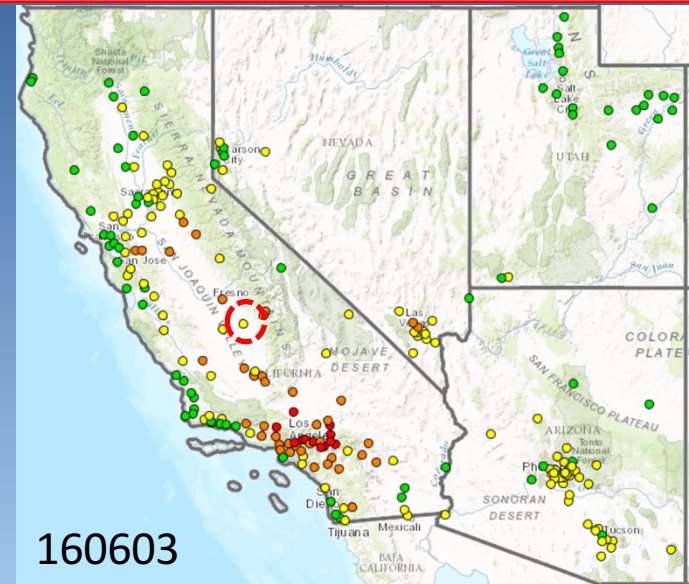
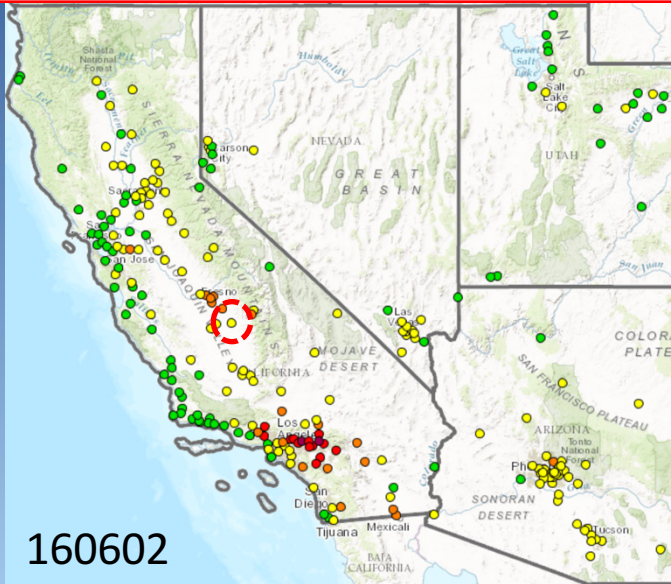
How much does transport contribute to surface ozone in the SJV?

- Intrastate transport (e.g. from LA Basin)
- Trans-boundary transport (e.g. from Asia)
- Stratospheric intrusions

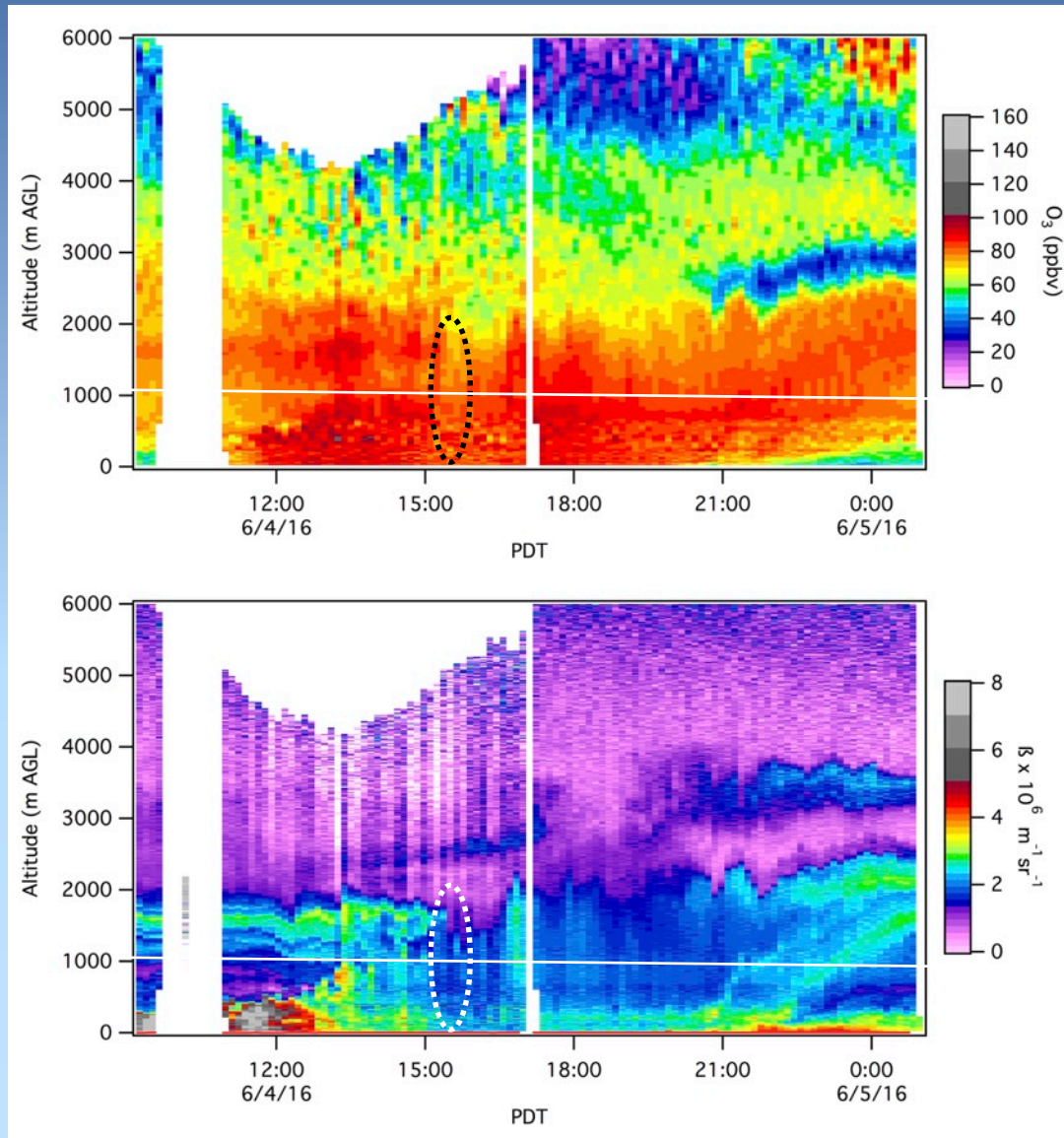
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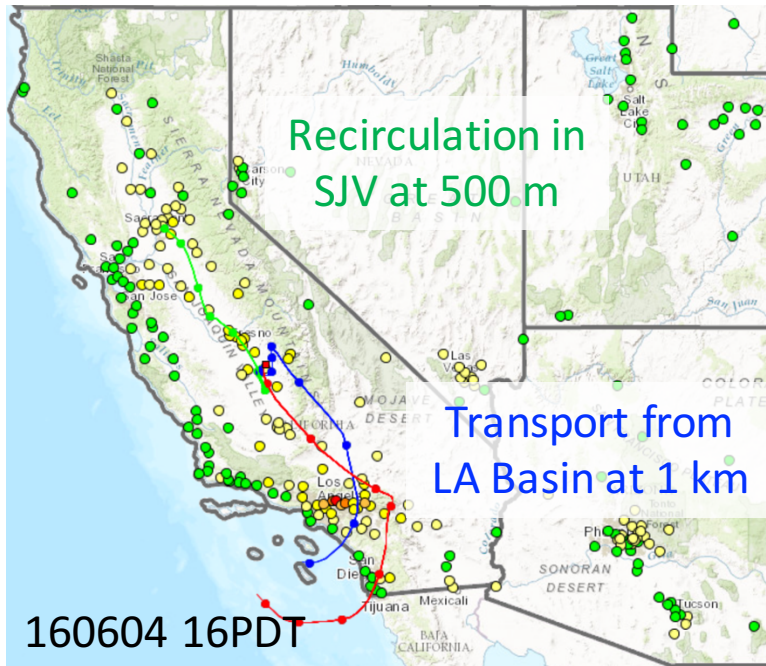
Multi-day ozone episode in LA Basin and Central Valley



