

2nd Annual TOLNet Workshop – Field campaigns

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Background

- No funding in TOLNet FY15 – 17 budget for field deployments.
- However, TOLNet members are seeking high-return opportunities for field deployments of TOLNet instruments.
- Recommendations for candidate deployments are made on an annual basis using specific selection criteria, such as
 - availability of outside funding
 - participate in campaigns with comprehensive partner observations (e.g. Discover-AQ)
 - high-impact science investigations with multiple O3 lidars
 - observations in under-sampled locations
- Incremental costs for deployments are modest. By leveraging TOLNet (and other NASA/NOAA) funds, lidar deployments are very competitive (~\$80K for a month-long deployment, incl. standard data analysis).

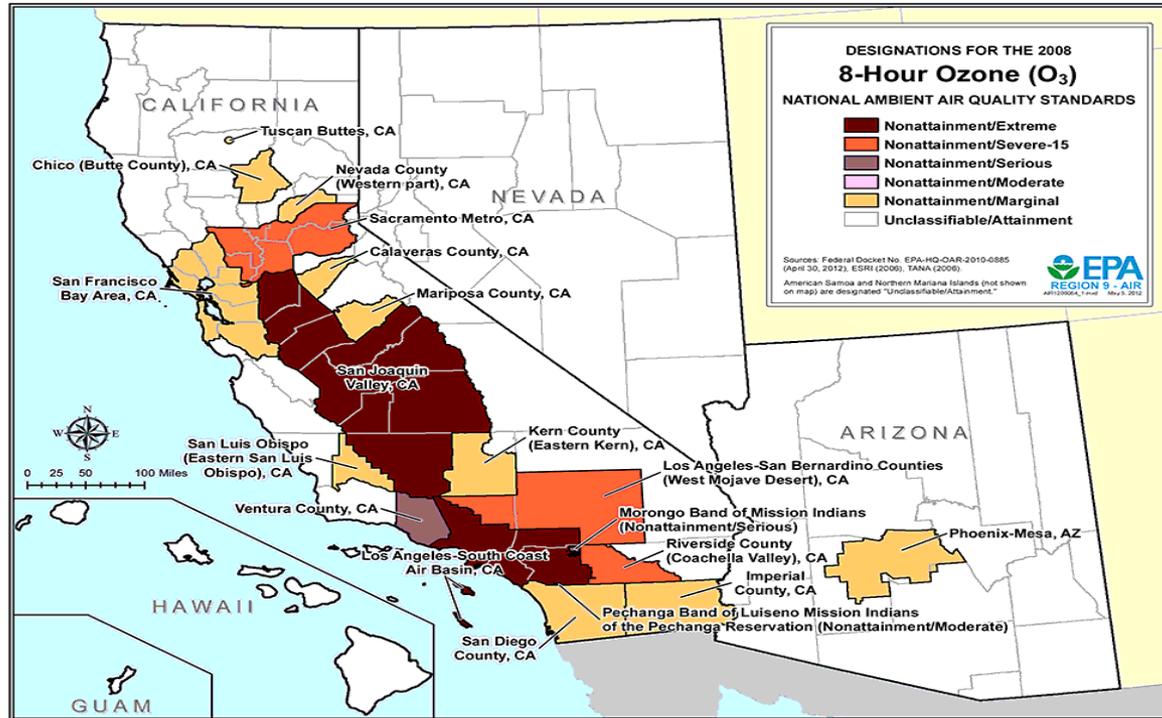
Candidate deployments

- **San Joaquin Valley (SJV) O3 Study (2016 or 2017)**: Characterize the vertical distribution of O3 in the SJV and attempt to quantify the contribution of Asian O3 and STE to surface O3 (ESRL has submitted a proposal to CARB)
- **KORUS 2016**: Regional-local transport, ocean-land effects (GSFC has submitted a proposal)

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- Los Angeles Basin Outflow Campaign (CaBOOM!): Study the export of ozone from the Los Angeles Basin and characterize the influence of long-range transport of ozone from Asia and STE on surface air quality in the greater Los Angeles area.
- Chesapeake Bay Area Regional Study (BLUCRAB): Characterize the impact of complex meteorology in the Chesapeake Bay region (bay breeze, nocturnal low-level jet) on regional ozone concentrations.
- Huntsville Diurnal PBL/FT interactions: Investigate boundary layer processes that connect the free troposphere to surface ozone concentrations.
- Exploratory measurement campaign in New York City (first measurements in urban environment, with CCNY hosting 1 mobile system).
- NOAA-FIREX
- NASA campaigns beyond KORUS, specifically ones aimed at validating TEMPO

SJV O3 Study



- Main objective: Quantify the contribution of Asian O₃ and STE to SJV surface O₃
- Study components
 - TOPAZ lidar at Visalia (near SJVAPCD radar wind profiler/RASS)
 - daily O₃ sondes launched from Bodega Bay or Point Sur
 - in situ aircraft observations (Ian Faloon, UC Davis)
 - comprehensive modeling effort (CARB or outside modelers)
- Time frame
 - two 3-week periods in May/June and July/August
 - 2016 or 2017 (no aircraft obs)

SJV O3 Study (continued)

Proposed project schedule (11/1/2015 – 9/30/2017)

- Task 1: Site survey and lidar instrument preparation
- Task 2: First 3-week deployment to San Joaquin Valley (May/June 2016)
- Task 3: Second 3-week deployment to San Joaquin Valley (July/August 2016)
- Task 4: Produce final, fully quality-controlled data & perform data analysis
- Task 5: Draft final report
- Task 6: Amend final report

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- M = Meeting with ARB staff and other California stake holders
- I = Interim report
- D = Deliver draft final report
- F = Deliver final report

SJV O3 Study (continued)

Current status

- ESRL has submitted proposal to CARB (6/9/2015).
- Proposal will be reviewed by CARB's Research Screening Committee (RSC) in July. RSC feedback will be incorporated into final proposal.
- Funding cuts at CARB may necessitate split funding over 3 FYs or require delaying study to 2017.
- For a 2016 study, contract in place in November 2015.

Funding opportunities for other TOLNet groups

- No additional funding available from CARB, except for logistical support
- Kerry Drake (EPA Region 9, SJV task force leader)
- TOLNet one-time or year-end funds?