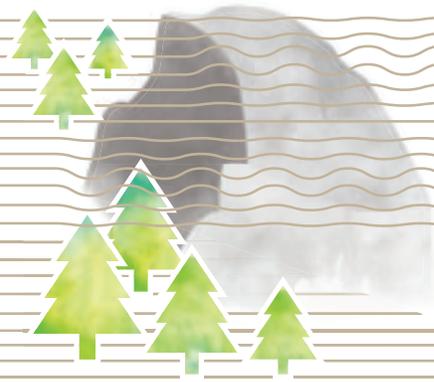


# TRANSBOUNDARY OZONE POLLUTION CONFERENCE

## AGENDA



The Transboundary Ozone Conference will begin at 10 a.m. on Tuesday, March 31 and conclude on Thursday, April 2 by 2 p.m. Registration includes all conference materials plus lunch each day, breakfast on Wednesday and Thursday and dinner on Tuesday.

### CONFERENCE SESSIONS AND SALIENT QUESTIONS

#### Tuesday, March 31

9:00 a.m. - Registration

10:00 a.m. - Welcome: **SESSION 1**

Trends in global ozone and its precursors since 1970 and rise in baseline ozone observed at western North American background sites

#### Speakers

**Owen Cooper**, Research Scientist III, NOAA

**David Parrish**, Senior Research Scientist, University of Colorado/CIRES

#### SALIENT QUESTIONS

1. What is the current state of knowledge regarding decadal trends in baseline ozone as measured at remote sites in the western U.S.?
2. To date, what is the evidence linking trends in western baseline ozone to corresponding trends in precursor emissions from transpacific sources?
3. Besides time series data from global emission inventories such as EDGAR, are there other data sources for estimating the current fractional contribution of transboundary anthropogenic ozone (TAO) to total ozone found in the free troposphere above the west coast and at interior baseline sites?

11:30 a.m. - Lunch

1:00 p.m. - **SESSION 2**

Key contributions from observational campaigns: CalNEX/IONS, DISCOVER-AQ, San Joaquin Valley APCD-funded Chews Ridge research, etc.

#### Speakers

**Owen Cooper**, Research Scientist III, NOAA

**David Parrish**, Senior Research Scientist, University of Colorado/CIRES

**Ian Faloona**, Associate Professor, University of California, Davis

#### SALIENT QUESTIONS

1. What is the current observation-based evidence of the TAO contribution to free tropospheric ozone and to ground-level ambient ozone in California, the San Joaquin Valley, and elsewhere in the West?
2. What additional observational research is necessary in order to develop more robust models that can be used by air districts to more accurately represent the contribution of TAO to surface concentrations?

5:30 p.m.

#### Transboundary Talk: Dinner & Networking

A casual buffet dinner where you will have the opportunity to meet and chat with other air quality professionals.

5:30 p.m. - No-host bar

6:15 p.m. - Buffet served

6:45 p.m. - Keynote Address: "Challenges in Understanding Transboundary Ozone Pollution" **Daniel Jacob**, AQAST Chair & Professor at Harvard University

## Wednesday, April 1

7:30 a.m. - Breakfast

### 8:30 a.m. - SESSION 3

Modeling of long-range ozone transport: Implications for western air districts and the U.S. overall

#### Speakers

**Lin Zhang**, Assistant Professor, Peking University

**Meiyun Lin**, Associate Research Scholar, Princeton University

#### SALIENT QUESTIONS

1. What is the state of the science in long-range transport modeling?
2. What are the trends in global transport patterns?
3. What are the sources of uncertainty in the current models for estimating the contribution of TAO to surface exceedances?
4. Can the models capture observed ozone trends at western baseline sites?

### 10:15 a.m. - SESSION 4

State of the science in using nested or adaptive mesh models to estimate surface TAO impacts in the western U.S.

#### Speakers

**Greg Carmichael**, Karl Kammermeyer Professor of Chemical and Biochemical Engineering, University of Iowa

**Jerome Fast**, Staff Scientist, Pacific Northwest National Laboratory

#### SALIENT QUESTIONS

1. What are the relative strengths of the current models used to estimate the effects of TAO on surface exceedances?
2. What are the key remaining challenges for modeling these estimates?
3. Are there nested or adaptive mesh grid models on the horizon that will likely improve the accuracy of TAO apportionment to surface ozone?

Noon - Lunch

### 1:15 p.m. - SESSION 5

Current and prospective capacity to measure transboundary ozone fluxes via satellite retrievals, in situ measurements and surface-based remote sensing

#### Speakers

**Gabriele Pfister**, Scientist III, National Center for Atmospheric Research (NCAR)

**Brad Pierce**, Physical Scientist, NOAA

#### SALIENT QUESTIONS

1. What are the present constraints on using satellite data to quantify TAO surface impacts?
2. To what extent and in what context can our current satellite capabilities be used to assist in 179B demonstrations and, more generally, in SIP modeling?
3. What are some promising strategies for using in situ measurements and surface-based remote sensing to complement satellite data? What types of research investments will be necessary?
4. What is the near-term potential for enhanced satellite capacity to estimate TAO surface impacts based on future satellite launches (e.g. GEO-CAPE)?

Afternoon

Refreshments available at 3:00 PM followed by opportunity for collaboration and networking with fellow attendees.

## Thursday, April 2

7:30 a.m. - Breakfast

### 8:30 a.m. - SESSION 6

Conference capstone synthesis regarding the prospective application of new air quality management tools to address TAO impacts

#### Speakers

**David Lighthall**, Health Science Advisor, San Joaquin Valley APCD

**Chris Emery**, Senior Manager, ENVIRON

**Tom Moore**, Program Manager, Western Regional Air Partnership

**Dan Jaffe**, Professor, University of Washington-Bothell

#### SALIENT QUESTIONS

1. What are some key policy relevant observations from the preceding sessions?
2. What operational tools have been used to document exceptional events such as wildfires and how are they relevant to Section 179B transboundary analyses?
3. Regarding the technical requirements for successful transboundary analyses under Section 179B, what can we learn from a case study of the SJVAPCD's recent 179B submission to EPA?
4. Moving forward, is there an emerging consensus regarding the best pathway(s) for model development based on further integration of data gathered by satellites and observational research?
5. Are there current or emerging technologies and models capable of providing immediate practical assistance to AQ managers in the western U.S.?
6. Does the current developmental trajectory of modeling and remote sensing suggest that AQ managers will be able to incorporate TAO impacts into SIP modeling in the near future?

### 10:30 a.m. - SESSION 7

Technology and policy options roundtable: The search for effective solutions

#### Speakers

**Syed Sadredin**, Executive Director/APCO, San Joaquin Valley APCD

**Jack Broadbent**, Executive Director/APCO, Bay Area AQMD

**Kerry Drake**, Associate Director, EPA region 9 Air Program

**Karen Magliano**, Chief, Air Quality Planning and Science Division, California Air Resources Board

#### SALIENT QUESTIONS

1. Recognizing that TAO impacts in the West have their roots in the exploitation of carbon-based energy since the 19th century, are there promising technology and policy options at the international, bilateral, or regional scales capable of reducing regional TAO impacts caused by fossil fuel combustion in Asia?

Noon - Lunch

### 1:00 p.m. - Conference Wrap Up

Technology and Policy Options Roundtable