



### 2013 International Smoke Symposium

- Steering committee call evening of 8/15.
- Official schedule & program posted on-line. Pete is reviewing a draft brochure for the ISS.
- Special topics put together w/full abstracts. Accepting 99% of submitted papers. Countries represented include Spain, France, Australia, New Zealand, Canada, Russia, and others expected.
- Invited Keynote Speakers: Sarah Bittleman/EPA Senior Advisor & Robert Bonnie/USDA Deputy Undersecretary for Natural Resources and Environment.
- SmoC meeting during symposium - we should set some time aside to get together as a group.
  - Evening session facilitated by Claudia—Smoke Managers Subcommittee will be there & SmoC should attend and join in the discussion.
- Bill Becker and Amy Royden-Bloom declined invitation as plenary speakers at ISS. Considering inviting American Lung Association as an alternative.
- Panel w/Susan Stone on public health responses. 2 state representatives—Mary Anderson/ID DEQ and Heidi Krapfl/NM Bureau of Health.
- Will need moderators and note taker as well as an individual in each room to read off questions that come in through the internet. Workshops will be recorded & available for a year after ISS.
- Good regulatory participation is anticipated. Mike Broughton is a tentative yes.
- FS personnel have a special travel process. Contact Pete for assistance with procedure.

### NWCG Business

- No NWCG board meeting this month.
- Final draft version of the Rx Fire Guide being finalized by the Fuels Management Committee.

### JFSP Consortia Efforts-Update confirmed call Sept. 5

- Ed Brunson to coordinate—The Update will be the first portion of the SmoC call.
- Southeast consortia –Discuss their projects & smoke/fire issues in research & user communities.
- Expect members Southern Fire Exchange. Smoke will be central topic for Appalachian Fire Exchange.
- May attend DEASCO call—Allen Long and others may interested in topic.

### Subcommittee Report-outs:

#### Smoke Technical Topics

Smoke Management Guide Committee—Mark gave three formatted chapters to NWCG for editorial comments, & 508 compliance. Call w/committee in a couple weeks to discuss issues—e.g. call out boxes highlighting key points.

- Susan, Mike, Pete, & Mark published visual range paper in Journal of Air & Waste Management.
- Topic for Manager's panel discussion—In absence of all other monitoring capabilities this has been seen as a conservative tool, but there are a lot of caveats that people need to be aware of.

#### Smoke Training

- Call on the 4th to discuss Transportation Safety Workbook.
- Will have a new member, Peter Kelly of FWS in CA.

#### Smoke Managers

- Working to send out the minutes from the previous call and set up the next one.



## NWCG Smoke Committee August 2013 Activity Update



### Round Robin Topics

- Oregon Wildfires—Brimstone fire—OR Dept. Forestry demobilized. Douglas complex—42K acres/3000 personnel. Smoke affected Rogue Valley.
- Pete addressing NACAA Agricultural & Criteria Pollutant Committees (joint call) on BSMP & International Smoke Symposium.
- Shawn—Thanks the ARA sent to Aspen Fire, the updates, and air monitoring were very much appreciated. The information provided was critical to sending correct message to public.
- CO Monitoring RAD57 Presentation for ARA and SmoC communities:
  - Device measures carboxyhemoglobin levels in blood to assess CO exposure. Gary is inviting an instructor from manufacturing company for the 9/11. Pete will invite the ARA community. Slide show presentation and discussion about 20-30 minutes.
- Exceptional Events Rule Listening Session Report-out (Call 8/28—Regulatory community)
  - Dan from WESTAR provided several comments as well as state and local reps.
  - GA commented: There is a lot of burning that happens that is not under the jurisdiction of the state, and suggested that the federal personnel should write these documentation packages if it's their smoke contributing to the exceedance.
    - Possible since states are the ones who are responsible for the monitors & monitoring.
    - This is an expensive, detailed, process to demonstrate an exceptional event.
  - Clarification and consistency was a main concern within guiding documents; we should not have to go to multiple documents for guidance; not much discussion on definitions of terms.
- SmoC Training & MyFireNeighborhoods—Backed up. Will be migrated to Lessons Learned site.
- SmoC private neighborhood and Fire and Air Issues Neighborhood will also be migrated.
  - Private SmoC Neighborhood has a lot of older material.
- Diana/OK DEQ requesting advice regarding EPA SMP approval after state certification.
- National Weather Service Products—Smoke managers must request information and at that point it depends on how quickly local office moves on these requests.
  - Groundwork to streamline efforts nationally but regional offices need to make these available.
  - Heath Hockenberry/NWS asked Gary to survey the local offices to see why it is taking so long to offer various products.



