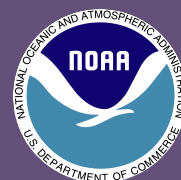


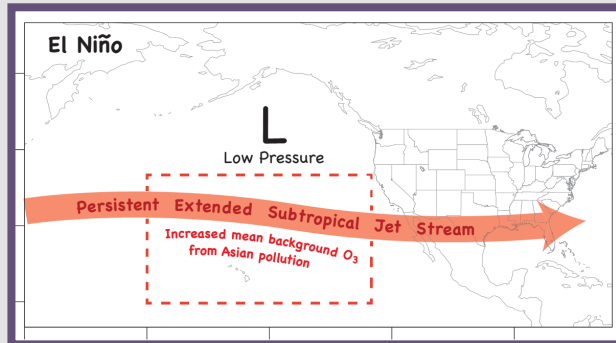
CABOTS: The California Baseline Ozone Transport Study

NOAA's 2016 Field Study to Quantify California's Starting Point for Complying with the Federal Ozone Standard



California's Ozone Challenges

- Despite dramatic improvements in California's air quality, some areas still do not meet the federal ozone standard.
- Increasing industrialization in Asia has led to increased baseline ozone concentrations entering California from the west, especially during El Niño years, and hence more ozone that cannot be reduced by the state's air quality measures.
- Understanding the variations in ozone entering California is becoming increasingly important as the state strives to meet the stricter federal ozone standard proposed by the EPA in 2015. Diagnosing this requires ozone measurements aloft.



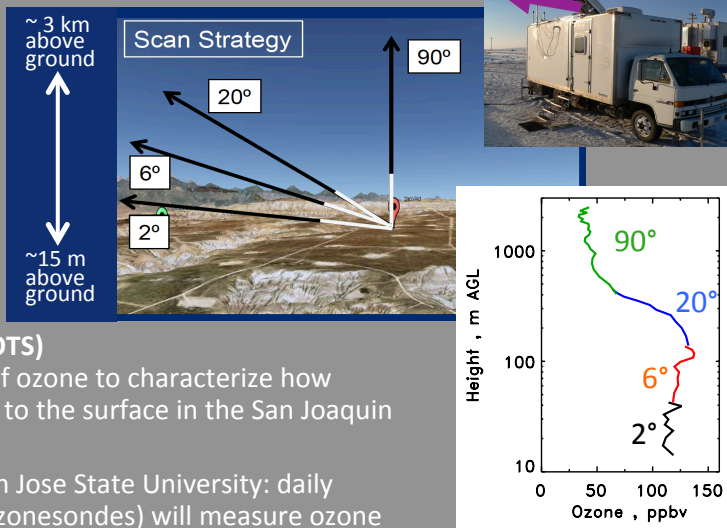
Measurements to Quantify the Ozone California "Imports" from the West

The Expertise: The NOAA Chemical Sciences Division has the scientific expertise and a state-of-the-art instrument for measuring ozone aloft: the Tunable Optical Profiler for Aerosol and oZone (TOPAZ) lidar.

The Method: The TOPAZ lidar uses scanning Differential Absorption Lidar (DIAL) to measure both ozone and aerosols from near ground level to about 3 kilometers aloft. TOPAZ is deployed in a van that can be taken to field measurement sites.

The California Baseline Ozone Transport Study (CABOTS)

- NOAA's TOPAZ lidar will measure vertical profiles of ozone to characterize how much ozone from across the Pacific is mixing down to the surface in the San Joaquin Valley of central California (Visalia).
- Complementary measurements will be made by San Jose State University: daily launches of balloons carrying ozone instruments (ozonesondes) will measure ozone profiles along the coast (Bodega Bay) to characterize the ozone that is entering the state from the Pacific.



- There will be two study periods: spring (the "transport" season, late May to mid June) and summer (the "ozone" season when locally produced ozone is high, July to August).
- Funding for the work is being provided by the California Air Resources Board and the NOAA Chemical Sciences Division.

CABOTS will produce daily profiles of ozone from the ground to about 3 km aloft, for both the spring and summer of 2016.

Expected Payoffs

- Improved scientific understanding of how much ozone enters California from the West, and how much of that "imported" ozone reaches the surface in central California
- Improved scientific basis for the State of California's strategies for meeting federal ozone standards