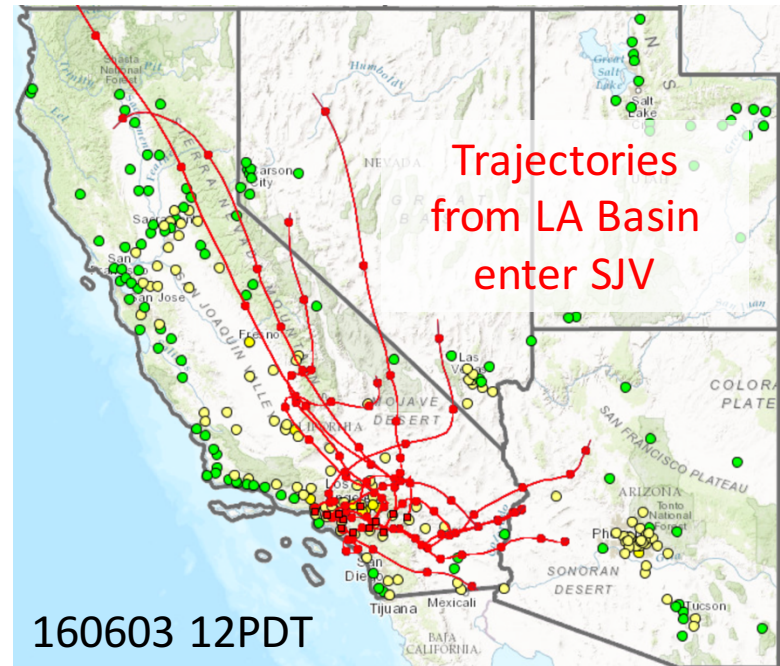
June 4, 2016: High ozone and aerosol above Visalia



