

DISCOVER-AQ OUTLOOK January 24, 2013

Cloudy and rainy conditions in Palmdale today. Rain also spread into the SJV overnight and early this morning. Heaviest rain at the southern end of the valley, which decreased the PM2.5 at the Bakersfield Municipal Airport station dramatically. The moisture is being pumped into the region by a cut-off low off the southern CA coast. This flow is expected to continue through tomorrow. A small window of opportunity for a PODEX flight over marine stratocumulus (with D-AQ aircraft as well) may exist for Saturday. A cold front associated with a cyclonic system coming out of the Gulf of Alaska will sweep through the SJV on Sunday, bringing clouds and a chance of further precipitation. This event will flush out the aerosol from the valley and "reset the aerosol clock". A strong northwesterly flow will follow the front on Monday and Tuesday with rather clean air. However, residual low-level cloudiness may persist behind the front. Next Wednesday may be the next clear day as a new Pacific Coast ridge will reestablish, leading to increases in aerosol. However, this ridge is not expected to be as strong as the one we dealt with previously, and minor short waves may ride over the ridge leading to complications in the forecasting next week.

The main forecast question for tomorrow will be whether a sufficient window will exist on Saturday for the marine Sc flight. PODEX would like Sc with no other cloud layers above it. Relatively clean conditions are expected over the Pacific with the exception of possible plumes from the San Francisco Bay and Los Angeles areas. Farther out away from shore the aerosol may be dominated by sea salt.