DEASCO 3 Presentation 8/22/2013 to NWCG Smoke Committee and Invitees  
Collaboration from JFSP, WRAP, and many others (90 min.)  
Presenter: Tom Moore - Western Regional Air Partnership

Purpose and Goals

- Assess fire's impact on elevated ozone episodes with retrospective studies in the West, Central, and Southeastern U.S., using empirical and photochemical modeling analyses
  - Support future collaborative FLM-state ozone air quality planning
  - Develop "lessons learned" as basic analysis rules for fire-ozone episodes, and on-line tools for FLM-state air quality planning
  - Prepare and implement planning-grade fire emissions inventories in the FETS suitable for SIP work by states and FLMs
  - Publish data and analysis results in transparent and reproducible formats
  - <http://deasco3.wraptools.org/>

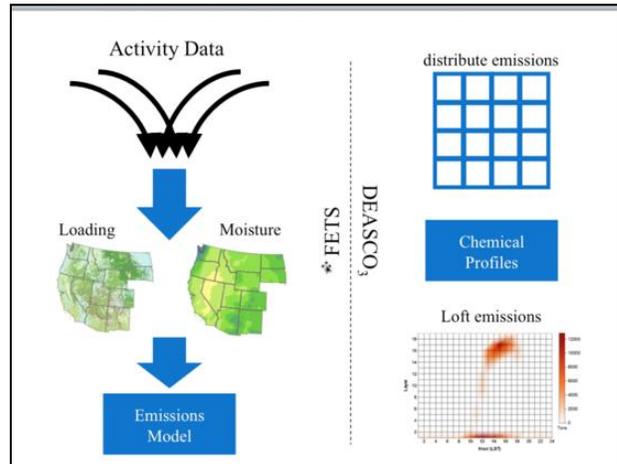
DEASCO<sub>3</sub> Hypotheses

Technical

- Ho1 – Smoke from fire contributes to background concentrations of O<sub>3</sub> in large areas of the U.S.
- Ho2 – Fire/Smoke Management can affect formation of O<sub>3</sub>.
- Ho3 – Fire(s) cause/ contribute to O<sub>3</sub> exceedances.

Policy

- Ho4 – Better quantitative information will help FLM's to assess the use of smoke management techniques to address non-attainment issues.
- Ho5 – The Rank Order(s) in the Online Tool will help FLM's to be more effective in the air quality planning processes.



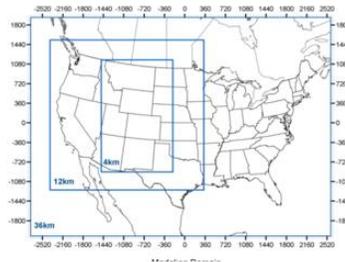
Created inventory for DEASCO3 that provides robust inputs for photochemical modeling with updated plume rise algorithm based on WRAP 2005 approaches/data and also updating emissions models, etc.



- Trying to obtain additional datasets, reached out to Midwest and Southeast states, received data from individual states, National data, NWS precipitation models, 2008 NEI dataset, NASA satellite fire detects and updated fuel bed maps from FCCS program, and agriculture fuels from Jessica McCarty.

### Fire Ozone Source Apportionment Modeling

- WRAP 2002 36 km CONUS Database
- Ozone contributions due to all fires
- Ozone model performance evaluation
- Analysis of case studies (Biscuit, Hayman, etc.)
- Animation and displays to address hypotheses
- WestJumpAQMS 2008 36km CONUS and 12 km WESTUS Database
- Ozone contribution due to WF, Rx and Ag fires
- Evaluation, case studies and displays



- WRAP Tools: WRAP FETS, DEASCO3 PMDETAIL -> bringing all these into one area, we will focus on the DEASCO3 component of the above
- Case studies summarizing fire activity, non-attainment, what was the extent of the fire contribution, also summarizes data over a period of years. These case studies are on the DEASCO3 website.