48-h HYSPLIT trajectories



HYSPLIT back trajectories at
500, 1000, and 1500 m AGL

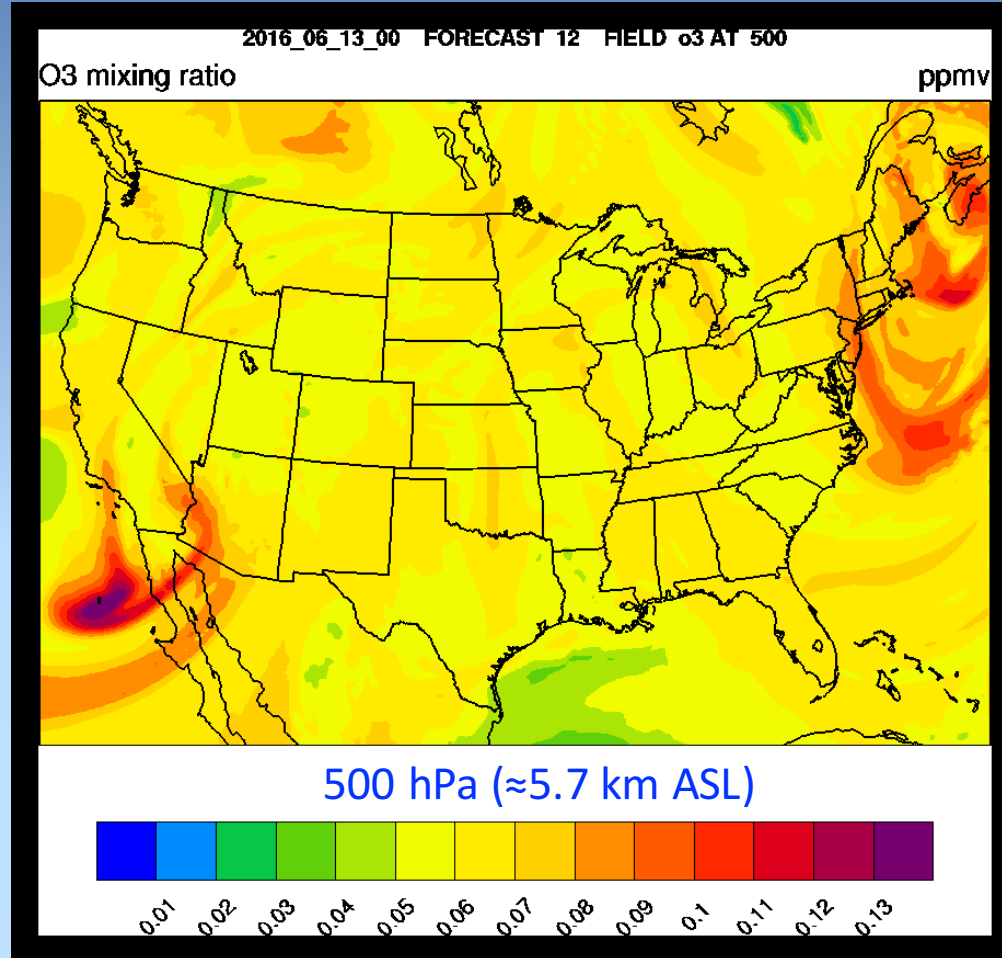


HYSPLIT forward trajectories at
1000 m AGL

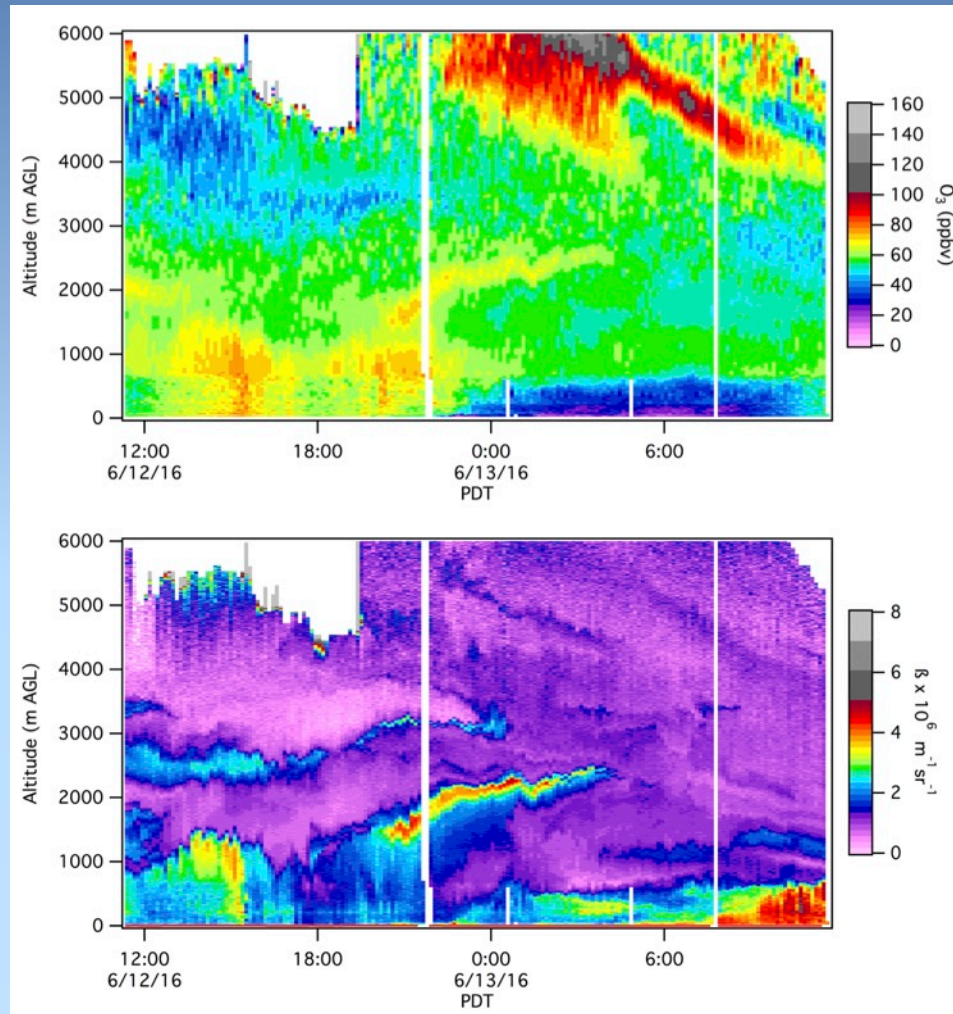
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NOAA RR-Chem Model 12 UT on June 13 (05 PDT)

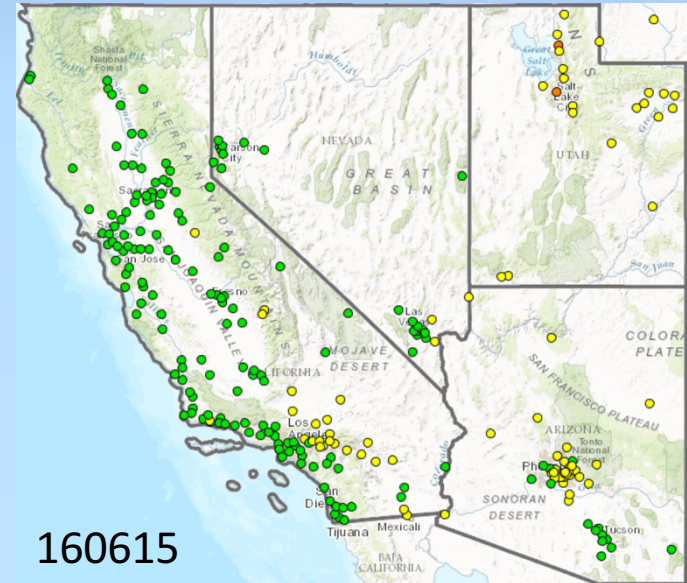
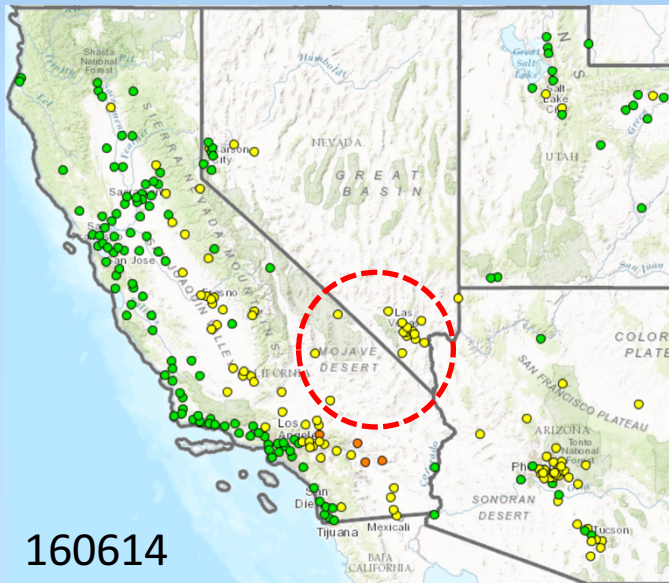
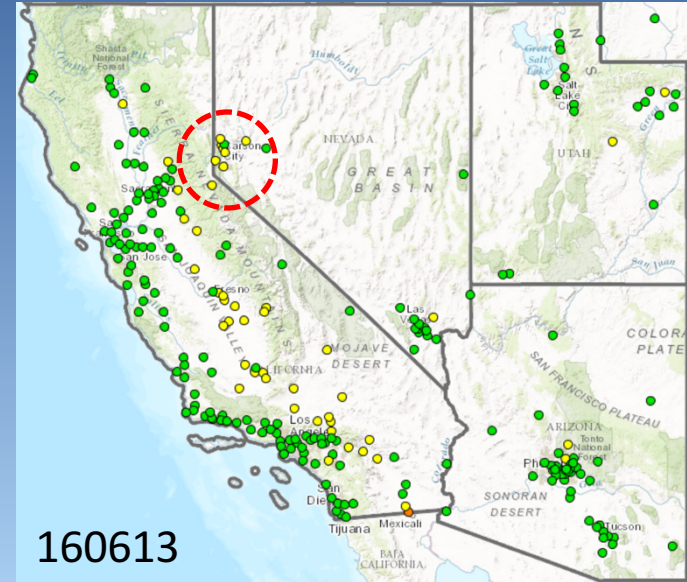
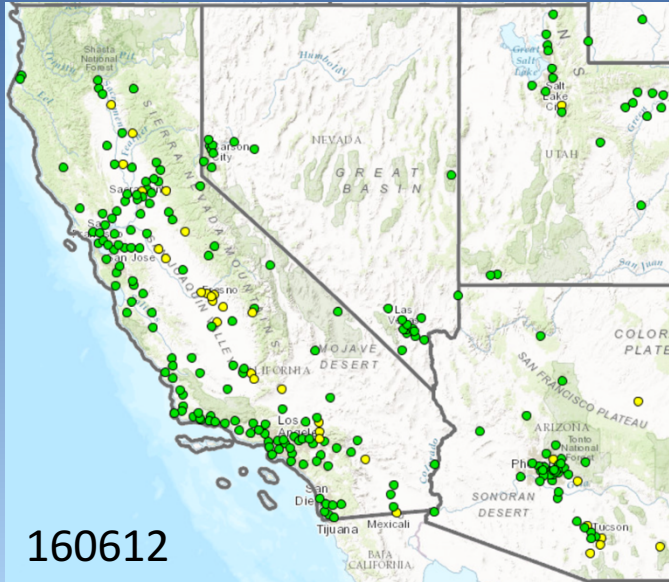


Forecasted intrusion captured by TOPAZ lidar on June 12-13, 2016

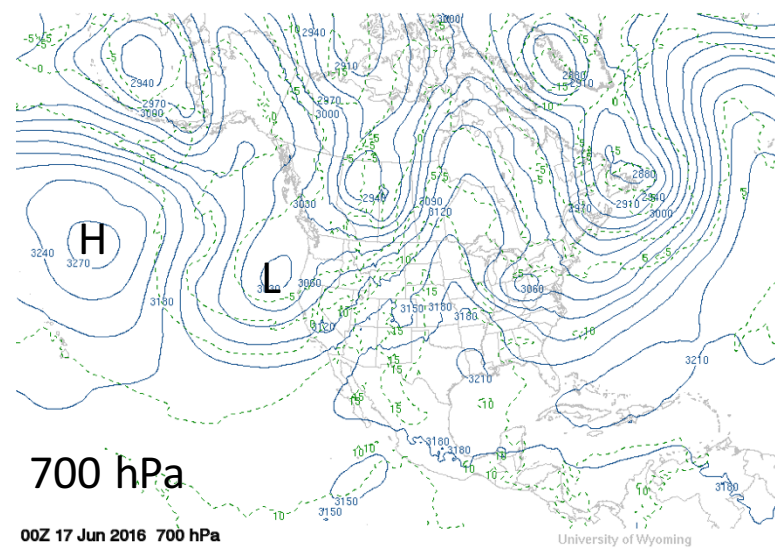
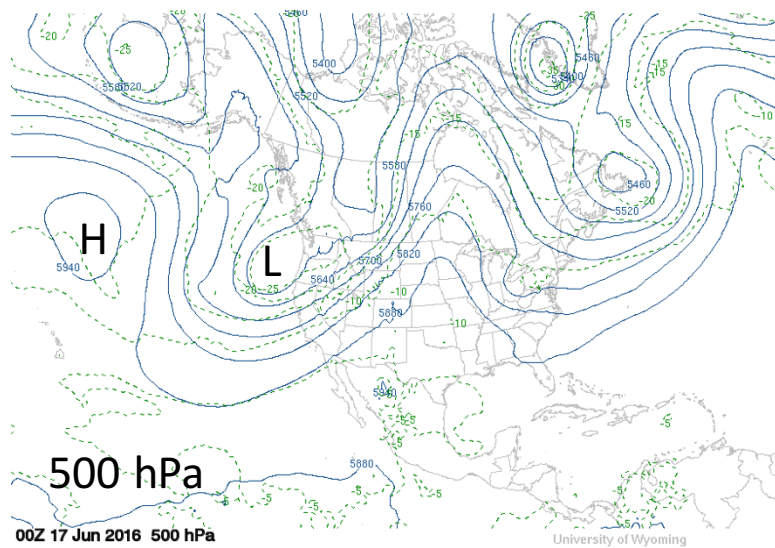


24-h time height curtain plot !!