# NWCG Smoke Committee August 2013 Activity Update



Anyone is welcome to request a username and password to access the site: If you register to gain access to the DEASCO3 site you may see additional areas of the site:

- Organized into three paths/information summaries: Exceptional Events Support, Fire Planning, and SIP Support
- Every page has a comments button that users can utilize to leave their feedback.
- Shows what the tool can and can't do, links to case studies using the tool, and running lists of external resources
- Shows modeled degrees of ozone contribution from fire. (Fig 2). shows various levels (ppb) along the horizontal axis, types of fire along the vertical axis (ag, rx, wild, all)
- Example: SIP support, looking at a station with elevated ozone, going to stations with elevated ozone (fig. 3) shows data from available ozone station, looking at fire contribution and error rate, shows a lot of activity in CA and eastern US.

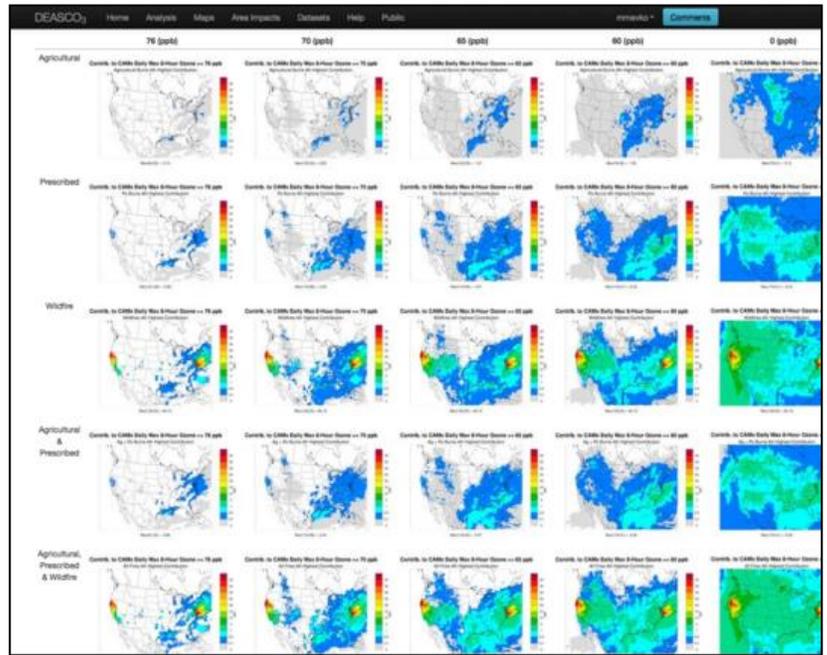


Figure 1 website ozone maps

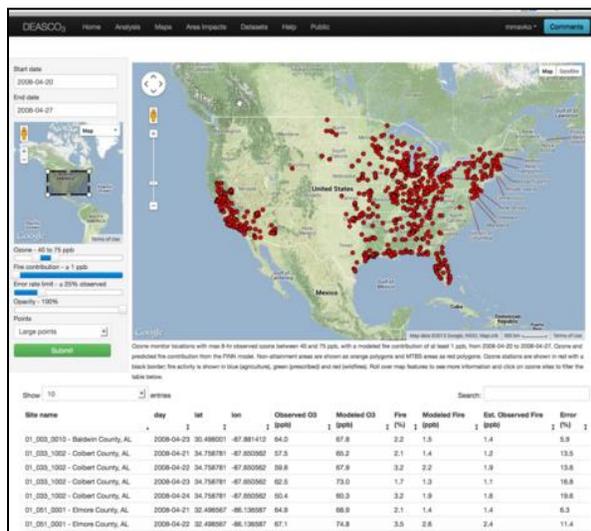
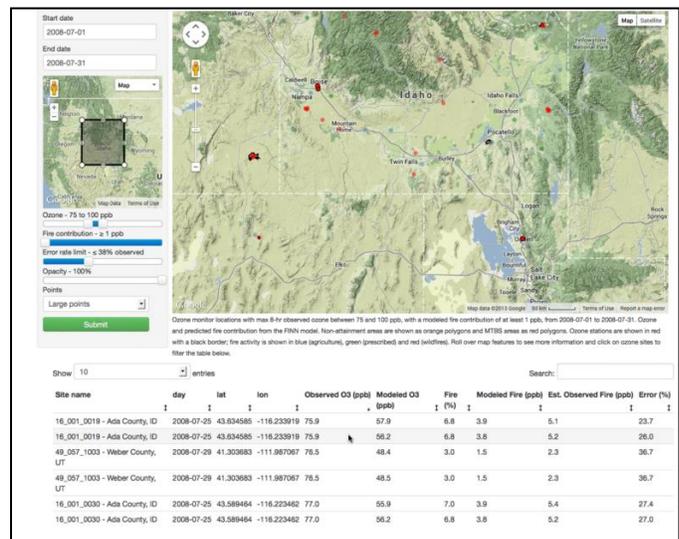