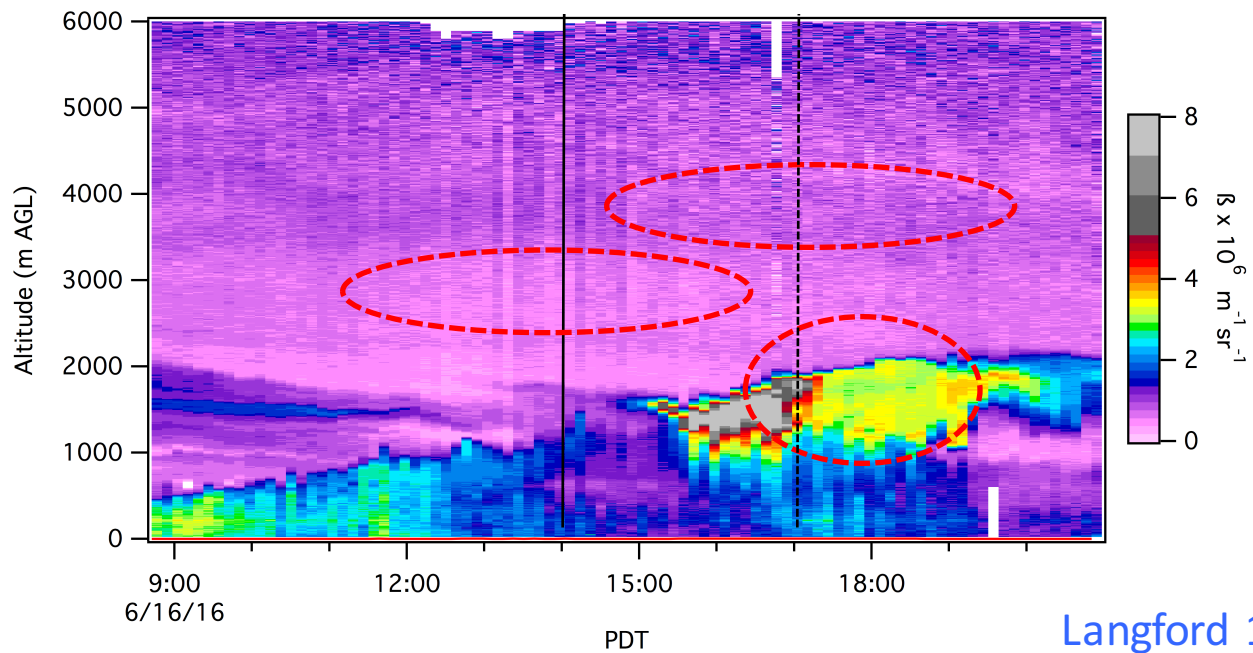
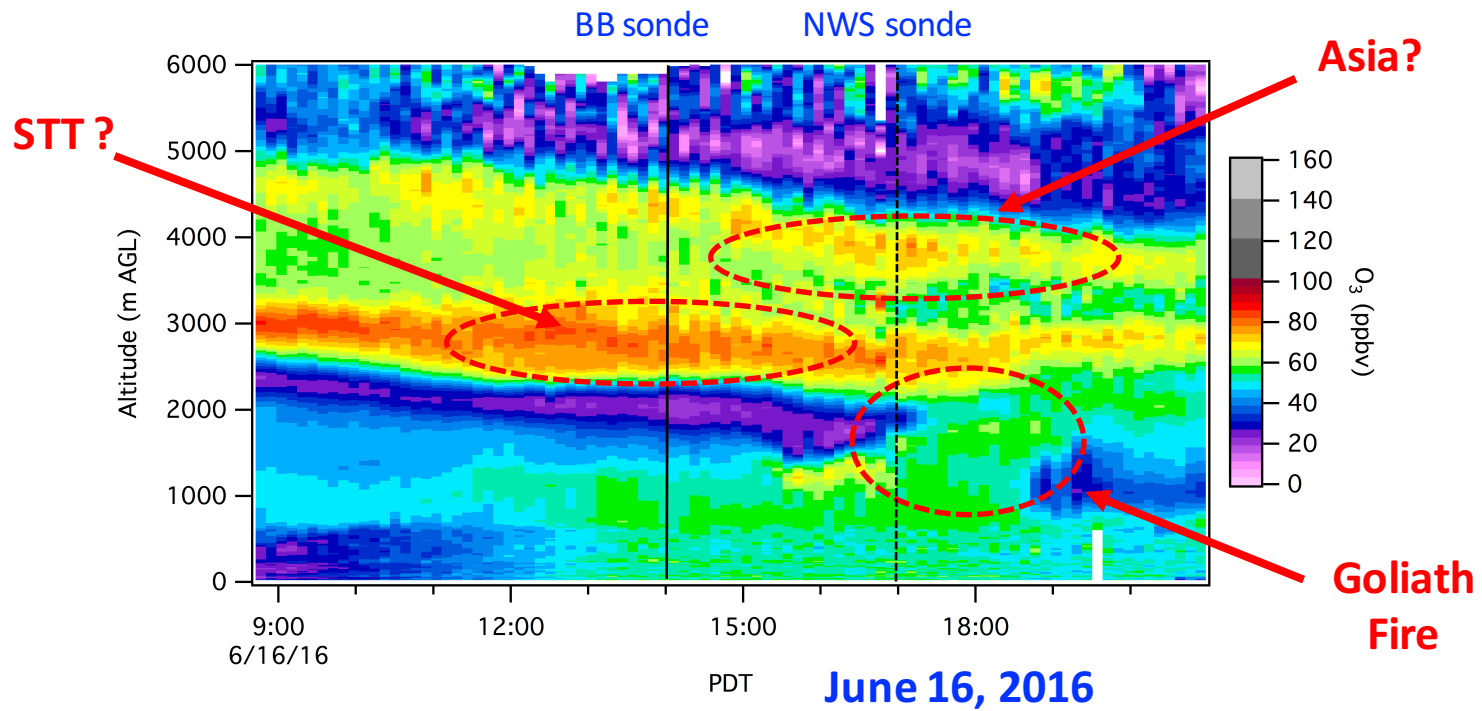
Possible surface impacts on June 13 and 14



Upper level trough remains above West Coast for several days

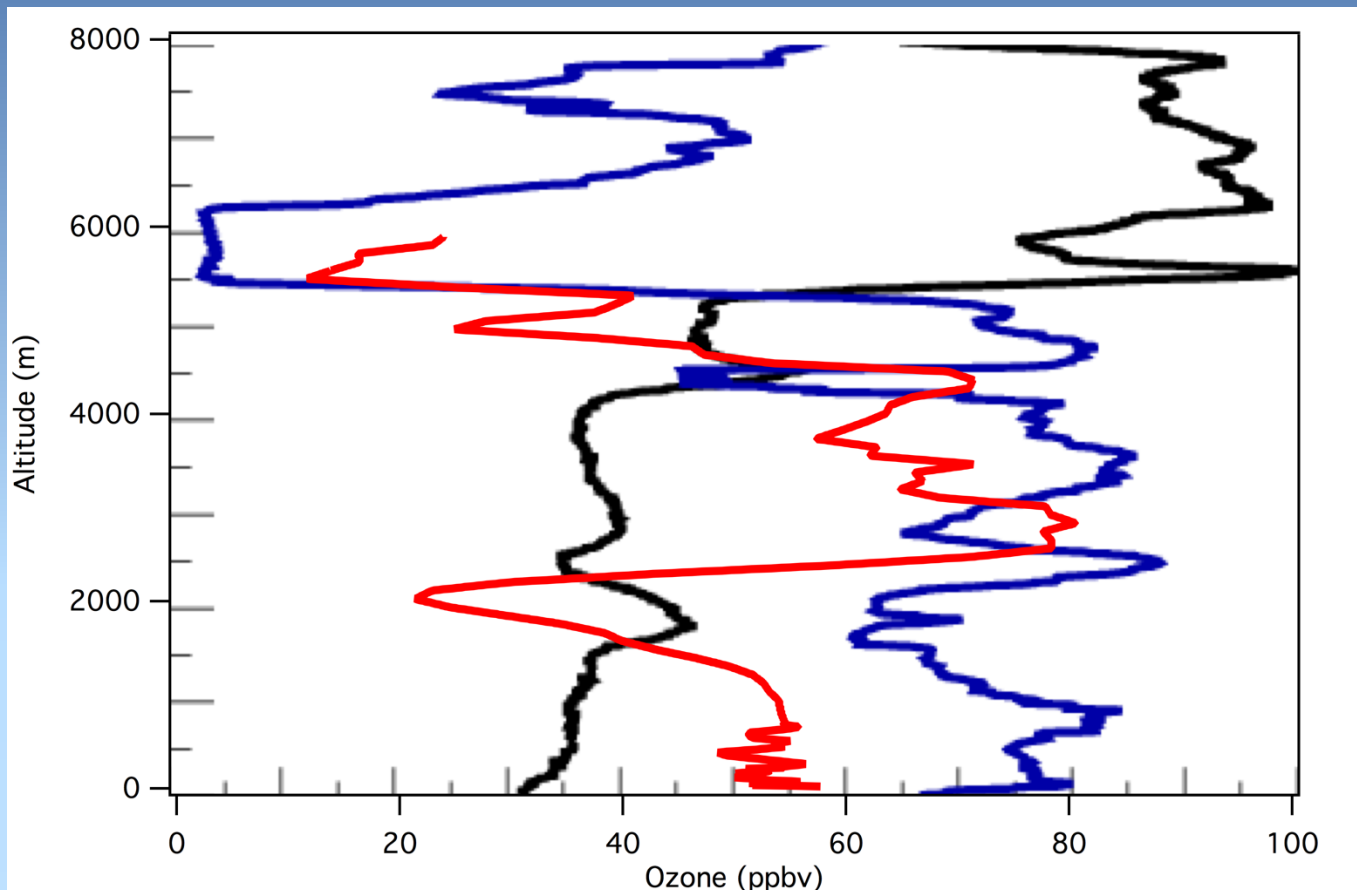


June 16, 2016



Comparison between BBY ozonesonde (black) and TOPAZ (red)