Figure 2





# NWCG Smoke Committee August 2013 Activity Update

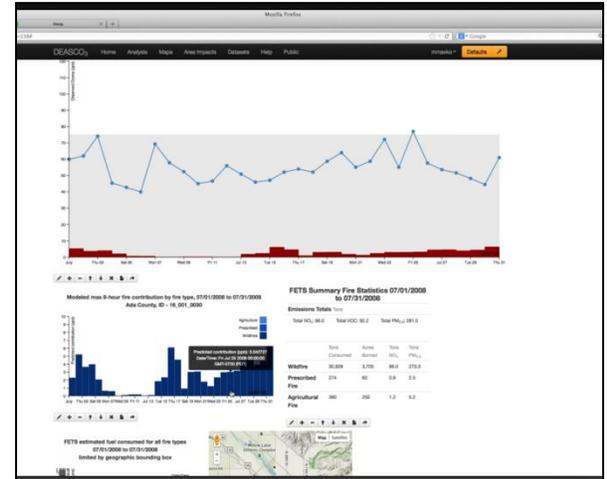
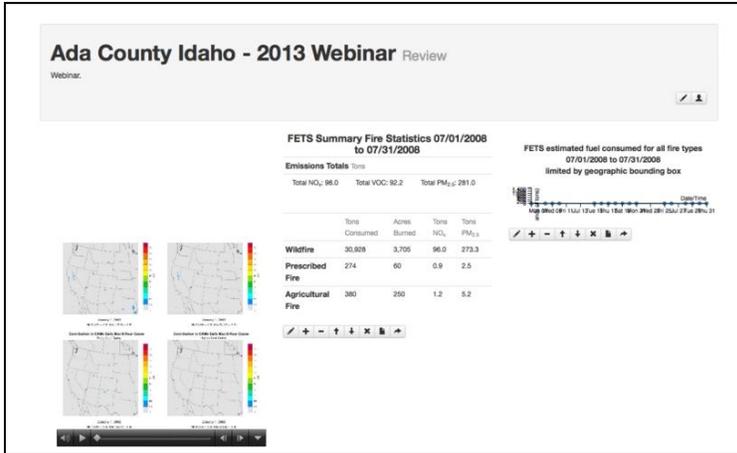


Figure 3 *left*: Showing CAMEX results, we see fire activity in the area. *Right*: further modeled indication that fire contributed to elevated station readings



- Each of these tools allows the user to change the displays (Fig. 4)
- Website will save your analysis in the system and will flag relevant case studies for user support.
- There is a part of the tool that keys out on a county level which areas are potentially most effected by fire (wildfire, prescribed and agricultural fire) contributed ozone.



Figure 4

## Conclusions

- FED monitoring data updates annually
- Emissions updates
- Next Steps
  - PMDETAIL
  - FETS
  - 3-State Air Quality Study Data Warehouse and Regional Modeling Framework
  - WGA to WESTAR transition

Figure 5



## NWCG Smoke Committee August 2013 Activity Update



**Question:** How VOC and NOx totals for fires are calculated?

**Answer:** FETS database is providing all the emissions totals for the fires. Depending on the year - 2002 emission data is feeding from WRAP 2002 inventory, same for 2005. 2008 data is from the DEASCO inventory using FETS and other sources, intervening years is a simplified convention from 2003-07 from HMS and monitoring trends in burn severity (MTBS) system - all from satellite detects.

**Question:** Model sensitivity to transport, i.e. CA fire impacts on UT?

**Answer:** We have picked up larger fires contributing in the modeling results, we can look at sensitivity, but we don't have that information on the website, but on the final report we will note and summarize large wildfires.

**Question:** How will the project be sustained after research funding ceases?

**Answer:** With the nature of the outputs state and EPA may find this product useful which could provide additional funding. It will be running smoothly for at least 2-3 years out and during this time we will be looking at long term funding

**Question:** Will O3 data collection continue after the project and how is it linked to PM?

**Answer:** Will continue to monitor every year as the FETS systems provide the data and we also have fire emissions updates and will be building more for PM Detail project as well.

End of DEASCO Presentation/Discussion with SmoC.