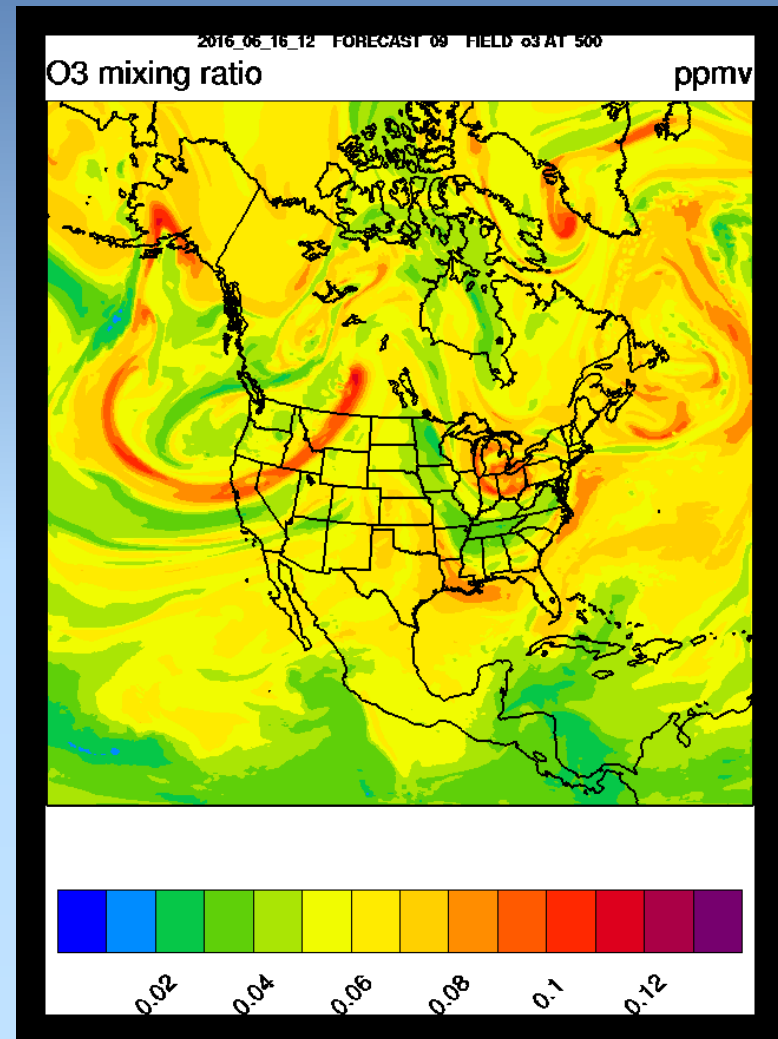
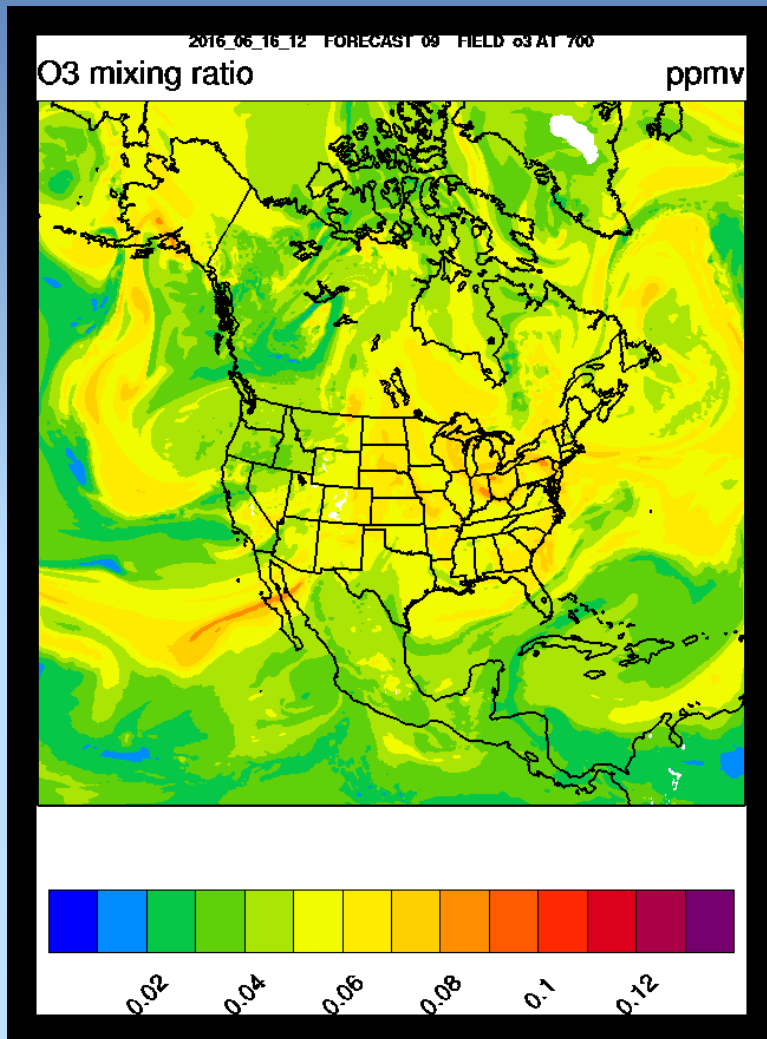
21 UT June 16, 2016



Ozone concentrations at BBY and VIS nearly anticorrelated at 500 hPa (5.7 km) and 700 hPa (3.1 km)

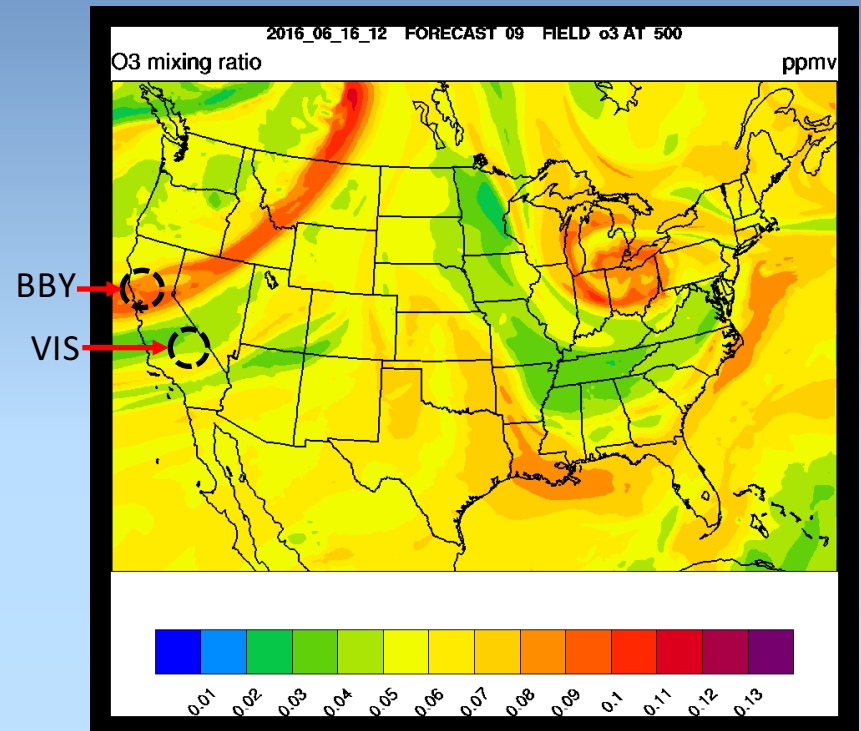
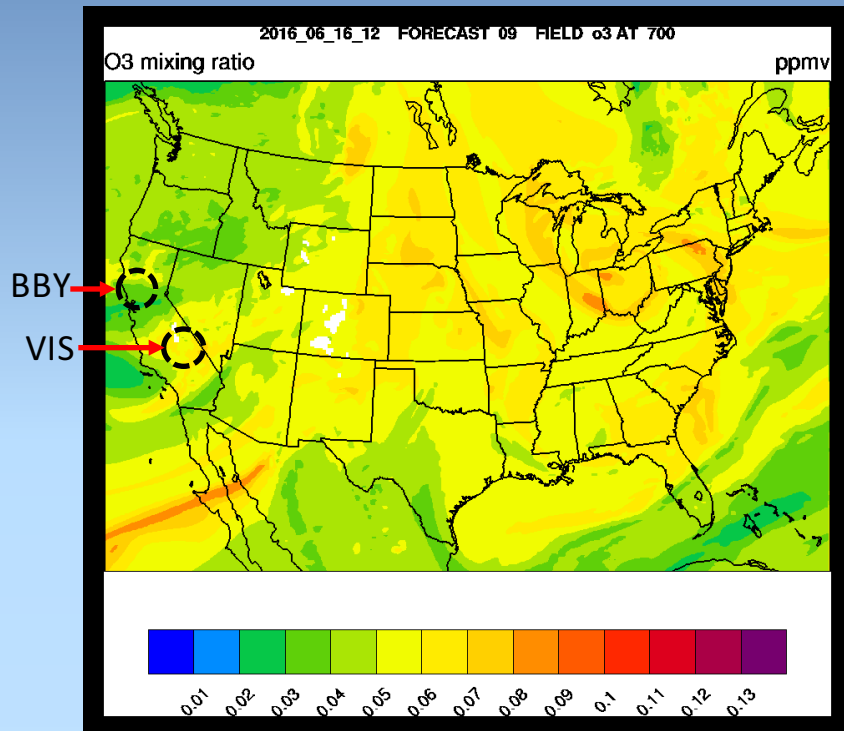
NOAA RR-Chem Model

12 UT on June 13 (05 PDT)



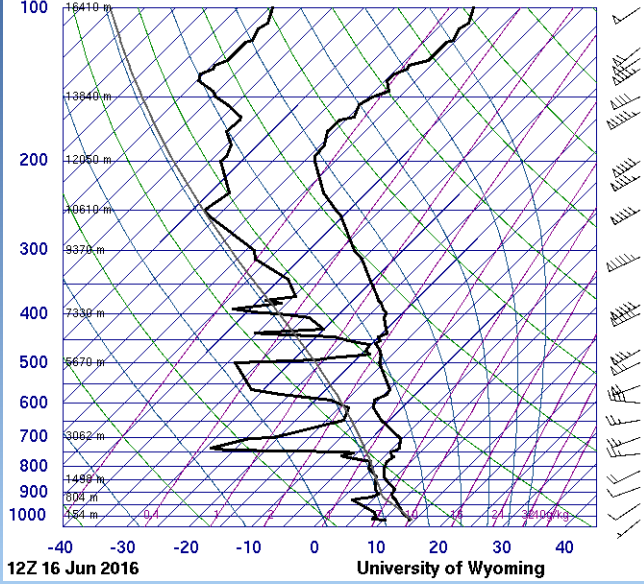
NOAA RR-Chem Model

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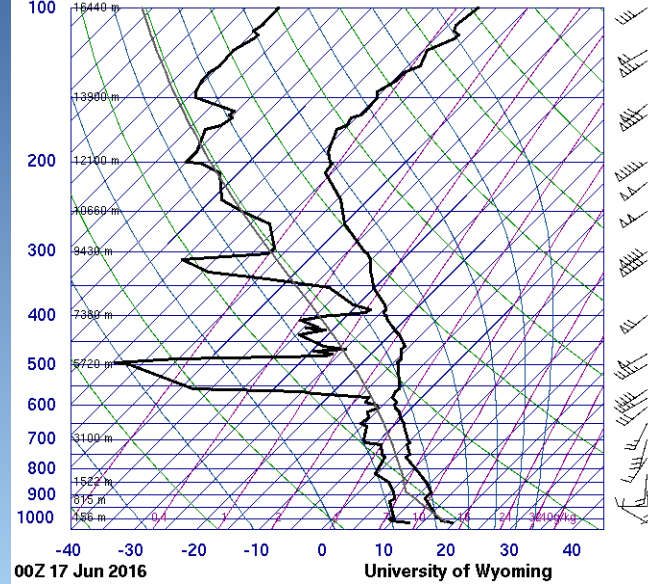


NWS soundings

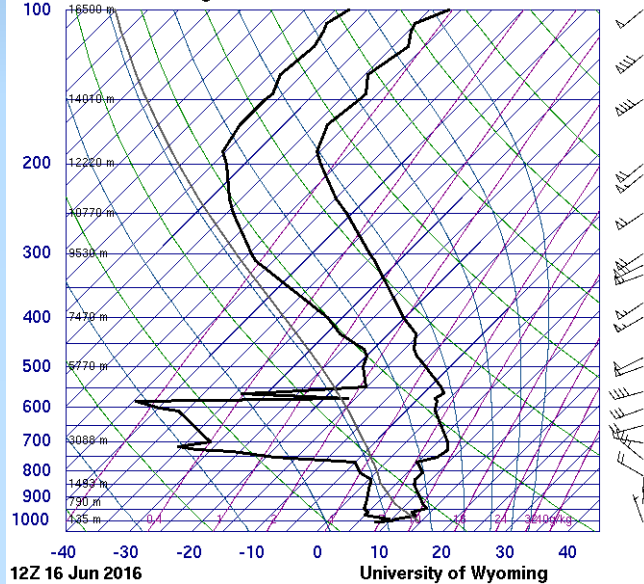
72493 OAK Oakland Int



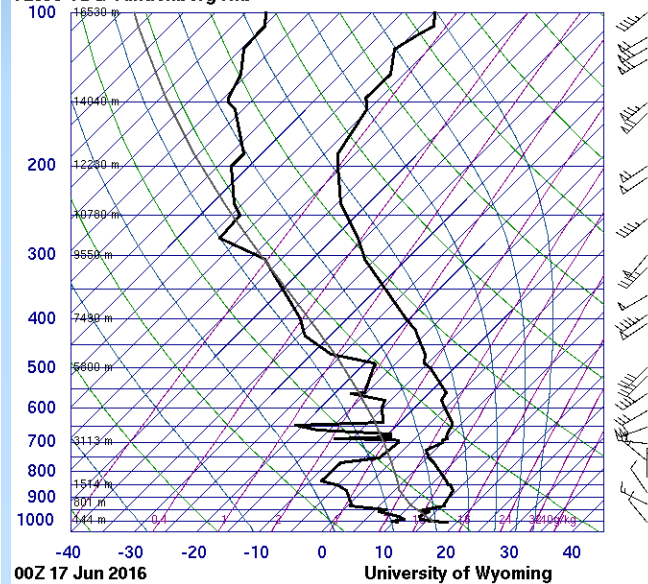
72493 OAK Oakland Int



72393 VBG Vandenberg Afb



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Summary

- Complex layering above the SJV on most days.
- Persistent layers created both by orography and transport.
- Entrainment usually limited by shallow mixed layers.
- Transport above ≈ 1 km usually westerly.